

Regular Board of Directors Meeting
Monday, March 13, 2023 1:30 PM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. Call to Order

NOTE: The agenda is on file at the LPNNRD office and may be changed up to 24 hours prior to the meeting as scheduled.

1.A. Meeting Notice

1.B. Inform Public on Location of Copy of “Open Meeting Act”

1.C. Pledge of Allegiance

2. Roll Call

2.A. Introductions

3. Approval of Agenda

Are there any additions or corrections to the agenda?

4. Comments - Advisors/Guests

4.A. Guest Comments

4.B. NRCS Report

4.C. NARD Report

4.D. NRC Report

4.E. Managers Report

4.F. Education Program

5. Approval of Minutes

Are there any additions or corrections to the Minutes? If not they will be approved on the consent agenda.

6. Report of Standing Committees

6.A. Executive Committee - Action as Required

6.A.1. UNFINISHED BUSINESS

6.A.2. MEETINGS

6.A.2.a. Pending

6.A.2.a.1. Director Retreat - March 9th

Director Retreat
9:00 a.m. Thursday, March 9th
Schneider Building
935 Schneider Street
Fremont NE 68025

6.A.2.a.2. NARD Washington DC Annual Meeting

Directors Johnson and McKnight along with Gottschalk and Chapman are registered to attend the NARD Annual Washington DC meeting.

6.A.2.b. Reports

6.A.2.b.1. NRC Meeting Report

Attached is a summary and fund status report from the Natural Resources Commission Meeting held on February 15th provided by Tom Mountford.

6.A.3. MANAGEMENT ITEMS

6.A.3.a. Directors Absence

Attached find Bill Saeger excuse from the February Board Meeting.

6.A.3.b. Monthly Education Program

If there are no requests for an education program this month, we will use this time to review our first set of policies. The plan is to review/modify/update 3-6 policies at each meeting with those policies approved and new policies reviewed at each of the subsequent board meetings.

6.A.3.c. Director Vacancy Sub-District #3

The Director Vacancy Sub-Committee will give an update.

6.A.3.d. New Building Update

Staff continues to work with JEO to finalize design plans. Once we have 90% design, committee and board will be updated. As of today, we remain on the original timeline with all phases of the project.

6.A.3.e. Director NRD Logo Clothing Options

Directors have inquired about NRD logo clothing. Staff will have options and sample items at the Director's Retreat on March 9th. Discussion is requested to set a total dollar amount allocated for each director.

6.A.4. EQUIPMENT

6.A.5. PERSONNEL

6.A.5.a. Poole Leave Payout

With Chris Poole leaving, we will need to pay him for his unused leave time. Attached to the Executive Committee agenda is Poole's annual and sick leave payout calculations.

6.A.5.b. Poole Contract Employee

With Chris leaving, our office is in need for IT support until and potentially after our new GIS/Grants Coordinator position is hired. Because of their direct knowledge of our needs, we have retained past employees on a contract basis for IT work and related computer services. In this situation, Chris Poole could provide valuable assistance to our District in the short term and potentially long term. Staff recommendation is to retain Chris Poole on a contract basis for assistance with IT and Grant services at a negotiated monthly rate.

6.A.5.c. NRD/NRCS Conservation Technician

Position opening closes on Friday 3-3-23 at noon. Our plan is to review applications and interview next week. If all goes as planned we will have position hired and ready for approval at our March 13th board meeting.

6.A.5.d. GIS/Grant Specialist Position

Position opening closes on Friday 3-3-23 at noon. Our plan is to review applications and interview next week. If all goes as planned we will have position hired and ready for approval at our March 13th board meeting

6.A.5.e. Summer Intern Salary Adjustment

O&M Manager Heimann has requested review of our Summer Intern salary schedule. Each year it is becoming harder to attract qualified interns. Discussion is requested to address the Intern salary with potential of a modest increase.

6.A.6. FINANCE

6.A.6.a. Approval of Financial Reports

Grant will be available to discuss the January Financial Statements.

6.A.6.b. Approval of Managers Time and Expense Sheets

Attached find Gottschalks time and expense sheets.

6.A.6.c. Accounts over 90 Days

6.B. Operations Committee - Action as Required

6.B.1. UNFINISHED BUSINESS

Nothing to consider for unfinished business.

6.B.2. WILD NE AND OTHER PROGRAMS

Nothing to report.

6.B.3. OPERATION & MAINTENANCE & OTHER ITEMS

The O & M staff does maintenance of equipment and continued to cut trees on project sites.

6.B.3.a. Wanahoo Stilling Basin - (FEMA)

The baffle plate arrived but, Lake Wanahoo has regained its depth over the winter and, with the recent rain, we have had to open the gate to lower the

lake. We are maintaining the lake level and Collins will resume work on Monday afternoon, March 6th. Collins estimates up to 3 days to drain the basin apron, clean the area and attach the baffle plate.

A current invoice from Houston Engineering is attached. The amount is \$36,667.03. We did not receive an invoice on time last month, so this covers January to Feb. 25th.

6.B.3.b. NRD Owned Thomas Lakes Lots

Heimann located the original signed agreement between the NRD and Thomas Lakes HOA regarding the lots owned by the district and an old motion dated October 11, 2010 regarding the lots and the agreement (both are attached).

After doing some research into the purchase of lots 49 & 50 and if DNR participated, we determined the cost of the lots and contacted DNR. DNR advised us that the Sarpy/Clear Creek Levee Project has not been closed out by the Corps of Engineers. If we want full credit from the Corps, we should not sell the lots. Once the project is closed by the Corps, we can reconsider selling the lots. We must ask permission of DNR and reimburse the 60% funds used from NDRF to purchase the lots.

Does the District want to abide by the original motion which is to lease the lots to the HOA for \$20/lot?

Recoup the \$100/year lease from the HOA for the past 11 years as the agreement is written?

6.B.3.c. Mowing Rates

The District is hired by a couple of Dike & Drainage Districts to mow their levees. It's been a number of years since we have adjusted our rate. The current rate we charge is \$60/tractor hour. Staff will do some research into rates for consideration in a month or two.

6.B.3.d. Grass Drill Rental Revenue

The District received grass drill revenue of \$973.75 from Schuyler Coop. Four cooperators used the drill.

We also received \$415.00 from Rosendahl Farms Seed & Feed for the drill in Platte County. Seven cooperators used the drill.

This revenue is for the second half of 2022, July-December.

6.B.3.e. Director's Retreat

The educational director's retreat is Thursday, March 9th at the Schneider Building, 935 Schneider Street, Fremont starting at 9:00 a.m.

6.B.4. ROCK AND JETTY

We have not received any applications or pay request at this time.

6.B.5. LAKE WANAHOO

6.B.5.a. Lake Wanhoo Permit Sales

For the month of January, the District received \$9,455.00 in annual park

permit revenue. The year by year break down of annual permit sales is listed below.

Month	Monthly Total	YTD
January 2023	\$9,455.00	\$15,640.00
January 2022	\$12,837.50	\$17882.50
January 2021	\$12,277.50	\$17,002.50
January 2020	\$11,645.00	\$16,115.00
January 2019	\$10,372.50	\$14,957.50

6.B.5.b. Lake Wanahoo Camping Revenue

For the month of January, the District received \$4,030.01 in camping revenue. The year by year comparison is listed below.

Month	Month Total	YTD
January 2023	\$4030.01	\$4030.01
January 2022	\$	\$
January 2021	\$4,751.53	\$4,751.53
January 2020	\$2,560.92	\$2,560.92
January 2019	\$2,367.00	\$2,367.00

6.B.5.c. Clint Johannes Education Building

During the month of February, the building was rented 15 times with 1 NRD event. Revenue for the month was \$1,245.

6.B.6. INFORMATION AND EDUCATION

6.B.6.a. Information

6.B.6.a.1. Radio & eAds

February's KTIC Radio spot is attached - featuring the 2023 Wanahoo permits. March will feature a last reminder for Nitrogen classes.

February's Wahoo Newspaper E-ad is attached - featuring the 2023 Wanahoo permits. This will continue through March.

6.B.6.a.2. Analytics

The LPNNRD Facebook/Twitter pages, and the website are the fastest and low-cost ways to get information out to the public. Tracking analytics are a way to see if people are seeing the information and what ways seem to be most effective. If you are on Facebook or Twitter, please like, follow, share, or retweet the Lower Platte North NRD posts!

*Total reach/impressions show how many people saw the post/tweet.
Engagements include likes, comments, shares/retweets and link clicks.*

	Total Reach	Engagements	Followers
	8,800	9,065	1,435
	3,663	100	1,427
	5,758	163	1,421

	10,355	198	1,413

	Total impressions	Engagements	Followers
	4,044	213	397
	1,954	95	391
	2,570	102	388

	2,862	126	383

Top Posts on Facebook and Twitter:

- GIS/Grants position opening
- Feb 28 Nitrate Informational Meeting in Schuyler
- Tree Orders
- Coffee, Lakeside flyer
- Upcoming Nitrogen certification classes

	Users	Traffic Channel	Top Pages	Devices
	1,446	Organic 63.2% Direct 21.8% Referral 7.7% Social 7.3%	Home Lake Wanahoo Downloads Forestry Nitrogen Certification	Mobile 49.45% Desktop 47.65% Tablet 2.90%
	1,614	Organic 67.9% Direct 20.8% Referral 8.3% Social 3%	Lake Wanahoo Home Forestry Czechland Lake Nitrogen Certification	Mobile 50.87% Desktop 47.15% Tablet 1.98%

	1,156	Organic 62.7% Direct 22.9% Referral 8.7% Social 5.7%	Home Lake Wanhoo Forestry Downloads Contact	Mobile 49.39% Desktop 48.62% Tablet 1.99%
	988	Organic 62.3% Direct 27.6% Referral 6.9% Social 3.2%	Home Lake Wanhoo Czechland Lake Staff Downloads	Mobile 50.40% Desktop 47.27% Tablet 2.33%

Traffic channels: organic traffic means they use a search engine then choose an option that includes lpnnrd.org, direct traffic means they type in lpnnrd.org directly (or have it bookmarked), and referral traffic is any other traffic not from a search engine or social (such as a link from another site).

Social clicks: 99 from Facebook, 11 from Twitter.

Referral clicks: 41 from NARD, 10 from Visit Nebraska, 6 from NGPC, 2 from the ad on Wahoo Newspaper's site.

6.B.6.a.3. NRD Recreation Exploration

The NRD Recreation Exploration challenges participants to visit as many Natural Resources District (NRD) recreation areas as they can between March 1, 2023, and Sept. 15, 2023.

Participants visit a recreation area and submit an online form, which includes a photo to show they visited. Prizes and entries into drawings are based on the number of locations visited.

- Monthly Drawings: March-September
- Second Runner-Up: Late September
- Runner Up: Late September
- Grand Prize Drawing: Late September

The goal of the NRD Recreation Exploration is to promote the more than 80 NRD recreation areas across the state and encourage individuals to get outdoors and explore nature.

Participation in the NRD Recreation Exploration is open to everyone

(except NRD staff and directors are not eligible to win prizes). It is a free program to familiarize people with Nebraska's NRD recreation areas.

6.B.6.b. Education

6.B.6.b.1. Past events

- **February 3rd:** Survival club with Wahoo M.S. - Intro to Hiking and how to read maps. 7 students attended. Picture attached.
- **February 7th:** 1st (10 students), 2nd (12 students), and 5th grade (9 students) Classes at Lindsay Holy Family Elementary. Animal adaptations, seed dispersal, and food chains/ecosystems.
- **February 8th-9th:** Nebraska Environmental Education Conference at Mahoney State Park.
- **February 11th-15th:** National Association of Conservation Districts in New Orleans.
- **February 21st:** 80 fifth grade students learned about prairie biodiversity and what they can do to help save the most threatened and endangered ecosystem in the world.
- **February 23rd:** David City Aquinas 6th graders (2 classes - 23 students): What is pollination and why it's important. See pictures.
- **February 24th:** Coffee Lakeside: The power of nature-based play: Why people of all ages need to spend time outdoors. 10 people attended.

6.B.6.b.2. Future Events

- **March 9th:** Coffee Lakeside: Lake Ecosystems
- **March 10th:** Wahoo High School Careers Class
- **March 15th:** Survival Club

St. Wenceslaus pre-k visit TBD

Spring Conservation Sensation Planning

6.B.7. RURAL WATER SYSTEMS

Elliott and Benal will be attending the Nebraska Rural Water Association's Annual meeting 3/13-15 in Kearney. Training will be provided and both will be able to acquire enough hours for license renewal, which is due at the end of the year.

Elliott will be participating in a lead service line reporting training on 3/7.

6.B.7.a. Colon System

Routine monthly sampling completed, bills mailed 2/28.

6.B.7.b. Bruno System

Routine monthly sampling completed, bills mailed 2/28.

6.B.7.c. Other

6.C. Water Committee - Action as Required

6.C.1. UNFINISHED BUSINESS

6.C.2. Committee Vice-Chairman Election and Committee Night

Bill Seger was voted to be Vice-Chair at the January Water Committee. Does the Committee want to continue meeting on Wednesday night?

Duane Johnson was nominated and elected by unanimous ballot for Vice-Chairman.

The Committee agreed to leave the Water Committee meeting time for Wednesday night at 6 pm.

6.C.3. Age Dating Project

Last year, USGS with Lower Loup and LPN NRDs submitted a Nebraska Environmental Trust (NET) grant for age dating the groundwater from Columbus to Fremont. The grant was not approved, so now the group is considering submitting the grant to the Water Sustainability Fund (WSF). The application is due March 15-31 for funding in July and/or August. As the WSF grant cost-share is different than NET, each NRD would need to contribute \$10,000 more between both. This would obligate LPN to \$54,000 over a 3-year period. USGS will be contributing an additional \$14,000 to the project. The total cost of the project is projected to be \$404,000 with WSF funding \$173,000.

Chris Hobza from USGS was present at the meeting to explain the need for an extra \$10,000. The WSF grant is funded differently as USGS dollars are subtracted from the total and a 60-40 split is required for the other entities.

Numbers presented by Chris are shown for the new application.

	FY2023	FY24	FY25
TOTAL	--	\$148,000	\$154,000
USGS	--	\$32,000	\$63,000
WSF	--	\$70,000	\$55,000
LPNNRD ¹	--	\$23,000	\$18,000
LLNRD	--	\$23,000	\$18,000

6.C.4. Precision Nitrogen Application Project

Joe Luck will be presenting some information on the precision nitrogen application project.

Joe Luck and Taylor Cross explained the project using sensors with pivot irrigation to determine the amount of nitrogen fertilizer needed. (See

Brochure) The Committee thought this might be a project to consider in the Nitrogen Management Areas.

6.C.5. REGULATORY

6.C.5.a. GROUND WATER MANAGEMENT AREA

6.C.5.a.1. Variance Request in the Hydrologically Connected Area (Limited Development Area)

Gene and Kristine Kosch are asking for a 9 month extension on variance LPN-V-021-0559 in (SE1/4 15-19-2W (Platte County). They are still waiting for a well driller and are hoping to have the well drilled in March or April 2023. If they do not get the well drilled this spring, they would still like the option to drill in the fall.

Normally, the District gives out 200 Acre-Feet of depletion within the Hydrological Connected Area (HCA) or the blue area on the map. Staff have been receiving variances for the September 15, 2023 deadline.

The Committee will discuss the variances after the spring water level readings are conducted by staff.

6.C.5.a.2. Well Permit Program

6.C.5.a.2.A. Well Permits Approved

Wells Permits Approved: #

Landowner	Number of Wells	Number of New Irrigated A
Bryce Grotelueschen	1	0

The total number of approved permits for 2022 is #

Location of Approved Well Permits for 2022: Correct as of #####

County	Irrigation - New	Irrigation - Replacement
Butler		
Colfax		
Dodge		
Boone		
Madison		
Platte		
Saunders		
Total		

6.C.5.a.3. Cost Share Programs

6.C.5.a.3.A. Flow Meter Maintenance Program

TRI CITY METERS- They were working on **ZONE 3** of the district a couple of weeks ago. Then mother nature decided to turn the furnace up to about 50 degrees, so we made the executive decision to call them off, so no fields would get torn up and to limit complaints. They plan on returning when or if it dries out.

Current District Approved Flow Meter List for Irrigation wells:

1. McCrometer-Propeller flow meter with mechanical and digital totalizer
2. Geysler- Propeller meter with mechanical totalizer (Haven't seen one of these installed in over 5 years)
3. ARAD Group- Turbine/propeller flow meter
4. Sparling- Propeller flow meter

Proposed District Approved Flow Meter List for Irrigation:

1. McCrometer- Propeller mechanical or electronic totalizer-if powered externally; & Electromagnetic flow meters- if powered externally
2. Sparling-Propeller and Electromagnetic flow meters (- if powered

externally (TigermagEP)

3. ARAD GROUP-Propeller and Electromagnetic flow meters-if powered externally

4. Seametrics-AG3000-Electromagnetic flow meters- if powered externally

5. Valley-Valley3000- Electromagnetic flow meters- if powered externally

Electronic Meters: The meters that are listed above have electromagnetic nodes that protrude out and act as a self-cleansing mechanism. Did not place Lindsay's flow meter on this list because their nodes lay flat. Okay with allowing these types of meters back onto our list with the following requirements and pre-approval on a case by case basis.

1. First and foremost, the electronically powered meters will have to be installed to the correct install specifications.

2. Second, the electronic flow meters will have to be powered externally and then have the battery serve as a back up.

3. Third, they must be properly grounded. If not, the microchips/electronics will be fried.

4. Fourth, the producer must wipe/clean the inside of the meter to ensure that there isn't any corrosion or build up on the electromagnetic nodes/sensors. This must be done annually after every growing/ irrigation season. The producer must ensure/prove that this is done annually. It also may be wise to require an irrigation suitability test to determine the level of elements present in the groundwater that may cause issues.

5. Fifth, if injecting fertilizer/chemicals through the pivot, it is highly recommended to have the injection point be located downstream of the meter. If downstream is not an option, then the injection point must be at least 20 pipe diameters upstream of where the flow meter is installed.

6. Sixth, and last of all but mainly the most important, is that no manure/slurry is to be injected or piped into the irrigation line upstream of the electromagnetic flow meter. If using manure/slurry, you may do so by injecting the manure/slurry into the irrigation line downstream of the flow meter. The chemical makeup of

manure/slurry material will deteriorate the sensors/nodes over time and make the flow meter unfunctionable.

Staff will edit the current approved flow meter policy with the edits shown along with adding the additional flow meters. The updated approved meter policy will be presented at the next Water Committee.

6.C.5.a.4. LPNNRD Operator Certification

There are 174 producers from 2019-2022 that have not attended a certification class. A letter was sent out in the first week of January telling them a hearing is scheduled for Tuesday, March 28 at 5 pm. The letter gave them opportunities to meet this GW Rules and Regulations requirement. At that time, the Water Committee meeting was being considered for a Tuesday night.

A certified letter will need to be sent out in the first part of March to producers that are out of compliance with this rule. Could consider Wednesday, March 29, if the Water Committee stays on Wednesday night? If these producers do not comply, the District issues a Cease Desist to be considered in the Court System.

The Committee asked that staff confirm the list before mailing out letters.

Attached is an example of the letter sent.

	<u>Date</u>	<u>Location</u>	Attendance	"New"
	Friday, January 13 th	David City 1	22	2
	Thursday, January 26 th	Fremont 1	29	6
	Tuesday, January 31 st	ENREEC 1	46	9
	Thursday, February 2 nd	Columbus 1	49	7
	Thursday, February 9 th	ENREEC 2	3	0
	Tuesday, February 14 th	David City 2	19	4
	Wednesday, February 15 th	Lindsay	29	5

	Tuesday, February 21 st	David City 3	12	1
	Monday, February 27 th	Fremont 2	24	7
	Tuesday, March 14 th	ENREEC 3		
	Thursday, March 23 rd	Columbus 2		
		Totals	233	41

Expired 2019 (29) - 9 of these are now certified
 Expired 2020 (28) - 7 of these are now certified
 Expired 2021 (75) - 9 of these are now certified
 Expired 2022 (82) - 15 of these are now certified
 Expired 2023 (339) - 182 of these are now certified

6.C.5.a.5. Lower Platte River Basin Water Management Plan Coalition (LPRBC)

The V-IMP report is due March 1 with the Technical Group meeting on March 6, Management Group - March 30 and the Board Meeting scheduled for April 12 at that NARD office in Lincoln. Bob Hilger is LPN representative for the Board with Dave Saalfeld the alternate.

6.C.6. GROUND WATER PROGRAMS

6.C.6.a. DECOMMISSIONED WELL PROGRAM

6.C.6.a.1. Well Estimates

new wells has been reviewed and approved for decommissioning since the last Committee meeting.

Well Owner	Type of Well	Cost Share Estimate	County

6.C.6.a.2. Plugged Wells

wells have been plugged, reviewed, and ready for cost share payment approval this month.

Well Owner	Type of Well	Cost Share Estimate	

6.C.6.b. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

6.C.6.b.1. Phase Area Update

A "Groundwater to Faucet" event was held on Tuesday, February 28, from 6-8 pm at the St Benedict Center, North of Schuyler. This will allow producers to hear about the nitrate issues in this area and learn what the NRD is considering for additional management.

The event was well attended with around 50% of the producers in the management area in attendance. Discussion was positive, with a lot of interest in the cost-share programs.

6.C.6.b.2. Regenerative Agriculture

UBBNRD reached out about a regenerative program next winter and was wondering if LPN would like to be involved in the program.

The Committee would like more information and a dollar amount before committing to being a sponsor.

Attachment

6.C.6.b.3. Lower Platte River Consortium

Update from DNR:

Our next ILCA meeting is **in person** at the NeDNR office on April 4, 2023. Madeline Johnson will be reaching out soon to initiate press release development and schedule interviews for the accompanying podcast episode.

Platte River near Ashland flow: The Platte River near Ashland streamgage remains ice affected. USGS estimated values indicate streamflow varied between 3700 and 5300 cfs from February 1-24.

Palmer Drought Severity Index (PDSI) value at Ashland, NE: - 3.68 as of February 27, 2023 (Severe Drought according to the LPRDCP)

Highlights from the [North Central U.S. Monthly Climate and Drought Summary and Outlook webinar on February 16, 2023:](#)

- Winter 2022-2023 Snowfall Departure from Average (Oct 1-Feb 15): As of February 15, east central and southeastern Nebraska had snow deficits of 6-24 inches. Northern and western Nebraska had snow surpluses ranging from 6-36 inches.
- Snowpack: As of February 14, the North Platte and South Platte basins had 124% and 101% of average snow water equivalent, respectively.
- El Niño-Southern Oscillation (ENSO): ENSO-neutral conditions are predicted to begin within the next few months and persist into the early summer. By mid to late summer, El Niño increases in probability.

Find current and previous drought products on the [NeDNR's LPRBC Drought Contingency Correspondence ShareFile site](#).

Best regards,

Caitlin Kingsley

Environmental Specialist III | Water Planning Division

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6.C.6.c. Phoenix Database

The yearly support plan is attached. The past 2 years, the NRD had the Silver Plan for \$2,500.

A company has reached out called Longtiute 103 to handle databases.

6.C.6.d. Groundwater Modeling Project

The NeDNR, LPSNRD, PMRNRD and LPNNRD developed an interlocal agreement in October of 2022 to conduct a Sub-Regional Groundwater Model. (Agreement is attached)

This group submitted a grant to the Water Sustainability Fund (WSF) that was not approved because it was competing in the large project category (greater than \$250,000).

Funding requests at that time:

WSF: \$282,900

NeDNR: \$188,500

LPSNRD: \$62,866.67 (\$20,956 to be paid annually for three years)

LPNNRD: \$62,866.67 (\$20,956 to be paid annually for three years)

PMRNRD: \$62,866.67 (\$20,956 to be paid annually for three years)

The WSF grant is due March 15-31 this year for funding. The group would like to re-submit this grant but reduce the request to \$250,000. This will leave a difference of \$39,900 that would need to be shared by the other entities. That would increase LPN's share to around \$71,000 over 3 years. Does the Committee want to continue to support this project with a commitment of \$71,000 dollars? (\$23,666 over the next 3 fiscal years) An amended inter-locat will be drafted if LPN is agreeable. This dollar amount might fluctuate a little after all the details are ironed out.

6.C.6.e. MONITORING WELLS REMOTE READS

Attached is the subscription invoice from the METOs company for \$5,390 to allow remote communication with 77 monitoring wells and weather stations throughout the District.

6.C.6.f. Groundwater Management Plan

Please review

6.C.6.g. Board Retreat

The Board retreat is scheduled for Thursday, March 9th in Fremont at the Schneider Building, 935 Schneider Street, starting at 9:00 a.m. The plan discussion for water is Phase 4 and Variances/Drought.

6.C.7. SURFACE WATER PROGRAMS

6.C.7.a. USGS STREAM FLOW GAUGING SITES

6.C.8. OTHER

Will's report attached.

6.C.8.a. COMMENTS FROM THE PUBLIC

6.D. Projects Committee - Action as Required

6.D.1. UNFINISHED BUSINESS

6.D.2. SWCP

Attached is the updated 2023 LPNNRD SWCP policy. The only update is the FY23 DNR Practice Payment Schedule that we will utilize for payment calculations.

6.D.2.a. SWCP Application Approvals

6.D.2.b. SWCP Payments

CHARLES MEDINEER \$ 4,934.99 TERRACE/TILE OUTLET

6.D.2.c. SWCP Cancellations

6.D.2.d. Lands for Conservation 2023

Attached is the updated 2023 LFC policy. As in previous years the per acre payment rate was taken from the Nebraska Farmland Values and Cash Rental Rate study conducted by University of Nebraska.

As a reminder: an applicant can apply for LFC payment throughout the district (with our listed Priority Watersheds taking preference), to offset lost income to complete conservation work during the summer construction period, 6/1-9/30.

The proposed rate is \$253/acre.

6.D.3. WATERSHEDS

6.D.3.a. Shell Creek Watershed

6.D.3.a.1. Shell Creek Implementation - 319

SCWIG group met on February 21st at the Columbus NRCS office. We should see an agreement in the next few days for Environmental Trust funds and a few weeks for 319 funds. Potential urban projects include working with Lindsay to enhance their lake rehabilitation project, a new housing development in Newman Grove, and work at the Schuyler Golf Course. The group is still looking to complete a smaller urban project in a highly visible area to showcase as an example. Bill has lots of projects in the works including 10 to 15 onsite wastewater system upgrades, 2 solar wells, and a few grade stabilization projects all estimated at \$140,000 of required grant funds. Logistics for the SWCS conference in Des Moines this summer were discussed along with planning to take students on a one-day trip to Lincoln on April 10. Since April 10th is not a school day it was suggested to offer teacher drivers a stipend comparable to substitute teacher rates, lunch for all participants, and mileage. We plan to invite all three schools that help: Newman Grove, Schuyler, and Lakeview. Should others in the watershed be invited?

6.D.3.b. Wahoo Creek Watershed

6.D.3.b.1. Wahoo Creek Dam Site Planning Update

We met with NeDNR and NRCS to discuss project progress and funding. Related to funding, we plan to relinquish the remaining Water Sustainability Funds (WSF) due to match requirements. Specifically, WSF requires a match derived from the sponsor - we cannot use JEDI funds as match. There is also the potential to use NRCS-WFPO funds to hire a project grant manager for the duration of construction.

6.D.3.b.1.A. Olsson Design Update and Invoice

6.D.3.b.1.B. Land Rights Acquisition

Agreements have been signed with Olsson and Great Plains Appraisal.

6.D.3.b.2. Wahoo Creek Watershed Water Quality Plan - 319

6.D.3.c. Skull/Bone Creek Watershed

A stakeholder meeting occurred on February 22 at Abie's Place. There was a tremendous turnout of approximately 40 stakeholders and generally positive feedback.

A locally led landowner group is in the process of forming to assist NRD with practice planning and implementation. We hope the group can function similarly to SCWIG.

Next steps for the NRD could be pursuing WFPO (NRCS) and/or 319 (NDEE/EPA) funding for plan development and cost share assistance.

6.D.4. JOINT WATER MANAGEMENT ADVISORY BOARD (JWMAB)

6.D.4.a. East Fremont/Elkhorn Township Drainage - FEMA HMPG

Interlocal agreements are due by June detailing construction and maintenance commitments from all entities. The City of Fremont will be the lead project sponsor.

Public open houses are being scheduled. Likely dates are March 23rd and March 30th. NRD Board, City Council, and County Board members are being asked to participate. It will be an open-house style with subject specific tables throughout - no formal big group presentation planned.

6.D.4.b. West Fremont - FEMA BRIC

JEO has preliminary modeled some of the proposed projects discussed at the kickoff meeting. Of the eight presented, one has merit. This project included reinforcing the existing Farmland Levee to make it more resilient to a 50 year flood. JEO is continuing to into nonstructural mitigation project options and will present options at the next meeting.

6.D.4.c. Rawhide Creek Watershed - NRCS WFPO

Landowner notifications will go out soon to roughly 50 property owners that may be affected by field work including: geotechnical, cultural/archeology, and wetlands.

6.D.5. HAZARD MITIGATION PLAN UPDATE

6.D.6. MORSE BLUFF LEVEE

6.D.7. WOLFE JETTY

Drew Wolfe and Carl Groteluechen plan to update the Committee.

6.D.8. LESHARA DRAINAGE IMPROVEMENT

Attached is Request #3 for \$625.97. This leaves a balance of \$60,054.69 of the \$62,000 approved at the July 2021 board meeting.

6.D.9. EROSION AND SEDIMENT RULES AND REGULATIONS

6.D.10. 2023 Director's Retreat

We will be conducting a Director's Retreat on 3/9 at the Schneider Building in Fremont. The address is 935 Scheider Street, Fremont, NE, 68025 starting at 9:00 a.m.

What would the committee like to see discussed?

6.D.11. LOCAL WORK GROUP

On 2/28 NRCS conducted its annual Local Work Group (LWG). The LWG is made up of area landowners, producers, state/local/federal employees and anyone else interested in contributing. Local NRCS personnel presented on pertinent government programs as well as what we can expect in the near future. Of note, NRCS expects a significant increase in funding in the coming years and will face the challenges of allocating all the dollars. A good bit of discussion was had in regards to how this could impact the LPN. Expanding NRCS priority areas to the Skull/Bone Creek watersheds was well received. Attached are the handouts/worksheets that were presented.

6.D.12. OTHER

Nebraska Loess Hills Resources Conservation & Development District (RC&D) 2023 Membership Renewal and Annual Report attached.

Just as a reminder that it is Thursday, March 9th at the Schneider Building, 935 Schneider Street, Fremont NE 68025

6.D.13. ADJOURNMENT

7. Additional Action Items

7.A. Abandoned Well Cost-Share Payment

Duane Johnson - Irrigation Well Saunders County - \$1,693.13

Motion needed at Board Meeting

To approve cost-share payment to Duane Johnson in the amount of \$1,693.13 to decommission an irrigation well in Saunders County.

7.B. Kent Merryweather Acre Expansion with Allocation

Kent Merryweather has submitted an application to irrigate 30 more acres from well G-135560 in the SW1/4 SE1/4 S23-T15N-R9E, Saunders County, Leshara Platte Valley Subarea. The well currently irrigates 125.94 acres. With the addition of the 30 acres, Mr. Merryweather's allocation would be 21.81 acre inches over a three-year period.

8. Approval of Bills Pending

9. Consent Agenda Adoption

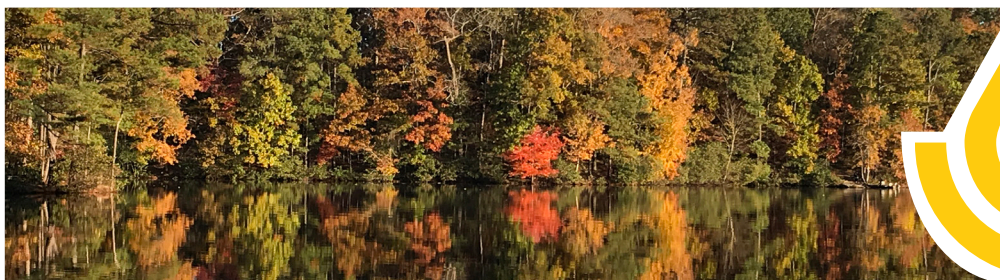
10. Comments from Directors/Guests

11. Meeting Establishment/Adjournment

NOTE: The agenda is on file at the LPNNRD office and may be changed up to 24 hours prior to the meeting as scheduled.

Conservation Update

Report to LPNNRD Manager



District Conservationist: Mark Walkenhorst

Wahoo: District Secretary, Marla Milliken
 Resource Conservationist, Jami Thoene
 Soil Conservationist, Peyton Harsin
 Soil Conservationist, Don Treptow
 Soil Conservation Technician, Pearl Smith-Mayar
 Josh Charles, Civil Engineering Technician
 Pheasants Forever Biologist, Eil Sanders
 Contract Technician: Ashley Keeler
 Contract Technician, Megan Pernicek
 Compliance Specialist, Becky Pieper
 WRP team 6 coordinator: Patrick Lantis



David City: District Secretary, Kim Piitz
 Resource Conservationist: Thomas Cowan
 Contract Technician, Cierra Fischer
 Soil Conservationist, Ben Barlean

Fremont: District Secretary, Jessica Marty
 Resource Conservationist, Mike Boardman
 Soil Conservationist, Ryan Jenkin

Schuyler: District Secretary, Kris Miller
 Resource Conservationist: Jenna Kampschnieder
 Soil Conservationist, VACANT

Columbus: District Secretary, Jeri Rosno
 Resource Conservationist: VACANT
 Program Assistant: Melissa Foreman
 WRP team 6 coordinator: VACANT



Patrick Lantis (pictured to the left) is the new Area Easement Specialist in the Wahoo Field Office. Prior to joining NRCS, he worked as a Natural Resources Specialist with the Army Corps of Engineers and also as a Biologist with the U.S. Fish and Wildlife Service. He is a Nebraska native and grew up in Lincoln. In his free time he enjoys hunting and fishing, hiking in the mountains with his fiancé Lucy, and spending time with their puppy Ollie.

Tom Cowan, RC in David City has been selected as the District Conservationist in Lincoln. Tom will begin his new duties on March 13. Tom started his NRCS career in the Pathways program. After graduation he was a Soil Conservationist in the Lincoln field office for three years. He then moved to the Resource Conservationist position in David City in 2020.

Becky Pieper, Wetland Compliance Specialist in Wahoo, has been selected for the detail assignment as the Programs Initiatives Coordinator in the State Office. She will begin her detail position on March 6, 2023.

Regarding Programs, staff continues to work on contract obligations with **Conservation Stewardship Program (CSP)** and **Environmental Quality Incentive Program (EQIP)** this fiscal year. Classic CSP, classic EQIP, EQIP - Conservation Incentive Contracts and now EQIP- Inflation Reduction Act are all applications and contracts that the staff are currently addressing. Anticipation is that over 80 new contracts will exist for the upcoming fiscal year.

The **Lower Platte North Local Workgroup** met on the 28th of February with a fairly large group attending. Specific's regarding numbers and what information was obtained, at this workgroup ,will be forthcoming, as we are in the gathering stages to put the infomation together in a presentable form. More to come.



Manager's Report – March 13, 2023

- Today's board meeting and all future LPNNRD board meetings will continue to be "in person" meetings. We continue to provide a Zoom link to all our board meetings, however directors are required to be in attendance to vote. All directors attending via Zoom will continue to have the ability to participate in discussion.
- Sydney Abbott and I attended the 2023 NACD Annual meeting last month and once again, it was an informational and interesting conference. NRCS Chief Terry Cosby addressed the group with a message of partnerships and how well our organization and NRCS continue to work together to achieve our goals. Another good speaker was retired Lt. General Russel L. Honore' and his passion to lead by example and accomplish unimaginable goals through communication and teamwork. As in other years, I am amazed at the number of individuals from across the country asking questions about Nebraska's NRD's, how well our system works and how unique we are in the country.
- Along this same topic, Chapman and I met with Lalit Jha and the Exec. Director of the Kansas Watershed Districts Association to discuss Nebraska's NRD system and Lower Platte North. As do most other states, Kansas has Conservation Districts, Watershed Districts and other various districts, individually working to do what Nebraska's NRDs do across our state.
- Chapman and Elliott continue to work with Olsson and now Great Plains Appraisal as we prepare to move into the land rights phase of our Wahoo Creek Watershed Plan.
- We had a very good turnout for our initial Skull and Bone Creek informational meeting in Abie in late February. There were very good questions and a good response of individuals interested in developing a Watershed Group similar to the Shell Creek Watershed Group. Our plans are to submit an application to NRCS later this year to cover the cost of a Watershed Plan update as we did with the Wahoo Creek plan.
- Chapman and I met with USACE, Papio NRD and LPS NRD to discuss current and potential projects associated with our districts. During the meeting I brought up our immediate need to closeout our Sand Creek Environmental Restoration project (Wanahoo) before we would consider working with the Corp on any new projects. I was very happy to hear from Kayla Eckert and Greg Johnson as they informed me the USACE funding for closeout in to be in their next fiscal quarter budget which begins April 1!
- We are currently in the process of interviewing candidates for our open GIS/Grants Coordinator and Conservation Technician positions. I will update the board as soon as these hires are made.

Have a great month and STAY SAFE!

-Eric Gottschalk – General Manager, Lower Platte North NRD

**LOWER PLATTE NORTH NRD MINUTES
BOARD MEETING
February 10, 2023**

The regular monthly meeting of the Lower Platte North NRD Board of Directors was called to order at 1:30 p.m. at the NRD Office, Wahoo, NE on Friday, February 10, 2023.

1. NOTICE OF MEETING

The agenda and supporting documents are available on the district's website – www.lpnrd.org. A copy of the Nebraska Open Meetings Law has been posted on the NRD's website.

The advanced notice of our February 10, 2023, board meeting was posted on the Lower Platte North NRD website and posted in the Fremont Tribune on February 6, 2023.

Chair Thompson informed those present that a copy of the "Open Meetings Act" is posted for public viewing.

Pledge of Allegiance

2. ROLL CALL - INTRODUCTIONS

DIRECTORS PRESENT AND CONSTITUTING A QUORUM:

Bailey	Birkel	Engel
Hilger	Johnson, Duane	Johnson, Jerry
Kavan	Lawrence	Meduna
McKnight	Olson	Pollard
Sabatka	Yosten	Thompson

DIRECTORS ABSENT

Saalfeld	Saeger	Seier
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STAFF AND GUESTS:

Gottschalk	Breunig	Heimann
Andersen	Chapman	Lausterer
Abbott (Zoom)	Elliott (Zoom)	

3. APPROVAL OF AGENDA

4. COMMENTS - ADVISORS/GUESTS/DIRECTORS

a. Guest Comments

b. NRCS Report

Mark Walkenhorst was present to give the NRCS Report.

c. NARD Report

Bob Hilger gave the NARD report.

d. NRC Report - None

e. Manager Report

Gottschalk reviewed his written report.

f. Education Program – None

5. APPROVAL OF MINUTES

J. Johnson made the motion, seconded by Lawrence, to approve the minutes from the January 9, 2023, Board Meeting. Motion carried on consent agenda.

Agenda Item 6.D.9 – Village of Lindsay Pond Request

The Village of Lindsay has formally requested cost-share assistance, up to \$50,000, for the village pond rehabilitation project. Sabatka made the motion, seconded by McKnight, to assist the Village of Lindsay with their pond rehabilitation project by committing \$25,000 this fiscal year and \$25,000 in FY2024. Motion carried all members present voting aye.

Agenda Item 6.B.4.a. – Wanahoo Stilling Basin – (FEMA)

The final three panels were poured on Friday, January 27. The baffle plate may arrive in February for installation and grading and seeding will take place after the thaw. We have received Change Order 002 dealing with the extra cost of \$45,506 for overgrinding of the RCC Apron Floor and \$5,048.56 for steel reinforcement along with some deducts (\$4,106.32) totaling \$46,448.24. Pollard made the motion, seconded by Sabatka, to approve pay application #3 with change order 2 for a total payment to ME Collins of \$292,798.07. Motion carried all members present voting aye.

Agenda Item 6.B.4.d. – NRD Owned Thomas Lake Lots

J. Johnson made the motion, seconded by Lawrence, to have staff re-write an agreement with Thomas Lakes Homeowners Association for the care and public green space use of lots 41, 42, 43, 44, 49 and 50. Motion carried on consent agenda.

Agenda Item 6.C.3.a.4.G. – Hydrogeologic Assessment Database

The Selection Committee of LPN staff reviewed the proposals of LRE and HDR. Both firms are very capable of doing the project with excellent RFQs. This project is for a maximum of \$56,000, of which 60% will be funded through a WSF grant. Birkel made the motion, seconded by J. Johnson, to authorize Chair Thompson to sign the agreement with LRE Water to develop the Hydrological Assessment Database for a maximum amount of \$56,000, because of projects conducted within the district and their familiarity this brings to the project. Motion carried all members present voting aye.

6. REPORT OF STANDING COMMITTEES

A. EXECUTIVE COMMITTEE REPORT

1. UNFINISHED BUSINESS - None

2. Meetings

a. Pending

1. Director Retreat– Update Given

2. NARD Washington DC Trip

J. Johnson made the motion, seconded by Lawrence, to send two staff and two directors to the NARD Washington DC Annual Meeting March 18-22, 2023. Motion carried on consent agenda.

b. Reports

1. Legislative Conference – Update Given

2. GMDA Winter Conference – Update Given

3. Management Items

a. Director Absences

J. Johnson made the motion, seconded by Lawrence, to approve Director Meduna's absence from the November Board Meeting. Motion carried on consent agenda.

b. LPNNRD Sub-Committee Discussion – Update Given

c. Monthly Education Program – Update Given

d. New Office Building – Update Given

e. February Board Meeting Date – Update Given

f. Public Notice of Board Meetings – Update Given

g. Sub-District 3 Director Vacancy – Update Given

h. LPNNRD Policy Review Process – Update Given

4. Equipment - None

5. Personnel

a. Potential Position Opening – Update Given

b. Open NRD Technician Position – Update Given

c. Assistant Manager 6 Month Review

Hilger made the motion, seconded by Pollard, to adjust Ryan Chapman's salary effective immediately as discussed at the time of his hiring. Motion carried all members present voting aye.

d. Workers Compensation – Update Given

6. Finance

a. Approval of Financial Reports

J. Johnson made the motion, seconded by Lawrence, to approve the December Financial Reports as presented. Motion carried on consent agenda.

b. Approval of Managers Expenses

J. Johnson made the motion, seconded by Lawrence, to approve Manager Gottschalk's time and expense sheets as attached to the Executive Committee Minutes. Motion carried on consent agenda.

c. Accounts Over 90 Days - Update Given

J. Johnson made the motion, seconded by Lawrence, that the February LPNNRD Executive Committee Minutes be received and placed on file. Motion carried on consent agenda.

B. OPERATIONS COMMITTEE REPORT

1. NOMINATIONS FOR CHAIR AND VICE CHAIR

Pollard was appointed Chair of the Operations Committee and J. Johnson was appointed as Vice-Chair.

2. UNFINISHED BUSINESS – None

3. WILD NE AND OTHER PROGRAMS - None

4. OPERATION AND MAINTENANCE & OTHER ITEMS

a. Wanahoo Dam Stilling Basin (FEMA) – This item was taken earlier in the meeting

b. Cottonwood 21-A Dam Assessment – Update Given

c. Wanahoo Relief Well Cleaning – Update Given

d. NRD Owned Thomas Lakes Lot – This item was taken earlier in the meeting

e. Sand/Duck Dam 15 Land Locked Issue

J. Johnson made the motion, seconded by Lawrence, to approve cost-sharing with Jason Scott at 50% up to \$4,000 to place a bridge over the creek of Sand/Duck Creek Dam Site 15 to reach a landlocked parcel for maintenance purposes. Motion carried on consent agenda.

f. Dams Exceeding Planned Service Life – Update Given

5. ROCK AND JETTY – None

6. LAKE WANAHOO

a. Lake Wanahoo Permit Sales - Update Given

b. Lake Wanahoo Camping Revenue – Update Given

c. Clint Johannes Education Building Rentals – Update Given

6. INFORMATION & EDUCATION

a. Information

1. Radio and eAds – Update Given

2. Analytics – Update Given

3. Winter Viaduct – Update Given

4. News Channel Nebraska – Update Given

5. Shell Creek Watershed Supplies – Update Given

b. Education – Update Given

1. Past Events - Update Given

2. Future Events – Update Given

3. New Projector for the Education Building

J. Johnson made the motion, seconded by Lawrence, to move forward with purchasing the BenQ 1080p, 5,000 lumen projector at \$3,300.12 from Diode Technologies. Motion carried on consent agenda.

7. RURAL WATER SYSTEMS

a. Colon – Update Given

b. Bruno – Update Given

c. Other – None

J. Johnson made the motion, seconded by Lawrence, that the February LPNNRD Operations Committee Minutes be received and placed on file. Motion carried on consent agenda.

C. WATER COMMITTEE REPORT

1. UNFINISHED BUSINESS

2. NOMINATIONS FOR CHAIR AND VICE CHAIR

Hilger was appointed Chair of the Water Committee and Saeger was appointed as Vice-Chair.

3. REGULATORY

a. GROUNDWATER MANGEMENT AREA

1. Variance Request in the Hydrologically Connected Area (Limited Development Area) – None

2. Variance Request in the Non-Hydrologically Connected Area (Normal Development Area) – None

3. Variance Request in the Restricted Development Areas – None

4. Well Permit Program – Update Given

a. Norman Kavan Jr. Secondary Well Application

McKnight made the motion, seconded by Bailey, to approve the well permit of Norman Kavan Jr. for a secondary well without increasing irrigated acres for S32-T32N-R8E, Saunders County. Motion carried all members present voting aye.

b. Supplemental Well Permit – UNL

Hilger made the motion, seconded by J. Johnson, to approve a supplemental well for the University of Nebraska in the NE NW S18-14N-9E, Saunders County to assist well G-087929. Motion carried.

AYE: Bailey, Birkel, Engel, Hilger, D. Johnson, J. Johnson, Kavan, Lawrence, Meduna, McKnight, Olson, Pollard, Sabatka, Yosten

ABSTAIN: Thompson

c. City of Schuyler Public Water Supply Well Applications

D. Johnson made the motion, seconded Birkel, to approve two municipal well permits for Schuyler Department of Utilities. Motion carried all members present voting aye.

d. Well Permits Approved – Update Given

e. Variance Soil Scoring – Update Given

f. Transfer of Acres – Duane Johnson

Hilger made the motion, seconded by Birkel, to approve the additional 32 acres in the NE¼-S25-T14N-R7E, Saunders County for Duane Johnson after an updated soil and land class was received from NRCS Soil Scientists. The change in land class put this tract of land over the 300-point threshold. Motion carried.

AYE: Bailey, Birkel, Engel, Hilger, J. Johnson, Kavan, Lawrence, Meduna, McKnight, Olson, Pollard, Sabatka, Yosten, Thompson

ABSTAIN: D. Johnson

g. Hydrogeologic Assessment Database – This item was taken earlier

h. Cost-Share Programs

1. Flow Meter Maintenance Program – Update Given

i. Bellwood Phase 2 Area – Update Given

j. Richland Schuyler Phase 3 Area – Update Given

k. LPNNRD Operator Certification – Update Given

l. Lower Platte River Basin Water Management Plan Coalition (LPRBC) – Update Given

m. Voluntary Integrated Water Management Plan – LPNNRD

5. CHEMIGATION – Update Given

6. GROUND WATER ENERGY LEVELS – Update Given

7. GROUND WATER SAMPLING – Update Given

8. LIVESTOCK WASTE PERMITS – Update Given

4. GROUND WATER PROGRAMS

a. Decommissioned Well Program

1. Well Estimates – Update Given

2. Plugged Wells

J. Johnson made the motion, seconded by Lawrence, to approve payment of \$1,565.72 to LaRose Preister (Tom Presiter) for decommissioning an irrigation well. Motion carried on consent agenda.

b. Ground Water Management Plan – Update Given

c. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

1. Phase Area – Update Given

2. Eastern Nebraska Water Resources Assessment (ENWRA) – Update Given

3. Lower Platte River Consortium – Update Given

d. New Monitoring Wells – Update Given

e. GMDA Winter Conference – Update Given

5. SURFACE WATER PROGRAMS

a. USGS Stream Flow Gauging Sites

J. Johnson made the motion, seconded by Lawrence, to approve and authorize the General Manger to sign the joint agreement with USGS with LPNNRD budgeting \$18,190 in FY 23-24. Motion carried on consent agenda.

6. Phoenix Database – Update Given

7. OTHER

a. Comments from the Public – None

J. Johnson made the motion, seconded by Lawrence, that the February LPNNRD Water Committee Minutes be received and placed on file. Motion carried on consent agenda.

D. PROJECTS COMMITTEE REPORT

1. NOMINATIONS FOR CHAIR AND VICE CHAIR

Olson was appointed Chair of the Projects Committee and Yosten was appointed as Vice-Chair.

2. UNFINISHED BUSINESS – NONE

3. SWCP

a. SWCP Tree Application Approvals

Listed are three applications for tree planting cost-share:

Derek Simonds - 230 trees - \$431.25

Jordan Larsen - 200 trees - \$375.00

Seth McGinn - 800 trees - \$1,500.00

J. Johnson made the motion, seconded by Lawrence, to approve 3 tree planting applications totaling \$2,306.25. Motion carried on consent agenda.

b. SWCP Policy – Update Given

c. SWCP Cancellations – None

d. Wahoo Creek Cost-Share Payment Approvals – None

4. WATERSHEDS

a. Shell Creek Watershed

1. Shell Creek Implementation – 319

J. Johnson made the motion, seconded by Lawrence, to send up to two directors, two staff, and six volunteer monitoring students to the 2023 Soil and Water Conservation Society International conference in Des Moines, IA. Motion carried on consent agenda.

2. Shell Creek Student Testing Supplies

J. Johnson made the motion, seconded by Lawrence, to approve \$1,609.75 for Shell Creek testing supplies. Motion carried on consent agenda.

b. Wahoo Creek Watershed

1. Wahoo Creek Dam Site Planning Update

Yosten made the motion, seconded by Lawrence, to have staff negotiate a contract for General Managers signature after Legal Counsel approval with two firms: Great Plains Appraisal to complete appraisals not to exceed \$126,000 and with Olsson for coordination and negotiations not to exceed \$210,000. Motion carried all members present voting aye.

a. Olsson Design Update and Invoice – Update Given

b. NeDNR Agreement with JEDI Funds – Update Given

2. Wahoo Creek Watershed Water Quality Plan – 319 – Update Given

c. Skull & Bone Creek – Update Given

5. JOINT WATER MANAGEMENT ADVISORY BOARD

a. East Fremont/Elkhorn Township Drainage – FEMA HMPG – Update Given

b. West Fremont – FEMA BRIC – Update Given

c. Rawhide Creek Watershed – NRCS WFPO – Update Given

6. HAZARD MITIGATION PLAN – Update Given

7. MORSE BLUFF LEVEE – UPDATE GIVEN

8. WOLFE JETTY – UPDATE GIVEN

9. LESHARA DRAINAGE IMPROVEMENT – UPDATE GIVEN

10. VILLAGE OF LINDSAY POND REQUEST – This item was taken earlier

11. EROSION AND SEDIMENT RULES AND REGULATIONS – UPDATE GIVEN

12. OTHER – UPDATE GIVEN

J. Johnson made the motion, seconded by Lawrence, that the February LPNNRD Projects Committee Minutes be received and placed on file. Motion carried on consent agenda.

7. ADDITIONAL ACTION ITEMS - NONE

a. Expansion of Irrigated Acres – SQS #2

Todd Mauer has submitted an application to expand irrigated acres within SQS #2 without increasing the 27-inch rolling allocation. Todd is asking for an additional 42 acres on the SW1/4 S18-19N-1E, Platte County. If Mauer increases to 177 acres, his allocation would be reduced to a 20.21-acre inch/3-year rolling allocation from well G-053124. His 3-year average was 5.14 with a 2022 use of 5.58. Mauer is also planting rye on this field. This has been allowed by other producers in the past years. Pollard made the motion, seconded by Bailey, to approve Todd Mauer's application to expand irrigated acres within SQS#2 for SW1/4 S18-19N-1E, Platte County with his new allocation being 20.21-acre inch/3-year rolling allocation from Well G-053124. Motion carried.

AYE: Bailey, Engel, Hilger, D. Johnson, J. Johnson, Kavan, Lawrence, Meduna, McKnight, Olson, Pollard, Sabatka, Yosten, Thompson

NAY: Birkel

8. BILLS TO BE APPROVED

Meduna made the motion, seconded by Sabatka, that all bills be approved, and warrants be drawn in payment of the same. Motion carried all members present voting aye.

9. CONSENT AGENDA ADOPTION

J. Johnson made the motion, seconded by Lawrence, to approve the February Consent Agenda. Motion carried all members present voting aye.

10. COMMENTS FROM DIRECTORS/GUESTS

11. MEETING ESTABLISHMENT AND ADJOURNMENT

The March Board of Directors Meeting will be held on Monday, March 13, 2023, 1:30 p.m. Meeting adjourned at 4:19 pm.

Discussion on all agenda items that have "Update Given" can be found in corresponding Committee Minutes.

The undersigned, the duly elected and acting Secretary of the Lower Platte North Natural Resources District (the "District"), hereby certifies that the foregoing is a true and correct copy of the minutes of the Meeting of the Board of Directors of the District held on February 10, 2023, that all of the matters and subjects discussed at the meeting were contained in the agenda for the meeting, kept continually current and readily available for public inspection at the principal office of the District during normal business hours, and except for items of emergency nature, the agenda was not altered later than twenty-four (24) hours before the scheduled commencement of the meeting; that at least one copy of all reproducible material discussed at the meeting was available at the meeting for examination and copying by members of the public; that the above minutes were in written form and available for public inspection within ten working days or prior to the next convened meeting, whichever occurred earlier; and, that reasonable efforts were made to provide all news media requesting notification of the meeting and of the time and place of said meeting and the subjects to be discussed at said meeting.

Robert Meduna Jr., Secretary

**Lower Platte North NRD
Director Retreat
Schneider Building – 935 Schneider St. Fremont, NE
March 9, 2023**

9:00 a.m. Welcome – Eric

9:05 a.m. Wahoo Creek Watershed Update – Ryan, Sean, Eric

9:35 a.m. Wanahoo Stilling Basin Repairs History/Update – Bob Heimann

10:00 a.m. Dodge County/East Fremont – Tom Smith, Ryan, Sean

10:45 a.m. GDFC, Port Authority Update – Megan Stiles

11:15 a.m. Water Dept Nitrate/Phase IV? – Daryl, Russell, Tyler, Noah

12:00 p.m. Lunch

1:00 p.m. 2023 Wanahoo Improvements – Bret, Eric

1:30 p.m. Water Dept. Drought Triggers/Variations – Daryl, Russell, Bret

2:15 p.m. New Office Funding – Eric

2:45 p.m. Adjourn – Reception – Thompson Construction

2404 N Lincoln Ave, Fremont, NE 68025

Nebraska Natural Resources Commission Meeting Report
Younes Conference Center, Kearney, NE
Tom Mountford, Lower Platte River Basin (LPRB) Representative
February 15, 2023

This meeting's primary focus was to: Introduce new Commission members; discuss the various program fund status reports; obtain interest in committee assignments; elect new officers; and review the pending 2023 meeting schedule. As you know, there are thirteen (13) elected river basin members and another fourteen (14) members appointed by the Governor. Two spots are yet to be appointed, those being representatives for Public Power and Groundwater Irrigators.

It was great to learn that the prior LPRB representative, Dan Steinkruger, will remain on the Commission as one of Governor Pillen's new appointees, representing Agribusiness Interests. Dan is the former State Executive Director for the Nebraska Farm Service Agency and a former Lower Platte South NRD Board member. In 2022, Dan served out the remaining LPRB term held by Karen Amen. It was also great to see other past acquaintances, which included Greg Wilke. Greg was a former LPNDRD Board Member from the Leigh area, who is now representing the Niobrara-White-Hat River Basin.

Programs Committee Reports

Most of the meeting was discussing six program fund status reports overseen by the Commission (attached). The Small Watersheds Flood Control Fund is the only inactive fund at the present time. The **Water Sustainability Fund (WSF)** is the primary funding program, where there are 55 active projects that have been approved for a total of about \$81 million. Those projects include LPNDRD's \$233,100 toward addressing nitrate contamination in drinking water and \$2,269,194 that was approved (in 2017) for Wahoo Creek Dam sites 26a, 26b and 27. Lower Platte South NRD is the sponsor of two approved projects, those being Deadman's Run Flood Reduction Project (\$5,722,908.87) and the 3-D Hydrologic Framework Project (\$247,500). After receiving WFS applications in March, the WFS Application Review committee will recommend new application approvals at the July 19, 2023, Commission Meeting. ***It should be noted that WFS application submittal dates have been changed to March 16 – 31.***

One older fund that is winding down, the **Nebraska Resources Development Fund (NRDF)** holds \$2,246,375.69 for four projects, including Lake Wanahoo. There is \$21,087.74 still available for future improvements on Lake Wanahoo property from the \$11,309,246.95 originally allocated.

Election of Officers and Committee Assignments

Don Batie (Agricultural Interests Appointee) was elected the new Commission Chair and Greg Wilke (Niobrara-White-Hat River Basin) was elected Vice-Chair. Officer terms are 2 years. There was also a sign-up for serving on the various (5) committees. While assignments are pending, I expressed interest for serving on the Programs and the WFS Application Review committees.

The next Commission meeting is tentatively scheduled for April 5, 2023. Please contact me if you have any questions.

Respectfully,

Tom Mountford

NEBRASKA RESOURCES DEVELOPMENT FUND FINANCIAL STATUS

February 8, 2023

APPROVED PROJECTS	SPONSOR & RDF COST SHARE	AMOUNT ALLOCATED	TOTAL PROJECT OBLIGATION	UNOBLIGATED BALANCE	OBLIGATED THIS FISCAL YEAR	PAYMENTS THIS FISCAL YEAR	PAYMENT SINCE LAST REPORT ¹	TOTAL AMOUNT EXPENDED TO DATE	OBLIGATED FUNDS AVAILABLE
FULLY FUNDED:									
Lower Turkey Cr. Watershed	LBBNRD 60% / 70%	7,179,051.91	7,179,051.91	0.00				7,004,104.91	174,947.00
Upper Prairie/Silver/Moores	CPNRD 52.5%	14,705,530.74	14,705,530.74	0.00		10,589.52	10,589.52	12,999,451.79	1,706,078.95
Lake Wanahoo	LPNNRD 60%	11,309,246.95	11,309,246.95	0.00				11,288,159.21	21,087.74
Western Sarpy/Clear Creek	P-MRNRD 60%	10,179,580.43	10,179,580.43	0.00				9,835,318.43	344,262.00
Completed Projects (65)		65,917,837.34	65,917,837.34					65,913,753.94	
TOTAL:		\$109,291,247.37	\$109,291,247.37	(\$0.00)	\$0.00	\$10,589.52	\$10,589.52	\$107,040,788.28	\$2,246,375.69

Hay & Dirt Sales Revenue \$0.00

APPROVAL DATE

- 7-25-02 Western Sarpy
- 11-17-04 Upper Prairie
- 11-07-05 Lower Turkey
- 7-11-07 Wanahoo

TOTAL \$2,246,375.69

NOTES: 1 Last Report - 10/1/2022

Soil and Water Conservation Fund

Expenditures by Month 2014-2023

Month	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
July	363,865	378,340	230,156	246,731	69,345	226,366	374,897	181,848	191,731
August	205,553	188,613	203,516	203,852	263,706	124,962	361,535	108,607	18,961
September	196,272	176,753	154,446	216,953	180,002	244,879	195,055	152,411	108,747
October	172,056	158,383	251,920	86,318	194,573	132,123	270,433	88,968	91,285
November	165,533	73,100	61,414	201,126	120,264	55,514	370,513	61,578	214,244
December	226,457	411,729	530,339	175,421	115,429	240,281	261,669	210,658	133,961
January	186,673	58,309	140,403	197,443	192,979	60,276	523,664	246,016	85,978
February	229,949	181,655	122,958	101,559	104,900	185,522	89,064	9,949	
March	182,138	122,155	80,967	81,770	60,350	74,887	71,312	124,746	
April	108,228	134,290	98,135	37,868	8,301	23,994	44,976	184,341	
May	161,702	104,211	134,951	20,708	59,720	87,122	75,446	79,406	
June	168,414	412,417	416,507	358,271	125,953	328,431	273,943	375,797	
Total	2,366,840	2,399,955	2,425,712	1,928,020	1,495,522	1,784,357	2,912,504	1,824,325	844,908

Soil and Water Conservation Fund Report

NRD Name	Total Available FY 2022-2023	Expenditures October 2022	Expended To Date	Remaining Balance 31-Oct-22	Percent Expended 31-Oct-22
Upper Big Blue	\$77,275.96		\$9,990.24	\$67,285.72	13 %
Lower Big Blue	\$76,083.43	\$7,279.21	\$7,279.21	\$68,804.22	10 %
Upper Elkhorn	\$149,480.68		\$6,011.63	\$143,469.05	4 %
Lower Elkhorn	\$244,605.08	\$3,096.99	\$11,611.26	\$232,993.82	5 %
Little Blue	\$76,848.22			\$76,848.22	0 %
Upper Loup	\$160,493.21		\$2,165.23	\$158,327.98	1 %
Lower Loup	\$160,993.42	\$17,982.35	\$28,028.29	\$132,965.13	17 %
Lewis & Clark	\$160,994.00	\$18,008.79	\$48,513.96	\$112,480.04	30 %
Papio-Missouri River	\$101,110.10			\$101,110.10	0 %
Nemaha	\$92,297.89	\$5,041.24	\$5,041.24	\$87,256.65	5 %
Upper Niobrara-White	\$108,984.75		\$13,316.60	\$95,668.15	12 %
Middle Niobrara	\$133,919.11	\$13,041.19	\$40,096.01	\$93,823.10	30 %
Lower Niobrara	\$157,259.35	\$3,672.16	\$13,719.05	\$143,540.30	9 %
North Platte	\$82,431.73	\$9,180.20	\$48,641.79	\$33,789.94	59 %
South Platte	\$135,428.93	\$631.92	\$23,742.35	\$111,686.58	18 %
Twin Platte	\$60,731.41			\$60,731.41	0 %
Central Platte	\$90,713.67			\$90,713.67	0 %
Lower Platte North	\$120,121.17			\$120,121.17	0 %
Lower Platte South	\$83,397.57			\$83,397.57	0 %
Upper Republican	\$199,153.00	\$1,534.81	\$12,855.60	\$186,297.40	6 %
Middle Republican	\$111,344.24	\$8,534.00	\$15,358.15	\$95,986.09	14 %
Lower Republican	\$127,858.29		\$19,881.07	\$107,977.22	16 %
Tri-Basin	\$153,760.88	\$3,282.56	\$8,607.73	\$145,153.15	6 %
	\$2,865,286.06	\$91,285.42	\$314,859.41	\$2,550,426.65	11 %

Soil and Water Conservation Fund Report

NRD Name	Total Available FY 2022-2023	Expenditures November 2022	Expended To Date	Remaining Balance 30-Nov-22	Percent Expended 30-Nov-22
Upper Big Blue	\$77,275.96		\$9,990.24	\$67,285.72	13 %
Lower Big Blue	\$76,083.43		\$7,279.21	\$68,804.22	10 %
Upper Elkhorn	\$149,480.68	\$10,187.07	\$16,198.70	\$133,281.98	11 %
Lower Elkhorn	\$244,605.08	\$16,621.29	\$28,232.55	\$216,372.53	12 %
Little Blue	\$76,848.22	\$16,140.34	\$16,140.34	\$60,707.88	21 %
Upper Loup	\$160,493.21	\$709.14	\$2,874.37	\$157,618.84	2 %
Lower Loup	\$160,993.42	\$23,771.07	\$51,799.36	\$109,194.06	32 %
Lewis & Clark	\$160,994.00	\$7,492.45	\$56,006.41	\$104,987.59	35 %
Papio-Missouri River	\$101,110.10			\$101,110.10	0 %
Nemaha	\$92,297.89	\$80,198.15	\$85,239.39	\$7,058.50	92 %
Upper Niobrara-White	\$108,984.75	\$7,491.21	\$20,807.81	\$88,176.94	19 %
Middle Niobrara	\$133,919.11	\$6,409.94	\$46,505.95	\$87,413.16	35 %
Lower Niobrara	\$157,259.35	\$3,621.72	\$17,340.77	\$139,918.58	11 %
North Platte	\$82,431.73	\$8,270.46	\$56,912.25	\$25,519.48	69 %
South Platte	\$135,428.93	\$12,424.25	\$36,166.60	\$99,262.33	27 %
Twin Platte	\$60,731.41			\$60,731.41	0 %
Central Platte	\$90,713.67			\$90,713.67	0 %
Lower Platte North	\$120,121.17	\$1,293.32	\$1,293.32	\$118,827.85	1 %
Lower Platte South	\$83,397.57			\$83,397.57	0 %
Upper Republican	\$199,153.00	\$10,000.00	\$22,855.60	\$176,297.40	11 %
Middle Republican	\$111,344.24		\$15,358.15	\$95,986.09	14 %
Lower Republican	\$127,858.29	\$9,613.90	\$29,494.97	\$98,363.32	23 %
Tri-Basin	\$153,760.88		\$8,607.73	\$145,153.15	6 %
	\$2,865,286.06	\$214,244.31	\$529,103.72	\$2,336,182.34	18 %

Soil and Water Conservation Fund Report

NRD Name	Total Available FY 2022-2023	Expenditures December 2022	Expended To Date	Remaining Balance 31-Dec-22	Percent Expended 31-Dec-22
Upper Big Blue	\$77,275.96		\$9,990.24	\$67,285.72	13 %
Lower Big Blue	\$76,083.43		\$7,279.21	\$68,804.22	10 %
Upper Elkhorn	\$149,480.68	\$11,288.66	\$27,487.36	\$121,993.32	18 %
Lower Elkhorn	\$244,605.08	\$3,588.00	\$31,820.55	\$212,784.53	13 %
Little Blue	\$76,848.22	\$6,490.00	\$22,630.34	\$54,217.88	29 %
Upper Loup	\$160,493.21		\$2,874.37	\$157,618.84	2 %
Lower Loup	\$160,993.42	\$9,582.90	\$61,382.26	\$99,611.16	38 %
Lewis & Clark	\$160,994.00	\$6,398.98	\$62,405.39	\$98,588.61	39 %
Papio-Missouri River	\$101,110.10			\$101,110.10	0 %
Nemaha	\$92,297.89	\$6,556.04	\$91,795.43	\$502.46	99 %
Upper Niobrara-White	\$108,984.75	\$2,332.98	\$23,140.79	\$85,843.96	21 %
Middle Niobrara	\$133,919.11	\$1,810.31	\$48,316.26	\$85,602.85	36 %
Lower Niobrara	\$157,259.35	\$10,992.20	\$28,332.97	\$128,926.38	18 %
North Platte	\$82,431.73	\$25,392.50	\$82,304.75	\$126.98	100 %
South Platte	\$135,428.93	\$8,131.92	\$44,298.52	\$91,130.41	33 %
Twin Platte	\$60,731.41	\$1,268.72	\$1,268.72	\$59,462.69	2 %
Central Platte	\$90,713.67	\$3,347.41	\$3,347.41	\$87,366.26	4 %
Lower Platte North	\$120,121.17		\$1,293.32	\$118,827.85	1 %
Lower Platte South	\$83,397.57	\$11,752.08	\$11,752.08	\$71,645.49	14 %
Upper Republican	\$199,153.00	\$13,894.26	\$36,749.86	\$162,403.14	18 %
Middle Republican	\$111,344.24	\$5,518.33	\$20,876.48	\$90,467.76	19 %
Lower Republican	\$127,858.29	\$550.36	\$30,045.33	\$97,812.96	23 %
Tri-Basin	\$153,760.88	\$5,065.12	\$13,672.85	\$140,088.03	9 %
	\$2,865,286.06	\$133,960.77	\$663,064.49	\$2,202,221.57	23 %

Soil and Water Conservation Fund Report

NRD Name	Total Available FY 2022-2023	Expenditures January 2023	Expended To Date	Remaining Balance 31-Jan-23	Percent Expended 31-Jan-23
Upper Big Blue	\$77,275.96		\$9,990.24	\$67,285.72	13 %
Lower Big Blue	\$76,083.43	\$2,551.51	\$9,830.72	\$66,252.71	13 %
Upper Elkhorn	\$149,480.68	\$5,617.10	\$33,104.46	\$116,376.22	22 %
Lower Elkhorn	\$244,605.08	\$9,110.61	\$40,931.16	\$203,673.92	17 %
Little Blue	\$76,848.22	\$15,847.73	\$38,478.07	\$38,370.15	50 %
Upper Loup	\$160,493.21		\$2,874.37	\$157,618.84	2 %
Lower Loup	\$160,993.42	\$1,790.35	\$63,172.61	\$97,820.81	39 %
Lewis & Clark	\$160,994.00	\$6,442.72	\$68,848.11	\$92,145.89	43 %
Papio-Missouri River	\$101,110.10			\$101,110.10	0 %
Nemaha	\$92,297.89	\$502.46	\$92,297.89		100 %
Upper Niobrara-White	\$108,984.75		\$23,140.79	\$85,843.96	21 %
Middle Niobrara	\$133,919.11		\$48,316.26	\$85,602.85	36 %
Lower Niobrara	\$157,259.35	\$3,485.90	\$31,818.87	\$125,440.48	20 %
North Platte	\$82,431.73	\$126.98	\$82,431.73		100 %
South Platte	\$135,428.93		\$44,298.52	\$91,130.41	33 %
Twin Platte	\$60,731.41		\$1,268.72	\$59,462.69	2 %
Central Platte	\$90,713.67	\$4,009.02	\$7,356.43	\$83,357.24	8 %
Lower Platte North	\$120,121.17		\$1,293.32	\$118,827.85	1 %
Lower Platte South	\$83,397.57	\$25,645.70	\$37,397.78	\$45,999.79	45 %
Upper Republican	\$199,153.00	\$847.90	\$37,597.76	\$161,555.24	19 %
Middle Republican	\$111,344.24		\$20,876.48	\$90,467.76	19 %
Lower Republican	\$127,858.29	\$10,000.00	\$40,045.33	\$87,812.96	31 %
Tri-Basin	\$153,760.88		\$13,672.85	\$140,088.03	9 %
	\$2,865,286.06	\$85,977.98	\$749,042.47	\$2,116,243.59	26 %

NATURAL RESOURCES WATER QUALITY FUND (2554)

	<u>Receipts</u>	<u>Interest</u>	<u>Cumulative Total</u>	<u>Payments</u>	<u>Balance</u>
Jan, 2019	120,479.60	984.39	18,933,290.95		737,443.64
Feb	96,924.40	1,405.20	19,031,620.55		835,773.24
Mar	115,367.40	1,565.67	19,148,553.62	725,000.00	227,706.31
Apr	70,575.60	1,301.50	19,220,430.72		299,583.41
May	50,467.00	554.42	19,271,452.14		350,604.83
June	24,582.60	719.73	19,296,754.47		375,907.16
July	15,081.40	745.33	19,312,581.20		391,733.89
Aug	13,031.00	792.92	19,326,405.12	385,000.00	20,557.81
Sept	4,775.00	210.50	19,331,390.62		25,543.31
Oct	5,695.00	46.71	19,337,132.33		31,285.02
Nov	240,524.00	55.61	19,577,711.94		271,864.63
Dec	156,607.00	239.10	19,734,558.04		428,710.73
Jan, 2020	220,091.00	719.58	19,955,368.62		649,521.31
Feb	204,259.00	1,151.81	20,160,779.43	640,000.00	214,932.12
Mar	155,637.00	1,393.17	20,317,809.60		371,962.29
Apr	70,269.00	627.87	20,388,706.47		442,859.16
May	48,262.00	667.99	20,437,636.46		491,789.15
June	20,850.00	667.40	20,459,153.86		513,306.55
July	21,100.00	725.42	20,480,979.28		535,131.97
Aug	11,351.00	647.69	20,492,977.97		547,130.66
Sept	10,214.00	678.87	20,503,870.84	500,000.00	58,023.53
Oct	7,673.00	257.38	20,511,801.22		65,953.91
Nov	257,716.00	73.19	20,769,590.41		323,743.10
Dec	359,455.00	214.70	21,129,260.11		683,412.80
Jan, 2021	113,090.00	693.66	21,243,043.77		797,196.46
Feb	76,196.00	934.30	21,320,174.07	800,000.00	74,326.76
Mar	103,701.00	1,060.62	21,424,935.69		179,088.38
Apr	83,303.00	238.43	21,508,477.12		262,629.81
May	34,020.00	304.47	21,542,801.59		296,954.28
June	23,212.00	354.23	21,566,367.82		320,520.51
July	15,311.00	376.26	21,582,055.08		336,207.77
Aug	14,606.00	374.25	21,597,035.33	325,000.00	26,188.02
Sept	8,618.00	213.75	21,605,867.08		35,019.77
Oct	9,542.00	39.93	21,615,449.01		44,601.70
Nov	289,036.00	44.80	21,904,529.81		333,682.50
Dec	343,477.00	168.47	22,248,175.28		677,327.97
Jan, 2022	99,277.00	938.79	22,348,391.07		777,543.76
Feb	107,102.00	842.64	22,456,335.71	825,000.00	60,488.40
Mar	104,593.00	1,086.59	22,562,015.30		166,167.99
Apr	94,630.00	139.96	22,656,785.26		260,937.95
May	38,257.00	234.16	22,695,276.42		299,429.11
June	20,549.00	347.96	22,716,173.38		320,326.07
July	13,049.00	425.75	22,729,648.13		333,800.82
Aug	16,177.00	452.53	22,746,277.66	335,000.00	15,430.35
Sept	7,831.00	519.01	22,754,627.67		23,780.36
Oct	5,402.00	48.66	22,760,078.33		29,231.02
Nov	314,370.00	44.45	23,074,492.78		343,645.47
Dec	292,620.00	274.30	23,367,387.08		636,539.77
Jan, 2023	142,802.00	965.76	23,511,154.84		780,307.53
TOTALS	23,281,267.53	229,887.31		22,734,000.00	

Budget Summary Active Projects

Project Number	Grant Year	Grant	Invoices Paid	Remaining Grant	Project Name	Sponsor
4116	2015	\$2,900,452.00	\$2,900,452.00	\$0.00	Omaha CSO Program	City of Omaha
4119	2015	\$900,000.00	\$819,577.50	\$80,422.50	NPNRD Groundwater Retirement Program	NPNRD
4148	2016	\$800,796.00	\$800,796.00	\$0.00	Omaha CSO Program	City of Omaha
4152	2016	\$7,636,698.00	\$6,907,793.48	\$728,904.52	Lincoln Water System Drought Resiliency and Flood Protection	City of Lincoln
4177	2016	\$6,711,449.00	\$5,512,040.17	\$1,199,408.83	West Branch Papillion Creek Structures WP 6 & WP 7	PMNRD
5178	2017	\$1,073,908.00	\$1,073,908.00	\$0.00	Omaha CSO Program	City of Omaha
5181	2017	\$897,300.00	\$0.00	\$897,300.00	Platte/Republican Diversion	LRNRD
5184	2017	\$243,000.00	\$238,387.20	\$4,612.80	URNRD GW Modeling Project	URNRD
5192	2017	\$144,716.00	\$143,328.10	\$1,387.90	Q Redcedar Impact on Sandhills Recharge	UNL

Project Number	Grant Year	Grant	Invoices Paid	Remaining Grant	Project Name	Sponsor
5195	2017	\$1,224,000.00	\$1,224,000.00	\$0.00	Columbus Area Recharge Project	LLNRD
5196	2017	\$60,000.00	\$43,273.20	\$16,726.80	Drought Mgt Plan & Monitor	CPNRD
5201	2017	\$2,269,194.00	\$205,648.61	\$2,063,545.39	Detention Sites 26 & 27 on Wahoo Creek	LPNRD
5205	2018	\$1,030,952.00	\$1,030,952.00	\$0.00	Omaha CSO Program	City of Omaha
5209	2018	\$250,000.00	\$93,296.00	\$156,704.00	Cover Crop Impact Study	LLNRD
5217	2018	\$4,735,048.00	\$3,031,153.45	\$1,703,894.55	Papio WP-1 Structure	PMNRD
5220	2018	\$250,000.00	\$165,375.00	\$84,625.00	Phase 2 High Tec Irr Implementation	MRNRD
5221	2018	\$375,336.00	\$53,635.42	\$321,700.58	Remote Water Monitoring & Efficiency	URNRD
5242	2019	\$1,654,860.00	\$443,369.28	\$1,211,490.72	TPNRD Data Collection & Modeling	TPNRD
5243	2019	\$201,600.00	\$180,756.00	\$20,844.00	LENRD Groundwater Model	LENRD

Project Number	Grant Year	Grant	Invoices Paid	Remaining Grant	Project Name	Sponsor
5244	2019	\$52,260.00	\$0.00	\$52,260.00	LLNRD Drought Management Plan	LLNRD
5246	2019	\$1,086,503.30	\$0.00	\$1,086,503.30	Omaha CSO Program	City of Omaha
5247	2019	\$1,249,125.00	\$284,701.27	\$964,423.73	West Point Levee Improvement	Town of West Point
5249	2019	\$785,764.80	\$201,180.00	\$584,584.80	MRNRD Hydrogeologic Mapping	MRNRD
5252	2019	\$6,006,000.00	\$2,588,747.32	\$3,417,252.68	Blair Water Supply Resiliency	Town of Blair
5253	2019	\$5,857,792.00	\$134,883.13	\$5,722,908.87	Deadmans Run Flood Reduction-LPSNRD	LPSNRD
5256	2019	\$210,000.00	\$132,047.18	\$77,952.82	Platte Center Water Quality Improvement	Village of Platte Center
5269	2020	\$2,357,672.00	\$1,094,939.25	\$1,262,732.75	South Platte Canal Restoration	NPPD
5283	2020	\$240,000.00	\$180,000.02	\$59,999.98	WWUM Dashboard & Data Processing	SPNRD
5301	2020	\$123,840.00	\$39,033.00	\$84,807.00	Soil Moisture Probe	URNRD

Project Number	Grant Year	Grant	Invoices Paid	Remaining Grant	Project Name	Sponsor
5303	2020	\$168,000.00	\$155,936.70	\$12,063.30	3D AEM Framework	PMNRD
5304	2020	\$249,990.00	\$220,984.04	\$29,005.96	Advanced Aquifer Monitoring System	TPNRD
5306	2020	\$2,441,400.00	\$0.00	\$2,441,400.00	Peru Water Supply	City of Peru
5308	2021	\$1,086,503.30	\$0.00	\$1,086,503.30	Omaha's CSO Program	City of Omaha
5309	2021	\$1,086,503.30	\$0.00	\$1,086,503.30	Omaha's CSO Program	City of Omaha
5311	2021	\$247,500.00	\$0.00	\$247,500.00	LPSNRD 3-D Hydrologic Framework	LPSNRD
5312	2021	\$144,000.00	\$27,210.11	\$116,789.89	ENWRA GW Recharge Mapping	ENWRA
5313	2021	\$250,000.00	\$0.00	\$250,000.00	IINRD Nance County Aquifer Mapping	LLNRD
5315	2021	\$1,222,899.17	\$247,660.85	\$975,238.32	MRNRD Map & Model for Water Balance	MRNRD
5316	2021	\$243,000.00	\$0.00	\$243,000.00	Papio's IMP GW Quantity Monitoring	PMNRD

Project Number	Grant Year	Grant	Invoices Paid	Remaining Grant	Project Name	Sponsor
5317	2021	\$7,674,502.83	\$0.00	\$7,674,502.83	CNPP&ID Elwood Siphon	CNPPID
5319	2021	\$132,090.00	\$0.00	\$132,090.00	TPNRD Data Collection & Modeling - Phase 2	TPNRD
5321	2021	\$145,000.00	\$18,000.00	\$127,000.00	Lincoln Water Supply Arsenic Study	City of Lincoln
5322	2021	\$167,553.00	\$26,097.06	\$141,455.94	UBBNRD Nitrate Accumulation Study	UBBNRD
5323	2021	\$894,660.00	\$0.00	\$894,660.00	MNNRD Bone & Lone Pine Watershed Improvement	MNNRD
10007	2022	\$1,086,503.30	\$0.00	\$1,086,503.30	CSO	City of Omaha
10008	2022	\$240,000.00	\$0.00	\$240,000.00	WWUM Outreach Education Portal	SPNRD
10012	2022	\$85,800.00	\$0.00	\$85,800.00	Little Blue Hydrogeologic Assesment	LBNRD
10013	2022	\$1,788,300.00	\$0.00	\$1,788,300.00	Little Indian Creek WFPO	LBBNRD
10014	2022	\$233,100.00	\$0.00	\$233,100.00	LPNNRD's Nitrate Solution	LPNNRD

Project Number	Grant Year	Grant	Invoices Paid	Remaining Grant	Project Name	Sponsor
10015	2022	\$190,020.00	\$0.00	\$190,020.00	Nemaha NRD AEM	NNRD
10018	2022	\$172,008.00	\$0.00	\$172,008.00	Pender Ion Exchange Upgrade	Village of Pender
10020	2022	\$165,000.00	\$0.00	\$165,000.00	LLNRD's Buffalo Co. GW Model	LLNRD
10023	2022	\$858,290.00	\$0.00	\$858,290.00	Sargent Flood Resiliency	LLNRD
10035	2022	\$8,481,000.00	\$0.00	\$8,481,000.00	CKRWP Source Solution	LCNRD
10036	2022	\$216,000.00	\$0.00	\$216,000.00	LBBNRD AEM	LBBNRD
Totals		\$80,997,889.00	\$30,219,161.34	\$50,778,727.66		

WATER WELL DECOMMISSIONING CASH FUND (2555)

	Receipts	Interest	Cumulative Total	Allocated to NRDs	Unallocated Balance	Expended	Cumulative Expended	Unexpended Balance
July 2018	688.00	105.91	2,210,726.67		(72,745.26)	22,854.49	2,193,675.62	17,051.05
Aug	11,223.00	64.95	2,222,014.62	70,000.00	(131,457.31)		2,193,675.62	28,339.00
Sept	1,118.00	46.26	2,223,178.88		(130,293.05)		2,193,675.62	29,503.26
Oct	9,847.00	57.14	2,233,083.02		(120,388.91)		2,193,675.62	39,407.40
Nov	5,891.00	64.39	2,239,038.41		(114,433.52)	2,468.20	2,196,143.82	42,894.59
Dec	1,182.50	76.50	2,240,297.41		(113,174.52)		2,196,143.82	44,153.59
Jan, 2019	8,621.50	93.79	2,249,012.70		(104,459.23)		2,196,143.82	52,868.88
Feb	795.50	97.97	2,249,906.17		(103,565.76)	6,229.71	2,202,373.53	47,532.64
Mar	6,966.00	99.72	2,256,971.89		(96,500.04)	12,487.02	2,214,860.55	42,111.34
Apr	2,021.00	100.34	2,259,093.23		(94,378.70)		2,214,860.55	44,232.68
May	3,784.00	85.38	2,262,962.61		(90,509.32)	6,779.00	2,221,639.55	41,323.06
June	3,504.50	88.22	2,266,555.33		(86,916.60)	10,511.31	2,232,150.86	34,404.47
July	4,085.00	81.15	2,270,721.48		(82,750.45)	26,604.00	2,258,754.86	11,966.62
Aug	4,687.00	59.12	2,275,467.60	55,000.00	(133,004.33)	1,718.84	2,260,473.70	14,993.90
Sept	5,117.00	27.53	2,280,612.13		(127,859.80)	5,168.00	2,265,641.70	14,970.43
Oct	4,966.50	33.91	2,285,612.54		(122,859.39)	-	2,265,641.70	19,970.84
Nov	1,483.50	29.79	2,287,125.83		(121,346.10)	-	2,265,641.70	21,484.13
Dec	5,396.50	39.45	2,292,561.78		(115,910.15)		2,265,641.70	26,920.08
Jan, 2020	8,514.00	51.52	2,301,127.30		(107,344.63)		2,265,641.70	35,485.60
Feb	4,515.00	59.91	2,305,702.21		(102,769.72)	17,480.53	2,283,122.23	22,579.98
Mar	516.00	54.17	2,306,272.38		(102,199.55)	4,993.00	2,288,115.23	18,157.15
Apr	5,608.50	38.64	2,311,919.52		(96,552.41)		2,288,115.23	23,804.29
May	3,289.50	33.84	2,315,242.86		(93,229.07)	8,394.93	2,296,510.16	18,732.70
June	4,407.50	32.44	2,319,682.80		(88,789.13)	3,256.47	2,299,766.63	19,916.17
July	4,450.50	26.15	2,324,159.45		(84,312.48)	13,222.00	2,312,988.63	11,170.82
Aug	5,353.50	20.48	2,329,533.43	70,000.00	(148,938.50)		2,312,988.63	16,544.80
Sept	4,085.00	14.48	2,333,632.91		(144,839.02)	1,285.00	2,314,273.63	19,359.28
Oct	3,171.00	22.19	2,336,826.10		(141,645.83)	6,661.00	2,320,934.63	15,891.47
Nov	7,202.50	17.01	2,344,045.61		(134,426.32)	4,733.00	2,325,667.63	18,377.98
Dec	4,708.50	16.26	2,348,770.37		(129,701.56)	500.00	2,326,167.63	22,602.74
Jan, 2021	6,514.50	24.26	2,355,309.13		(123,162.80)	-	2,326,167.63	29,141.50
Feb	3,268.00	28.66	2,358,605.79		(119,866.14)		2,326,167.63	32,438.16
Mar	2,623.00	37.21	2,361,266.00		(117,205.93)	5,269.94	2,331,437.57	29,828.43
Apr	3,139.00	39.22	2,364,444.22		(114,027.71)	10,868.00	2,342,305.57	22,138.65
May	3,375.50	40.01	2,367,859.73		(110,612.20)	-	2,342,305.57	25,554.16
June	4,942.00	28.11	2,372,829.84		(105,642.09)	11,959.00	2,354,264.57	18,565.27
July	4,364.50	31.21	2,377,225.55	70,000.00	(171,246.38)	16,845.00	2,371,109.57	6,115.98
Aug	5,353.50	21.43	2,382,600.48		(165,871.45)	4,296.09	2,375,405.66	7,194.82
Sept	6,127.50	6.15	2,388,734.13		(159,737.80)	1,032.00	2,376,437.66	12,296.47
Oct	6,944.50	9.74	2,395,688.37		(152,783.56)	-	2,376,437.66	19,250.71
Nov	5,052.50	14.93	2,400,755.80		(147,716.13)	-	2,376,437.66	24,318.14
Dec	4,708.50	22.48	2,405,486.78		(142,985.15)	6,429.00	2,382,866.66	22,620.12
Jan, 2022	6,192.00	36.09	2,411,714.87		(136,757.06)		2,382,866.66	28,848.21
Feb	7,482.00	25.80	2,419,222.67		(129,249.26)	6,234.00	2,389,100.66	30,122.01
Mar	4,039.00	38.67	2,423,300.34		(125,171.59)	6,364.00	2,395,464.66	27,835.68
Apr	4,472.00	34.55	2,427,806.89		(120,665.04)		2,395,464.66	32,342.23
May	4,128.00	31.79	2,431,966.68		(116,505.25)	7,419.76	2,402,884.42	29,082.26
June	4,665.50	37.10	2,436,669.28		(111,802.65)	6,893.65	2,409,778.07	26,891.21
July	1,279.50	39.48	2,437,988.26		(110,483.67)	3,853.31	2,413,631.38	24,356.88
Aug	4,622.50	35.77	2,442,646.53		(105,825.40)	14,756.00	2,428,387.38	14,259.15
Sept	7,611.00	37.34	2,450,294.87		(98,177.06)		2,428,387.38	21,907.49
Oct	6,600.50	29.48	2,456,924.85		(91,547.08)	5,390.00	2,433,777.38	23,147.47
Nov	5,246.00	40.17	2,462,211.02		(86,260.91)		2,433,777.38	28,433.64
Dec	666.50	42.31	2,462,919.83		(85,552.10)		2,433,777.38	29,142.45
Jan, 2023	12,986.00	62.25	2,475,968.08		(72,503.85)		2,433,777.38	42,190.70
TOTALS	2,432,529.94	43,438.14				2,433,687.38		

Saeger

REQUEST FOR EXCUSE OF
ABSENCE FROM MEETING
(LB 569, 1985 LEGISLATURE)

Chairman, Board of Directors
Lower Platte North NRD
PO Box 126
Wahoo, NE 68066

I hereby request that the Board of Directors excuse my
absence at the Regular Meeting of the Board scheduled on
10th day of February, 2023, for
the following reason:

Family Funeral

Dated this 2 day of March, 2023.

Willi Saeger
Board Member
Lower Platte North NRD

Poole Pay Out - 03/03/23			
Salary	\$ 68,511.00		
Hourly Rate	\$ 32.94		
Annual Leave Balance		204.00	204.00
Sick Leave Balance		371.25	
Non-paid Hours		360	
Balance			11.25
Total Compensated Hours			215.25
Hours X Rate			\$ 7,089.90
Deductions			
	Retirement 414(h)		
	Taxes		
	Supplemental		

Financial Statements and Accountant's Compilation Report

Lower Platte North Natural Resources District

January 31, 2023

HBE
HBE

CPAs & Consultants | Wealth Management





CPAs & Consultants | Wealth Management



ACCOUNTANT'S COMPILATION REPORT

The Board of Directors
Lower Platte North Natural Resources District
Wahoo, Nebraska

Management is responsible for the accompanying financial statements of the Lower Platte North Natural Resources District, which comprise the Statements of Net Position as of January 31, 2023, and the related Statements of Activities for the month and seven months then ended in accordance with accounting principles generally accepted in the United States of America. We have performed a compilation engagement in accordance with Statements on Standards for Accounting and Review Services promulgated by the Accounting and Review Services Committee of the AICPA. We did not audit or review the financial statements, nor were we required to perform any procedures to verify the accuracy or the completeness of the information provided by management. We do not express an opinion, a conclusion, nor provide any form of assurance on these financial statements.

Management has elected to omit substantially all of the disclosures and statements of cash flows required by accounting principles generally accepted in the United States of America. If the omitted disclosures were included in the financial statements, they might influence the user's conclusions about the Organization's financial position, results of operations, and cash flows. Accordingly, the financial statements are not designed for those who are not informed about such matters.

The accompanying Statements of Activities – Actual vs. Budget are presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management. The supplemental information, except the budget information, was subject to our compilation engagement. We have not audited or reviewed the supplementary information and do not express an opinion, a conclusion, nor provide any assurance on such information. The budget information presented in the Actual vs. Budget is of a nonaccounting nature and has not been subjected to our compilation engagement.

We are not independent with respect to the Lower Platte North Natural Resources District.

Lincoln, Nebraska

March 6, 2023

7140 Stephanie Lane | P.O. Box 23110 | Lincoln, NE | 68542-3110 | p: 402.423.4343 | f: 402.423.4346

1314 Andrews Drive | Norfolk, NE | 68701 | p: 402.379.9294 | f: 402.379.2338

1121 North 102nd Court | Suite 100 | Omaha, NE | 68114 | p: 402.895.5050 | f: 402.895.5723

Lower Platte North NRD Statements of Net Position

	Natural Resources District As of 01/31/2023	Rural Water-Bruno As of 01/31/2023	Rural Water-Colon As of 01/31/2023	All Districts As of 01/31/2023
Assets				
Current Assets				
Cash and Cash Equivalents				
101000 - Change Box	0.00	60.00	90.00	150.00
101200 - Change Box - Game & Parks	150.00	0.00	0.00	150.00
101300 - Change Box - Lake Wanahoo	600.00	0.00	0.00	600.00
102001 - Cash - Union Bank	195,398.12	0.00	0.00	195,398.12
103000 - Cash - County Treasurer	245,222.11	0.00	0.00	245,222.11
104000 - Cash - Education Building Res.	11,110.00	0.00	0.00	11,110.00
111100 - Investments - NRD - NPAIT	2,366.21	0.00	0.00	2,366.21
111105 - Union Bank STFIT	2,729,647.31	0.00	0.00	2,729,647.31
Total Cash and Cash Equivalents	3,184,493.75	60.00	90.00	3,184,643.75
Accounts Receivable, Net				
Accounts Receivable				
105000 - Accounts Receivable	2,734,744.87	3,052.92	9,355.16	2,747,152.95
105060 - Due from Bruno Water Fund	206,894.87	0.00	0.00	206,894.87
105070 - Due from Colon Water Fund	37,845.62	0.00	0.00	37,845.62
109000 - Taxes Receivable	2,869,388.52	0.00	0.00	2,869,388.52
Total Accounts Receivable	5,848,873.88	3,052.92	9,355.16	5,861,281.96
Total Accounts Receivable, Net	5,848,873.88	3,052.92	9,355.16	5,861,281.96
Inventory				
165503 - Rural Water Inventory	0.00	6,579.89	9,869.84	16,449.73
Total Inventory	0.00	6,579.89	9,869.84	16,449.73
Prepaid Expenses				
116000 - Prepaid Expenses	123,229.48	0.00	0.00	123,229.48
Total Prepaid Expenses	123,229.48	0.00	0.00	123,229.48
Other Current Assets				
111225 - Investments - Borrow Fund - NPAIT	111,537.27	0.00	0.00	111,537.27
111250 - Investments - Alliance GIS Project	7,696.41	0.00	0.00	7,696.41
111450 - Investments - Elkhorn River Breakout	136,821.99	0.00	0.00	136,821.99
111550 - Investments - Elkhorn Breakout	2,740.66	0.00	0.00	2,740.66
111600 - Investments - Wanahoo SRA	452,358.12	0.00	0.00	452,358.12
111650 - Investments - Colon Reserve NPAIT	0.00	0.00	8,646.64	8,646.64
Total Other Current Assets	711,154.45	0.00	8,646.64	719,801.09
Total Current Assets	9,867,751.56	9,692.81	27,961.64	9,905,406.01
Fixed Assets, Net of Depreciation				
Fixed Assets				
140210 - Water Line Capital Improvement	0.00	726,156.51	1,180,075.05	1,906,231.56
140226 - Colon Water Loan Fees	0.00	0.00	2,000.00	2,000.00
160000 - Conservation Property	123,971.00	0.00	0.00	123,971.00
161000 - Land	9,642,191.58	0.00	0.00	9,642,191.58
162000 - Infrastructure	28,147,065.07	0.00	0.00	28,147,065.07
162500 - Land Improvements	623,922.90	0.00	0.00	623,922.90
163000 - Buildings	1,095,067.14	0.00	0.00	1,095,067.14
165000 - Machinery & Equipment	157,758.92	0.00	0.00	157,758.92
165100 - Machinery & Equipment - O & M	190,238.38	0.00	0.00	190,238.38
165200 - Machinery & Equipment - Water	323,565.87	0.00	0.00	323,565.87
165300 - Machinery & Equipment - Projects	87,917.52	0.00	0.00	87,917.52
165400 - Machinery & Equipment - I & E	2,628.66	0.00	0.00	2,628.66
165505 - Rural Water Equipment	0.00	17,997.98	26,996.98	44,994.96
165507 - Lake Wanahoo Equipment	13,711.14	0.00	0.00	13,711.14
167000 - Auto and Truck	277,623.35	0.00	0.00	277,623.35
169000 - Equipment	15,057.27	0.00	0.00	15,057.27
169100 - Office Equipment	20,031.58	0.00	0.00	20,031.58
169200 - Computer Equipment	59,734.15	0.00	0.00	59,734.15

See Accountant's Compilation Report

Lower Platte North NRD Statements of Net Position

	Natural Resources District As of 01/31/2023	Rural Water-Bruno As of 01/31/2023	Rural Water-Colon As of 01/31/2023	All Districts As of 01/31/2023
169300 - GIS Equipment	13,422.53	0.00	0.00	13,422.53
169400 - Director's Computers	2,903.67	0.00	0.00	2,903.67
169500 - Master Data Base Water	315,525.00	0.00	0.00	315,525.00
169700 - GW Monitoring Equipment	28,504.55	0.00	0.00	28,504.55
Total Fixed Assets	41,140,840.28	744,154.49	1,209,072.03	43,094,066.80
Accumulated Depreciation				
140228 - Accum Depr - Colon Loan Fees	0.00	0.00	733.40	733.40
162900 - Accum Depr - Infra. & Land Imp.	3,976,674.06	0.00	0.00	3,976,674.06
164000 - Accum Depr - Buildings	526,135.97	0.00	0.00	526,135.97
165700 - Accum Depr - Water Line	0.00	138,924.72	260,832.62	399,757.34
166000 - Accum Depr - Machinery & Equipment	564,986.78	15,127.58	22,691.26	602,805.62
168000 - Accum Depr - Auto & Truck	230,617.08	0.00	0.00	230,617.08
169550 - Accum Depr - Master DB Water	82,658.56	0.00	0.00	82,658.56
170000 - Accum Depr - Office Equipment	92,339.99	0.00	0.00	92,339.99
Total Accumulated Depreciation	5,473,412.44	154,052.30	284,257.28	5,911,722.02
Total Property and Equipment	35,667,427.84	590,102.19	924,814.75	37,182,344.78
Total Assets	\$ 45,535,179.40	\$ 599,795.00	\$ 952,776.39	\$ 47,087,750.79
Liabilities and Fund Balance				
Liabilities				
Current Liabilities				
Accounts Payable				
201000 - Accounts Payable	375,911.11	1,594.71	2,062.41	379,568.23
201100 - Sewer Collections Payable	0.00	0.00	2,817.00	2,817.00
202060 - Due to General Fund	0.00	206,894.87	37,845.62	244,740.49
Total Accounts Payable	375,911.11	208,489.58	42,725.03	627,125.72
Accrued Liabilities				
200700 - Colon RW Accrued Interest	0.00	0.00	374.60	374.60
206001 - Accrued Compensated Absences	203,550.76	2,188.46	3,282.69	209,021.91
207306 - Sales Tax Payable Wanahoo	137.64	0.00	0.00	137.64
207307 - Lodging Tax Wanahoo	121.51	0.00	0.00	121.51
208302 - Flexible Spending	760.00	0.00	0.00	760.00
Total Accrued Liabilities	204,569.91	2,188.46	3,657.29	210,415.66
Other Current Liabilities				
204000 - Deposits	0.00	400.00	2,700.00	3,100.00
204500 - Deferred Income	11,899.20	0.00	0.00	11,899.20
204600 - Education Building Deposits	11,560.00	0.00	0.00	11,560.00
207300 - Sales Tax Payable	131.41	75.74	209.43	416.58
231000 - Permits Liability - DEE	5.00	0.00	0.00	5.00
Total Other Current Liabilities	23,595.61	475.74	2,909.43	26,980.78
Total Current Liabilities	604,076.63	211,153.78	49,291.75	864,522.16
Long Term Liabilities				
Note Payable - Long Term				
200600 - Note Payable - Colon Rural Water	0.00	0.00	25,932.44	25,932.44
Total Long Term Note Payable	0.00	0.00	25,932.44	25,932.44
Total Long Term Liabilities	0.00	0.00	25,932.44	25,932.44
Total Liabilities	604,076.63	211,153.78	75,224.19	890,454.60
Fund Balances				
Net Assets	42,344,993.56	390,170.18	880,528.68	43,615,692.42

See Accountant's Compilation Report

Lower Platte North NRD Statements of Net Position

	Natural Resources District As of 01/31/2023	Rural Water-Bruno As of 01/31/2023	Rural Water-Colon As of 01/31/2023	All Districts As of 01/31/2023
Change in Net Position	2,586,109.21	(1,528.96)	(2,976.48)	2,581,603.77
Total Fund Balances	44,931,102.77	388,641.22	877,552.20	46,197,296.19
Total Liabilities and Fund Balance	\$ 45,535,179.40	\$ 599,795.00	\$ 952,776.39	\$ 47,087,750.79

**Lower Platte North NRD
Statements of Activities
For the Month Ended**

	Natural Resources District Month Ending 01/31/2023	Rural Water-Bruno Month Ending 01/31/2023	Rural Water-Colon Month Ending 01/31/2023	All Districts Month Ending 01/31/2023
Income				
Federal Income				
303206 - Wahoo Creek 319 Grant	0.00	0.00	0.00	0.00
303207 - Shell Creek 319 Grant	0.00	0.00	0.00	0.00
303209 - Shell Creek Phase II 319 - NDEE	0.00	0.00	0.00	0.00
303210 - Shell Creek Phase II - 319 DEQ	0.00	0.00	0.00	0.00
303225 - Wahoo Creek WS PL566	38,410.35	0.00	0.00	38,410.35
303250 - Water Smart Grant	0.00	0.00	0.00	0.00
303400 - Sand and Duck 319	0.00	0.00	0.00	0.00
303475 - Cottonwood 319	0.00	0.00	0.00	0.00
303960 - Hazard Mitigation - Federal	0.00	0.00	0.00	0.00
303961 - FEMA - Flood Funds	255,839.84	0.00	0.00	255,839.84
303962 - NEMA - Flood Funds	0.00	0.00	0.00	0.00
303963 - FEMA - 428 Funds	17,822.29	0.00	0.00	17,822.29
303964 - Federal - NRCS	0.00	0.00	0.00	0.00
303965 - Federal Wanahoo - Stilling	0.00	0.00	0.00	0.00
Total Federal Income	\$ 312,072.48	\$ 0.00	\$ 0.00	\$ 312,072.48
State Income				
301203 - Motor Vehicle Pro-Rate	159.82	0.00	0.00	159.82
301315 - WSF and EA Application	5,659.05	0.00	0.00	5,659.05
301325 - JEDI Funding	8,179.90	0.00	0.00	8,179.90
Total State Income	13,998.77	0.00	0.00	13,998.77
Local Income				
304105 - Education Building Rent	3,340.00	0.00	0.00	3,340.00
304112 - Dirt Sales - Wanahoo	405.83	0.00	0.00	405.83
Total Local Income	3,745.83	0.00	0.00	3,745.83
Rural Water Income				
304240 - Water Sales	0.00	3,067.00	5,126.00	8,193.00
304295 - Colon Sewer Fees	0.00	0.00	2,457.00	2,457.00
304261 - Other Revenue	0.00	1.88	296.72	298.60
Total Rural Water Income	0.00	3,068.88	7,879.72	10,948.60
Property Tax Income				
305100 - General Fund Property Taxes-Boone	6,664.57	0.00	0.00	6,664.57
305200 - General Fund Property Taxes-Butler	16,002.66	0.00	0.00	16,002.66
305300 - General Fund Property Taxes-Colfax	22.77	0.00	0.00	22.77
305400 - General Fund Property Taxes-Dodge	32,260.77	0.00	0.00	32,260.77
305500 - General Fund Property Taxes-Madison	10.36	0.00	0.00	10.36
305600 - General Fund Property Taxes-Platte	36.97	0.00	0.00	36.97
305700 - General Fund Property Taxes-Saunders	42,607.21	0.00	0.00	42,607.21
Total Property Tax Income	97,605.31	0.00	0.00	97,605.31
Investment Income				
311350 - Interest - NPAIT Elkhorn	9.98	0.00	0.00	9.98
311400 - Interest - NPAIT Wanahoo SRA	1,645.80	0.00	0.00	1,645.80
311500 - Interest - NPAIT NRD	8.64	0.00	0.00	8.64
311600 - Interest - STFIT NRD	9,473.45	0.00	0.00	9,473.45
311700 - Interest - UBT NRD	96.27	0.00	0.00	96.27
304350 - Colon RW Interest - NPAIT	0.00	0.00	31.45	31.45
Total Investment Income	11,234.14	0.00	31.45	11,265.59
Miscellaneous Income				
309350 - Sales - Well Permits	300.00	0.00	0.00	300.00
309400 - Sales - Other	845.00	0.00	0.00	845.00
310000 - Chemigation Permits	85.00	0.00	0.00	85.00
310201 - Wanahoo Park Permits	10,669.75	0.00	0.00	10,669.75
310202 - Lake Wanahoo Camping	2,820.85	0.00	0.00	2,820.85
313000 - Miscellaneous Income	9,211.73	0.00	0.00	9,211.73
315000 - RWD Administrative Fees	409.65	0.00	0.00	409.65
316000 - Employee/Director Reimb	258.53	0.00	0.00	258.53
Total Miscellaneous Income	24,600.51	0.00	0.00	24,600.51
Total Income	463,257.04	3,068.88	7,911.17	474,237.09
Expenses				
Administration Expenses				
Bonds				
410100 - Bonds	1,388.00	0.00	0.00	1,388.00

**Lower Platte North NRD
Statements of Activities
For the Month Ended**

	Natural Resources District Month Ending 01/31/2023	Rural Water-Bruno Month Ending 01/31/2023	Rural Water-Colon Month Ending 01/31/2023	All Districts Month Ending 01/31/2023
Total Bonds	1,388.00	0.00	0.00	1,388.00
Dues & Membership				
410201 - Dues & Membership - Chamber	135.00	0.00	0.00	135.00
410202 - Dues & Membership - NACD	148.00	0.00	0.00	148.00
410203 - Dues - NARD	2,610.25	0.00	0.00	2,610.25
410205 - Dues & Membership - Other	615.00	0.00	0.00	615.00
Total Dues & Membership	3,508.25	0.00	0.00	3,508.25
Fees and Licenses				
410302 - NRD Fees And Licenses	4,045.58	0.00	0.00	4,045.58
410304 - NRD Union Bank Fees	39.20	0.00	0.00	39.20
Total Fees and Licenses	4,084.78	0.00	0.00	4,084.78
Insurance				
410501 - Insurance-Auto	986.08	0.00	0.00	986.08
410502 - Insurance-Errors & Omissions	535.42	0.00	0.00	535.42
410504 - Insurance-Liability	5,141.17	0.00	0.00	5,141.17
410505 - Insurance-Property	1,648.08	0.00	0.00	1,648.08
Total Insurance	8,310.75	0.00	0.00	8,310.75
Interest Expense				
410600 - Interest Expense	0.00	0.00	93.65	93.65
Total Interest Expense	0.00	0.00	93.65	93.65
Legal Notices				
410701 - Legal Notices	72.57	0.00	0.00	72.57
Total Legal Notices	72.57	0.00	0.00	72.57
Maintenance Contracts				
410800 - Maintenance Contracts	458.87	0.00	0.00	458.87
Total Maintenance Contracts	458.87	0.00	0.00	458.87
Office Supply & Expense				
410902 - Office Supplies & Equip	131.81	0.00	0.00	131.81
410905 - Reference Books	160.99	0.00	0.00	160.99
410906 - Office Expense - Other	39.23	0.00	0.00	39.23
Total Office Supply & Expense	332.03	0.00	0.00	332.03
Computer Supply & Expense				
411004 - Computer Software	1,010.34	0.00	0.00	1,010.34
411006 - Email	152.44	0.00	0.00	152.44
411011 - Computers & Equipment	35.11	0.00	0.00	35.11
Total Computer Supply & Expense	1,197.89	0.00	0.00	1,197.89
Postage				
411200 - Postage	9.55	0.00	0.00	9.55
Total Postage	9.55	0.00	0.00	9.55
Professional Services				
411301 - Prof Serv-Accounting	6,750.00	0.00	0.00	6,750.00
411311 - Washington Expense	2,100.00	0.00	0.00	2,100.00
Total Professional Services	8,850.00	0.00	0.00	8,850.00
Rent Expense				
411400 - Rent Expense	284.22	0.00	0.00	284.22
Total Rent Expense	284.22	0.00	0.00	284.22
Telephone Expense				
411601 - Telephone - Cellular	892.33	0.00	0.00	892.33
411602 - Local Phone & Internet	947.45	0.00	0.00	947.45
411605 - Director iPad Cell Service	45.20	0.00	0.00	45.20
Total Telephone Expense	1,884.98	0.00	0.00	1,884.98
Utilities				
411700 - Utilities Expense	1,270.97	0.00	0.00	1,270.97
Total Utilities	1,270.97	0.00	0.00	1,270.97
Total Administration Expenses	31,652.86	0.00	93.65	31,746.51
Information & Education Expenses				
Education				
420109 - Education Outreach	38.57	0.00	0.00	38.57
Total Education	38.57	0.00	0.00	38.57
Information				
420203 - Expositions And Display	58.04	0.00	0.00	58.04
420209 - Ktic Ad	217.00	0.00	0.00	217.00
420211 - E-Ads	140.00	0.00	0.00	140.00
420212 - TV Promotion	475.00	0.00	0.00	475.00

**Lower Platte North NRD
Statements of Activities
For the Month Ended**

	Natural Resources District Month Ending 01/31/2023	Rural Water-Bruno Month Ending 01/31/2023	Rural Water-Colon Month Ending 01/31/2023	All Districts Month Ending 01/31/2023
Total Information	890.04	0.00	0.00	890.04
Total Information & Education Expenses	928.61	0.00	0.00	928.61
Operation & Maintenance				
Auto and Truck				
430101 - Auto & Truck Gas	717.30	0.00	0.00	717.30
430102 - Auto & Truck R&M	32.99	0.00	0.00	32.99
Total Auto and Truck	750.29	0.00	0.00	750.29
Building Maintenance				
430202 - Office Cleaning	517.50	0.00	0.00	517.50
430203 - Garbage Maintenance	83.44	0.00	0.00	83.44
Total Building Maintenance	600.94	0.00	0.00	600.94
Operation and Maintenance				
430401 - Czechland & Homestead	85.86	0.00	0.00	85.86
430402 - Equipment Upkeep	142.01	0.00	0.00	142.01
430403 - Operation & Maintenance	163.88	0.00	0.00	163.88
430406 - Wanahoo Park Operation	460.64	0.00	0.00	460.64
430408 - Wanahoo Rec Mgmt	995.22	0.00	0.00	995.22
430409 - Lake Wanahoo Education Building	437.98	0.00	0.00	437.98
Total Operation and Maintenance	2,285.59	0.00	0.00	2,285.59
Steam Bank Stabilization				
430602 - Stream Bank - Platte/Elkhorn Rivers	2,650.00	0.00	0.00	2,650.00
Total Steam Bank Stabilization	2,650.00	0.00	0.00	2,650.00
Other				
430804 - O&M One-Call Services	0.80	0.00	0.00	0.80
Total Other	0.80	0.00	0.00	0.80
Total Operation & Maintenance	6,287.62	0.00	0.00	6,287.62
Personnel Expenses				
Director Expense				
440101 - Director Meeting Expense	4,131.52	0.00	0.00	4,131.52
Total Director Expense	4,131.52	0.00	0.00	4,131.52
Director Per Diem				
440200 - Director Per Diem	6,890.00	0.00	0.00	6,890.00
Total Director Per Diem	6,890.00	0.00	0.00	6,890.00
Employee Benefits				
440301 - Dental Insurance	1,854.57	0.00	0.00	1,854.57
440302 - Health Insurance	31,469.67	0.00	0.00	31,469.67
440303 - Retirement Benefit - 414H	5,158.14	0.00	0.00	5,158.14
440306 - Workmans Comp Benefit	964.33	0.00	0.00	964.33
440307 - Employee Benefits - Other	24.42	0.00	0.00	24.42
440309 - Flexible Spending Fee	18.00	0.00	0.00	18.00
Total Employee Benefits	39,489.13	0.00	0.00	39,489.13
Payroll Taxes				
440401 - FICA - ER	5,671.58	0.00	0.00	5,671.58
440402 - Medicare - ER	1,326.41	0.00	0.00	1,326.41
Total Payroll Taxes	6,997.99	0.00	0.00	6,997.99
Personnel Expense				
440501 - Personnel Meeting Exp	7,201.91	0.00	0.00	7,201.91
440502 - Personnel Mileage Exp	129.81	0.00	0.00	129.81
Total Personnel Expense	7,331.72	0.00	0.00	7,331.72
Salaries				
440601 - Salaries - Administration	18,454.52	0.00	0.00	18,454.52
440602 - Salaries - Clerical	2,170.22	0.00	0.00	2,170.22
440604 - Salaries - I & E	7,046.14	0.00	0.00	7,046.14
440605 - Salaries - Op & Maint	13,670.16	0.00	0.00	13,670.16
440606 - NRCS Support	11,219.68	0.00	0.00	11,219.68
440607 - Salaries - Projects	7,529.98	0.00	0.00	7,529.98
440608 - Salaries - Water	28,475.89	0.00	0.00	28,475.89
440616 - Lake Wanahoo Park Op.	5,183.78	0.00	0.00	5,183.78
Total Salaries	93,750.37	0.00	0.00	93,750.37
Total Personnel Expenses	158,590.73	0.00	0.00	158,590.73
Projects Expenses				
Other Projects				
450711 - Bailey Levee	428.17	0.00	0.00	428.17
Total Other Projects	428.17	0.00	0.00	428.17

**Lower Platte North NRD
Statements of Activities
For the Month Ended**

	Natural Resources District Month Ending 01/31/2023	Rural Water-Bruno Month Ending 01/31/2023	Rural Water-Colon Month Ending 01/31/2023	All Districts Month Ending 01/31/2023
Total Projects Expenses	428.17	0.00	0.00	428.17
Water Expenses				
Groundwater Management Plan				
460101 - GWMP - Cost - Share	798.00	0.00	0.00	798.00
460103 - GWMP - Nitrogen Classes	1,925.75	0.00	0.00	1,925.75
460110 - Basin Wide Water Plan	833.33	0.00	0.00	833.33
Total Groundwater Management Plan	3,557.08	0.00	0.00	3,557.08
Groundwater Programs				
460201 - Decommissioned Wells	737.44	0.00	0.00	737.44
460206 - Monitoring Wells	211.00	0.00	0.00	211.00
Total Groundwater Programs	948.44	0.00	0.00	948.44
Special Projects				
460504 - ENWRA	2,500.00	0.00	0.00	2,500.00
Total Special Projects	2,500.00	0.00	0.00	2,500.00
Land Treatment				
450803 - Shell Creek Watershed Plan 319	1,431.75	0.00	0.00	1,431.75
Total Land Treatment	1,431.75	0.00	0.00	1,431.75
Total Water Expenses	8,437.27	0.00	0.00	8,437.27
Rural Water District Expenses				
570201 - Water Purchase	0.00	1,502.84	559.62	2,062.46
570204 - Testing	0.00	30.00	30.00	60.00
570207 - Other Expenses	0.00	0.00	(14.74)	(14.74)
570208 - Lpnnrd Adm. Fee	0.00	153.35	256.30	409.65
570210 - Health/Life/Vision/LTD - ER	0.00	215.39	323.08	538.47
570211 - Dental - ER	0.00	23.86	35.79	59.65
570212 - 414H ER Contributions	0.00	59.64	89.46	149.10
570215 - ER Social Security Tax	0.00	72.00	132.62	204.62
570216 - ER Medicare Tax	0.00	16.83	31.02	47.85
570217 - Salaries	0.00	826.81	842.96	1,669.77
570219 - Fees And Licenses	0.00	17.13	25.68	42.81
570220 - Rural Water One-Call	0.00	0.80	1.60	2.40
570308 - Colon Meter House Expense	0.00	0.00	128.10	128.10
570309 - Colon Sewer Collections	0.00	0.00	2,457.00	2,457.00
Total Rural Water District Expenses	0.00	2,918.65	4,898.49	7,817.14
Depreciation Expense				
Depreciation				
908000 - Depreciation Expense	38,413.24	705.35	1,474.07	40,592.66
908350 - Amortization Expense - Colon	0.00	0.00	4.17	4.17
Total Depreciation	38,413.24	705.35	1,478.24	40,596.83
Total Depreciation Expense	38,413.24	705.35	1,478.24	40,596.83
Total Expenses	244,738.50	3,624.00	6,470.38	254,832.88
Total Change in Net Position	\$ 218,518.54	\$ (555.12)	\$ 1,440.79	\$ 219,404.21

**Lower Platte North NRD
Statements of Activities
For the Periods Ended**

	Natural Resources District Year To Date 01/31/2023	Rural Water-Bruno Year To Date 01/31/2023	Rural Water-Colon Year To Date 01/31/2023	All Districts Year To Date 01/31/2023
Income				
Federal Income				
303206 - Wahoo Creek 319 Grant	(8,713.88)	0.00	0.00	(8,713.88)
303207 - Shell Creek 319 Grant	(19,285.16)	0.00	0.00	(19,285.16)
303209 - Shell Creek Phase II 319 - NDEE	0.00	0.00	0.00	0.00
303210 - Shell Creek Phase II - 319 DEQ	0.00	0.00	0.00	0.00
303225 - Wahoo Creek WS PL566	200,813.78	0.00	0.00	200,813.78
303250 - Water Smart Grant	0.00	0.00	0.00	0.00
303400 - Sand and Duck 319	0.00	0.00	0.00	0.00
303475 - Cottonwood 319	0.00	0.00	0.00	0.00
303960 - Hazard Mitigation - Federal	0.00	0.00	0.00	0.00
303961 - FEMA - Flood Funds	397,921.14	0.00	0.00	397,921.14
303962 - NEMA - Flood Funds	0.00	0.00	0.00	0.00
303963 - FEMA - 428 Funds	18,427.91	0.00	0.00	18,427.91
303964 - Federal - NRCS	0.00	0.00	0.00	0.00
303965 - Federal Wanahoo - Stilling	0.00	0.00	0.00	0.00
Total Federal Income	\$ 589,163.79	\$ 0.00	\$ 0.00	\$ 589,163.79
State Income				
301201 - Natural Resources WQ Fund	14,208.54	0.00	0.00	14,208.54
301202 - Decommissioned Wells	4,286.00	0.00	0.00	4,286.00
301203 - Motor Vehicle Pro-Rate	2,455.45	0.00	0.00	2,455.45
301315 - WSF and EA Application	65,264.23	0.00	0.00	65,264.23
301320 - Water Department - NET	(718.00)	0.00	0.00	(718.00)
301325 - JEDI Funding	66,921.35	0.00	0.00	66,921.35
301800 - State Grant - Whip/Ne Wild	502.10	0.00	0.00	502.10
301900 - State Grant - NE Buffer Strip	48,933.71	0.00	0.00	48,933.71
303211 - Shell Creek Phase II - Envir. Trust	(1,360.04)	0.00	0.00	(1,360.04)
304100 - Lake Wanahoo - Other	22,360.53	0.00	0.00	22,360.53
Total State Income	222,853.87	0.00	0.00	222,853.87
Local Income				
304105 - Education Building Rent	12,210.00	0.00	0.00	12,210.00
304112 - Dirt Sales - Wanahoo	1,678.67	0.00	0.00	1,678.67
304400 - Flow Meter Maint. Reimb.	20.00	0.00	0.00	20.00
304500 - JWMA B	29,640.00	0.00	0.00	29,640.00
Total Local Income	43,548.67	0.00	0.00	43,548.67
Rural Water Income				
304240 - Water Sales	0.00	30,987.55	33,655.80	64,643.35
304295 - Colon Sewer Fees	0.00	0.00	16,965.00	16,965.00
304261 - Other Revenue	0.00	37.82	1,780.64	1,818.46
Total Rural Water Income	0.00	31,025.37	52,401.44	83,426.81
Property Tax Income				
305100 - General Fund Property Taxes-Boone	106,394.76	0.00	0.00	106,394.76
305200 - General Fund Property Taxes-Butler	380,249.32	0.00	0.00	380,249.32
305300 - General Fund Property Taxes-Colfax	308,032.13	0.00	0.00	308,032.13
305400 - General Fund Property Taxes-Dodge	1,078,444.19	0.00	0.00	1,078,444.19
305500 - General Fund Property Taxes-Madison	46,401.76	0.00	0.00	46,401.76
305600 - General Fund Property Taxes-Platte	415,679.79	0.00	0.00	415,679.79
305700 - General Fund Property Taxes-Saunders	1,228,315.62	0.00	0.00	1,228,315.62
Total Property Tax Income	3,563,517.57	0.00	0.00	3,563,517.57
Investment Income				
311350 - Interest - NPAIT Elkhorn	45.97	0.00	0.00	45.97
311400 - Interest - NPAIT Wanahoo SRA	6,616.07	0.00	0.00	6,616.07
311450 - Interest Income-Elkhorn IPA	38.76	0.00	0.00	38.76
311500 - Interest - NPAIT NRD	39.79	0.00	0.00	39.79
311600 - Interest - STFIT NRD	50,520.50	0.00	0.00	50,520.50
311700 - Interest - UBT NRD	463.22	0.00	0.00	463.22
304350 - Colon RW Interest - NPAIT	0.00	0.00	145.06	145.06
Total Investment Income	57,724.31	0.00	145.06	57,869.37
Miscellaneous Income				
309100 - Sales - Trees	2,219.75	0.00	0.00	2,219.75
309350 - Sales - Well Permits	1,750.00	0.00	0.00	1,750.00
309360 - Sales - Sample Kits	3,370.00	0.00	0.00	3,370.00
309400 - Sales - Other	3,170.00	0.00	0.00	3,170.00
309500 - Equipment Rent	2,481.55	0.00	0.00	2,481.55

**Lower Platte North NRD
Statements of Activities
For the Periods Ended**

	Natural Resources District Year To Date 01/31/2023	Rural Water-Bruno Year To Date 01/31/2023	Rural Water-Colon Year To Date 01/31/2023	All Districts Year To Date 01/31/2023
309600 - Game & Park Permit Sales	28.70	0.00	0.00	28.70
310000 - Chemigation Permits	2,160.00	0.00	0.00	2,160.00
310100 - Check Valve Sales	302.34	0.00	0.00	302.34
310200 - Czechland Camping Fees	6,191.10	0.00	0.00	6,191.10
310201 - Wanahoo Park Permits	40,764.53	0.00	0.00	40,764.53
310202 - Lake Wanahoo Camping	66,000.09	0.00	0.00	66,000.09
313000 - Miscellaneous Income	22,083.65	0.00	0.00	22,083.65
315000 - RWD Administrative Fees	3,232.18	0.00	0.00	3,232.18
316000 - Employee/Director Reimb	(540.69)	0.00	0.00	(540.69)
317000 - Loss Or Gain On Sale Of Assets	797.63	0.00	0.00	797.63
318000 - Special Project Income	212.00	0.00	0.00	212.00
Total Miscellaneous Income	154,222.83	0.00	0.00	154,222.83
Total Income	4,631,031.04	31,025.37	52,546.50	4,714,602.91
Expenses				
Administration Expenses				
Bonds				
410100 - Bonds	1,388.00	0.00	0.00	1,388.00
Total Bonds	1,388.00	0.00	0.00	1,388.00
Dues & Membership				
410201 - Dues & Membership - Chamber	135.00	0.00	0.00	135.00
410202 - Dues & Membership - NACD	592.00	0.00	0.00	592.00
410203 - Dues - NARD	18,171.35	0.00	0.00	18,171.35
410204 - Dues - NWRA	1,950.00	0.00	0.00	1,950.00
410205 - Dues & Membership - Other	1,699.90	0.00	0.00	1,699.90
Total Dues & Membership	22,548.25	0.00	0.00	22,548.25
Fees and Licenses				
410302 - NRD Fees And Licenses	32,832.95	0.00	0.00	32,832.95
410304 - NRD Union Bank Fees	272.62	0.00	0.00	272.62
Total Fees and Licenses	33,105.57	0.00	0.00	33,105.57
Insurance				
410501 - Insurance-Auto	6,885.07	0.00	0.00	6,885.07
410502 - Insurance-Errors & Omissions	3,668.44	0.00	0.00	3,668.44
410504 - Insurance-Liability	38,098.94	0.00	0.00	38,098.94
410505 - Insurance-Property	11,188.32	0.00	0.00	11,188.32
Total Insurance	59,840.77	0.00	0.00	59,840.77
Interest Expense				
410600 - Interest Expense	0.00	0.00	655.44	655.44
Total Interest Expense	0.00	0.00	655.44	655.44
Legal Notices				
410701 - Legal Notices	936.39	0.00	0.00	936.39
Total Legal Notices	936.39	0.00	0.00	936.39
Maintenance Contracts				
410800 - Maintenance Contracts	2,653.31	0.00	0.00	2,653.31
Total Maintenance Contracts	2,653.31	0.00	0.00	2,653.31
Office Supply & Expense				
410901 - Copier Supplies	568.89	0.00	0.00	568.89
410902 - Office Supplies & Equip	1,274.05	0.00	0.00	1,274.05
410903 - Franklin Supplies	170.31	0.00	0.00	170.31
410904 - Letterhead, Envelopes & Forms	35.29	0.00	0.00	35.29
410905 - Reference Books	640.99	0.00	0.00	640.99
410906 - Office Expense - Other	957.19	0.00	0.00	957.19
Total Office Supply & Expense	3,646.72	0.00	0.00	3,646.72
Computer Supply & Expense				
411003 - Computer Repairs & Parts	574.51	0.00	0.00	574.51
411004 - Computer Software	1,452.56	0.00	0.00	1,452.56
411006 - Email	942.49	0.00	0.00	942.49
411011 - Computers & Equipment	5,749.37	0.00	0.00	5,749.37
Total Computer Supply & Expense	8,718.93	0.00	0.00	8,718.93
Postage				
411200 - Postage	1,080.45	0.00	0.00	1,080.45
Total Postage	1,080.45	0.00	0.00	1,080.45
Professional Services				
411301 - Prof Serv-Accounting	47,250.00	0.00	0.00	47,250.00
411302 - Prof Serv-Annual Audit	13,250.00	0.00	0.00	13,250.00

See Accountant's Compilation Report

**Lower Platte North NRD
Statements of Activities
For the Periods Ended**

	Natural Resources District Year To Date 01/31/2023	Rural Water-Bruno Year To Date 01/31/2023	Rural Water-Colon Year To Date 01/31/2023	All Districts Year To Date 01/31/2023
411304 - Prof Serv-Legal - General	3,015.00	0.00	0.00	3,015.00
411311 - Washington Expense	14,500.00	0.00	0.00	14,500.00
Total Professional Services	78,015.00	0.00	0.00	78,015.00
Rent Expense				
411400 - Rent Expense	852.66	0.00	0.00	852.66
Total Rent Expense	852.66	0.00	0.00	852.66
Telephone Expense				
411601 - Telephone - Cellular	7,291.80	0.00	0.00	7,291.80
411602 - Local Phone & Internet	4,737.78	0.00	0.00	4,737.78
411605 - Director iPad Cell Service	316.40	0.00	0.00	316.40
Total Telephone Expense	12,345.98	0.00	0.00	12,345.98
Utilities				
411700 - Utilities Expense	5,506.47	0.00	0.00	5,506.47
Total Utilities	5,506.47	0.00	0.00	5,506.47
Total Administration Expenses	230,638.50	0.00	655.44	231,293.94
Information & Education Expenses				
Education				
420103 - Land & Range Judging Contest	1,071.36	0.00	0.00	1,071.36
420104 - Outdoor Classrooms	112.87	0.00	0.00	112.87
420106 - Miscellaneous Education Expense	329.33	0.00	0.00	329.33
420109 - Education Outreach	2,111.22	0.00	0.00	2,111.22
Total Education	3,624.78	0.00	0.00	3,624.78
Information				
420201 - Annual Report/Viaduct	6,245.33	0.00	0.00	6,245.33
420203 - Expositions And Display	508.64	0.00	0.00	508.64
420208 - Miscellaneous	80.00	0.00	0.00	80.00
420209 - Ktic Ad	1,465.00	0.00	0.00	1,465.00
420211 - E-Ads	980.00	0.00	0.00	980.00
420212 - TV Promotion	1,425.00	0.00	0.00	1,425.00
Total Information	10,703.97	0.00	0.00	10,703.97
Other				
420401 - Art Supplies	85.84	0.00	0.00	85.84
420404 - Promotional Materials	2,873.47	0.00	0.00	2,873.47
420405 - Recognition Banquet & Awards	1,571.89	0.00	0.00	1,571.89
420410 - Continuing Ed - I&E Dept	192.00	0.00	0.00	192.00
Total Other	4,723.20	0.00	0.00	4,723.20
Total Information & Education Expenses	19,051.95	0.00	0.00	19,051.95
Operation & Maintenance				
Auto and Truck				
430101 - Auto & Truck Gas	13,622.10	0.00	0.00	13,622.10
430102 - Auto & Truck R&M	2,269.24	0.00	0.00	2,269.24
Total Auto and Truck	15,891.34	0.00	0.00	15,891.34
Building Maintenance				
430201 - Bldg Maintenance	853.50	0.00	0.00	853.50
430202 - Office Cleaning	3,507.50	0.00	0.00	3,507.50
430203 - Garbage Maintenance	645.22	0.00	0.00	645.22
Total Building Maintenance	5,006.22	0.00	0.00	5,006.22
Operation and Maintenance				
430401 - Czechland & Homestead	3,805.22	0.00	0.00	3,805.22
430402 - Equipment Upkeep	1,999.33	0.00	0.00	1,999.33
430403 - Operation & Maintenance	114,933.35	0.00	0.00	114,933.35
430406 - Wanahoo Park Operation	6,880.61	0.00	0.00	6,880.61
430407 - Monitoring Wanahoo Dam	8,887.71	0.00	0.00	8,887.71
430408 - Wanahoo Rec Mgmt	33,831.11	0.00	0.00	33,831.11
430409 - Lake Wanahoo Education Building	4,546.45	0.00	0.00	4,546.45
Total Operation and Maintenance	174,883.78	0.00	0.00	174,883.78
Steam Bank Stabilization				
430602 - Stream Bank - Platte/Elkhorn Rivers	5,427.27	0.00	0.00	5,427.27
Total Steam Bank Stabilization	5,427.27	0.00	0.00	5,427.27
Other				
430804 - O&M One-Call Services	12.63	0.00	0.00	12.63
Total Other	12.63	0.00	0.00	12.63
Total Operation & Maintenance	201,221.24	0.00	0.00	201,221.24
Personnel Expenses				

**Lower Platte North NRD
Statements of Activities
For the Periods Ended**

	Natural Resources District Year To Date 01/31/2023	Rural Water-Bruno Year To Date 01/31/2023	Rural Water-Colon Year To Date 01/31/2023	All Districts Year To Date 01/31/2023
Director Expense				
440101 - Director Meeting Expense	5,889.73	0.00	0.00	5,889.73
440102 - Director Mileage Expense	6,370.01	0.00	0.00	6,370.01
440104 - Computer Stipend	2,632.50	0.00	0.00	2,632.50
Total Director Expense	14,892.24	0.00	0.00	14,892.24
Director Per Diem				
440200 - Director Per Diem	15,080.00	0.00	0.00	15,080.00
Total Director Per Diem	15,080.00	0.00	0.00	15,080.00
Employee Benefits				
440301 - Dental Insurance	12,906.71	0.00	0.00	12,906.71
440302 - Health Insurance	219,847.78	0.00	0.00	219,847.78
440303 - Retirement Benefit - 414H	37,129.46	0.00	0.00	37,129.46
440306 - Workmans Comp Benefit	6,891.07	0.00	0.00	6,891.07
440307 - Employee Benefits - Other	949.19	0.00	0.00	949.19
440309 - Flexible Spending Fee	74.00	0.00	0.00	74.00
Total Employee Benefits	277,798.21	0.00	0.00	277,798.21
Payroll Taxes				
440401 - FICA - ER	41,761.85	0.00	0.00	41,761.85
440402 - Medicare - ER	9,766.78	0.00	0.00	9,766.78
Total Payroll Taxes	51,528.63	0.00	0.00	51,528.63
Personnel Expense				
440501 - Personnel Meeting Exp	14,342.35	0.00	0.00	14,342.35
440502 - Personnel Mileage Exp	1,180.77	0.00	0.00	1,180.77
440503 - Safety Committee	315.55	0.00	0.00	315.55
440504 - Personnel Uniform Exp	1,357.13	0.00	0.00	1,357.13
Total Personnel Expense	17,195.80	0.00	0.00	17,195.80
Salaries				
440601 - Salaries - Administration	133,656.90	0.00	0.00	133,656.90
440602 - Salaries - Clerical	15,281.89	0.00	0.00	15,281.89
440603 - Employee Recognition Program	700.00	0.00	0.00	700.00
440604 - Salaries - I & E	49,651.82	0.00	0.00	49,651.82
440605 - Salaries - Op & Maint	98,630.57	0.00	0.00	98,630.57
440606 - NRCS Support	75,320.13	0.00	0.00	75,320.13
440607 - Salaries - Projects	59,361.90	0.00	0.00	59,361.90
440608 - Salaries - Water	202,534.90	0.00	0.00	202,534.90
440616 - Lake Wanhoo Park Op.	53,260.05	0.00	0.00	53,260.05
Total Salaries	688,398.16	0.00	0.00	688,398.16
Total Personnel Expenses	1,064,893.04	0.00	0.00	1,064,893.04
Projects Expenses				
Inter-Governmental				
450110 - Platte Center Bank Stab. Phase LI	2,013.00	0.00	0.00	2,013.00
450114 - Trails	10,000.00	0.00	0.00	10,000.00
450119 - JWMA Dodge Co	32,985.00	0.00	0.00	32,985.00
Total Inter-Governmental	44,998.00	0.00	0.00	44,998.00
Other Projects				
450711 - Bailey Levee	1,319.34	0.00	0.00	1,319.34
Total Other Projects	1,319.34	0.00	0.00	1,319.34
Platte River Corridor Alliance				
411101 - PRCA - Administration	1,000.00	0.00	0.00	1,000.00
411129 - USGS Monitoring at Leshara	6,400.00	0.00	0.00	6,400.00
Total Platte River Corridor Alliance	7,400.00	0.00	0.00	7,400.00
Total Projects Expenses	53,717.34	0.00	0.00	53,717.34
Water Expenses				
Groundwater Management Plan				
460101 - GWMP - Cost - Share	7,366.50	0.00	0.00	7,366.50
460103 - GWMP - Nitrogen Classes	2,237.61	0.00	0.00	2,237.61
460110 - Basin Wide Water Plan	5,833.36	0.00	0.00	5,833.36
Total Groundwater Management Plan	15,437.47	0.00	0.00	15,437.47
Groundwater Programs				
460201 - Decommissioned Wells	5,692.83	0.00	0.00	5,692.83
460203 - GW Levels	17.38	0.00	0.00	17.38
460204 - GW Quality Program	11,096.86	0.00	0.00	11,096.86
460206 - Monitoring Wells	5,199.47	0.00	0.00	5,199.47
Total Groundwater Programs	22,006.54	0.00	0.00	22,006.54
Regulatory				

**Lower Platte North NRD
Statements of Activities
For the Periods Ended**

	Natural Resources District Year To Date 01/31/2023	Rural Water-Bruno Year To Date 01/31/2023	Rural Water-Colon Year To Date 01/31/2023	All Districts Year To Date 01/31/2023
460301 - Chemigation	81.25	0.00	0.00	81.25
Total Regulatory	81.25	0.00	0.00	81.25
Surface Water Programs				
460403 - Stream Flow	17,694.94	0.00	0.00	17,694.94
Total Surface Water Programs	17,694.94	0.00	0.00	17,694.94
Special Projects				
460504 - ENWRA	19,199.95	0.00	0.00	19,199.95
Total Special Projects	19,199.95	0.00	0.00	19,199.95
Land Treatment				
450201 - Ne Buffer Strip	48,933.71	0.00	0.00	48,933.71
450204 - Shell Creek	33,235.46	0.00	0.00	33,235.46
450207 - Nswcp Supplement	8,640.00	0.00	0.00	8,640.00
450803 - Shell Creek Watershed Plan 319	33,010.31	0.00	0.00	33,010.31
Total Land Treatment	123,819.48	0.00	0.00	123,819.48
Total Water Expenses	198,239.63	0.00	0.00	198,239.63
Rural Water District Expenses				
570201 - Water Purchase	0.00	17,125.97	6,757.00	23,882.97
570204 - Testing	0.00	795.00	120.00	915.00
570206 - Repair	0.00	11.10	6,244.51	6,255.61
570207 - Other Expenses	0.00	10.35	0.79	11.14
570208 - Lpnnrd Adm. Fee	0.00	1,549.38	1,682.80	3,232.18
570210 - Health/Life/Vision/LTD - ER	0.00	1,482.41	2,223.54	3,705.95
570211 - Dental - ER	0.00	161.49	242.27	403.76
570212 - 414H ER Contributions	0.00	444.48	666.73	1,111.21
570215 - ER Social Security Tax	0.00	599.55	854.29	1,453.84
570216 - ER Medicare Tax	0.00	140.19	199.80	339.99
570217 - Salaries	0.00	4,340.75	7,237.13	11,577.88
570219 - Fees And Licenses	0.00	137.03	205.45	342.48
570220 - Rural Water One-Call	0.00	5.06	22.61	27.67
570222 - RW Dues And Memberships	0.00	40.00	60.00	100.00
570223 - Rural Water Gasoline	0.00	751.33	333.01	1,084.34
570231 - Rural Water Equipment Upkeep	0.00	22.79	34.18	56.97
570308 - Colon Meter House Expense	0.00	0.00	670.75	670.75
570309 - Colon Sewer Collections	0.00	0.00	16,965.00	16,965.00
Total Rural Water District Expenses	0.00	27,616.88	44,519.86	72,136.74
Capital Expenditures - Small Items				
480105 - Capital Outlay Small Items (Equipment)	637.49	0.00	0.00	637.49
Total Capital Expenditures - Small Items	637.49	0.00	0.00	637.49
Depreciation Expense				
Depreciation				
908000 - Depreciation Expense	276,522.64	4,937.45	10,318.49	291,778.58
908350 - Amortization Expense - Colon	0.00	0.00	29.19	29.19
Total Depreciation	276,522.64	4,937.45	10,347.68	291,807.77
Total Depreciation Expense	276,522.64	4,937.45	10,347.68	291,807.77
Total Expenses	2,044,921.83	32,554.33	55,522.98	2,132,999.14
Total Change in Net Position	\$ 2,586,109.21	\$ (1,528.96)	\$ (2,976.48)	\$ 2,581,603.77

Lower Platte North NRD Supplemental Schedule Statements of Activities - Actual vs. Budget

	Year To Date January 31, 2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
Change in Net Position				
Income				
Federal Income				
303206 - Wahoo Creek 319 Grant	(8,713.88)	100,000.00	(108,713.88)	(8.71) %
303207 - Shell Creek 319 Grant	(19,285.16)	108,600.00	(127,885.16)	(17.76) %
303225 - Wahoo Creek WS PL566	200,813.78	499,610.00	(298,796.22)	40.19 %
303961 - FEMA - Flood Funds	397,921.14	1,600,000.00	(1,202,078.86)	24.87 %
303963 - FEMA - 428 Funds	18,427.91	392,500.00	(374,072.09)	4.70 %
303965 - Federal Wanahoo - Stilling	0.00	1,109,600.00	(1,109,600.00)	0.00 %
Total Federal Income	589,163.79	3,810,310.00	(3,221,146.21)	15.46 %
State Income				
301201 - Natural Resources WQ Fund	14,208.54	52,000.00	(37,791.46)	27.32 %
301202 - Decommissioned Wells	4,286.00	3,500.00	786.00	122.46 %
301203 - Motor Vehicle Pro-Rate	2,455.45	8,400.00	(5,944.55)	29.23 %
301303 - Sand Creek NRDF	0.00	20,000.00	(20,000.00)	0.00 %
301310 - Shell Creek NET	0.00	6,500.00	(6,500.00)	0.00 %
301315 - WSF and EA Application	65,264.23	0.00	65,264.23	0.00 %
301320 - Water Department - NET	(718.00)	0.00	(718.00)	0.00 %
301325 - JEDI Funding	66,921.35	333,498.00	(266,576.65)	20.07 %
301800 - State Grant - Whip/Ne Wild	502.10	0.00	502.10	0.00 %
301900 - State Grant - NE Buffer Strip	48,933.71	27,500.00	21,433.71	177.94 %
303211 - Shell Creek Phase II - Envir. Trust	(1,360.04)	0.00	(1,360.04)	0.00 %
303222 - Wahoo Creek WSF Design	0.00	133,031.00	(133,031.00)	0.00 %
304100 - Lake Wanahoo - Other	22,360.53	15,000.00	7,360.53	149.07 %
Total State Income	222,853.87	599,429.00	(376,575.13)	37.18 %
Local Income				
304105 - Education Building Rent	12,210.00	14,500.00	(2,290.00)	84.21 %
304112 - Dirt Sales - Wanahoo	1,678.67	15,000.00	(13,321.33)	11.19 %
304400 - Flow Meter Maint. Reimb.	20.00	1,000.00	(980.00)	2.00 %
304500 - JWMAB	29,640.00	14,940.00	14,700.00	198.39 %
304600 - Greater Wahoo Fdtn - Wanahoo Bldg	0.00	73,500.00	(73,500.00)	0.00 %
Total Local Income	43,548.67	118,940.00	(75,391.33)	36.61 %
Property Tax Income				
305100 - General Fund Property Taxes-Boone	106,394.76	116,000.00	(9,605.24)	91.72 %
305200 - General Fund Property Taxes-Butler	380,249.32	411,000.00	(30,750.68)	92.52 %
305300 - General Fund Property Taxes-Colfax	308,032.13	368,000.00	(59,967.87)	83.70 %
305400 - General Fund Property Taxes-Dodge	1,078,444.19	1,084,000.00	(5,555.81)	99.49 %
305500 - General Fund Property Taxes-Madison	46,401.76	76,500.00	(30,098.24)	60.66 %
305600 - General Fund Property Taxes-Platte	415,679.79	464,000.00	(48,320.21)	89.59 %
305700 - General Fund Property Taxes-Saunders	1,228,315.62	1,251,000.00	(22,684.38)	98.19 %
Total Property Tax Income	3,563,517.57	3,770,500.00	(206,982.43)	94.51 %
Investment Income				
311350 - Interest - NPAIT Elkhorn	45.97	3.81	42.16	1,206.56 %
311400 - Interest - NPAIT Wanahoo SRA	6,616.07	555.00	6,061.07	1,192.08 %
311450 - Interest Income-Elkhorn IPA	38.76	316.00	(277.24)	12.27 %
311500 - Interest - NPAIT NRD	39.79	3.50	36.29	1,136.86 %
311600 - Interest - STFIT NRD	50,520.50	4,750.00	45,770.50	1,063.59 %
311700 - Interest - UBT NRD	463.22	240.00	223.22	193.01 %
304350 - Colon RW Interest - NPAIT	0.00	12.00	(12.00)	0.00 %
Total Investment Income	57,724.31	5,880.31	51,844.00	981.65 %
Miscellaneous Income				
309100 - Sales - Trees	2,219.75	25,000.00	(22,780.25)	8.88 %
309350 - Sales - Well Permits	1,750.00	2,000.00	(250.00)	87.50 %
309360 - Sales - Sample Kits	3,370.00	3,500.00	(130.00)	96.29 %
309400 - Sales - Other	3,170.00	4,000.00	(830.00)	79.25 %
309500 - Equipment Rent	2,481.55	7,000.00	(4,518.45)	35.45 %
309600 - Game & Park Permit Sales	28.70	500.00	(471.30)	5.74 %
310000 - Chemigation Permits	2,160.00	25,000.00	(22,840.00)	8.64 %
310100 - Check Valve Sales	302.34	500.00	(197.66)	60.47 %
310200 - Czechland Camping Fees	6,191.10	14,000.00	(7,808.90)	44.22 %
310201 - Wanahoo Park Permits	40,764.53	110,000.00	(69,235.47)	37.06 %
310202 - Lake Wanahoo Camping	66,000.09	120,000.00	(53,999.91)	55.00 %
312000 - Salaries-Other NRD	0.00	76,000.00	(76,000.00)	0.00 %
313000 - Miscellaneous Income	22,083.65	15,000.00	7,083.65	147.22 %
315000 - RWD Administrative Fees	3,232.18	4,800.00	(1,567.82)	67.34 %

Lower Platte North NRD Supplemental Schedule Statements of Activities - Actual vs. Budget

	Year To Date January 31, 2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
316000 - Employee/Director Reimb	(540.69)	2,000.00	(2,540.69)	(27.03) %
317000 - Loss Or Gain On Sale Of Assets	797.63	100,000.00	(99,202.37)	0.80 %
318000 - Special Project Income	212.00	1,000.00	(788.00)	21.20 %
318500 - Change in COE Revenue	0.00	114,892.00	(114,892.00)	0.00 %
Total Miscellaneous Income	154,222.83	625,192.00	(470,969.17)	24.67 %
Total Income	4,631,031.04	8,930,251.31	(4,299,220.27)	51.86 %
Expenses				
Administration Expenses				
Bonds				
410100 - Bonds	1,388.00	100.00	1,288.00	1,388.00 %
Total Bonds	1,388.00	100.00	1,288.00	1,388.00 %
Dues & Membership				
410201 - Dues & Membership - Chamber	135.00	450.00	(315.00)	30.00 %
410202 - Dues & Membership - NACD	592.00	1,776.00	(1,184.00)	33.33 %
410203 - Dues - NARD	18,171.35	31,000.00	(12,828.65)	58.62 %
410204 - Dues - NWRA	1,950.00	1,950.00	0.00	100.00 %
410205 - Dues & Membership - Other	1,699.90	3,200.00	(1,500.10)	53.12 %
Total Dues & Membership	22,548.25	38,376.00	(15,827.75)	58.76 %
Fees and Licenses				
410302 - NRD Fees And Licenses	32,832.95	10,000.00	22,832.95	328.33 %
410304 - NRD Union Bank Fees	272.62	600.00	(327.38)	45.44 %
Total Fees and Licenses	33,105.57	10,600.00	22,505.57	312.32 %
GIS				
410401 - GIS Activities	0.00	2,000.00	(2,000.00)	0.00 %
Total GIS	0.00	2,000.00	(2,000.00)	0.00 %
Insurance				
410501 - Insurance-Auto	6,885.07	15,000.00	(8,114.93)	45.90 %
410502 - Insurance-Errors & Omissions	3,668.44	7,000.00	(3,331.56)	52.41 %
410504 - Insurance-Liability	38,098.94	66,000.00	(27,901.06)	57.73 %
410505 - Insurance-Property	11,188.32	20,000.00	(8,811.68)	55.94 %
Total Insurance	59,840.77	108,000.00	(48,159.23)	55.41 %
Legal Notices				
410701 - Legal Notices	936.39	2,500.00	(1,563.61)	37.46 %
410702 - Other Notices and Advertising	0.00	100.00	(100.00)	0.00 %
Total Legal Notices	936.39	2,600.00	(1,663.61)	36.02 %
Maintenance Contracts				
410800 - Maintenance Contracts	2,653.31	5,000.00	(2,346.69)	53.07 %
Total Maintenance Contracts	2,653.31	5,000.00	(2,346.69)	53.07 %
Office Supply & Expense				
410901 - Copier Supplies	568.89	750.00	(181.11)	75.85 %
410902 - Office Supplies & Equip	1,274.05	3,500.00	(2,225.95)	36.40 %
410903 - Franklin Supplies	170.31	500.00	(329.69)	34.06 %
410904 - Letterhead, Envelopes & Forms	35.29	2,000.00	(1,964.71)	1.76 %
410905 - Reference Books	640.99	1,000.00	(359.01)	64.10 %
410906 - Office Expense - Other	957.19	2,500.00	(1,542.81)	38.29 %
Total Office Supply & Expense	3,646.72	10,250.00	(6,603.28)	35.58 %
Computer Supply & Expense				
411002 - Computer Consultant	0.00	5,000.00	(5,000.00)	0.00 %
411003 - Computer Repairs & Parts	574.51	1,500.00	(925.49)	38.30 %
411004 - Computer Software	1,452.56	11,000.00	(9,547.44)	13.21 %
411005 - Computer Magazines/Video	0.00	100.00	(100.00)	0.00 %
411006 - Email	942.49	1,650.00	(707.51)	57.12 %
411011 - Computers & Equipment	5,749.37	11,000.00	(5,250.63)	52.27 %
411012 - Website Design & Hosting	0.00	300.00	(300.00)	0.00 %
Total Computer Supply & Expense	8,718.93	30,550.00	(21,831.07)	28.54 %
Postage				
411200 - Postage	1,080.45	5,000.00	(3,919.55)	21.61 %
Total Postage	1,080.45	5,000.00	(3,919.55)	21.61 %
Professional Services				
411301 - Prof Serv-Accounting	47,250.00	81,000.00	(33,750.00)	58.33 %
411302 - Prof Serv-Annual Audit	13,250.00	13,250.00	0.00	100.00 %
411304 - Prof Serv-Legal - General	3,015.00	12,000.00	(8,985.00)	25.13 %
411305 - Prof Serv-Legal-Other	0.00	3,000.00	(3,000.00)	0.00 %
411307 - Prof Services-Other	0.00	3,000.00	(3,000.00)	0.00 %
411311 - Washington Expense	14,500.00	26,400.00	(11,900.00)	54.92 %
Total Professional Services	78,015.00	138,650.00	(60,635.00)	56.27 %

Lower Platte North NRD Supplemental Schedule Statements of Activities - Actual vs. Budget

	Year To Date January 31, 2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
Rent Expense				
411400 - Rent Expense	852.66	1,700.00	(847.34)	50.16 %
Total Rent Expense	852.66	1,700.00	(847.34)	50.16 %
Support to Organizations				
411501 - Locally Lead Conservation Groups	0.00	500.00	(500.00)	0.00 %
411502 - R C & D Organizations	0.00	500.00	(500.00)	0.00 %
Total Support to Organizations	0.00	1,000.00	(1,000.00)	0.00 %
Telephone Expense				
411601 - Telephone - Cellular	7,291.80	11,000.00	(3,708.20)	66.29 %
411602 - Local Phone & Internet	4,737.78	8,000.00	(3,262.22)	59.22 %
411605 - Director iPad Cell Service	316.40	600.00	(283.60)	52.73 %
Total Telephone Expense	12,345.98	19,600.00	(7,254.02)	62.99 %
Utilities				
411700 - Utilities Expense	5,506.47	13,000.00	(7,493.53)	42.36 %
Total Utilities	5,506.47	13,000.00	(7,493.53)	42.36 %
Total Administration Expenses	230,638.50	386,426.00	(155,787.50)	59.69 %
Information & Education Expenses				
Education				
420103 - Land & Range Judging Contest	1,071.36	1,000.00	71.36	107.14 %
420104 - Outdoor Classrooms	112.87	2,500.00	(2,387.13)	4.51 %
420106 - Miscellaneous Education Expense	329.33	500.00	(170.67)	65.87 %
420107 - Water Testing Event	0.00	500.00	(500.00)	0.00 %
420108 - Spring Conservation Sensation	0.00	3,500.00	(3,500.00)	0.00 %
420109 - Education Outreach	2,111.22	3,500.00	(1,388.78)	60.32 %
Total Education	3,624.78	11,500.00	(7,875.22)	31.52 %
Information				
420201 - Annual Report/Viaduct	6,245.33	13,000.00	(6,754.67)	48.04 %
420202 - Books And Pamphlets	0.00	500.00	(500.00)	0.00 %
420203 - Expositions And Display	508.64	2,000.00	(1,491.36)	25.43 %
420205 - Phrography, Cameras, Video	0.00	1,500.00	(1,500.00)	0.00 %
420206 - Soil & Water Stewardship Mat.	0.00	250.00	(250.00)	0.00 %
420208 - Miscellaneous	80.00	1,500.00	(1,420.00)	5.33 %
420209 - Ktic Ad	1,465.00	3,000.00	(1,535.00)	48.83 %
420211 - E-Ads	980.00	1,700.00	(720.00)	57.65 %
420212 - TV Promotion	1,425.00	3,500.00	(2,075.00)	40.71 %
420213 - Promotion Videos	0.00	3,000.00	(3,000.00)	0.00 %
Total Information	10,703.97	29,950.00	(19,246.03)	35.74 %
Scholarships and Grants				
420305 - Camp And Workshop Scholarships	0.00	1,500.00	(1,500.00)	0.00 %
420307 - Shell Crk Watershd Scholarship	0.00	3,000.00	(3,000.00)	0.00 %
Total Scholarships and Grants	0.00	4,500.00	(4,500.00)	0.00 %
Other				
420401 - Art Supplies	85.84	250.00	(164.16)	34.34 %
420402 - Cooperative Projects/Donations	0.00	500.00	(500.00)	0.00 %
420404 - Promotional Materials	2,873.47	4,000.00	(1,126.53)	71.84 %
420405 - Recognition Banquet & Awards	1,571.89	2,000.00	(428.11)	78.59 %
420407 - Cooperative Partnerships	0.00	1,000.00	(1,000.00)	0.00 %
420409 - N.American Envirothon	0.00	1,000.00	(1,000.00)	0.00 %
420410 - Continuing Ed - I&E Dept	192.00	200.00	(8.00)	96.00 %
Total Other	4,723.20	8,950.00	(4,226.80)	52.77 %
Total Information & Education Expenses	19,051.95	54,900.00	(35,848.05)	34.70 %
Operation & Maintenance				
Auto and Truck				
430101 - Auto & Truck Gas	13,622.10	28,000.00	(14,377.90)	48.65 %
430102 - Auto & Truck R&M	2,269.24	7,000.00	(4,730.76)	32.42 %
Total Auto and Truck	15,891.34	35,000.00	(19,108.66)	45.40 %
Building Maintenance				
430201 - Bldg Maintenance	853.50	3,500.00	(2,646.50)	24.39 %
430202 - Office Cleaning	3,507.50	6,100.00	(2,592.50)	57.50 %
430203 - Garbage Maintenance	645.22	1,200.00	(554.78)	53.77 %
Total Building Maintenance	5,006.22	10,800.00	(5,793.78)	46.35 %
Community Forestry Program				
430300 - Community Forestry	0.00	2,000.00	(2,000.00)	0.00 %
Total Community Forestry Program	0.00	2,000.00	(2,000.00)	0.00 %
Operation and Maintenance				
430401 - Czechland & Homestead	3,805.22	8,000.00	(4,194.78)	47.57 %

Lower Platte North NRD Supplemental Schedule Statements of Activities - Actual vs. Budget

	Year To Date January 31, 2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
430402 - Equipment Upkeep	1,999.33	14,000.00	(12,000.67)	14.28 %
430403 - Operation & Maintenance	114,933.35	85,000.00	29,933.35	135.22 %
430404 - Tree Supplies	0.00	250.00	(250.00)	0.00 %
430406 - Wanahoo Park Operation	6,880.61	50,000.00	(43,119.39)	13.76 %
430407 - Monitoring Wanahoo Dam	8,887.71	17,000.00	(8,112.29)	52.28 %
430408 - Wanahoo Rec Mgmt	33,831.11	60,000.00	(26,168.89)	56.39 %
430409 - Lake Wanahoo Education Building	4,546.45	10,000.00	(5,453.55)	45.46 %
Total Operation and Maintenance	174,883.78	244,250.00	(69,366.22)	71.60 %
Project Repairs				
430503 - Project Repairs - Other	0.00	1,000.00	(1,000.00)	0.00 %
430504 - Rawhide Channel Maintenance	0.00	2,000.00	(2,000.00)	0.00 %
Total Project Repairs	0.00	3,000.00	(3,000.00)	0.00 %
Steam Bank Stabilization				
430601 - Stream Bank - Perennial Streams	0.00	5,000.00	(5,000.00)	0.00 %
430602 - Stream Bank - Platte/Elkhorn Rivers	5,427.27	15,000.00	(9,572.73)	36.18 %
Total Steam Bank Stabilization	5,427.27	20,000.00	(14,572.73)	27.14 %
Wildlife Habitat Programs				
430701 - Wild Nebraska	0.00	1,000.00	(1,000.00)	0.00 %
Total Wildlife Habitat Programs	0.00	1,000.00	(1,000.00)	0.00 %
Other				
430801 - NRCS Flags	0.00	1,000.00	(1,000.00)	0.00 %
430802 - Stock For Resale - Trees	0.00	15,000.00	(15,000.00)	0.00 %
430803 - Lower Platte Weed Mgmt Area	0.00	30,000.00	(30,000.00)	0.00 %
430804 - O&M One-Call Services	12.63	50.00	(37.37)	25.26 %
430805 - IceJam Monitoring	0.00	500.00	(500.00)	0.00 %
Total Other	12.63	46,550.00	(46,537.37)	0.03 %
Total Operation & Maintenance	201,221.24	362,600.00	(161,378.76)	55.49 %
Personnel Expenses				
Director Expense				
440101 - Director Meeting Expense	5,889.73	18,000.00	(12,110.27)	32.72 %
440102 - Director Mileage Expense	6,370.01	15,000.00	(8,629.99)	42.47 %
440104 - Computer Stipend	2,632.50	5,700.00	(3,067.50)	46.18 %
Total Director Expense	14,892.24	38,700.00	(23,807.76)	38.48 %
Director Per Diem				
440200 - Director Per Diem	15,080.00	38,000.00	(22,920.00)	39.68 %
Total Director Per Diem	15,080.00	38,000.00	(22,920.00)	39.68 %
Employee Benefits				
440301 - Dental Insurance	12,906.71	24,000.00	(11,093.29)	53.78 %
440302 - Health Insurance	219,847.78	370,000.00	(150,152.22)	59.42 %
440303 - Retirement Benefit - 414H	37,129.46	75,000.00	(37,870.54)	49.51 %
440304 - Retirement Benefit - 457 Plan	0.00	4,000.00	(4,000.00)	0.00 %
440305 - Tuition Reimbursement	0.00	3,000.00	(3,000.00)	0.00 %
440306 - Workmans Comp Benefit	6,891.07	20,000.00	(13,108.93)	34.46 %
440307 - Employee Benefits - Other	949.19	2,500.00	(1,550.81)	37.97 %
440309 - Flexible Spending Fee	74.00	300.00	(226.00)	24.67 %
440311 - Unemployment Insurance Benefit	0.00	5,000.00	(5,000.00)	0.00 %
440312 - Accrued Compensated Absences	0.00	28,500.00	(28,500.00)	0.00 %
Total Employee Benefits	277,798.21	532,300.00	(254,501.79)	52.19 %
Payroll Taxes				
440401 - FICA - ER	41,761.85	75,000.00	(33,238.15)	55.68 %
440402 - Medicare - ER	9,766.78	18,000.00	(8,233.22)	54.26 %
Total Payroll Taxes	51,528.63	93,000.00	(41,471.37)	55.41 %
Personnel Expense				
440501 - Personnel Meeting Exp	14,342.35	25,000.00	(10,657.65)	57.37 %
440502 - Personnel Mileage Exp	1,180.77	3,500.00	(2,319.23)	33.74 %
440503 - Safety Committee	315.55	1,500.00	(1,184.45)	21.04 %
440504 - Personnel Uniform Exp	1,357.13	2,800.00	(1,442.87)	48.47 %
440505 - Personnel Exp-Other	0.00	2,500.00	(2,500.00)	0.00 %
Total Personnel Expense	17,195.80	35,300.00	(18,104.20)	48.71 %
Salaries				
440601 - Salaries - Administration	133,656.90	244,000.00	(110,343.10)	54.78 %
440602 - Salaries - Clerical	15,281.89	25,500.00	(10,218.11)	59.93 %
440603 - Employee Recognition Program	700.00	1,300.00	(600.00)	53.85 %
440604 - Salaries - I & E	49,651.82	90,000.00	(40,348.18)	55.17 %
440605 - Salaries - Op & Maint	98,630.57	186,000.00	(87,369.43)	53.03 %
440606 - NRCS Support	75,320.13	168,000.00	(92,679.87)	44.83 %

Lower Platte North NRD Supplemental Schedule Statements of Activities - Actual vs. Budget

	Year To Date January 31, 2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
440607 - Salaries - Projects	59,361.90	114,500.00	(55,138.10)	51.84 %
440608 - Salaries - Water	202,534.90	370,000.00	(167,465.10)	54.74 %
440611 - Salaries - Rural Water	0.00	5,000.00	(5,000.00)	0.00 %
440616 - Lake Wanhoo Park Op.	53,260.05	86,500.00	(33,239.95)	61.57 %
Total Salaries	688,398.16	1,290,800.00	(602,401.84)	53.33 %
Total Personnel Expenses	1,064,893.04	2,028,100.00	(963,206.96)	52.51 %
Projects Expenses				
Inter-Governmental				
450110 - Platte Center Bank Stab. Phase LI	2,013.00	10,000.00	(7,987.00)	20.13 %
450114 - Trails	10,000.00	15,000.00	(5,000.00)	66.67 %
450115 - Dike & Drainage Assistance	0.00	10,000.00	(10,000.00)	0.00 %
450117 - Woodcliff Bank Stabilization	0.00	55,000.00	(55,000.00)	0.00 %
450119 - JWMAB Dodge Co	32,985.00	171,000.00	(138,015.00)	19.29 %
Total Inter-Governmental	44,998.00	261,000.00	(216,002.00)	17.24 %
Special Projects				
450305 - Special Projects-Other	0.00	31,500.00	(31,500.00)	0.00 %
450309 - SA No-Till Conf/Shell Creek	0.00	1,000.00	(1,000.00)	0.00 %
Total Special Projects	0.00	32,500.00	(32,500.00)	0.00 %
Wanhoo				
450505 - Prof Serv-Legal - Wanhoo	0.00	5,000.00	(5,000.00)	0.00 %
450506 - Lake Level Mgmt Plan	0.00	50,000.00	(50,000.00)	0.00 %
450509 - Wanhoo - Other	0.00	5,000.00	(5,000.00)	0.00 %
Total Wanhoo	0.00	60,000.00	(60,000.00)	0.00 %
Other Projects				
450705 - Schuyler 205	0.00	13,000.00	(13,000.00)	0.00 %
450711 - Bailey Levee	1,319.34	31,000.00	(29,680.66)	4.26 %
Total Other Projects	1,319.34	44,000.00	(42,680.66)	3.00 %
Platte River Corridor Alliance				
411101 - PRCA - Administration	1,000.00	1,000.00	0.00	100.00 %
411129 - USGS Monitoring at Leshara	6,400.00	6,400.00	0.00	100.00 %
Total Platte River Corridor Alliance	7,400.00	7,400.00	0.00	100.00 %
Total Projects Expenses	53,717.34	404,900.00	(351,182.66)	13.27 %
Water Expenses				
Groundwater Management Plan				
460101 - GWMP - Cost - Share	7,366.50	10,000.00	(2,633.50)	73.67 %
460102 - GWMP - Information & Education	0.00	500.00	(500.00)	0.00 %
460103 - GWMP - Nitrogen Classes	2,237.61	2,000.00	237.61	111.88 %
460104 - GWMP - Permits	0.00	100.00	(100.00)	0.00 %
460110 - Basin Wide Water Plan	5,833.36	10,000.00	(4,166.64)	58.33 %
460111 - Flow Meter Maintenance	0.00	22,000.00	(22,000.00)	0.00 %
Total Groundwater Management Plan	15,437.47	44,600.00	(29,162.53)	34.61 %
Groundwater Programs				
460201 - Decommissioned Wells	5,692.83	19,000.00	(13,307.17)	29.96 %
460203 - GW Levels	17.38	1,000.00	(982.62)	1.74 %
460204 - GW Quality Program	11,096.86	15,000.00	(3,903.14)	73.98 %
460205 - Mead - NOP	0.00	100.00	(100.00)	0.00 %
460206 - Monitoring Wells	5,199.47	25,000.00	(19,800.53)	20.80 %
460209 - Groundwater Programs Other	0.00	3,000.00	(3,000.00)	0.00 %
460210 - GW Projects Sinking Fund	0.00	100,000.00	(100,000.00)	0.00 %
460212 - GW Monitoring Equip SQS#2	0.00	250.00	(250.00)	0.00 %
460213 - GW Memberships and Subscriptions	0.00	8,400.00	(8,400.00)	0.00 %
Total Groundwater Programs	22,006.54	171,750.00	(149,743.46)	12.81 %
Regulatory				
460301 - Chemigation	81.25	1,000.00	(918.75)	8.13 %
460302 - Irrigation Runoff	0.00	750.00	(750.00)	0.00 %
Total Regulatory	81.25	1,750.00	(1,668.75)	4.64 %
Surface Water Programs				
460403 - Stream Flow	17,694.94	17,635.00	59.94	100.34 %
Total Surface Water Programs	17,694.94	17,635.00	59.94	100.34 %
Special Projects				
460503 - Special Projects - Other	0.00	5,000.00	(5,000.00)	0.00 %
460504 - ENWRA	19,199.95	31,000.00	(11,800.05)	61.94 %
460520 - NET Grant	0.00	46,000.00	(46,000.00)	0.00 %
460521 - Lower Platte Consortium	0.00	250.00	(250.00)	0.00 %
Total Special Projects	19,199.95	82,250.00	(63,050.05)	23.34 %
Land Treatment				

Lower Platte North NRD
Supplemental Schedule
 Statements of Activities - Actual vs. Budget

	Year To Date January 31, 2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
450201 - Ne Buffer Strip	48,933.71	27,000.00	21,933.71	181.24 %
450204 - Shell Creek	33,235.46	20,000.00	13,235.46	166.18 %
450206 - Emergency Terrace Repair	0.00	5,000.00	(5,000.00)	0.00 %
450207 - Nswcp Supplement	8,640.00	25,000.00	(16,360.00)	34.56 %
450211 - Trees	0.00	3,000.00	(3,000.00)	0.00 %
450803 - Shell Creek Watershed Plan 319	33,010.31	150,000.00	(116,989.69)	22.01 %
450807 - Wahoo Creek Phase II	0.00	150,000.00	(150,000.00)	0.00 %
450809 - Sand Creek Dams-Conservation	0.00	50,000.00	(50,000.00)	0.00 %
Total Land Treatment	123,819.48	430,000.00	(306,180.52)	28.80 %
Total Water Expenses	198,239.63	747,985.00	(549,745.37)	26.50 %
Total Expenses	1,767,761.70	3,984,911.00	(2,217,149.30)	44.36 %
Total Change in Net Position	2,863,269.34	4,945,340.31	(2,082,070.97)	57.90 %

Lower Platte North NRD
Supplemental Schedule
 Statements of Activities - Actual vs. Budget
 Rural Water District - Bruno

	Year To Date 01/31/2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
Change in Net Position				
Rural Water Income				
304240 - Water Sales	30,987.55	46,000.00	(15,012.45)	67.36 %
304261 - Other Revenue	37.82	2,000.00	(1,962.18)	1.89 %
Total Rural Water Income	31,025.37	48,000.00	(16,974.63)	64.64 %
Rural Water District Expenses				
570201 - Water Purchase	17,125.97	25,000.00	(7,874.03)	68.50 %
570204 - Testing	795.00	1,000.00	(205.00)	79.50 %
570206 - Repair	11.10	1,000.00	(988.90)	1.11 %
570207 - Other Expenses	10.35	700.00	(689.65)	1.48 %
570208 - Lpnnrd Adm. Fee	1,549.38	2,250.00	(700.62)	68.86 %
570210 - Health/Life/Vision/LTD - ER	1,482.41	3,000.00	(1,517.59)	49.41 %
570211 - Dental - ER	161.49	300.00	(138.51)	53.83 %
570212 - 414H ER Contributions	444.48	750.00	(305.52)	59.26 %
570215 - ER Social Security Tax	599.55	960.00	(360.45)	62.45 %
570216 - ER Medicare Tax	140.19	240.00	(99.81)	58.41 %
570217 - Salaries	4,340.75	10,000.00	(5,659.25)	43.41 %
570219 - Fees And Licenses	137.03	700.00	(562.97)	19.58 %
570220 - Rural Water One-Call	5.06	50.00	(44.94)	10.12 %
570221 - Rural Water Hand Tools & Supplies	0.00	250.00	(250.00)	0.00 %
570222 - RW Dues And Memberships	40.00	100.00	(60.00)	40.00 %
570223 - Rural Water Gasoline	751.33	1,000.00	(248.67)	75.13 %
570224 - Rural Water Personnel Meeting	0.00	450.00	(450.00)	0.00 %
570230 - Rural Water Equipment Rental	0.00	1,000.00	(1,000.00)	0.00 %
570231 - Rural Water Equipment Upkeep	22.79	1,250.00	(1,227.21)	1.82 %
Total Rural Water District Expenses	27,616.88	50,000.00	(22,383.12)	55.23 %
Total Change in Net Position	3,408.49	(2,000.00)	5,408.49	(170.42) %

Lower Platte North NRD
Supplemental Schedule
 Statements of Activities - Actual vs. Budget
 Rural Water District - Colon

	Year To Date 01/31/2023 <small>Actual</small>	Year Ending June 30, 2023 <small>FY2023</small>	\$ Difference Annual Budget	Percentage Annual Budget
Change in Net Position				
Rural Water Income				
304240 - Water Sales	33,655.80	52,000.00	(18,344.20)	64.72 %
304275 - Colon Hook Up Fees	0.00	3,000.00	(3,000.00)	0.00 %
304295 - Colon Sewer Fees	16,965.00	28,000.00	(11,035.00)	60.59 %
304261 - Other Revenue	1,780.64	3,000.00	(1,219.36)	59.35 %
Total Rural Water Income	52,401.44	86,000.00	(33,598.56)	60.93 %
Investment Income				
304350 - Colon RW Interest - NPAIT	145.06	0.00	145.06	0.00 %
Total Investment Income	145.06	0.00	145.06	0.00 %
Rural Water District Expenses				
570201 - Water Purchase	6,757.00	13,000.00	(6,243.00)	51.98 %
570204 - Testing	120.00	1,000.00	(880.00)	12.00 %
570206 - Repair	6,244.51	3,000.00	3,244.51	208.15 %
570207 - Other Expenses	0.79	1,000.00	(999.21)	0.08 %
570208 - Lpnnrd Adm. Fee	1,682.80	2,750.00	(1,067.20)	61.19 %
570210 - Health/Life/Vision/LTD - ER	2,223.54	4,500.00	(2,276.46)	49.41 %
570211 - Dental - ER	242.27	450.00	(207.73)	53.84 %
570212 - 414H ER Contributions	666.73	1,200.00	(533.27)	55.56 %
570215 - ER Social Security Tax	854.29	1,440.00	(585.71)	59.33 %
570216 - ER Medicare Tax	199.80	360.00	(160.20)	55.50 %
570217 - Salaries	7,237.13	17,000.00	(9,762.87)	42.57 %
570219 - Fees And Licenses	205.45	900.00	(694.55)	22.83 %
570220 - Rural Water One-Call	22.61	75.00	(52.39)	30.15 %
570221 - Rural Water Hand Tools & Supplies	0.00	250.00	(250.00)	0.00 %
570222 - RW Dues And Memberships	60.00	100.00	(40.00)	60.00 %
570223 - Rural Water Gasoline	333.01	1,000.00	(666.99)	33.30 %
570224 - Rural Water Personnel Meeting	0.00	450.00	(450.00)	0.00 %
570230 - Rural Water Equipment Rental	0.00	1,500.00	(1,500.00)	0.00 %
570231 - Rural Water Equipment Upkeep	34.18	1,250.00	(1,215.82)	2.73 %
570305 - Colon - Annual Bond Payment	0.00	3,355.00	(3,355.00)	0.00 %
570308 - Colon Meter House Expense	670.75	1,200.00	(529.25)	55.90 %
570309 - Colon Sewer Collections	16,965.00	28,000.00	(11,035.00)	60.59 %
570330 - Colon RW Bad Debt Expense	0.00	1,000.00	(1,000.00)	0.00 %
Total Rural Water District Expenses	44,519.86	84,780.00	(40,260.14)	52.51 %
Total Change in Net Position	8,026.64	1,220.00	6,806.64	657.92 %

Lower Platte North NRD

Supplemental Schedule - Actual vs. Budget - Capital Expenses and Debt Service Payments

	<u>Year To Date</u> <u>1/31/2023</u> <i>Actual</i>	<u>Year Ending</u> <u>6/30/2023</u> <i>Budget</i>	<u>\$ Difference</u> <u>Annual Budget</u>	<u>Percentage</u> <u>Annual Budget</u>
Capital Improvements - Real Property				
Wahoo Creek Design RCPP (Olsson)	0.00	966,139.00	(966,139.00)	0.00%
Wahoo Creek Planning - FYRA - Watershed Plan	113,327.59	5,000.00	108,327.59	2266.55%
Wahoo Creek 7 Additional Dams	251,566.51	100,000.00	151,566.51	251.57%
Office Remodel/New Office Drawings	38,800.00	440,000.00	(401,200.00)	8.82%
Wanahoo Stilling Basin	530,561.51	1,168,000.00	(637,438.49)	0.00%
Wanahoo Fish Cleaning Station	0.00	65,000.00	(65,000.00)	0.00%
Wanahoo Marina/General Store	0.00	75,000.00	(75,000.00)	0.00%
Large Structure O&M Sinking Fund	0.00	400,000.00	(400,000.00)	0.00%
District Wide Flood Reduction Sinking Fund	0.00	400,000.00	(400,000.00)	0.00%
Other Capital Improvements - Real Property	0.00	0.00	0.00	0.00%
Total Capital Improvements - Real Property	934,255.61	3,619,139.00	(2,684,883.39)	25.81%
Capital Outlay				
Machinery & Equipment (Tractor, Bobcat, Wanahoo UTV, Trailer)	35,898.52	306,500.00	(270,601.48)	11.71%
Auto and Trucks (1 Ton Truck)	0.00	75,000.00	(75,000.00)	0.00%
Computer Equipment	0.00	10,000.00	(10,000.00)	0.00%
Phoenix Data Base	6,025.00	10,000.00	(3,975.00)	60.25%
Flow Meter	0.00	11,050.00	(11,050.00)	0.00%
Monitoring Wells - 4 Additional	12,360.00	25,000.00	(12,640.00)	49.44%
Other Capital Outlay - Equipment	0.00	1,200.00	(1,200.00)	0.00%
Total Capital Outlay	54,283.52	438,750.00	(384,466.48)	12.37%
Debt Service Payments				
Colon RW Note	3,355.00	3,355.00	0.00	100.00%
Total Debt Service Payments	3,355.00	3,355.00	0.00	100.00%
Grand Total All Expenses w/o Depreciation	2,831,792.57	8,180,935.00	(5,349,142.43)	34.61%

Week #1

Lower Platte North NRD Time Sheet

Name Eric Gottschalk

Period Covered 1/28/23 to 2/3/23

You must enter "pm" for times after 12:59 or the form will not calculate correctly!

	Date	Start Time	Stop Time	Work Hours	Other Hours	Duties Performed	Miles	Meals	Other Exp.
Sat	1/28								
Sun	1/29								
Mon	1/30	7:30 am 2:00 pm	1:15 pm 5:00 pm	8.75		Leadership Team meeting, Time Sheets, Personnel, Kent Zimmerman - Wahoo Creek District Management			
Tues	1/31	7:45 am 1:30 pm	12:45 pm 5:00 pm	8.50		Committee prep, Time Sheets Jason Scott project, Work Comp claim Wahoo Creek			
Wed	2/1	7:45 am 1:30 pm 5:30 pm	1:00 pm 3:30 pm 8:30 pm	10.25		Committee prep, Wahoo Creek Watershed, Water Committee Work Comp Audit			
Thurs	2/2	7:15 am 1:45 pm	12:45 pm 4:45 pm	8.50		Projects Committee, Operations Committee, Exec. Committee, Committee follow-up, Thomas Lakes lots,			
Fri	2/3	7:45 am 1:45 pm	12:45 pm 4:30 pm	7.75		Committee follow-up, Meet w/local Fire Districts, Survival Club, Pay Bills,			
Week #1 Totals				43.75	0		0	\$0.00	\$0.00

Supervisor _____ Manager *E. Gottschalk* Assistant Manager _____ Treasurer _____

Date _____ Date 2/16/23 Date _____ Date _____

I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT

E. Gottschalk _____ Date 2/16/23

Signature of person filing form Date

Expenses

Mileage x 0.655	\$ 0.00
Meals	\$0.00
Other Exp.	\$0.00
Total	\$ 0.00

Week #2

Lower Platte North NRD Time Sheet

Name Eric Gottschalk

Period Covered 2/4/23 to 2/10/23

You must enter "pm" for times after 12:59 or the form will not calculate correctly!

	Date	Start Time	Stop Time	Work Hours	Other Hours	Duties Performed	Miles	Meals	Other Exp.
Sat	2/4								
Sun	2/5	8:30 am 6:30 pm	9:15 am 7:00 pm	1.25		Access issues with Education building, went out to open and again to close			
Mon	2/6	7:30 am 2:00 pm	1:15 pm 3:30 pm	7.25		Leadership Team meeting, Personnel, Committee follow-up, bill payments, New Job descriptions, WOWT inquiry on dam 21A			
Tues	2/7	7:45 am 1:45 pm	1:00 pm 5:00 pm	8.50		Personnel, Wahoo Creek, Job descriptions updates,			
Wed	2/8	7:45 am 1:30 pm	12:30 pm 5:15 pm	8.50		Bills, NACD prep,			
Thurs	2/9	7:45 am 1:45 pm	11:45 am 5:15 pm	7.50		Great Plains Appraisal - Wahoo Creek, Personnel - GIS/Grants & NRD/NRCS technician positions, Bills, Board meeting prep			
Fri	2/10	7:45 am 12:45 pm 5:00 pm	11:30 am 4:30 pm 5:30 pm	8.00		Board Meeting prep, Wahoo Creek, Board Meeting, Board meeting follow-up			
Week #2 Totals				41	0		0	\$0.00	\$0.00
Totals Week #1				43.75	0		0	\$0.00	\$0.00
Two Week Totals				84.75	0		0	\$0.00	\$0.00

Annual Leave & Sick Leave

	Previous Balance	Earned This Pay Period	Used This Pay Period	New Balance
Annual Leave	240.00	8.00	0.00	248.00 248.00
Sick Leave	724.00 732	4.00	0.00	728.00 736

RESET FORM

This will delete ALL data on form, including name, AL/SL values and Program Areas labels.

#	Program Areas	Hours
11	Administration	30.00
14	District Management	35.00
15	Personnel	12.00
31	I&E Administration	
41	O&M Administration	
51	Projects Administration	3.00
61	Water Administration	
71	Rural Water Administration	
52	Conservation Program	
Holiday		
1	Annual Leave	0.00
2	Sick Leave	0.00
Other		

Total: 80

Week #1


Lower Platte North NRD Time Sheet

Name Eric Gottschalk

Period Covered 2/11/23 to 2/17/23

You must enter "pm" for times after 12:59 or the form will not calculate correctly!

	Date	Start Time	Stop Time	Work Hours	Other Hours	Duties Performed	Miles	Meals	Other Exp.
Sat	2/11				8.00	Travel to NACD - New Orleans	48		
Sun	2/12								
Mon	2/13				8.00	NACD			
Tues	2/14				8.00	NACD			
Wed	2/15				8.00	Return from NACD	48		
Thurs	2/16	7:30 am 1:30 pm	12:45 pm 4:45 pm	8.50		District management, Wanahoo recreation planning, catch-up paperwork, personnel			
Fri	2/17								
Week #1 Totals				8.5	32		96	\$0.00	\$0.00


Supervisor _____ Manager  Assistant Manager _____ Treasurer _____

Date _____ Date 2/28/23 Date _____ Date _____

Expenses

Mileage x 0.655	\$ 62.88
Meals	\$0.00
Other Exp.	\$0.00
Total	\$ 62.88

I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT


Signature of person filing form

2/28/23
Date

Week #2

Lower Platte North NRD Time Sheet

Name Eric Gottschalk

Period Covered 2/18/23 to 2/24/23

You must enter "pm" for times after 12:59 or the form will not calculate correctly!

	Date	Start Time	Stop Time	Work Hours	Other Hours	Duties Performed	Miles	Meals	Other Exp.
Sat	2/18								
Sun	2/19								
Mon	2/20				8.00				
Tues	2/21	8:00 am	5:00 pm	9.00		Mail, e-mail catch-up, Museum Wahoo Creek Presentation, Wahoo Creek planning,			
Wed	2/22	7:45 am 12:30 pm	12:00 pm 4:45 pm	8.50		District management, Wahoo Creek - NRCS meeting, Skull/Bone Creek landowners meeting,			
Thurs	2/23	7:30 am 12:45 pm	12:00 pm 4:45 pm	8.50		Wahoo Creek Funding Meeting - Lincoln w/ DNR & NRCS JEO design update meeting - Lincoln Meet with Chris - Grant and GIS info			
Fri	2/24	7:45 am 1:00 pm	12:00 pm 3:45 pm	7.00		District Management, Personnel, Chris' last day Exit interview			
Week #2 Totals				33	8		0	\$0.00	\$0.00
Totals Week #1				8.5	32		96	\$0.00	\$0.00
Two Week Totals				41.5	40		96	\$0.00	\$0.00

Annual Leave & Sick Leave

	Previous Balance	Earned This Pay Period	Used This Pay Period	New Balance
Annual Leave	240.00	8.00	0.00	248.00
Sick Leave	728.00	4.00	0.00	732.00

RESET FORM

This will delete ALL data on form, including name, AL/SL values and Program Areas labels.

#	Program Areas	Hours
11	Administration	29.50
14	District Management	31.50
15	Personnel	14.00
31	I&E Administration	
41	O&M Administration	
51	Projects Administration	5.00
61	Water Administration	
71	Rural Water Administration	
52	Conservation Program	
Holiday		
1	Annual Leave	
2	Sick Leave	
Other		

Total: 80

Lower Platte North Natural Resources District
 Accounts Receivable Aging Summary as of 1/31/23

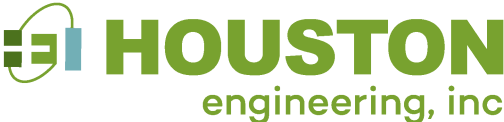
Accounts Receivable acct 105000

Customer	Invoice/Purpose	Current	0-30 Days	31-60 Days	61 and Over	Totals
Bruno/David City RW Customers	Multiple	3052.92	0.00	0.00	0.00	3,052.92
Colon RW Customers	Multiple	9355.16	0.00	0.00	0.00	9,355.16
Department of Natural Resources	FYRA - Wahoo Creek WS Plan/EA & WSF	0.00	0.00	0.00	9,155.50	9,155.50
	Olsson - Water Sustainability Fund	0.00	0.00	4,708.64	97,038.47	101,747.11
	Olsson - Wahoo Creek WS Plan - 3 Dam Sites	5,659.05	5,901.26	0.00	0.00	11,560.31
FEMA	FYRA - Lake Wanahoo Spilling Basin	9,643.63	3,531.00	2,966.16	237,699.57	253,840.36
	Valley Corp - Spilling Basin Rehab	0.00	0.00	0.00	1,261,963.55	1,261,963.55
	General Excavating - Wanahoo Spilling Basin Rehab	0.00	0.00	0.00	13,923.75	13,923.75
	ME Collins - Wanahoo Spilling Basin Rehab	246,196.21	85,097.59	0.00	0.00	331,293.80
	Rezac Seed - Spilling Basin Rehab	0.00	0.00	0.00	225.09	225.09
	Bobcat of Omaha - 428 Funds	0.00	0.00	0.00	25,953.05	25,953.05
	O&M - Ty's Outdoor Power	0.00	0.00	0.00	864.48	864.48
	TelePole Prunner - Ty's Outdoor Power	0.00	0.00	0.00	605.62	605.62
	Elway Power Sports of Lincoln	17,822.29	0.00	0.00	0.00	17,822.29
JEDI	Olsson - Wahoo Creek WS & 7 Dam Sites Phase II	4,407.20	1,141.33	420.49	49,337.57	55,306.59
	Olsson - Wahoo Creek WS - 3 Dam Sites	0.00	3,934.18	0.00	0.00	3,934.18
	Olsson - Wahoo Creek WS Planning - Prof Svc	3,772.70	0.00	3,139.10	768.78	7,680.58
JWMAB	Dodge Co - Fremont - PMRNRD	0.00	0.00	0.00	4,980.00	4,980.00
NDEE	Wahoo Creek 319 - Sabatka/K Sousek	0.00	0.00	0.00	5,499.00	5,499.00
NRCS WFPO	Olsson Assoc - Wahoo Creek WS & Dam Sites Phase II	38,410.35	38,986.87	37,374.91	398,690.15	513,462.28
NRD Employees	Flu Shot Reimbursement - Gottschalk/Oakland	0.00	35.00	0.00	0.00	35.00
USACE	Sand Creek/Wanahoo project close-out (detail below)	0.00	0.00	0.00	114,892.33	114,892.33
		338,319.51	138,627.23	48,609.30	2,221,596.91	2,747,152.95

NE Dept of Natural Resources and USACE - reclassified from long-term to current receivable as of 6/30/22, included in schedule above

Customer	Invoice	Current	0-30 Days	31-60 Days	61 and Over	Totals	
USACE (Sand Creek/Wanahoo)	008226-6/30/09				2,882,995.86		
	008367-11/30/09				220.61		
	008458-2/12/10				2,704.21		
	008594-6/30/10				52.33		
	008599-6/30/10				96,983.55		
	008601-6/30/10				679,317.44		
	008658-9/30/10				15,599.03		
	008659-9/30/10				1,072,522.57		
	008927-2/24/12				6,647.42		
	008928-2/24/12				159,389.53		
	009055-6/30/12				25,096.93		
	009067-7/31/12				49.73		
	009070-8/31/12				2,177.50		
	009078-9/30/12				352,072.83		
	009098-10/31/12				202,769.01		
	009297-12/31/13				48.75		
	009368-4/30/14				41,115.11		
	5/31/20 - Sand Creek Project Adjustment				(620,046.54)		
	1/21/21 - Deposit US Treasury - Wanahoo COE A/R				(747.30)		
	2/28/21 - To close out Long Term A/P				(4,694,072.08)		
	2/28/21 - Adjust to Final Refund Due Amount				(110,004.16)		
		Totals	0.00	0.00	0.00	114,892.33	114,892.33

INVOICE



Remit to:
 1401 21st Ave N, Fargo, ND 58102
 Phone: 701.237.5065
 Fed Tax ID: 45-0314557
 Interest of 1%/month applied to past due invoices

Lower Platte North NRD
 511 Commercial Park Road
 Wahoo, NE 68066

Invoice Number: 63892
 Date: March 01, 2023
 Project Number: 022-22-01
 P.O. Number: x

Lower Platte North NRD Wahahoo Apron Overlay

For Professional Services Rendered Through: February 25, 2023

Task 1 Project Management			
	Hours	Rate	Billed
Project Engineer Miller, Ethan D.	.50	170.00	\$85.00
Phase subtotal			\$85.00

Task 3 Final Design			
	Hours	Rate	Billed
Engineer 12 McLaughlin, Jeremy L.	1.00	235.00	\$235.00
Phase subtotal			\$235.00

Task 6 Construction Phase			
	Hours	Rate	Billed
Engineer 12 McLaughlin, Jeremy L.	.50	235.00	\$117.50
Engineer 6 Keller, Wesley J.	.50	176.00	\$88.00
Engineer Intern Suing, Eric R.	140.50	143.00	\$20,091.50
Principal Engineer Sotak, Michael K.	28.75	255.00	\$7,331.25
Project Engineer Kelley, Connor J.	2.00	170.00	\$340.00
Miller, Ethan D.	42.75	170.00	\$7,267.50

Make all checks payable to:
 Houston Engineering, Inc.
 1401 21st Ave N
 Fargo, ND 58102

PROJECT EXPENSES	
	Billed
Personal Vehicle Mileage	\$225.19
Unit - Company Car Mileage (OMA)	\$52.40
Unit - Company Truck Mileage (OMA)	\$833.69
Phase subtotal	\$36,347.03

Invoice Total \$36,667.03

Make all checks payable to:
Houston Engineering, Inc.
1401 21st Ave N
Fargo, ND 58102

Invoice Summary

Description	Contracted Fee	Previously Billed	This Invoice	Total To Date	% Complete
Task 1 Project Management	\$11,600.00	\$6,707.50	\$85.00	\$6,792.50	58.56%
Task 2 Site Testing/Investigation	\$6,740.00	\$4,404.56	\$0.00	\$4,404.56	65.35%
Task 3 Final Design	\$53,370.00	\$51,048.50	\$235.00	\$51,283.50	96.09%
Task 4 Permitting	\$5,240.00	\$0.00	\$0.00	\$0.00	0.00%
Task 5 Bid Phase	\$8,720.00	\$8,501.63	\$0.00	\$8,501.63	97.50%
Task 6 Construction Phase	\$78,770.00	\$18,174.25	\$36,347.03	\$54,521.28	69.22%
Total	\$164,440.00	\$88,836.44	\$36,667.03	\$125,503.47	76.32%

Aging Summary

Invoice	Date	0 - 30	31 - 60	61-90	Over 90	Balance
Total						

Make all checks payable to:
 Houston Engineering, Inc.
 1401 21st Ave N
 Fargo, ND 58102

The LPNNRD found that the proposed IPA Area at North Bend, NE, "does not fulfill the requirements of a feasible project as it does not satisfy the boundary limit criteria of the affected lands, it does not meet the propriety questions of the petition based on operation and maintenance aspects; and comments of economic and social aspects of the proposed area exhibit a lack of public support of the project sufficient to see it to completion. As such, the board finds that the proposed North Bend IPA does not use lands, it does not meet the propriety questions of the petition based on operation and maintenance aspects; and comments of economic and social aspects of the proposed area exhibit a lack of public support of the project sufficient to see it to completion. As such, the board finds that the proposed North Bend IPA does not sufficiently meet the IPA criteria and as a result, does hereby suspend the proposed project."

Rock & Jetty Program -Levee Assistance on Private Property (7/10/95)

Rock & Jetty Policy states that levees on private property are not eligible for assistance unless the project has considerable public benefit (i.e., roads, bridges) and the project is sponsored by the County.

Western Sarpy/Clear Creek Levee Project:

Clear Creek Fuse Plug Project Designated Field Observer (1/9/17)

McDermott made the motion, seconded by Seier, to approve John Starnes as a field observer on the “Clear Creek Levee Fuse Plug-Emergency Operation Chain of Command” and in the absence of any of the Primary Contacts authorize him to make decisions on activating the contractor, opening and closing the Fuse Plug Notch and mechanical assistance in removal of the Fuse Plug. Motion carried all members present voting aye.

Western Sarpy/Clear Creek Levee Interlocal Agreement Approval (5/14/01)

The Board approved entering into an interlocal agreement (with PMRNRD & LPSNRD) to fund the Western Sarpy/Clear Creek Project (35% of local share).

Western Sarpy/Clear Creek Levee - Clear Creek Dike & Drainage Interlocal Agreement Approval (8/13/07)

Kavan made the motion, seconded by Pieke, to approve and authorize the Manager to sign the interlocal agreement with the Clear Creek Dike and Drainage District to rebuild nine miles of existing levee as part of the Western Sarpy/Clear Creek Project. Motion carried all members present voting aye.

Western Sarpy/Clear Creek Levee – Surplus Project Lots (10/11/10)

Veskerna made the motion, seconded by Taylor, to lease our five and one-half surplus lots to the Thomas Lakes Homeowners Association for \$20 per lot, per year until the lots are sold with all operation and maintenance of the lots being preformed by the Association. It was further recommended that the lease fee be waived though 2011 in exchange for the Association agreeing to clean and care for the properties. Motion carried all members present voting aye.

**Memorandum of Understanding
Between
Lower Platte North Natural Resources District (LPNNRD)
Thomas Lakes Homeowners Association (Association)**

Whereas:

- LPNNRD owns Lots: 41,42,43,44 and 49 (2011 re-plat includes 49 and ½ of 50) in the Thomas Lakes Subdivision which were acquired as part of the Western Sarpy/Clear Creek Levee Project.
- Upon completion of said project LPNNRD will declare above lots surplus and sell at public auction.
- Until the time of sale operation and maintenance on said lots is needed

Therefore:

- LPNNRD will lease the above lots to the Thomas Lakes Homeowners Association.
- The price of the lease is \$100 per year and the Association will operate and maintain said lots which includes;
 - All mowing of grass, weed and brush
 - Removal of dead trees and debris
 - Police lots to prevent dumping and unauthorized parking of vehicles, boats and trailers
 - Inform LPNNRD if damage to lots occurs or landowner attention is needed
 - Maintain lots in orderly fashion so they do not become a community eye sore
- The yearly lease payment is due in January for each year.
- The 2011 lease payment is waived in leu of maintenance work the Association has preformed.
- The Association may use the lots at their pleasure as authorized by the Association Board which may include, but not limited to;
 - Access to the Platte River
 - Picnicking, recreation and related activities and equipment
 - Parking of vehicles, boats and trailers
- The Association will inform LPNNRD of activities they have approved for the lots.
- The Association may not excavate or remove any soil from the lots.
- The Association may not construct any permanent structures on the lots without written permission from LPNNRD.
- Both LPNNRD and the Association will designate a contact person. Any changes to the contact person will be forwarded to the other party.

Length of MOU

- Either party may terminate this agreement at any time.
- The agreement will terminate when LPNNRD sells the lots
 - The WS/CC Project is expected to continue until at least 2014

Lower Platte North NRD

Thomas Lakes Homeowners Association

Mike Murren *General Manager* *3/18/11*
Authorized Signature Title Date

Tom Townsend *President* *4-28-11*
Authorized Signature Title Date

Mike Murren 402-443-4675
Contact Person Phone Number

Tom Townsend 402-319-4565
Contact Person Phone Number

**Lower Platte North NRD
Director Retreat
Schneider Building – 935 Schneider St. Fremont, NE
March 9, 2023**

9:00 a.m. Welcome – Eric

9:05 a.m. Wahoo Creek Watershed Update – Ryan, Sean, Eric

9:35 a.m. Wanahoo Stilling Basin Repairs History/Update – Bob Heimann

10:00 a.m. Dodge County/East Fremont – Tom Smith, Ryan, Sean

10:45 a.m. GDFC, Port Authority Update – Megan Stiles

11:15 a.m. Water Dept Nitrate/Phase IV? – Daryl, Russell, Tyler, Noah

12:00 p.m. Lunch

1:00 p.m. 2023 Wanahoo Improvements – Bret, Eric

1:30 p.m. Water Dept. Drought Triggers/Variations – Daryl, Russell, Bret

2:15 p.m. New Office Funding – Eric

2:45 p.m. Adjourn – Reception – Thompson Construction

2404 N Lincoln Ave, Fremont, NE 68025

Rediscover the Outdoors

2023 Lake Wanahoo

NRD Recreation Area Permits are now available! Stop by the office in Wahoo or order online at lpnnrd.org



LOWER PLATTE NORTH
Natural Resources District

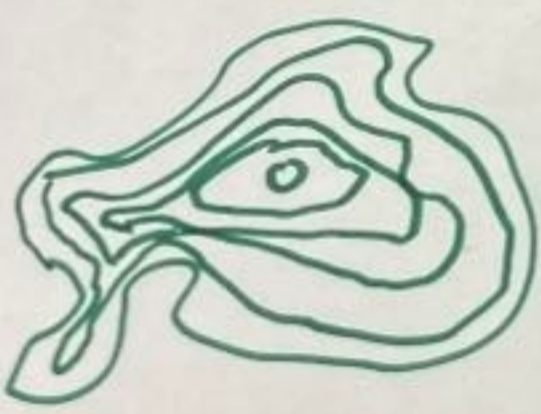
Map a mountain

Name: Jesse

A topographic map is a flat map of a 3-D Model that uses contour lines to show elevational changes.



In the box below, draw a topographic map with at least 3 different elevational changes. When you are finished, use the clay to create the 3-D model of the map you drew.



Be sure to label your map!





Nectary

Perianth

Pedicel





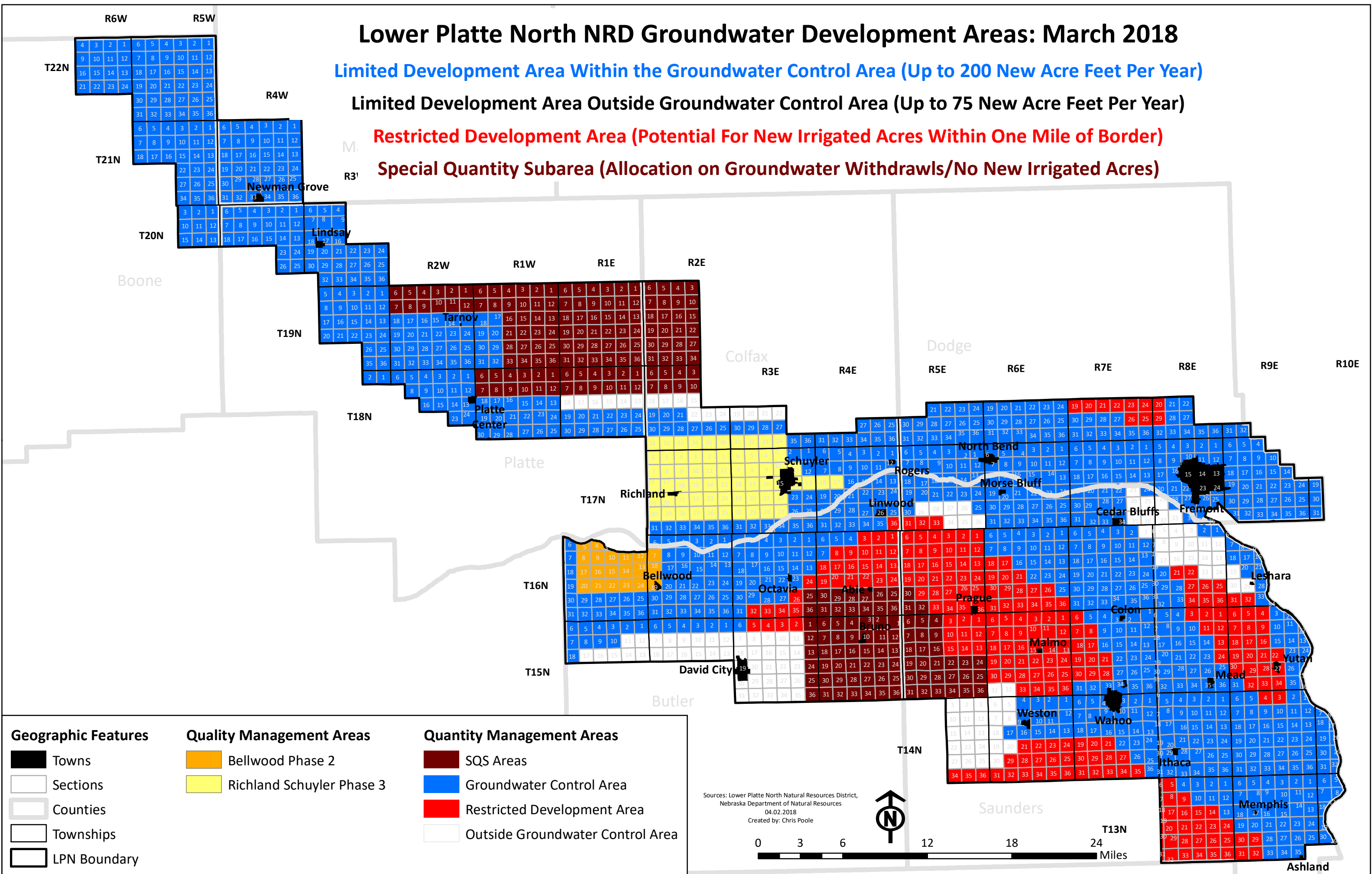
Lower Platte North NRD Groundwater Development Areas: March 2018

Limited Development Area Within the Groundwater Control Area (Up to 200 New Acre Feet Per Year)

Limited Development Area Outside Groundwater Control Area (Up to 75 New Acre Feet Per Year)

Restricted Development Area (Potential For New Irrigated Acres Within One Mile of Border)

Special Quantity Subarea (Allocation on Groundwater Withdrawals/No New Irrigated Acres)



Sources: Lower Platte North Natural Resources District,
Nebraska Department of Natural Resources
04.02.2018
Created by: Chris Poole



LOWER PLATTE NORTH Natural Resources District

PO Box 126 511 Commercial Park Road Wahoo, NE 68066
Phone 402.443.4675 Fax 402.443.5339
lpnnrd@lpnnrd.org www.lpnnrd.org

January 5, 2023

Name

Address.

City, State, Zip

Nitrogen Certification Number _____ Expiration Date _____

RE: Failure to obtain LPN Nitrogen/Irrigation Certification
Possible Cease and Desist from Irrigating and Purchasing Nitrogen Fertilizer

Producer Name:

You are receiving another letter because by Lower Platte North Natural Resources District (LPNNRD) records you have allowed your Nitrogen/Irrigation Certification Card to lapse, that is required by LPNNRD Groundwater Rules and Regulation. It is our understanding that you are either an owner or operator of tillable land within Lower Platte North District and in the past have attended a class or completed the requirement online at the LPNNRD website.

Show below describes the requirement from the LPNNRD Groundwater Rules and Regulations established in 1997.

Rule 2 Natural Resources District Certification

All operators in Phase One areas within the LPNNRD District, who use any type of fertilizer, either commercial or organic, are required to obtain a NRD certification once every 4 years by attending a NRD education classes or by passing a take home test designed by LPNNRD or another applicable agency such as another NRD. Certification will be consistent with the LPNNRD District's chemigation program and applicable to the State FIFRA program.

Rule 3 Natural Resources District Operator Certification

The LPNNRD District will be designated a Level One Quantity Area and operators of irrigation, municipal, and industrial well systems are required to obtain and maintain NRD certification by attending NRD education classes or by passing a take home test designed by LPNNRD and in agreement with inputs from other applicable agencies once every four (4) years.

Hearing information on back

protecting lives

protecting property

protecting the future

printed on recycled paper and is recyclable



Hearings will begin at 5:00 pm on March 28, 2023, at the Lower Platte North NRD office in Wahoo, NE. If you can meet this requirement 48 hours prior to the hearing, then you must contact staff at the Lower Platte North NRD office. You can contact the office staff at 402-443-4675 for obtaining the necessary information. If class attendance or other options are completed, then a hearing will not be necessary and a cease and desist will not be issued. If requirement is not met, then a cease and desist will be issued and it will prohibit the use of fertilizer and irrigation. Pursuant to state statute, you have ten (10) days to issue a written request for a Hearing before the District wherein you can present evidence as to why an Order to Cease and Desist should not be issued.

Options to meet this requirement before March 24, 2023:

- Attend Nitrogen/Irrigation Certification Class
 - Class Schedule Enclosed for January – March 2023
- Online LPN Certification Test
 - <https://lpnnrd.org/nitrogen-certification-water-conservation-classes/>
- LPN Take Home Test
 - Request a test from LPNNRD Staff at 402-443-4675

These classes are intended to open lines of communication with NRD and UNL staff, to discuss issues arising within the NRD and get up-to-date information on nitrogen and irrigation management. Every year these classes give producers updated information and educate producers on best management practices. The current year water levels are always important and especially with the current drought. Articles lately have talked about nitrates and health issues, so keeping current on what the NRD is doing, is important. The LPNNRD had the foresight the need to require these classes in 1997, as water quality and quantity is always a concern for everyone.

If you are no longer an operator within LPNNRD and feel this does not apply to you, it is your responsibility to contact staff at the NRD office. If you have any questions, please contact staff at LPNNRD at (402)443-4675.

Sincerely,

Eric Gottschalk
LPNNRD General Manager

Daryl Andersen
Water Resources Manager

Enclosure: Nitrogen/Irrigation Certification Class Schedule

Hearing information on back



Proposal for NRD

REGENERATIVE AG CONFERENCE

- **Who:** hosted by Upper Big Blue, Little Blue, Lower Big Blue, Lower Platte South, and Lower Platte North NRDs, in collaboration with Keith Berns/Green Cover Seed (and possible sponsors).
Projected turnout: 300.
- **What:** A full day event for producers and crop consultants to learn about regenerative ag practices (cover crops, crop rotation, no-till, etc) and available funding opportunities
- **Where:** TBD
- **When:** January or February 2024
- **Why:** Education and outreach, opportunity to meet with producers regarding conservation practices/programs

Speakers to be selected by Keith Berns with final agenda approval by the organizing sponsors

Event to be organized & promoted by cooperating NRDs

Sponsors sought to offset cost

"THE NATION THAT DESTROYS ITS SOIL DESTROYS ITSELF."

Franklin D Roosevelt
32nd President



PWG SUPPORT PLAN, OPTIONS, and PRICING – April 1, 2023 through March 31, 2024 LPNNRD

Overview & Purpose

Once a solution has been moved into Production, PWG typically offers a set of options for transitioning the relationships from active development to supporting the application and providing expert advice.

This document defines the terms we use when describing these agreements and presents three plan options made up of these terms.

	Platinum	Gold	Silver	No Plan
Annual Price	\$8,000	\$4,500	\$2,500	--
Call/Email (No Charge)	✓	✓	✓	✓
Periodic Server Maintenance	Monthly	Monthly	Quarterly	--
Maximum Initial Response Time	1 hour	4 hours	6 hours	2 days
Incidents Hours Per Month	15	5	3	0
Additional Incident Price per hour	\$100	\$150	\$165	\$250
Bug Fixes Included	✓	✓	✓	Not included

Agreement Terms

Annual Price

The annual cost is defined for each tier. The support contract will begin the 1st of the month following receipt of payment.

Call / Email (No Charge)

You won't be charged for a phone call unless you specifically request that we help diagnose a production issue, and are out of incidents. Support calls and emails will be addressed during business hours, Monday through Friday, 8:30am – 4:30 pm Central Time. Support calls and emails must be addressed to the following:

PHONE: (402) 786-5111

EMAIL: support@phoenixwebgroup.com

Maximum Initial Response Time

Upon receiving a request to help diagnose a production issue, this is the maximum amount of time that will pass before we make an initial review of the situation and inform you of preliminary findings OR notify you that a full diagnosis will require additional time. If a request is made after business hours, it will be addressed the following business day within the given time frame included in the plan.

Periodic Server Maintenance

PWG will monitor server performance continuously with automated tools. Once a month, the server will be logged into, reviewed, and software updates will be installed as necessary.

Incident Hours per month; Additional Incident Price Per Hours

Incidents per month indicate the number of requests for production issues included in the plan. Requests over this limit will be priced per incident.

A support incident is defined as an isolated support/help issue and the reasonable effort needed to address it.

If a reported issue can be broken down into subordinate issues, each subordinate issue shall be considered a separate incident.

New additions, new features, or changes to the original, contracted product(s) or corrections to erroneous supplied data are NOT considered incidents.

Bug Fixes Included

An Incident that results in the discovery of a new software bug, as confirmed by PWG, will be covered by the price of the diagnostic call. This covers code-based issues only and does not include extensions of functionality, code modifications, or issues caused by incorrectly entered data.

Quote Terms

This quote will expire on April 1, 2023.

Notes

In order to maintain your current support plan and/or upgrade your support plan, payment is due on or before March 31, 2023.

The customer is responsible for paying applicable taxes in addition to the prices above.

Support Plan Options. Please selected one of the following plans:

(Please initial your plan choice)

_____Platinum

_____Gold

_____Silver

_____No Support Plan at this time

Signature: _____

Title: _____

Date: _____

PWG Signature: _____

Title: _____

Date: _____

LOWER PLATTE RIVER BASIN SUB-REGIONAL GROUNDWATER MODELING INTERLOCAL COOPERATION AGREEMENT

This Lower Platte River Basin Sub-Regional Groundwater Modeling Interlocal Cooperation Agreement (“Agreement”) is entered into by and between the Nebraska Department of Natural Resources (“Department”); Lower Platte South Natural Resources District (“LPSNRD”); Lower Platte North Natural Resources District (“LPNNRD”); and Papio-Missouri River Natural Resources District (“PMRNRD”); all of which are an agency or political subdivisions of the State of Nebraska, each sometimes hereinafter individually referred to as “Party” or collectively referred to as “Parties.” The natural resources districts are sometimes collectively referred to as “NRDs.”

WHEREAS, the Parties desire to work together, under the Interlocal Cooperation Act (“Act”), Neb. Rev. Stat. §§ 13-801 to 13-827, to make the most efficient use of their respective authorities and other powers by enabling them to cooperate with one another on a basis of mutual advantage and thereby to provide services and facilities in a manner and pursuant to forms of governmental organization that will accord best with geographic, economic, population, and other factors influencing the needs and development of each Party; and

WHEREAS, the Parties desire to form a joint agreement under Neb. Rev. Stat. § 13-807 authorized by the governing body of each Party to the agreement, and which shall set forth fully as provided in the Act the purposes, powers, rights, objectives, and responsibilities of the contracting parties; and

WHEREAS, the Department has certain statutory authorities and responsibilities pertaining to the surface water of the State, and also authorities and responsibilities granted under the Nebraska Ground Water Management and Protection Act (“GWMPA”), Neb. Rev. Stat. §§ 46-701 to 46-754 for integrated management of hydrologically connected ground water and surface water; and

WHEREAS, the NRDs are organized pursuant to Neb. Rev. Stat. §§ 2-3201 et seq. and have certain statutory authorities and responsibilities, particularly pertaining to the ground water in their respective districts of the State, and also authorities and responsibilities granted by the GWMPA for integrated management of hydrologically connected ground water and surface water; and

WHEREAS, the Lower Platte River Basin (“Basin”) is geographically large and diverse in its geology, land use, ground and surface water supplies, and water uses. Each of the Parties are charged with responsibilities for planning and managing water resources. In furtherance of those responsibilities, each of the Parties has an interest in the development of a baseline sub-regional groundwater flow model of the combined area of the Basin that will help establish groundwater and surface water management criteria for NDNR, the Lower Platte River Basin-wide Plan and each NRD’s Integrated Management Plan; and

WHEREAS, the Department developed the Lower Platte Missouri Tributaries Model in 2018. The existing model is not based on Airborne Electromagnetic (“AEM”) data which has recently been obtained by the NRDs over the last few years; and

WHEREAS, the Parties desire to enter into a new Agreement to contribute financially, provide the necessary data, technical support, and administer contracts necessary to develop the baseline sub-regional groundwater flow model of the Basin.

NOW, THEREFORE, in consideration of the mutual covenants and promises of the Parties, it is agreed by and among the Parties hereto as follows:

1. PARTIES:

1.01 All Parties to this Agreement are public agencies within the meaning of Neb. Rev. Stat. §13-803(2).

2. AUTHORITY:

2.01 Neb. Rev. Stat. § 13-807 authorizes any two (2) or more public entities to enter into agreements with one another to perform any governmental service, activity, or undertaking, which at least one (1) of the public agencies entering into the agreement is authorized by law to perform.

2.02 The Parties enter into this Agreement pursuant to the authority conferred on each of them under the Act.

2.03 No part of this Agreement shall be interpreted as relieving the Department of any obligation or responsibility it may have to regulate water use or to compel compliance with any laws, regulations, interstate compacts or interstate agreements or as a delegation of its responsibilities and obligations to the Parties of this Agreement. No part of this Agreement may be or shall be interpreted as relieving the NRDs of any obligation or responsibility it may have to regulate water use or to compel compliance with any laws, regulations, interstate compacts or interstate agreements or as a delegation of its responsibilities and obligations to the Parties of this Agreement.

3. COLLECTIVE:

3.01 The Parties hereby create the Lower Platte River Groundwater Modeling Collective (“Collective”). The Collective shall be created immediately upon the execution of this Agreement by all Parties. The Collective shall be governed by the terms of this Agreement and applicable law. The Collective shall carry out the purposes as set forth in Section 5 of this Agreement. The Collective shall not be considered a joint entity separate and distinct from the respective Parties to this Agreement, but rather a collaborative working arrangement of the Parties.

4. DURATION:

4.01 The duration of this Agreement shall be for a period from the execution date of this Agreement by the last Party to December 31, 2025. This Agreement may be extended

for successive one (1) year terms by the mutual written agreement of all Parties hereto.

5. PURPOSES:

5.01 The purposes of this Agreement pursuant to Neb. Rev. Stat. § 13-804 (3)(c) are: (1) to form a Collective to financially support, provide the necessary data, technical support, and administer contracts necessary to develop the baseline sub-regional groundwater flow model of the Basin.

5.02 This Agreement shall provide the organizational and administrative structure and enumeration of the powers, privileges, and authority of the Collective and the financial cooperative effort necessary to carry out the purposes in Subsection 5.01 of this Agreement. The powers, privileges, and authorities of the Collective shall not be used in a manner that is in violation of any of the Parties' public purposes.

6. MANNER OF FINANCING AND OF ESTABLISHING AND MAINTAINING A BUDGET:

6.01 The manner of financing and expenditure accounting of the Collective pursuant Neb. Rev. Stat. §13-804(3)(d) shall be as follows:

6.01.1 The Collective will be financed by the Parties and a contribution from the Nebraska Natural Resources Commission through a grant from the Water Sustainability Fund ("WSF") as follows:

Department:	\$188,500.00
WSF:	\$282,900.00
LPSNRD:	\$62,866.67 (\$20,956 to be paid annually for three years)
LPNNRD:	\$62,866.67 (\$20,956 to be paid annually for three years)
PMRNRD:	\$62,866.67 (\$20,956 to be paid annually for three years)

There are no other financial obligations of the Parties except those set forth above, unless otherwise consented to by the Parties.

6.01.2 The Collective shall have the authority to authorize applications for financial grants, to include use of Collective funds and in-kind services for match. Such applications shall be made by the Administrator on behalf of the Collective.

6.01.3 No bonds will be issued and no taxes will be levied or collected jointly by the Parties. Individual Parties may contribute funds derived from tax levies or bonds but these shall not be considered a tax levy or bond issuance by the Collective.

6.02 The manner of establishing and maintaining a budget pursuant to Neb. Rev. Stat. §13-804(3)(d) shall be as follows:

6.02.1 The Administrator as designated in Subsection 7.01.6 of this Agreement shall

prepare, establish, adopt, and maintain a budget of revenues and expenditures annually for each fiscal year. Such annual budget shall be adopted by formal resolution on or before April 15th of each year for the upcoming fiscal year by the Board of the Collective. The fiscal year will be July 1 through June 30 of the succeeding year.

6.02.2 Upon completion of each annual budget, the Administrator will determine whether any payments need to be made by each Party for such fiscal year.

6.02.2.1 Each payment obligation of a Party is subject to the availability of government funds which are appropriated or allocated for the payment of the obligations incurred by signing this Agreement. If funds are not apportioned or appropriated and available for the continuance of the obligations incurred, the Agreement may be terminated at the end of the period for which funds are available. A Party shall notify the other Parties at the earliest possible time of the obligations which will or may be affected by a shortage of funds. No penalty shall accrue to any Party if this provision is exercised.

7. ADMINISTRATION:

7.01 The Collective shall be composed of one (1) representative from each of the Parties.

7.01.1 Each representative on the Collective shall be entitled to one (1) vote by either the representative or alternate for each Party.

7.01.2 All decisions shall be made by unanimous consensus of the Collective Parties.

7.01.3 A quorum, which shall be the presence of a representative or alternate representative of each Party shall be required to transact any official discussions or business.

7.01.4 All meetings of the Collective shall follow the requirements of the Open Meetings Act.

7.01.5 Meetings of the Collective shall occur when the Collective Chair determines a meeting is necessary and schedules such meeting after input from the Collective's representatives. The Collective shall meet, at least, once a year.

7.01.6 The PMRNRD shall serve as the Administrator as required under Neb. Rev. Stat. § 13-804(4)(a). As Administrator, its responsibilities include: serving as the financial administrator, which includes collecting and holding the contributions from the Parties and other revenues, making the disbursements for expenses related to the Collective activities, and as grant applicant and administrator; serving as contracting member on behalf of the Collective and serving as day-to-day administration for the Collective, including information

dissemination to members and the general public, scheduling and organization of meetings, record-keeping, and coordination of Collective activities. The PMRNRD Representative shall serve as Chair for the Collective and as Collective Chair, shall preside at all Collective meetings and shall develop agendas for each meeting.

7.02 The Collective shall have such powers, privileges, and authority as authorized by the Parties, and as necessary to achieve the purposes of the Collective as set forth in this Agreement. Such powers, privileges, and authority shall include but not be limited to the following.

7.02.1 Schedule and conduct meetings to transact business.

7.02.2 Hold public meetings.

7.02.3 Enter into contracts and agreements with other public agencies and private sector vendors.

7.02.4 Undertake studies, investigations, or surveys and do research as may be necessary, and publish and disseminate the results.

7.02.5 Access private land, which will be coordinated with the landowner.

7.02.6 Procure and contract with legal and other professional services.

7.03 Any Party may withdraw from this Agreement and from representation on the Collective upon written notification to the Collective Chair. Such withdrawal shall be effective upon receipt of the written notification. There will be no financial reimbursement of remitted funds unless specifically authorized by the Collective.

7.04 New members can be added to the Collective with a vote of the Collective. Eligible entities shall be limited to political subdivisions or agencies of the State of Nebraska.

8. PROPERTY:

8.01 The manner of acquiring, holding, and disposing of real and personal property pursuant to Neb. Rev. Stat. § 13-804 (4)(b) is as follows.

8.01.1 In the event it becomes necessary for the Collective to purchase any property, either real or personal, the Collective will vote to determine how the property will be disposed of.

9. TERMINATION:

9.01 The permissible method or methods to be employed in accomplishing the complete or partial termination of this Agreement under Neb. Rev. Stat. §13-804(3)(e) shall be as follows.

9.01.1 This Agreement and the Collective created hereby shall be terminated upon the earlier of the completion of its purposes and objectives described herein or upon unanimous vote for the complete or partial termination of the Collective and this Agreement. Upon action to terminate the Collective, all outstanding debts and obligations of the Collective shall be paid and all unused funds and appropriations shall be returned to the remaining Parties in such proportions as represented by the pro rata share paid by each Party.

10. MISCELLANEOUS PROVISIONS:

10.01 All of the Parties' books, records, and documents relating to work performed or monies received or spent under this Agreement shall be subject to audit at any reasonable time after reasonable notice by the NRDs, Department, and the State Auditor or as required by any grant agreements, donations or other source of funds. The Administrator shall maintain all of such records throughout the existence of this Agreement and for a period of ten (10) full years from the date of termination of the Agreement, or until all issues related to an audit, litigation or other action are resolved, whichever is longer. All records shall be maintained in accordance with generally accepted accounting principles and record retention as required by the Secretary of State, Records Management Division.

10.02 Any governing body as defined in Neb. Rev. Stat. § 13-503 which is a Party to this Agreement shall provide information to the Auditor of Public Accounts regarding this Agreement as required in Neb. Rev. Stat. § 13-513.

10.03 No Party may assign its contractual rights or obligations under this Agreement without the prior written consent of all other Parties to this Agreement.

10.04 Each Party shall have taken, prior to the execution of this Agreement by such Party, appropriate action by ordinance, resolution, or otherwise pursuant to the law of the governing body of such Party so that this Agreement may enter into force consistent with the provisions of Neb. Rev. Stat. § 13-804(2).

10.05 This Agreement may be amended in a writing duly executed all of the Parties.

10.06 This Agreement contains the entire agreement of the Parties with respect to the Basin groundwater modeling. All prior and contemporaneous negotiations, discussions, memorandums of understanding and other writings are merged and incorporated herein, it being the intention of the Parties that this Agreement is a final and full expression of their agreement. No representations were made or relied

upon by any Party other than those expressly set forth herein.

10.07 This Agreement is governed by the laws of the State of Nebraska.

10.08 This Agreement becomes effective upon execution by all Parties.

10.09 This Agreement may be executed in any number of counterparts, each of which shall be an original, but all such counterparts shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have signed and executed this Agreement on the dates shown next to their respective signatures:

NEBRASKA DEPARTMENT OF NATURAL RESOURCES

BY: _____

DATE: _____

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

BY: Frank Jollard

DATE: 11-14-2022

PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

BY: [Signature]

DATE: 10-18-22



Invoice

3239 Monier Cir, Suite 3,
 Rancho Cordova, CA 95742
 e-mail: salesUSA@metos.at
 Phone: 559-753-0490

Date	Invoice #
2/28/2023	2746

Bill To
Lower Platte North NRD Daryl Anderson 511 Commercial Park Rd, Wahoo, NE 68066 402-443-4675

Ship To
Lower Platte North NRD Daryl Anderson 511 Commercial Park Rd, Wahoo, NE 68066 402-443-4675

S.O. No.	P.O. No.	Terms	Project
1460		Net 30	

Item	Description	Order...	Prev. Inv...	Backor...	Invoiced	U/M	Rate	Amount
SIM3	Cell service for 2023 LTE/Cat1/10MB/Verizon/connectivity for 12 months 0120A06B 0120A062 0120A7AF 0120A05F 0120A7A3 0120A797 0120A065 0120A06D 0120A057 0120A06A 01209A45 0120A083 0120A7A5 0120A084 0120A7B1 01209AB3 0120A07B 0120A088 0120A071 0120A060 0120A08C 0120A796 0120A070 01209A4E 0120A06F 0120A080 0120A7BB				77		70.00	5,390.00

Total					
Payments/Credits					
Balance Due					



Invoice

3239 Monier Cir, Suite 3,
 Rancho Cordova, CA 95742
 e-mail: salesUSA@metos.at
 Phone: 559-753-0490

Date	Invoice #
2/28/2023	2746

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S.O. No.	P.O. No.	Terms	Project
1460		Net 30	

Item	Description	Order...	Prev. Inv...	Backor...	Invoiced	U/M	Rate	Amount
	01209A61							
	0120A064							
	0120A077							
	0120A082							
	0120A068							
	0120A7C3							
	0120A66B							
	0120A7C4							
	0120A7A7							
	0120A7A9							
	0120A674							
	0120A7B5							
	0120A7B6							
	0120A79C							
	0120A7B2							
	0120A08F							
	0120A7BE							
	0120A799							
	0120A79D							
	0120A7BF							
	0120A7AD							
	0120A7AE							
	0120A08A							
	0120A7BA							
	0120A66D							
	0120A6B3							
	0120A7AC							
	0120A7C2							
	0120A7B0							
	0120A7C0							

Total				
Payments/Credits				
Balance Due				



Invoice

3239 Monier Cir, Suite 3,
 Rancho Cordova, CA 95742
 e-mail: salesUSA@metos.at
 Phone: 559-753-0490

Date	Invoice #
2/28/2023	2746

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Lower Platte North NRD Daryl Anderson 511 Commercial Park Rd, Wahoo, NE 68066 402-443-4675

Ship To
Lower Platte North NRD Daryl Anderson 511 Commercial Park Rd, Wahoo, NE 68066 402-443-4675

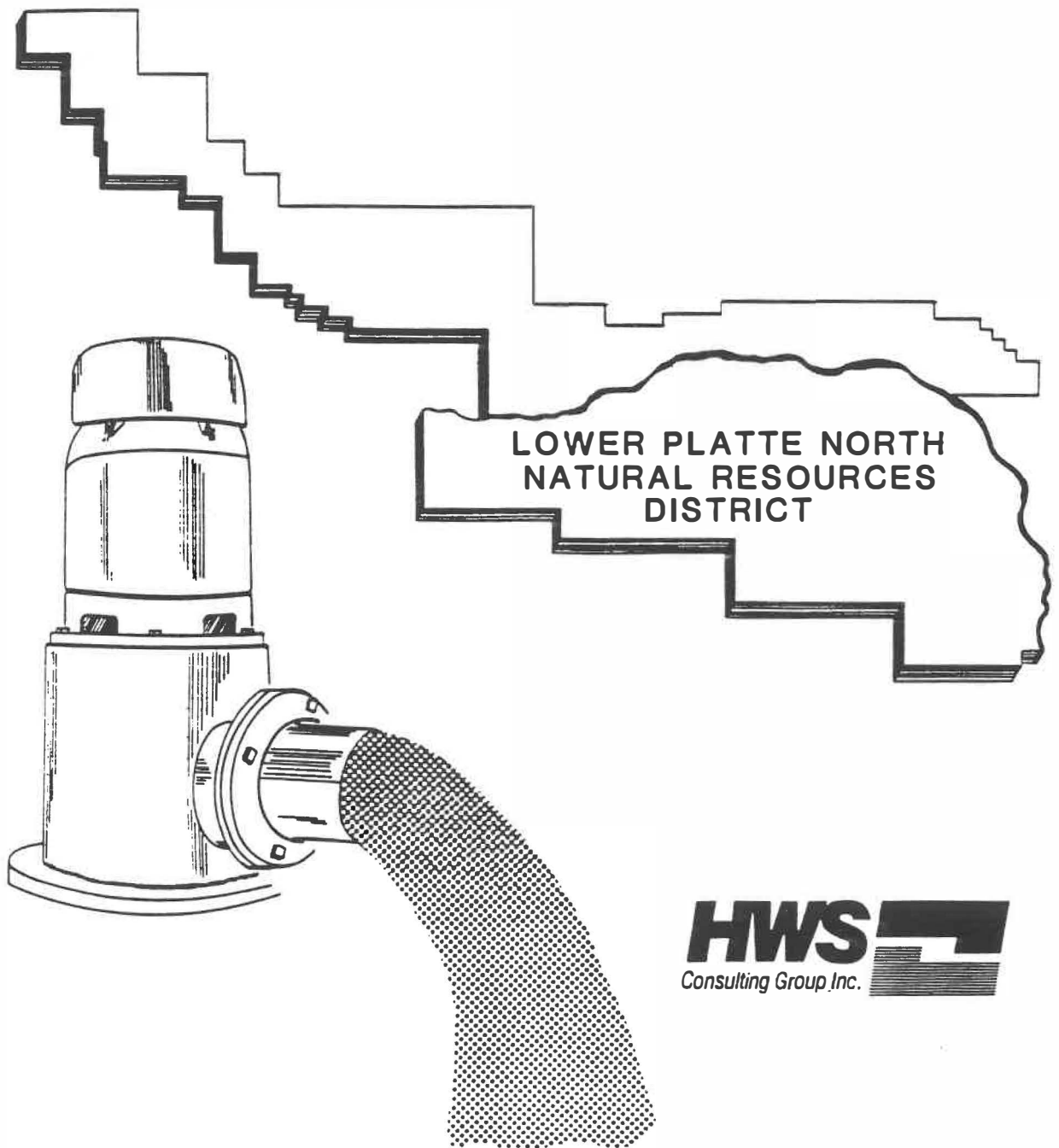
S.O. No.	P.O. No.	Terms	Project
1460		Net 30	

Item	Description	Order...	Prev. Inv...	Backor...	Invoiced	U/M	Rate	Amount
	0120A7A0							
	0120A68E							
	0120A79B							
	01209C40							
	0120A7C1							
	0120A676							
	01209AB6							
	0120A7BD							
	0120A6B7							
	0120A08B							
	0120A7AA							
	0120A7BC							
	0120A7A1							
	0120A6BB							
	00209A31							
	00209A2E							
	00209A37							
	0020A630							
	00209F34							
	0020A64D							
	Sales Tax						7.00%	0.00

Total						\$5,390.00		
Payments/Credits						\$0.00		
Balance Due						\$5,390.00		

GROUNDWATER MANAGEMENT PLAN

REVISED 1995



HWS
Consulting Group Inc.



LOWER PLATTE NORTH

NATURAL RESOURCES DISTRICT

P.O. BOX 126, COMMERCIAL PARK ROAD, WAHOO, NEBRASKA 68066

PHONE (402) 443-4675 • FAX (402) 443-5339

Lower Platte North NRD Board of Directors

<i>SUBDISTRICT</i>	<i>NAME</i>
1	Dean Johnson
1	Frank G. Williams
2	David A. Shelso
2	Mary Sendgraff
3	Steven E. Grueber
3	Michael Eason
4	Dave Saalfeld
4	Melvin Sahs
5	Greg Wilke
5	Clinton Johannes
6	Steve Schmit
6	Joe Matulka
7	Jane Daufeldt
7	Ronald Sabatka
8	Donald Kavan
8	Jim McDermott
9	LeRoy Nelson
9	Ervin Bull
AT LARGE	Donald Gaeth

Lower Platte North NRD Staff

<i>Larry Angle</i>	<i>Water Resources Manager</i>
<i>Frank Albrecht</i>	<i>Water Resources Specialist</i>
<i>Sam Barlean</i>	<i>Field Technician</i>
<i>Jill Breunig</i>	<i>Administrative Assistant</i>
<i>Ann Brodd</i>	<i>Secretary/Bookkeeper</i>
<i>Bob Heimann</i>	<i>O & M Manager</i>
<i>Dan Ludwig</i>	<i>Water Resources Specialist</i>
<i>John Miyoshi</i>	<i>General Manager</i>
<i>Tom Mountford</i>	<i>Assistant Manager</i>
<i>Shaula Ross</i>	<i>Water Resources Specialist</i>
<i>Joe Sabata</i>	<i>Field Technician</i>
<i>Kathy Vasa</i>	<i>Technician</i>
<i>Ann Youngberg</i>	<i>Information Specialist</i>

Dedicated to the Conservation, Development and Preservation of your Natural Resources

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Table of Contents

1	Introduction
2	Geology
3	Description of the Groundwater Reservoir
4	Groundwater Flow System
5	Availability of Other Water for Artificial Recharge & Integrated Management
6	Groundwater Quality
7	Vulnerability to Pollution
8	Non-Point and Point Source Pollution
9	Identification of Present Known Problem Areas with Consideration of Potential Problem Areas
10	References
11	The Plan for Groundwater Management in the Lower Platte North NRD
12	Appendix A - Exhibits
13	Appendix B - Agency Review Letters, 1985 Plan
14	Appendix C - Glossary of Terms
15	Appendix D - Hydrographs of NRD Monitor Wells

TABLE OF CONTENTS

	<u>Page</u>
1) Introduction	1
Summary of Groundwater-Related Activities 1985-1993	2
Description of the LPN NRD.....	5
Size, Population, and Industry	5
Drainage Systems.....	7
Topography	8
Soils	10
Groundwater	11
Land Use	12
Environmentally Sensitive Resources.....	12
2) Geology	15
Geologic Sequence.....	15
Geologic Sections	16
3) Description of the Groundwater Reservoir.....	17
Definition of Terms.....	17
Description of Principal Aquifer Systems	18
Quaternary System.....	18
Ogallala Aquifer.....	18
Dakota Aquifer.....	19
Geographic Distribution of Groundwater Reservoir.....	19
Stratigraphic Definition	21
Groundwater Availability	22
Groundwater Reservoir Yield	24
Water Level Changes Predevelopment to 1991	25
Water Level Changes - Base Year	25
Groundwater Level Monitoring Network	28
4) Groundwater Flow System	30
Recharge	30
Precipitation	30
Seepage	31
Land Slope	32
Soils Data	32
Storage	33
Discharge	34
Stream Discharge	34
Groundwater Use	34
Historical Rate of Use.....	34
Present Use Estimates	35
Sub-irrigation and Other Uses	36
Summary	36
5) Availability of Other Water for Artificial Recharge & Integrated Management.....	38
Surface Water	38
Availability - Flowing Water	38
Availability - Water Uses.....	41
Supplemental Sources.....	41

TABLE OF CONTENTS - CONTINUED

	<u>Page</u>
6) Groundwater Quality	43
General Conditions	43
Quality Indicators.....	44
Total Dissolved Solids	44
Iron	45
7) Vulnerability to Pollution	47
Topography	47
Recharge	48
Soils	49
Vadose Zone	49
Depth to Groundwater.....	50
DRASTIC	51
Land Use	52
Well-Head Protection.....	53
8) Non-Point and Point Source Pollution	55
Non-Point Source Pollution.....	55
Nitrate-Nitrogen.....	55
Herbicides	56
Pesticides.....	57
Groundwater Quality Monitoring Network	57
Point-Source Pollution.....	59
Underground Storage Tank Releases.....	59
Hazardous Waste Releases.....	60
Public Water Supply Systems With Reported VOC Contamination	60
Other Potential Sources of Pollution.....	61
Feedlots.....	61
Landfills	61
Private Septic Systems.....	62
Improperly Abandoned Wells.....	63
9) Identification of Present Known Problem Areas With Consideration of	
Potential Problem Areas	64
Recharge Extremes	64
Groundwater Quantity	64
Groundwater Quality	66
10) References	69
11) The Plan for Groundwater Management in the Lower Platte North NRD	
Section A - Framework for Groundwater Management	74
Section B - Goals, Objectives, and Policies.....	77
Section C - Action Plan.....	83
Section D - Public Participation.....	91

LIST OF TABLES

<u>Table Number</u>	<u>Title</u>	<u>Following Page</u>
1	LPN NRD Summary of Groundwater-Related Activities 1985-1993	2
2	Total Acres Harvested 1960-1990	6
3	Summary Table - Land Use Data	13
4	Geologic Units and Their Water-Bearing Properties	15
5	Net Water Level Change of Greater than 5 Feet as a Percentage of Saturated Thickness; Lower Platte North NRD Groundwater Level Data; 1987-1992	27
6	Estimated Recharge Data	31
7	Estimated Groundwater in Storage	32
8	Summary of EPA Health Advisories for Chemicals	43
9	Recommended Concentration Limits for Water used for Livestock and Irrigation Crop Production	43
10	Water Analysis for Inorganic Chemicals Public Supply Wells	43
11	Locations of Permitted & Non-Permitted Waste Disposal Sites in the LPN NRD	62
12	1983 Profile of Estimated Groundwater Use	35

APPENDICES

- 12) APPENDIX A - Exhibits
- 13) APPENDIX B - Agency Review Letters, 1985 Plan
- 14) APPENDIX C - Glossary of Terms
- 15) APPENDIX D - Hydrographs of NRD Monitor Wells

APPENDIX A

List of Exhibits

<u>Exhibit Number</u>	<u>Title</u>
1	Location - Lower Platte North Natural Resources District
2	Types of Topography
3	Parent Materials of Soils
4	Soils Map Units
5	Groundwater Storage in the Principal Aquifer
6	Generalized Depth to Water
7	Cumulative Number of Registered Irrigation Wells 1940-1992
8A	Registered Wells by Decade of Development - Pre-1940
8B	Registered Wells by Decade of Development - 1940-1949
8C	Registered Wells by Decade of Development - 1950-1959
8D	Registered Wells by Decade of Development - 1960-1969
8E	Registered Wells by Decade of Development - 1970-1979
8F	Registered Wells by Decade of Development - 1980-1989
8G	Registered Wells by Decade of Development - 1990-1992
9	Registered Wells Map
10	Land Use Map
11	Geologic Bedrock Map
12	Geologic Profiles
13	Underground Water Areas of Nebraska
14	Map Showing Approximate Areal Distribution of Mesozoic Rocks and Those Areas Currently Used for Water Supplies
15	Map Showing Approximate Areal Distribution of Aquifers in Tertiary Deposits
16	Map Showing Areal Distribution of Holocene and Pleistocene Deposits
17	Groundwater Reservoir Areas
18	Configuration of the Base of the Principal Aquifer
19	Elevations of Water Levels in Wells
20	Thickness of Saturated Coarse - Grained Sediments Comprising the Principal Aquifer
21	Transmissivity of the Principal Aquifer

Exhibit Number**Title**

22	Estimated Well Yield
23	Net Water Level Change from Predevelopment Levels to Fall 1991
24	Groundwater Level Monitoring Wells
25	Net Water Level Changes 1987-1992 Lower Platte North Monitoring Network
26	Selected Hydrographs of Representative Wells
27	Mean Annual Precipitation
28	Distribution of Average Annual Precipitation
29	Precipitation Station Map
30	Losing Streams
31	Soil Associations in the Lower Platte North NRD
32	Summary of Registered Wells by Year Drilled
33	Principal Areas of Subirrigated Vegetation
34	The Platte River Since the Early 1940's
35	Distribution of Holocene and Pleistocene Deposits
36	Dissolved Solids Concentrations in Water from Holocene and Pleistocene Aquifers
37	Calcium Concentrations in Water from Holocene and Pleistocene Aquifers
38	Alkalinity of Water from Holocene and Pleistocene Aquifers
39	Sulfate Concentrations in Water from Holocene and Pleistocene Aquifers
40	Distribution of Total Dissolved Solids
41	Distribution of Iron
42	Topography Rating Map
43	Net Recharge Rating Map
43A	Soils Rating Map
44	Intermediate Unsaturated Soils (Vadose Zone) Rating Map
45	Depth to Water Rating Map
46	Groundwater Pollution Potential
47	Nitrate-Nitrogen - Irrigation and Municipal Wells

Exhibit Number

Title

48	Nitrate-Nitrogen - Domestic and Stock Wells
49	Reported Pollution Point Sources as of February 1993
49A	Distribution of Livestock Operations with State Operating Permits
49B	Distribution of Waste Disposal Sites
50	Reported Pollution Sources - Fremont, Nebraska

INTRODUCTION

In 1985 the Board of Directors of the Lower Platte North Natural Resources District (hereinafter referred to as the LPN NRD) adopted a Groundwater Management Plan as a first step in formalizing their intent to manage the resource. The plan was developed to fulfill requirements set forth in Section 46-673.01 through .04 of the Nebraska Groundwater Management and Protection Act. The NRD's plan was approved by the Department of Water Resources in February 1986 (approval and agency review letters are included as Appendix B).

Prior to 1985, the LPN NRD's groundwater management initiatives were limited to a brief period of water level monitoring in the late 1970's, cost sharing on irrigation re-use pits, and cost sharing on water conservation practices. With the adoption of the 1985 plan, the LPN NRD embarked upon a new era of groundwater resource management marked by an intensive program of data collection designed to characterize the resource and establish the relationship with other water resource related aspects. In addition, the NRD developed education and demonstration programs designed to increase awareness of groundwater supplies, use, and protection. The LPN NRD staff and board embraced the responsibility for management of the District's water supply, and from 1985-1993 invested over \$288,000 in programs specified in the Plan, which includes staff, analysis, and equipment.

In 1991, the Nebraska Legislature enacted Legislative Bill 51 (Section 46-673.14 of the Nebraska Groundwater Management and Protection Act)) which required the following actions by the NRD:

"prior to July 1, 1993, each district shall amend its groundwater management plan to identify to the extent possible the levels and sources of groundwater contamination within the area, groundwater quality goals, long-term solutions necessary to prevent the levels of groundwater contaminants from becoming too high and to reduce high levels sufficiently to eliminate health hazards, and practices recommended to stabilize, reduce, and prevent the occurrence, increase, or spread of groundwater contamination."

This document is presented as an amendment to the 1985 LPN NRD's Groundwater Management Plan. The amendment meets the intent of LB51 and fulfills the District's need for continued understanding of the supply and quality of its groundwater resource, and sets forth a plan of protection for the future. The Board of Directors recognizes, along with the Nebraska legislature, that groundwater is a valuable resource and planned management is essential and in the public interest.

This update to the LPN NRD's Groundwater Management Plan has been developed as a progressive program management tool for present and future board members serving as a guide for the proposed direction of groundwater resource protection. Use of NRD funds to provide proper water management will be programmed through this document as an extension of the annual budgetary process. The plan provides and defines goals, objectives, policy statements, and program commitments and provides time schedules for implementation.

For reference, a glossary of groundwater related terms is included as Appendix C. A summary of the LPN NRD's groundwater related activities since 1985 is included as Table 1. In addition to the activities listed, the NRD has increased their water management staff by three staff members since 1985 as part of their commitment to support the policies outlined in the 1985 plan.

This update has been prepared by the board and staff of the Lower Platte North Natural Resources District with the assistance of The Water Policy Advisory Committees. Technical and planning assistance as well as document development was provided by HWS Consulting Group Inc.

TABLE 1

LPN NRD Summary of Groundwater-Related Activities 1985-1994

I. Regulatory

1. **Chemigation** - A program administered in response to the Chemigation Act (RRS-46-612) empowering NRD's to issue permits for application of fertilizers and pesticides through irrigation systems. The LPN NRD program started in 1987. From 1987 through 1992 a total of 309 permits were issued. A computer database was designed to assist in permit and compliance tracking.
2. **Irrigation Run-off Complaints** - NRD investigation, findings, and response actions are documented in NRD files. A total of 4 complaints were handled by the NRD during the 1985-1993 time period.

TABLE 1 - Continued

3. **Well Abandonment Program** - A program administered in response to Department of Water Resources and Department of Health regulations and Nebraska Statutes (RRS-46-602). NRD provides cost-share assistance to plug abandoned wells. An inventory of abandoned wells within the District has been completed for all counties.
4. **Special Protection Area** - In 1988 the NRD applied for and received a Special Protection Area investigation from the Department of Environmental Quality. A total of 49 irrigation wells and 60 domestic wells were sampled in the Platte Valley in Dodge County, near Fremont. Based upon sampling results, the DEQ denied the LPN NRD's request for designation of a Special Protection Area, but suggested continued monitoring of the area to ascertain quality changes.

II. Groundwater Quantity

1. **Water Level Monitoring** - A network of 68 monitor wells was established to measure water levels in the spring and fall, and has been completed each year since 1985. Eleven wells were added in 1991 in the David City area, bringing the total network to 79 wells. Starting in 1993, additional wells, district wide, are being added to the network. When completed, the network will contain approximately 120 monitoring sites.
2. **Computer Database** - The NRD developed a database to store monitor well descriptive data and water level measurements.
3. **Groundwater Model** - The NRD is developing a groundwater model for use in evaluating water level trends and forecasting future activities.

III. Groundwater Quality

1. **Sample Collection** - 1,389 groundwater samples were collected and analyzed in an analytical laboratory for selected water quality constituents from the following areas:

Date	No. of Wells Sampled	Area of Coverage
1986	155	District wide (irrigation wells)
1987	306	District wide (irrigation wells)
1988	146	District wide (irrigation wells)
1988	194	District wide resample of 1979 NURE sampling (104 domestic, 83 irrigation, and 7 stock wells)
1988	109	(Proposed) Special Protection Area - Fremont (60 domestic, 49 irrigation)
1989/ 1990	132	Platte Valley of Butler, Colfax, Saunders Counties (irrigation)

TABLE 1 - Continued

Date	No. of Wells Sampled	Area of Coverage
1990	93	Todd Valley, Saunders County (irrigation)
1990	155	Saunders County Home Well Testing (domestic)
1991	99	Shell Creek Watershed of Colfax and Platte Counties

2. **Computer Database** - Developed a computer database for storage and retrieval of collected water quality data.

III. Other

1. **Surface Water-Groundwater Interrelationships** - A program designed to investigate and map groundwater inputs to streams during the winter months was initiated in 1988. Mapping is completed for streams in Saunders, Dodge, Colfax, Butler, and Platte counties and partially completed for Boone and Madison Counties.
2. **Precipitation Monitoring** - Established a precipitation gauging network. Sites include 11 stations within or bordering the district monitored by the UNL Department of Agricultural Meteorology and Climatology and an additional 8 stations monitored by the LPN NRD. A computer database has been established to store the data.
3. **Czechland Lake** - LPN NRD has monitored two domestic wells downstream of Czechland Lake since 1990 for NO₃-N and bacteria. The NRD has sampled and analyzed drinking water wells of landowners in the Czechland Lake watershed and provided technical suggestions. In 1993 commenced monitoring activities of two watersheds involving Czechland Lake and Lake 6B addressing water quality in the feeder streams and the two lakes.
4. **Rural Domestic Wells** - Cooperated with Saunders County Extension Service in providing collection and analysis of water from rural domestic wells
5. **U.S.G.S. National Water Quality Study** - Participating with the study of the Lower Platte River by serving on the advisory Board and assisting with sample collection.
6. **Nebraska Ordinance Plant** - Assisted the U.S. Army Corps of Engineers and E.P.A. personnel on this study since 1987 in sample collection on and around the project site.

DESCRIPTION OF THE LOWER PLATTE NORTH NRD

Size, Population, and Industry

The Lower Platte North NRD is a composite of portions of seven counties in east central Nebraska. A distribution of associated county statistics demonstrates that the primary land mass, by County, is in Saunders County while the most financial support is generated from Dodge County. The City of Fremont is the single largest contributor of local general support resulting from the population of that city. The District comprises about 1,587 square miles and 1.03 million acres. It ranges about 110 miles from northwest to southeast and is roughly 65 miles wide north to south. The configuration resembles that of a coon skin cap with the tail lifted to the breeze (see Exhibit 1).

Estimated Population by County

County	% of County In the District	Acres In LPN NRD	Population			Percentage of Fiscal Input
			Rural	Urban	Total	
Boone	12.9	56,473	362	--	362	2.3
Butler	44.3	165,476	2,022	3,387	5,409	11.0
Colfax	41.9	111,528	1,414	4,237	5,651	10.0
Dodge	30.2	104,245	3,100	25,215	28,315	35.7
Madison	6.3	23,086	194	770	964	1.5
Platte	38.5	169,432	2,848	723	3,571	10.5
Saunders	81.5	401,234	6,698	6,949	13,647	29.0

Twenty-eight cities, towns and villages are located in the confines of the District. Those twenty-eight communities are listed below with present estimated populations:

Fremont	23,680	Mead	513	Bruno	141
Wahoo	3,681	Platte Center	341	Colon	128
Schuyler	4,052	Lindsay	321	Leshara	118
David City	2,522	Bellwood	395	Richland	96
North Bend	1,249	Inglewood	286	Linwood	91
Ashland (Part)	219	Prague	282	Octavia	132
Newman Grove	770	Weston	299	Rogers	89
Cedar Bluffs	591	Morse Bluff	128	Memphis	117
Yutan	626	Malmo	114	Abie	106
Ithaca	133	Tarnov	61		

Information on industrial activity demonstrates a variety of industrial types present in the District.

The various types are listed below:

Alfalfa Products	Cheese Manufacturing
Concrete Products	Dehydrated Hay
Dried Whey	Egg Products Manufacturing
Equipment Manufacturing	Feed Manufacturing
Fiberglass Manufacturing	Packing Plants
Irrigation Equipment Manufacturing	Pasta Products
Sand & Gravel Products	Soybean Manufacturing
Steel Fabrication	Trailer Manufacturing

This industrial array also yields a diversity of water needs and waste treatment problems. These needs and problems may have a degrading effect on both ground and surface water quality and quantity if not properly addressed.

As would be expected in a rural agronomic society, the main industry is agriculture. The District is thus highly oriented toward agricultural activities and those events triggering changes in that industry. A review of the cropping history of the six major counties within the District demonstrates some fundamental practice changes which may result in far reaching effects on water use and water quality. Studying the acres harvested (Nebraska Agricultural Statistics Service, 1991/92) for corn, sorghum, wheat, soybeans, hay and oats during the years 1960 through 1991, it is evident there is a substantial move toward corn and soybean production. This change in crop production practices results in a decrease in the number of acres of crops providing better soil cover, such as is provided by wheat, oats, and hay. Table 2 illustrates the fluctuation in percentage of acres harvested of a composite of the six individual crops for the six counties. Madison County information was not used. As the total number of acres harvested increases, the following occurs:

1. Number of acres of permanent cover decrease.
2. The number of acres more susceptible to erosion and runoff increases.
3. The usage of fertilizer, herbicides, pesticides, etc. increases.
4. The potential for ground and surface water degradation increases.

Total Acres Harvested
1960-1990

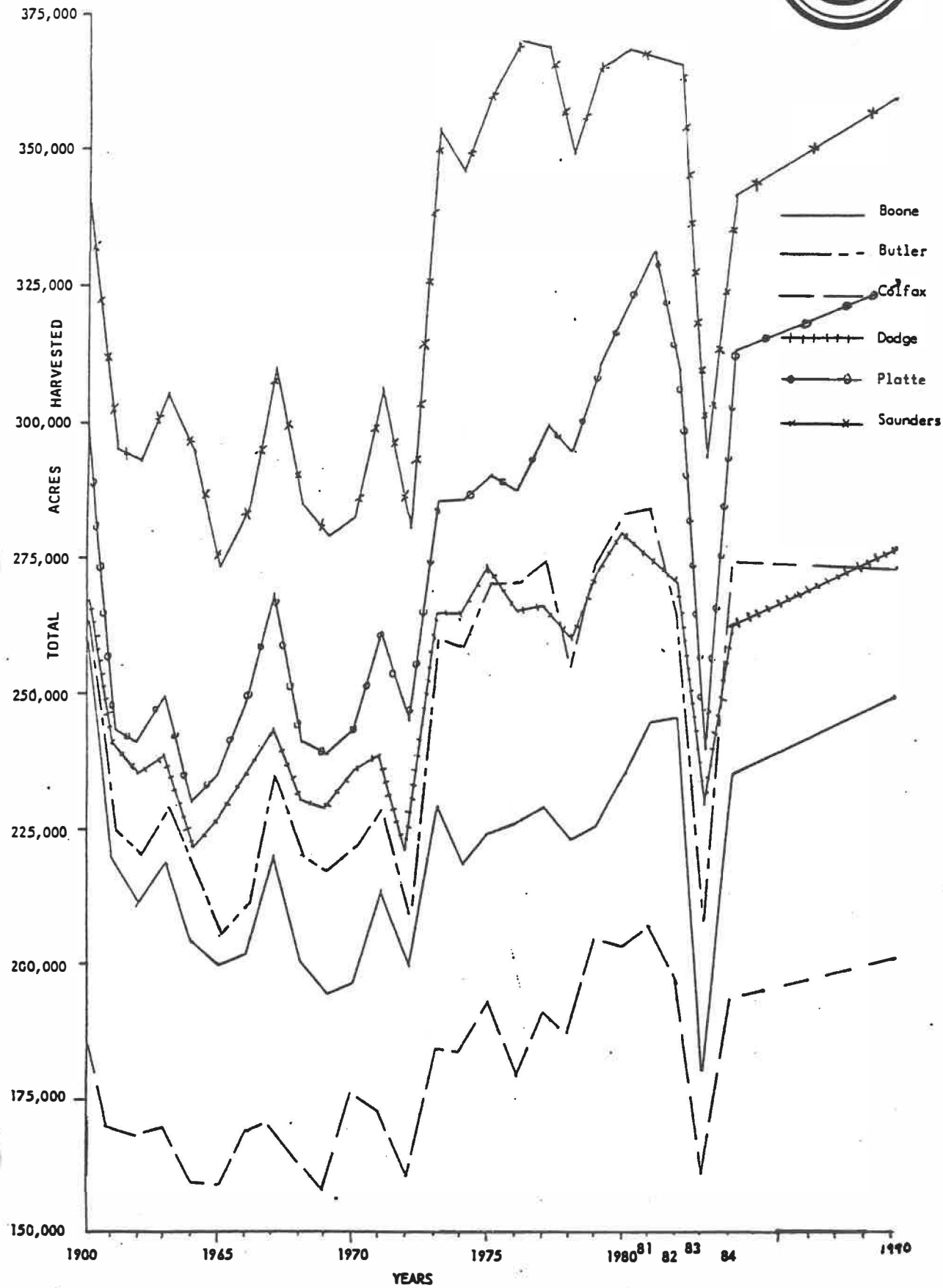


TABLE 2

According to the 1991 Nebraska agricultural statistics, the number of farms in the District have decreased significantly, resulting in an increase in the size of farming units. As the number of on-farm rural residents decrease in number, the methods of farming become more technologically oriented. Farming more ground in a shorter period of time with larger equipment leads to practice changes in the care of crops. For example, use of chemicals increases the potential for water quality degradation, if not properly applied. However, the 1991 Agricultural Statistics show a net decrease in fertilizer and pesticide usage from 1981 to 1991. For example, in 1981 fertilizer application rates for corn averaged 157 lbs/acre, in 1991 the average rate was 135 lbs/acre.

Livestock numbers tend to fluctuate with the markets and data indicates the general trend is toward a decrease in total numbers of cattle held on farms in unconfined areas. Small herds on pasture are not as prevalent as in the past and more concentrated feeding facilities may have caused or may be potential sources of future area groundwater quality problems.

The use of irrigation systems has increased dramatically. In the years leading up to 1970, the District records showed about 1,500 registered irrigation wells, but from 1970 to 1993, that number has more than doubled to 3,517. Of the total number of acres irrigated in the District, all but about five percent are irrigated with groundwater.

Drainage Systems

The Lower Platte North NRD is situated in the lower end of the Platte River basin, thus, the Platte River composes the primary flow system of the District. At a point just west of the District boundary, the Loup River and the Loup River power canal significantly augment the flow of the Platte and the effects can be seen throughout the remainder of the District. A few miles upstream from the southeast boundary of the District, the Elkhorn River joins the Platte River. These two tributaries form the major tributaries to the Platte River within the District and are also the major tributaries of the entire Platte system.

Shell Creek, along with its principal tributary Loseke-Taylor Creek, provides drainage for the northwest portion of the District and drains approximately 460 square miles. The Shell Creek system flows in a southeasterly direction joining the Platte between Schuyler and Rogers on the north bank of the river. The remainder of the north bank drainage pattern is provided by Lost Creek and Rawhide Creek. Lost Creek parallels the Platte for approximately 15 miles then joins the Platte just east of Schuyler. Rawhide Creek and its man-made drainage systems provide flow east from Schuyler to areas northeast and southeast of Fremont where it flows into the Elkhorn River.

The Lower Platte North NRD area south of the Platte River exhibits three types of drainage patterns. First, from the Polk-Butler County line east to essentially the Butler-Saunders County line, the flow systems of the small watersheds of Bellwood, Bone, and Skull Creek carry water in a northerly direction to their confluence with the Platte. Secondly, the Clear Creek Watershed drains the eastern quadrant of Saunders County in a south southeasterly direction where it joins Wahoo Creek just above that creek's confluence with Salt Creek. Thirdly, Wahoo Creek's dendritic pattern provides drainage for about 480 square miles of Saunders County and is the single largest watershed in the District. It is composed of Cottonwood, Sand, Duck, Silver, and Wahoo Creeks. The general flow pattern is to the southeast joining Salt Creek just prior to Salt Creek's confluence with the Platte River below Ashland. With the combined flow of Clear Creek at this point, runoff can cause extremely high flows and often results in large areas of lowland flooding.

Topography

Exhibit 2 demonstrates the variability of topographic features in the District. The northwest arm of the District comprising portions of Boone, Madison, and about two-thirds of Platte County is composed of a dissected plains topography. The area is mostly hilly land with moderate to steep slopes, sharp ridge crests and some old, nearly level plains. This general pattern is a result of the force of wind and water erosion on the old, fairly level plain areas.

Some flat valley areas exist in north central Platte County typified by the topography in and around Platte Center and Tarnov. East central Platte County and western Colfax County are made up of hilly land containing moderate to steep slopes and more or less rounded ridge tops. Creek beds are incised into the landscape as a result of erosive forces, causing some rough terrain.

The Platte River Valley extends through the length of the District from Columbus to Ashland, a distance of about 125 miles. Throughout the western half of this stretch the valley width is about 5 to 7 miles wide but tapers from near Fremont to about two miles wide at Ashland. The valley side walls are composed of unconsolidated sediments and vary in topographic features from gently sloping smoothly rounded hills to steep walled somewhat narrow canyons. The valley portion is nearly flat and demonstrates a slope of about 4-6 feet per mile declining to the southeast.

Through the east central portion of Saunders County, from approximately North Bend to Ashland, is a broad fertile area, 5-8 miles wide, referred to as the Todd Valley. This area is made up of nearly level lands and includes some slight south-southeasterly stream drainage. It is situated at an elevation about 80 feet above the Platte River valley.

West and southwest Saunders County and eastern Butler County are what is known as the "hill area". It is composed of bluffs along the north edge (adjacent to the Platte River valley) and rolling hills, ridges, and steep valley slopes further south of the Platte. Maximum elevation changes in the area are up to 350 feet and slopes between drainages range 100 to 200 feet per mile.

As is evident from the foregoing information and a casual drive through the District, most of the District has undergone significant erosion. Some Dakota bedrock, particularly in western and eastern Saunders County, is located near the surface. However, most of the area is overlain by Quaternary sediment deposits that completely cover the bedrock in varying depths. The slope and near-surface material strongly influence the local topography and are a major influence upon soil type, land capability and utilization of the groundwater resource.

Soils

The types of soils overlying any particular area play key roles in the relationships of precipitation or applied surface flows to surface water runoff, groundwater recharge, and consumptive water requirements. Relationships are dependent upon the permeability of the soil, ability of the soil to hold water, and slope of the surface. All of these variables influence soil infiltration rates and result in the total amount of water contained in the soil profile. As stated, these soil aspects are very important to both the surface and groundwater hydrologic characteristics. Exhibit 3 illustrates the parent materials of the soils of the state, and Exhibit 4 illustrates soil types which formed from these parent materials.

Soils in the uplands of Butler and Saunders Counties consist primarily of clays and silty clays to silty clay loams somewhat similar to the Sharpsburg and Sharpsburg-Pawnee association. However, the recent Saunders County Soil Survey update will reclassify the soils. Primary soils in the upland areas are eroded to a point where they no longer exist, and landowners are now farming in the "B" horizon. This has tremendous implications for surface and groundwater quality. Permeability of these soils is less than 1.0 inch per hour on slopes that range from gentle to 20 percent. Recharge rates are quite low and recharge is principally limited to perched aquifers. These soils are loess type soils with some intermixed glacial till areas. The drainage pattern and flood plain configuration of Wahoo Creek is primarily composed of Kennebec soils of silty clay loam ranging from moderately to poorly drained.

The western portion of the Platte River corridor is comprised of Acadia-Platte alluvial fine sands underlain by sands and gravels. The eastern portion of the corridor is practically the same, however, depth to water in the eastern area is greater. This primary water line is bounded on the north by poorly drained Gibbon-Luton silty and clayey soils. Areas to the south and a few areas along the western end of the Platte River corridor contain silty soils that are well drained and of loess origin.

The northwest corner of the District is composed of moderately to well drained silty type soils with permeabilities ranging from 1 to 2 inches per hour above the areas adjacent to Shell Creek. Areas in northeast Platte County have permeability ranges of 1.5 to 5 inches per hour.

The general pattern of soil distribution shows that soils of loess origin are found on the uplands with alluvial soils predominant on the bottom lands. Permeabilities range from practically zero to greater than 10 inches per hour (near Columbus and southeast of Bellwood). The pattern shows that, generally, soils south of the Platte River are less permeable than those of the north side. Soil textures range from fine sands to silty clays. Soil surveys have been completed for all counties and the Saunders County Soil Survey (1959) is presently nearing completion of a substantial update.

Groundwater

The generalized map of the state depicting groundwater storage (Exhibit 5) in the principal aquifer, demonstrates the District has some areas with up to 100 feet of water in storage. However, these areas are located in the extreme northwest corner where the District overlies a portion of the southeast reaches of the Ogallala formation. The remainder of the District does not fare as well. In many areas water is stored in layered formations where stored quantities range from less than 20 feet to about 100 feet. Deeper aquifers are present in some areas.

A generalized depth to groundwater map (Exhibit 6) shows the Platte River and Todd Valley corridors with depth to water averaging around 50 feet or less. The map depicts generalized depth to water over the remainder of the District to be in excess of 50 feet.

The availability of groundwater used for competing purposes has been a contributing factor in the development of the District. The level of groundwater use and irrigation development has steadily increased over the years and somewhat parallels the state trend. Two periods of more rapid irrigation well development are evident, during the 1950's and the 1970's, presented in graphic form in Exhibit 7 and mapped on Exhibits 8A through 8G. Exhibits 8F and 8G also demonstrate that the 1980's and early 1990's also have been a period of intense well development.

The center pivot has provided the opportunity for tremendous growth in irrigation, particularly during the 1970's. Areas not previously irrigable due to topographic variations are now accessible. From 1965 to March 1993, the number of registered irrigation wells has almost tripled, to a total of 3,517 wells. This development becomes more significant when viewed in light of the pattern and intensity of well development (Exhibit 9).

The greatest concentration of wells are located adjacent to the Platte River in Butler, Colfax, and Dodge counties, and within the Todd Valley in eastern Saunders County. Both of these areas are characterized by soils and terrain suitable for irrigation, but may also be highly susceptible to water quality problems. In areas of low groundwater quantity, competition between users may become acute and is anticipated to be more so in the future.

Land Use

In 1986 the USDA Soil Conservation Service field offices conducted a Land Use Survey in an attempt to gain an accurate evaluation of current land use in Nebraska. Results of the survey in the LPN NRD are shown on Exhibit 10 and are summarized on Table 3. Land use in the LPN NRD is primarily cropland (75% of the total). Of the total land in the district, 51% is non-irrigated and 24% is irrigated, but water is primarily supplied from groundwater. Approximately 10% of the NRD is pasture or rangeland, with the remainder (15%) of the NRD split between various uses.

Environmentally Sensitive Resources

Wildlife in the LPN NRD has been influenced by the increasing urbanization of the region and changes in land use. As agriculture and other human activities disperse into areas that once were woodlands, grasslands, and marshes, the wildlife has either adapted, relocated, or has been negatively affected.

Some animals, fish, and birds that previously existed in large numbers in the District are now infrequently present or completely gone. The use of pesticides and loss of habitat has had an extremely negative impact for a variety of species. Some of the endangered or threatened species known to be or may have been in the District include: bald eagle, least tern, piping plover, peregrine falcon, swift fox, black footed ferret, river otter, pallid sturgeon, and blacknose shiner (Nebraska Game and Parks Commission). Much of this wildlife depends heavily upon habitat, food, and water supported by groundwater supplies in the District.

The grasslands, woodlands, and waters of the District support many animals, birds, insects, and aquatic life that are too extensive to mention in this short section. One endangered plant species which has been identified as possibly inhabiting the NRD is the Western Prairie fringed orchid. While this plant species has been observed to be present in Southern Dodge County, it may also be present in other areas of the NRD. The southern Dodge County site is located on an upland in a perched water table setting, which would not be considered part of the manageable groundwater reservoir (Personal Communication - Mike Fritz- Nebraska Game and Parks Commission, April 1994). The orchid could be affected by changes in groundwater levels and from groundwater activities in the plan. In this area, land use changes would be more of a threat to the orchid than changes in water quantity in the principal aquifer. As development encroaches upon remaining natural grasslands, the potential for extinction of this species increases greatly. The NRD has embarked upon a program to protect and preserve some of the valuable wetland and grassland resources within its boundaries, because it is aware of the need for such preservation for future generations. The general protection of groundwater quality and quantity is important to preservation of habitats of indigenous and threatened and endangered plant and animal species. Any NRD actions to manage the groundwater resources within District boundaries will be evaluated as it may impact these valuable resources. If adverse effects on sensitive resources are identified from changing groundwater quantity or quality, the NRD will evaluate the need for modification of its Groundwater

TABLE 3

NEBRASKA NATURAL RESOURCES COMMISSION
NATURAL RESOURCES DATA BANK

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SUMMARY TABLE
LAND USE DATA

LOW PLATTE NORTH NRD

PROCESSED: April 21, 1993

CATEGORY	LAND USE	ACRES	PERCENT
0	NO DATA	91765	8.20
1	NONIRRIGATED CROPLAND	576171	51.47
2	SPRINKLER IRRIGATED CROPLAND	151135	13.50
3	SURFACE IRRIGATED CROPLAND	107205	9.58
4	TAILWATER IRRIGATED CROPLAND	1920	0.17
5	FIELD BENCH IRRIGATED CROPLAND	488	0.04
6	CONTOUR BENCH IRRIGATED CROPLAND	0	0.00
7	PASTURE LAND	95775	8.56
8	SPRINKLER IRRIGATED PASTURE LAND	312	0.03
9	TAILWATER IRRIGATED PASTURE LAND	0	0.00
10	SURFACE IRRIGATED PASTURE LAND	0	0.00
11	FIELD BENCH IRRIGATED PASTURE LAND	0	0.00
12	CONTOUR BENCH IRRIGATED PASTURE LAND	0	0.00
13	RANGELAND	18334	1.64
14	FOREST LAND	15207	1.36
15	OTHER FARMLAND	23281	2.08
16	PITS AND QUARRIES	0	0.00
17	BARREN LAND	1819	0.16
18	BUILT UP LAND	18305	1.64
19	RURAL TRANSPORTATION	1311	0.12
20	WATER	16388	1.46
TOTAL		1119416	100.00

Management plan as allowed under the Nebraska Groundwater Management and Protection Act. Modifications will include actions that they could take to reduce adverse affects. The NRD will continue to support hydrologic and hydrogeologic studies which will contribute to the foundation of knowledge needed to locate and identify orchid habitat and other water related sensitive habitats.

GEOLOGY

Geologic Sequence

The geologic bedrock maps (Exhibit 11) indicate Pennsylvanian deposits underlie the Cretaceous deposits in the extreme southeast corner of the District. Table 4 presents the geologic units in profile and lists their water bearing properties.

The oldest bedrock unit of known hydrologic importance, underlying most of Saunders, Dodge, eastern Butler, and Colfax counties, is the Dakota Sandstone. According to Ginsberg (1980), the Dakota underlying Butler County ranges in thickness from 500 to 600 feet and increases somewhat in thickness into Saunders County. Water quality is highly variable within this formation and is generally considered quite poor for domestic and agricultural use.

Bordering and overlying the Dakota on the west is a ribbon of Late Cretaceous age deposits called the Graneros Shale. Overlying the Graneros Shale is a thin layer of limestone named the Greenhorn Limestone. Neither of these layers are known to supply water to wells. These two formations have undergone significant erosion and vary in thickness throughout the area.

The youngest bedrock formation in western Butler, western Colfax, and eastern Platte counties is the Carlile Shale of Late Cretaceous age. This formation overlies the previously mentioned formation and like the Graneros Shale and Greenhorn Limestone, is not known to yield water to wells.

The Niobrara formation of Cretaceous Age forms the bedrock base under most of the portion of Platte County in the Lower Platte North NRD. Although not of significant regional hydrologic importance, water may be yielded locally to wells from fractures in the rock which have become filled with water. However, water in the Niobrara formation is generally high in total dissolved solids and may be rather poor quality.

TABLE 4

Geologic Units and Their Water-Bearing Properties
Lower Platte North Natural Resources District

System	Series	Major Stratigraphic Units	Physical Character	Water Supply
Quaternary	Holocene	Modern Soils	Locally silty, clayey, or sandy.	Transmits locally variable amounts of recharge to the groundwater reservoir.
		Recent valley-fill deposits	Stream-lain deposits of gravel, sand, silt, and clay associated with the most recent cycle of erosion and deposition along present streams.	May contribute significant amounts of water to wells.
	Pleistocene	Loess	Silt with lesser amounts of very fine sand and clay deposited as wind-blown dust.	Transmits recharge to the groundwater reservoir. May provide small quantities of water to a few shallow stock or domestic wells.
		Till	Ice-deposited silty, sandy clay with gravel and larger pebbles and boulders.	Relatively impermeable. Transmits water slowly to the groundwater reservoir. Groundwater may be perched above the till. Sand deposits within the till provide water to small-capacity wells.
		Glacial outwash and other ancient valley fill deposits.	Stream-lain deposits of gravel, sand, silt, and clay associated with ancient erosional and depositional cycles.	Contributes water to wells in generally large amounts. Stream-deposited sand and gravel constitute the major reservoir in the NRD and yield water to large-capacity wells.
Tertiary	Pliocene(?)	Ancient valley-fill	Mostly unconsolidated silt. May blanket Cretaceous bedrock at base and on side slopes of paleo-valleys.	Generally too fine textured to yield water to wells.
	Miocene	Ogallala	Poorly sorted clay, silt, sand, and gravel generally un-cemented to slightly cemented.	The Ogallala constitutes a major reservoir in the western part of the NRD. Ogallal sand and gravel yield water to large-capacity wells.
Cretaceous	Upper Cretaceous	Niobrara	Chalk	May supply water to wells where fractures in the rock exist and are saturated.
		Carlile	Shale	Not known to supply water to wells.
		Greenhorn	Limestone	
		Graneros	Shale	
	Lower Cretaceous	Dakota	Sandstone and shale.	The Dakota constitutes a significant reservoir in the eastern part of the NRD. Potential yields and water quality are locally variable.

The four townships in the extreme northwest portion of the District are underlain by the Ogallala formation. The Ogallala ranges in thickness from about 10 feet in the eastern portion, to slightly more than 200 feet in thickness in the northwest tip of the District. The Ogallala does not occur in the central and eastern portions of the District.

Geologic Sections

Exhibit 12 (in pocket) demonstrates the distribution of the bedrock units across the District and illustrates the variability in the amount of overlying material. These ten cross sections demonstrate the confining layers in place and the vertical distribution of aquifer units. These will be discussed further as they pertain to the water bearing properties of the groundwater reservoir.

DESCRIPTION OF THE GROUNDWATER RESERVOIR

Definition of Terms

The following terms are defined to aid the reader in the following discussions. A larger glossary of water related terms is included in Appendix B.

Aquifer - a water bearing structure of rock or sediment capable of yielding supplies of water to wells.

Aquifer, Unconfined (Water Table) - the level below which the subsurface is saturated with water and at which the pressure head equals atmospheric pressure. A parameter associated with unconfined aquifers.

Aquifer, confined (artesian) - an aquifer in which the groundwater is isolated from the atmosphere by impermeable geologic formations and the resulting hydraulic pressure is generally greater than atmospheric pressure.

Aquifer, perched - a water bearing unit capable of yielding supplies of water to a well and containing unconfined groundwater. This unit is separated from an underlying aquifer by a less permeable unsaturated zone.

Potentiometric - Aquifer Thickness (PAT) - the distance from the potentiometric surface to the base of the principal aquifer.

Groundwater Reservoir - for any given area, the subsurface storage space between the water table and the base of the principal aquifer, includes one or more aquifers and any associated fine-grained material (usually excludes perched aquifers).

Potentiometric Surface - an "imaginary" surface representing the total head pressure in a confined aquifer that is defined by the level to which water will rise in a well.

Pressure Head - the height of a column of water which can be supported by the pressure at a given point.

Principal Aquifer - term used in describing the primary units for water supply.

Till - generally unstratified, unsorted, and unconsolidated drift consisting of intermingled clay, sand, and boulders.

Transmissivity - a rate which quantifies the ability of an aquifer to transmit water.

Unsaturated Zone - porous earth materials which contain both air and water in their pore spaces.

Description of Principal Aquifer Systems

Quaternary Aquifer System

During the Pleistocene time period, three fairly distinct types of material were deposited. The youngest, near surface deposits, are the loess soils (or wind blown dusts) composed primarily of silt containing lesser amounts of very fine sands and clay. The layer deposited just prior to the loess is composed of till dredged and placed by continental glaciers. Till is normally composed of ice-deposited silty, sandy clay containing some gravel, large pebbles, and boulders. Because the till is clayey and poorly sorted, it is not generally considered an aquifer, and often serves as a confining layer.

Glacial outwashes are composed primarily of glacial stream deposits of gravel, sand, silt, and clay associated with the water melt from the ice sheets. These channels occur on top of the till, may cut into the till, or may lie under the till. Their primarily coarse-grained deposits are the principal water bearing material for much of the District. Because of the varying erosion/deposition cycles of the Quaternary, the groundwater reservoir is a complex multilayered system of aquifers separated by fine-grained silt, clay, or till layers.

Ogallala Aquifer

The Ogallala formation is made up principally of calcareous fine to medium grained sandstone, clayey or sandy silt, and lenses of coarse-grained sands and gravels. These materials are normally uncemented. However, some areas may have become slightly cemented due to calcium carbonate complexes. Silt is the predominant material throughout the formation but significant amounts of sand and gravel and sandstone allow some highly productive wells to be developed in this formation. The portion of the Ogallala in the Lower Platte North NRD is merely the eastern tip of this aquifer where most of the state's water is in storage.

Dakota Aquifer

The Dakota formation is often not classified as a principal aquifer due to the fact its geology within the NRD is not well defined and the chemical characteristics are generally undesirable. However, since it is used for a source of water where shallower aquifers do not provide an adequate water supply, it is appropriate to recognize its significance. The Dakota is composed of a thick series of interbedded sandstones and shales. The sandstone varies from very fine grained to quite coarse and may contain gravel deposits near the base. The shale is of a sandy, carbonaceous clayey material. Normally, in this area, the Dakota sandstones are penetrated and screened in combination with overlying aquifer material in order to gain sufficient saturated thickness for an irrigation well.

Due to the normal consideration of the Dakota as a secondary supply of water, it has not been included in the descriptive maps of the principal aquifer (i.e., saturated thickness and the base of the aquifer).

Geographic Distribution of Groundwater Reservoir

Exhibit 13 illustrates the underground water areas of Nebraska. From this map, it is evident that the Lower Platte North NRD is situated over four of these groundwater regions. The Platte River Valley coincides with the Platte River as it is contained within the District. The northwest portion of the District (half of Platte, Boone, and Madison counties) is located in the east central Dissected Plains. Portions of Platte, Colfax, and Dodge counties are integrated into the northeast Nebraska Glacial Drift, and Saunders and Butler counties are in the southeast Nebraska Glacial Drift region.

Exhibit 11 depicted the locations of the Dakota and Ogallala formations. Of the bedrock formations these two are the principal bedrock water bearing units in the District, with the Ogallala utilized as a principal aquifer. These two formations are located in the east-southeast and northwest parts of the District, respectively. Exhibit 14 (Dakota) and Exhibit 15 (Ogallala) show their spatial

distribution and Exhibit 16 illustrates the distribution of potential water bearing Holocene and Pleistocene (Quaternary) deposits of the District, which contain the majority of the aquifer units composing the groundwater reservoir.

The geologic profiles (Exhibit 12) demonstrate the extreme variability in the areal distribution of Holocene and Pleistocene aquifers. The generalized map of the state (Exhibit 16) demonstrates that the Platte Valley, Wahoo Creek, and Shell Creek are areas of bottom land configuration containing a thin alluvial layer. Adjacent to the Shell Creek area, in western Platte County and in Boone County, are mixed dune sands and sandy table lands that provide water for irrigation and public use. The areas of western Saunders and most of Butler County are primarily composed of loess deposited on glacial drift and contain water bearing layers of varying depths.

The Todd Valley in eastern Saunders County is an area of Quaternary deposits of sands and gravels constituting a very important regional groundwater reservoir. These deposits, in combination with the Dakota, are the source of supply to nearly all of the wells in that area.

Irrigation development throughout the District provides some indication of the geographic distribution of the groundwater reservoirs. Exhibit 9 (registered wells through March 1993) clearly demonstrates irrigation has developed somewhat extensively along the Platte River corridor, from the west end of the District to the Fremont area. Development in Colfax, Platte, and Boone counties closely follows the groundwater availability patterns. Irrigation well development in Saunders County is almost exclusively limited to the Todd Valley and the Sand/Duck Creek areas adjacent to the Todd Valley.

The LPN NRD has subdivided the District into four groundwater reservoir areas based upon aquifer types, areal distribution and development. These areas are referred to as Shell Creek, Platte Valley, Uplands, and Todd Valley (Exhibit 17).

Stratigraphic Definition

The generalized geologic profiles (Exhibit 12) were developed by combining published geologic profiles and UNL Conservation and Survey Division in-house reports. These profiles have become a valuable tool in educating the staff, directors, and public about the complex, multi-layered system of groundwater settings within the District. The ten profiles yield an excellent underground look at the layered configuration of the District.

Table 4 is developed as a stratigraphic column showing depositional sequence, age, and characteristics of the various units. The table shows Holocene deposits, or recent valley fills, may contribute significant amounts of water to wells in some areas. Pleistocene loess deposits provide small quantities of water to a few shallow stock and domestic wells, while the till areas include intermingled sand deposits that may provide water for small capacity wells. The glacial outwashes and other ancient valley deposits contribute water to wells in fairly large amounts. Stream deposited sand and gravels of the Quaternary age constitute the major regional aquifers in the NRD, in terms of yielding water to large capacity wells.

The Ogallala and the overlying Quaternary in the western portion of the NRD is a major aquifer in that area. These units, although variable in depth and thickness, yield water to large capacity wells. The Niobrara formation through Platte County may supply water to wells if they are located in fractured rock. Few wells have been developed in the Niobrara because of sufficient quantities of overlying Quaternary material in most areas.

The Dakota constitutes a significant secondary aquifer in the eastern part of the NRD. The Dakota is penetrated and tapped by wells over a significantly large area in combination with overlying Quaternary deposits. Well yields and water quality from the Dakota are locally quite variable.

Groundwater Availability

The configuration of the base of principal aquifer map (Exhibit 18) does not include the highly variable Dakota formation as part of the principal aquifer, which has been excluded due to the lack of substantive information identifying its use and depth. Exhibit 18 is a modification of the Department of Environmental Quality and Conservation and Survey Division, UNL 1980 base configuration map. The update was accomplished by plotting additional data points from the drillers logs of irrigation, municipal, and monitoring wells. The contours were adjusted accordingly and represent a map of the base of the aquifer according to data available as of August 1985. This map by itself does not tell much about the groundwater reservoir, but coupled with the water table map, it helps in defining aquifer thickness.

Key variations from the 1980 Conservation and Survey Division map are in the areas from the Butler/Saunders County line west through Butler County, around the Platte Center area, and the Newman Grove and Lindsay regions. The new lines of the bedrock map indicate locations of possible bedrock valley forms in the older formations. Sands, gravels, and pebbles have filled these areas and thereby provided sufficient area for water storage.

Exhibit 19 represents the average water level surface in the principal aquifers in 1985. While the water table surface changes with time, the 1985 map is used here to generally represent regional direction of groundwater flow and elevation of the water table. The lines of equal water elevation may not constitute a continuous water level surface. Variability in mapped water levels may be explained as a result of data being obtained from wells of various depths and screened at different depth intervals, penetrating both confined and unconfined aquifers. In some areas of Butler, Dodge, and Saunders counties, water level contours may not represent actual elevations because of insufficient monitoring information and the complexity of the geology.

The water level elevation map represents the water level that will rise in a well and not necessarily the "water table". Some of the regional aquifers are "confined" (or more commonly known as "artesian") so the water levels in these wells will represent different conditions than those measured in an unconfined (water table) aquifer. The LPN NRD will periodically update this Exhibit in order to monitor changes in groundwater flow at various times of the year or over the long term.

A thickness map of saturated coarse-grained sediments of the principal aquifer (less the Dakota), noted as Exhibit 20, was developed for the plan in 1985, to more accurately define the areal distribution and thickness of saturated sand and gravel deposits. The map was constructed using data from registered irrigation well logs of sufficient detail, as well as those logs of the Conservation and Survey Division test holes. This map will be updated with new information from well logs as they become available.

A large portion of the subsurface of the District is composed of glacial till and other silts and clays not readily providing water to wells and may act as confining beds contributing to artesian head in the underlying sands. Exhibit 20 provides definition of the thickness of saturated coarse-grained material without considering the effects of artesian head or perched water levels. This map provides a basis for making conservative estimates of water in storage and well yield.

The saturated thickness map demonstrates that a sizeable portion of Saunders, Dodge, and Butler Counties are underlain by aquifers less than 50 feet thick. A large part of the remainder of the District is underlain by less than 100 feet of saturated sand. Generally, the Todd Valley area, the paleovalley just north and east of David City, areas adjacent to Tarnov, and a portion of the northwest corner of the District appear to have a significant saturated thickness and sizeable quantity of water in storage for present uses at current rates.

Water level rises and declines can be directly related to changes in saturated thickness only in an unconfined aquifer. In a confined aquifer, water level declines do not represent a reduction in saturated thickness, but rather a reduction of artesian head. Water level fluctuations cannot be directly related to percent of saturated thickness unless the hydraulic relationship has been accurately defined.

Groundwater Reservoir Yield

Transmissivity values are used to quantify the ability of an aquifer to transmit water and assist in explaining present development and future development potential of the principal aquifers. Values of transmissivity are normally expressed in terms of thousands of gallons/day/square foot. To visualize this (transmissivity) value, imagine a one square foot window in the side of an aquifer for one day with a hydraulic gradient of one. If the window were lengthened to stretch from the top of the aquifer to the bottom, and still be one foot wide, the amount of water that would flow out of this window in one day would be called the transmissivity (gallons of water yielded per square foot of formation per day). Transmissivity relates indirectly to well yield. Well yield, usually expressed in gallons per minute, is the ultimate measure of the volume of water which can be extracted from a well in an aquifer. (Design efficiency and purpose of the well often mark the ability of an aquifer to produce water). As a function of aquifer thickness and permeability, transmissivity estimates provides an indication of the productivity of an aquifer. Exhibit 21 illustrates areas adjacent to the Platte River, the Todd Valley, Central Platte County, and the upper Ogallala area of Boone County (in the District) possessing transmissivity values of more than 100,000 gallons per day, per foot of formation. The area of west central Saunders County and east central Butler County exhibit transmissivity values ranging from 1-20,000 gallons per day, per foot.

Calculation of transmissivity values requires fairly site-specific data analysis. Parameters used in transmissivity calculations are the saturated thickness and the permeability of the formation with respect to water. Detailed large scale calculations of transmissivity values have not been made for the Lower Platte North NRD. The state map, as discussed above, is sufficient to provide a general idea of transmissivity values over the District.

A more meaningful map, at least from the District's standpoint, is a map evaluating the ability to provide water to a well. Exhibit 22 depicts a general estimated well yield for the District aquifer areas, minus the Dakota. This map agrees in context with the generalized state map of transmissivity. It relates the saturated thickness and transmissivity data while providing an overview of estimated area yields assisting in developing area specific management decisions.

Water Level Changes - Predevelopment to 1991

A critical element in managing groundwater is the determination of what happens to the water levels in the groundwater reservoirs over time. In 1985, when the first LPN NRD groundwater management plan was developed, little data existed for use in analysis of water level trends. Ideally, a long period of record is desired to evaluate water level changes from predevelopment to the present which would provide long-term trends with averaging for seasonal and climatic variations. The U.S.G.S. and the Conservation and Survey Division long ago recognized this need and began a cooperative water level measurement program, in 1930, designed to observe and document water level changes throughout Nebraska. Unfortunately, the period of record in the LPN NRD does not date from 1930 and is too short to adequately determine long-term trends in water levels. However, where possible, individual comparisons have been made between 1991 water levels and estimated predevelopment water levels in the U.S.G.S. "1991 Water Level Changes report" and estimated predevelopment water levels were determined for a large portion of the NRD. Predevelopment water levels are defined as the approximate average water level at a well site, prior to human development. All available water-level data collected prior to or during the early stages of development were used to estimate predevelopment water levels.

Exhibit 23 sets forth the U.S.G.S. and Conservation and Survey Divisions approximation of net water level change from estimated predevelopment to fall, 1991. The lower Shell Creek Reservoir and the Uplands Reservoir contain large areas where data was insufficient to determine predevelopment water levels. Monitoring wells outside the LPN NRD boundary were included on this Exhibit to provide a broader view of possible border concerns. Generally, from the few points for which predevelopment water levels are estimated within the NRD, it appears water levels have changed less than 5 feet. The only two exceptions of note are the area between Ithaca and Memphis and the one N.E. of North Bend which show declines slightly greater than five feet. The water level in a monitor well located south of David City, in the Lower Platte South NRD, is estimated to have dropped more than 40 feet since predevelopment. This well is located in an intensively developed, confined aquifer, where water level drop may reflect a drop in artesian pressure rather than dewatering of the saturated thickness. The LPN NRD's monitoring program also indicates the area near David City (north of this well) to be in an area of decline in the past.

Water Level Changes - Base Year

In the 1985 Plan, one area of primary concern was the lack of a sufficient water level monitoring network to detect changes. In 1986, the LPN NRD began a program to fill this gap, utilizing 68 actively monitored wells for spring and fall measurement (pre and post-irrigation season). Monitor well locations are shown on Exhibit 24. Results of monitoring from the spring of 1987 through spring of 1993 are mapped on Exhibit 25, while selected hydrographs of key representative wells are presented on Exhibit 26.

As with any graph or map of data, the numbers presented must be placed in the proper perspective to be meaningful for management. The data gathered by the LPN NRD indicate a tendency toward decreasing water levels when tested against 1987 as the base year. 1987 was a relatively wet year and hydrograph data showed an elevated water table. However, 1987 is an excellent year to use as an "index" year because of the accuracy of the water level measurements from that time on. As additional water level data from the monitoring network is

collected, a better picture of the long-term trend in water levels in the District aquifers will develop. The "index" year can be adjusted over time to more closely approximate a "normal" year.

The levels shown in Exhibit 25 can be placed into perspective by consideration of their relationship to the saturated thickness of the aquifer. Exhibit 20 is a map of saturated thickness of the various coarse grained aquifers of the District from the 1985 Plan and Table 5 summarizes the net water level changes as a percentage of saturated thickness.

Table 5
Net Water Level Change as a Percentage of
Saturated Thickness, Selected Wells: Lower Platte North NRD
Groundwater Level Data; Spring 1987 - Spring 1993

Well #	County	Aquifer	Long-Term Net Change (feet)	Estimated Saturated Thickness (ft)	Approximate % of Saturated Thickness
6	Platte	Shell Creek	-5.0	50 - 100	5 - 10
8	Platte	Shell Creek	-5.2	75 - 100	5 - 7
12	Platte	Shell Creek	-4.4	100 - 150	3 - 4
17	Platte	Shell Creek	+2.2	75 - 100	2 - 3
21	Colfax	Shell Creek	-2.5	75 - 100	2 - 3
24	Butler	Platte Valley	-6.1	75 - 100	6 - 8
25	Butler	Platte Valley	-6.7	75 - 100	6 - 9
66	Dodge	Platte Valley	-6.5	25 - 50	13 - 26
27	Butler	Uplands	-3.3	150	2
30	Butler	Uplands	-10.9	100 - 150	7 - 11
31	Butler	Uplands	-7.2	150 - 200	3 - 5
34	Saunders	Uplands	-0.4	100 - 150	<1
43	Saunders	Uplands	-2.4	75 - 100	2 - 3
48	Saunders	Uplands	-7.3	75 - 100	7 - 10
49	Butler	Uplands	-4.0	150 - 200	2 - 3
53	Butler	Uplands	-9.4	0 - 25	>38
57	Saunders	Todd Valley	-6.3	100 - 150	4 - 6

As shown in Table 5, a water level decrease in Well No. 31 (saturated aquifer thickness of 150 to 200 feet) does not carry the same implications as a 10 feet decrease in Well No. 53 (saturated aquifer thickness of 0 to 25 feet). The water level decline in the former well is less than 5 percent of aquifer saturated thickness, while in the latter just 6 miles to the north, it is over 35 percent.

Generally, District-wide water levels have declined slightly from 1987 through 1993, (less than five feet). The most significant area of decline has occurred in the David City area where water levels have declined more than 10 feet from the spring of 1987 to spring 1992. These declines are likely to be pressure head changes since this aquifer is considered to be a confined or semi-confined aquifer. Further monitoring and investigation is needed to define the relationship between the declines in water levels, changes in pressure head, and saturated thickness so as to place the declines in perspective. The LPN NRD added 11 monitoring wells in this area in 1991 to assist in gaining more pertinent information. The Shell Creek groundwater reservoir also shows some small areas of decline (<5 feet), but is difficult to characterize due to insufficient data. The LPN NRD plans to increase the number of wells monitored in this reservoir. The Platte River and Todd Valley reservoirs show only slight declines (<5 feet) from both estimated predevelopment and the 1987 "index" year. Both of these reservoirs are intensively developed and appear to be supporting this development without large-scale mining of groundwater occurring. Hydrographs of NRD monitor wells are included as Appendix C for further reference.

Groundwater Level Monitoring Network

As of June 1994 a total of 116 wells are being monitored district-wide for groundwater level changes. The Lower Platte North NRD plans to add more wells to the network in the next few years to a goal of 120 wells. Expansion into the Shell Creek Reservoir is the first priority, where multiple aquifers are known to exist. This reservoir is of concern because water levels have been declining to near the 10% level of saturated thickness.

A secondary network of 11 wells was added in the David City area in 1991. Most of these wells will be added to the primary trend monitoring network with the remainder monitored only in the spring. The aquifers in this area are semi-confined and show great fluctuation from spring to fall every year. In several areas the saturated thickness had declined close to 7% by the spring readings of 1992, which is the first trigger level for groundwater management of a confined aquifer.

The NRD's water level monitoring program is still being formulated. The first wells in the network were initiated in 1985. The NRD intends to have a trend network established for the entire district, with secondary networks established for more intensive monitoring in problem areas.

GROUNDWATER FLOW SYSTEM

Recharge

Groundwater recharge is dependant upon a variety of important parameters which include: water availability; the amount, frequency, and timing of precipitation; land slope and land use; soil infiltration rates; vertical permeability, and soil conditions.

Precipitation

Precipitation in the Lower Platte North NRD serves as the principal source of water for recharge in all but the Platte River Valley adjacent to the River. Exhibit 27 demonstrates the mean annual precipitation for the state and the Lower Platte North NRD. The average annual water requirement for maximum yield by crops varies from 25 inches for corn to 22 inches for grain sorghum and soybeans. It, therefore, appears that an abundance of moisture exists over the District, however, the timing and amount of precipitation determines crop water availability. (Exhibit 28 illustrates the timing and distribution of precipitation). Moisture needs are more critical at certain times in the crop growing cycle and if moisture is not available, crop production can and does suffer. Detailed evaluations of precipitation versus soil moisture and crop water needs are necessary components in providing a comprehensive management system.

This area of the state receives maximum precipitation in April, May, and June. The maximum water use period by crops stretches from April through September (crop dependant), with July, August, and September water requirements exceeding available average precipitation. It is apparent that at certain times there is a need for irrigation water in order to produce higher yields.

Temperature fluctuations and wind patterns are two other variables combining with precipitation to influence the amount of water moving down to the water table for recharge.

The LPN NRD recognized the need for good records of precipitation in anticipation of developing a District groundwater model. Since 1985, the NRD has supported expansion of the precipitation data collection network, and now has a network that covers the NRD and is considering adding a few new stations. The present distribution of the NRD precipitation network is mapped on Exhibit 29.

Seepage

Exhibit 30 indicates the Platte River is a losing stream from Columbus to the Salt Creek confluence. Field work by NRD staff has also indicated that the Platte River loses water to the east and north but gains from the south and west, as it flows to its confluence with the Elkhorn. From the Elkhorn River to Salt Creek, water moves underground to the west into the Lincoln municipal well fields. The slope of the water table between the Platte and Elkhorn rivers also indicates a potential loss of water by eastward seepage into the Elkhorn River aquifer. If the Elkhorn River is a gaining river in this stretch, it probably returns such gains to the Platte River at the confluence of the two rivers.

Some seepage from Lake Babcock has contributed a small amount of recharge in the area of the District adjacent to that structure. Some water logging on adjacent lands has occurred and is possibly due to an elevated water table caused by this seepage.

The LPN NRD has instituted a program of mapping seeps along streams in the NRD. These maps will be useful for water budget calculations, modeling, groundwater contamination, and identification of discharge/recharge acres. The LPN NRD has almost completed this type of mapping within the NRD.

Estimated Recharge Data
Lower Platte North Natural Resources District

	<u>Soil/Topographical Region</u>	<u>Area Mi²</u>	<u>Average Precipitation in. (ft)</u>	<u>Estimated Average Percent Recharged</u>	<u>Total Recharge</u>	
					<u>AF</u>	<u>MG</u>
1.	Silty soils in valleys, developed on alluvium.	339	28 (2.33)	15	7.6×10^4	2.5×10^4
2.	Silty soils on uplands, terraces or plains, developed on loess.	945	28 (2.33)	5	7.2×10^4	2.4×10^4
3.	Loamy or sandy soils in valleys, terraces, or plains, developed on alluvial sands.	162	28 (2.33)	20	4.9×10^4	1.6×10^4
4.	Silty, clayey, or loamy soils in uplands, developed on glacial till and loess.	35	28 (2.33)	1	4.5×10^2	1.5×10^2
5.	Other	62	---	---	---	---

TABLE 6

Land Slope

Land slope is an important recharge component as the slope determines how rapidly rainfall will run off an area or will be retained for infiltration into the groundwater reservoir. The variability of topography in the District is significant. The District encompasses six of the seven types of topography as defined by the UNL Conservation and Survey Division (Exhibit 2). In general terms, one would expect less runoff and more water available for recharge in the valleys or flat-lying areas than in areas of rolling hills. This higher recharge rate associated with sandy type soil valley areas makes them more susceptible to groundwater contamination through percolation. Reference to area and site specific slope information can be obtained from county soil surveys and topographic maps.

Soils Data

Site specific information related to particular soils and their hydrologic properties may be obtained from the soil surveys of Boone, Butler, Colfax, Dodge, Madison, Platte, and Saunders counties. Later soil surveys include tables classifying soils into four hydrologic units and illustrates runoff estimates and infiltration rates.

General soil association areas in the Lower Platte North NRD are found on Exhibit 31. A comparison of this Exhibit and Exhibit 2 provides a general overview of soils overlaying particular topographic regions. The following graphic provides an estimated percentage of average annual groundwater recharge from precipitation within topographic regions.

Topographic Region	Natural Recharge (%)
Valleys	20-30
Plains	3-5
Dissected Plains	10-15
Sandhills	25-30
Rolling Hills	1-5*
Bluffs and Escarpments	1-2

*Recharge is usually to perched aquifers.

LOWER PLATTE NORTH NRD
ESTIMATED GROUNDWATER IN STORAGE
(Does Not Contain Dakota Water - only saturated coarse sediments -
no clay/silt water)

Township	Feet Average Sat. Thickness X 0.2 X	Area Mile 2	mi2 x 640 Acres =	(acre feet) Water Volume
22-6W	100	16	10,240	204,800
22-5W	125	36	23,040	576,000
21-5	75	27	17,280	259,200
21-4	50	36	23,040	230,400
20-5	75	9	5,760	86,400
20-4	50	22	14,080	140,800
20-3	50	26	16,640	166,400
19-3	100	24	15,360	307,200
19-2	125	36	23,040	576,000
19-1W	125	36	23,040	576,000
19-1E	75	36	23,040	345,600
19-2E	75	24	15,360	230,400
18-2W	75	17	10,880	163,200
18-1W	75	30	19,200	288,000
18-1E	100	30	19,200	384,000
18-2E	75	30	19,200	288,000
18-3E	75	14	8,960	134,400
17-2E	75	36	23,040	345,600
17-3E	50	36	23,040	230,400
16-1E	75	30	19,200	288,000
15-1E	100	18	11,520	230,400
15-2E	100	18	11,520	230,400
15-3E	100	36	23,040	460,800
16-2E	75	36	23,040	345,600
16-3E	25	36	23,040	115,200
17-4E	75	36	23,040	345,600
17-5E	75	36	23,040	345,600
17-6E	50	36	23,040	230,400
17-7E	50	36	23,040	230,400
17-8E	75	30	19,200	288,000
17-9E	25	13	8,320	41,600
16-4E	0	36	23,040	-
16-5E	0	36	23,040	-
16-6E	50	36	23,040	230,400
16-7E	100	36	23,040	460,800
16-8E	30	30	19,200	192,000
15-4E	100	36	23,040	460,800
15-5E	0	36	23,040	-
15-6E	0	36	23,040	-
15-7E	75	36	23,040	345,600
15-8E	100	30	19,200	384,000
15-9E	25	25	16,000	80,000
14-5E	75	18	11,520	172,800
14-6E	75	36	23,040	345,600
14-7E	50	36	23,040	230,400
14-8E	75	30	19,200	288,000
14-9E	50	36	23,040	230,400
13-8	25	30	19,200	96,000
13-9	50	35	22,400	224,000
				12,425,600 AF

Plus an estimated 530,200 for townships uncalculated 12,955,800 AF
It is estimated that the range is about 10-20 million acre feet which
is approximately 1% of the state total. The above figures represent
about 0.6% of the state total in storage.

TABLE 7

Table 6 provides a generalized estimate of recharge by soil types for the entire NRD. Estimates were based on measurements of acres in each soil type, multiplied by the estimated recharge times precipitation, to obtain an estimated recharge in acre-foot.

Storage

Exhibit 5 demonstrates the generalized map of groundwater in storage in the principal aquifers (does not include the Dakota aquifer) of the state. Table 7 provides an estimate of groundwater in storage by township in the Lower Platte North NRD and indicates approximately 13,000,000 acre feet of water in storage in the District. This storage figure is estimated to be low as it includes only the saturated coarse sediments and does not include the Dakota, the Quaternary fine-grained deposits, or differences in storage resulting from artesian conditions.

In developing the 1985 Groundwater Management Plan, the LPN NRD divided the District into three generalized groundwater planning and potential management areas. In attempting to determine the volume of stored water within the three areas, some estimates of portions of townships in the respective areas had to be made. (This determination is on file at the Lower Platte North NRD office.) The calculations produced the following estimated volumes in storage by area, and is estimated to be about 1% of the states total storage.

Saunders/Butler County Uplands	4,132,240 AF
Platte River Corridor	4,039,560 AF
Northwest Uplands	4,784,000 AF

The high numbers in the Saunders/Butler County area may be misleading as the preponderance of that amount is located in the Todd Valley region of Eastern Saunders County.

Exhibit 20 shows the saturated thickness of water bearing areas of the Quaternary sands and gravels and Ogallala sandstones. Unsaturated areas of the District allowing storage of significant quantity are limited. One area in northwest Saunders County, (communication with Vince Dreeszen 1985) may have slight storage potential but is assumed to be uneconomical to develop as a groundwater storage area. More detailed studies would have to be made to determine the type of storage facilities versus economic compatibility of systems and system use.

Discharge

Stream Discharge

Quantifying stream discharge will take time to develop as the present stream flow data is not of sufficient quantity or quality to make such determinations. Several streams flow year round and many more exhibit intermittent flows, however, repetitive flow records that could provide District evaluations of flow fluctuations do not presently exist. Currently (1993) the NRD measures streamflow for baseflow conditions at fourteen sites in late August and early September.

Groundwater Use

Historical Rate of Use

The primary volumetric uses of groundwater in the District has been to support irrigation, and municipal water needs. Since actual historical water use values or estimates are not available, the development of irrigation wells serves as an indicator of aquifer use. Exhibit 32 provides a look at the development through cumulative totals and annual totals of irrigation well development by county. Exhibits 7 and 8A through 8G graphically illustrates the 1950's and 1970's have been periods of rapid well installation. It also appears that the late 1980's and early 1990's may be considered a period of intense well development. Exhibit 9 depicts the distribution of irrigation wells as of 1993 and demonstrates areas of most intense irrigation.

Groundwater is the principal source of supply for public drinking water systems. All cities, towns, and villages in the District derive their supply from the groundwater reservoirs. Lincoln (located out of the District) and Fremont have extensive well fields along and adjacent to the Platte River in Saunders and Dodge Counties, respectively and Exhibit 8 shows the location of the present municipal well fields in the NRD.

Industry, rural domestic and livestock needs make up the other uses of historical significance, as well as present and projected future groundwater usage.

Present Use Estimates

Table 12 provides a profile of estimated groundwater usage 1983. This table was generated to demonstrate the magnitude and importance of the groundwater reservoir to the various present users. These figures vary with needs for water in any given year and are dependant on temperature and moisture conditions within the District. Irrigation, domestic and livestock uses were estimated using 1983 registered well data and USGS data. Public supply and self-supplied industrial water use values were obtained from the Nebraska Water Use Data Program Data Bank.

Even though the City of Lincoln is not located in the Lower Platte North NRD, a significant portion of the well field for Lincoln's public water supply is situated along the Platte River north of Ashland. It is reported that the present use rate for the city of Lincoln, out of the well field, averages 31 mgd (million gallons per day), but can be as high as 95 mgd in the summer months. This volume, added to that required by irrigation and other public and private users within the District, indicates that the quantity, as well as the quality of the groundwater of the District is extremely important for continued and or sustained development.

TABLE 12

**1983 Profile of Estimated Groundwater Use
Lower Platte North NRD
(By Counties or Portions of Counties within the District)
(Values in Acre-Feet)**

	Boone	Butler	Colfax	Dodge	Madison	Platte	Saunders
Irrigation							
Pivots	8,831	7,948	6,513	4,747	1,766	12,916	17,662
Gravity	2,261	49,403	57,316	58,733	1,357	27,451	35,830
Total	11,092	57,351	63,829	63,480	3,123	40,367	53,492
Public Supply	----	614	721	4,541	219	348	35,949
Self-Supplied Industry	----	----	38	2,062	----	----	106
Rural Domestic	40	230	150	150	40	280	690
Total	11,132	58,195	64,738	70,233	3,382	40,995	90,237

Dodge County - Municipal and Industry use a greater % of total use than other areas - of concern because use is from rather shallow aquifers.

Future Use Estimates

The City of Lincoln is presently developing a new well field on a Platte River Island just downstream from the southeast corner of the District. This well field is anticipated to about double the possible volume of water per day taken from the aquifer.

The Metropolitan Utilities District has purchased land along the Platte River in Saunders County across the River from the Douglas/Sarpy County line. This area is to be developed into a municipal well field, providing water to the City of Omaha and surrounding areas. Monitoring of these activities will be incorporated into the LPN NRD groundwater program.

With increases in nitrates and potential increases in chemical constituents in rural drinking water supplies, the potential for regional drinking water supplies must be explored by the District.

Other Uses

Exhibit 33 presents generalized subirrigation areas of the District. To date, the demand upon the aquifer resulting from subirrigation, evapotranspiration, sand pit development, and phreatophytic growth is not quantified. Those needs and volumes are to be computed if a complete management scheme is to be realized that provides optimal use of the resource.

Summary

Based on available data, the groundwater flow system appears to be somewhat in equilibrium with inflow approximately matching discharge. Some decline of water level has occurred district-wide since 1987. The area of most significant decline is located near David City. The period of record for water level monitoring, however, is extensive enough to determine that a portion of the decline is a result of normal climatic variation and a portion is a result of groundwater mining.

The need for groundwater in the District is destined to increase. Lincoln estimates that by the year 2005, its daily use may average 48 million gallons per day with one day peak use estimates to exceed 100 million gallons per day. Municipal uses place a relatively high economic value on the water for domestic usage. Total population served with groundwater from the District presently approaches 250,000, and with addition of a new well field near Yutan by MUD in Saunders county, that population figure will more than double and possibly triple within a decade.

Economic values associated with crop production in the District will be calculated as the base data is accumulated and distribution and cropping practices are analyzed. The three major crops grown in the district demonstrates the need of a water use range of 21 to 26 inches to provide a finished product. A gross water budget will be developed in accordance with the Lower Platte North NRD ground and surface water management strategy when water quantities and needs are better known.

AVAILABILITY OF OTHER WATER FOR ARTIFICIAL RECHARGE AND INTEGRATED MANAGEMENT

Surface Water

Flowing Water

It is inevitable that as the value of water increases and the demand for somewhat limited supplies of water increases, the greater the attention focused on the streams and rivers of the state and the NRD. Bentall, 1982, states "within the last few years, several projects entailing additional storage features and greater use of water from the river (Platte) have been proposed. These have become controversial and other new proposals are likely to become equally so, largely because their effect on the river's flow is feared by many to be detrimental to the large flocks of migrating waterfowl that stop over in the (central) valley and to the several well fields designed to induce recharge from the river. Another fear is that groundwater withdrawals, principally for irrigation, already have had a marked depletion effect on river flow and that in the future they will continue to do so in a progressively increasing rate." Those fears associated with potential loss of water are present and are often the forces that guide management decision making processes. As a result, ineffectual methods of management are often employed in an attempt to circumvent or prevent the taking of the resource.

It has been noted that the flow of this region of the Platte River is a combination of the Upper Platte, the Loup and the Elkhorn Rivers. Shell Creek and Wahoo Creek Watersheds also provide small but at times significant flows to the Platte in this reach. Several heretofore ungauged minor tributaries and groundwater inflow areas provide the remainder of the flowing water supply.

The flow entering the NRD from the upper Platte system has fluctuated from overbank flows to periods of no flow. DWR data indicates that during a 30-year record analysis, about 36 percent of the flow in the Lower Platte River has originated above the North Loup (North Bend station). At that same point, 60 percent of the flow originated in the Loup River system. DWR data indicate the remainder of the flow is from Shell Creek, unmeasured tributaries and river gains from valley groundwater contribution.

The data, for 51 years, at Ashland shows the contributions of flow are: Elkhorn River - 22 percent, Loup River - 48 percent, upper Platte River - 28 percent; tributaries and valley groundwater inflow - the remaining 2 percent. The annual and seasonal percentages of contribution vary extensively and are dependant upon the type of water year within the areas of influence. As the precipitation influences flow, the dry periods likewise influence flow and the manner of loss and gain to groundwater areas is often linked with flow volume.

Exhibit 34 (Bentall 1983), provides a graphic representation of proportional flow and instream use of the system. He further stated that the average annual depletion rate within the river is about 1,380 cubic feet per second (CFS) or about 1,000,000 acre feet per year. Bentall also points out that, if sufficient storage can be found, consumptive use totaling about 300,000 acre-feet per year could be feasible on the Platte River upstream from the Loup's mouth, if an occasional year of almost no flow at Duncan could be tolerated. He further states that the Platte River, downstream from the Loup River, could be a supply source for as much as 1,500,000 acre feet of additional development without resulting in rare no-flow years. The no flow years would be reduced if development was associated with instream flow activities. Bentalls work shows that there is a supply of water in the Platte (with the Loup) that may be used for conjunctive use schemes, artificial recharge (if feasible), irrigation development, industrial development, municipal well fields, and recreation and fish and wildlife enhancement.

DWR also concludes that, for a 50-year monitoring period, the mainstream flows have remained relatively constant. Flow changes must be assessed relative to the continual development of irrigation systems with Platte River corridor. Minor flow fluctuations are presently seen as reflecting short-term climatic changes between wet and dry conditions. It is apparent that further use of stream and river flows will need to be monitored to detect flow trend changes, no matter how subtle. It is interesting to note that work done by groups opposed to the Landmark irrigation project demonstrated a reduction in Platte River flow above Columbus due to development of center pivot irrigation along the Platte River corridor.

Flow patterns of the Platte River are very important to the municipal well field recharge. Lincoln well field personnel report that fluctuating flows are necessary to cleanse the river bed. This cleaning allows for better percolation of the river flow into the groundwater aquifer for municipal well capture and usage. Low flows also contribute to a change in the municipal drinking water quality. It is becoming extremely important to fully investigate and monitor the potential quality changes that accompany flow fluctuations.

The importance of the Loup River system to the Lower Platte area cannot be overstressed as the high quality water is and can continue to be a valuable asset. Greater concern must be addressed to the management of the system, not only by those in the Loup basin, but by those who are dependant on the quality and quantity thereof.

Contained Water

A review of the DWR dam inventory printout indicates that the amount of water stored behind dams in the Lower Platte North NRD is relatively insignificant. Storage capability at maximum acre feet of storage amounts to about 24,300 acre feet with normal storage about 4,100 acre feet. Of the maximum storage capability, two structures account for one-third of the capacity (Clear Creek 22-A and Trouble Creek). These two also account for one-fourth of the normal storage.

The potential for storing surface water in the District is excellent due to the topography in the District. The needs for stored surface water includes water quality improvement, flood control, industrial use, irrigation, recreation, and wildlife enhancement.

Water Uses

Surface water uses for irrigation have been documented by USGS and the DWR. The following information shows the surface water use by County, in the District.

County	Diversion Permits	C.F.S. Granted
Boone	1	0.94
Butler	20	33.70
Colfax	35	30.18
Dodge	7	8.32
Madison	0	0
Platte	27	19.77
Saunders	<u>89</u>	<u>97.15</u>
TOTAL	179	191.07

Those permits are granted for a total of 17,836 acres of land.

Supplemental Sources

The NRC, Supplemental Water Supplies Policy Issue Study, 1984, defines supplemental water as additional water provided to supply that which is lacking, needed, or desired. The study further reports that, "because water is unevenly distributed in time and space, storage and transportation are the key elements in any strategy to provide supplemental water...supplemental water is considered to be water which is made available for use within a specific area by moving it from one area to another and/or storing it for use at a later time."

Supplemental sources of water are normally few in number and first supply needs are aimed at acquiring unappropriated stream flow of the Loup and Elkhorn River systems. These sources along with Platte River flow could be moved and placed in storage reservoirs for surface distribution. Economics plays an important part of any decision attempting to develop this method

of supplemental supply augmentation. This method is not completely dismissed as a possibility in the Lower Platte North NRD, but its application at the present time or near future is not on the immediate planning horizon.

Some viable sources that must be determined and substantiated are: more extensive use of the Dakota Aquifer (dependent on quality and quantity monitoring), development of larger flood control structures with irrigation potential, management of moisture in the soil profile, and reduction of evapotranspiration (crop changes, irrigation scheduling, lowering water table to protect from loss by evapotranspiration). These latter methods of supplemental supplies appear most feasible in providing more usable water and saving normal supplies. More in-depth analysis must be included in developing management decisions and future supplemental supply augmentation.

GROUNDWATER QUALITY

General Conditions

The characterization of groundwater quality in the Lower Platte North NRD has become increasingly easier with the wealth of water quality samples collected during the past seven years. More than 1,300 wells have been sampled for various constituents ranging from general inorganic chemicals to radioactive isotopes, nitrates, and pesticides. Most inorganic chemicals are considered to be indicative of the natural quality of the water. As water is a solvent for many salts and some types of organic matter, it reflects the chemical constituents of the aquifer and aquifer material in the time frame it is sampled.

The background conditions of groundwater in the principal aquifer types in the Lower Platte North NRD are discussed below, in part from Engberg (1984).

The quality of water from the Quaternary deposits is generally quite variable. (Exhibit 35 shows distribution of Holocene & Pleistocene deposits). The quality is affected by recharge from precipitation, man induced changes, and from stream flow. In areas of shallow depth to water, the quality can be and frequently is strongly affected by local point source contamination (discussed in a subsequent section). The importance of maintaining good quality water in this aquifer is pointed out by Engberg, as he states over one-half of the groundwater used in Nebraska is from this system. He points out that the state mean for total dissolved solids (T.D.S.) is about 437 mg/L. Total dissolved solids is a good general indicator of water quality, reflecting in part the sodium content and degree of mineralization of the water. His information also shows that the state mean for nitrate in this system is 5.3 mg/L, which is just over half the drinking water limit of 10 mg/L. Exhibit 36 shows that the generalized T.D.S. in the Lower Platte North NRD ranges between 251-750 mg/L. Exhibit 37 demonstrates that calcium concentrations in most of Platte, Colfax, and half of Butler Counties are higher than 75 mg/L. Most of Saunders, Dodge, and the eastern half of Butler are not plotted due to the lack of sufficient data. Alkalinity, Exhibit 38, normally ranges between 101-300 mg/L except in

TABLE 8
Summary of EPA Health Advisories
for Chemicals

This pesticide summary is offered as a quick reference to compare chemicals for which the Environmental Protection Agency has prepared Lifetime Health Advisory Levels.

Note: When details are needed, the EPA Health Advisory summary for the chemical in question should be consulted. The pen and ink changes have been made on the summaries to correct them as of November 14, 1989. The risk levels change occasionally as the EPA receives additional data about the chemical. Changes are printed in the Congressional Record or inquiries on risk level can be made to the EPA regional office in Kansas City.

LHAL - Lifetime Health Advisory Level - The level at or below which EPA data indicates the chemical presence in water can be consumed for a lifetime with no more than a one in one million chance of causing cancer and no chance of other non cancer health problems. These levels are subject to change as more data becomes available. When chemicals are considered carcinogenic an additional margin of safety is added to the LHAL.

LHAL Units - Are in either Micrograms per liter (parts per billion) or milligrams per liter (parts per million).

MCL - Maximum Contaminant Level - The maximum level of contamination in drinking water allowed by federal law when being provided for public use. Water at or below this level has not shown to produce long-term adverse health effects.

Abbreviations for Water Treatment

ACA - Activated Carbon Adsorption (Includes both granular & powdered)
(GACA) - Granular Activated Carbon Adsorption
(PACA) - Powdered Activated Carbon Adsorption

IE - Ion Exchange

OO - Ozone Oxidation

RA - Resin Adsorption

RO - Reverse Osmosis

UI - Ultra-violet Irradiation

Name	Common Names	Use	Lifetime Health Advisory Level (LHAL) and MCL Guidelines	Hypothetical Cancer Risk When Consumed in Water at or Below Listed Level for a Lifetime ¹	Risk When Ingested Above LHAL Based on Human Data and Animal Studies	Most Promising Way to Remove from Water
Acifluorfen	Blazer, Carbofluorfen Tackle, RH-6201	Herbicide	No designated LHAL	1 Microgram per liter One chance in one million of cancer	Damage to heart, liver, kidneys, blood, fetal development	ACA & RO
Alachlor	Lasso	Herbicide	No designated LHAL MCL = 2 Micrograms per liter	0.4 Micrograms per liter. Once chance in one million of cancer	Damage to liver, kidney, spleen and eyes	No Information available
Aldicarb & Aldicarb Sulfoxide	Temik	Pesticide	10 Micrograms per liter	Data inadequate	Inhibition of enzyme cholinesterase	ACA
Aldicarb Sulfone	Temik	Pesticide	40 Micrograms per liter	Data inadequate	Inhibition of enzyme cholinesterase	ACA
Ametryn	Ametrex, Gesapax	Herbicide	60 Micrograms per liter	Data inadequate	Damage to liver	GACA
Atrazine	Atranez Crlsazine	Herbicide	3 Micrograms per liter	Possible carcinogen	Tremors & damage to liver and heart	ACA
Baygon	Propoxur, Unden Blattanex	Insecticide	3 Micrograms per liter	Possible carcinogen	Damage to various organs and nervous system and inhibits production of enzyme, cholinesterase	GACA
Bentazon	Basagram	Herbicide	20 Micrograms per liter	Data inadequate	Weight loss and inflammation of prostate glands	No information available
Bromacil	Borea, Hyvar, Urgan	Herbicide	90 Micrograms per liter	Possible carcinogen	Damage to testes, liver and thyroid gland	
Butylate	Sutan, R-1910	Herbicide	350 Micrograms per liter	Data inadequate	Damage to testes, liver, kidney & fetal development	No information available
Carbaryl	Sevin	Insecticide	700 Micrograms per liter	Data inadequate	Damage to liver and kidneys, reduced fertility, inhibition of cholinesterase	ACA, OO
Carbofuran	Furadan, Curaterr	Pesticide	40 Micrograms per liter	None	Damage to testes and uterus plus inhibited of cholinesterase.	GACA, PACA

Name	Common Names	Use	Lifetime Health Advisory Level (LHAL and MCL) Guidelines	Hypothetical Cancer Risk When Consumed in Water at or Below Listed Level for a Lifetime ¹	Risk When Ingested Above LHAL Based on Human Data and Animal Studies	Most Promising Way to Remove from Water
Carboxin	D-735, DCMO, Vitavax	Fungicide, seed protectant and wood preservative	700 Micrograms per liter	Data inadequate	Damage to kidneys and liver	ACA and RO
Chloramben	Amiben, Vegiben	Herbicide	100 Micrograms per liter	Data inadequate	Damage to liver and fetal development	ACA, IE
Chlordane (All uses canceled in April, 1988)	Dichlorodene, Octachlor, Velsicol-1068	Insecticide	No designated LHAL. MCL = 2 Micrograms per liter	0.03 Micrograms per liter. One chance in one million.	Damage to liver and central nervous system and cancer	GACA, PACA
Chlorothalonil	Bravo, Daconil	Fungicide	1.5 Micrograms per liter	2 Micrograms per liter. One chance in one million	Kidney damage and excessive weight loss	ACA, RO
Cyanazine	Bladex	Herbicide	10 Micrograms per liter	Data inadequate	Damage to liver, blood, birth defects	ACA
Dalapon	Dowpon, Ded-weed	Herbicide	200 Micrograms per liter	Data inadequate	Changes in kidney and liver weights	ACA, IE
2,4-Dichloro-phenoxyacetic Acid	24D, Oqua-Kleen	Herbicide	70 Micrograms per liter	Data inadequate	Damage to liver and kidneys, changes in blood	ACA, RO
DBCP	Nemafune	Pesticide (for nematodes)	No designated LHAL. MCL = 0.2 Micrograms per liter	0.03 Micrograms per liter. One chance in one million	Damage to kidneys, liver and testes	Aeration, ACA
Diazinon	Spectracide, Basudin, AG-500	Insecticide	0.6 Micrograms per liter	None	Inhibition of cholinesterase	RO, GACA, OO
Dicamba	Banvel	Herbicide	200 Micrograms per liter	Data inadequate	Changes in liver and weight loss	ACA
1,2-Dichloropropane	Propylene dichloride or 1,2 DCP	Solvent	No designated LHAL. MCL = 5 Micrograms per liter	0.6 Micrograms per liter. One chance in one million	Damage to liver	GACA, Tower Aeration
1,3-Dichloropropene	DCP, Telone	Soil fumigant	No designated LHAL	0.2 Micrograms per liter. One chance in	Damage to bladder and kidneys	GACA

Name	Common Names	Use	Lifetime Health Advisory Level (LHAL and MCL) Guidelines	Hypothetical Cancer Risk When Consumed in Water at or Below Listed Level for a Lifetime ¹	Risk When Ingested Above LHAL Based on Human Data and Animal Studies	Most Promising Way to Remove from Water
Dieldrin (Uses have been cancelled)	HEOD, Dieldrex	Pesticide for soil insects	No designated LHAL	0.002 Micrograms per liter. One chance in one million	Damage to bladder, liver and birth defects	RO, GACA, OO
Dinoseb	DNBP, Dinitro	Herbicide, desiccant, dormant fruit spray	7 Micrograms per liter	Data inadequate	Damage to liver and thyroid, reduced fertility-birth defects	ACA, IE
Diphenamid	Dymld, Enide	Herbicide	200 Micrograms per liter	Data inadequate	Damage to liver and thyroid	GACA
Disulfoton	Disyston Dithiodemeton	Insecticides	0.3 Micrograms per liter	None	Reduced organ weights, damage to eyes, genetic mut., decreased chol'ase	None known
Diuron	DCMU, Karmex	Herbicide	10 Micrograms per liter	Data inadequate	Damage to spleen, fetal development and methemoglobinemia	GACA, chlorination
Endrin (Manufacturing eliminated)	---	Insecticide	2.0 Micrograms per liter	Non carcinogenic-- (manufacturing cancelled)	Damage to liver and convulsions	ACA, RO, Coagulation filtration
Ethylene Dibromide (All pesticide uses cancelled)	EDB, Dowlume, Pestmaster	Soil fumigant	No designated LHAL MCL = 0.05 Micrograms per liter	0.0004 Micrograms per liter. One chance in one million	Damage to liver, kidneys, and testes, genetic mutations	Aeration, boiling and ACA
Ethylene Thiourea	ETU	Fungicide	No designated LHAL	0.2 Micrograms per liter. One chance in one million	Damage to thyroid, genetic mutations and birth defects	No information available
Fenamiphos	Nemacur	Nematode control	2 Micrograms per liter	Data inadequate	Chance in organ weights, reduced fetal weights, and survival, abnormalities in bone development, inhibition of enzyme development	No information available
Fluometuron	Cotoron, C-2059	Herbicide	90 Micrograms per liter	Data inadequate	Damage to liver, kidneys and spleen	GACA

Name	Common Names	Use	Lifetime Health Advisory Level (LHAL and MCL) Guidelines	Hypothetical Cancer Risk When Consumed in Water at or Below Listed Level for a Lifetime ¹	Risk When Ingested Above LHAL Based on Human Data and Animal Studies	Most Promising Way to Remove from Water
Heptachlor (All uses cancelled)	3-Chlorochlordene	Insecticide	No designated LHAL. MCL = 0.4 Micrograms per liter	0.008 Micrograms per liter. One chance in one million	Damage to liver and chromosomes	GACA and aeration
Hexachlorobenzene	HCB-Perchlorobenzene	Fungicide-Insecticide	No designated LHAL. MCL = 1 Microgram per liter	0.02 Micrograms per liter. One chance in one million	Damage to liver, kidneys, ovaries, skin and nervous system. Decreased fetal weight.	ACA
Hexazinone	Velpar	Herbicide	200 Micrograms per liter	Data inadequate	Damage to liver, blood and chromosomes and reduced body weight of offspring	No information available
Methomyl	Dupont 1179, Lannate or Nudrin	Insecticide	200 Micrograms per liter	Data inadequate	Damage to kidney, spleen, liver, and bone marrow	GACA
Methoxychlor	Malate	Insecticide	400 Micrograms per liter	Data inadequate	Inhibition of growth	GACA, RO
Metolachlor	Dual, Primextra	Herbicide	100 Micrograms per liter	Possible carcinogen	Damage to testes, Methemoglobinemia	GACA
Metribuzin	Lexone, Sencor	Herbicide	200 Micrograms per liter	Data inadequate	Damage to kidneys	GACA
Nitrate and Nitrite	---	Fertilizer, food preservative	Nitrate-10 Milligrams per liter Nitrite-1 Milligram per liter	Data inadequate	Methemoglobinemia in small children up to age 6 months	IE, Distillation, and RO
Oxamyl	Vydate, DPX-1410	Insecticide	200 Micrograms per liter	Does not cause cancer	Decreased weight, lower fetal survival, and inhibition of enzyme cholinesterase	ACA
Pentachlorophenol (To be removed from registered list)	PCP	Wood preservative, herbicide, disinfectant, Mossicide, defoliant	200 Micrograms per liter	Possible carcinogen	Damage to liver and kidney, delayed fetal development	ACA

Name	Common Names	Use	Lifetime Health Advisory Level (LHAL and MCL) Guidelines	Hypothetical Cancer Risk When Consumed in Water at or Below Listed Level for a Lifetime ¹	Risk When Ingested Above LHAL Based on Human Data and Animal Studies	Most Promising Way to Remove from Water
Picloram	Tordan	Herbicide	500 Micrograms per liter	Data inadequate	Damage to liver, thyroid, testes, and arteries	GACA
Prometon	Gesafam, Pramitol	Herbicide	100 Micrograms per liter	Data inadequate	Adverse effects on growth	GACA, RO, RA
Pronamide	Kerb, Propyzamide	Herbicide	50 Micrograms per liter	Possible carcinogen	Damage to liver	RO
Propachlor	Bexton, Ramrod	Herbicide	90 Micrograms per liter	Data inadequate	Damage to liver, kidney and blood	PACA, OO, RO
Propazine	Gesoml, Mlogard, Primatol P	Herbicide	10 Micrograms per liter	Possible carcinogen	Decreased fetal weight and bone development.	No information available
Propham	IPC, Beet-Kleen	Herbicide	100 Micrograms per liter	Data inadequate	Delayed fetal development, inhibition of enzyme, cholinesterase	GACA
Simazine	Princep, Aquazine	Herbicide	1 Micrograms per liter	Possible carcinogen	Causes tremors, damage to testes, kidneys, liver, thyroid, sperm production, gene mutation	ACA
2,4,5-Trichlorophenoxyacetic (All uses cancelled by EPA)	2,4,5-T, Dacamine, Fence rider	Woody plant control	70 Micrograms per liter	Data inadequate	Damage to liver, kidney, and lungs, reduced fetal weight	ACA
2,4,5-TP (All uses cancelled by EPA)	Silvex	Herbicide	50 Micrograms per liter	Data inadequate	Adverse effect on liver and kidneys	ACA
Tebuthiuron	Graslan, Spike	Herbicide	500 Micrograms per liter	Data inadequate	Damage to pancreas, excessive weight loss	No information available

Name	Common Names	Use	Lifetime Health Advisory Level (LHAL or MCL) Guidelines	Hypothetical Cancer Risk When Consumed in Water at or Below Listed Level for a Lifetime ¹	Risk When Ingested Above LHAL Based on Human Data and Animal Studies	Most Promising Way to Remove from Water
Terbacil	Sinbar	Herbicide	90 Micrograms per liter	Non-carcinogenic	Damage to liver, reduced fetal weight	No information available
Terbufos	Counter	Insecticide	0.9 Microgram per liter	Non-carcinogenic	Damage to eyes and stomach, disturbs fetal development and inhibits enzyme, cholinesterase	ACA, IE
Trifluralin	Treflan	Herbicide	5 Micrograms per liter	Possible carcinogen	Damage to liver and kidneys, decreased fetal weight and increased miscarriages	RO, GACA, and conventional coagulation, sedimentation, and filtration

¹ When chemicals are considered carcinogenic, an additional margin of safety is provided in setting the Lifetime Health Advisory level.



Health Advisory Summaries

EPA has prepared the attached Health Advisory Summaries for participants in the National Pesticide Survey and is now making them available to the general public. The Survey is testing a statistically representative sample of 1,350 wells — some in every state — in order to provide a national assessment of pesticide contamination of drinking water wells.

Health advisory information has been prepared for the substances listed below because of their potential for reaching drinking water. These pesticides are among the more than 100 pesticides and breakdown products that the Survey is testing for during its two-year study of private and community water system wells. The Health Advisory Summaries describe possible health effects of these pesticides and suggest actions that may be taken by a well owner or community system operator to ensure a safe drinking water supply.

The Summaries are based on longer, more technical scientific documents called Health Advisories, which identify, for each contaminant, the level of pesticide concentration in drinking water that would not pose a health risk. These levels, based on human data or experimental animal studies, include a "margin of safety."

Appropriate Health Advisory Summaries are sent to well owners and operators when the National Pesticide Survey finds pesticides in their drinking water wells. This information is also being made available to federal, state, and local officials and to industry, farm and environmental groups for further distribution. Health Advisory levels are offered as guidance. They are subject to change as new information becomes available. Experts can advise well owners on the appropriate actions to take if pesticides are found in drinking water.

Information on how to obtain the full Health Advisories or the Summaries can be obtained by calling the EPA's Safe Drinking Water Hotline's toll-free number, Monday to Friday, 8:30 a.m.-4:30 p.m. E.S.T. The number is 1-800-426-4791 or, in Washington, D.C., 382-5533.

For more information on the Survey, write to: Director, National Pesticide Survey, Office of Drinking Water (WH-550A), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460.

LIST OF HEALTH ADVISORY SUMMARIES

Acifluorfen	Chlordane	Endrin	Pentachlorophenol
Alachlor	Chlorothalonil	Ethylene dibromide	Picloram
Aldicarb & Aldicarb sulfone & Aldicarb sulfoxide	Cyanazine	Ethylene thiourea	Prometon
Ametryn	Dalapon	Fenamiphos	Pronamide
Atrazine	2,4-D	Fluometuron	Propachlor
Baygon	DBCP	Heptachlor & Heptachlor epoxide	Propazine
Bentazon	Diazinon	Hexachlorobenzene	Propham
Bromacil	Dicamba	Hexazinone	Simazine
Butylate	1,2-Dichloropropane	Methomyl	2,4,5-T
Carbaryl	1,3-Dichloropropene	Methoxychlor	2,4,5-TP (Silvex)
Carbofuran	Dieldrin	Metolachlor	Tebuthiuron
Carboxin	Dinoseb	Metribuzin	Terbacil
Chloramben	Diphenamid	Nitrate/Nitrite	Terbufos
	Disulfoton	Oxamyl	Trifluralin
	Diuron		

TABLE 9**Recommended Concentration Limits
for Water Used for Livestock and
Irrigation Crop Production
(Freeze and Cherry 1979)**

Constituent	Livestock Limits (mg/L)	Crops Limits (mg/L)
Total Dissolved Solids		
Small Animals	3000.0	
Poultry	5000.0	
Other Animals	7000.0	
Nitrate-Nitrogen	45.0	
Arsenic	0.2	0.1
Boron	5.0	0.75
Cadmium	0.05	0.01
Chromium	1.0	0.1
Fluoride	2.0	1.0
Lead	0.1	5.0
Mercury	0.01	
Selenium	0.05	0.02

Water Analyses for Inorganic Chemicals
Public Supply Wells *

* From the Nebraska Health Department
publication "Drinking Water Quality
in Nebraska Communities, 1984."

Community	Well No.	Date Sampled	pH	TDS	Fe	Mn	F	Alk	Hard	Ca	NO ₃ -N	Cl	SO ₄	Na
Abie	64-1	9-74	7.6	1108	0.6	0.0	0.83	312	352	99	0.6	216	201	270
Bellwood	68-1	7-76	7.8	424	0.3	0.1	0.26	264	320	96	1.2	8	97	14
	76-1	7-76	7.9	520	0.5	0.7	0.24	292	384	122	0.0	8	128	12
Bruno	36-1	9-74	7.3	358	0.0	0.0	0.32	144	264	75	4.2	22	96	13
	65-1	9-74	7.5	298	0.0	0.0	0.37	208	236	64	4.4	4	6	14
Cedar Bluffs	57-1	6-76	7.3	330	0.0	0.0	0.22	272	276	92	0.8	8	11	8
	69-1	5-74	7.4	486	0.5	0.4	0.35	276	312	96	2.2	4	60	14
Colon	61-1	4-77	7.5	370	15.0	0.2	0.42	312	280	80	0.2	0	38	25
	68-1	4-77	7.5	400	0.0	0.2	0.46	312	284	82	0.0	0	38	24
David City	47-1	1-78	7.7	428	1.1	0.4	0.27	308	328	101	0.2	2	59	12
	52-1	1-78	6.9	448	0.6	0.4	0.27	300	328	101	0.0	2	65	11
	63-1	2-76	6.9	798	2.3	1.4	0.27	372	532	165	0.0	8	245	8
	66-1	1-78	7.4	538	0.2	0.6	0.28	368	424	115	0.0	2	92	17
	72-1	1-78	7.9	352	4.5	0.6	0.24	300	320	96	0.2	0	27	7
Fremont	34-1	6-76	7.9	406	0.0	0.0	0.52	228	280	86	0.0	12	99	14
	39-1	6-76	7.6	616	0.0	0.4	0.33	212	412	120	0.6	32	215	19
	41-1	6-76	7.7	466	0.0	0.0	0.32	184	280	40	3.2	30	131	20
	53-1	6-76	8.2	672	0.0	0.1	0.32	236	444	134	1.8	20	250	15
	54-1	6-76	7.8	596	0.0	1.0	0.38	252	380	115	0.5	16	203	24
	56-1	6-76	8.1	658	0.7	0.0	0.31	212	440	139	1.6	12	290	18
	67-1	6-76	8.3	272	0.0	0.0	0.39	180	192	62	0.0	12	52	12
	70-1	6-76	8.3	392	0.0	0.3	0.34	188	250	80	0.6	16	105	17
	77-1	7-78	7.4	392	0.0	0.2	0.36	152	220	72	6.6	10	93	22
	77-2	7-78	7.5	390	0.1	0.6	0.25	172	220	70	0.6	12	101	21
	77-3	7-78	7.5	378	0.5	0.1	0.27	172	196	67	0.4	10	86	23

TABLE 10
(Continued)

Community	Well No.	Date Sampled	pH	TDS	Fe	Mn	F	Alk	Hard	Ca	NO ₃ -N	Cl	SO ₄	Na
Lindsay	23-1	1-83	7.2	322	0.9	Nil	0.27	296	284	85	0.1	2	19	17
	75-1	1-83	7.2	384	0.1	0.1	0.25	276	316	99	3.8	22	21	16
	43-1	1-83	7.2	416	Nil	0.2	0.25	320	336	99	4.5	14	11	26
Malmo	04-1	4-76	7.3	436	0.2	0.0	0.28	256	280	80	8.2	14	40	12
Mead	58-1	5-75	7.5	428	1.0	0.5	0.52	312	296	94	0.4	2	43	16
	69-1	8-76	7.6	318	0.1	0.0	0.48	248	260	70	3.3	4	34	12
	76-1	3-78	7.8	392	1.8	0.2	0.62	276	316	88	3.0	0	59	15
Memphis	72-1	3-77	7.1	204	0.0	0.0	0.38	152	140	38	1.2	4	15	12
Morse Bluff	62-1	9-75	7.2	386	0.2	0.1	0.29	284	304	93	0.0	2	50	9
	79-1	6-79	7.3	350	0.2	0.0	0.21	288	292	93	2.1	4	51	14
Newman Grove	50-1	4-77	7.2	374	0.0	0.0	0.28	328	312	91	1.2	6	19	15
	63-1	4-77	7.2	374	0.0	0.0	0.30	300	308	94	1.4	8	23	11
North Bend	67-1	9-75	7.4	574	0.0	0.0	0.39	304	344	109	0.0	30	104	18
Platte Center	78-1	3-79	7.3	450	0.2	0.0	0.23	292	320	100	1.6	4	23	14
Prague	61-1	4-74	7.9	364	20.5	2.3	0.33	276	300	75	0.2	8	31	27
	70-1	4-74	7.4	566	10.0	4.0	0.37	344	380	106	0.0	46	57	39
Rogers	17-1	5-76	7.4	400	0.0	0.0	0.29	300	328	90	1.2	8	59	14
Schuyler	46-1	1-83	7.3	364	0.0	0.0	0.35	236	264	78	3.1	18	27	23
	60-1	1-83	7.3	390	0.0	0.0	0.37	256	288	86	5.3	12	31	22
	67-1	1-83	7.3	776	0.0	0.0	0.38	288	504	144	10.3	178	50	63
	70-1	1-83	7.3	512	0.0	0.0	0.46	304	360	99	5.3	42	41	31
	74-1	1-83	7.4	832	0.1	0.0	0.38	284	512	146	9.5	188	52	66
Wahoo	33-1	10-75	7.6	472	0.0	0.0	0.32	256	300	88	6.3	10	58	14
	38-1	6-73	8.4	408	0.0	0.0	0.30	256	260	75	9.1	8	20	32
	53-1	10-75	7.4	440	0.0	0.0	0.32	244	276	80	2.6	10	58	12
	63-1	10-75	7.5	488	0.0	0.0	0.34	272	304	88	5.4	16	62	17

TABLE 10 (Continued)

Community	Well No.	Date Sampled	pH	TDS	Fe	Mn	F	Alk	Hard	Ca	NO ₃ -N	Cl	SO ₄	Na
Weston	30-1 58-1 (Composite)	4-76	7.4	388	0.1	0.0	0.32	252	268	80	0.8	10	40	8
Yutan	08-1 48-1 69-1 (Composite)	9-74	7-4	418	0.0	0.0	0.41	300	284	86	0.0	10	46	52

ABBREVIATIONS USED IN COLUMNS:

pH - The relative acidity of the water. A pH of 7.0 is considered neutral, less than 7 is increasingly acidic, greater than 7 is basic or alkaline.

TS - Total solids, in mg/l, water with more than 1,000 mg/l will likely contain chemicals that cause taste or odor and make water corrosive.

Fe/Mn - Iron and Manganese in mg/l, in excess cause staining of plumbing fixtures and clothes; may plug screens and pipes.

F - Fluoride in mg/l, beneficial to children's teeth at about 1 mg/l.

Alk - Total alkalinity, as mg/l calcium carbonate, ability of water to neutralize acid, caused by carbonate and bicarbonate ions.

Hard - Total hardness, as mg/l calcium carbonate, "soap wasting" property of water, the "harder" the water, the more soap required - less than 50 mg/l is considered "soft", up to about 200 mg/l not objectionable.

Ca - Calcium, mg/l, a complexing mineral.

NO₃ - Nitrate, as mg/l of NO₃-N, alters blood chemistry and restricts oxygen carrying capability of blood.

Cl - Chloride, mg/l, a complexing mineral.

SO₄ - Sulfate, as mg/l, may impart a taste to water and acts as a laxative.

Na - Sodium, mg/l, sewage waters are high in Na, may be unsafe to those on sodium-restricted diets.

central Butler County where it is normally above 300 mg/L. Sulfate concentrations, Exhibit 39, are generally between 11-100 mg/L.

Water quality of the Ogallala aquifer contains the following mean concentration levels of constituents: total dissolved solids - 422 mg/L, calcium - 56 mg/L, alkalinity - 170, sulfate - 25 mg/L. The exact concentrations of these chemicals are not known as the present data are limited, but the LPN NRD's future plans are to sample the portion of Shell Creek watershed using the Ogallala aquifer.

Dakota waters have not been sampled in quantity sufficient to yield generalizations about water quality. It is known that the quality of Dakota water is extremely variable but is nevertheless the source of drinking water for Abie and the partial source of supply for Memphis and Yutan.

As may be seen from a comparison of Tables 8 and 9, Drinking Water standards are more restrictive than are water quality standards for livestock and crops. Table 10 provides a look at sample data from public water supplies within the Lower Platte North NRD, for sample periods as indicated. The data provide a general drinking water supply chemistry for the District and a background on which the LPN NRD built its quality monitoring program.

Quality Indicators

Two primary constituents were selected to illustrate the general chemical composition of groundwater found in the District and are monitored, along with other chemicals, to assess the changes of quality. These two constituents are total dissolved solids (TDS) and iron.

Total Dissolved Solids - (T.D.S.)

Total dissolved solids (T.D.S) is a general indicator of water quality for most purposes. It reflects in part the sodium content and degree of mineralization of the water. This is important to the continued use of water for irrigation, to the aesthetic quality of the drinking water supply, and to the use of water for some industrial purposes.

Total dissolved solids (TDS) values are widely used in evaluating water quality and provide a convenient means of comparing types of waters as water containing excessive TDS may not be suitable for certain uses. The Safe Drinking Water Act has set a secondary limit of 500 mg/L (parts per million) for drinking water. Water with more than 1,000 mg/L will likely contain some chemicals that impart a taste or odor, or make the water encrusting or corrosive (NDOH 1984).

The distribution of TDS within the NRD is dependent upon several factors including the source aquifer, the depth and construction of the well, and how much the well is used. In general, higher TDS values are found in wells where the source aquifer is the Dakota Sandstone.

Exhibit 40 shows the distribution of TDS from wells within the LPN NRD. With the exception of eight wells, all wells tested were below 1,000 mg/L TDS. The probability of obtaining water with TDS values above 500 mg/L generally increases south of the Platte River in Butler and Western Saunders Counties. Although TDS values above 500 mg/L can be found throughout the LPN NRD, groundwaters in the Platte Valley near Fremont, and along Shell Creek, generally have the lowest TDS values.

Iron

Although iron is the second most abundant element in the earth's outer crust, concentrations present in groundwater generally are small. Iron is an essential element for animals and plants. If present in water in excessive amounts, however, iron will cause staining of laundry and plumbing fixtures and impart a strong taste and odor to the water. Therefore, iron may be objectionable in domestic and industrial water supplies (Hem 1985). The Safe Drinking Water Act has set a secondary limit of 0.3 mg/L (parts per million) for iron. It is a useful indicator parameter for evaluating the suitability of a water supply for certain uses.

Figure 41 illustrates the distribution of iron concentrations reported within the LPN NRD. Concentrations of iron in groundwater can be affected by such factors as the composition of the formation rock, the amount of recharge available to the aquifer, chemical conditions in the aquifer, and the depth and pumping rate of the well. Corrosion of metal casing and pump parts can contribute significant iron to well water and in these cases, data are not representative of the aquifer. In general, higher iron concentrations are found in the eastern one-third of the LPN NRD, although almost all wells tested show somewhat elevated iron (above 0.2 mg/L). Groundwater from wells located in the Todd Valley and near Fremont and Wahoo appear to have a higher probability of containing elevated iron concentrations.

VULNERABILITY TO POLLUTION

The vulnerability of groundwater to spills and releases of contaminants or the application of fertilizers and pesticides is dependent upon many factors including the volume and type of the potential pollutant and the subsurface hydrogeologic features of the area. Topography, recharge, soils, the vadose zone (unsaturated soils above the water table), and depth to water are several of the physical features which will influence whether a pollutant can impact groundwater. A comparison model named DRASTIC (see Page 49) uses the parameters listed above and others to help predict the vulnerability of groundwater to surface pollution in areas larger than 100 acres. The following sections discuss in detail some of the key parameters affecting pollution potential in the NRD and concludes with results of the DRASTIC modeling done by Spalding (1990) in the Lower Platte River Basin study, the impact of land use on groundwater reservoirs, and wellhead protection.

Topography

The slope of the land determines the likelihood that a contaminant will run-off or will infiltrate to the groundwater. Level land offers the greatest potential for pollution because neither the pollutant nor precipitation run-off. Steeper slopes provide less opportunity for infiltration but more contaminants are allowed to run-off into surface water, possibly polluting groundwater from streams.

A generalized map of topography in the LPN NRD was compiled from the Spalding (1990) data files and is presented on Exhibit 42. From this exhibit it is apparent a large portion of the land mass of the NRD is flat with relatively gentle slopes, especially in the Todd Valley and Platte Valley areas. These areas would be more conducive to infiltration.

Recharge

Recharge is the principal vehicle for transporting a contaminant through the unsaturated zone to the water table. It can be of three types (1) natural recharge (which is precipitation infiltrating through the ground and percolating to the water table); (2) irrigation return flows; and (3) artificial recharge which augments precipitation. The greater the amount of recharge, the more water is available for leaching and transport of a contaminant and the greater the potential for pollution.

Recharge is one of the most difficult, if not the most difficult, hydrogeologic parameter to quantify largely due to the lack of available data describing observed recharge rates in Nebraska. Estimates are presented in various UNL theses and some limited site-specific observations have been made. In the early 1980's, CSD and other State agencies made recharge estimates for the State Water Planning Process. Spalding (1990) in the Lower Platte Valley Study incorporated some of this information and utilized other guidelines to infer this parameter for his study. Ten to fifteen percent of the mean annual precipitation was assumed to approximate recharge on flat, silty soils. Slightly higher recharge rates of 2-4 inches per year were assumed on flat loamy or sandy soils. In areas with extensive irrigation, irrigation return flows were conservatively estimated at six inches or about 30% of the irrigation water applied. Recharge was estimated at less than 2 inches in the steep glacial till uplands where the topography is more conducive to runoff than to recharge.

The lowest recharge rates occur in the silty clay loams of the uplands with slightly higher rates in the loamy and sandy Platte River Valley Plain soils. The highest recharge rates occur in areas where natural recharge on flat, silty soils is augmented by irrigation return flows. Irrigated lands where irrigation return flows may serve as potential recharge, are apparent on the land use map (Exhibit 10). A generalized map of net recharge is presented as Exhibit 43, compiled from Spalding (1990) data files. The highest recharge areas are found along the Platte River Valley, the Todd Valley, and Butler County.

Soils

Soils significantly affect the amount of recharge to an aquifer, as well as the ability of a contaminant to move vertically through the soil. Soils can serve to filter, sorb, or otherwise attenuate contaminants. "In general, the type of clay in the soil, the shrink/swell potential of the clay, and the grain size of the soil affect the soils capability to reduce the pollution potential. Generally, the less the clay shrinks and swells and the smaller the grain size, the less the pollution potential". (Spalding 1990, p. A-13). Soils are mapped and presented on Exhibit 4 and distribution of soils as they relate to pollution potential are mapped on Exhibit 43A. The soil ratings on Exhibit 43A were assigned to each soil type based on maps prepared by the Natural Resources Commission from Soil Conservation Service Maps.

Vadose Zone

The vadose zone is described as the unsaturated zone below the land surface and above the water table. The type of material in the vadose zone determines its contaminant attenuation characteristics. Biodegradation, neutralization, mechanical filtration, chemical reaction, volatilization, and dispersion are major attenuation processes occurring in the vadose zone. The vadose zone media also controls the path length and route of a contaminant and affects the time available for attenuation and the amount of material encountered. In general, the finer textured the media the lower the pollution potential.

Clay and other fine grained material in the vadose zone will significantly impede the downward migration of contaminants from the surface to the groundwater. Where the vadose zone is comprised of coarse grained sands or gravel, or where the water table is less than ten feet deep, contaminants leaching from the surface have a higher likelihood of impacting the groundwater quality.

The vadose (unsaturated) zone characteristics were compiled by Spalding (1990) and Exhibit 44 was prepared from the data files for that report. In general, shallow water tables and coarse grained vadose zone materials are more likely to occur in low lands along the Platte River and its tributaries. Thicker, fine grained vadose zone areas are more typical of upland areas throughout the NRD. Though not depicted on this Exhibit, recent soil survey activity indicates areas in the Todd Valley have sand and gravel deposits very near the surface. This can easily contribute to groundwater contamination.

Depth to Groundwater

Depth to water can be defined as the distance between the land surface and the surface of an unconfined aquifer. It determines the thickness of the geologic material through which a contaminant must move before reaching the aquifer and can affect the contact time between a contaminant and the surrounding media. As a general rule, the greater the depth to water, the longer the travel time in the unsaturated zone and the greater the opportunity for attenuation of a contaminant.

Exhibit 45 presents the relative depth to water within the NRD (compiled by Spalding 1990). Depth to water data were obtained from the U.S. Geological Survey, Conservation and Survey Division (CSD) groundwater files, test hole logs, and irrigation and municipal well registrations. In those areas where these data sources did not provide adequate information, depths to water were calculated using topographic and regional water table maps.

Depths to water range from less than 5 to greater than 100 feet in the LPN NRD. Shallow depths to water (<15 feet) occur in the Platte River Valley and its tributaries, and in the Todd Valley (<45 feet). The greater depths to water (>100 ft.) occur in the uplands of Butler and Saunders Counties.

DRASTIC

DRASTIC is a relatively new standardized methodology that predicts the pollution potential of groundwater in areas larger than 100 acres. DRASTIC is a screening tool which lends itself to mapping and facilitates comparisons of the relative potential of pollution in different areas. Because it was developed to evaluate pollution potential in relatively large areas, DRASTIC is used to provide a first approximation prior to site assessment. For example, a specific waste disposal site could not be selected with DRASTIC but areas that are hydrogeologically unsuitable could be eliminated from further consideration and more promising areas identified. Other potential uses of DRASTIC include prioritizing areas for groundwater monitoring and designating areas for groundwater protection.

DRASTIC is an acronym for the seven hydrogeologic factors evaluated to determine the potential for pollution of an aquifer. They are depth to water (D), net recharge (R), aquifer media (A), soil media (S), topography (T), impact of the vadose zone (I), and hydraulic conductivity of the aquifer (C). Each of these seven (7) factors has an associated weight factor and in calculation each data point is given a ranking. Exhibit 46 shows the DRASTIC index map generated for the NRD (from Spalding 1990). The lower the DRASTIC index number, the lower the vulnerability to pollution. The less vulnerable areas are shown in dark blue with the more vulnerable areas shown in yellow and orange. As expected, based on the DRASTIC Model, large areas of the uplands, which comprise a significant portion of the NRD, demonstrate a low pollution potential and a low vulnerability.

The Platte Valley and tributary drainage systems are clearly outlined by a higher DRASTIC index compared to the surrounding uplands. The higher potential areas are associated with low lying river valleys. The potentially higher vulnerable areas are located along the Platte River, the area of Saunders County containing the Lincoln well field, the area of Dodge County containing the Fremont Well Field, and the proposed MUD well field.

Land Use

Land use above a groundwater reservoir plays an important role in the potential for non-point source pollutants impacting the groundwater. A highly vulnerable area (such as the Platte Valley reservoir) becomes an area of concern primarily because of the intensity of irrigated cropland and associated use of agrichemicals overlying it. Many of the factors used in the DRASTIC evaluation combine to make this land most desirable for irrigated land development (e.g.; flat terrain, shallow depth to water, good aquifer recharge, well drained soils, etc.).

Comparison of Exhibits 10 (Land Use), 17 (Groundwater Reservoir areas), and 46 (Groundwater Pollution Potential), reveal that the Platte Valley groundwater Reservoir is the most vulnerable and intensively cropped reservoir, thus likely requiring the greatest level of management over the long-term. Municipal well fields which currently serve large populations such as the cities of Fremont and Lincoln are located in this sensitive reservoir, with the City of Omaha also considering expansion of their well-field into this reservoir.

The Shell Creek Reservoir contains some intensive irrigated land development, primarily in areas which are slightly more prone to pollution potential than others. These areas will require closer monitoring than the remainder of the Reservoir, which is primarily dryland cropland, pasture, and rangeland.

The Todd Valley Reservoir has experienced substantial irrigated crop development in an area with medium to low vulnerability characteristics. The remainder of the area is developed primarily as dryland cropland. This reservoir, however, will also require careful monitoring as there are areas of known contamination developing.

The Upland reservoirs are the least vulnerable in the NRD to pollution. In addition these areas are also characterized by dryland farming, pasture and rangeland. These factors combine to make this reservoir less likely to suffer man-induced water quality problems. However, this reservoir is also characterized by limited supplies of groundwater, and must be managed carefully to maintain existing supplies.

Well-Head Protection

The concept of delineating well-head protection areas (i.e., land areas that contribute recharge to a well) is a modern outgrowth of the historical public health guidelines of providing adequate spacing between wells and potential sources of contamination. Nebraska regulations promulgated under the Nebraska Safe Drinking Water Act (1976) required public water supplies to provide some control over the recharge areas of their wells. Few communities, however, exercised strict control to completely guarantee the integrity of the supply. In recent years, with increasing emphasis on pollution prevention rather than cleanup, more attention has been devoted to defining well-head protection areas for drinking water wells.

The City of Lincoln has been particularly interested in defining well-head protection areas (Ayers, 1991). Development of a new M.U.D. well field near Yutan will also likely result in study and protective measures. The LPN NRD encourages communities within the NRD to investigate and adopt well-head protection as a priority and will assist on a case by case basis with support of well-head protection area delineations.

NON-POINT SOURCE POLLUTION

Non-point source pollution is generally defined as pollution arising from diffuse sources where no single point of release can be identified. While non-point source pollution can be related to weathering of minerals or soil erosion, human activities are commonly the originator for non-point source groundwater pollution. The diffuse application of fertilizers, pesticides, and herbicides in agricultural operations as well as urban areas account for large areas of land with soils containing these additives. Heavy application of chemicals, coupled with heavy precipitation or irrigation can result in these chemicals leaching to the groundwater. Overland flow resulting from runoff can also provide a means of chemical leaching to the groundwater aquifer. In Nebraska, as well as in the LPN NRD nitrate is the most common non-point source pollutant.

Nitrate/Nitrogen

Nitrates can be found in most areas in Nebraska. Sources of nitrates include breakdown of organic material in soils, human or livestock wastes, and chemical fertilizers. When exposed to nitrate levels in excess of 10 mg/L in drinking water, infants younger than about six months of age may develop methemoglobinemia or "blue-baby" syndrome. The maximum contaminant limit for nitrate under the Safe Drinking Water Act is 10 ppm as nitrate-nitrogen (NO₃-N).

Non-point source nitrate pollution refers to areas demonstrating elevated nitrate levels which are generally a result of widespread agricultural fertilizer application, either commercial or organic. Non-point source nitrates may also be associated with elevated levels of other agricultural chemicals such as atrazine.

Point source nitrate contamination is more localized and is generally associated with human or livestock waste migrating into shallow groundwater. Poorly constructed or located domestic wells often have nitrate levels exceeding the drinking water standard of 10 ppm. It may be difficult to distinguish between non-point and point source nitrate pollution in these situations unless an on-site investigation is conducted.

The general distribution of nitrate-nitrogen within the NRD (irrigation and municipal wells) is mapped on Exhibit 47. A majority of the wells with elevated nitrates are domestic or stock wells which may be the result of point source contamination (Exhibit 48). Data suggest certain areas are developing non-point source problems, including the Schuyler-Richland areas, the Platte Valley of Butler County, and the Memphis-Mead Todd Valley area.

Two public water supply systems currently have reported nitrates exceeding 10 ppm (Department of Health, 1992). Other towns in the NRD which historically had elevated levels of nitrates have been able to significantly reduce or eliminate nitrates by abandoning older wells and installing new ones, these instances are not shown on this map if the problem has been corrected.

Herbicides

In 1988 and 1989, the Lower Platte North NRD cooperated with other NRD's in the Lower Platte Valley Groundwater Quality Study (Spalding, 1990) to sample selected wells for Atrazine. The study covered three Natural Resources Districts, and a total of 54 wells were sampled for Atrazine. Of these, 33 wells were sampled in the Lower Platte North NRD, primarily concentrated in the Platte and Todd Valley groundwater reservoirs, which are identified as potentially vulnerable areas. All wells sampled in the LPN NRD were below the proposed E.P.A. maximum contaminant level of 3 ppb, with the exception of two wells south of Fremont. It was determined through further study these wells were apparently contaminated from a point source. Low concentrations (0.02 - 3.0 ppb) were detected in the areas of intensive corn production where atrazine is applied annually, which suggests contamination is non-point source. Atrazine was detected in 23 of the 30 irrigation wells sampled, with detectable concentrations ranging from 0.02 to 14.8 ppb. Breakdown products of atrazine were not looked for, yet can be present in significant concentrations and go undetected with normal analytical procedures. Present on going research indicates that Atrazine breaks down to a set of products which are more harmful than the mother component. The LPN NRD continues to test for herbicides with triazine screening as was performed in the Todd Valley in 1990 and Shell Creek in 1991.

Pesticides

Studies in Nebraska and elsewhere in the Midwest have indicated significant levels of pesticides dissolved in groundwater locally and regionally (i.e., Nebraska's Central Platte Valley). Deep percolation of contaminated recharge through permeable soils has been identified as the primary path of contaminant travel which also places shallow aquifers in jeopardy. Pesticides are commonly found in surface waters, particularly during and after spring runoff events. Pesticide contamination may also occur as a point-source problem, typically associated with contaminated soils around a mixing or wash-out area. Triazine screens have been a regular part of the NRD monitoring activities since 1990. The nature and extent of significant pesticide contamination in the NRD will be better defined in the future with additional sampling and trend analysis.

Groundwater Quality Monitoring Network

The groundwater quality monitoring program was established in 1986, with the goal of sampling selected wells across the entire NRD for the purpose of establishing baseline data. The NRD is still in the process of completing the baseline sampling. The most critical reservoirs were sampled first where problems were most likely to be present. Baseline sampling has been completed in the Platte and Todd Valley reservoirs. A total of _____ wells were sampled from 1986-1993, analyzed for Nitrate, with selected wells tested with a triazine screen.

In 1991 intensive sampling (18 wells/township) was initiated in the Shell Creek reservoir. Completion of this reservoir's baseline sampling has been delayed by wet summers and decreased use of irrigation, but is intended to be completed in 1994.

Intensive sampling of Uplands in Butler and Saunders counties will be initiated in 1995. Areas irrigated for crop production will be tested for nitrate-nitrogen with a triazine screen and nitrogen isotopes used on selected wells.

After completion of baseline sampling the strategy for future data collection is as follows: approximately 3 irrigation wells/township will be selected as fixed (trend) monitoring points; an additional 3 wells/township will be selected randomly for analysis; fixed points will be sampled every 2-3 years with a new set of random wells selected for each sampling period; wells will be tested for nitrate-nitrogen, major ions, and with triazine screens and nitrogen isotopes on selected wells. All reservoirs will not be sampled the same year. The number of wells done per year will be dependent upon budget, manpower, and weather constraints. Problem areas will also be sampled more intensively as problems appear. It is intended (once the Groundwater Management Plan is adopted) that sample analysis by the landowners (required under the Plan) for nitrate-nitrogen be incorporated into the database, reducing the need for an elaborate monitoring network.

POINT SOURCE POLLUTION

Point source pollution generally impacts the quality of the groundwater in localized areas. However, when these sites are located above potential drinking water supplies or are located adjacent to domestic or municipal wells the impact of a spill or leak can affect larger land areas and populations. Even spills that are cleaned up to health-based cleanup goals of a regulatory agency can impact drinking water supplies as human taste thresholds of many chemicals are below the health-based "action" levels (e.g., toluene, xylenes).

There are numerous manufacturing facilities and petroleum handling facilities, grain bin storage sites, and fertilizer and pesticide storage facilities within the LPN NRD. Although new regulations and generally improved product and waste handling procedures have reduced the chances of a spill or release of contaminants from these type of activities, historically, numerous spills have been documented. Exhibits 49 and 50 presents the location of these reported pollution sources within the NRD, and within the City of Fremont, respectively.

Underground Storage Tank Hydrocarbon Releases

This type of release generally involves a spill or leak from buried tanks at gasoline filling stations or industrial sites. Known as Leaking Underground Storage Tanks (LUST) they are regulated by the Nebraska Department of Environmental Quality (NDEQ) according to provisions of Nebraska Title's 118 and 126. Some LUST spills have been traced to locations no longer used as gas stations and in these cases the spills are known as "orphan tanks" and are also regulated and investigated by the NDEQ. It is not uncommon to have several LUST sites located within the same block on heavily used highways and streets.

Hazardous Waste Releases

Hazardous waste releases are defined as those sites where contaminants other than petroleum have been found in the groundwater. Such sites are often associated with manufacturing facilities or petrochemical or grain storage facilities. Hazardous waste sites are regulated in Nebraska by either the Nebraska Department of Environmental Quality (NDEQ) in provisions of the Nebraska Titles 118 and 126 or by the US Environmental Protection Agency (EPA) provisions of the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as the "Superfund."

Operation of the Nebraska Ordinance Plant (NOP) south of Mead, Nebraska has resulted in intensive groundwater contamination in that area. The sites sampling results reveal groundwater contamination by degreasers, explosives, and nitrate. The site is presently listed as a federal clean-up site by the Corps of Engineers and the Environmental Protection Agency and activity is underway in that regard.

Public Water Supply Systems With Reported VOC Contamination

The Nebraska Department of Health (NDOH) regularly tests public water supplies in the State for the presence of Volatile Organic Compounds (VOC's). These compounds are generally mobile in groundwater and include many common solvents, degreasers, paint thinners, septic tank cleaners, and grain fumigants. VOC's have been increasingly found in drinking water supplies. Public water supply systems in the NRD with VOC's in their tap water are also included on Exhibit 49. Some overlap may occur on this figure due to the fact that the water supply problem may be a result of the spill which is also mapped. NDOH responds to public water supply contamination and provides oversight relative to the quality of water delivered to the consumer. The NDEQ is notified of these results and may require groundwater investigation and take protection action.

Other Potential Sources of Pollution

Identification of potential point sources of pollution is important to protection of groundwater supplies. Ideally, all potential pollution sources should be identified on maps so siting of new wells can be accomplished considering the source area. Unfortunately, the database is limited for items such as feedlots, septic systems, and abandoned wells. At present, site specific studies are needed to inventory all potential pollution sources in a well's capture zone for long-term viability of the well.

Feedlots

Presently, there are 42 feedlot operations located within the LPN NRD as identified and regulated for State Operating Permits by the NDEQ (NDEQ files). These feedlots are mapped on Exhibit 49A. The NDEQ also estimates that this is only a small percentage of the total operations, even though all such operations are encouraged to be operating with permits under the control of NDEQ. The principal pollutants associated with feedlots are nitrogen, phosphorus, chloride, oxygen-demanding materials, and microorganisms. High levels of livestock waste pollution may also cause discoloration, odor, and taste problems in drinking water supplies. Minimization of the potential for groundwater pollution will depend heavily upon proper management of the animal waste control systems as required by NDEQ.

Landfills

Through the years the population in the NRD has disposed of their garbage in a variety of ways including burning, unauthorized "dumps", properly engineered landfills, and landfills lacking in proper siting, design, and operation techniques. Vast changes in the State solid waste regulations have brought about significant change in where garbage is handled and disposed of in the NRD. In order for a landfill to operate it must be approved by the State and be issued a permit. If a permit is not obtained the landfill must be closed. Currently, the LPN NRD does not contain a permitted landfill. The closest permitted landfill is the Kobus Landfill near David

City and other larger towns outside the NRD. The closed or inactive landfills can pose a threat to groundwater supplies if they were not properly sited. The NDEQ landfill section is in the process of determining potential problem sites.

Based on NDEQ file data, there are 13 non-permitted (closed or inactive) landfill sites in the NRD (Table 11, Exhibit 49B). While none of these sites are known contributors to groundwater pollution, the potential exists by virtue of their previous use, and should be considered when evaluating and/or investigating groundwater contamination problems.

Private Septic Systems

A conventional private septic system consists of a septic tank and laterals which serve as an absorption field. Improperly sited or constructed systems, inappropriate soils, or a high density of systems can and often does cause groundwater contamination. Liquid waste flows from household tanks to the absorption field where it is partially treated as it filters through the soil. Soil type is crucial to this process since only certain types of soils can adequately treat the effluent. A soil with large pores allows the effluent to move quickly and does not hold it long enough for sufficient treatment before it reaches the groundwater. For example, increased installation of septic systems for recreational households along the Platte River, where the water table is shallow and soils are coarse, may pose a potential pollution problem to municipal and individual water supplies. Where soils are too tight, septic systems will not drain adequately and may break down or cause nuisance conditions. Pollutants of concern from septic systems are nitrate, bacteria, viruses, and hazardous chemicals.

The location of septic systems with respect to drinking water supply wells is crucial to whether they may cause contamination problems. Many domestic wells are located in close proximity to septic systems and do intercept contaminants. If the well is improperly constructed, the well may even serve as a conduit for pollution.

TABLE 11

**Locations of Permitted and Non-permitted
Waste Disposal Sites in the Lower Platte North NRD
June, 1994**

(Source: NDEQ unpublished file data)

County	Town	Legal Location
Butler	Abie	Sec. NW1/4, NE1/4, S-17, T-16N, R4E
Butler	Bellwood/Rising City	Sec. NW1/4, NW1/4, S-3, T15N, R1E
Butler	Bruno	Sec. SE1/4, NE1/4, S10, T15N, R4E
Butler	David City	Sec. NW1/4, NW1/4, S-24, T15N, R3E
Colfax	Schuyler	Sec. NE1/4, SE1/4, S14, T17N, R3E
Dodge	North Bend	Sec. SW1/4, SE1/4, S7, T17N, R6E
Dodge	Fremont	Sec. E1/2, SW1/4, NE1/4, S4, T17N, R9E, Sec. E1/2, NW1/4, SE1/4, S4, 17N, R9E, Sec. NE1/4, SE1/4, S4, 17N, R9E, Sec. SE1/4, SE1/4, S4, 17N, R9E, Sec. NE1/4, NE1/4, S9, T17N, R9E
Madison	Newman Grove	Sec. NE1/4, NE1/4, S34, T22N, R4W
Platte	Lindsay	Sec. SW1/4, SE1/4, S34, T20N, R3W
Saunders	Ashland	Sec. NE1/4, NE1/4, S11, T12N, R9E
Saunders	Malmo	S21, 15N, R6E
Saunders	Mead	Sec. NW1/4, NW1/4, S36, T15N, R8E
Saunders	Prague	Sec. NW1/4, NW1/4, S1, T15N, R5E
Saunders	Weston	Sec. SE1/4, SW1/4, S9, T14N, R6E
Saunders	Wahoo	Sec. W1/2, SW1/4 of S2, T14N, R7E

There are presently no available statistics summarizing the number of septic systems in the LPN NRD. Towns with wastewater collection and treatment plants are less likely to have septic pollution, although municipal wastewater pipe systems may leak and contaminate groundwater.

Improperly Abandoned Wells

Abandoned water wells can serve as a conduit for groundwater pollution if they are inadequately sealed to prevent surface drainage of pollutants. The Nebraska Statutes, R.R.S. 46-602 requires proper decommissioning of groundwater wells by all landowners who have abandoned wells. The LPN NRD currently offers a cost-share program for proper well decommissioning, to assist in assuring it is properly done.

IDENTIFICATION OF PRESENT KNOWN PROBLEM AREAS WITH CONSIDERATION OF POTENTIAL PROBLEM AREAS AND INFORMATION DEFICIENCIES

Recharge Extremes

The only area of identified recharge extremes is located adjacent to the storage facility of Lake Babcock and is very limited in scope.

Some areas along and adjacent to the Platte River demonstrate high water table levels and further investigation is needed to determine natural versus man induced recharge of these areas.

Areas of localized rising water levels have been pointed out by members of the Public Advisory Committees. At present, these appear to be the result of cropland irrigation over shallow confining beds and need to be analyzed and proper management methods developed.

Groundwater Quantity

Uplands

The David City Area in the Butler County uplands, has shown a marked decline in water levels in the past. It is difficult to relate this decline to saturated thickness because there is not a 1:1 comparison, due to pressure head (potentiometric pressure) consideration. The relationship between water level changes, pressure head, and saturated thickness must be determined to understand the significance of changes and what can be done to identify and alleviate problems.

Shell Creek

This reservoir is difficult to characterize due to the lack of data. The monitoring network needs expansion in the northern portion of the Shell Creek groundwater reservoir. The current monitoring network indicated a declining trend in water levels in this reservoir which approximates 10% of saturated thickness in some areas. Relationship of water levels to saturated thickness must be determined for this aquifer.

Platte River

Results of monitoring in this reservoir show slight declines (<5 feet) from predevelopment (U.S.G.S. data) and slightly greater declines (still less than 5 feet on average) against the index year.

Todd Valley

Results of monitoring in the Todd Valley show slight declines (<5 feet) from both predevelopment and the index year. One well in upper Clear Creek shows a water level decline approaching 10% of saturated thickness.

General

- 1) The current monitoring network includes 116 wells. Expansion of the network in areas where few wells are presently monitored (e.g., Shell Creek) and in areas where problems may be present or will be in the near future is planned. In 1993, the NRD plans to expand the network to include 120 wells.
- 2) Determination of well elevations are necessary for all wells so that water table elevation maps can be constructed and regional and local changes in groundwater flow direction can be assessed.
- 3) Refinement of the LPN NRD groundwater computer model is needed to predict vulnerable areas to groundwater decline.
- 4) More information is needed on aquifer recharge rates and discharge (including water use).
- 5) A consistent scheme for evaluation of water level changes is needed to quantify their significance. The NRD has established an "Index" year of 1987 to reference changes. As time progresses and more data is acquired, appropriate "index" levels may be adjusted to more closely approximate "predevelopment" water levels.

- 6) Further coordination with other local, State, and Federal agencies collecting groundwater level data is needed. The NRD database should be a central repository for this data since the NRD is responsible for groundwater management.

Groundwater Quality

Uplands

There is a general lack of irrigation well sample data in the Butler County Uplands and that is due to fewer wells being developed in this reservoir. Stock and irrigation well samples reveal some contamination is present in the township southwest of Bellwood and south of Octavia. The lack of sample analyses for this area does not allow for broad interpretation of these results. Areas where irrigation development is present are to be more intensively sampled to allow for baseline establishment in the next few years.

Shell Creek

Upper: The upper Shell Creek groundwater reservoir (in Platte, Madison, and Boone Counties) is also presently characterized by limited sample analyses. A few domestic/stock wells and the Lindsay water supply well contain elevated nitrate levels. Groundwater sampling to establish baseline data is scheduled for the summer of 1994.

Lower: Generally water quality in the eastern end of the Shell Creek Reservoir appears to be quite good. Some wells appear to be approaching 8 ppm, however, no pattern is present to indicate an area-wide problem. Trend monitoring will be important in this area and is planned.

Platte River

North of the Platte River, an area beginning just west of Richland to east of Schuyler contains a number of wells which are approaching or exceeding 10 ppm (MCL). The township west of Bellwood and south of the river contains numerous wells approaching or exceeding the MCL. The Rawhide Creek drainage area north and west of Fremont contains a number of wells approaching or exceeding 10 ppm.

An area east of Linwood and west and north of Octavia also contain wells which exceed 10 ppm. These areas are all located in the Platte Valley alluvium, the NRD's aquifer most vulnerable to pollution. Trend monitoring will be important in this aquifer to identify other areas which may be degrading and to monitor effects of management strategies. Trend monitoring of the aquifer system is scheduled to begin in 1994.

Todd Valley

The most significant area of nitrate contamination in the Todd Valley is present in a triangular area encompassed by the area around and adjacent to Wahoo, Mead, and stretching south to Memphis. This area contains numerous wells approaching or exceeding the MCL for nitrate contamination.

Test results of shallow domestic/stock wells in the Todd Valley reveal that this aquifer contains numerous wells approaching or exceeding the MCL for nitrate. The widespread pattern, when compared to the irrigation/municipal results, supports the conclusion that the shallow portion of the Todd Valley alluvium is generally contaminated with nitrates. The results of irrigation and municipal well sampling, generally developed deeper into the aquifer, reveal that generally north and west of Mead, groundwater nitrate pollution is not apparent. Some wells along Sand Creek and near Silver Creek seem to be developing as problem areas.

General

- 1) Point source pollution from volatile organic compounds (VOC's) and other hazardous wastes within the NRD is present in or near several towns and cities and these pollution sources are (or may be) threatening drinking water supplies. The NDEQ is responsible for oversight of clean up activities which can be costly and very time consuming. Substantial clean up operations are underway at numerous sites in Fremont, Wahoo, and near Mead. Other areas are also in the process of clean up. The impact of such point sources on drinking water supplies is generally unknown until it occurs and impacts a water supply well.

- 2) More information is needed regarding the size of public water supply well-head protection areas in the NRD, along with a detailed inventory of possible point sources within those areas.
- 3) Non-point source pollution of streams from agricultural runoff may be impacting groundwater supplies. Further identification of the surface water and groundwater relationships will be needed to determine the connection between the two and allow for appropriate response.
- 4) Expansion of the NRD's water quality monitoring network will be needed to adequately cover the NRD and to monitor changes. Sampling networks should especially be intensified in problem areas identified above as is currently being done in the Richland-Schuyler areas. Trend and random monitoring will be conducted every 2-3 years in the most vulnerable aquifers (Platte and Todd Valley) and at least 3-5 years in others (Shell Creek and the Uplands).
- 5) Stronger coordination and data sharing with local, State, and Federal agencies is needed to develop a comprehensive picture of water quality concerns in the NRD. The NRD should obtain at a minimum the following data as they are collected by the agency:

Pollution Spills - NDEQ

Public Water Supply Sample Results - NDOH
and Regulatory Notices

Results of Special Investigations - USGS, C&SD

REFERENCES

- Bentall, Ray, July 1982. Nebraska's Platte River, A Graphic Analysis of Flows. Conservation and Survey Division UNL.
- Bentall, Ray and Schaffer, F. Butler, 1975. Availability and Use of water in Nebraska 1975. Conservation and Survey Division UNL and U.S. Geological Survey.
- Burchett, R.R., Ruel, E.C., Dreezen, V.H., and Prichard, G.E., 1975. Bedrock Geologic Map Showing Thickness of Overlying Quaternary Deposits, Fremont Quadrangle and Part of Omaha Quadrangle, Nebraska. Conservation and Survey Division UNL and U.S. Geological Survey.
- Chu, Tyan-Ming, 1988. Investigation of the Thermal Regime in a River Aquifer System Near Ashland, Nebraska.
- Conservation and Survey Division UNL, 1959. Boone County Preliminary Groundwater Study.
- Conservation and Survey Division UNL, 1983. Center Pivot Irrigation System in Nebraska 1983.
- Conservation and Survey Division UNL, 1984. Correlation Between Topographic Regions and Nebraska Soil Association Areas. Table
- Conservation and Survey Division UNL, 1984. Estimated Percentage of Average Annual Groundwater Recharge from Precipitation Within Topographic Regions. Table
- Conservation and Survey Division UNL, 1980. General Soil Map of Fremont Area - Nebraska.
- Conservation and Survey Division UNL, November 1984. Handbook on the Preparation of Groundwater Management Plans.
- Conservation and Survey Division UNL, 1957. Madison County Preliminary Groundwater Study.
- Conservation and Survey Division UNL, 1981. Nebraska's Platte River, A Graphic Analysis of Flow.
- Conservation and Survey Division UNL. Nebraska Soil Associations.
- Conservation and Survey Division UNL, 1958. Platte County Preliminary Groundwater Study.
- Conservation and Survey Division UNL. Thickness of Unstratified Material.
- Conservation and Survey Division, 1969. Underground Water Areas: Topographic Regions Map.
- Conservation and Survey Division UNL, 1993. Unpublished Cross-Sections.
- Conservation and Survey Division UNL and Department of Environmental Control, 1979 Maps. Configuration of Base of Principal Aquifer, 1979, Configuration of the Watertable Spring 1979, Thickness of the Principal Aquifer 1979.
- Conservation and Survey Division UNL and U.S. Geological Survey, 1984. Groundwater Levels in Nebraska.

REFERENCES - Continued

- Currier, P., Linngle, G., VanDerwalker, J., 1985. Migrating Bird Habitat on the Platte and North Platte Rivers in Nebraska.
- Department of Environmental Control, 1985. Nebraska Groundwater Quality Protection Strategy - Final Report.
- Department of Environmental Control, 1984. 1984 Nebraska Water Quality Report.
- Department of Environmental Control, 1985. STORET, Water Quality Printout. U.S. Geological Survey.
- Department of Environmental Quality, 1992. "LUST (Leaking Underground Storage Tanks) List."
- Department of Environmental Quality, February 1988. Assessment and Classification of Community Solid Waste Disposal Sites in Nebraska.
- Department of Environmental Quality, December 1992. Chemical Storage Facilities.
- Department of Environmental Quality Permit, Permit Database, Feeding Operations, November 1992. All Agricultural Facilities.
- Department of Water Resources, 1982. Forty-Fourth Biennial Report.
- Department of Water Resources, 1983. Platte River Supply Downstream from Columbus.
- Department of Water Resources (DWR), 1992. Registered Wells Database.
- Ellis, Michael J. and Pederson, Darryll T., June 1984. Groundwater Levels in Nebraska 1984. Conservation and Survey Division Water Survey Paper Number 59, prepared in cooperation with U.S. Geological Survey.
- Engberg, Richard A., 1984. Appraisal of Data for Groundwater Quality in Nebraska. U.S. Geological Survey Water-Supply Paper 2245.
- Environmental Protection Agency, December 1992. "CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System.)"
- Environmental Protection Agency, December 1992. PCB Database.
- Environmental Protection Agency, December 1992. RCRIS (Resource Conservation and Recovery Information System) and RCRA (Resource Conservation and Recovery Act) Notifier List.
- Environmental Protection Agency (accessed through Natural Resource Commission), All Data to December 1992. STORET (EPA Water Quality Database).
- Ginsberg, Marilyn H., 1983. Hydrogeology of Butler County, Nebraska. Nebraska Water Survey Paper 55. University of Nebraska-Lincoln.

REFERENCES - Continued

- Krueger, Jim, 1983. Groundwater Pollution Potential in Nebraska. Department of Environmental Control.
- Krueger, Jim, 1984. Nebraska Groundwater Quality Protection Strategy: Problem Assessment. Department of Environmental Control.
- Lawton, D., Veys, C., and Goodenkauf, O., 1980. An Inventory of Public Industrial and Power Generating Water Use in Nebraska, 1979-1980. Conservation and Survey Division UNL and U.S. Geologic Survey.
- Nebraska Cooperative Extension Service, 1985. Estimated Crop and Livestock Production Costs. Extension Service 85-972.
- Nebraska Department of Health, 1992. "Analytical Results for Inorganic Chemicals from Public Water Systems."
- Nebraska Department of Health, 1984. Drinking Water Quality in Nebraska Communities.
- Nebraska Department of Health, 1983-1992. Public Water Supply Wells.
- Nebraska Department of Health, 1993. VOC Analysis for Public Water Systems, (Database).
- Nebraska Natural Resource Commission, Data Bank Printouts, 1983-1985. Registered Irrigation Wells, 1985; Groundwater Level Summary, 1984; Dam Inventory, 1985; Gauging Status, 1985; Center Pivot Inventory, 1983; Crop Harvest by Acres, 1984.
- Nebraska Natural Resource Commission, 1982. Policy Issue Study on Groundwater Reservoir Management.
- Nebraska Natural Resource Commission, 1982. Policy Issue Study on Instream Flow.
- Nebraska Natural Resource Commission, 1985. Policy Issue Study on Integrated Management of Surface Water and Groundwater.
- Nebraska Natural Resource Commission, 1984. Policy Issue Study of Supplemental Water Supplies.
- Nebraska Natural Resource Commission and U.S. Geological Survey, January 21, 1992. File Report on 1990 Water Use Data Collection and Processing.
- Nebraska Natural Resource Commission, 1974. Lower Platte River Basin Water Quality Management Plan. For Department of Environmental Control.
- Nebraska Natural Resource Commission, 1990. Water Use Data System.
- Nebraska State Fire Marshalls Office, 1993. Registered Underground Storage Tanks.
- Nebraska Statutes Relating to Groundwater Management Protection Act, November 1983.
- SEC DONOHUE, 1992. Supplemental RI/FS Former Mead, Nebraska Ordinance Plant.

REFERENCES - Continued

- Souders, V.L., 1967. Availability of Water in Eastern Saunders County, Nebraska. U.S. Geological Survey.
- Spalding, Roy, 1985-1989. Assessments of Statewide Groundwater Quality Data from Domestic Wells in Rural Nebraska.
- Spalding, Roy, Exner, Mary, 1980. Groundwater Nitrate-Nitrogen Concentrations. Map
- Spalding Roy, Exner, Mary, 1990. Occurrence of Pesticides and Nitrate in Nebraska.
- Spalding Roy, Exner, Mary, 1990. Occurrence of Pesticides and Nitrate in Nebraska Groundwater.
- Spalding, Roy, Exner, Mary, et.al., 1990. Water Quality in Lower Platte River Basin with Emphasis on Agrichemicals.
- State of Nebraska; Soil Conservation Service Engineers; Holm, Baird, 1991. Nebraska Solid Waste Management Plan.
- USDA Soil Conservation Service 1972. Boone County Soil Survey.
- USDA Soil Conservation Service 1982. Butler County Soil Survey.
- USDA Soil Conservation Service 1982. Colfax County Soil Survey.
- USDA Soil Conservation Service 1979. Dodge County Soil Survey.
- USDA Soil Conservation Service 1984. Madison County Soil Survey.
- USDA Soil Conservation Service 1985. Platte County Soil Survey Draft.
- USDA Soil Conservation Service 1965. Saunders County Soil Survey.
- U.S. Geological Survey and Conservation and Survey Division UNL, 1991. Groundwater Levels in Nebraska.
- U.S. Geological Survey and Conservation and Survey Division UNL, 1984. Groundwater Maps.
- U.S. Geological Survey, 1985. Hydraulic Characteristics of Nebraska Soil. Water Supply Paper 2222.
- U.S. Geological Survey, 1985. Printout - WATSTORE (Groundwater Quality).
- U.S. Geological Survey, 1993. Depth to Water.
- U.S. Geological Survey, all dates to 1992. U.S. Geological Survey Water Quality Database (WATSTORE).

REFERENCES - Continued

- U.S. Geological Survey, 1968. Water-Mineral Relations of Quaternary Deposits in the Lower Platte River Drainage Area in Eastern Nebraska.
- UNL Department of Agriculture Meteorology, 1990. "Climatic Data Summary for NE 1990."
- Veys, C.L., November 1985. Personal Communication.
- Veys, C.L., and Goodenkauf, O., 1985. Draft Groundwater Quality Management Plan Exhibits and Tables. Hoskins-Western-Sonderregger.
- Wilhite, Don, 1981. An Analysis of Nebraska Precipitation Climatology with Emphasis on Occurrence of Day Conditions. UNL Agricultural Meteorology and Climatology Center.

THE PLAN FOR GROUNDWATER MANAGEMENT IN THE LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

Section A Framework for Groundwater Management

The Lower Platte North NRD prepared a Master Plan for resources management in the late 1980's, which serves as a parent document to the 1994 updated Groundwater Management Plan. The Master Plan is the foundation from which individual resource planning occurs, and guides the allocation of financial and manpower resources. The Water Quality, Supply, and Pollution Abatement goal and subsequent objectives to support the goal which are present in the Master Plan follows:

GOAL

ASSURE ADEQUATE QUANTITY AND QUALITY OF STREAM FLOW, GROUNDWATER, AND SURFACE RESERVOIRS WITHIN THE DISTRICT FOR BENEFICIAL USES AS PRESCRIBED BY LAW.

OBJECTIVE 1

Insure that all chemigation users are properly trained and comply with state rules and regulations so as to reduce the occurrence of groundwater contamination through the application of pesticides and fertilizers.

OBJECTIVE 2

Actively pursue the proper use of chemigation criteria and assure that all who chemigate have permits to do so.

OBJECTIVE 3

Develop and maintain rural landowner and community reporting stations for well monitoring, water usage, and rainfall statistics.

OBJECTIVE 4

Insure proper local management of ground and surface water resources through cooperation with local community governments, agencies and private firms, which may involve development of Special Protection Areas and groundwater management and control areas.

OBJECTIVE 5

Comply with the District's Groundwater Management Plan as well as state standards and regulations in order to meet proper conservation requirements.

OBJECTIVE 6

Assist federal and state agencies in the protection of ground and surface waters from non-point and point sources of pollutants.

OBJECTIVE 7

Maintain groundwater quality and quantity monitoring programs.

OBJECTIVE 8

Encourage and develop programs to assist users in reducing irrigation water needs through best management practices.

OBJECTIVE 9

Develop instream flow requirements that will assist in providing a stable development climate within the District.

OBJECTIVE 10

Develop best management alternatives for chemical use in areas where susceptibility to groundwater pollution is high.

OBJECTIVE 11

Cooperate with state and federal agencies to provide adequate methods of testing groundwater for pollutants.

OBJECTIVE 12

Assist in the development of rural water districts with other applicable entities as required.

OBJECTIVE 13

Develop criteria and data for wellhead protection standards to allow District urban areas to participate in this program.

The goals, objectives, policies, and programs set forth in this Groundwater Management Plan Update were developed in support of the LPN NRD Master Plan, and provide further detail regarding ways to accomplish the intent of the Master Plan. It is the intent of the Lower Platte North NRD to wisely and proactively manage the groundwater resources within the District, while maintaining local control over management and use.

Since the NRD's first Groundwater Management Plan was adopted in 1985, many significant changes have occurred regarding regulatory requirements, responsibilities, and options for groundwater management. The Nebraska Legislature, through the Nebraska Groundwater Management Act and its amendments has offered NRDs the opportunity to manage groundwater at the local level if they choose to accept such responsibility. The Act however, also provides options for intervention at the State level should the NRDs require assistance. To recognize a problem or potential problem and do nothing to prevent or alleviate it is no longer a viable option. An NRD must have a plan of action ready to retain total local control and resource protection.

A summary of "Identified Present Known Problem Areas With Consideration of Potential Problem Areas and Information Deficiencies" has been presented in this plan. It is evident from information presented in the plan that there are several areas of concern which warrant extensive action to meet the goals of both the Master Plan and the Groundwater Management Plan's adopted goals and objectives for resource management.

In the area of groundwater quality, the most significant area of concern is the increase of nitrate concentrations. In the uplands of Saunders and Butler Counties, the data base may not allow for a broad interpretation of the areal distribution. In the Shell Creek reservoir, elevated nitrate levels may not be present but a more comprehensive and definitive monitoring network is

needed. Areas along the Platte River do exhibit elevated levels of nitrate contamination. This finding is consistent with the DRASTIC vulnerability index, which suggests this reservoir is highly vulnerable to pollution. The Todd Valley reservoir is also showing areas where nitrates are becoming higher. A report by Roy Spalding and Mary Exner indicated areas along the Platte River in Butler, Platte, Colfax, and Dodge Counties, the Todd Valley and Shell Creek exhibit an overall nitrate increase about 1 part per million per year from 1978/79 to 1988/89. Along with the higher nitrate concentrations is the potential problem of pesticide contamination. Surface runoff from the agricultural areas in the District are known to carry extremely high levels of pesticides, particularly during spring rainfall events.

As the State moves to recognize the interrelationship of surface and groundwater laws, an area needing extensive analysis is that of the physical surface/groundwater relationship. Some areas of the District demonstrate a potential for significant deterioration of a groundwater aquifer caused by surface water problems. Deep soil samples in the District also point out very high levels of nitrates in the soil profile just below the root zone moving into the groundwater aquifer.

The rate of development of irrigation wells in the District illustrates densely developed aquifers in many areas, which could result in overdraft. This trend is evident in a report from the Nebraska Department of Water Resources showing a steady increase in the number of new well registrations per year. Recharge rates and abilities to recover from overdraft of the aquifer and declines due to climatic changes must be understood for the entire District. Management of the physical system must reflect the ability of the system to respond to natural changes. Water level monitoring must be increased to provide a more comprehensive assessment of the systems responses to stress situations.

The Lower Platte North NRD recognizes the need for comprehensive, practical, and effective systems of groundwater management, combining both non-regulatory and regulatory approaches. Non-regulatory options such as data collection, public education, encouragement of voluntary use of best management practices, demonstration programs, and others have been used by the NRD as primary management tools prior to development of this plan. The District intends to expand its management scheme to include regulatory options available to the NRD under the Nebraska Groundwater Management Act. Regulatory tools authorized under this Act include:

- 1) Allocating the total permissible withdrawal of groundwater;
- 2) Rotation of use of groundwater;
- 3) Well-spacing requirements pursuant to Section 46-673.12;
- 4) Requiring the use of flow meters on wells;
- 5) Best management practices;
- 6) Requiring the analysis of water or deep soils for fertilizer and chemical content;
- 7) Educational programs designed to protect water quality; or
- 8) Moratorium on new well drilling (Control Area only).

(Source: Laws 1982, LB375, 11; Laws 1986, LB894, 30; Laws 1991, LB 51,4.)

In order for the NRD to legally utilize the tools outlined above, a Groundwater Management Area must be established with definable boundaries. The LPN NRD intends to establish the entire NRD as a Groundwater Management Area, allowing for utilization of the regulatory tools (listed above) as appropriate for overall management and for problem (subarea) management. Details are provided in Sections B and C of this Plan.

PLAN FOR GROUNDWATER MANAGEMENT IN THE LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

Section B Goals, Objectives, and Policies

In 1985, the Lower Platte North Natural Resources District developed, in accordance with the Groundwater Management and Protection Act of 1975, a Groundwater Management Plan. At that writing, little water quality or water quantity data existed in the NRD. The Plan, as a result of the lack of information, set forth a vigorous course of action which included sixty-four (64) actions designed to provide the District a dataset upon which proper management decisions could be based. Since 1985, the District has placed into action or has completed, 85% of those action items. The remaining 12 are actions which relied upon the database in order to be implemented, and are incorporated into this Groundwater Management Plan.

Goals established in 1985 also reflected the lack of a sufficient database and were adopted in order to assist in the building of such a dataset. With passage of LB 51, the District was in a position to analyze the considerable water information gathered since 1985. The analysis revealed a distinct set of needs for program realignment. The following goals, objectives, and policies or program components will serve to guide the District over the next several years.

GOAL #1 : Groundwater Reservoir Life

TO PROVIDE A SUSTAINED GROUNDWATER SUPPLY OF QUALITY WATER ADEQUATE TO SUPPORT REASONABLE AND BENEFICIAL USES, AND MAINTAIN LONG-TERM QUALITY YIELDS.

OBJECTIVE

Designate the entire Lower Platte North Natural Resources District as a Groundwater Management Area, consistent with Nebraska State Statutes 46-673.01 - 46-673.06.

Policy - Within two years of the date of approval of the Groundwater Management Plan by the Director of Water Resources, the Lower Platte North Natural Resources District shall establish a District-wide Groundwater Management Area.

Policy - A phased approach to water quality management based upon a Maximum Contaminant Levels (MCL) and Lifetime Health Advisory Levels (LHAL) trigger scheme, and water-level management with triggers based on water level declines with appropriate management actions, will be implemented (triggers and controls are set forth in Section C of this Plan).

Policy - Prior to establishing the Groundwater Management Area, the NRD will perform the necessary analysis to delineate subarea management boundaries for specific problem area management.

Policy - Establish and implement a Groundwater Management Area education program, to include proper fertilizer and pesticide application, irrigation scheduling and water use efficiency, urban fertilizer and pesticide use, water quality and chemical health risks, agricultural reporting needs, crop water efficiency, pump plant efficiency, adopted groundwater management triggers, and other groundwater issues as applicable.

Policy - Implement an education program to inform the public regarding the need for developing the LPN NRD as a Groundwater Management Area, with special emphasis on the adopted Management Schemes (outlined in Section C of this document).

Policy - Expand the NRD newsletter to include more information on groundwater activities.

Policy - Develop a network of demonstration farms, by aquifer, to exhibit water use efficiency benefits and solicit cooperation for voluntary metering and reporting to the NRD.

Policy - Increase the awareness of effective long-term conservation and utilization of the groundwater aquifer.

Policy - Coordinate education and information program with NDEQ, NNRC, NDOH, NDWR, and applicable local and federal agencies, to include the above items and other items such as proper well locations, number of wells per area, and new well construction.

GOAL #2: Management Systems Development

PROVIDE A SYSTEM OF GROUNDWATER MANAGEMENT TO SUPPORT THE GROUNDWATER RESERVOIR LIFE GOAL, BASED UPON AN ADEQUATE TECHNICAL FOUNDATION AND PUBLIC AWARENESS OF GROUNDWATER ISSUES.

OBJECTIVE

Provide technically accurate and updated water quantity data upon which to base management decisions.

Policy - Update the saturated thickness map by recording and mapping thickness from all new registered well logs and other new sources of information, to assist in further delineation of groundwater aquifers.

Policy - Update water level contour maps that coincide with groundwater data received from monitoring. Contour maps will be used to monitor changes in direction of groundwater flow and saturated thickness.

Policy - Enhance data collection in confined aquifers by monitoring at least 5% of the total registered wells in each confined aquifer. Use the data to evaluate predevelopment pressure head levels and changes from predevelopment to the present.

Policy - Develop a methodology to statistically analyze water level fluctuations, evaluate the significance of the changes, and relate to the management scheme developed for the GMA.

Policy - Increase the number of observation/monitoring wells in District groundwater reservoirs to provide greater coverage for early problem area detection. The actual number of wells and locations will be based upon the intensity of development of the aquifer and the dependence on the aquifer water supply for various uses. Ultimately the NRD's system will include at least 120 wells.

Policy - Support and perform studies to aid in groundwater model development to predict the amount of water which may be withdrawn from each groundwater aquifer to support the Groundwater Reservoir Life Goal.

Policy - Continue coordination of data collection, storage and analysis with other local, state and federal agencies and groups.

OBJECTIVE

Provide the most technically accurate and updated water quality data upon which to base management decisions.

Policy - Adjust the density of the groundwater quality monitoring network for each aquifer, providing data adequate to evaluate long-term trends and identify present and potential problem areas. The number of wells to be monitored is dependent on the percent of irrigated acres and the number of wells needed to irrigate those acres in each groundwater reservoir to establish and reaffirm baseline conditions.

Policy - Perform trend and random monitoring every 2 years in the most vulnerable areas and problem areas, and every 4 years in less vulnerable areas and areas not presently exhibiting water quality problems.

Policy - Continue coordination of data collection, storage and analysis with other local, state and federal agencies and groups relating to pollution spills (Nebraska Department of Environmental Quality - NDEQ), public water supplies and regulatory notices (NDOH), and results of special investigations (Conservation and Survey Division - C&SD, Department of Water Resources - DWR, NDEQ, Nebraska Department of Health - NDOH, U.S. Geological Survey - USGS, Environmental Protection Agency - EPA, Corps of Engineers - COE, etc.).

Policy - Continue to perform and/or support isolated water quality investigations in NRD aquifers as conditions dictate and the need arises.

Policy - Support nitrogen isotope studies where necessary to determine the source of a nitrate problem and its areal extent for problem boundary definition.

Policy - Support deep soil sampling in areas where suspected over-application of commercial fertilizer and/or animal manure has occurred.

Policy - Perform triazine screen testing of selected wells within the most vulnerable areas of each groundwater reservoir.

Policy - Perform studies to assess needs, benefits, costs, etc. when requested, for possible development of regional or rural drinking water supply systems.

Policy - Develop a program to assist in monitoring rural drinking water wells in cooperation with other agencies.

Policy - Coordinate the NRD's groundwater programs with the Nebraska Department of Agriculture in support of the State of Nebraska's Federal Insecticide, Fungicide, Rodenticide Act and farm management plans.

OBJECTIVE

Further develop and enhance the NRD's computer database management system to provide continual support for program advancements.

Policy - Increase the hardware capabilities of the NRD for data storage, retrieval and analysis, and interfacing with other program needs. Adapt the systems components to be compatible with local, state and federal systems.

Policy - Identify software needs to support: trend analysis; predict impacts of management decisions; and provide mapping capabilities. Acquire software to complement the NRD's hardware.

Policy - Refine the LPN NRD groundwater computer model to provide adequate prediction of vulnerable areas of decline.

Policy - Establish a QA/QC program for data entry to eliminate database errors.

Policy - Utilize the hardware and software capabilities to produce required periodic reports in a standard and meaningful format.

OBJECTIVE

To develop a coordinated NRD program to assist in implementation of the State of Nebraska's wellhead protection program. The NRD program will be targeted toward assisting the District's communities and supportive of the District's efforts in managing ground and surface water.

Policy - Further develop the information needs and assist in the continuance and upgrading of the present LPN NRD well decommissioning program.

Policy - The District will assist any community in the NRD with proper development of a Wellhead Protection Program.

Policy - The District will be the central repository for District water supply contamination information as received from the NDOH and NDEQ.

Policy - Make NRD database information on pollution and water quality readily available to all District communities for use in planning for Wellhead Protection.

Policy - If a Wellhead Protection Area is established due to non-point source pollution, the District may set boundary areas that are less than 9 square miles in size.

Policy - The District will develop a process to locate, identify, and catalogue past, present, and potential point and non-point sources of contamination (to include present and abandoned feedlots, landfills, dumps, industrial sources, etc.), which will be utilized in all ground and surface water program analysis and management.

OBJECTIVE

To support and conduct special studies, research, and data gathering activities that will assist the District in its understanding and management of groundwater.

Policy - Perform sandpit studies when appropriate, to address the locations of such pits, their fluctuations, evaporation/transpiration, and estimated effect on the groundwater table.

Policy - Continue to evaluate the adequacy of the Districts precipitation network and expand where appropriate.

Policy - Support studies/research and refinement of the DRASTIC program to further identify and understand recharge characteristics and areas vulnerable to pollution in the District.

Policy - Support and perform percolation studies to understand the recharge potential of groundwater reservoirs, particularly those areas where known or suspected contamination occurs.

Policy - Develop a water balance model for the NRD considering the effect of phreatophytic growth on the groundwater table and wetlands.

Policy - Participate in and perform instream flow studies which identify the streams dependence upon groundwater for base flow.

Policy - Participate in studies and research to quantify and qualify the interconnection between ground and surface water.

Policy - Support geologic and hydrogeologic studies which will contribute to the foundation of knowledge needed to locate and identify areas where changes in groundwater quality/quantity may impact environmentally sensitive resources.

OBJECTIVE

To adequately support the Groundwater Management Plan through proper application of District resources.

Policy - Provide sufficient qualified personnel, funding, and equipment to fully support the groundwater management system and the needs of the program.

Policy - Annually re-evaluate and upgrade the Districts Groundwater Management Plan and the resulting Groundwater Management Area designations.

Policy - Develop background information and a methodology to address potential NRD cost share programs for meter application, assistance with collection of irrigation and drinking water samples for analysis and deep soil sampling. The NRD will only cost-share with landowners that have registered wells with the Department of Water Resources. If wells are unregistered, proper registration forms will be provided by the NRD and a 6-month period will be allowed for registration before the illegal well will be reported to the Department of Water Resources. Chemigation permits will only be issued on registered wells.

PLAN FOR GROUNDWATER MANAGEMENT IN THE LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

Section C Action Plan

The Lower Platte North NRD is strongly aware prevention is extremely less costly than correction of a groundwater problem after it has developed. Knowledge of this principle has required the District to develop a groundwater program emphasizing protection based on a proactive approach rather than on a reactive, corrective approach. Data gathered by the District, the USGS, NDEQ and the University of Nebraska since 1985 has indicated areas where groundwater quality nitrate conditions have deteriorated beyond those established as health standards. Other data also indicate problem areas are presently developing which need to be intercepted in order to bring about a clean up of the reservoir and to halt a continuing trend of increased pollution.

The District did not enter into this activity without developing a method to arrive at what is felt to be a consistent planning and implementation strategy aimed at protection of the resource. Within two years of the date of approval of the Groundwater Management Plan by the Director of Water Resources, the District will establish a District-wide Groundwater Management Area. The quality component of the plan is a phased approach based on a Maximum Contaminant Levels (MCL) and health-based standards trigger scheme, addressing Nitrate, pesticides, and other human non-point source contaminant levels in the system. The quantity component of the plan is developed around triggers based on water level declines with appropriate management actions for confined and unconfined aquifers.

A major component of the plan is the implementation of an education program which includes, but is not limited to: proper fertilizer application (both commercial and private), irrigation scheduling and water use efficiency, water quality and chemical health risks, agricultural reporting needs, adopted groundwater management triggers, social/economic aspects, and other issues as applicable. An essential item of the education program is the development of demonstration farms, by aquifer, exhibiting water use efficiency benefits, irrigation scheduling, crop water efficiency, and fertilizer and pesticide application. Another essential item of the education program will be development of educational materials to address proper application of fertilizers, pesticides, and other chemicals on lawns and other non-commercial applications in urban areas. Prior to establishing Phase II and III Level Groundwater Management Areas, the NRD will perform necessary analysis sufficient to delineate subarea management boundaries for specific problem areas associated with levels of concern.

Groundwater Quality Management Program

The Groundwater Quality Management Program is based on a set of contaminant level triggers designating the Phase of the program in which a particular area must be placed. Phase I nitrate triggers are set at 0 to 8 parts per million in the Groundwater reservoir and includes the entire District. Phase II triggers are from 8.01 to 10 parts per million nitrate concentration in the groundwater while Phase III trigger levels range from 10.01 parts per million or greater. "Other" human-induced non-point source contaminants, such as pesticides have phased trigger levels based upon Maximum Contaminant Levels (MCL) or Lifetime Health Advisory Levels (LHAL). Phase I triggers are set at 0 to 80% of the contaminants MCL/LHAL and includes the entire NRD. Phase II areas will be established when contaminants are present at 80-100% of the

MCL/LHAL. Phase III areas will be established when the MCL/LHAL is exceeded (>100%). Currently, no "other" contaminated areas have been identified that are approaching the upper limit of a Phase I area. As "other" contaminants approach the Phase I area limit, contaminant-specific programs and regulations will be adopted, similar to the nitrate regulations which are based upon increasing levels of management and actions.

For the purpose of implementing Phases II and III of groundwater management, the LPN NRD has established some guidelines by which a problem area is identified, and Phase II and III area boundary setting studies will be initiated. Groundwater management units will be reservoir specific. Within the same reservoir, boundary setting studies will be initiated when: water quality analytical results, within a minimum 9 square mile area are at identified trigger levels, over a minimum of 2 sampling events. The area must contain a minimum of 10 registered wells and contaminant trigger levels must be exceeded in over 50% of the wells. When registered wells are not available, other wells may be used. Initial investigation by the NRD will be to determine if the contamination is a result of point-source or non-point source pollution. If non-point source is concluded more intensive investigation for boundary setting will ensue.

If a Wellhead Protection Area should be established due to non-point source pollution, the District may set boundaries that are less than 9 square miles.

Data derived from the monitoring network established by the District, combined with special studies, monitoring studies performed by the USGS, University of Nebraska, NDEQ, County Extension programs, and others as applicable, will be used as the database on which to formulate Phase II and Phase III area boundaries.

Upon confirmation of the GWMP by the Department of Water Resources, the District will move immediately into the process of evaluating Phase boundaries by performing a series of confirmation studies aimed at boundary setting. The District will also begin the development and implementation of the education program. This program will become progressively more intense as an area shifts from one Phase to another higher Phase.

Within two-years of the acceptance of the GWMP, the District will designate the entire NRD in Phase I of the program. The reasoning for this action is in keeping with the Districts goal "to provide a sustained Groundwater supply of quality water adequate to support reasonable and beneficial uses, and maintain long-term quality yields."

PHASE I CONTROLS:

- ◆ All operators in Phase I areas within the District, who use any type of fertilizer, either commercial or organic, are required to be certified by the District every four (4) years. Certification will be consistent with the Districts chemigation program and applicable to the State FIFRA program. The education/certification program will be developed with the assistance of the Cooperative Extension personnel and others, as applicable.

- ◆ A groundwater analysis for nitrogen (nitrate nitrogen) content for irrigation, municipal, and industrial wells must be made every four years using NRD approved analysis methods, and results submitted to the NRD by December 31 of the fourth year. This analysis is deemed necessary to both assist the NRD in their monitoring program and to aid the operator in developing a knowledge of their particular groundwater nitrate level. This knowledge can readily be translated into a decrease of nitrogen usage by an operator and thus a financial incentive to properly use that nitrate in the system. A methodology for sample collection and proper analysis procedures will be a part of the education program.
- ◆ A soil analysis (3-4 feet in depth) for nitrogen (nitrate nitrogen) content for each field under control of the operator used for commercial crop production are encouraged every four years. NRD approved analysis methods should be used, and results submitted to the NRD by December 31 of the fourth year. This analysis is likewise considered necessary to aid the operator in developing a knowledge of their pending useable soil profile nitrogen and of that amount already inaccessible to the crops. A methodology for sample collection and proper analysis procedures will be a portion of the education program.
- ◆ All operators are encouraged to submit a Fertilizer Application Report to the NRD once every four years on a form provided by the District, which indicates the pounds per acre of nitrogen (commercial and organic) applied to each field under their control for the past four years. The quantity in pounds per acre of pesticides applied for each field where applied, will also be encouraged. Such reports will incorporate, if applicable, those reports required under the NRD chemigation program and such reporting requirements resulting from the implementation of the State assumption of the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA). These reports will also remain consistent with changes resulting from reauthorization of the Clean Water Act which affects such reports.
- ◆ Passage of LB-981 by the Nebraska Legislature in 1994, requires all new wells to be drilled in any management area which will pump greater than 50 gpm to have a permit prior to construction. The cost of the permit will be consistent with conditions of the law. Penalties applied under this Law will be in accordance with the law.
- ◆ Application of organic fertilizer (liquid manure, dried manure, sludge or composted organic waste) is very diversified and poses management problems relative to the size of the operation. The desire of the District is to allow farming operations to continue, yet not allow the N concentration in the groundwater to increase. Not all organic waste contains the same amount of N per unit of measurement, as such the amount/acre/year allowed to be applied in Phase I areas will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates. Amount/acre/year of manure applied on each field is encouraged to be reported on the Fertilizer Application Report and submitted to the NRD once every four years.
- ◆ No fall applications of N fertilizer (commercial) will be allowed on non-sandy or fine textured soils until after November 1. Such determination of non-sandy soils or fine textured soils will also be determined and identified in the same manner as sandy soils.

- ◆ Fall and winter applications of N fertilizer (commercial) will be prohibited on sandy soils. Sandy soils will be designated utilizing the USDA Soil Conservation Service Soil Surveys for the counties in the District. Such determination will be set forth prior to designation and identified prior to confirming the GWMA Phase I program. Commercial fertilizer can be applied on sandy soils after March 1 of the crop year.

Present data indicates that some of the areas in the District may be placed in the Phase II category upon designation of the GWMA in the District. Phase II areas will be delineated via the above noted procedure of delineating boundaries. Such delineation will cause extended activities to be brought into play. Those additional requirements are:

PHASE II CONTROLS:

- ◆ A continuation of Phase I activities as they apply.
- ◆ A Groundwater analysis for nitrogen (nitrate) content for all irrigation, municipal, and industrial wells must be made annually and reported to the NRD by December 31.
- ◆ Annual soil samples in the root zone (3' to 4' in depth) on each field used for commercial crop production are required for Phase II and Phase III areas. This information will be used in conjunction with use of proper best management practices. The results of the soil samples will accompany the annual report made to the NRD by December 31.
- ◆ All operators will submit a Fertilizer Application Report to the NRD at the end of each crop year or prior to December 31 of each year. Submittal will be on a form(s) developed by the NRD. Reporting of Application of Pesticides will be encouraged on this form.
- ◆ Commercial nitrogen-fertilizer as anhydrous ammonia will be permitted on non-sandy or fine textured soils from November 1 to March 1, provided that an approved inhibitor is used and applied as recommended. After March 1 an inhibitor is not needed.
- ◆ In order to assure use of an approved inhibitor, the operator will be required to furnish certification from a dealer that an approved inhibitor was used and applied as recommended. Methodology for this activity will be developed as part of the education program.
- ◆ The District will begin a voluntary fertilizer calibration program addressing all applications and will strongly encourage operators to participate in the process. The District may, as conditions warrant, choose to develop a cost share program with operators.
- ◆ Monitoring (meters or time totalizers) of water applications will be required to allow operators to better manage fertilizer applications and control excessive nitrate leaching into the aquifer. If time totalizers are used then well output must be certified by the NRD. This activity will be phased in over a period of six (6) years.

- ◆ In Phase II and Phase III areas, amount per acre per year of organic fertilizer allowed to be applied (liquid manure, dried manure, sludge, or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates. The Nebraska Cooperative Extension Service Bulletin EC 89-117 "Fertilizing Crops with Animal Manure" shall be used as guidance unless more current guidelines are available. Amount/acre/year of manure applied on each field is to be reported on the Fertilizer Application Report and submitted to the NRD by December 31 of each year. The amount and timing of application must be adjusted to the N concentration in the soil profile and groundwater content. Application is allowed to frozen soils and is to be determined on a site-by-site basis as this is a prime cause of both groundwater and surface water degradation.
- ◆ The education program will be expanded to assist the Phase II operators and other personnel in the area to realize that continued increases of nitrate and/or other non-point source contamination could cause the area to be elevated to a Phase III area.

Phase III areas are characterized by contaminant levels exceeding the MCL or LHAL in the groundwater. Present data indicates the potential to delineate areas in the District where nitrate levels are consistently in this range. Areas designated as Phase III areas are further constrained in order to more fully protect the citizens of the area and to remediate the aquifer.

PHASE III CONTROLS:

- ◆ Phase I and Phase II controls remain in effect.
- ◆ Monitoring (meters or time totalizers) of water applications to allow operators to better manage fertilizer applications and control leaching of nitrates is to be phased in over 4 years. If time totalizers are used then well output is to be certified by the NRD.
- ◆ The application of commercial nitrogen fertilizer is prohibited in the fall and winter on all soils until after March 1. Spring applications of commercial nitrogen fertilizer will require split applications (pre-plant and sidedress) or the use of an approved inhibitor applied as recommended. If a split application is used and 50 percent or more is applied as a pre-plant, the use on an approved inhibitor applied as recommended is still required.
- ◆ If 50% or more of commercial nitrogen fertilizer is applied to pre-plant then operators are required to furnish certification from the dealer that an inhibitor was used at recommended rates. Methodology for this process will be developed as part of the education program.
- ◆ Require fertilizer calibration monitors on applications >50 lbs./acre. The application of fertilizer (>50 lbs/acre) would be required to be calibrated to the results of soil and water tests and monitored for compliance. The District may choose to develop or increase a cost share program.

Groundwater Quantity Management Programs

The District is composed of both confined and unconfined aquifers. Confined aquifers being generally defined as those aquifer areas where there is a pressure such that the water tends to rise in the well casing. This rise is termed the potentiometric head. Unconfined aquifers are those which do not exhibit this characteristic. The two differing types, due to their varying characteristics, are treated differently in the designation of Levels in the management of the system.

The LPN NRD has defined subareas within the District that have similar aquifer conditions. When greater than 50% of the LPN NRD monitoring wells in a subarea has reached or exceeded the trigger level, then a control area can be established. As more information becomes available in the future, these subareas can be further defined.

LPN NRD monitoring wells are established by a cooperative agreement with the current landowners on a voluntary basis. Due to hydrologic considerations LPN NRD monitoring wells are not to be located on municipal well field property.

Unconfined Aquifers

Unconfined aquifer management subareas are to be designated within the District when conditions, indicate a 10% drop in the saturated thickness of the aquifer. Assessment of percentage drop will be calculated utilizing the spring readings of the wells over a three (3) year period assessed against the baseline 1987 well levels or a more recent index year water level adopted by the Board of Directors and revised in the Ground Water Management Plan to establish the new baseline. When this condition is noted to be developing, the District will enhance the education program which may assist in correcting the situation. If this type of action does not provide the needed results the following will occur.

LEVEL 1 CONTROLS:

- ◆ The area will be designated a Level 1 Quantity Area and operators of irrigation, municipal, and industrial well systems must attend education classes designed by the District and in agreement with applicable other agency input. Certification of all operators is required every four years.
- ◆ A permit will be required for all new wells to be drilled in the area which will pump greater than 50 gpm.
- ◆ The District will encourage well metering on irrigation, municipal, and industrial wells (meters or time totalizers). This voluntary well metering program will be established with possible incentives available to operators. Incentives may include a variety of options and will be developed prior to designation of a Level 1 area.
- ◆ Encourage an acre-inch allocation system that will be developed per commercial crops planted that are dependent on that particular aquifer.
- ◆ The District will encourage submission of the Water Use Report to the NRD prior to December 31 of the fourth year.

As conditions become more severe the District will utilize a 15 percent drop in the saturated thickness as the trigger to move into Level 2 quantity programs.

LEVEL 2 CONTROLS:

- ◆ The same requirements as in Level 1 but enhanced.
- ◆ Well meters or time totalizers will be a requirement on all irrigation, municipal, and industrial wells. If time totalizers are used then well output must be certified by the NRD.
- ◆ An acre-inch allocation per crop planted will be put into place and will be based on the aquifer and the use of the aquifer.
- ◆ The District will require annual submission of the Water Use Report to the NRD by December 31.
- ◆ Well spacing requirements will be applied in the Level 2 area pursuant to Section 46-673.12 of the State Statutes. (Well spacing will vary with % of decline in the aquifer.)
- ◆ Best management practices will be required to conserve water and will be developed prior to designation of the area as a Level 2 Area.

Confined Aquifers

The sensitivity of the confined aquifers has led the District to the decision to manage them in a different manner than the unconfined aquifers. The triggers are based on a reduction in the potentiometric-aquifer thickness. The potentiometric surface is defined as an "imaginary" surface representing the total head of groundwater in a confined aquifer that is defined by the level to which water will rise in a well. The potentiometric-aquifer thickness (PAT) is defined as the distance from the potentiometric surface to the base of the principal aquifer. The use of this procedure requires the data derived from the well drilling operation as the total aquifer thickness will need to be determined.

Three Levels have been assigned to the confined aquifer designations. Level 1A is triggered by a 7 percent drop in potentiometric-aquifer thickness. Assessment of percentage drop will be calculated utilizing the spring readings of the wells over a three (3) year period assessed against the 1987 baseline well levels or a more recent index year water level adopted by the Board of Directors and revised in the Ground Water Management Plan to establish the new baseline. This program is one of primarily education and the controls applied are:

LEVEL 1A CONTROLS:

- ◆ Operators of irrigation, municipal, and industrial well systems are required to attend education classes as designed by the District. These classes will be developed prior to any area being designated. All operators are to be certified every four years.
- ◆ Permits are required for all new wells to be drilled in the area which will pump greater than 50 gpm.

- ◆ The District will encourage well metering (meters or time totalizers) on all irrigation, municipal, and industrial wells.
- ◆ Encourage adoption of acre-inch allocations on crops planted that are dependent on the aquifer.
- ◆ The District will encourage submission of the Water Use Report to the NRD prior to December 31 of the fourth year.

Level 2A is triggered by a 10 percent drop in the potentiometric-aquifer thickness of the aquifer and the following controls are applied.

LEVEL 2A CONTROLS:

- ◆ The same controls as set forth in Level 1A apply.
- ◆ Well meters or time totalizers are required to be installed and used on all irrigation, municipal, and industrial wells. If time totalizers are used then well output must be certified by the NRD.
- ◆ The District will develop and assess acre-inch allocations per crops planted. These allocations will be developed according to data assessments, wells in the area, use of the wells, and other pertinent factors leading to the proper assessment of the available resource.
- ◆ The District will require an annual submission of the Water Use Report to the NRD prior to December 31.

The trigger for the Level 3A Area is a 15 percent drop in the potentiometric-aquifer thickness. This level signals the need for extreme measures as the aquifer is under considerable stress.

LEVEL 3A CONTROLS:

- ◆ Same conditions as applied in Level 1A and Level 2A as applicable.
- ◆ As required, the District will further adjust the acre-inch allocations. Such adjustment will be commensurate with the data developed from implementation of Level 2A area designation.
- ◆ The District will adopt a well spacing requirement pursuant to Section 46-673.12 Nebraska statues and implement such a system. Well spacing will vary with % decline in the aquifer.

AGRICULTURAL RESEARCH FACILITIES

Agricultural Research Facilities within the LPN NRD may apply to the Board of Directors for a modification of the individual requirements within the groundwater management areas, that specifically affects the land they own or operate. Such requests will be reviewed on a case-by-case basis.

APPEAL PROCESS

In implementing the LPN NRD Groundwater Management Plan, all those affected are provided with an administrative appeal process whereby they may address the Board of Directors to present their case. The incorporation and functioning of the appeals process is carried out with the same manner as other administrative appeals processes utilized by the District (i.e., sediment and erosion control program appeal process).

SUMMARY

In pursuing the goals of this Groundwater Management Plan, the District will orient its programs in support of accomplishing the goals, objectives and policies of the plan. Provisions will be incorporated in the process to allow for Areas and Levels to change over time in response to changes in either nitrate levels, chemical constituent levels, or water levels.

TABLE 1
QUALITY

AREA	DATE TO BEGIN	PHASE	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Phase I Area	0-8 ppm NO ₃ -N in groundwater, or <80% of MCL/LHAL of "other" man-induced, non-point source contaminants.	<p>a) All operators using any type of fertilizer must attend the education/certification classes established by the District to become certified, every 4 years.</p> <p>b) A groundwater analysis for nitrogen (NO₃-N) content for all wells pumping greater than 100 gpm and irrigating commercial crops must be made every 4 years and reported to the NRD by December 31 of the fourth year.</p> <p>c) A soil (3-4 ft. depth) analysis for nitrogen (NO₃-N) content on each field growing commercial crops are encouraged every 4 years and results reported to the NRD by December 31 of the fourth year.</p> <p>d) All operators are encouraged to submit a Fertilizer Application Report to the NRD prior to December 31 once every 4 years which indicates the pound per acre of nitrogen (commercial and organic) and quantity per acre of pesticides applied to each field on crop lands under their use for the reporting period. Such reports will incorporate, if applicable, those reports required under the NRD chemigation program and such reports resulting from implementation of the State assumption of the Federal Insecticide Fungicide, Rodenticide Act (FIFRA).</p> <p>e) Require permits for all new wells to be drilled which will pump greater than 50 gpm.</p> <p>f) Amount/acre/year of organic manure allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates.</p> <p>g) No Fall application of N fertilizer (commercial) on non-sandy or fine textured soils until after November 1.</p> <p>h) Fall and Winter applications of N fertilizer (commercial) is prohibited on sandy soils. Commercial fertilizer can be applied on sandy soils after March 1.</p>

TABLE 2
QUALITY

AREA	DATE TO BEGIN	PHASE	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Phase II Area	8.01-10 ppm NO ₃ -N in groundwater, or >80% but <100% of MCL/LHAL of "other" man-induced, non-point source contaminants.	<p>a) Same as Phase I</p> <p>b) A groundwater analysis for Nitrogen (NO₃-N) content for all wells pumping greater than 100 gpm and irrigating commercial crops must be made annually, and reported to the NRD by December 31.</p> <p>c) A soil (3-4 ft. depth) analysis for nitrogen (NO₃-N) content on each field growing commercial crops are required annually and results reported to the NRD by December 31.</p> <p>d) The Fertilizer Application Report must be submitted to the Lower Platte North NRD each crop year prior to December 31.</p> <p>e) Commercial Nitrogen Fertilizer will be permitted on non-sandy or fine textured soils from November 1 to March 1 provided that an approved inhibitor is used at recommended rates. After March 1 inhibitor is not needed.</p> <p>f) Require operators applying commercial fertilizer from November 1 to March 1 to furnish certification from dealer that an approved inhibitor was used as recommended.</p> <p>g) Encourage fertilizer calibration monitors on all applications and develop cost-share programs.</p> <p>h) Monitor (meters or time totalizers) water applications to allow operators to better manage fertilizer applications and control leaching of Nitrates. (Phase in over 6 years)</p> <p>i) Amount/acre/year of organic manure allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates. (Use of Nebraska Cooperative Extension Service Bulletin EC-89117 is recommended.) Amount and timing of application must be adjusted to the N concentration in the soil profile and groundwater content. Application to frozen soils on a site-by-site basis.</p> <p>j) Expand education programs.</p>

**TABLE 3
QUALITY**

AREA	DATE TO BEGIN	PHASE	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Phase III Area	greater than 10.01 ppm NO ₃ -N in groundwater, or >100% of MCL/LHAL of "other" man-induced, non-point source contaminants.	<p>a) Same as Phase I and Phase II</p> <p>b) Monitor (meters or time totalizers) water applications to allow operators to better manage fertilizer applications and control leaching of Nitrates (Phase in over 4 years).</p> <p>c) Application of commercial nitrogen fertilizer is prohibited in the fall and winter on all soils until after March 1. Spring applications of commercial nitrogen fertilizer will require split applications (pre-plant and sidedress) or the use of an approved inhibitor applied as recommended. (On split application, if 50% or more is applied as a pre-plant the use of an approved inhibitor applied as recommended is still required).</p> <p>d) If 50% or more of commercial nitrogen fertilizer is applied at pre-plant then operators are required to furnish certification from the dealer that an inhibitor was used at recommended rates.</p> <p>e) Require fertilizer calibration monitors on applications of > 50 lbs. per acre.</p>

TABLE 4
UNCONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level I	10% drop in the saturated thickness.	<p>a) All operators of well systems that pump greater than 100 gpm must attend education classes designed by the District. All operators to be certified every 4 years.</p> <p>b) Permits required for all new wells to be drilled which will pump greater than 50 gpm.</p> <p>c) Encourage well metering program (meters or time totalizers) to be established on all wells pumping greater than 100 gpm.</p> <p>d) Encourage adoption of acre-inch allocations per crops planted that are dependant on the aquifer.</p> <p>e) Encourage submission of the Water Use Report to NRD prior to December 31 of the fourth year.</p>

TABLE 5
UNCONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level II	15% drop in the saturated thickness.	<p>a) Same as Level I.</p> <p>b) Require well meters or time totalizers to be installed on all wells pumping greater than 100 gpm.</p> <p>c) Require adoption of acre-inch allocations per crops planted that are dependent on the aquifer.</p> <p>d) Require annual submission of the Water Use Report to the NRD prior to December 31.</p> <p>e) Requirement of well-spacing pursuant to Section 46-673.12 - Nebraska Statutes. (Will vary with % of aquifer decline.)</p> <p>f) Require use of best management practices to conserve water.</p>

TABLE 6
CONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level 1A	7% drop in potentiometric-aquifer thickness.	<p>a) All operators of well systems that pump greater than 100 gpm must attend education classes designed by the District. All operators to be certified every 4 years.</p> <p>b) Permits required for all new wells to be drilled which will pump greater than 50 gpm.</p> <p>c) Encourage well metering program (meters or time totalizers) to be established on all wells pumping greater than 100 gpm.</p> <p>d) Encourage adoption of acre-inch allocations per crops planted that are dependent on the aquifer.</p> <p>e) Encourage submission of the Water Use Report to NRD prior to December 31 of the fourth year.</p>

- 1) The potentiometric surface is defined as an "imaginary" surface representing the total head of groundwater in a confined aquifer that is defined by the level to which water will rise in a well.
- 2) The potentiometric-aquifer thickness (PAT) is defined as the distance from the potentiometric surface to the base of the principal aquifer.

TABLE 7
CONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level IIA	10% drop in potentiometric-aquifer thickness.	<p>a) Same as level IA.</p> <p>b) Require well meters or time totalizers to be installed on all wells pumping greater than 100 gpm.</p> <p>c) Require adoption of acre-inch allocations per crops planted that are dependant on the aquifer.</p> <p>d) Require annual submission of the Water Use Report to the NRD prior to December 31.</p>

TABLE 8
CONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level IIIA	15% drop in potentiometric-aquifer thickness.	a) Same as level IA and IIA. b) Further adjust acre-inch allocations. c) Require well-spacing pursuant to section 46-673.12 Nebraska Statutes. (Will vary with % of aquifer decline) d) Require use of best management practices to conserve water.

TABLE 9
LPNNRD's - GROUNDWATER QUALITY MANAGEMENT PROGRAM

RULES AND REGULATIONS	Phase I	Phase II	Phase III
1. Phase areas will be established on Nitrate-Nitrogen (NO ₃ -N) concentration found in the groundwater.	0-8 ppm	8.01-10 ppm	10.01 ppm or >
2. Phase areas can be established on other non-point source contaminants found in the groundwater or soil.	0-80% MCL/LHAL	80-100% MCL/LHAL	>100% MCL/LHAL
3. Operators using any type of fertilizer are required to become certified every 4 years.	X	X	X
4. A groundwater analysis for Nitrogen (NO ₃ -N) content for all wells pumping greater than 100 gpm irrigating commercial crop production must be made and reported to the NRD by December 31.	Once every 4 yrs.	Annually	Annually
5. Soil samples in the root zone (3 to 4 ft. deep) are to be taken and reported to the NRD by December 31.	Encouraged	Annually	Annually
6. Fertilizer Application Report (both commercial and organic fertilizers) to NRD prior to December 31.	Encouraged	Annually	Annually
7. Permit for all new wells to be drilled which will pump greater than 50 gpm.	X	X	X
8. Amount/acre/year of organic fertilizer allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates.	X		
9. No fall application of N fertilizer (commercial) on non-sandy soils until after November 1 .	X		
10. Fall and winter applications of commercial nitrogen fertilizer is prohibited on sandy soils. Commercial fertilizer can be applied on sandy soils after March 1.	X	X	
11. Commercial nitrogen fertilizer permitted on non-sandy soils from November 1 to March 1 provided an approved inhibitor is used at recommended rates.		X	
12. Require operators applying commercial fertilizer from November 1 to March 1 to furnish certification from dealer that an approved inhibitor was used as recommended.		X	
13. Encourage fertilizer calibration monitors on all applications and develop cost-share programs.		X	
14. Monitor water applications to allow operators to better manage fertilizer application and control leaching of Nitrogen.		phase in over 6 yr.	phase in over 4 yr.
15. Amount/acre/year of organic fertilizer allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates. Amount and timing of application must be adjusted to the N concentration in the soil profile and groundwater content. Application to frozen soils on a site-by-site basis.		X	X
16. Expand Education program.		X	X
17. Application of commercial nitrogen fertilizer is prohibited in the fall and winter on all soils until after March 1. Spring applications of commercial nitrogen fertilizer will require split application (pre-plant and sidedress) or the use of an approved inhibitor applied as recommended. (On split applications, if 50% or more is applied as a pre-plant, the use of an approved inhibitor applied as recommended is still required.)			X
18. If 50% or more of commercial nitrogen fertilizer is applied at pre-plant then operators are required to furnish certification from dealer that an inhibitor was used at recommended rates.			X
19. Require fertilizer monitors on all applications greater than 50 lbs/acre.			X

TABLE 10
LOWER PLATTE NORTH NRD
GROUNDWATER QUANTITY MANAGEMENT PROGRAM

UNCONFINED AQUIFER		
Rules and Regulations	Level I 10% drop in saturated thickness	Level II 15% drop in saturated thickness
1. All operators of well systems that pump greater than 100 gpm must attend education classes and be certified every 4 years.	X	X
2. Permit required for all new wells to be drilled which will pump greater than 50 gpm.	X	X
3. Well metering program established on all wells pumping greater than 100 gpm.	Encouraged	Required
4. Adopt acre-inch allocations per crops planted dependent on aquifer.	Encouraged	Required
5. Water Use Report to NRD prior to December 31.	Encouraged	Annually
6. Require well-spacing pursuant to section 46-673.12 (will vary with % decline)		X
7. Require use of best management practices.		X

CONFINED AQUIFERS			
Rules and Regulations	Level IA 7% drop in potentiometric-aquifer thickness	Level IIA 10% drop in potentiometric-aquifer thickness	Level IIIA 15% drop in potentiometric-aquifer thickness
1. All operators of well systems that pump greater than 100 gpm must attend education classes and be certified every 4 years.	X	X	X
2. Permits required on all new wells to be drilled which will pump greater than 50 gpm.	X	X	X
3. Well metering program established on all wells pumping greater than 100 gpm.	Encouraged	Required	Required
4. Adopt acre-inch allocations per crops planted dependant on aquifer.	Encouraged	Required	Required
5. Water Use Report to NRD prior to December 31.	Encouraged	Annually	Annually
6. Require well spacing pursuant to Section 46-673.12. (Will vary with % decline)			X
7. Require use of best management practices.			X

PLAN FOR GROUNDWATER MANAGEMENT IN THE LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

Section D Public Participation

Public knowledge of the ideas and designs included in the Groundwater Management Plan is crucial to the successful implementation of the plan. Therefore, the Board of Directors felt that a series of public hearings and meetings to present and discuss the changes to the adopted Groundwater Management Plan would be beneficial. Public hearings and meetings were held at the following locations:

<i>July 26, 1993</i>	Public Hearing - Fremont Public Hearing - Schuyler Public Hearing - Wahoo
<i>July 28, 1993</i>	Public Hearing - Platte Center Public Hearing - David City
<i>August 25, 1993</i>	Press Conference - Wahoo
<i>September 8, 1993</i>	Public Meeting - Wahoo
<i>August 29, 1994</i>	Public Hearing - Wahoo
<i>August 31, 1994</i>	Public Hearing - Platte Center

During each public meeting the plan was presented by NRD staff. Public comments, questions, and concerns were recorded for consideration by the Board and possible incorporation into the Plan. Overall the meetings were very beneficial, and provided guidance to the Board of Directors and NRD staff. Appropriate comments were incorporated into the Plan.

In addition to the public meeting process, public awareness was fostered through a series of 17 news articles in local papers, 5 radio spots, and presentations at 7 area meetings during 1993 and 1994. The LPN NRD board and staff is grateful to those who took the time to participate in this process.

**TABLE 1
QUALITY**

AREA	DATE TO BEGIN	PHASE	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Phase I Area	0-8 ppm NO ₃ -N in groundwater, or <80% of MCL/LHAL of "other" man-induced, non-point source contaminants.	<p>a) All operators using any type of fertilizer must attend the education/certification classes established by the District to become certified, every 4 years.</p> <p>b) A groundwater analysis for nitrogen (NO₃-N) content for irrigation, municipal, and industrial wells must be made every 4 years and reported to the NRD by December 31 of the fourth year.</p> <p>c) A soil (3-4 ft. depth) analysis for nitrogen (NO₃-N) content on each field growing commercial crops are encouraged every 4 years and results reported to the NRD by December 31 of the fourth year.</p> <p>d) All operators are encouraged to submit a Fertilizer Application Report to the NRD prior to December 31 once every 4 years which indicates the pound per acre of nitrogen (commercial and organic) and quantity per acre of pesticides applied to each field on crop lands under their use for the reporting period. Such reports will incorporate, if applicable, those reports required under the NRD chemigation program and such reports resulting from implementation of the State assumption of the Federal Insecticide Fungicide, Rodenticide Act (FIFRA).</p> <p>e) Require permits for all new wells to be drilled which will pump greater than 50 gpm.</p> <p>f) Amount/acre/year of organic manure allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates.</p> <p>g) No Fall application of N fertilizer (commercial) on non-sandy or fine textured soils until after November 1.</p> <p>h) Fall and Winter applications of N fertilizer (commercial) is prohibited on sandy soils. Commercial fertilizer can be applied on sandy soils after March 1.</p>

**TABLE 2
QUALITY**

AREA	DATE TO BEGIN	PHASE	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Phase II Area	8.01-10 ppm NO ₃ -N in groundwater, or >80% but <100% of MCL/LHAL of "other" man-induced, non-point source contaminants.	<p>a) Same as Phase I</p> <p>b) A groundwater analysis for Nitrogen (NO₃-N) content for all irrigation, municipal, and industrial wells must be made annually, and reported to the NRD by December 31.</p> <p>c) A soil (3-4 ft. depth) analysis for nitrogen (NO₃-N) content on each field growing commercial crops are required annually and results reported to the NRD by December 31.</p> <p>d) The Fertilizer Application Report must be submitted to the Lower Platte North NRD each crop year prior to December 31.</p> <p>e) Commercial Nitrogen Fertilizer will be permitted on non-sandy or fine textured soils from November 1 to March 1 provided that an approved inhibitor is used at recommended rates. After March 1 inhibitor is not needed.</p> <p>f) Require operators applying commercial fertilizer from November 1 to March 1 to furnish certification from dealer that an approved inhibitor was used as recommended.</p> <p>g) Encourage fertilizer calibration monitors on all applications and develop cost-share programs.</p> <p>h) Monitor (meters or time totalizers) water applications to allow operators to better manage fertilizer applications and control leaching of Nitrates. (Phase in over 6 years)</p> <p>i) Amount/acre/year of organic manure allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates. (Use of Nebraska Cooperative Extension Service Bulletin EC-891 17 is recommended.) Amount and timing of application must be adjusted to the N concentration in the soil profile and groundwater content. Application to frozen soils on a site-by-site basis.</p> <p>j) Expand education programs.</p>

**TABLE 3
QUALITY**

AREA	DATE TO BEGIN	PHASE	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Phase III Area	greater than 10.01 ppm NO ₃ -N in groundwater, or >100% of MCL/LHAL of "other" man-induced, non-point source contaminants.	<p>a) Same as Phase I and Phase II</p> <p>b) Monitor (meters or time totalizers) water applications to allow operators to better manage fertilizer applications and control leaching of Nitrates (Phase in over 4 years).</p> <p>c) Application of commercial nitrogen fertilizer is prohibited in the fall and winter on all soils until after March 1. Spring applications of commercial nitrogen fertilizer will require split applications (pre-plant and sidedress) or the use of an approved inhibitor applied as recommended. (On split application, if 50% or more is applied as a pre-plant the use of an approved inhibitor applied as recommended is still required).</p> <p>d) If 50% or more of commercial nitrogen fertilizer is applied at pre-plant then operators are required to furnish certification from the dealer that an inhibitor was used at recommended rates.</p> <p>e) Require fertilizer calibration monitors on applications of > 50 lbs. per acre.</p>

TABLE 4
UNCONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level I	10% drop in the saturated thickness.	<p>a) Operators of irrigation, municipal, and industrial well systems must attend education classes designed by the District. All operators to be certified every 4 years.</p> <p>b) Permits required for all new wells to be drilled which will pump greater than 50 gpm.</p> <p>c) Encourage well metering (meters or time totalizers) to be established on all irrigation, municipal, and industrial wells.</p> <p>d) Encourage adoption of acre-inch allocations per crops planted that are dependant on the aquifer.</p> <p>e) Encourage submission of the Water Use Report to NRD prior to December 31 of the fourth year.</p>

TABLE 5
UNCONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level II	15% drop in the saturated thickness.	<p>a) Same as Level I.</p> <p>b) Require well meters or time totalizers to be installed on all irrigation, municipal, and industrial wells.</p> <p>c) Require adoption of acre-inch allocations per crops planted that are dependent on the aquifer.</p> <p>d) Require annual submission of the Water Use Report to the NRD prior to December 31.</p> <p>e) Requirement of well-spacing pursuant to Section 46-673.12 - Nebraska Statutes. (Will vary with % of aquifer decline.)</p> <p>f) Require use of best management practices to conserve water.</p>

TABLE 6
CONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level 1A	7% drop in potentiometric-aquifer thickness.	<p>a) Operators of irrigation, municipal, and industrial well systems must attend education classes designed by the District. All operators to be certified every 4 years.</p> <p>b) Permits required for all new wells to be drilled which will pump greater than 50 gpm.</p> <p>c) Encourage well metering (meters or time totalizers) on all irrigation, municipal, and industrial wells.</p> <p>d) Encourage adoption of acre-inch allocations per crops planted that are dependent on the aquifer.</p> <p>e) Encourage submission of the Water Use Report to NRD prior to December 31 of the fourth year.</p>

1) The potentiometric surface is defined as an "imaginary" surface representing the total head of groundwater in a confined aquifer that is defined by the level to which water will rise in a well.

2) The potentiometric-aquifer thickness (PAT) is defined as the distance from the potentiometric surface to the base of the principal aquifer.

TABLE 7
CONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level IIA	10% drop in potentiometric-aquifer thickness.	<p>a) Same as level IA.</p> <p>b) Require well meters or time totalizers to be installed on all irrigation, municipal, and industrial wells.</p> <p>c) Require adoption of acre-inch allocations per crops planted that are dependant on the aquifer.</p> <p>d) Require annual submission of the Water Use Report to the NRD prior to December 31.</p>

TABLE 8
CONFINED AQUIFERS
QUANTITY

AREA	DATE TO BEGIN	LEVEL	TRIGGERS	CONTROLS
Lower Platte North Natural Resources District		Level IIIA	15% drop in potentiometric-aquifer thickness.	a) Same as level IA and IIA. b) Further adjust acre-inch allocations. c) Require well-spacing pursuant to section 46-673.12 Nebraska Statutes. (Will vary with % of aquifer decline) d) Require use of best management practices to conserve water.

TABLE 9
LPNNRD's - GROUNDWATER QUALITY MANAGEMENT PROGRAM

RULES AND REGULATIONS	Phase I	Phase II	Phase III
1. Phase areas will be established on Nitrate-Nitrogen (NO ₃ -N) concentration found in the groundwater.	0-8 ppm	8.01-10 ppm	10.01 ppm or >
2. Phase areas can be established on other non-point source contaminants found in the groundwater or soil.	0-80% MCL/LHAL	80-100% MCL/LHAL	>100% MCL/LHAL
3. Operators using any type of fertilizer are required to become certified every 4 years.	X	X	X
4. A groundwater analysis for Nitrogen (NO ₃ -N) content for all irrigation, municipal, and industrial wells must be made and reported to the NRD by December 31.	Once every 4 yrs.	Annually	Annually
5. Soil samples in the root zone (3 to 4 ft. deep) are to be taken and reported to the NRD by December 31.	Encouraged	Annually	Annually
6. Fertilizer Application Report (both commercial and organic fertilizers) to NRD prior to December 31.	Encouraged	Annually	Annually
7. Permit for all new wells to be drilled which will pump greater than 50 gpm.	X	X	X
8. Amount/acre/year of organic fertilizer allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates.	X		
9. No fall application of N fertilizer (commercial) on non-sandy soils until after November 1 .	X		
10. Fall and winter applications of commercial nitrogen fertilizer is prohibited on sandy soils. Commercial fertilizer can be applied on sandy soils after March 1 .	X	X	
11. Commercial nitrogen fertilizer permitted on non-sandy soils from November 1 to March 1 provided an approved inhibitor is used at recommended rates.		X	
12. Require operators applying commercial fertilizer from November 1 to March 1 to furnish certification from dealer that an approved inhibitor was used as recommended.		X	
13. Encourage fertilizer calibration monitors on all applications and develop cost-share programs.		X	
14. Monitor water applications to allow operators to better manage fertilizer application and control leaching of Nitrogen.		phase in over 6 yr.	phase in over 4 yr.
15. Amount/acre/year of organic fertilizer allowed (liquid manure, dried manure, sludge or composted organic waste) will be based on method of collection and storage, land application method, types of crops or cover crop, soil types, landscape features, source of manure, and previous manure application rates. Amount and timing of application must be adjusted to the N concentration in the soil profile and groundwater content. Application to frozen soils on a site-by-site basis.		X	X
16. Expand Education program.		X	X
17. Application of commercial nitrogen fertilizer is prohibited in the fall and winter on all soils until after March 1. Spring applications of commercial nitrogen fertilizer will require split application (pre-plant and sidedress) or the use of an approved inhibitor applied as recommended. (On split applications, if 50% or more is applied as a pre-plant, the use of an approved inhibitor applied as recommended is still required.)			X
18. If 50% or more of commercial nitrogen fertilizer is applied at pre-plant then operators are required to furnish certification from dealer that an inhibitor was used at recommended rates.			X
19. Require fertilizer monitors on all applications greater than 50 lbs/acre.			X

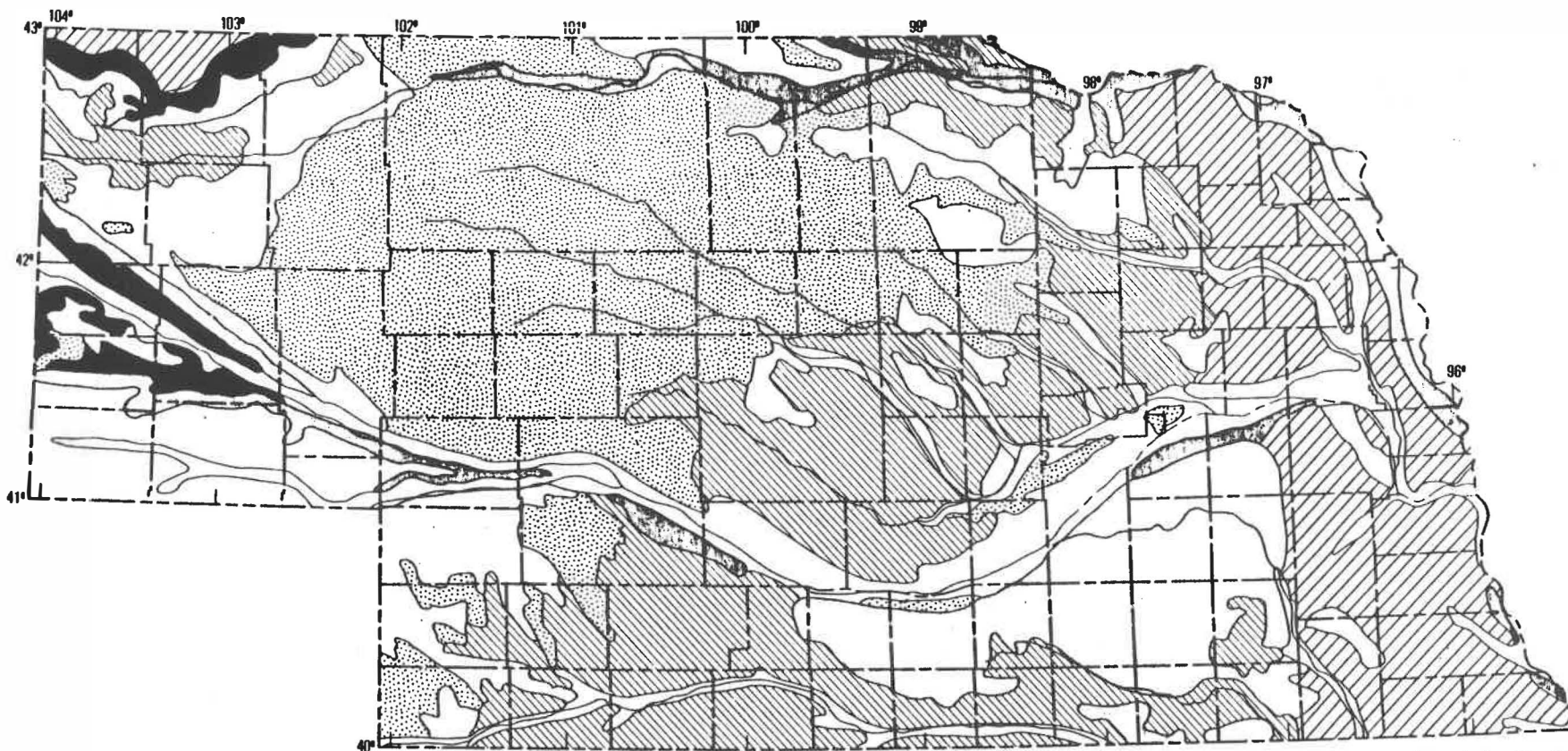
TABLE 10
LOWER PLATTE NORTH NRD
GROUNDWATER QUANTITY MANAGEMENT PROGRAM

UNCONFINED AQUIFER		
Rules and Regulations	Level I 10% drop in saturated thickness	Level II 15% drop in saturated thickness
1. Operators of irrigation, municipal, and industrial well systems must attend education classes and be certified every 4 years.	X	X
2. Permit required for all new wells to be drilled which will pump greater than 50 gpm.	X	X
3. Well metering established on irrigation, municipal, and industrial wells.	Encouraged	Required
4. Adopt acre-inch allocations per crops planted dependent on aquifer.	Encouraged	Required
5. Water Use Report to NRD prior to December 31.	Encouraged	Annually
6. Require well-spacing pursuant to section 46-673.12 (will vary with % decline)		X
7. Require use of best management practices.		X

CONFINED AQUIFERS			
Rules and Regulations	Level IA 7% drop in potentiometric-aquifer thickness	Level IIA 10% drop in potentiometric-aquifer thickness	Level IIIA 15% drop in potentiometric-aquifer thickness
1. Operators of irrigation, municipal, and industrial well systems must attend education classes and be certified every 4 years.	X	X	X
2. Permits required on all new wells to be drilled which will pump greater than 50 gpm.	X	X	X
3. Well metering program established on all irrigation, municipal, and industrial wells.	Encouraged	Required	Required
4. Adopt acre-inch allocations per crops planted dependant on aquifer.	Encouraged	Required	Required
5. Water Use Report to NRD prior to December 31.	Encouraged	Annually	Annually
6. Require well spacing pursuant to Section 46-673.12. (Will vary with % decline)			X
7. Require use of best management practices.			X

APPENDIX A

Types of topography.



Topography from Elder, 1969

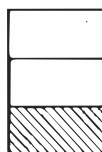
EXHIBIT 2



Valleys—flat-lying land along the major streams. The materials of the valleys are stream-deposited silt, clay, sand, and gravel.

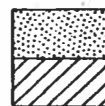
Plains—flat-lying land which lies above the valley. The materials of the plains are sandstone or stream-deposited silt, clay, sand, and gravel overlain by wind-deposited silt (loess).

Dissected Plains—hilly land with moderate to steep slopes, sharp ridge crests, and remnants of the old, nearly level plain. The Dissected Plains are old plains eroded by water and wind.



Valleys
Plains
Dissected plains

EXPLANATION



Sandhills
Rolling hills

Sand Hills—hilly land composed of low to high dunes of sand stabilized by a grass cover. The sand dunes mantle stream-deposited silt, sand and gravel, and sandstone.

Rolling Hills—hilly land with moderate to steep slopes and rounded ridge crests. In eastern Nebraska, the Rolling Hills are mostly glacial till that has been eroded and mantled by loess, while in northwestern Nebraska the hills were produced by the erosion of clay and clay-shale beds.



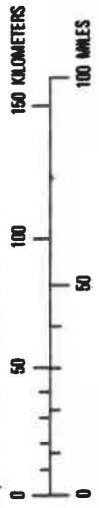
Bluffs and escarpments
Valley-side slopes

Bluffs and Escarpments—rugged land with very steep and irregular slopes. Bedrock materials, such as sandstone, shale, and limestone, are often exposed in these areas.

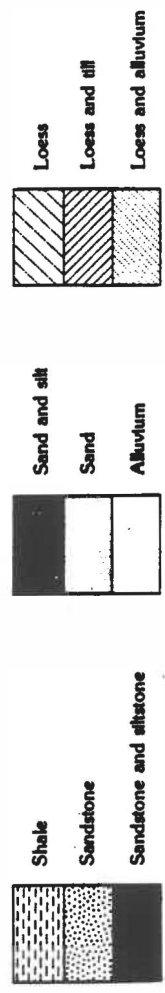
Valley-Side Slopes—moderately sloping land which occurs between the escarpments and the major stream valleys in western Nebraska. These areas are mostly siltstone bedrock covered by a few feet to a few tens of feet of sand, gravel, or silt.



Geology from Elder, 1988



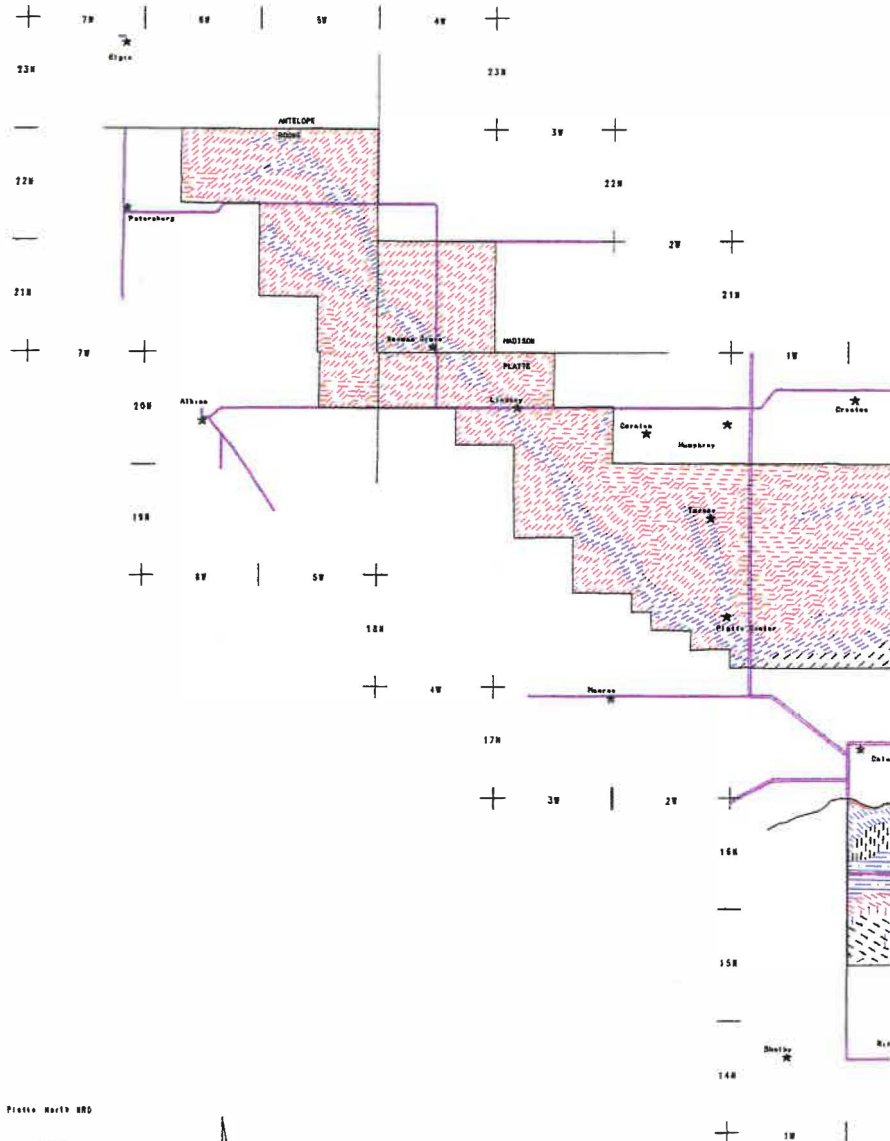
EXPLANATION



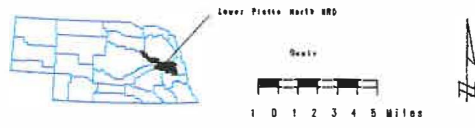
Parent materials of soils.

EXHIBIT 3

NEBRASKA NATURAL RESOURCES COMMISSION
DATA BANK



- Legend**
- Intersected and Priority Highways
 - U.S. and State Highways
 - County Boundary
 - Lower Platte North Boundary



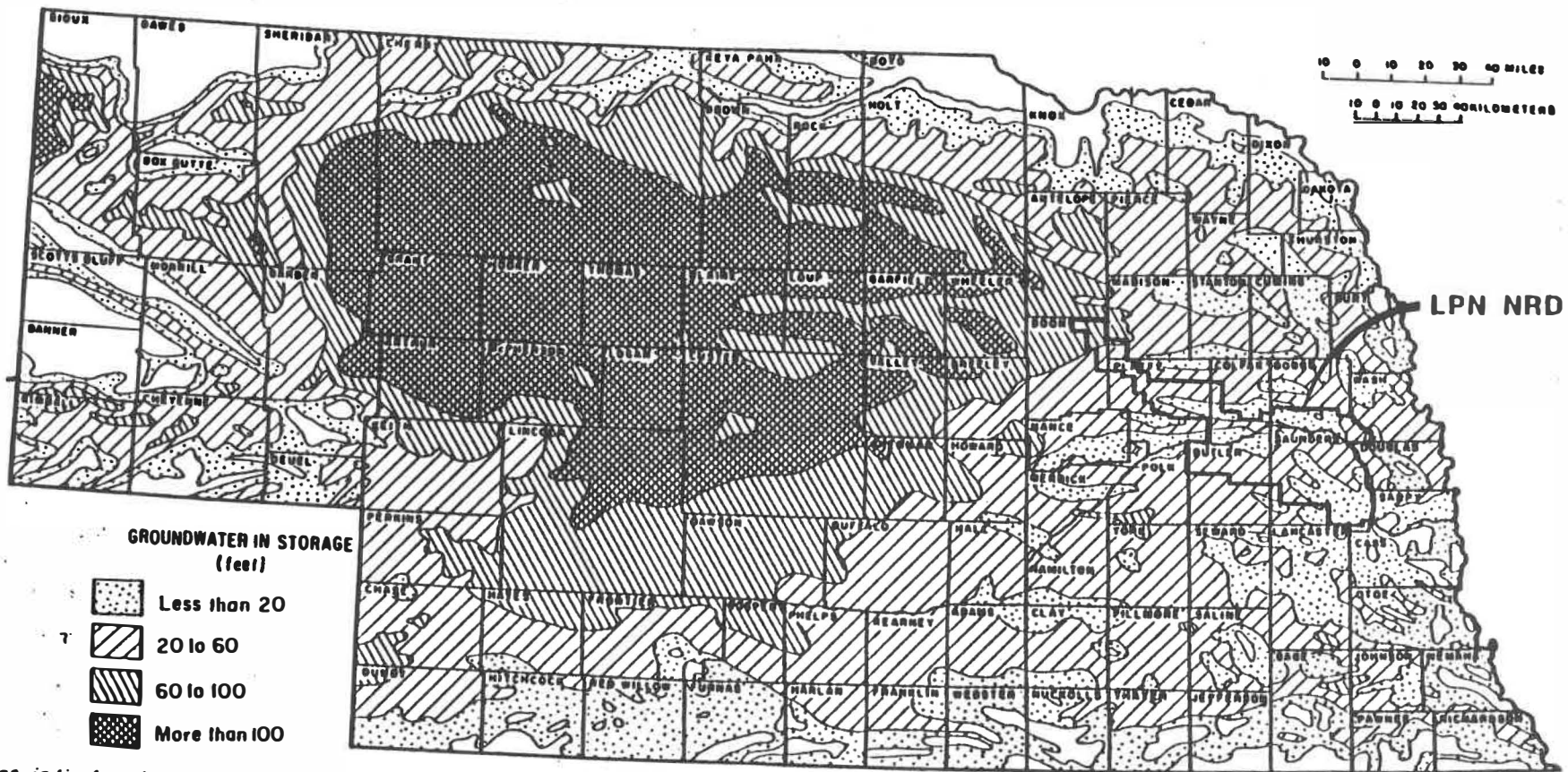
Information Summary

Prepared by: Nebraska Natural Resources Commission
 Data Date: USDA Soil Conservation Service, NFAFDD Data Base
 Map Process: 4/82/1982
 Projection: April 1982

Soil Map Units

- | | |
|--------------------------------------|-----------------------------|
| BELFLORE-WOODY-FILLMORE | HORD-HALL-WOOD RIVER-HOBBS |
| INAVALE-CASS-BARNET-PLATTE-BOEL | IDA-WONONA-NAPIER-HOBBS |
| COLY-VLY-HOBBS-HOLDREGE-HORD | KENNEBEC-WABASH-ZOOK-NODAW |
| GIBBON-LUTON-SALTINE-WAHH-ZOOK | MARSHALL-POKCA-JOHNSON-KEN |
| GOTTBURG-PLATTE-LEX-ALDA | WONDRA-IDA-JUDSON-KENNEBEC |
| HASTINGS-FILLMORE-CRETE-BUTLER-HOBBS | WOODY-NORA-JUDSON-BELFLORE- |
| HOBBS-HORD-HALL-CASS | HODDY-FILLMORE-NORA-JUDSON |
| HOLDER-FILLMORE-BUTLER-HOBBS | NORA-CROFTON-WOODY-ALCESTE |
| HORD-HALL-HOBBS-KENNESAW-FILLMORE | O'NEILL-BROCKSBURG-HORD-BL |



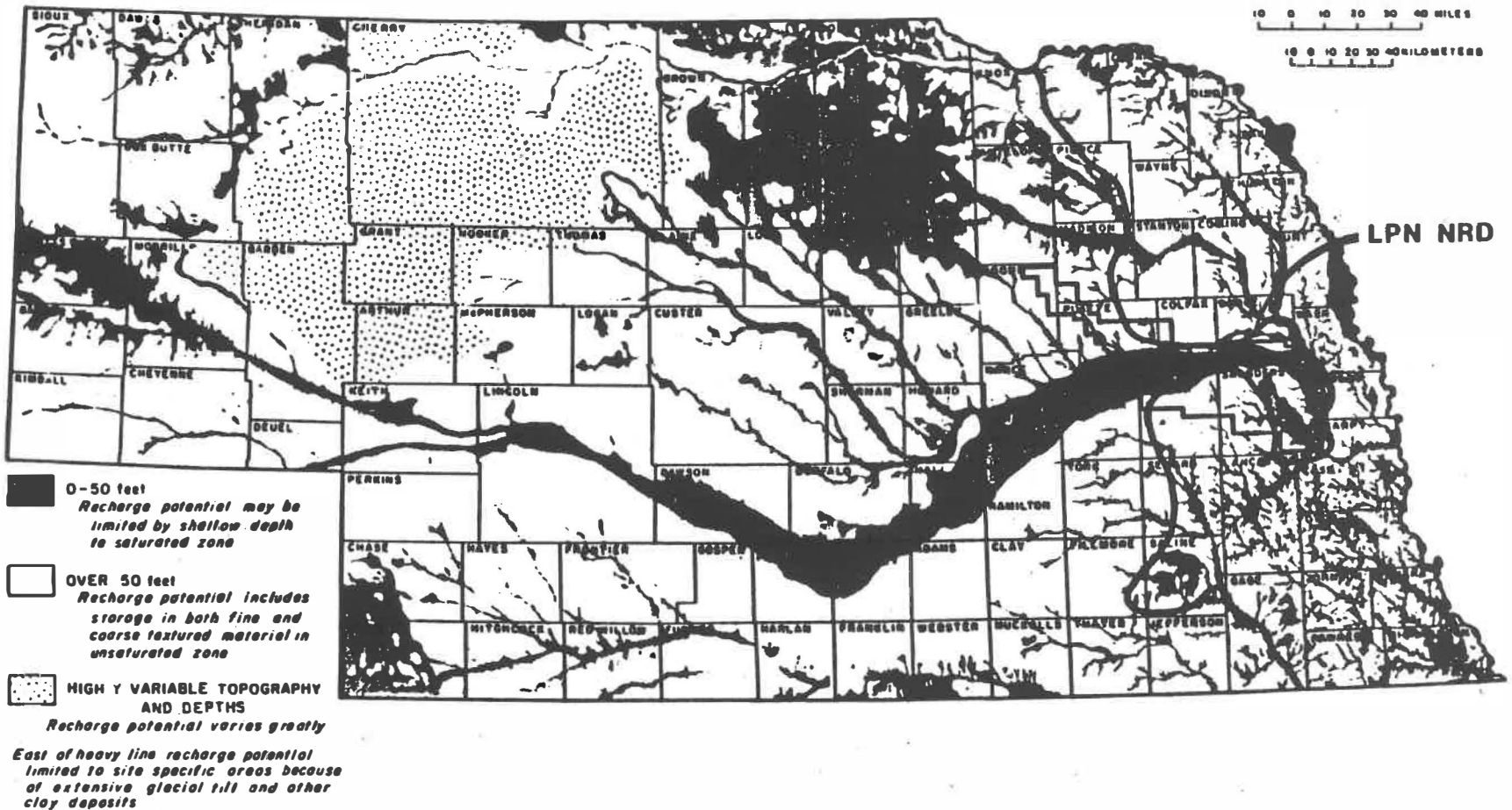


White areas indicate principal aquifer is very thin or absent

Groundwater Storage in the Principal Aquifer. The amount of water, in feet, estimated to be contained within the principal aquifers of the state.

EXHIBIT 5

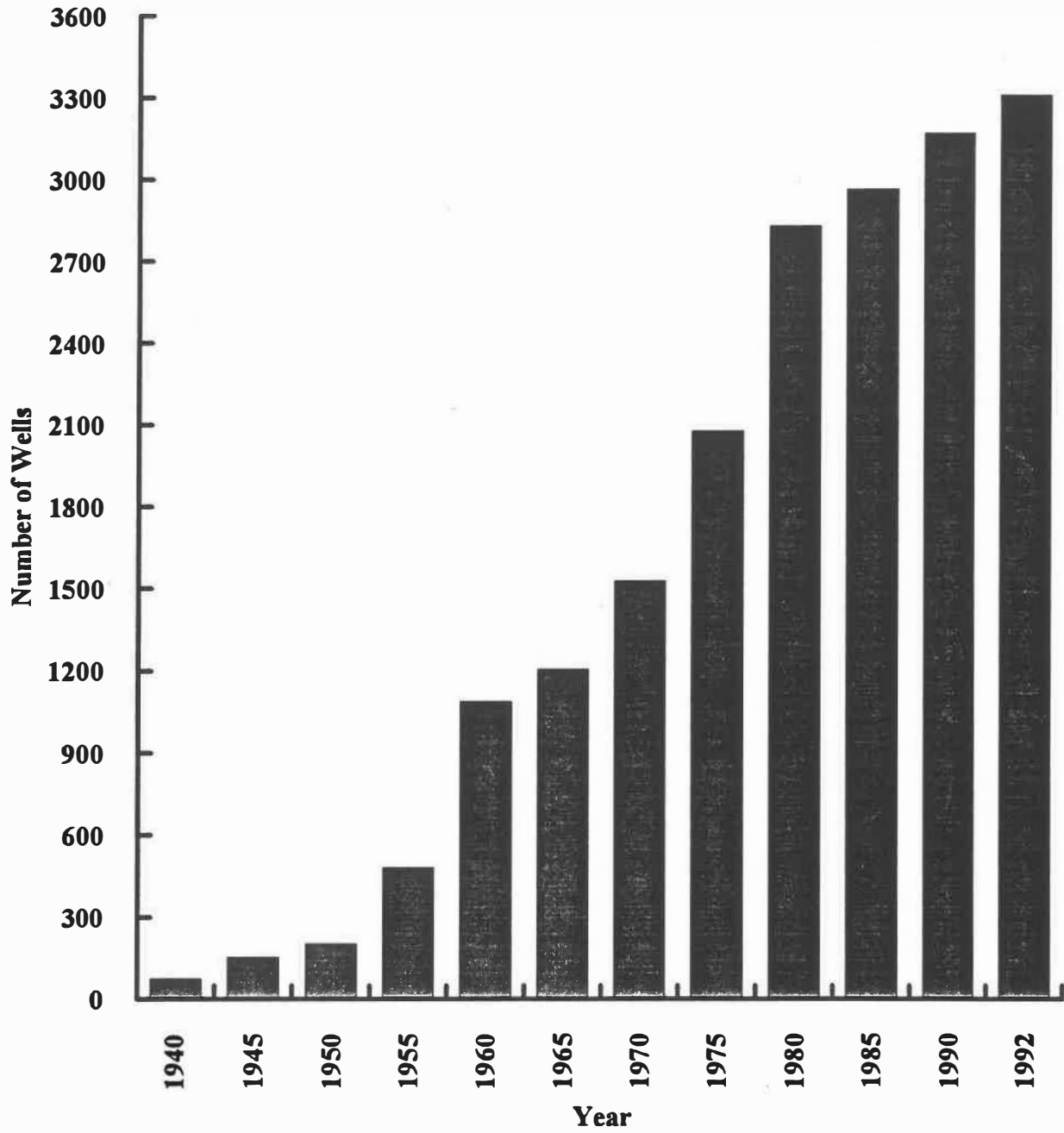
EXHIBIT 6



Generalized Depth to Water - This map was developed from a depth to water map which was produced by CSD for the NRC policy issue study on groundwater reservoir management (1982).

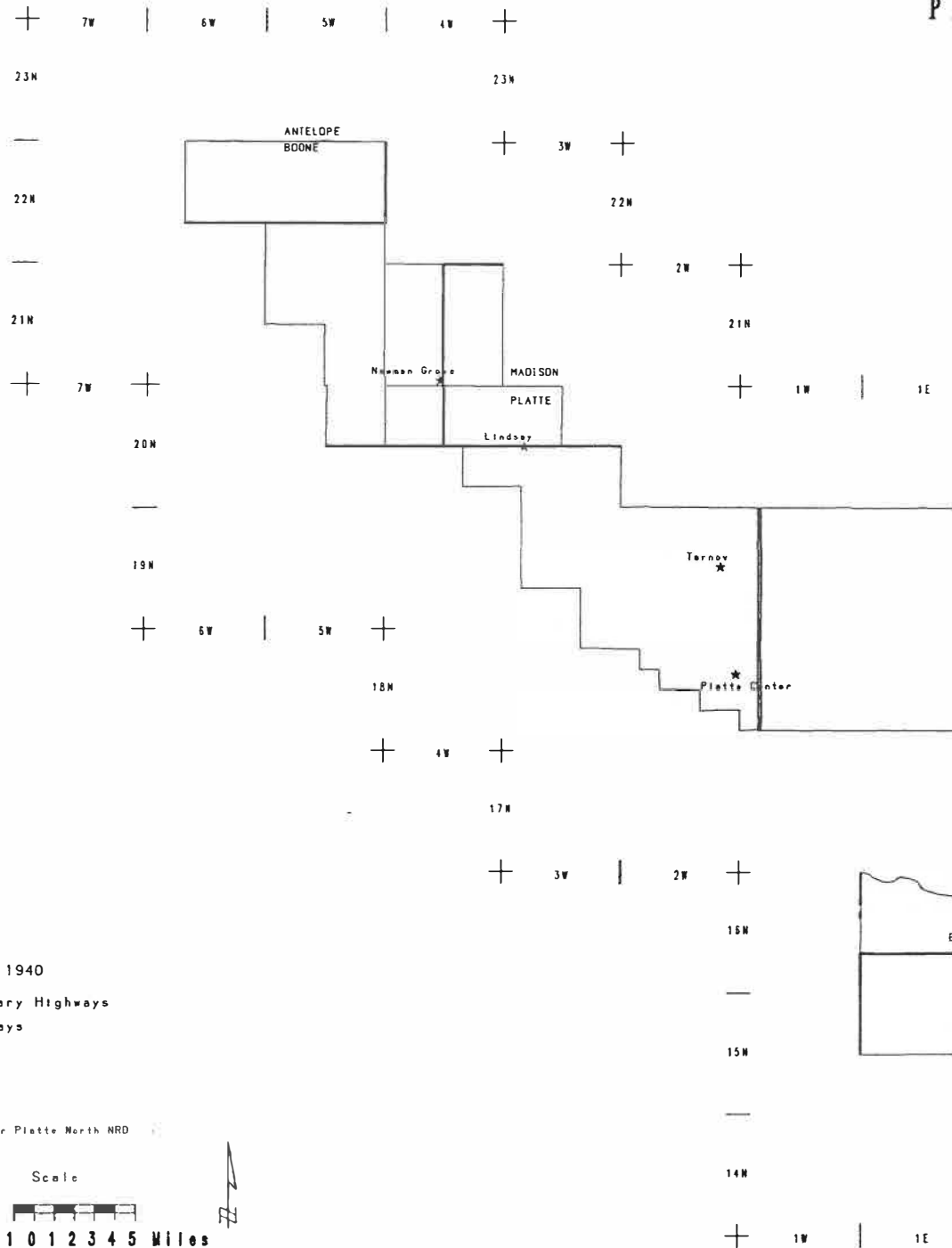
EXHIBIT 7

Cumulative Number of Registered Irrigation Wells 1940 - 1992 Lower Platte North NRD



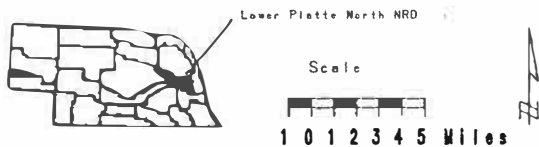
NEBRASKA NATURAL RESOURCES COMMISSION DATA BANK

REGISTERED WELLS P



Legend:

- Registered Wells Pre 1940
- ▬ Interstates and Primary Highways
- ▬ U.S. and State Highways
- ▬ County Boundary
- ▬ Lower Platte North Boundary



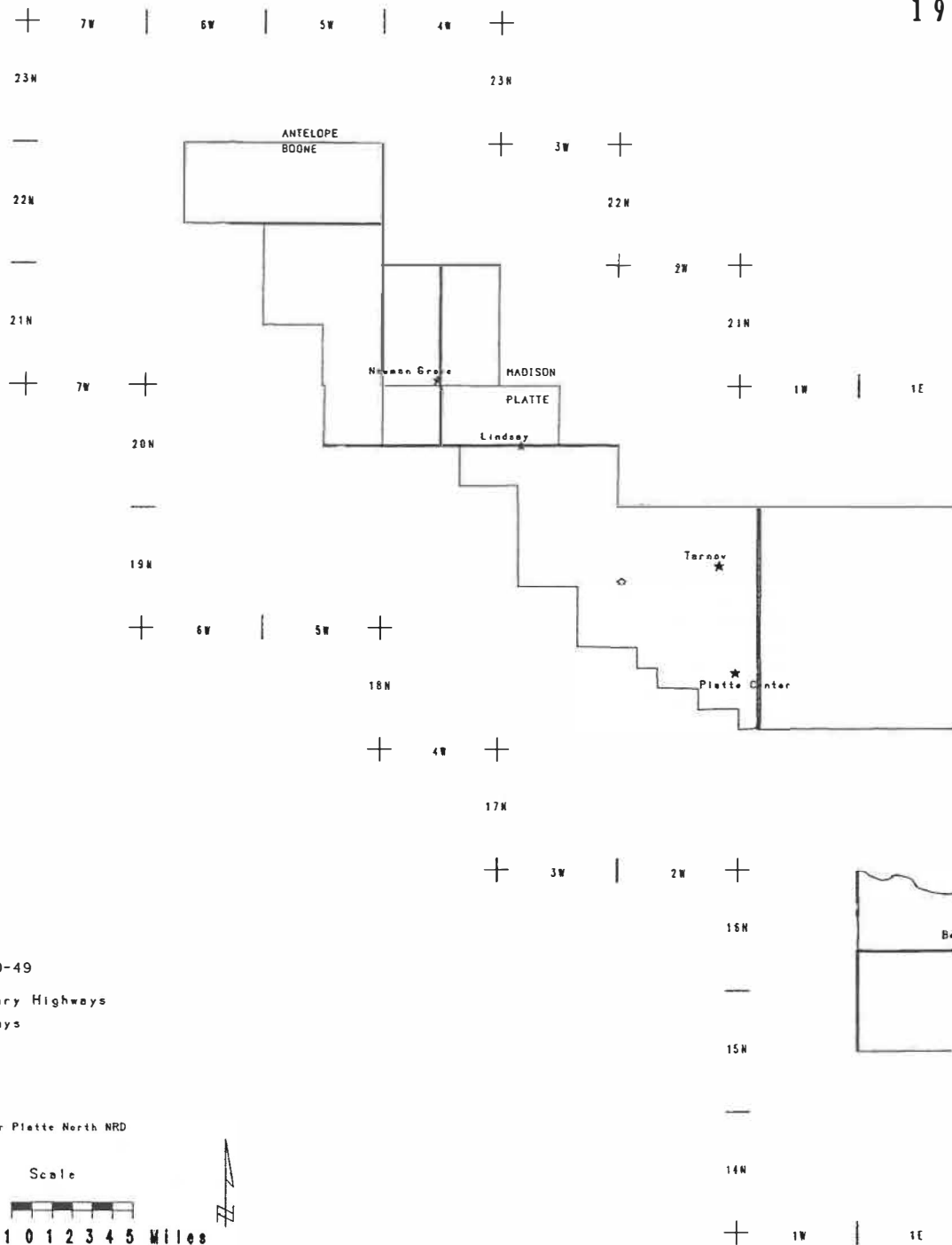
Information Source:

Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through February 1993

GIS Process - ARC/INFO
 Processed - June, 1993

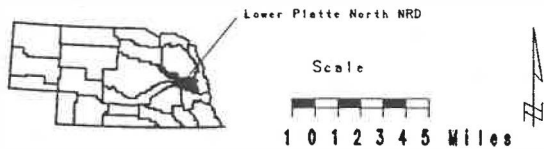
NEBRASKA NATURAL RESOURCES COMMISSION DATA BANK

REGISTERED WELL
19



Legend:

- ◇ Registered Wells 1940-49
- Interstates and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



Information Sources:

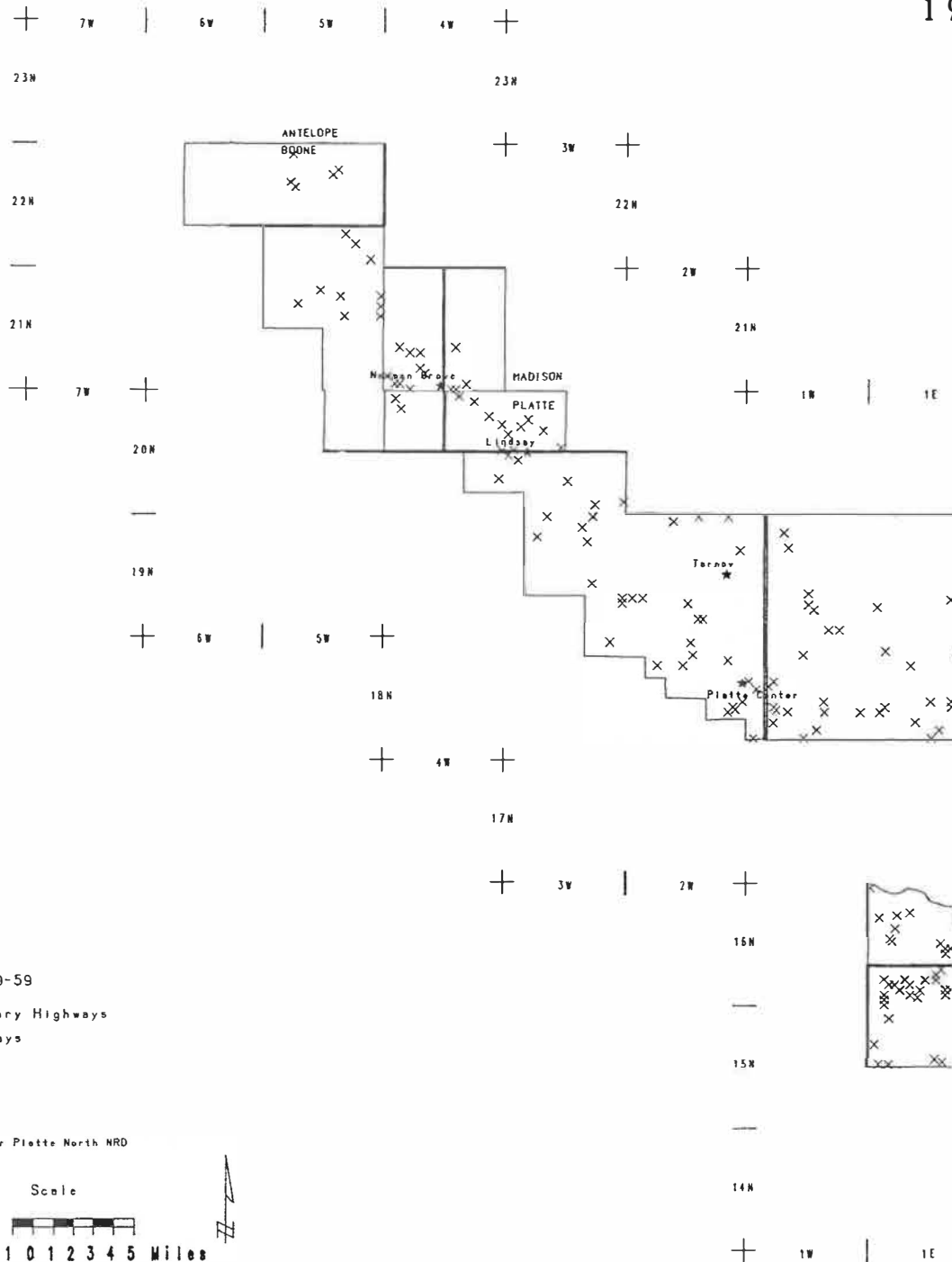
Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through February 1993

GIS Process - ARC/INFO
 Processed - June, 1993

NEBRASKA NATURAL RESOURCES COMMISSION DATA BANK

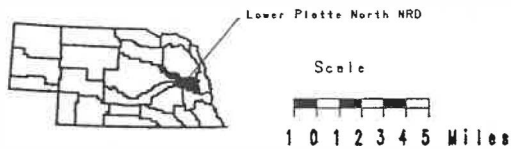
REGISTERED WELLS

19



Legend:

- ✕ Registered Wells 1950-59
- Interstates and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



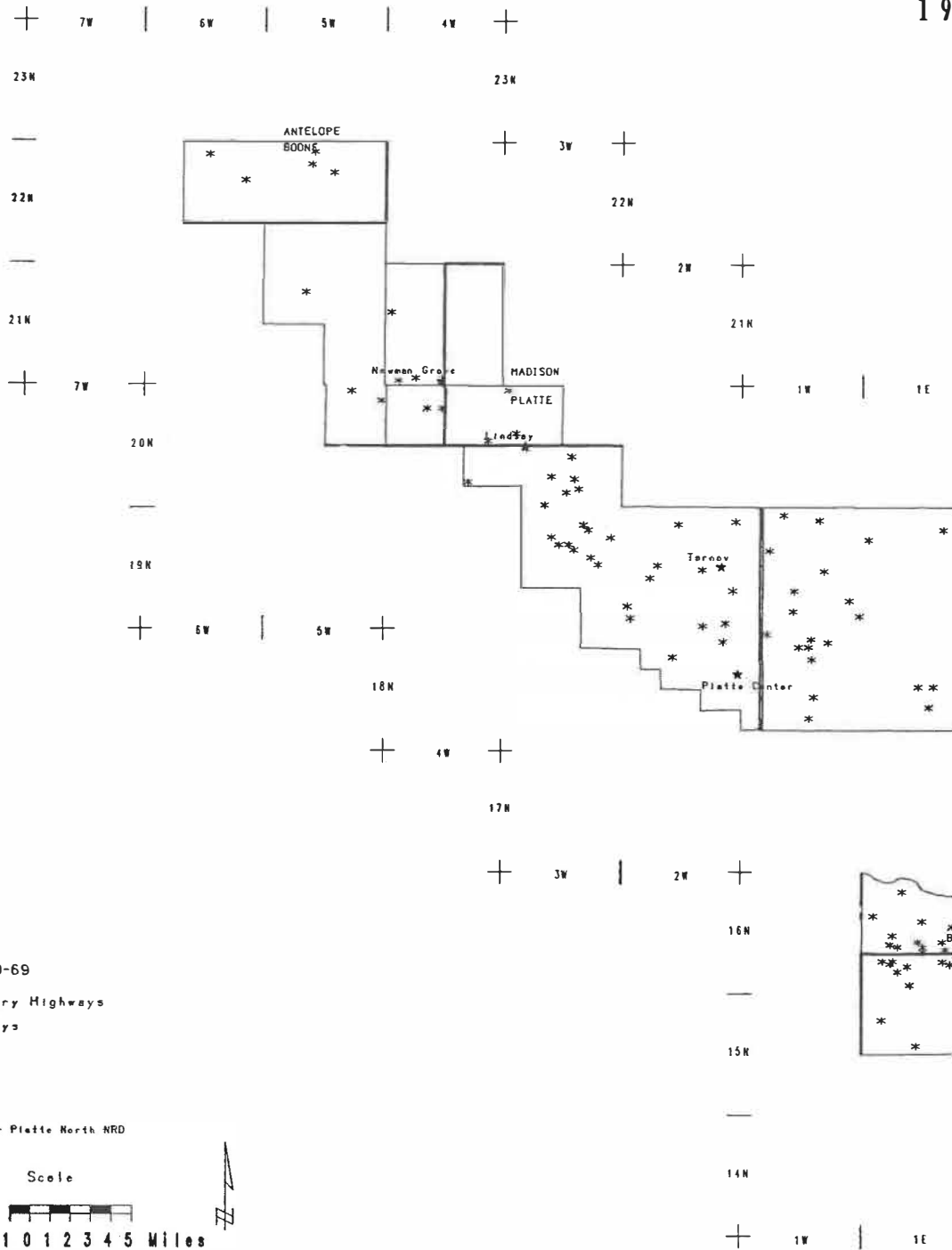
Information Source:

Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through February 1993

GIS Process - ARC/INFO
 Processed - June, 1993

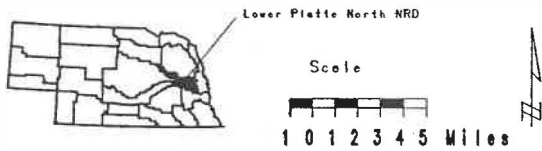
NEBRASKA NATURAL RESOURCES COMMISSION DATA BANK

REGISTERED WELLS
19



Legend:

- * Registered Wells 1960-69
- Interstate and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



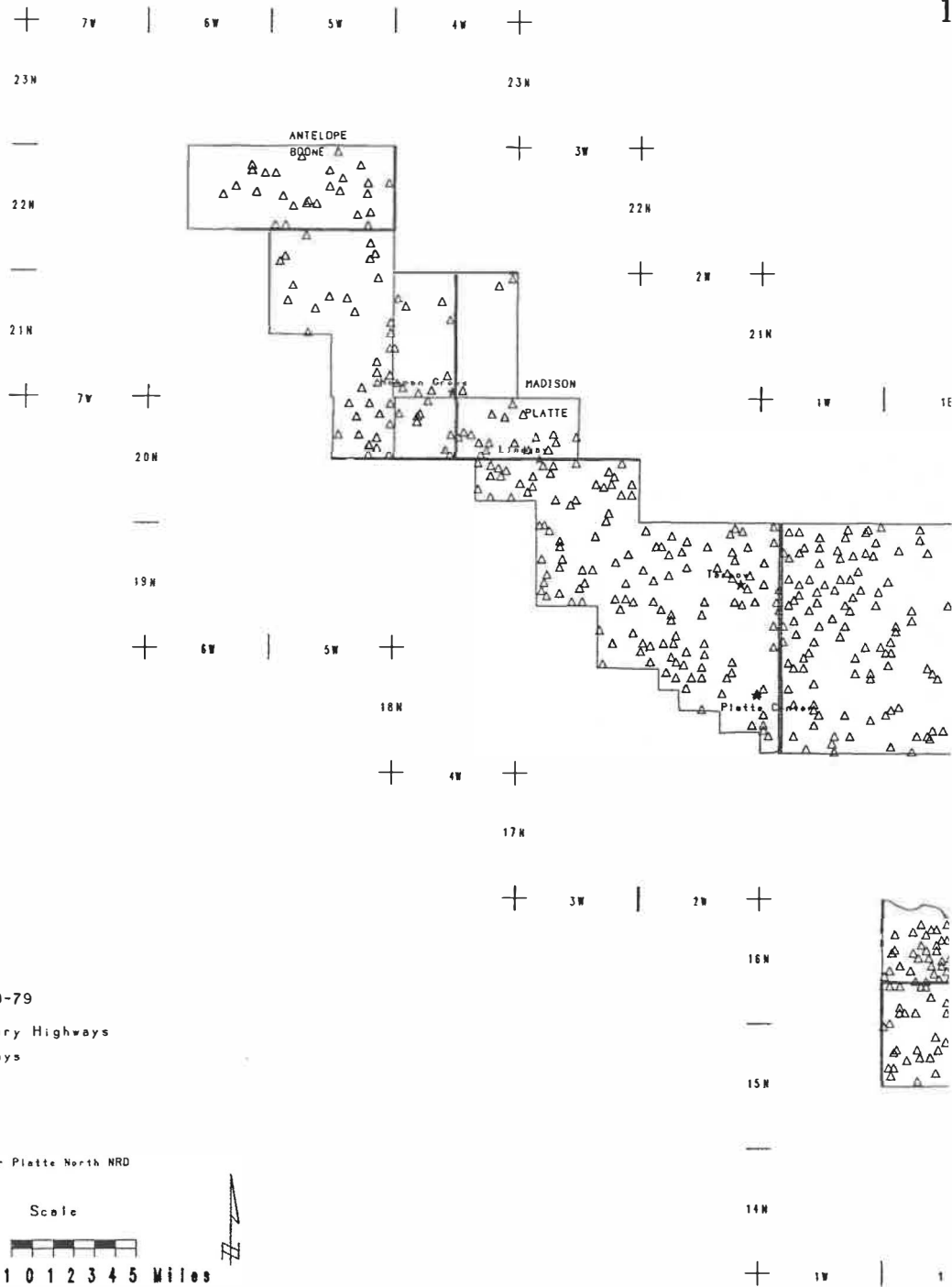
Information Source:

Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through February 1993

GIS Process - ARC/INFO
 Processed - June, 1993

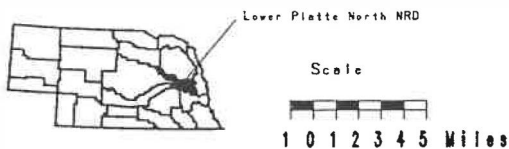
NEBRASKA NATURAL RESOURCES COMMISSION DATA BANK

REGISTERED WEI
1



Legend:

- Registered Wells 1970-79
- Interstates and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



Information Source:

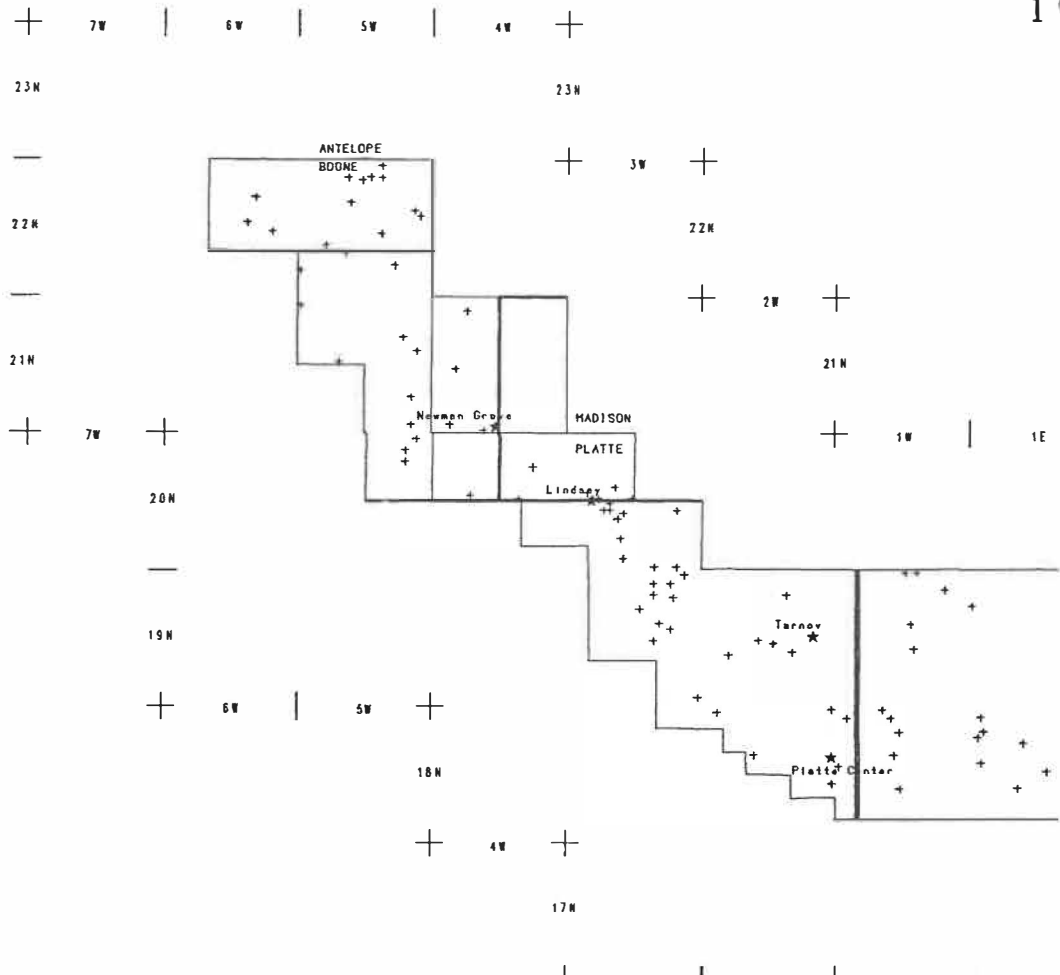
Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through February 1993

GIS Process - ARC/INFO
 Processed - June, 1993

NEBRASKA NATURAL RESOURCES COMMISSION DATA BANK

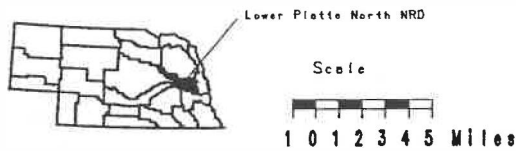
REGISTERED WELLS

1



Legend:

- + Registered Wells 1980-89
- Interstates and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



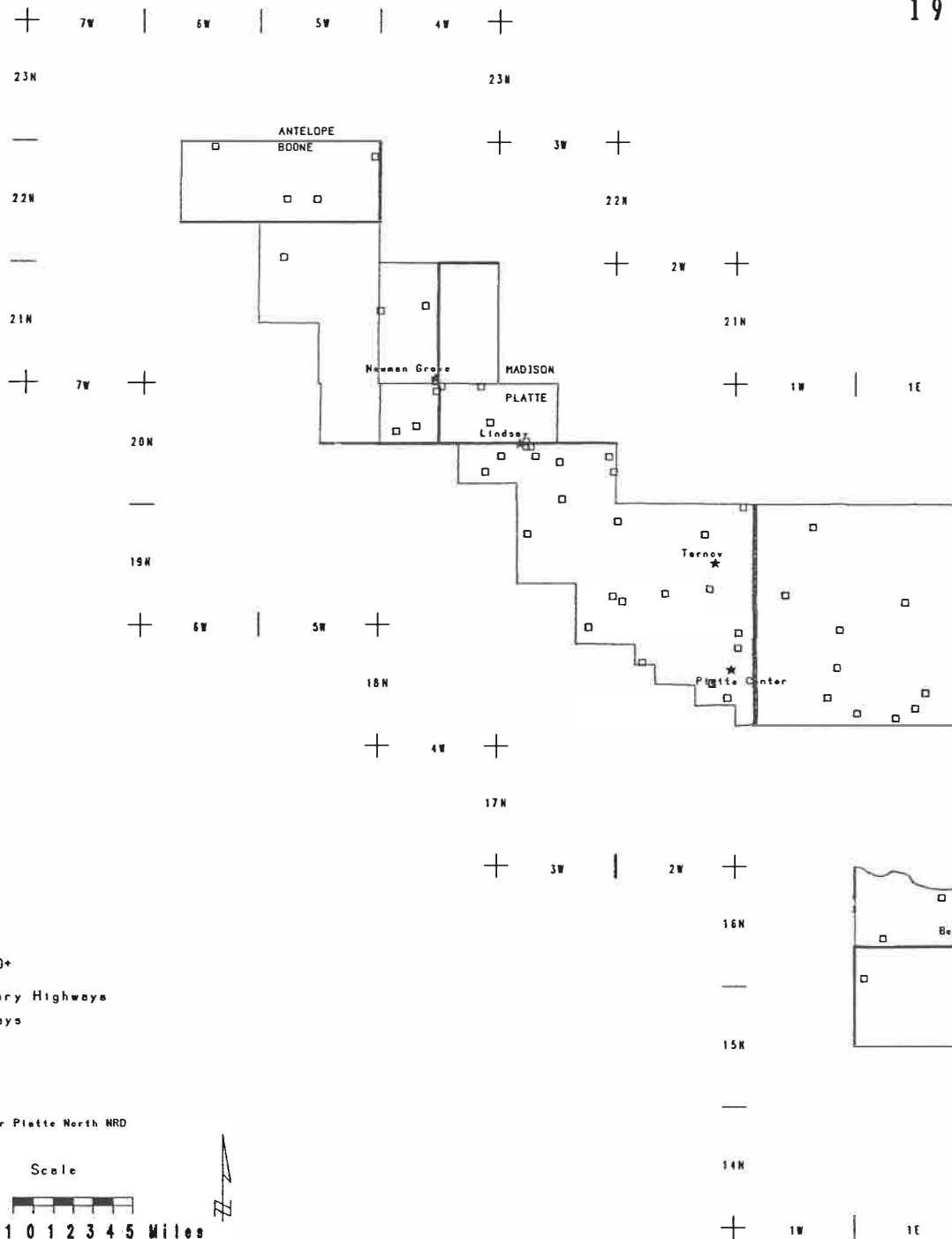
Information Sources:

Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through February 1993

GIS Process - ARC/INFO
 Processed - June, 1993

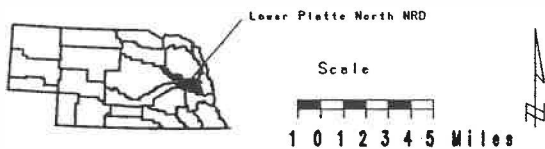
NEBRASKA NATURAL RESOURCES COMMISSION DATA BANK

REGISTERED WELL 19



Legend:

- Registered Wells 1990+
- Interstates and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



Information Sources:

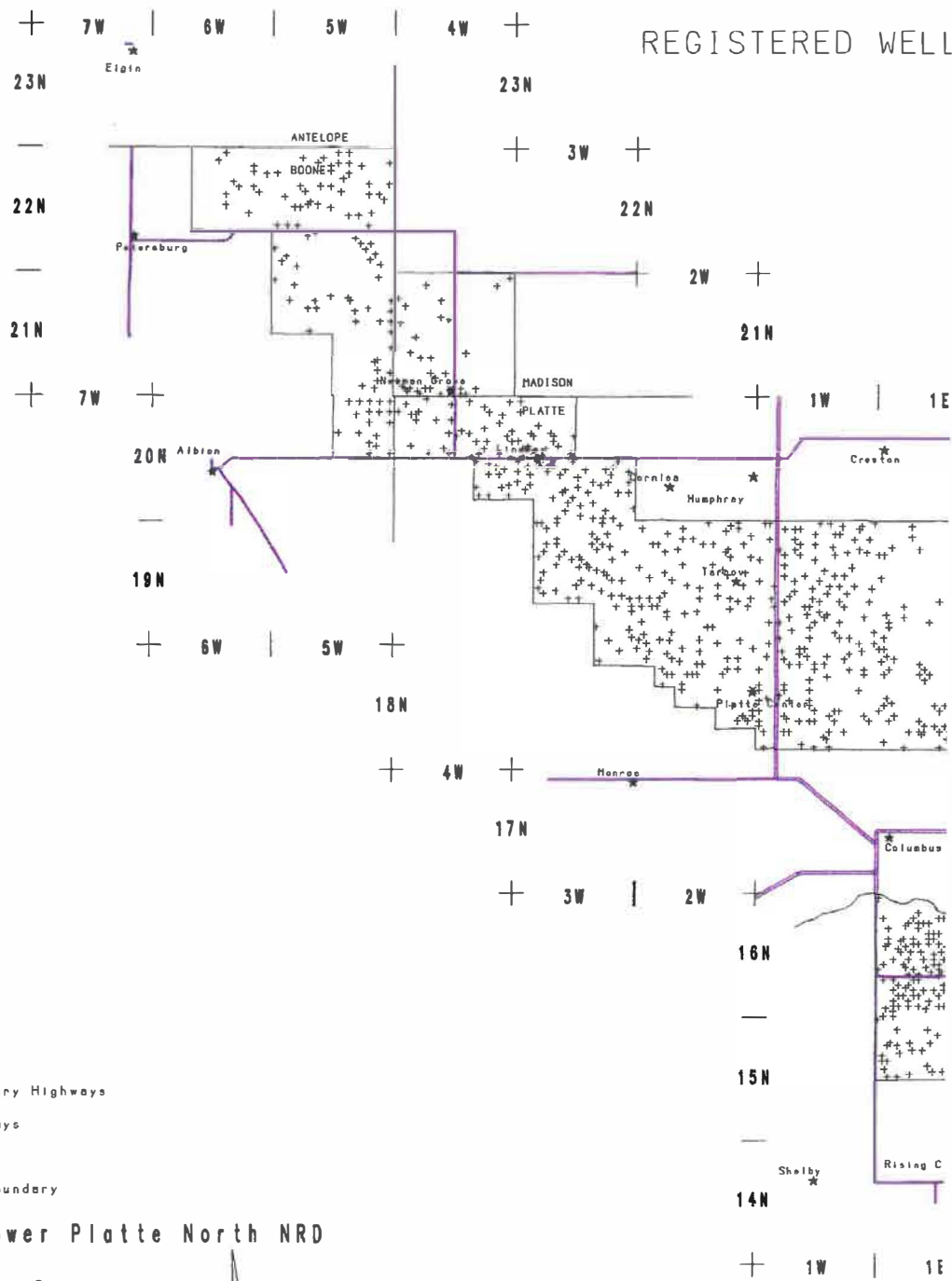
Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through February 1993

GIS Process - ARC/INFO
 Processed - June, 1993

NEBRASKA NATURAL RESOURCES COMMISSION

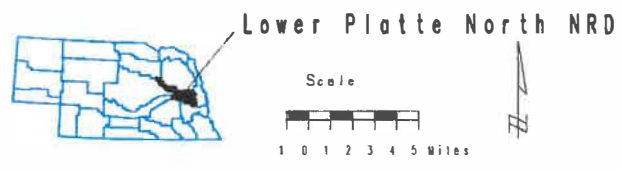
DATA BANK

REGISTERED WELL



Legend:

- ✕ Municipal Wells
- + Irrigation Wells
- Commercial Wells
- Other Wells
- Interstate and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



Information Source:

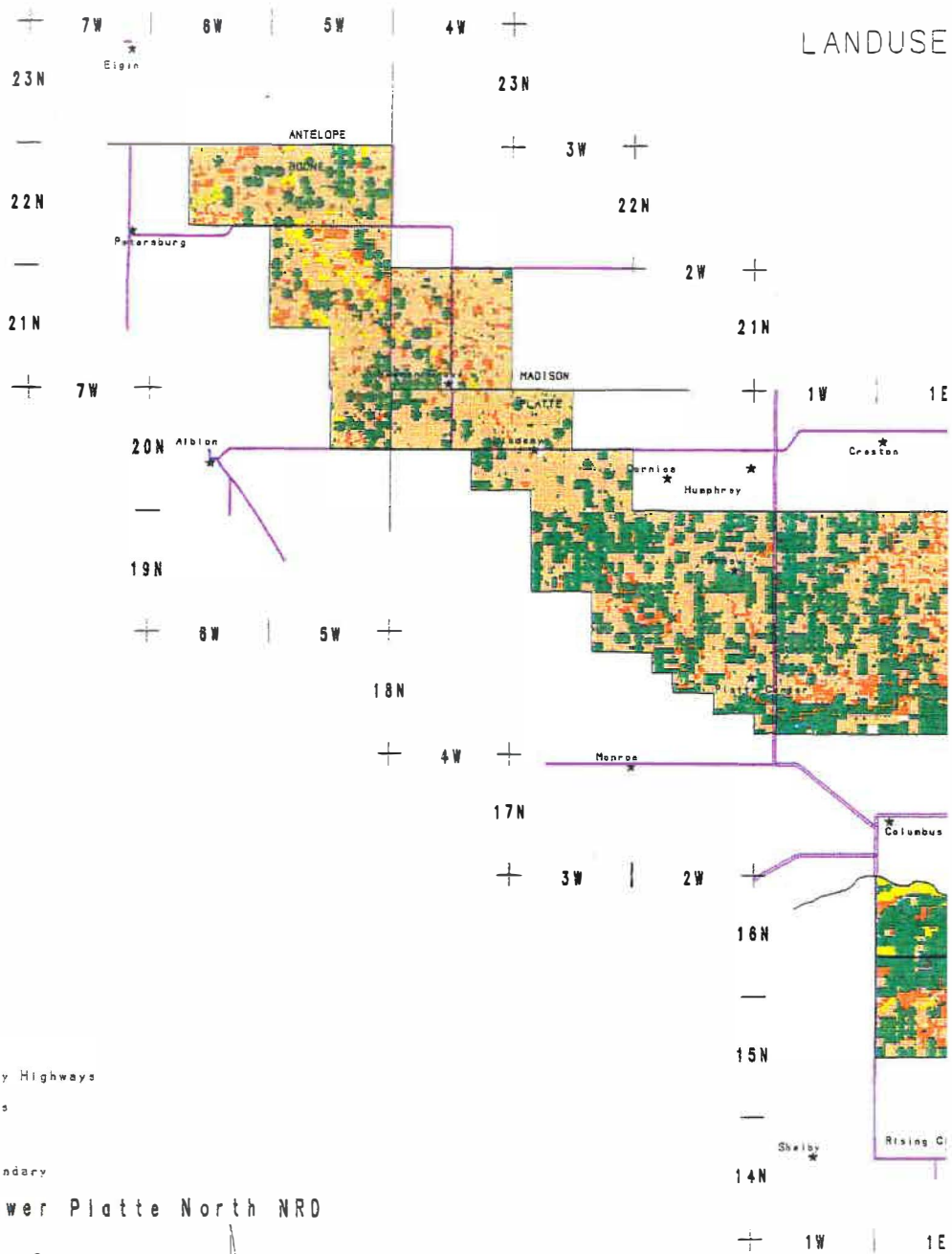
Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Registered Wells Data - Nebraska Department of Water Resources
 Updated through December 1991

GIS Process - ARC/INFO
 Processed - April, 1993



NEBRASKA NATURAL RESOURCES COMMISSION
DATA BANK

LANDUSE

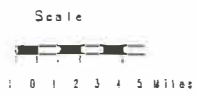


Legend:

- Dry Cropland
- Irrigated Cropland
- Pasture
- Rangeland
- Forest
- Urban
- Other Rural Land
- Water
- Interstates and Primary Highways
- U.S. and State Highways
- County Boundary
- Lower Platte North Boundary



Lower Platte North NRD

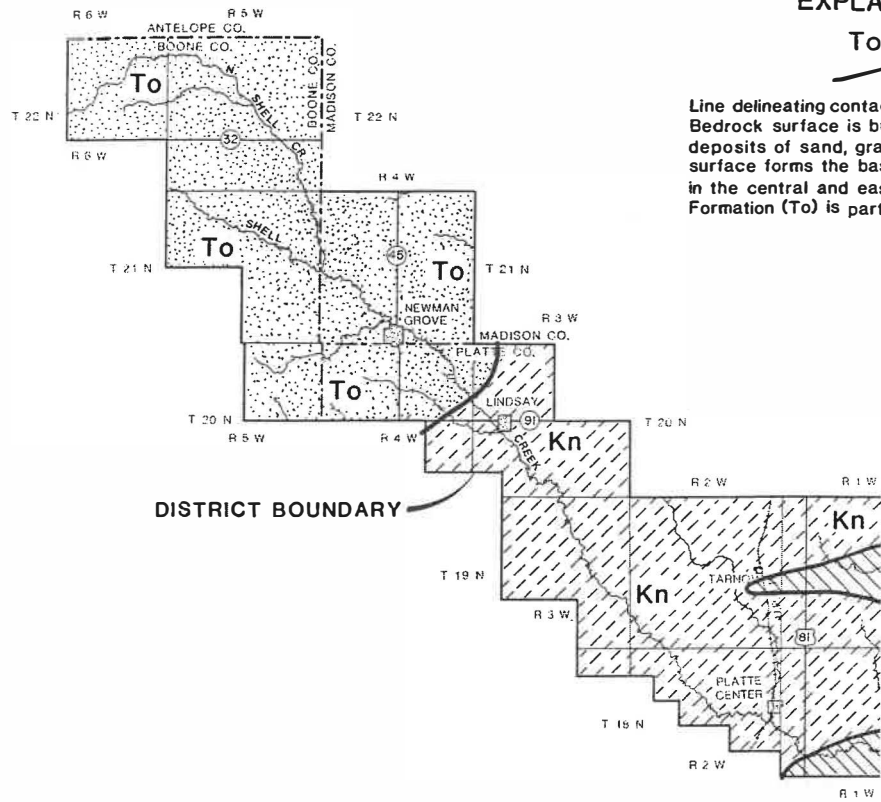


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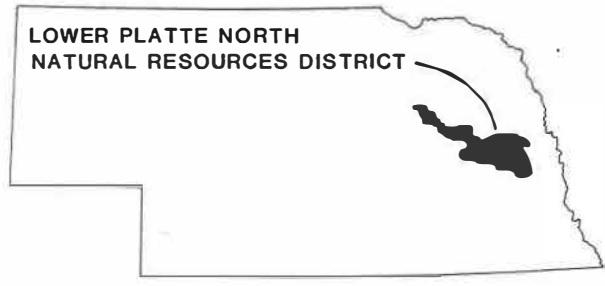
Produced By - Nebraska Natural Resources Commission
 Topographic Data - TIGER Files, U.S. Bureau of the Census, 1990
 Landuse Data - SCS, Nebraska Resources Census, 1983-94
 GIS Process - ARC/INFO
 Processed - April, 1993



EXPLA
To



Line delineating contact
Bedrock surface is below
deposits of sand, gravel
surface forms the base
in the central and eastern
Formation (To) is part



LOCATION



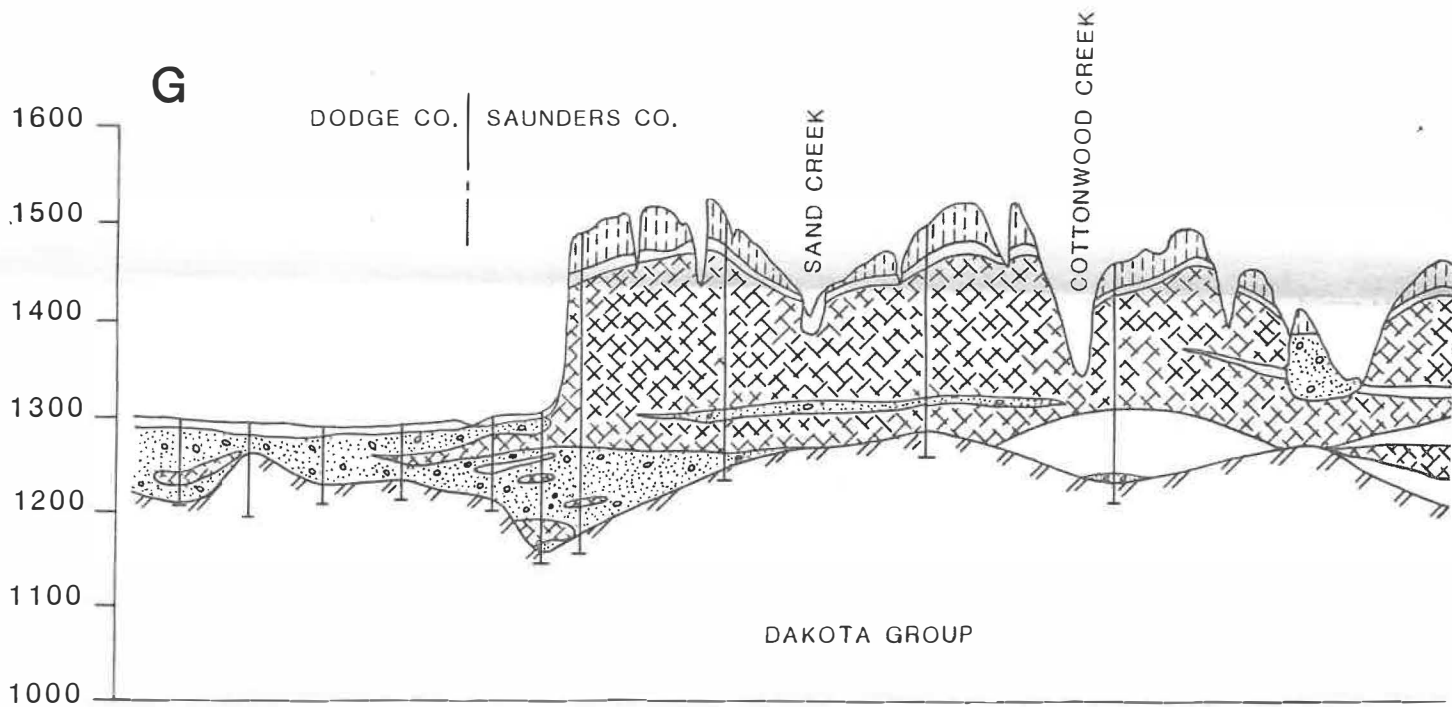
GENERALIZED GEOLOGIC PROFILE

Lower Platte North Natural Resources District

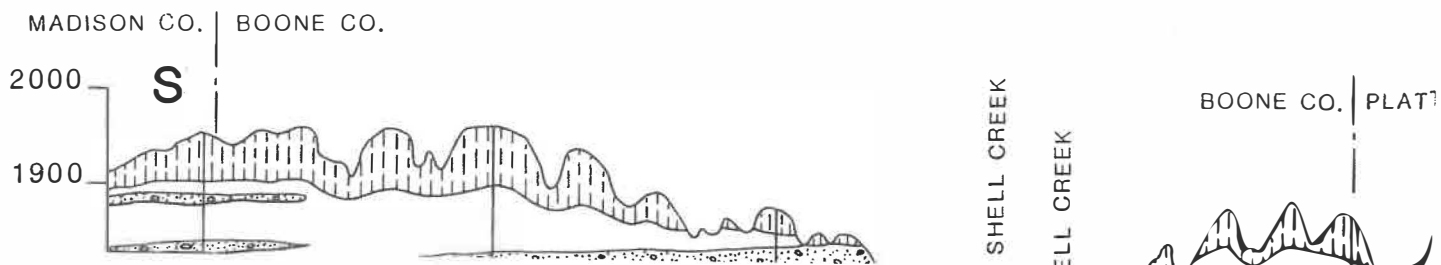
KEY

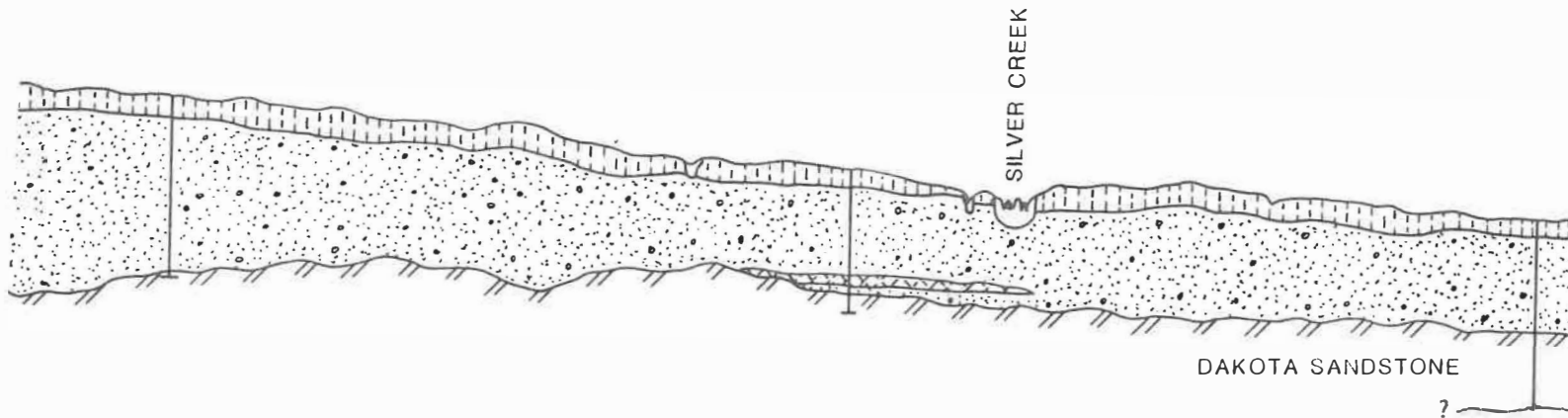


—●— Profile Line. Dot represents location of Conservation test holes, and corresponds to the

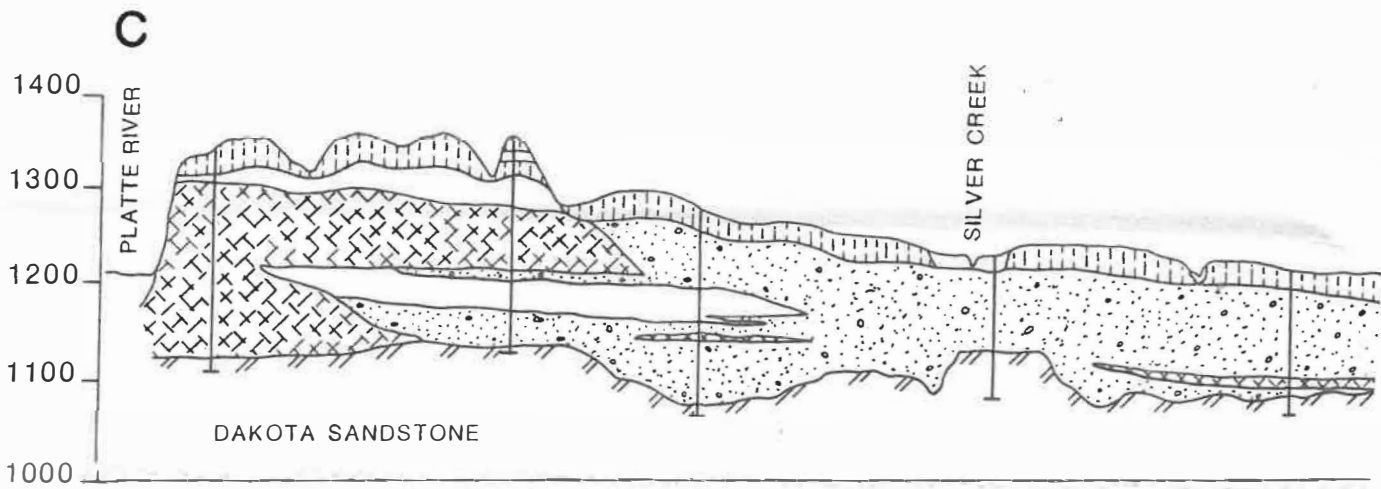


Source: Unpublished Section, Conservation and Survey Division

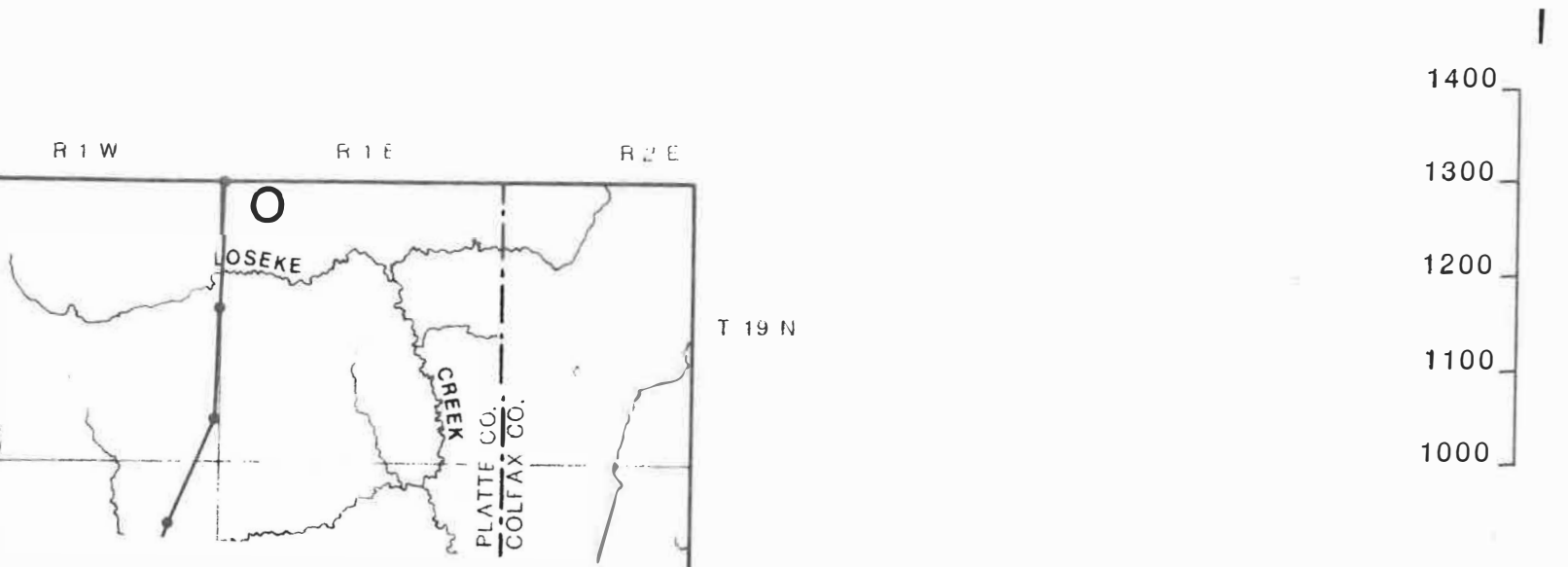


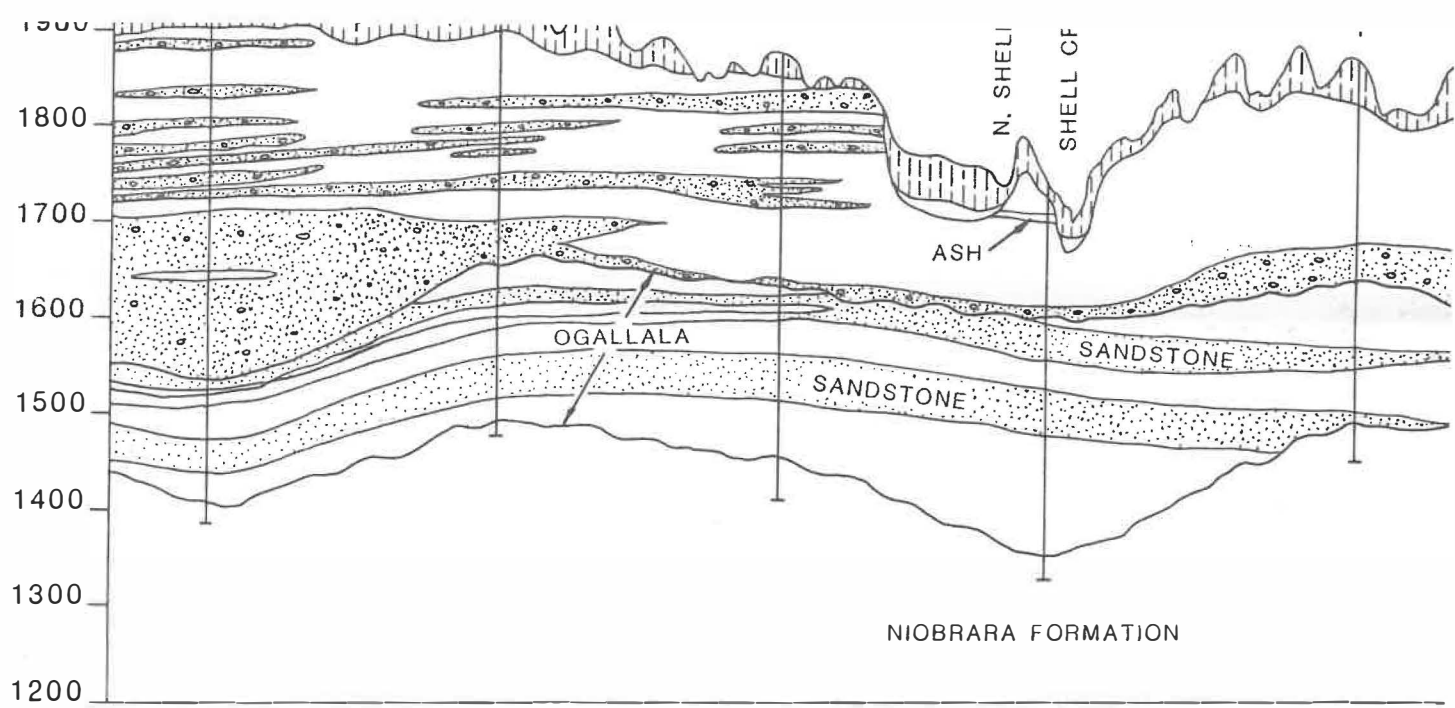


1 Eastern Saunders County, Nebraska,"
967.

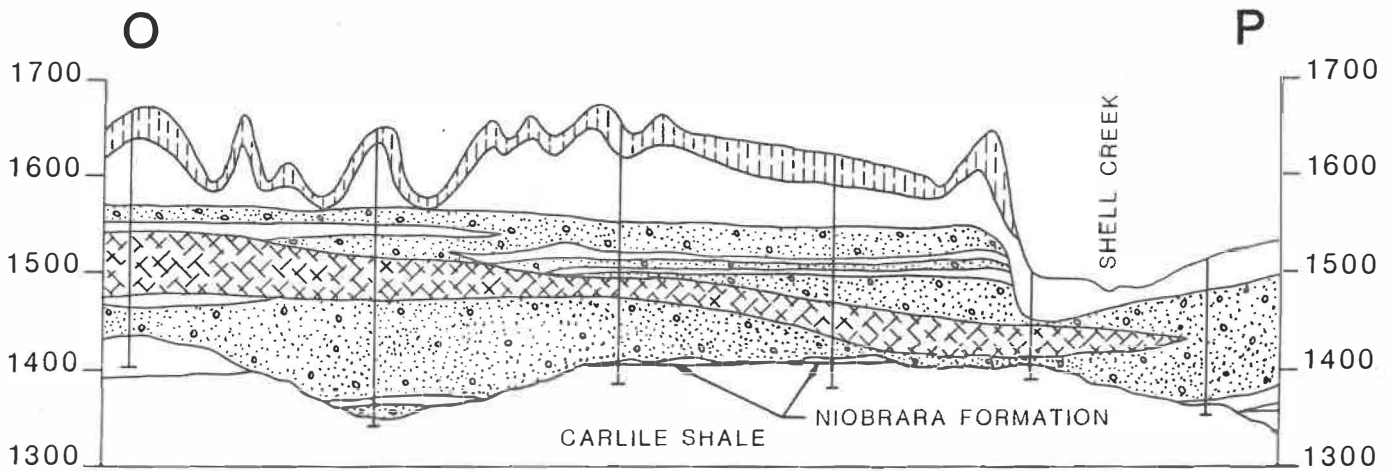


Source: "Availability of Water in Eastern Saunders County, Nebraska,"
V.L. Souders, U.S.G.S., 1967.

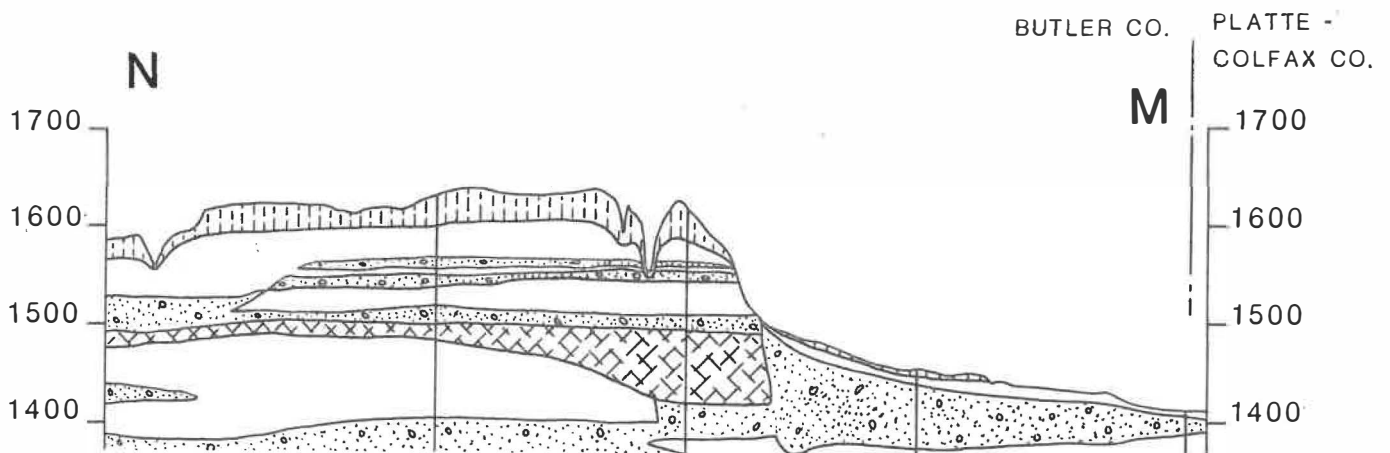


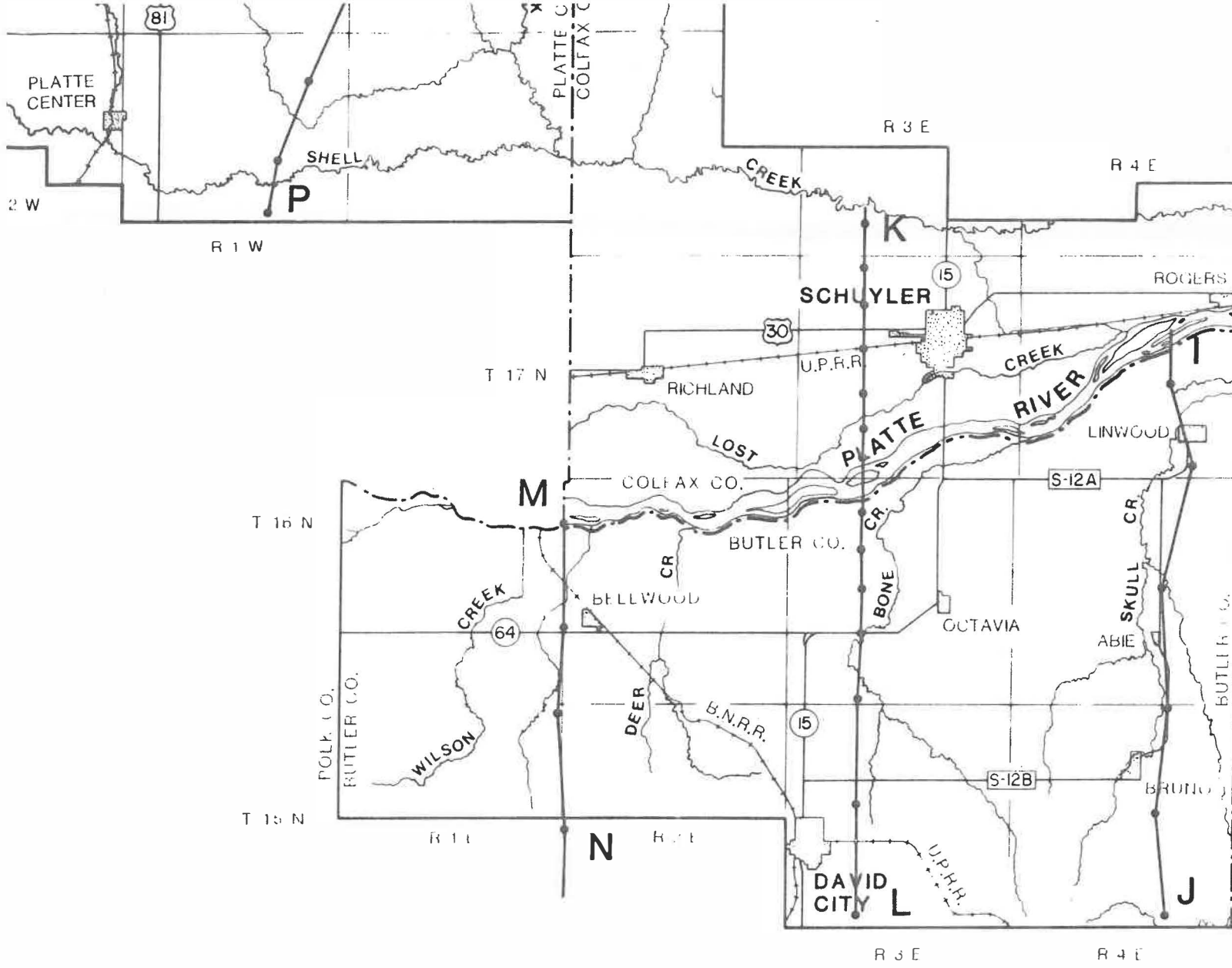


Source: "Boone County Preliminary Groundwater Study;" Conservation and Survey Division, 1959.

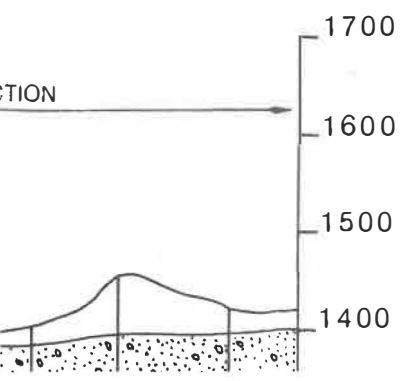


Source: "Platte County Preliminary Groundwater Study," Conservation and Survey Division, 1958.

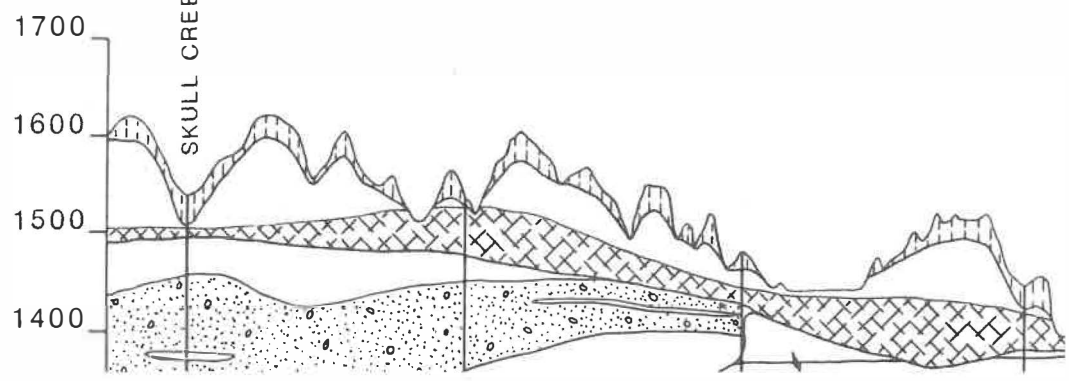


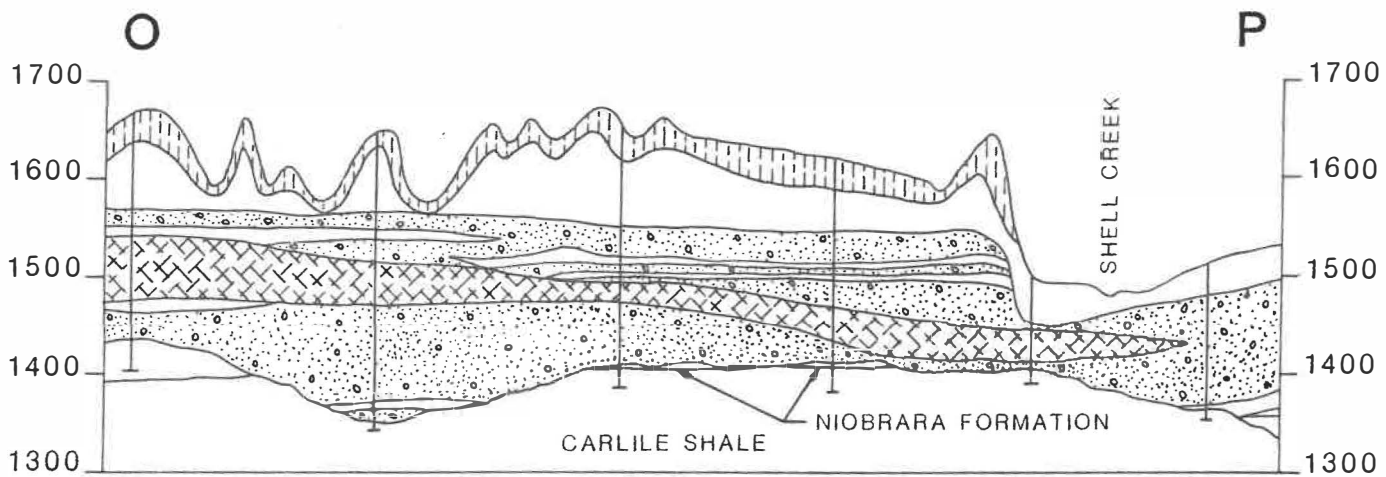


K

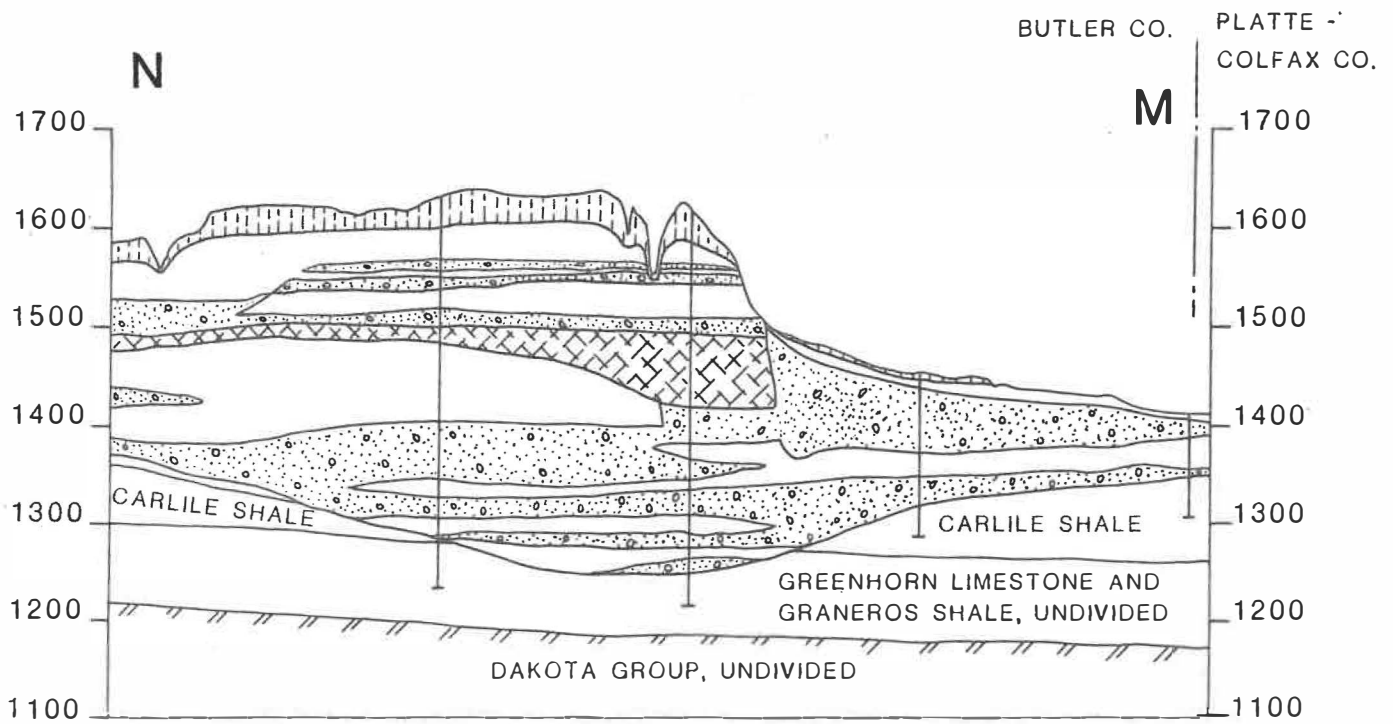


J

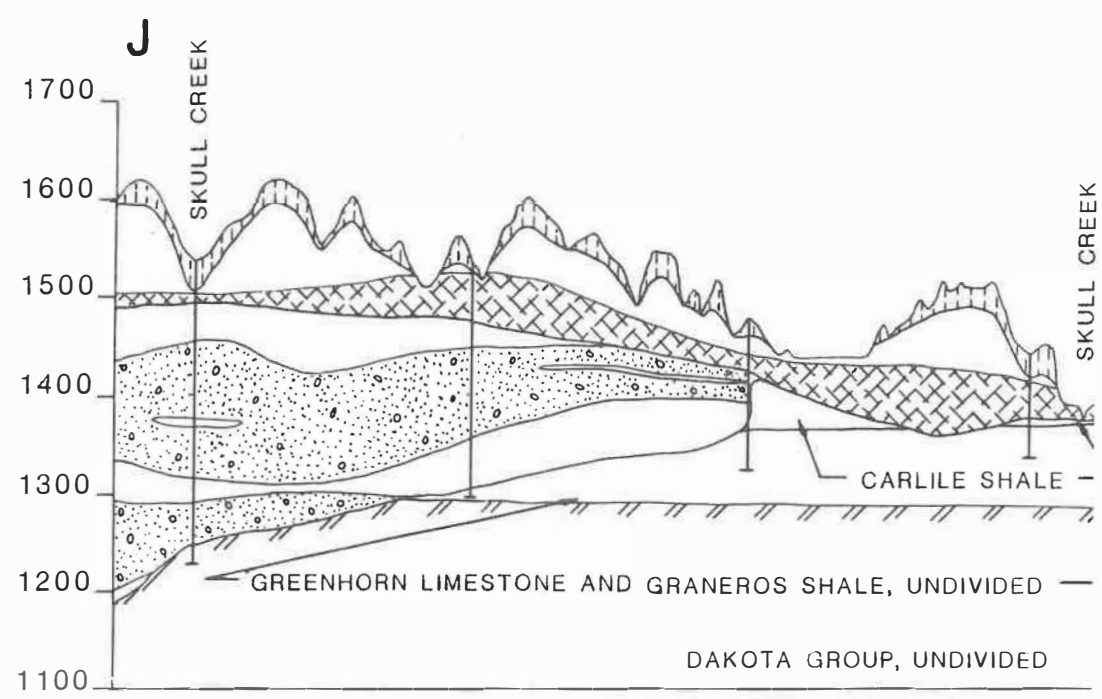
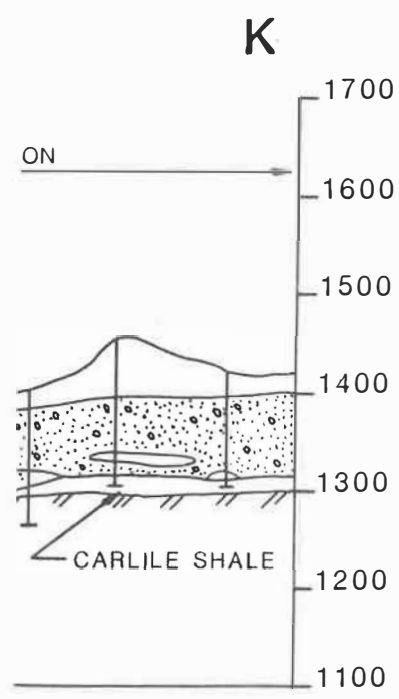
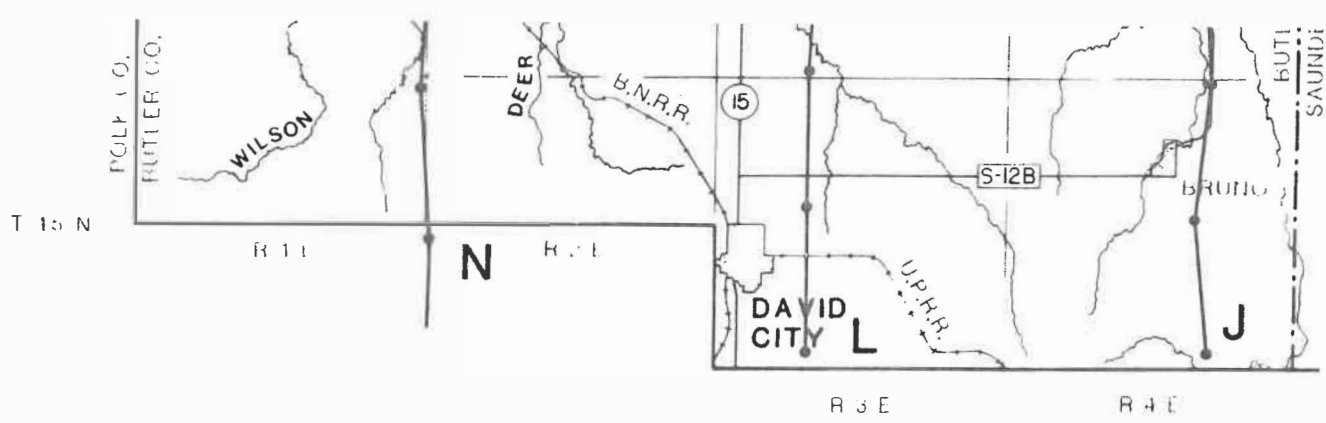




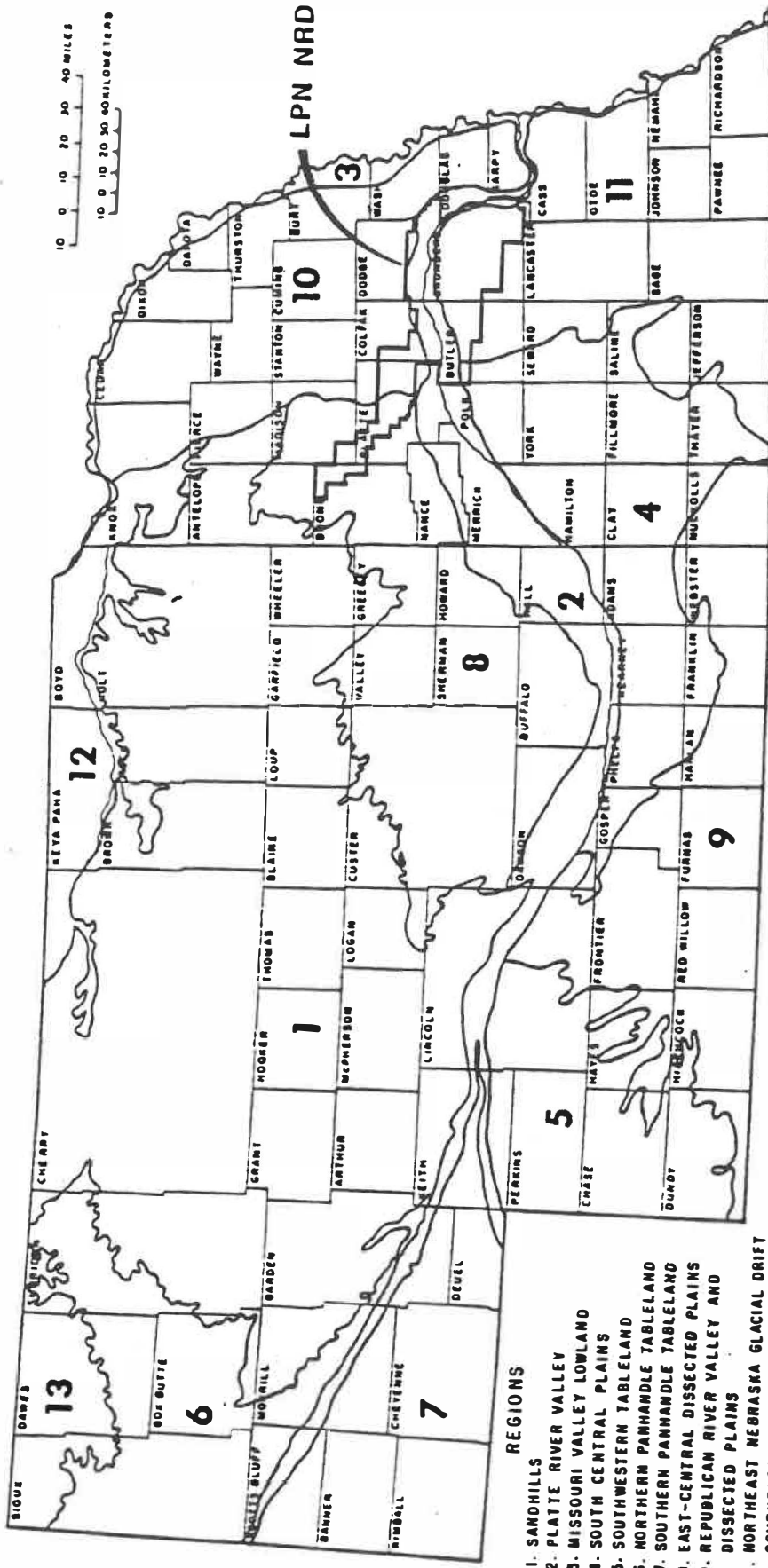
Source: "Platte County Preliminary Groundwater Study," Conservation and Survey Division, 1958.



Source: "Hydrogeology of Butler County," M. Ginsberg, Conservation and Survey Division, 1983.



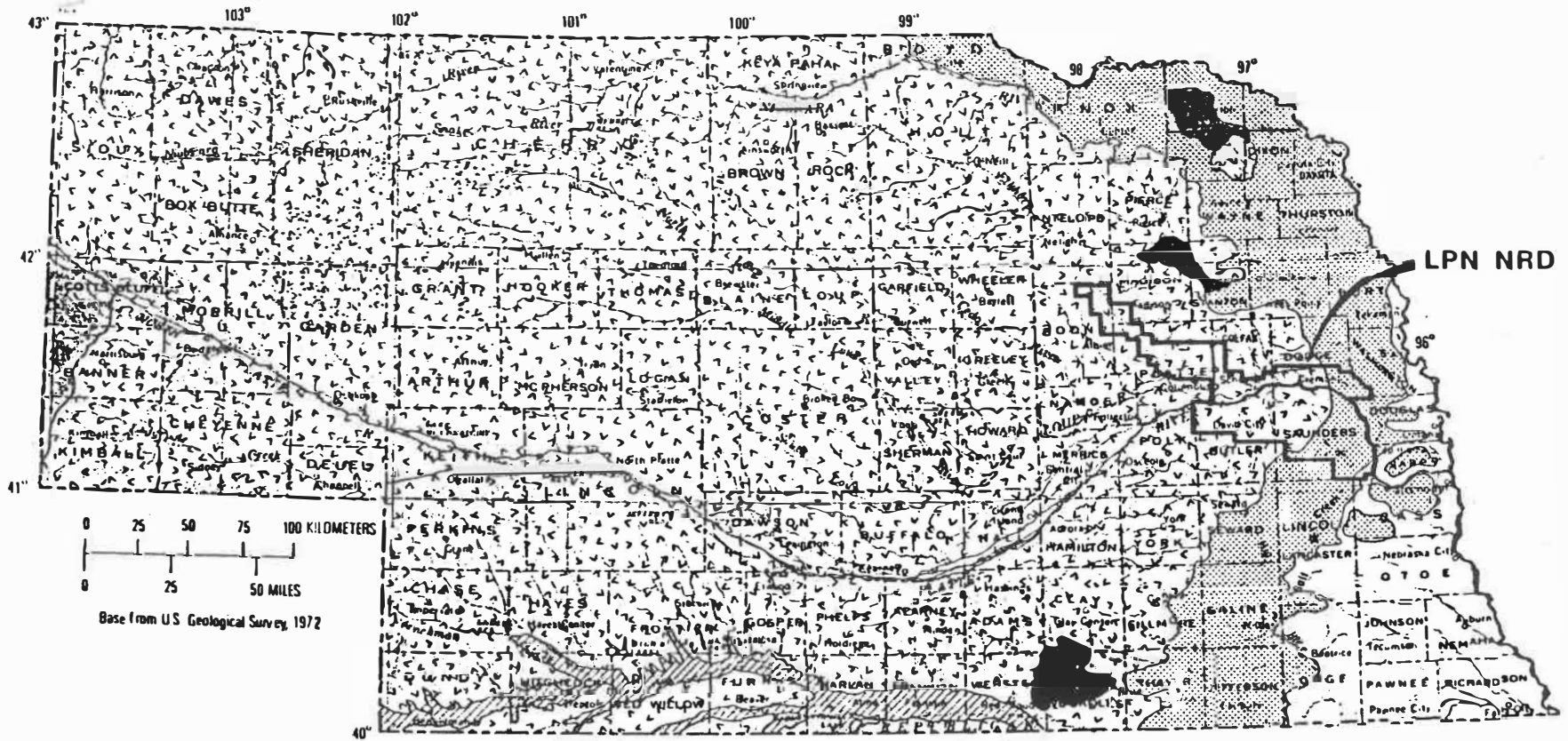
Source: "Hydrogeology of Butler County," M. Ginsberg, Conservation and Survey Division, 1983.



REGIONS

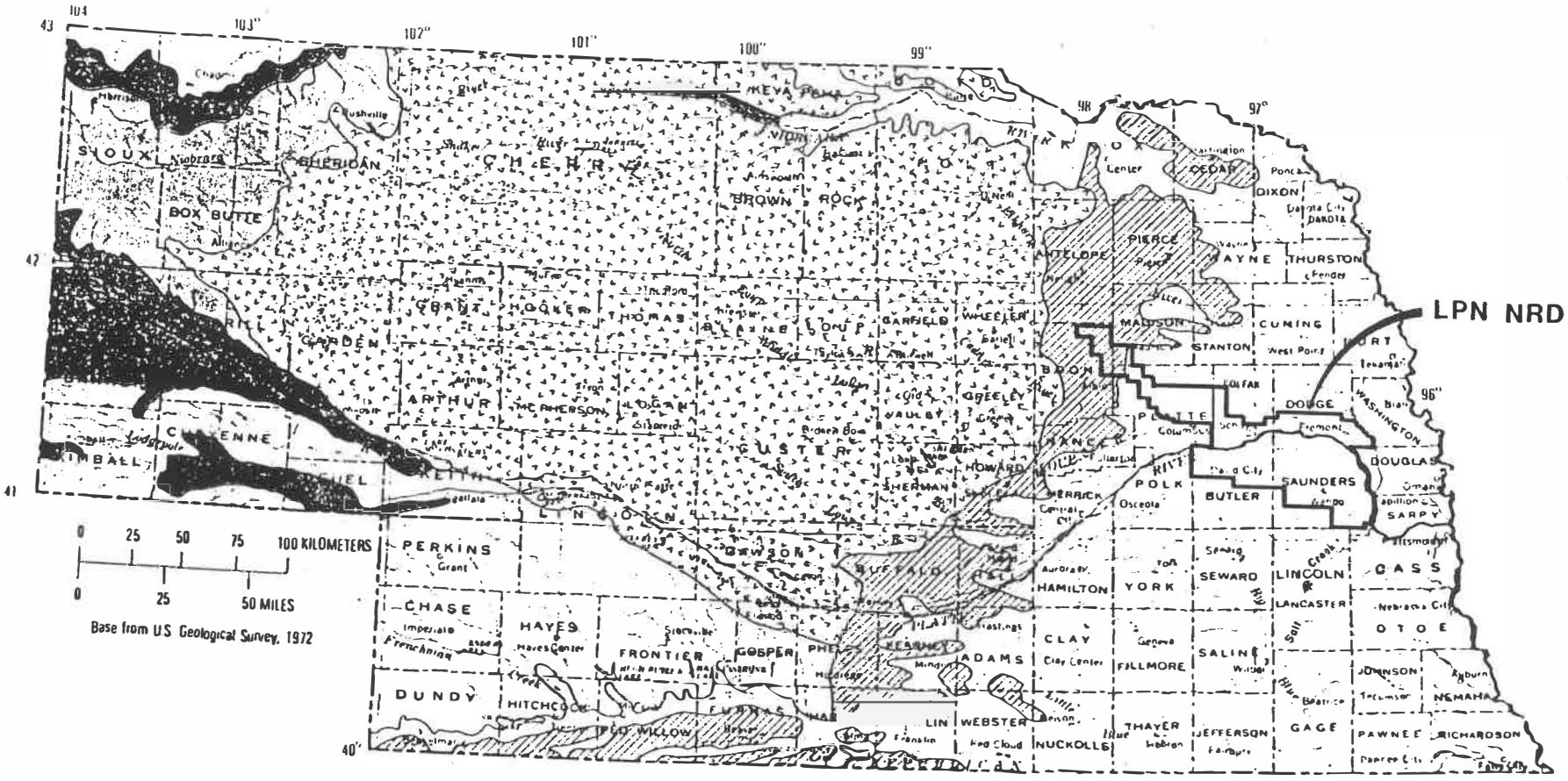
- 1. SANDHILLS
- 2. PLATTE RIVER VALLEY
- 3. MISSOURI VALLEY LOWLAND
- 4. SOUTH CENTRAL PLAINS
- 5. SOUTHWESTERN TABLELAND
- 6. NORTHERN PANHANDLE TABLELAND
- 7. SOUTHERN PANHANDLE TABLELAND
- 8. EAST-CENTRAL DISSECTED PLAINS
- 9. REPUBLICAN RIVER VALLEY AND DISSECTED PLAINS
- 10. NORTHEAST NEBRASKA GLACIAL DRIFT
- 11. SOUTHEAST NEBRASKA GLACIAL DRIFT
- 12. NORTH CENTRAL TABLELAND
- 13. HAT CREEK - WHITE RIVER DRAINAGE

Underground Water Areas of Nebraska
 From: Reed, 1969, "Underground Water Areas"









Map showing approximate areal distribution of Mesozoic rocks and those areas currently (1982) used for water supplies.

From: Engberg, "Appraisal of Data for Groundwater Quality in Nebraska", USGS, 1984

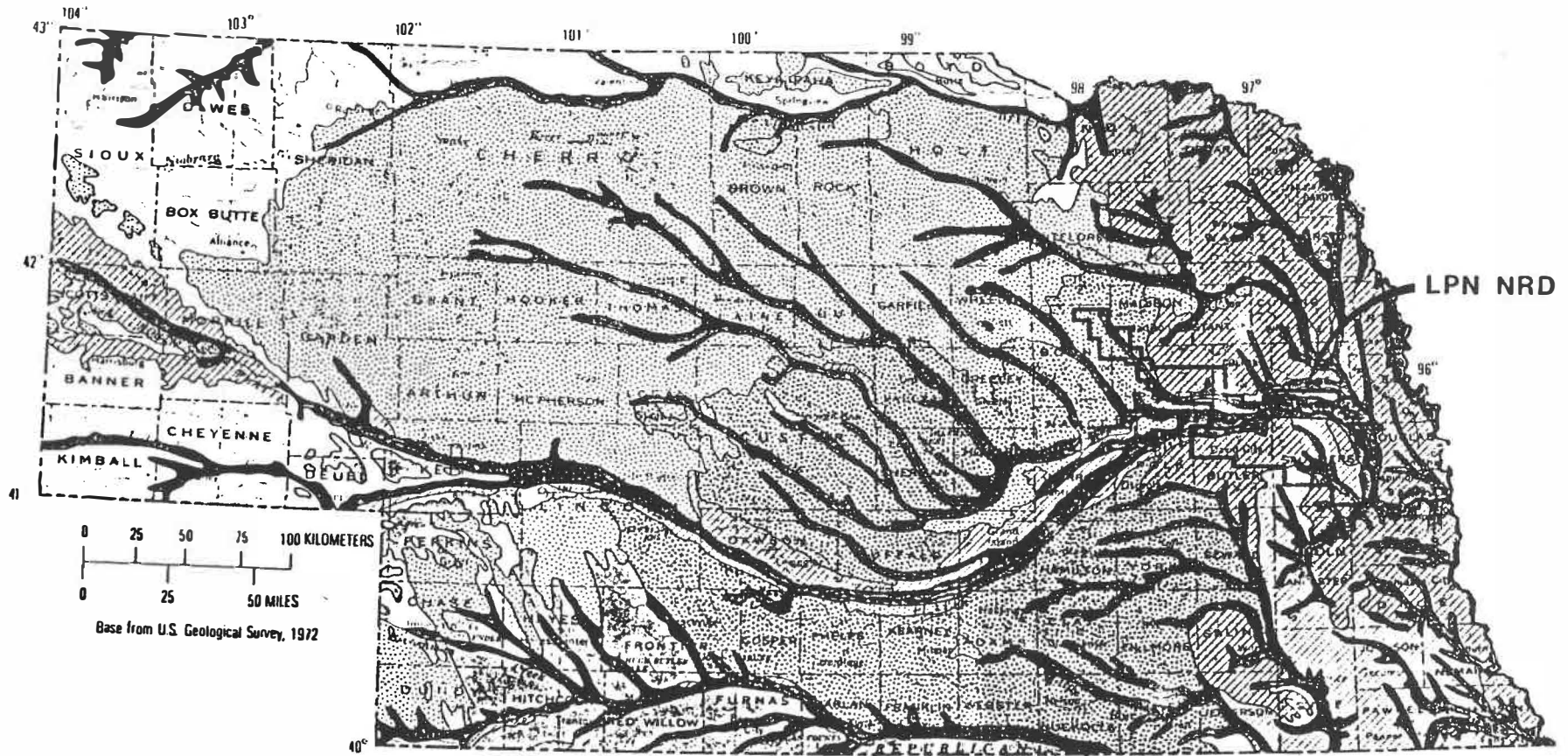


0 25 50 75 100 KILOMETERS
 0 25 50 MILES
 Base from U.S. Geological Survey, 1972

EXPLANATION

- | | | | |
|---|--|---|--|
|  | OGALLALA FORMATION |  | ARIKAREE GROUP |
|  | OGALLALA FORMATION—Wells may be finished in both the Ogallala and overlying Pleistocene deposits |  | BRULE AND CHADRON FORMATIONS OF WHITE RIVER GROUP, UNDIVIDED |
|  | OGALLALA FORMATION—Deposits are thin and are a source of water only occasionally |  | TERTIARY DEPOSITS ABSENT |

Map showing approximate areal distribution of aquifers in Tertiary deposits.



LPN NRD

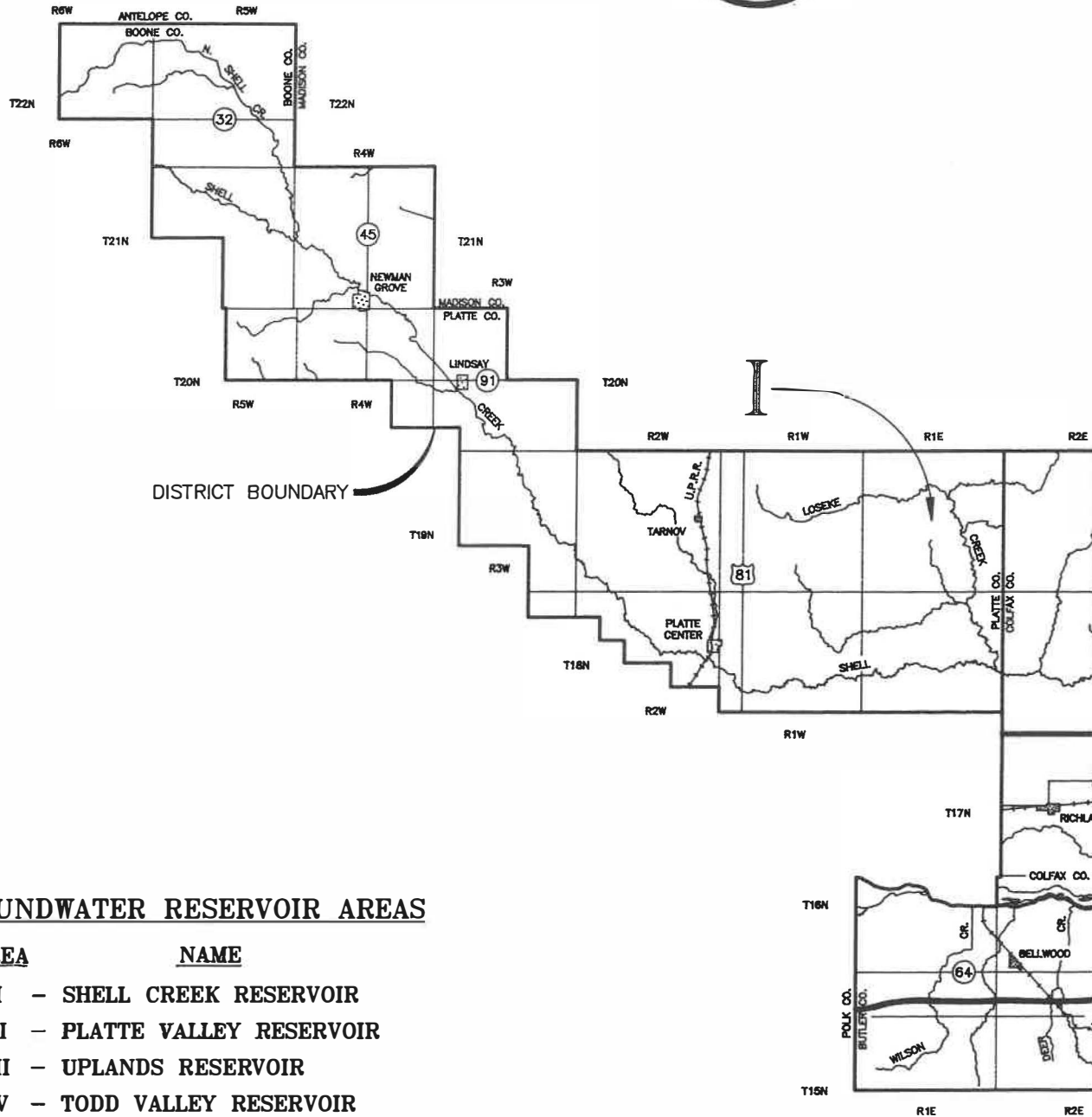
Base from U.S. Geological Survey, 1972

From Candra, Reed, and Gordon, 1950

EXPLANATION

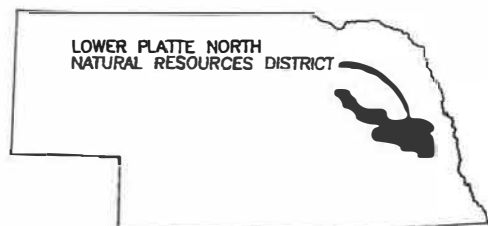
- | | | | | | |
|--|------------------------------------|--|--|--|--|
| | Bottomlands, alluvium usually thin | | Mixed dune sand and sandy tablelands | | Loess on bedrock |
| | Terracelands, usually loess capped | | Loess on glacial drift | | Glacial drift |
| | Dune sand | | Loess on Pleistocene sands and gravels | | Bedrock areas, locally thin mantlerock |

Map showing areal distribution of Holocene and Pleistocene deposits.

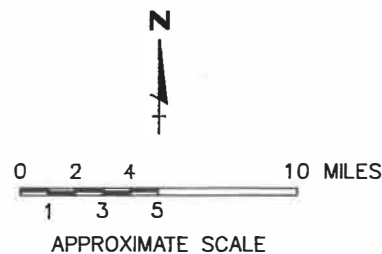


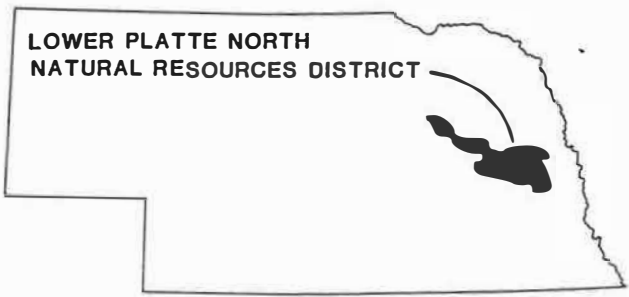
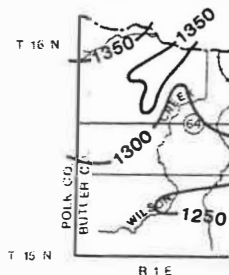
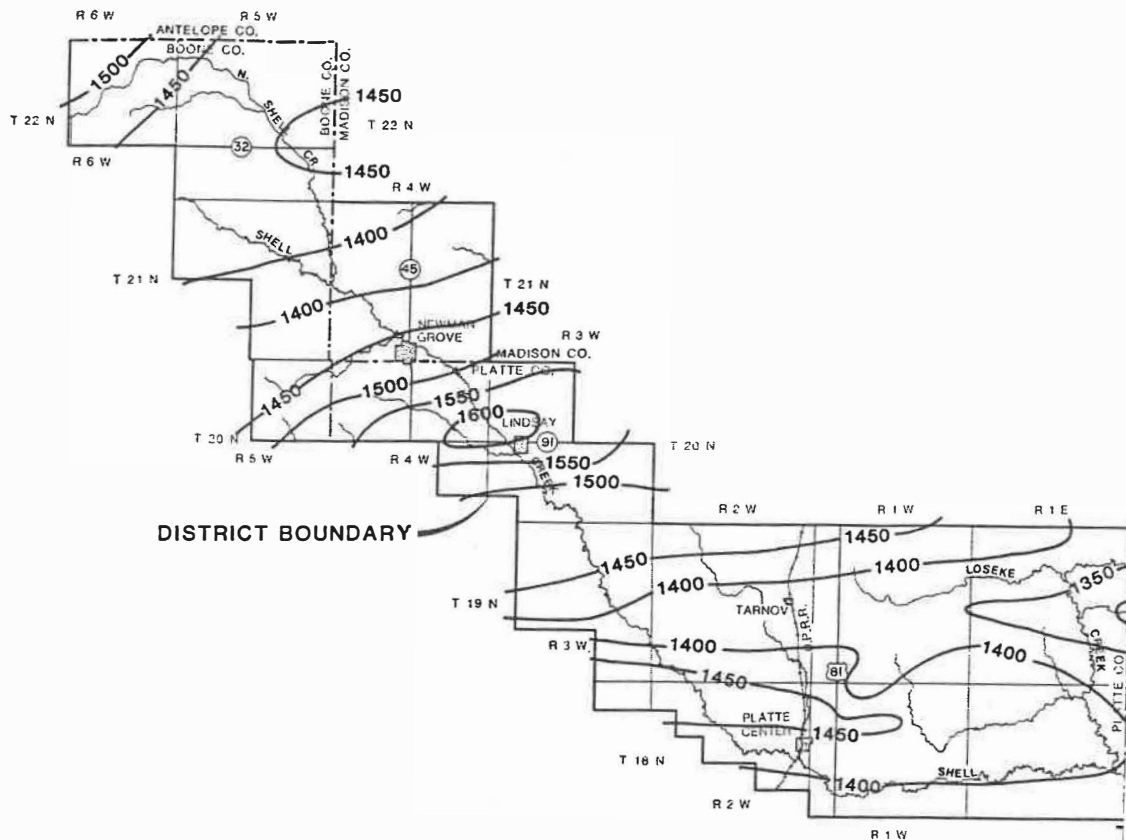
GROUNDWATER RESERVOIR AREAS

AREA	NAME
I	SHELL CREEK RESERVOIR
II	PLATTE VALLEY RESERVOIR
III	UPLANDS RESERVOIR
IV	TODD VALLEY RESERVOIR



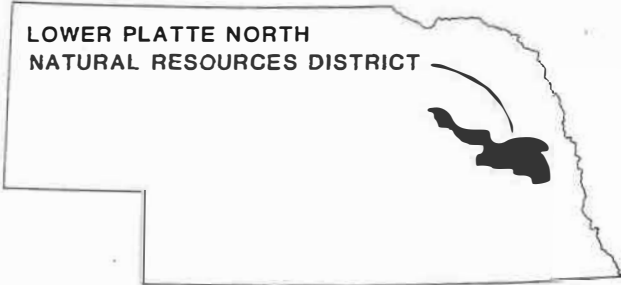
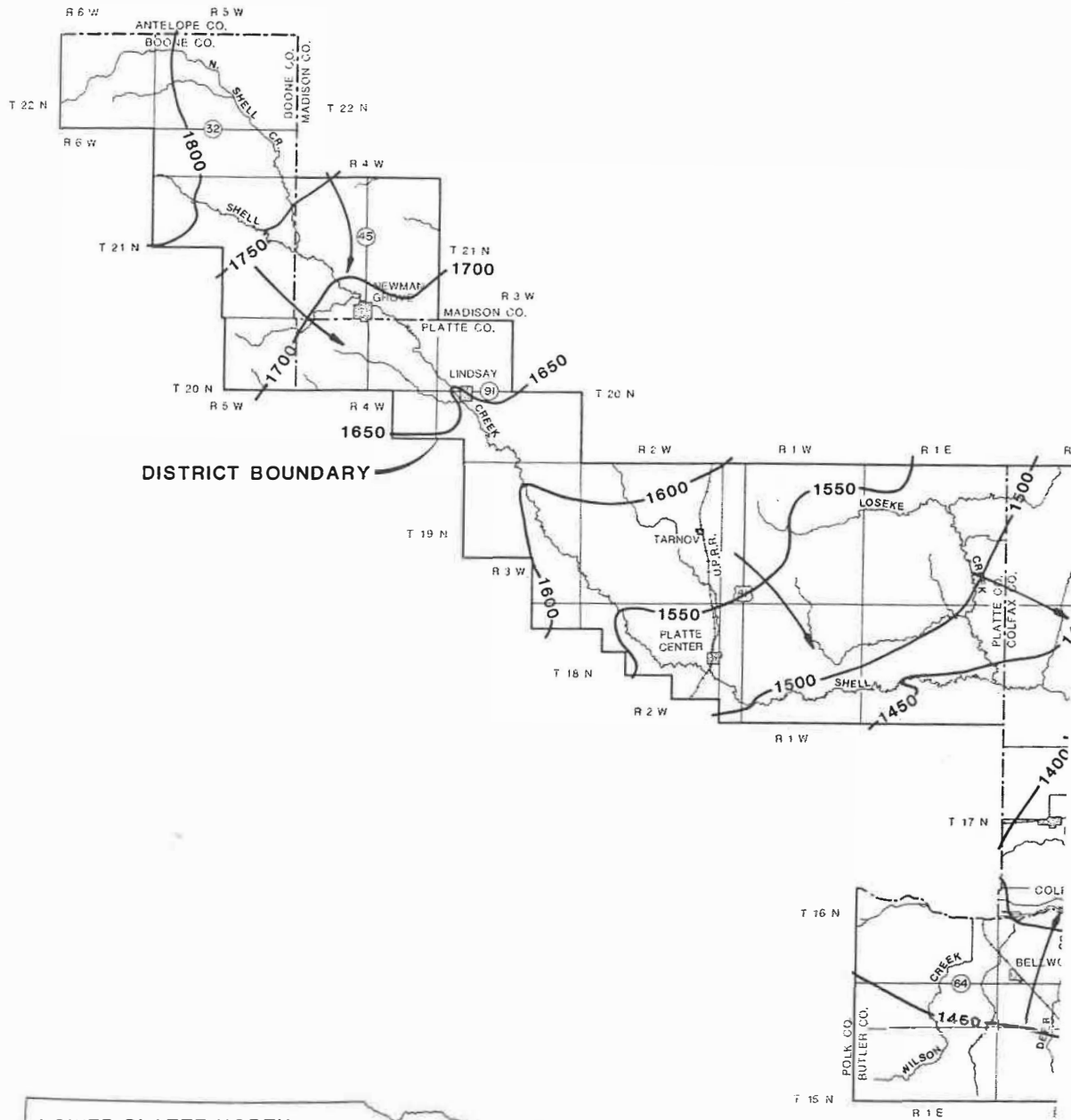
LOCATION



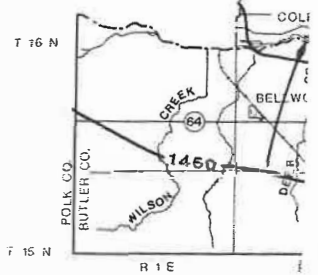


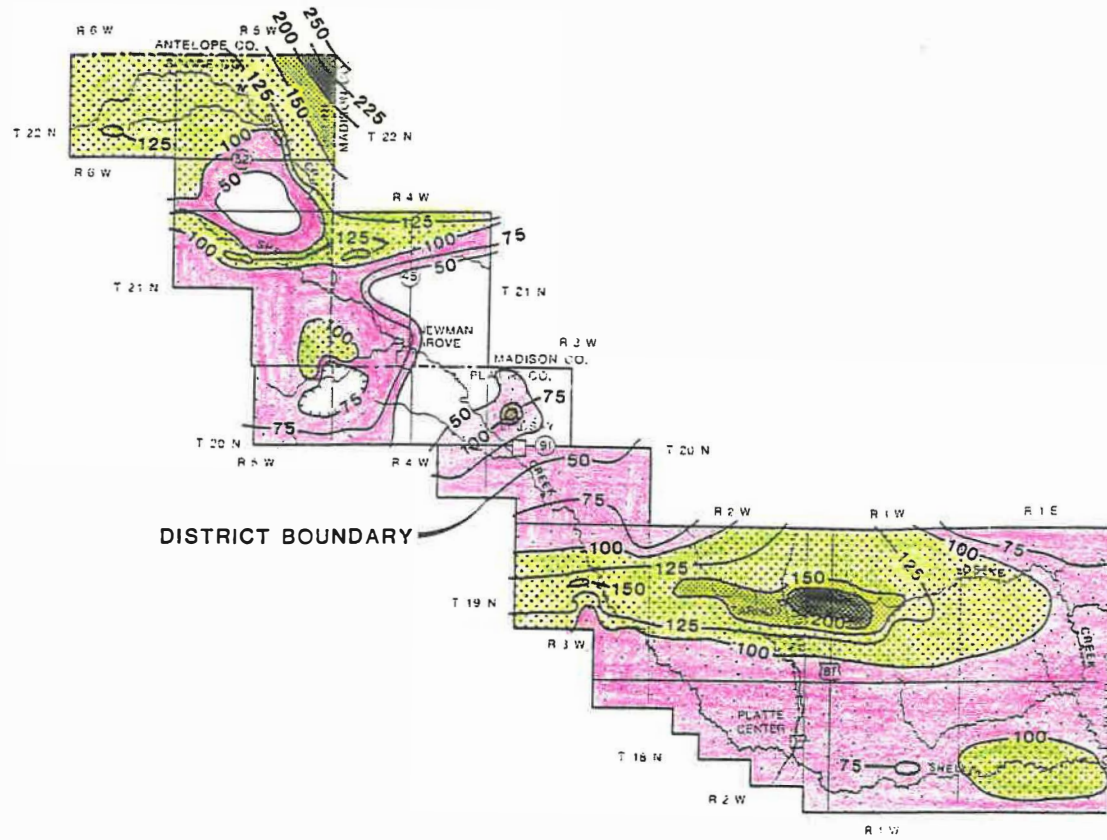
LOCATION



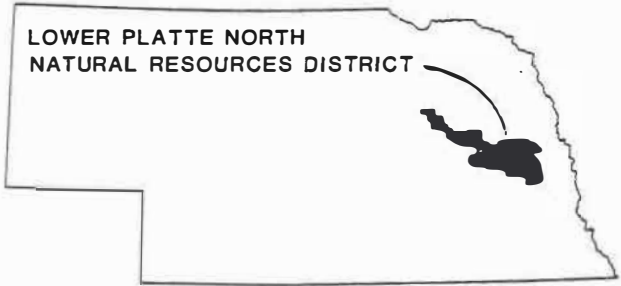
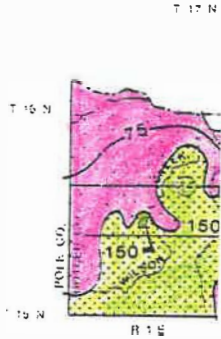


LOCATION





DISTRICT BOUNDARY

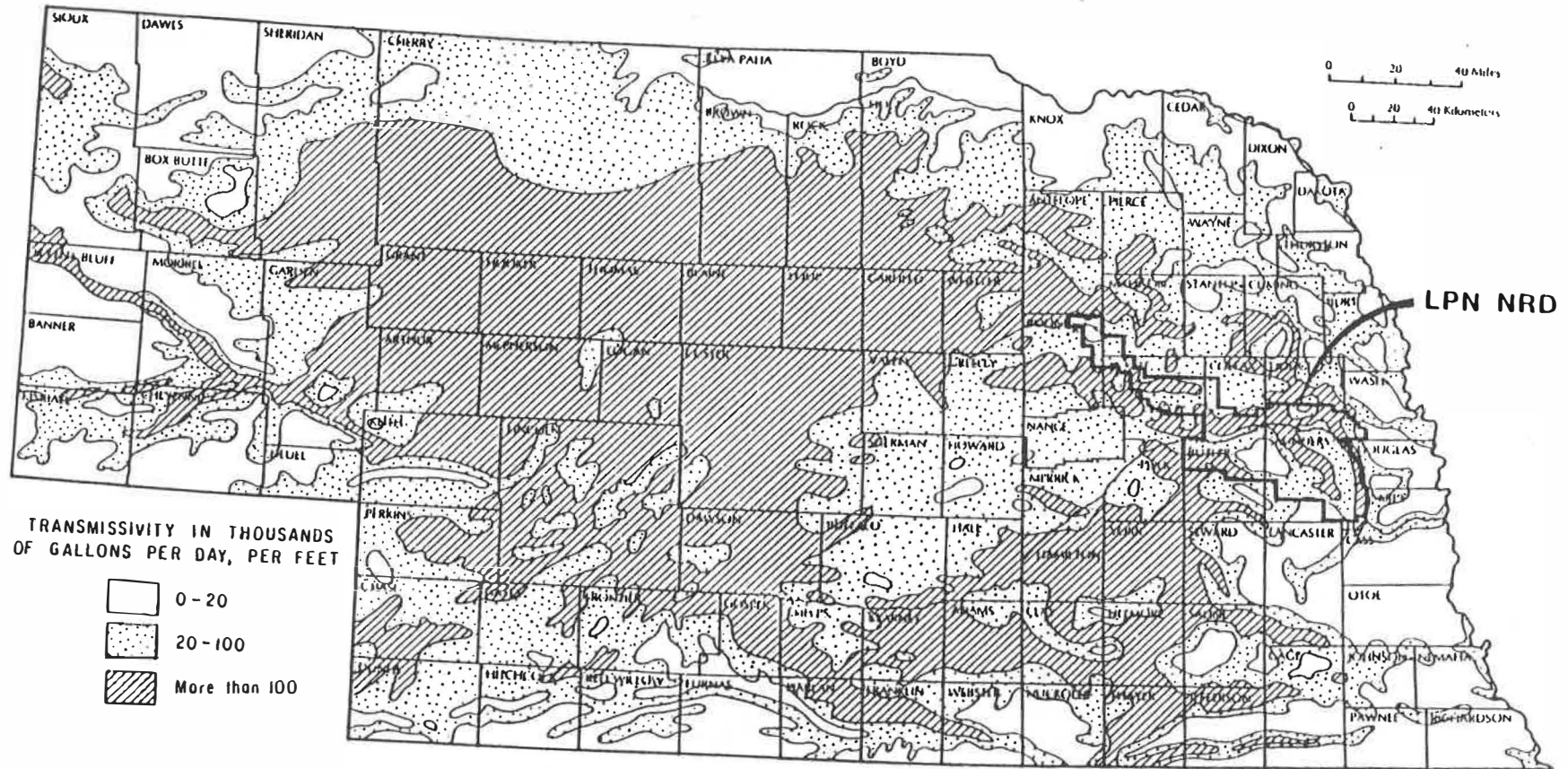


LOWER PLATTE NORTH
NATURAL RESOURCES DISTRICT

LOCATION

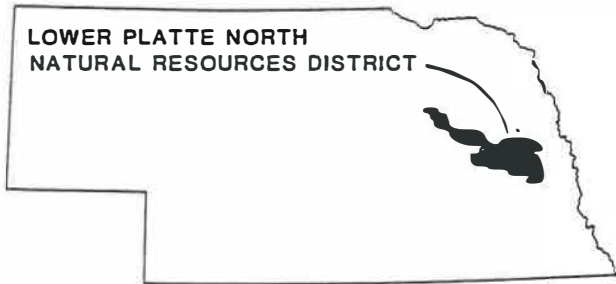
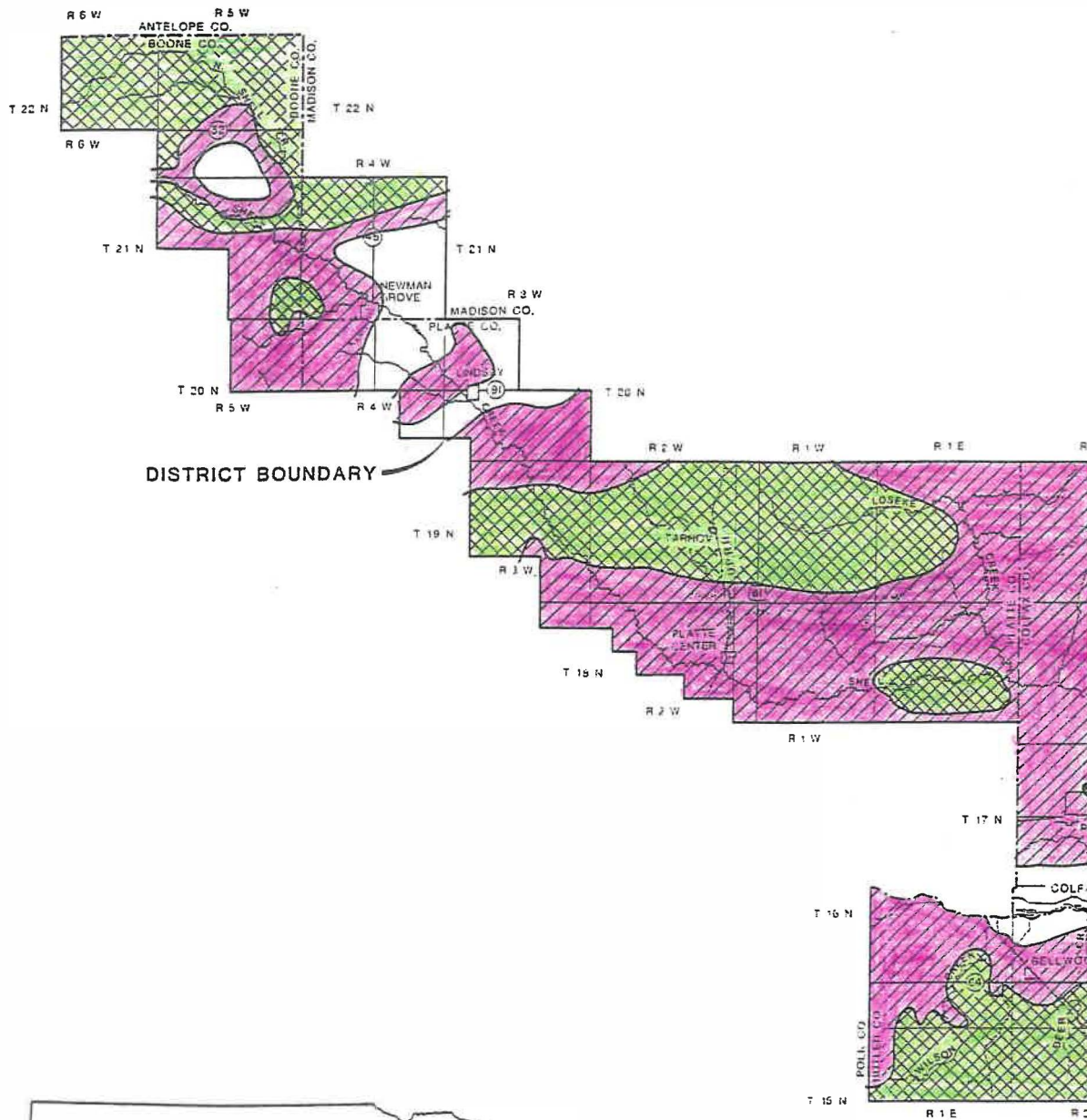


EXHIBIT 21



Transmissivity of the Principal Aquifer - A function of aquifer thickness and permeability, transmissivity estimates provide an indication of the productivity of an aquifer. Also available from CSD are transmissivity maps at a scale of 1:500,000.

From: "Policy Issue Study on Groundwater Reservoir Management",
Nebraska Natural Resources Commission, 1982



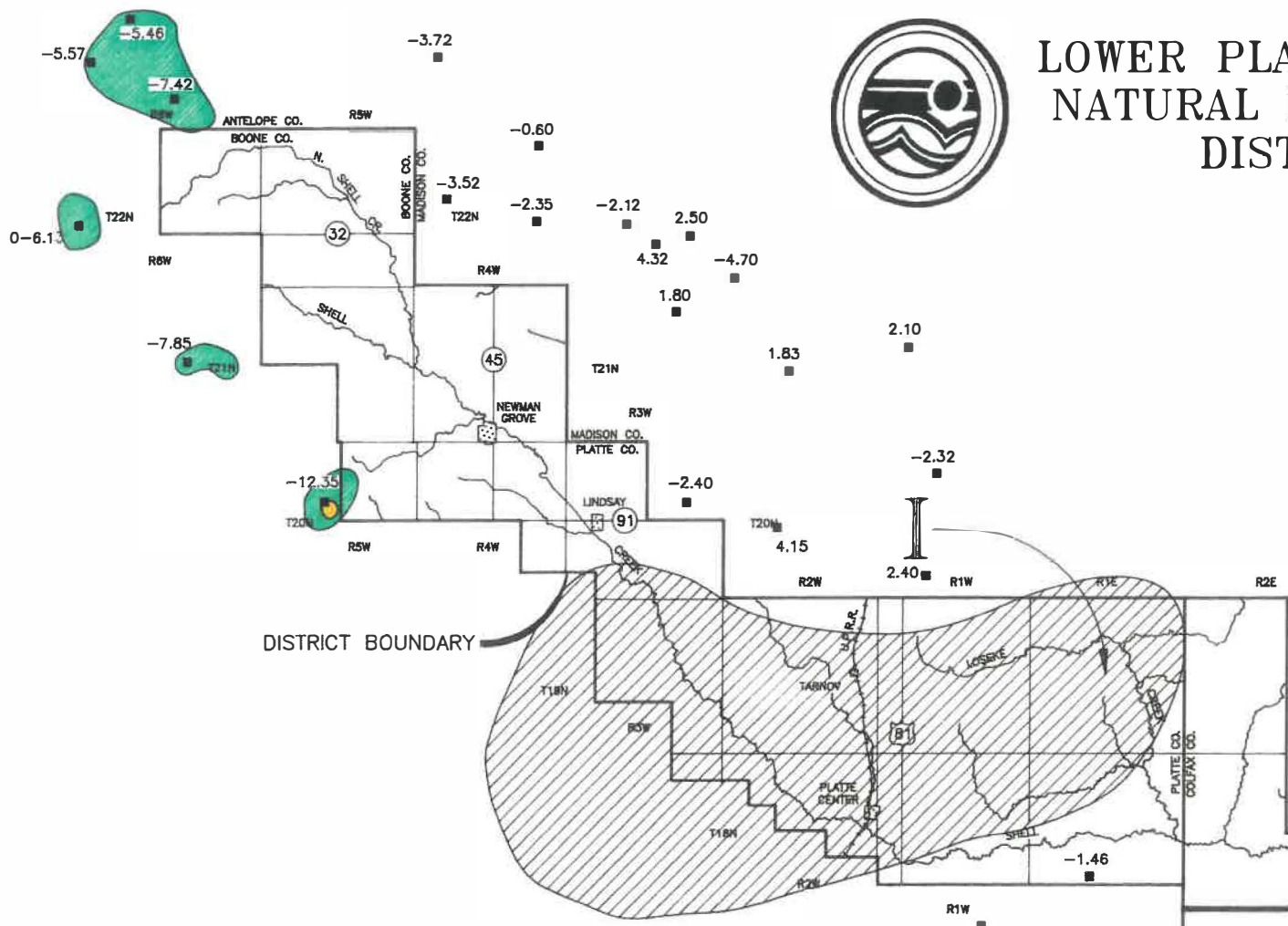
LOCATION



ESTIMATED
Lower Platte

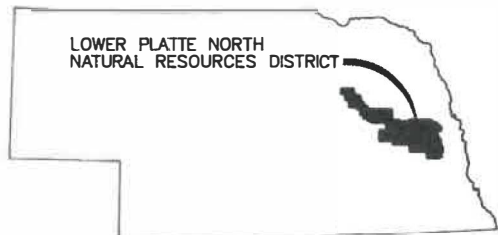


LOWER PLATTE NATURAL RESOURCES DISTRICT

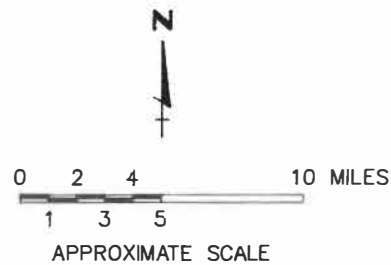


GROUNDWATER RESERVOIR AREAS

- | AREA | NAME |
|------|-------------------------|
| I | SHELL CREEK RESERVOIR |
| II | PLATTE VALLEY RESERVOIR |
| III | UPLANDS RESERVOIR |
| IV | TODD VALLEY RESERVOIR |



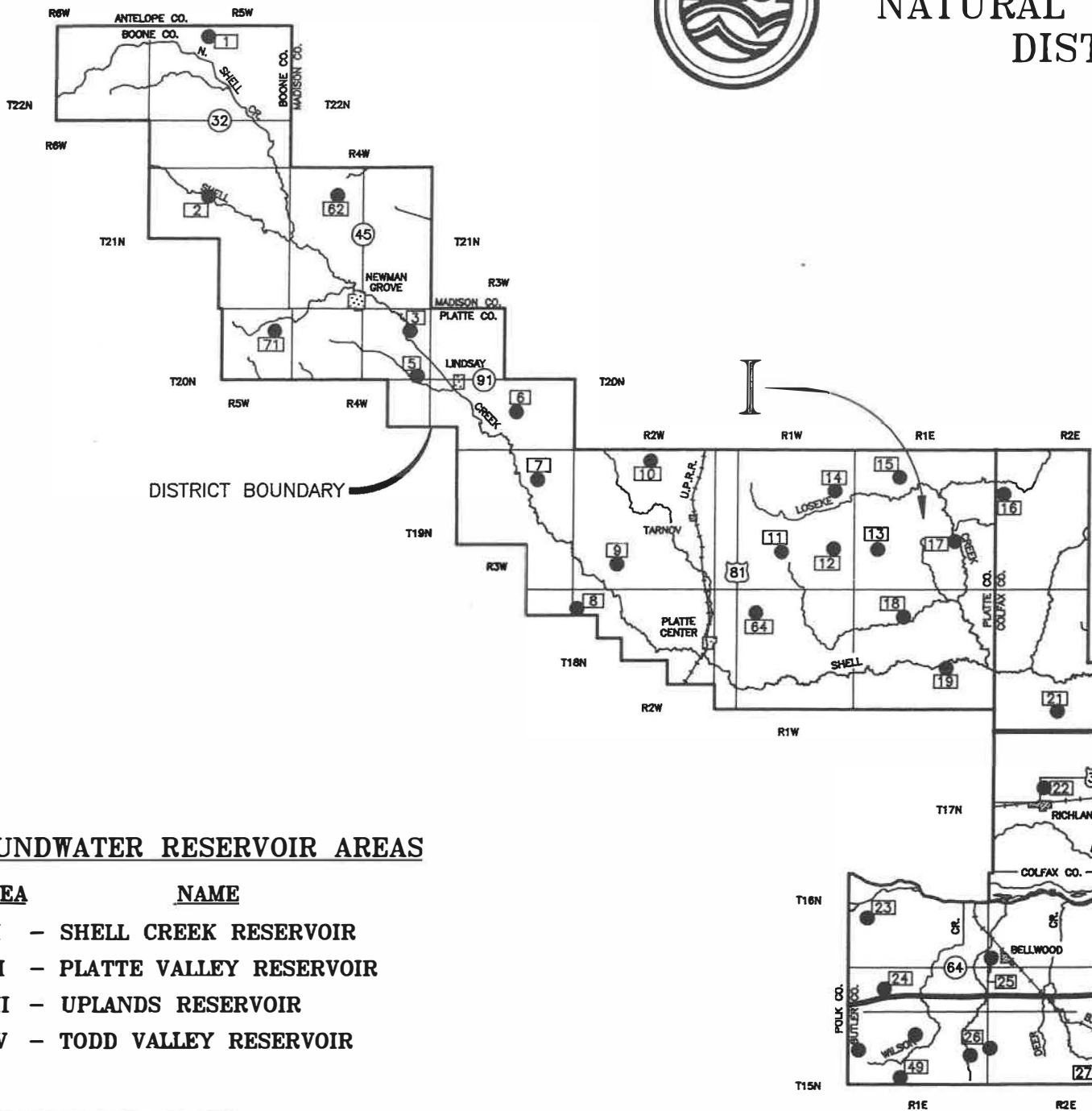
LOCATION



Source: U.S. Geol.

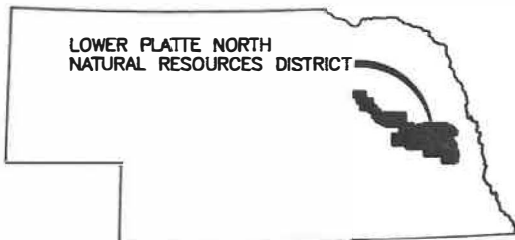


LOWER PLATTE NATURAL RESOURCES DISTRICT

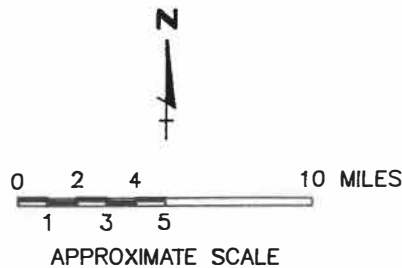


GROUNDWATER RESERVOIR AREAS

<u>AREA</u>	<u>NAME</u>
I	SHELL CREEK RESERVOIR
II	PLATTE VALLEY RESERVOIR
III	UPLANDS RESERVOIR
IV	TODD VALLEY RESERVOIR



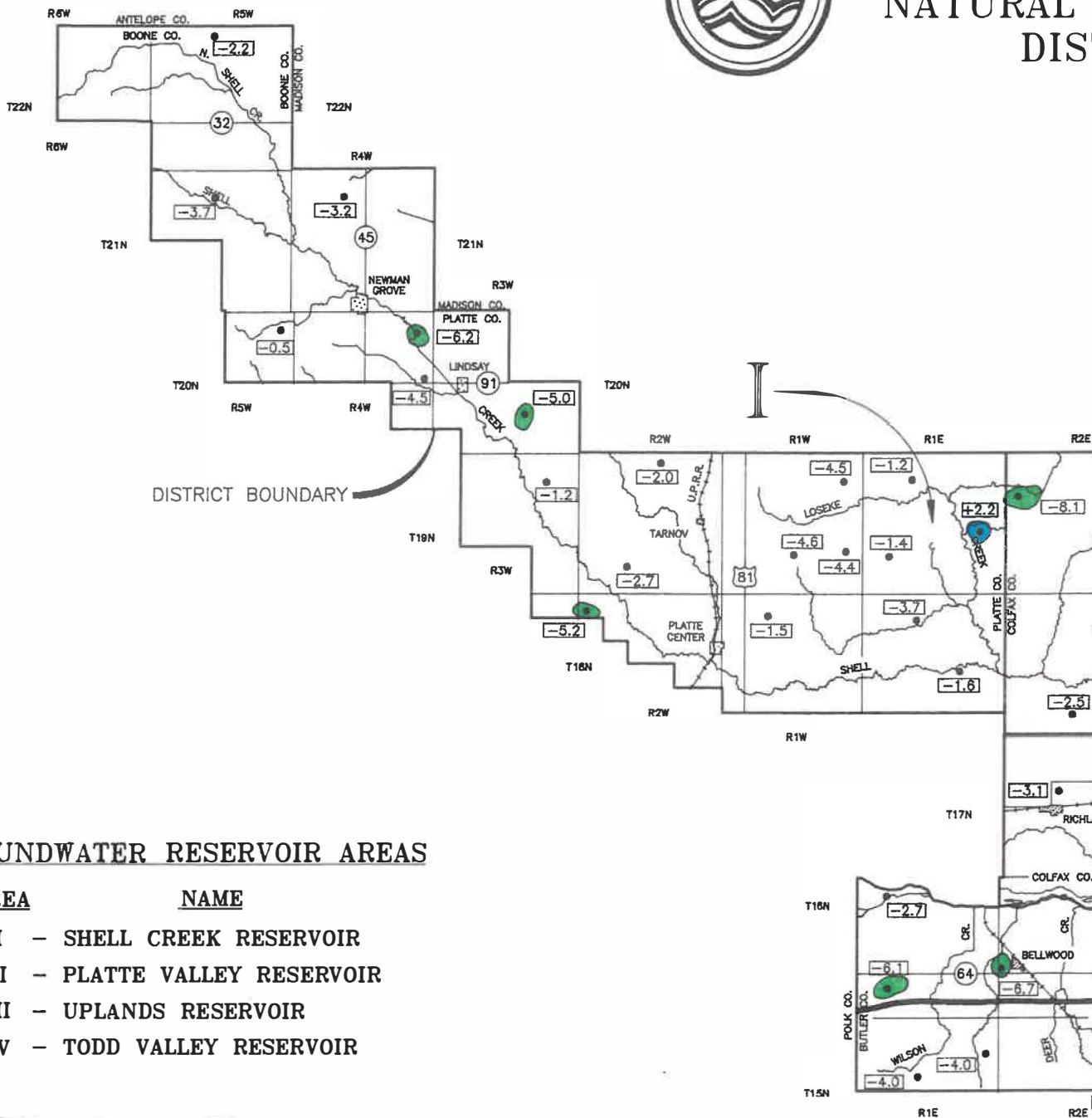
LOCATION



Source: Lower Platte No

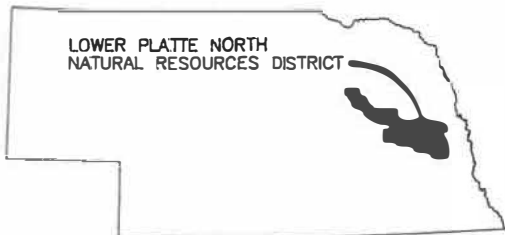


LOWER PLATTE NATURAL RESOURCES DISTRICT

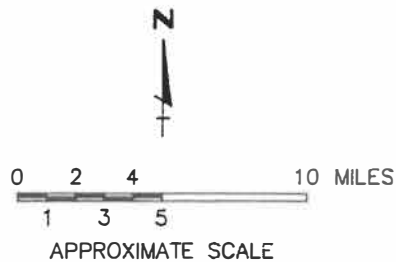


GROUNDWATER RESERVOIR AREAS

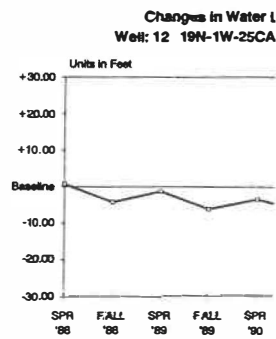
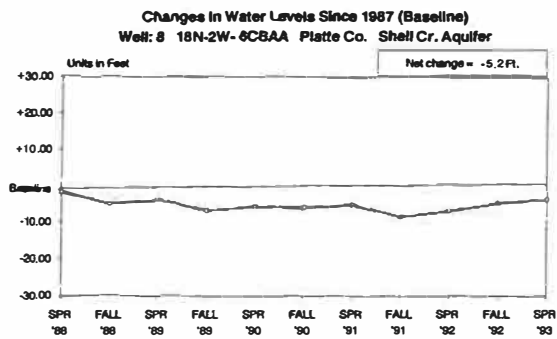
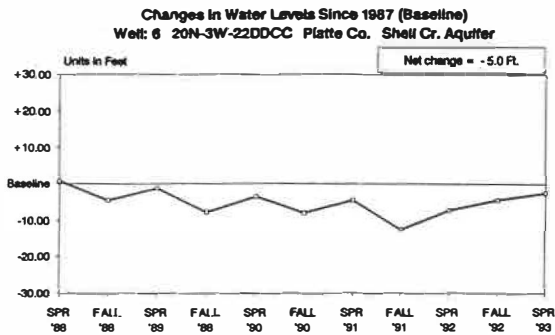
AREA	NAME
I	SHELL CREEK RESERVOIR
II	PLATTE VALLEY RESERVOIR
III	UPLANDS RESERVOIR
IV	TODD VALLEY RESERVOIR



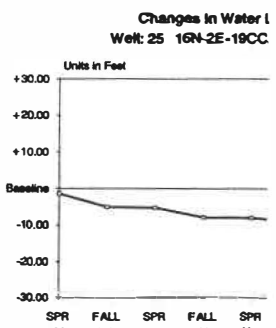
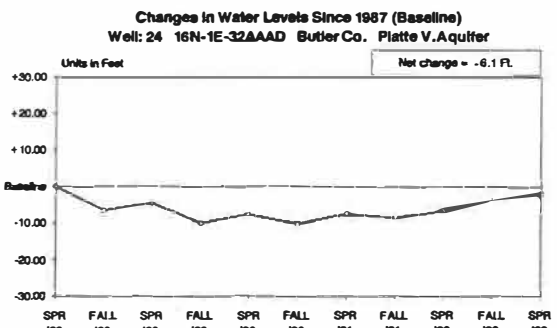
LOCATION



SHELL CREEK



PLATTE VALLEY



UPLANDS RESERVOIR

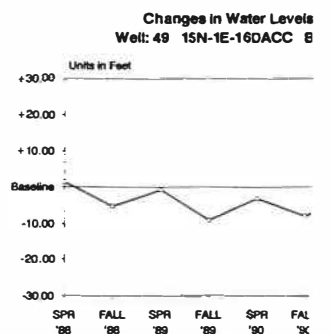
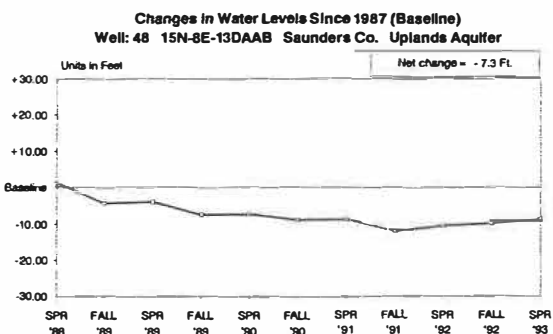
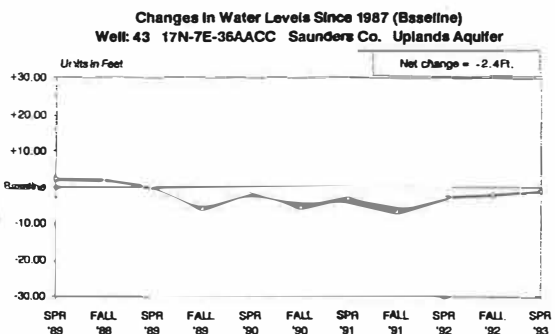
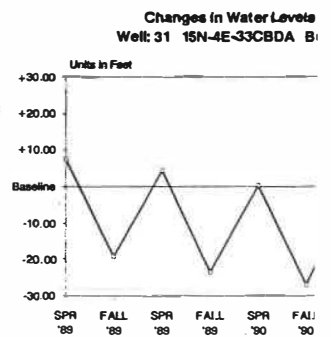
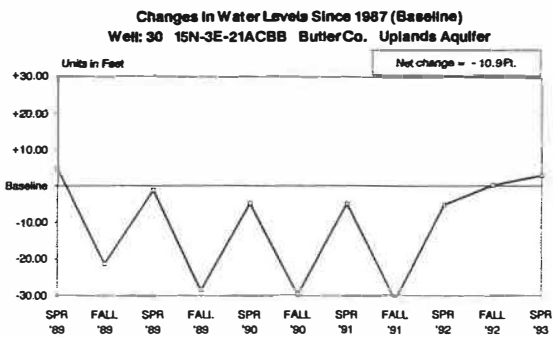
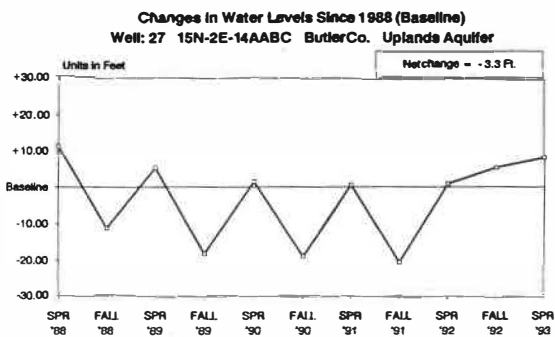
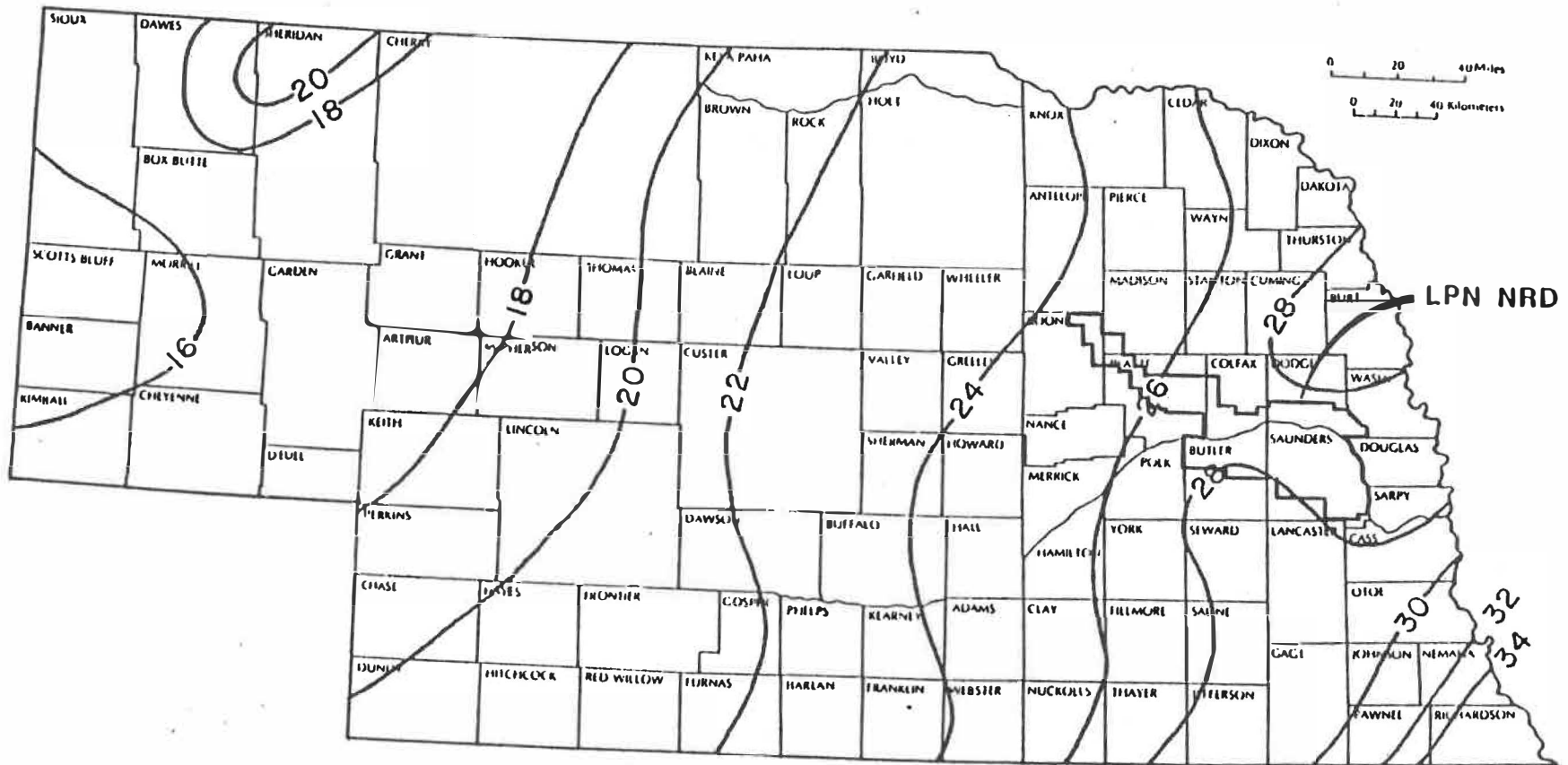
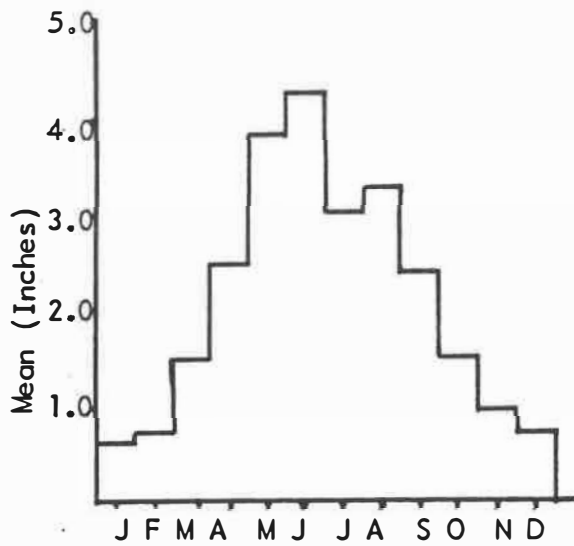


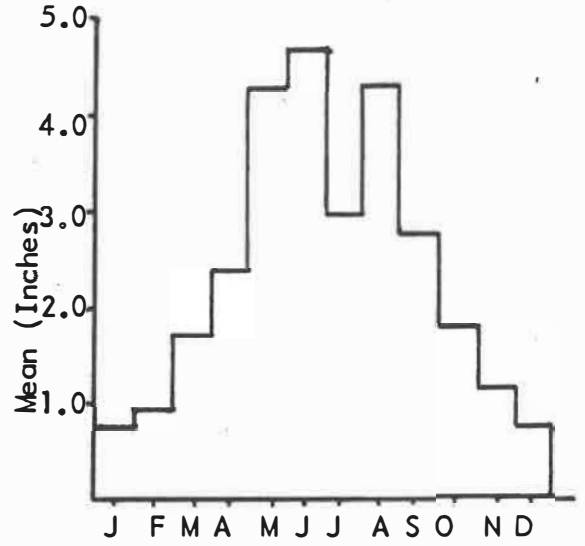
EXHIBIT 27



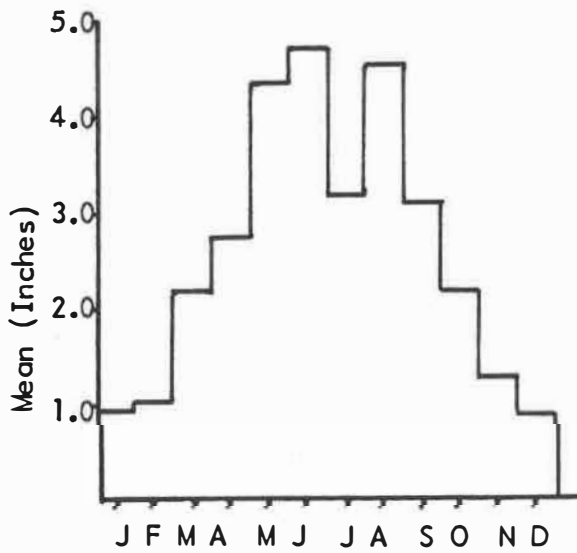
Mean Annual Precipitation (in inches) from 1900 to 1979 - This map is reproduced from "An Analysis of Nebraska's Precipitation Climatology with Emphasis on Occurrence of Dry Conditions", Agricultural Experiment Station, UN-L, Wilhite, D., 1981.



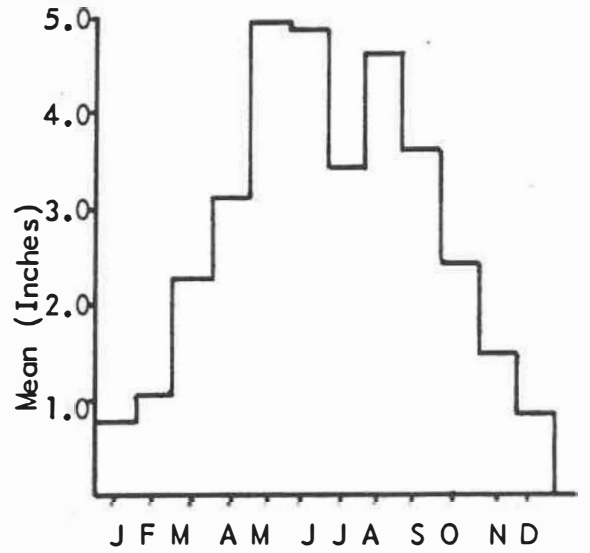
Months
 Mean Annual = 25.38"
 Albion
 Boone County



Months
 Mean Annual = 28.43"
 Schuyler
 Colfax County



Months
 Mean Annual = 30.66"
 Fremont
 Dodge County

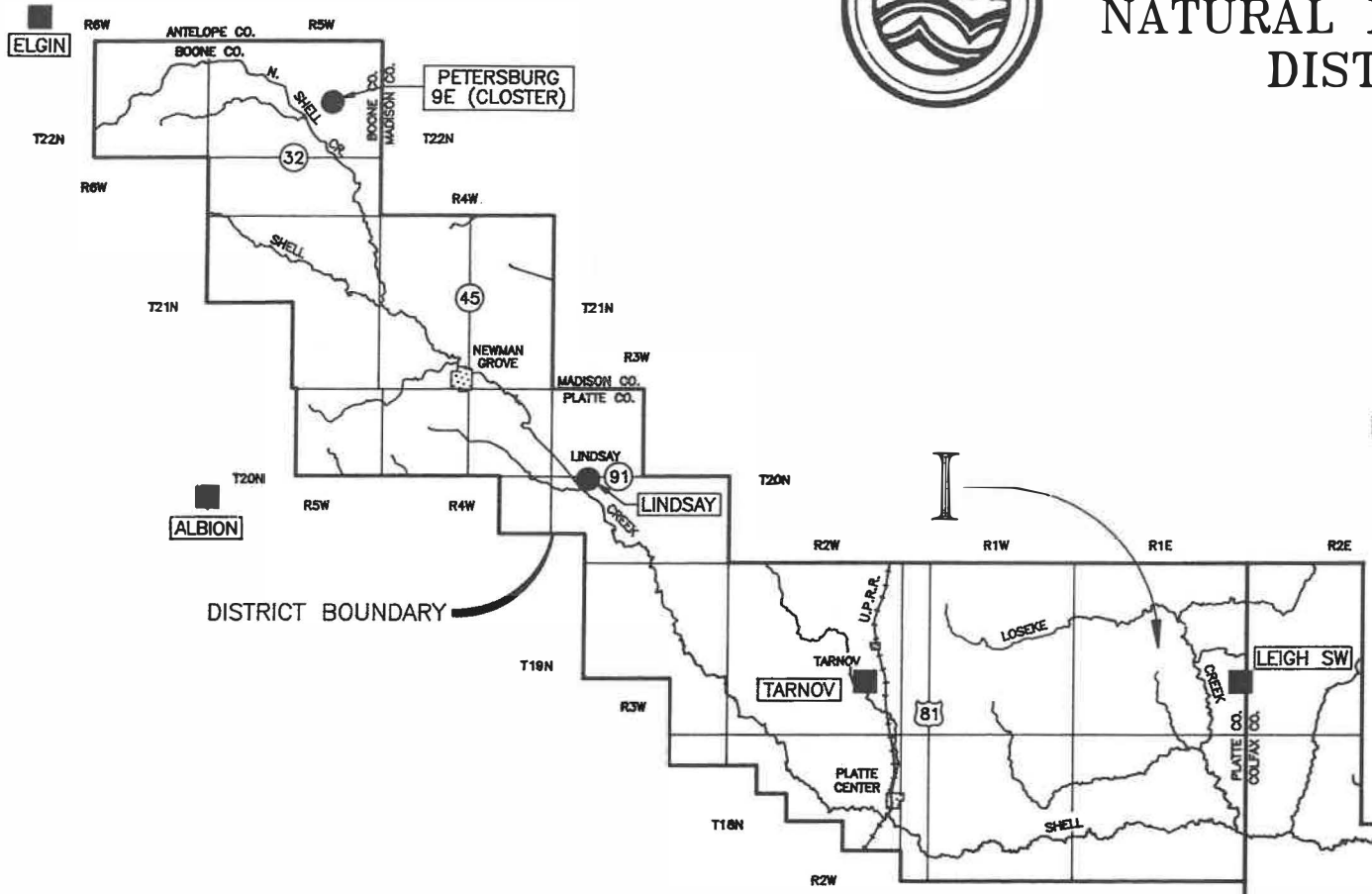


Months
 Mean Annual = 33.96"
 Wahoo
 Saunders County

DISTRIBUTION OF AVERAGE
 ANNUAL PRECIPITATION

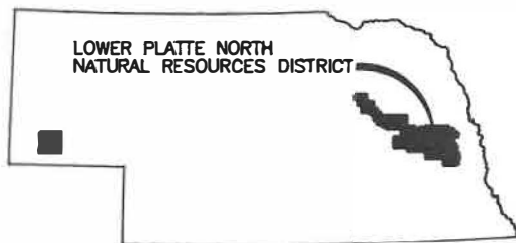


LOWER PLATE NATURAL RESOURCES DISTRICT



GROUNDWATER RESERVOIR AREAS

- | AREA | NAME |
|------|-------------------------|
| I | SHELL CREEK RESERVOIR |
| II | PLATTE VALLEY RESERVOIR |
| III | UPLANDS RESERVOIR |
| IV | TODD VALLEY RESERVOIR |



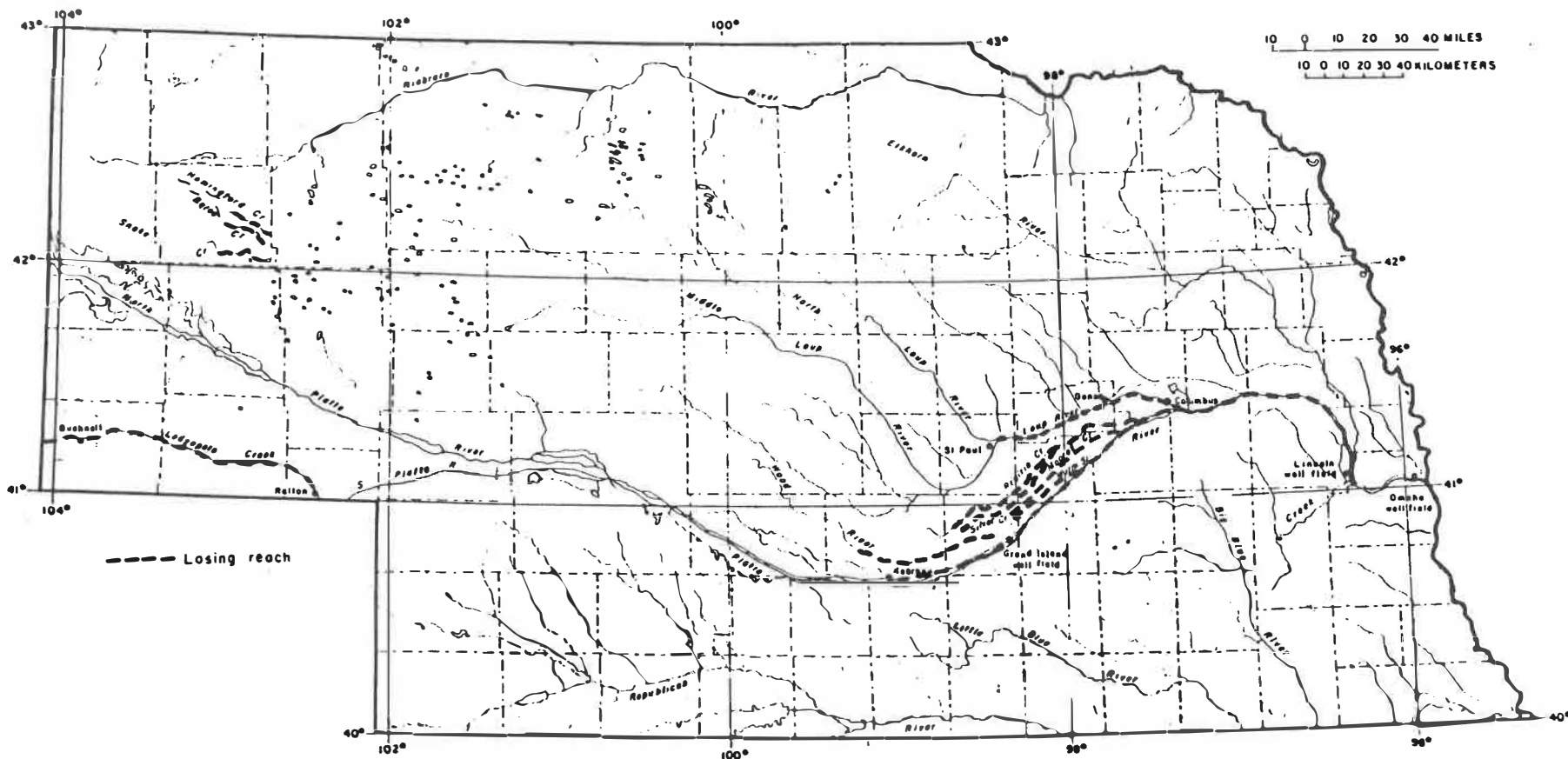
LOCATION



0 2 4 10 MILES

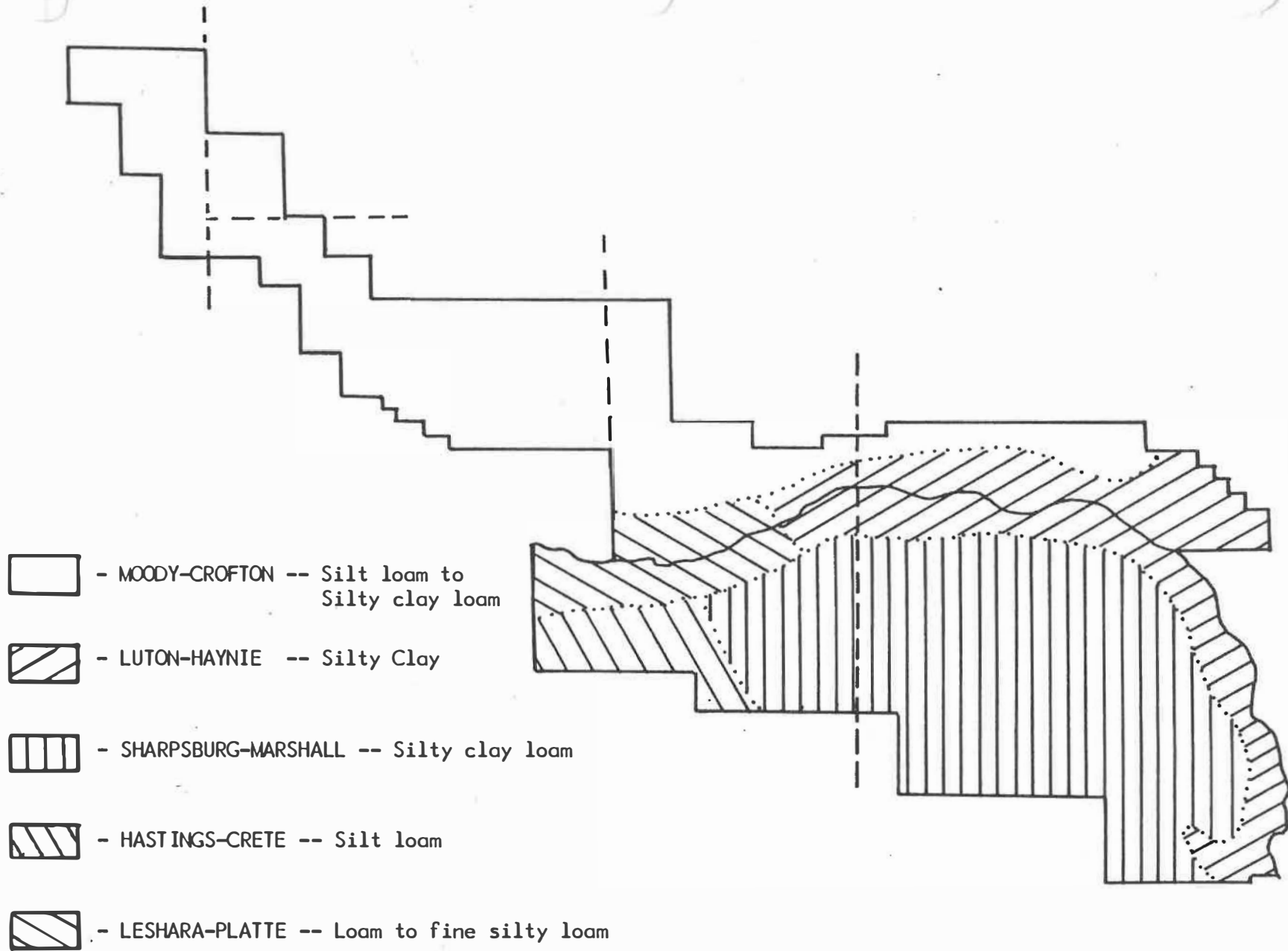
1 3 5

APPROXIMATE SCALE



LOSING STREAMS

Source: Policy Issue Study on Supplemental Water Supplies, Nebraska Natural Resources Commission, 1984, From the Material Supplied by Conservation and Survey Division, University of Nebraska.

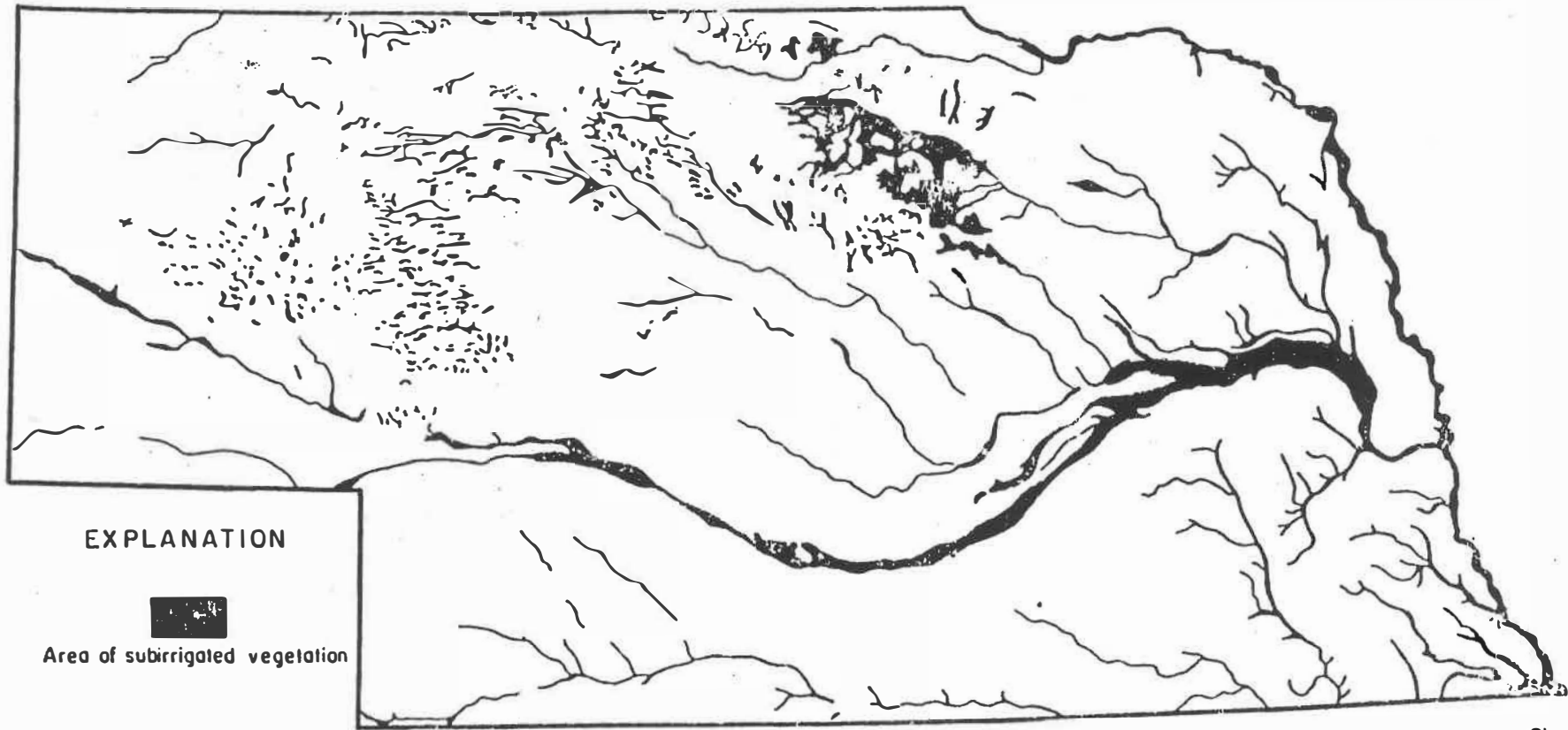


SOIL ASSOCIATIONS IN THE LOWER PLATTE NORTH
NATURAL RESOURCES DISTRICT

LOWER PLATTE NORTH NRD
THRU 02/93

SUMMARY OF REGISTERED WELLS
BY YEAR DRILLED

YEAR DRILLED	CUMULATIVE TOTALS BY COUNTY								YEAR DRILLED	YEARLY TOTALS BY COUNTY							
	BOONE	BUTLR	COLFX	DODGE	MADIS	PLATT	SAUND	TOTAL		BOONE	BUTLR	COLFX	DODGE	MADIS	PLATT	SAUND	TOTAL
THRU 1940	0	22	27	47	0	1	3	100	THRU 1940	0	22	27	47	0	1	3	100
1941	0	23	45	56	0	2	3	129	1941	0	1	18	9	0	1	0	29
1942	0	25	49	60	0	3	5	142	1942	0	2	4	4	0	1	2	13
1943	0	28	50	62	0	3	5	148	1943	0	3	1	2	0	0	0	6
1944	0	30	53	70	0	4	6	163	1944	0	2	3	8	0	1	1	15
1945	0	31	54	73	0	4	6	168	1945	0	1	1	3	0	0	0	5
1946	0	34	56	77	0	4	6	177	1946	0	3	2	4	0	0	0	9
1947	0	36	64	81	0	4	6	191	1947	0	2	8	4	0	0	0	14
1948	0	40	69	84	0	4	6	203	1948	0	4	5	3	0	0	0	12
1949	0	40	70	91	0	5	11	217	1949	0	0	1	7	0	1	5	14
1950	0	42	74	96	1	5	12	230	1950	0	2	4	5	1	0	1	13
1951	0	42	75	101	1	5	12	236	1951	0	0	1	5	0	0	0	6
1952	0	43	78	105	1	5	12	244	1952	0	1	3	4	0	0	0	8
1953	0	48	81	113	1	5	13	261	1953	0	5	3	8	0	0	1	17
1954	0	73	109	140	5	10	28	365	1954	0	25	28	27	4	5	15	104
1955	0	118	157	180	7	28	48	538	1955	0	45	48	40	2	13	20	173
1956	11	181	228	329	12	77	90	928	1956	11	63	71	149	5	49	42	390
1957	16	216	258	419	14	91	140	1154	1957	5	35	30	90	2	14	50	226
1958	16	220	262	428	14	92	144	1176	1958	0	4	4	9	0	1	4	22
1959	16	221	268	431	14	95	146	1192	1959	0	1	6	3	0	4	2	16
1960	16	222	270	434	14	98	146	1200	1960	0	1	2	3	0	2	0	8
1961	16	229	277	438	14	102	147	1223	1961	0	7	7	4	0	4	1	23
1962	16	234	280	449	14	109	149	1251	1962	0	5	3	11	0	7	2	28
1963	16	236	285	452	15	116	154	1274	1963	0	2	5	3	1	7	5	23
1964	17	244	291	456	15	118	158	1299	1964	1	3	6	4	0	2	4	25
1965	18	249	296	458	15	123	160	1319	1965	1	5	5	2	0	5	2	20
1966	19	262	317	465	15	126	168	1372	1966	1	13	21	7	0	3	8	53
1967	20	272	343	488	16	133	178	1450	1967	1	10	26	23	1	7	10	78
1968	23	285	353	508	17	151	181	1518	1968	3	13	10	20	1	18	3	68
1969	27	302	370	531	17	167	192	1606	1969	4	17	17	23	0	16	11	88
1970	31	318	396	554	17	192	217	1725	1970	4	16	26	23	0	25	25	119
1971	36	336	410	575	20	215	238	1828	1971	5	18	14	21	3	21	21	133
1972	39	352	418	584	23	230	256	1902	1972	3	16	8	9	3	17	18	74
1973	42	361	424	594	23	237	263	1944	1973	3	9	6	10	0	7	7	42
1974	53	383	432	623	24	255	277	2047	1974	11	22	8	29	1	16	14	103
1975	67	406	458	675	27	304	345	2282	1975	14	23	26	52	3	49	68	235
1976	78	430	488	732	30	373	450	2581	1976	11	24	30	57	3	69	105	299
1977	81	480	522	770	30	420	545	2848	1977	3	50	34	38	0	47	95	267
1978	81	490	534	782	30	427	557	2901	1978	0	10	12	12	0	7	12	53
1979	84	500	547	788	30	435	574	2959	1979	3	10	13	6	0	8	17	57
1980	88	529	566	797	31	448	590	3049	1980	4	29	19	9	1	13	16	91
1981	100	539	583	811	34	470	627	3164	1981	12	10	17	14	3	22	37	115
1982	102	543	587	816	34	472	636	3190	1982	2	4	4	5	0	2	9	26
1983	103	543	587	820	34	474	642	3203	1983	1	0	0	4	0	2	6	13
1984	103	547	590	823	34	478	648	3223	1984	0	4	3	3	0	4	6	20
1985	105	549	593	826	34	479	651	3237	1985	2	2	3	3	0	1	3	14
1986	105	550	594	829	34	480	654	3246	1986	0	1	1	3	0	1	3	9
1987	106	550	600	835	34	482	657	3264	1987	1	0	6	6	0	2	3	18
1988	106	553	620	844	34	486	668	3311	1988	0	3	20	9	0	4	11	47
1989	108	563	643	864	34	500	702	3414	1989	2	10	23	20	0	14	34	103
1990	111	569	653	896	42	514	727	3512	1990	3	6	10	32	8	14	25	98
1991	113	572	662	911	45	519	744	3566	1991	2	3	9	15	3	5	17	54
1992	113	578	674	925	46	532	758	3626	1992	0	6	12	14	1	13	14	60
02/1993	113	578	674	925	46	532	758	3626	02/1993	0	0	0	0	0	0	0	0
YEAR NOT KNOWN	0	2	3	5	0	3	4	17	YEAR NOT KNOWN	0	2	3	5	0	3	4	17
TOTAL	113	580	677	930	46	535	762	3643	TOTAL	113	580	677	930	46	535	762	3643



EXPLANATION

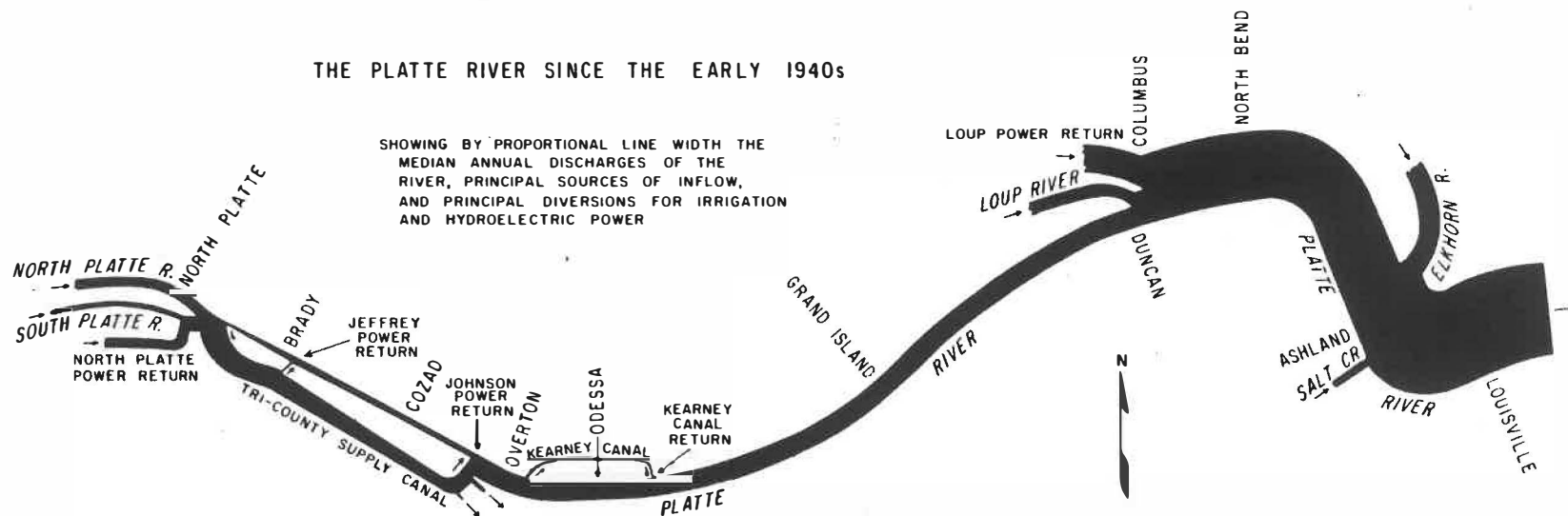

Area of subirrigated vegetation

0 10 20 30 40 50 MILES

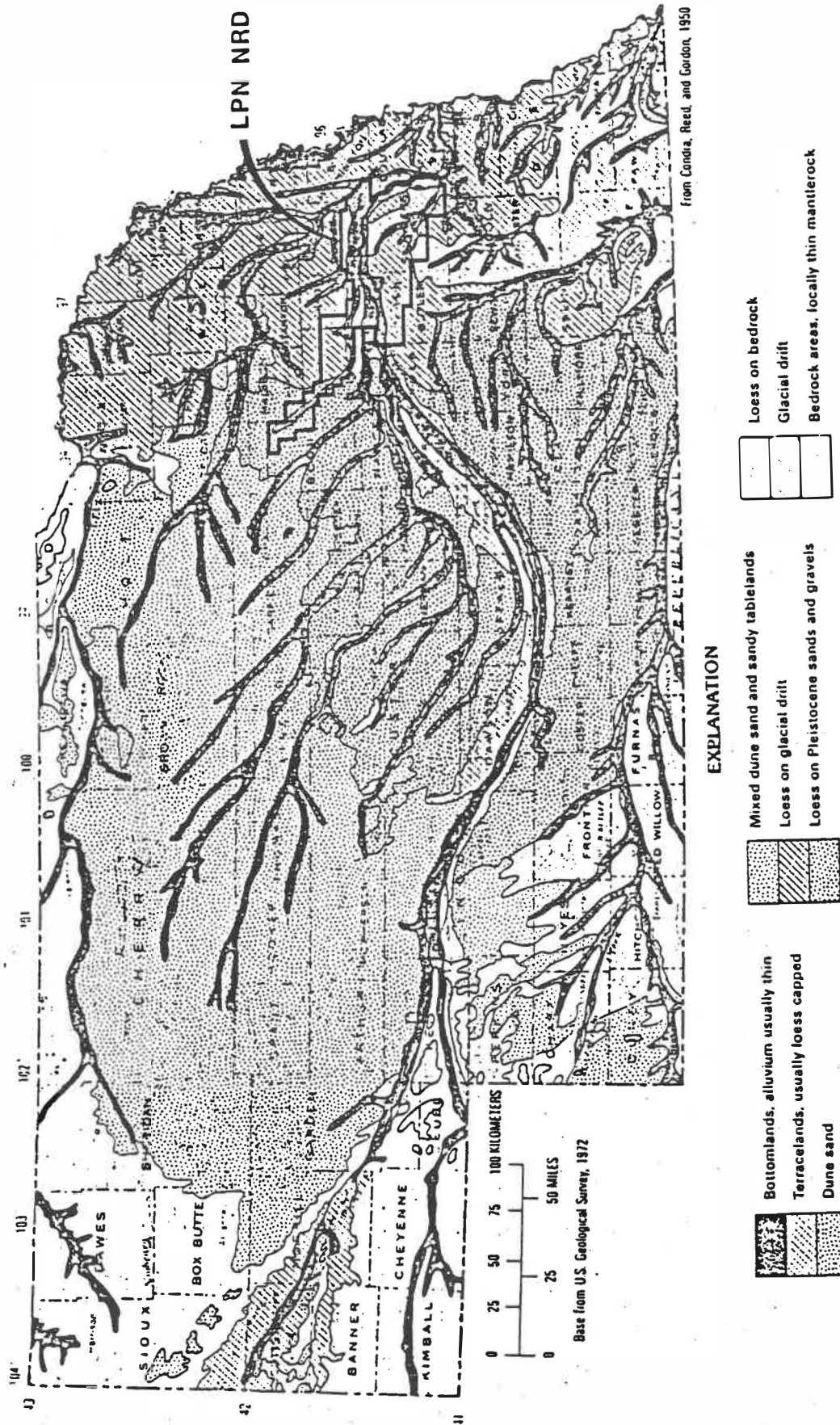
Conservation and Survey Div.
University of Nebraska

Principal Areas of Subirrigated Vegetation

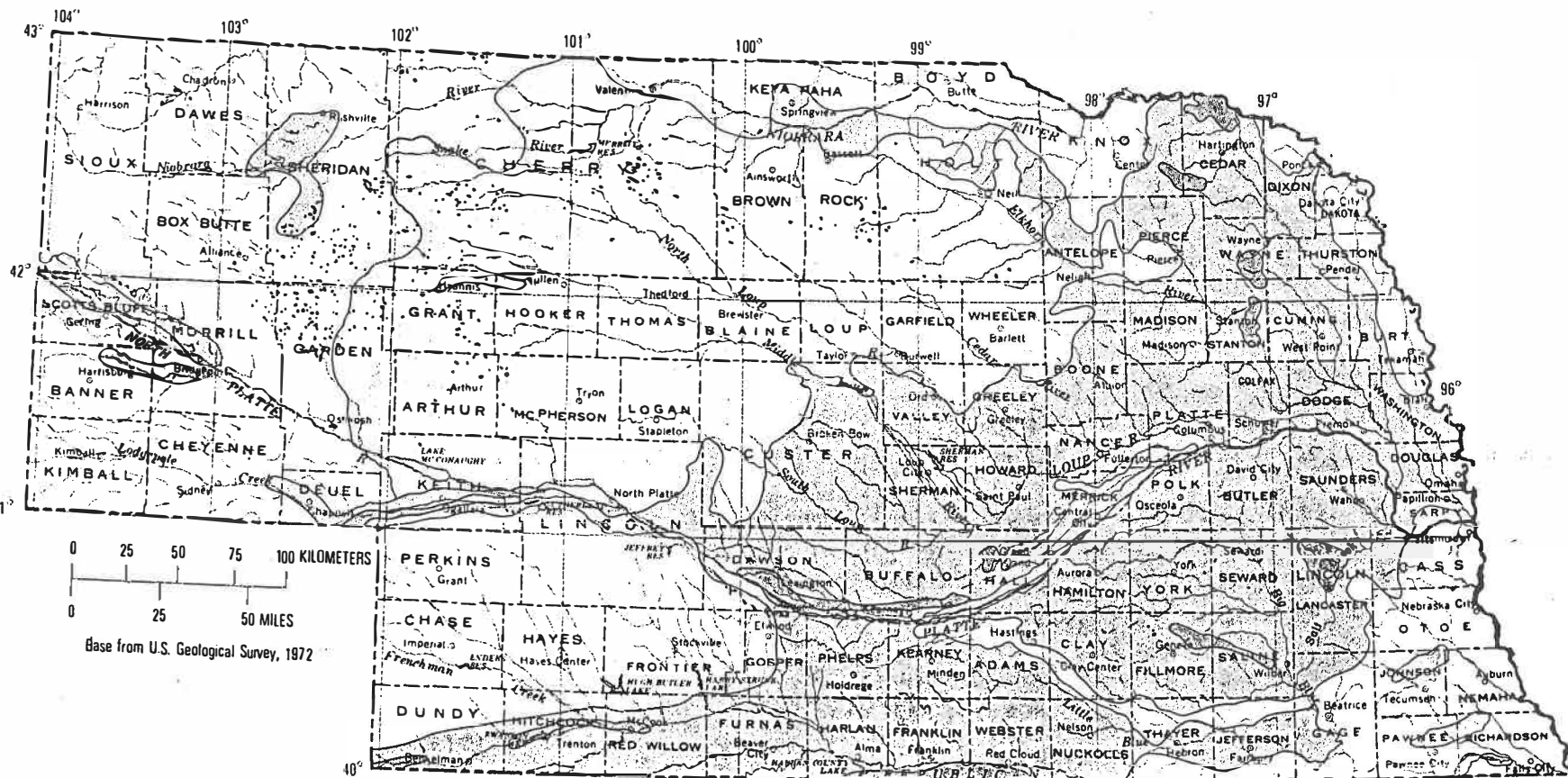
Source: Shaffer, F.B., Availability and Use of Water in Nebraska, 1970.
Nebraska Water Survey Paper #31, Conservation and Survey Division,
University of Nebraska-Lincoln, 1972.



From: Bentall, "Nebraska's Platte River - A Graphic Analysis of Flows"

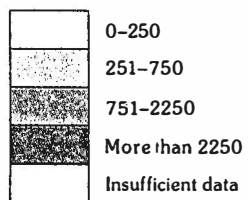


Map showing areal distribution of Holocene and Pleistocene deposits.



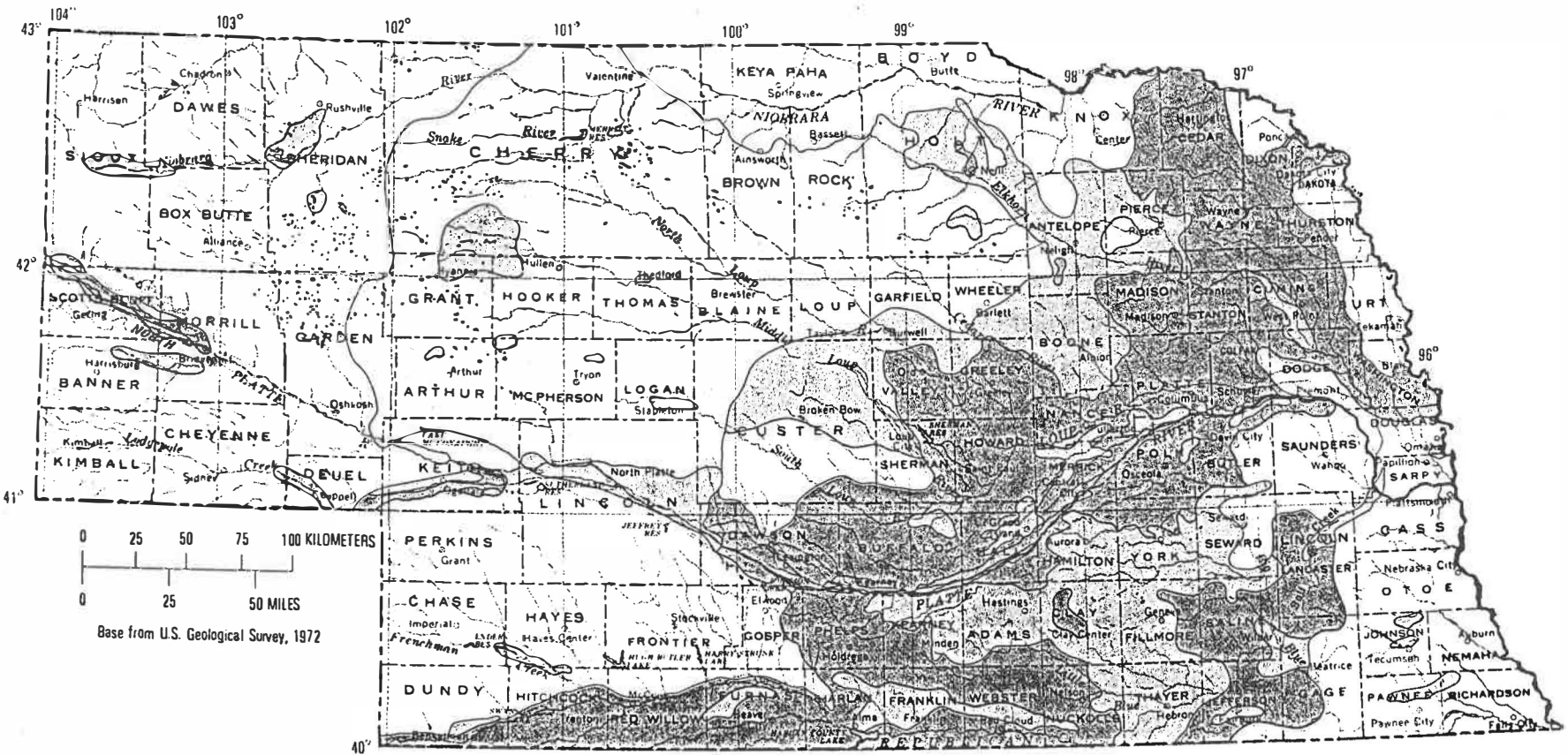
EXPLANATION

RANGE IN CONCENTRATION,
IN MILLIGRAMS PER LITER



Map showing dissolved-solids concentrations in water from Holocene and Pleistocene aquifers.

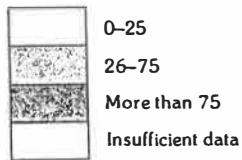
EXHIBIT 37



0 25 50 75 100 KILOMETERS
 0 25 50 MILES
 Base from U.S. Geological Survey, 1972

EXPLANATION

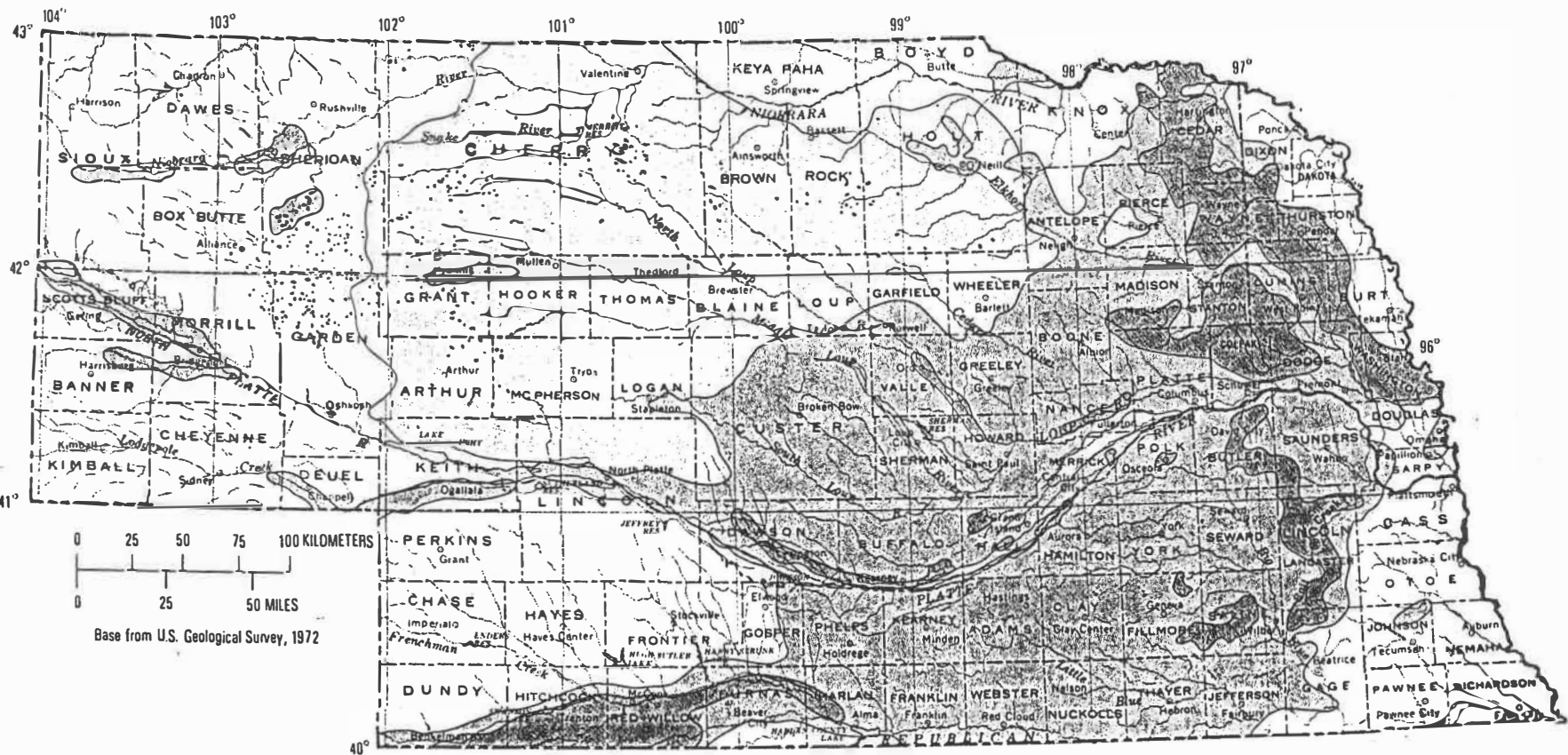
RANGE IN CONCENTRATION,
 IN MILLIGRAMS PER LITER



Map showing calcium concentrations in water from Holocene and Pleistocene aquifers.

From: Engberg, "Appraisal of Data for Groundwater Quality in Nebraska" USGS, 1984

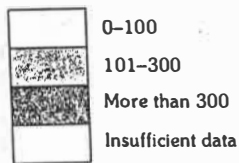
EXHIBIT 38



0 25 50 75 100 KILOMETERS
 0 25 50 MILES
 Base from U.S. Geological Survey, 1972

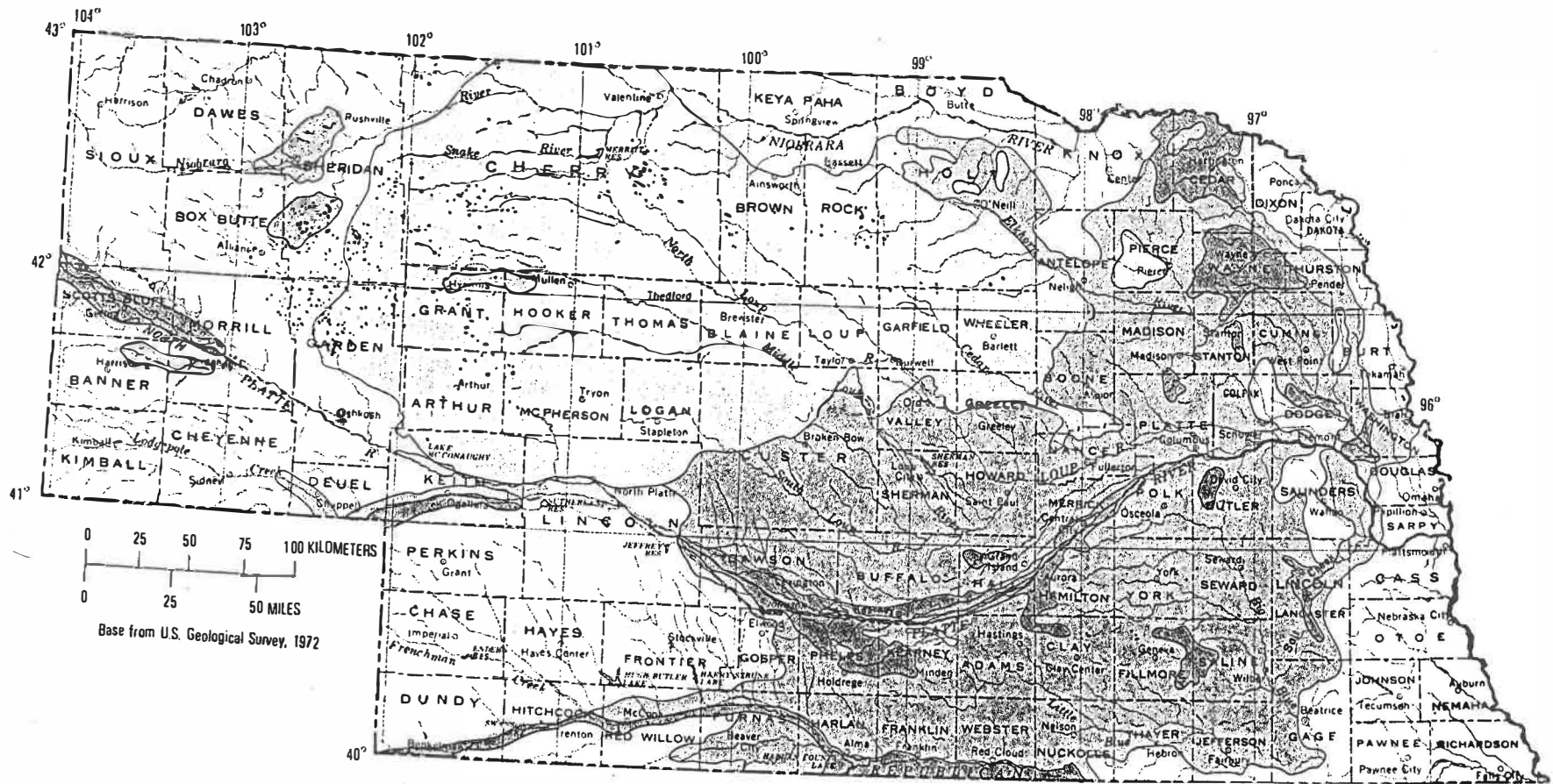
EXPLANATION

RANGE OF ALKALINITY AS CALCIUM CARBONATE,
 IN MILLIGRAMS PER LITER

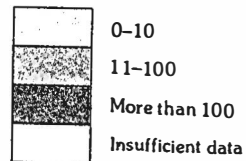


Map showing alkalinity of water from Holocene and Pleistocene aquifers.

From: Engerb, "Appraisal of Data for Groundwater Quality in Nebraska" USGS, 1984



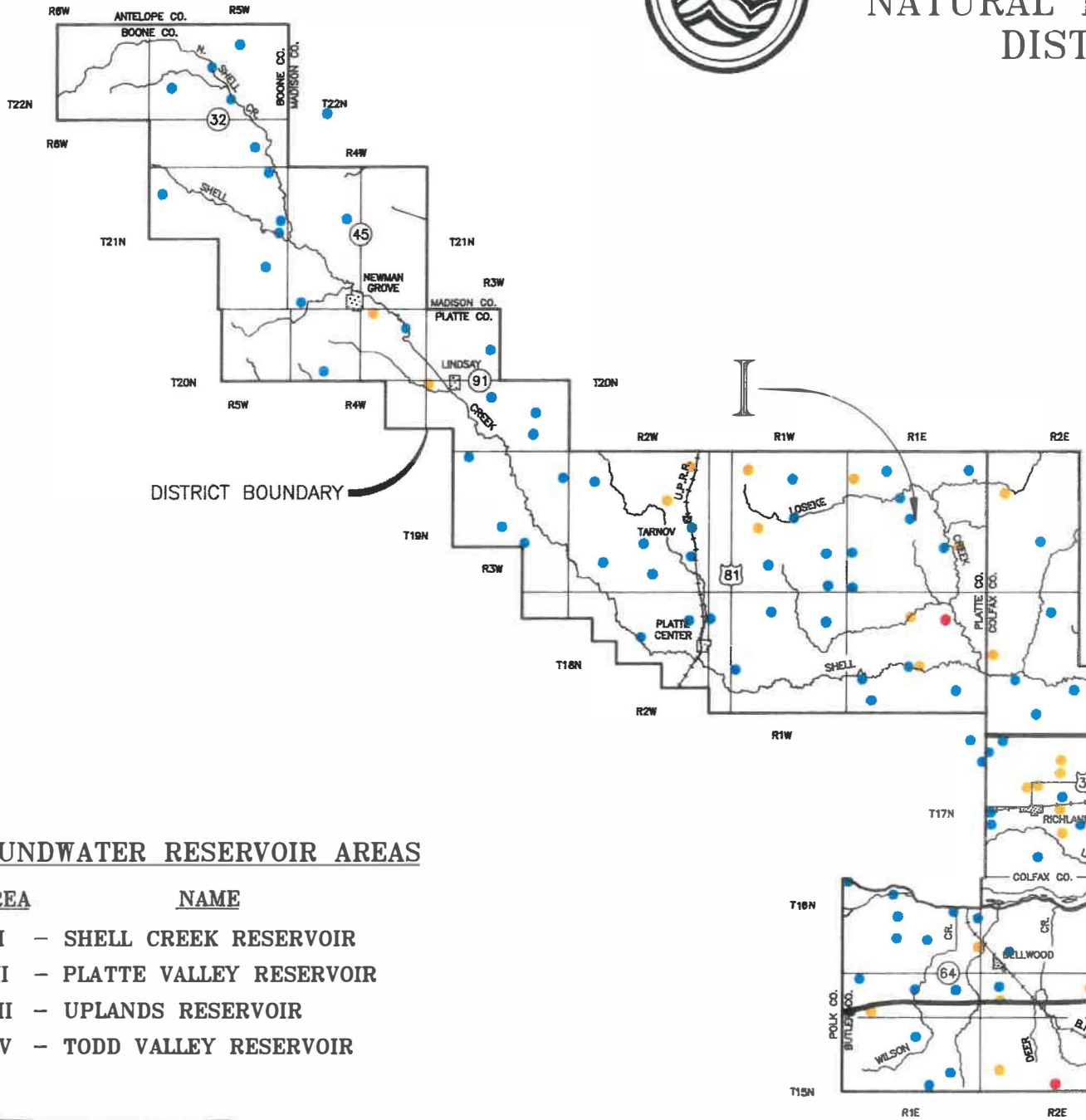
EXPLANATION
 RANGE IN CONCENTRATION,
 IN MILLIGRAMS PER LITER



Map showing sulfate concentrations in water from Holocene and Pleistocene aquifers.

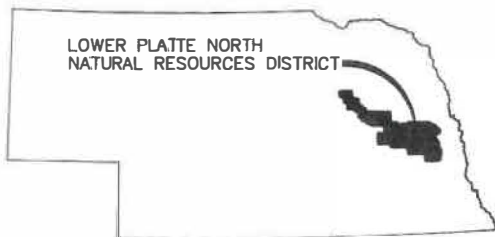


LOWER PLATTE NATURAL RESOURCES DISTRICT

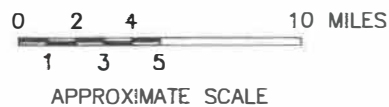


GROUNDWATER RESERVOIR AREAS

<u>AREA</u>	<u>NAME</u>
I	SHELL CREEK RESERVOIR
II	PLATTE VALLEY RESERVOIR
III	UPLANDS RESERVOIR
IV	TODD VALLEY RESERVOIR



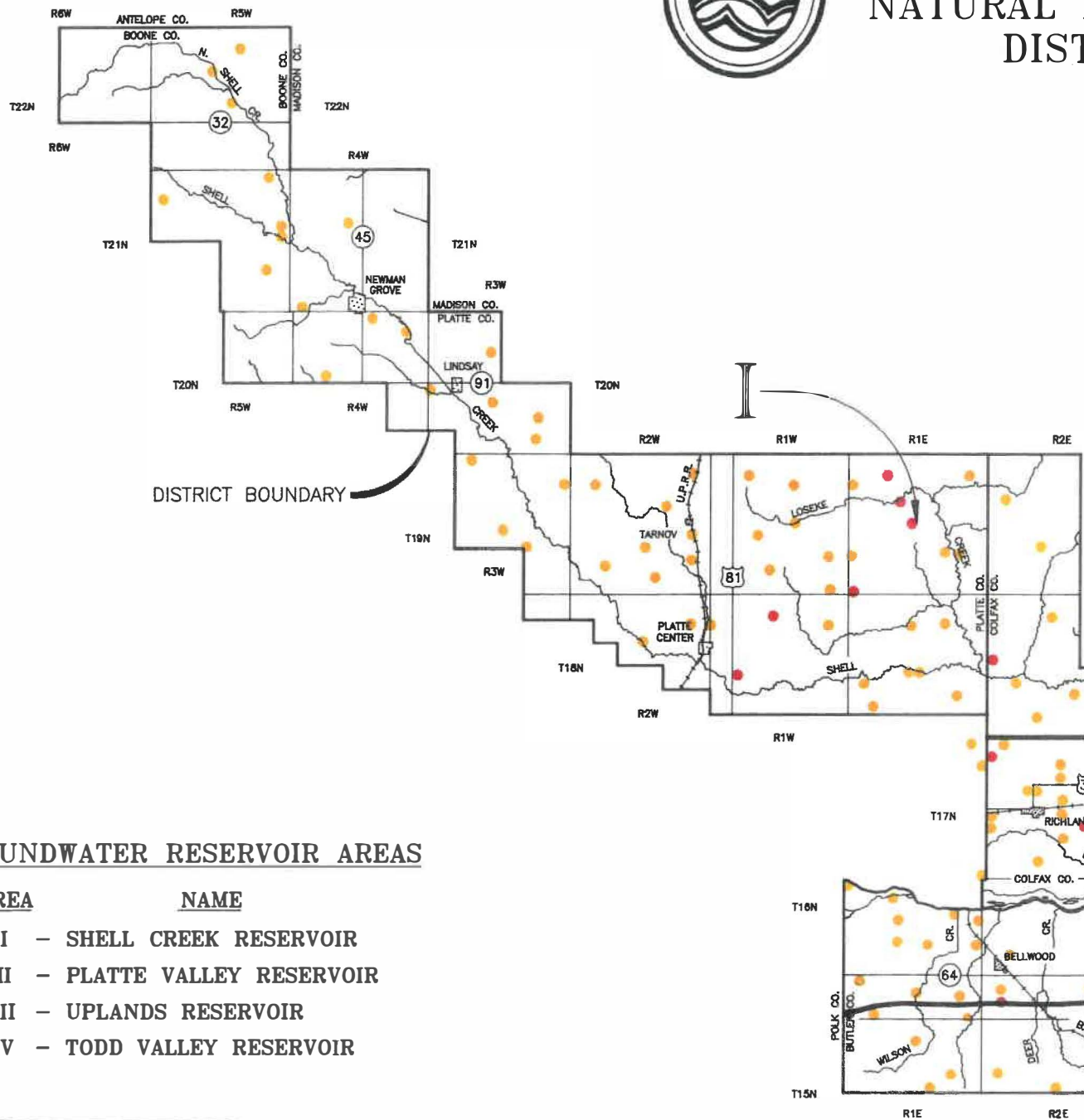
LOCATION



Source: 1987
Lower
Nebras
UN-L

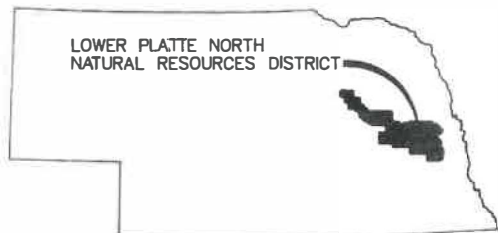


LOWER PLATTE NATURAL RESOURCES DISTRICT

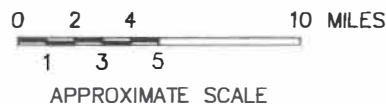


GROUNDWATER RESERVOIR AREAS

AREA	NAME
I	SHELL CREEK RESERVOIR
II	PLATTE VALLEY RESERVOIR
III	UPLANDS RESERVOIR
IV	TODD VALLEY RESERVOIR



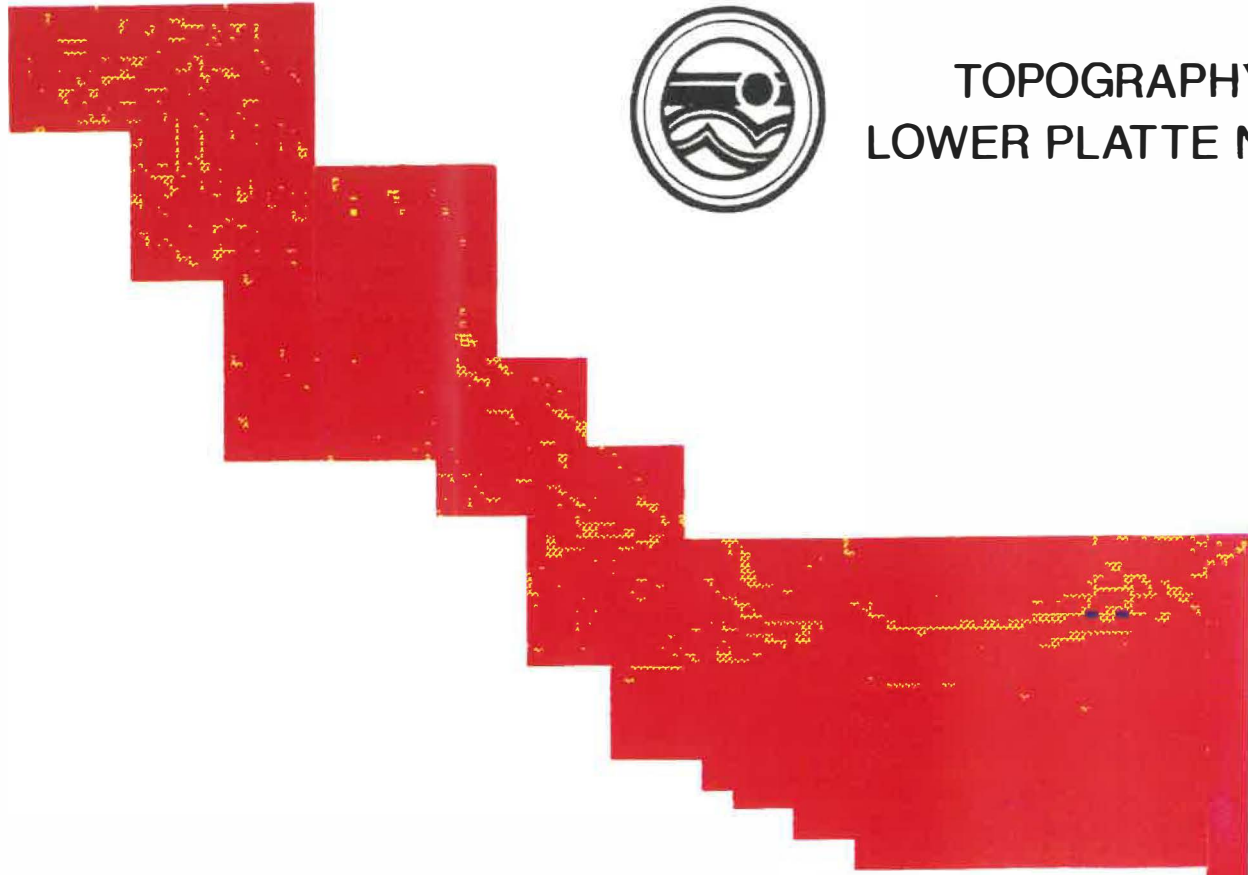
LOCATION



Source: Lower Platte

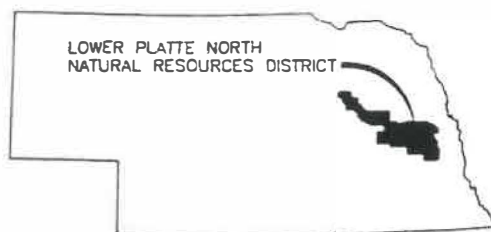


TOPOGRAPHY LOWER PLATTE N



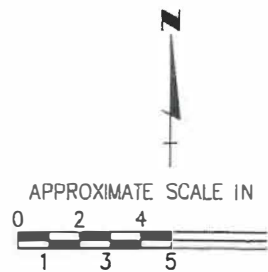
Ranges and Ratings for Topography (Aller et al., 1985).

<u>Range</u> <u>(% slope)</u>	<u>Rating</u>
0 - 2	10
3 - 6	9
7 - 12	5
13 - 18	3
18+	1



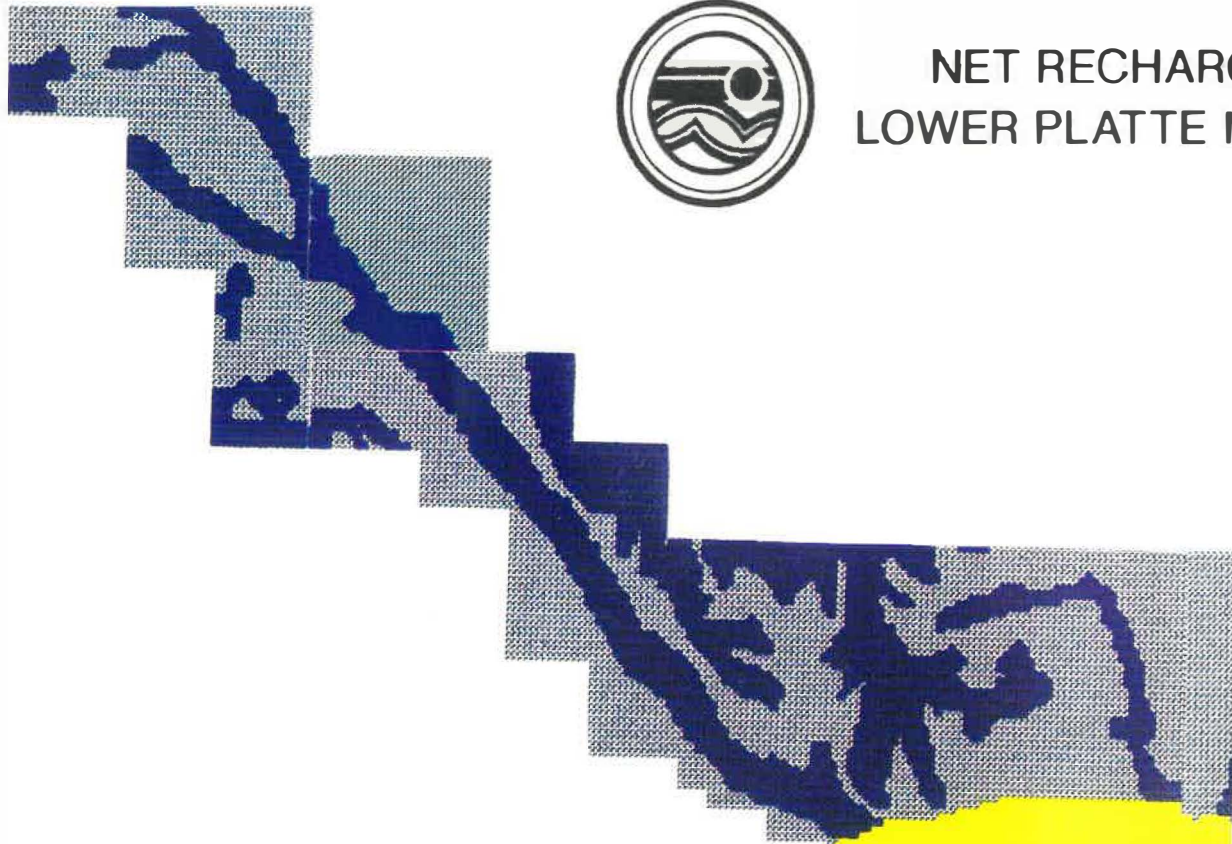
LOCATION

HWS
Consulting Group Inc.



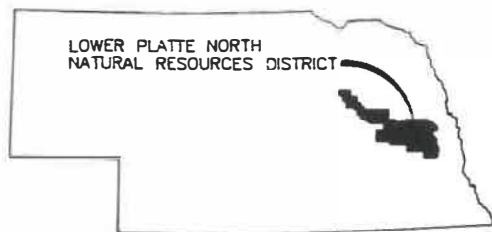
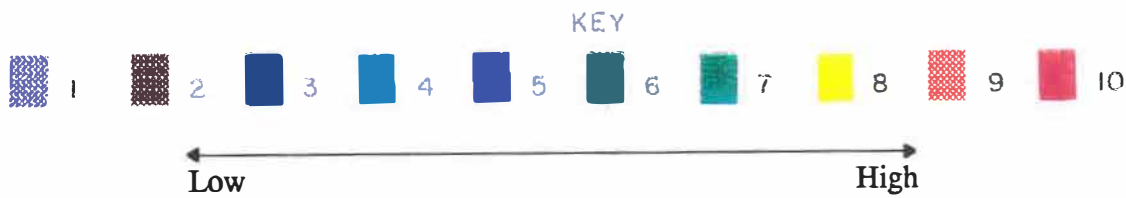


NET RECHARGE LOWER PLATTE M

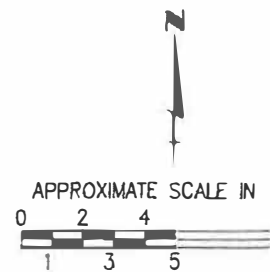


Ranges and Ratings for Net Recharge (Aller *et al.*, 1985).

<u>Range (feet)</u>	<u>Rating</u>
0 - 2	1
2 - 4	3
4 - 7	6
7 - 10	8
10+	9



LOCATION





SOILS LOWER PLATTE

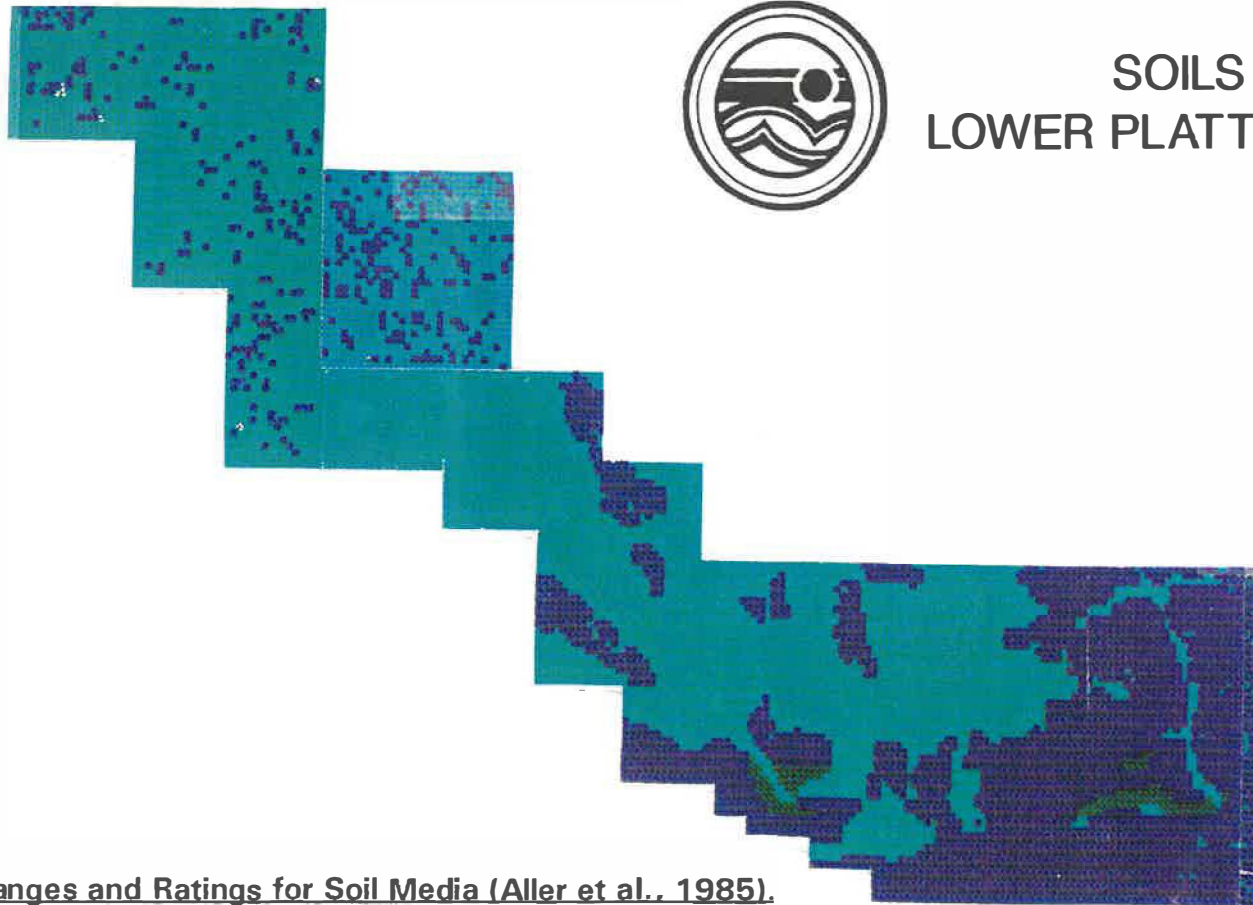


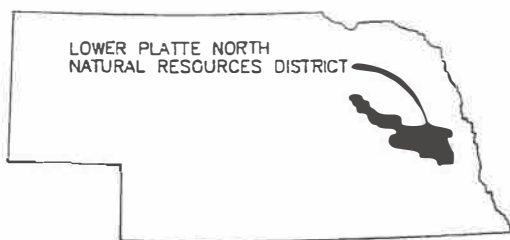
Table A-6. Ranges and Ratings for Soil Media (Aller et al., 1985).

<u>Range</u>	<u>Rating</u>
Thin or absent	10
Gravel	10
Sand	9
Peat	8
Shrinking and/or aggregated clay	7
Sandy loam	6
Loam	5
Silty loam*	4
Clay loam**	3
Muck	2
Nonshrinking and nonaggregated clay	1

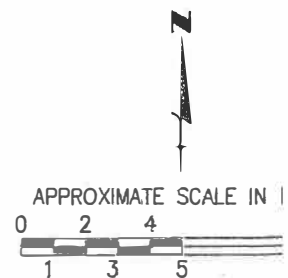
*Sandy clay loam and silt also were given a rating of 4.

**Silty clay, sandy clay, and silty clay loam also were given a rating of 3.

KEY



LOCATION



LOWER PLATTE NORTH
NATURAL RESOURCES

INTERMEDIATE UNSATURATED S LOWER PLATTE N



Assignment of Ratings for Vadose Zone.

Range	Rating
Clay	2
Silty clay, sandy clay, gravelly clay	3
Clayey silt	4
Silt	5
Sandy silt	6
Sand	7
Sand and gravel	8

Ranges and Ratings for Impact of Vadose Zone Media (Aller et al., 1985).

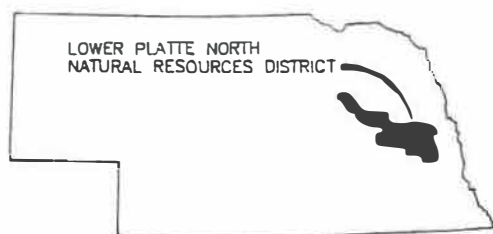
Range	Rating	Typical Rating
Silt/Clay	2 - 6	3
Shale	2 - 5	3
Limestone	2 - 7	6
Sandstone	4 - 8	6
Bedded limestone, sandstone, shale	4 - 8	6
Sand and gravel with significant silt and clay	4 - 8	6
Metamorphic/igneous	2 - 8	4
Sand and gravel	6 - 9	8
Basalt	2 - 10	9
Karst limestone	8 - 10	10

KEY



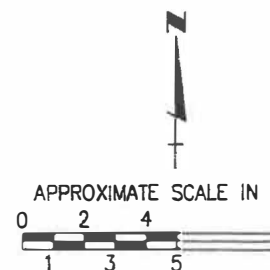
Thick

Thin



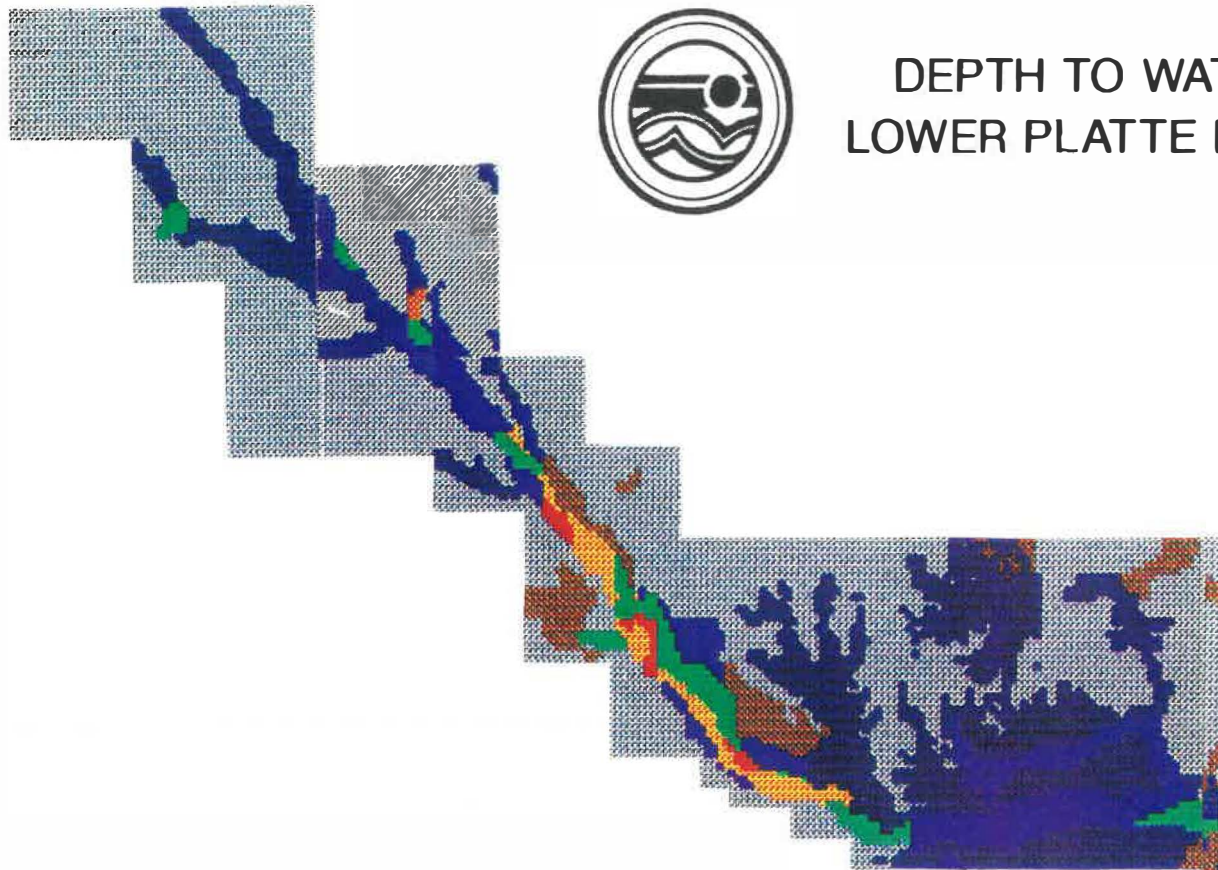
LOCATION

HWS
Consulting Group Inc.





DEPTH TO WATER LOWER PLATTE NORTH



Ranges and Ratings for Depth to Water (Aller et al., 1985).

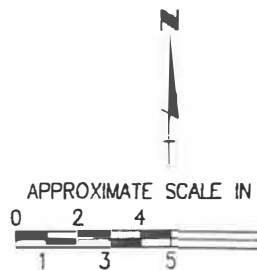
Range (feet)	Rating
0 - 5	10
5 - 15	9
15 - 30	7
30 - 50	5
50 - 75	3
75 - 100	2
100+	1



LOWER PLATTE NORTH
NATURAL RESOURCES DISTRICT

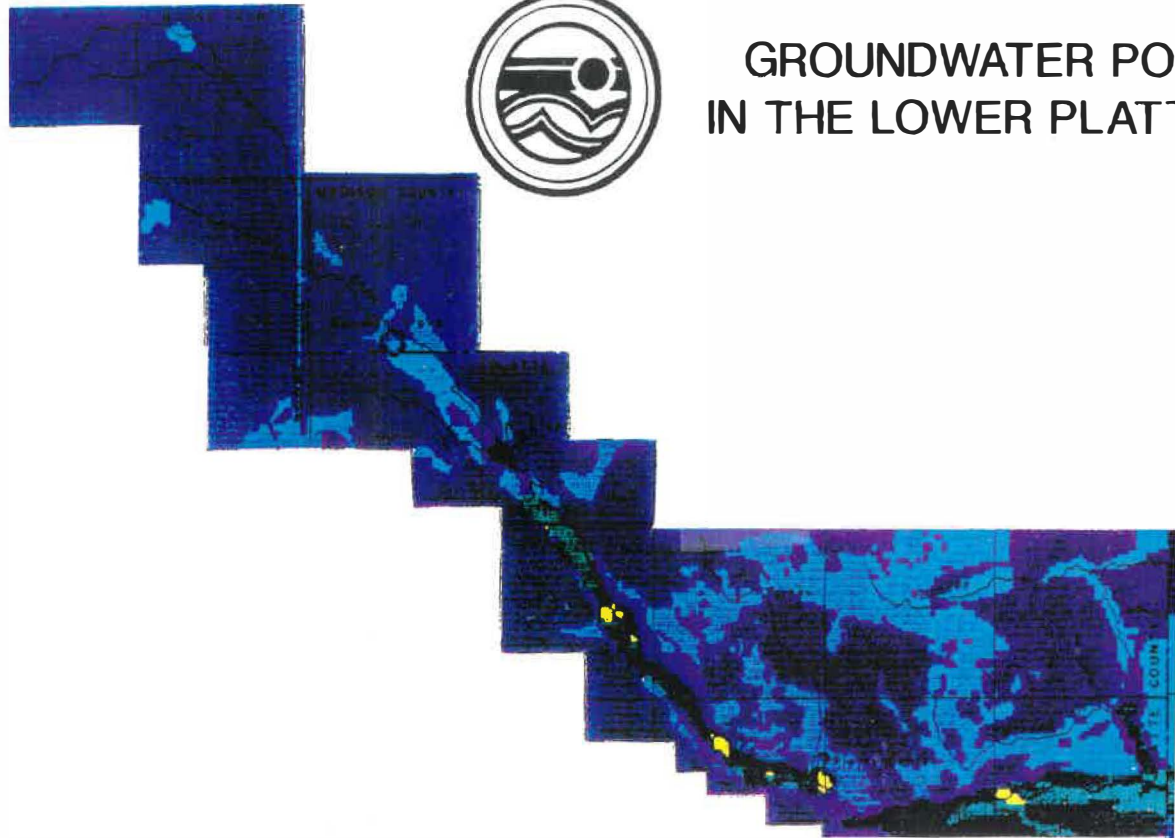
LOCATION

HWS
Consulting Group, Inc.

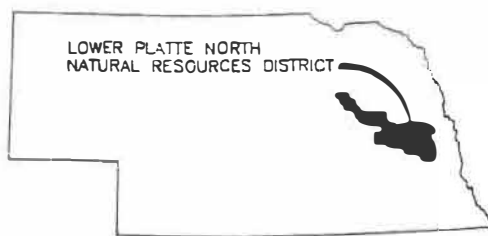
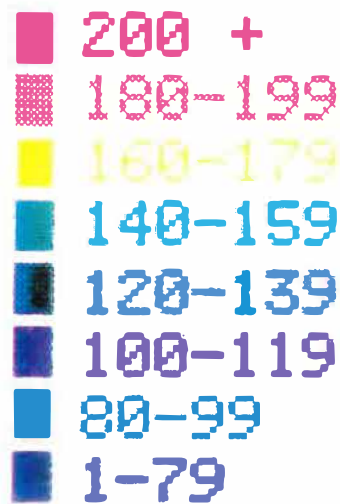




GROUNDWATER POTENTIAL IN THE LOWER PLATTE



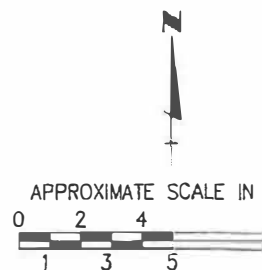
The DRASTIC Index is subdivided into eight ranges and each range is depicted by a different color. The warm colors, red, orange, and yellow, depict areas where the potential for contamination is highest. These are the areas with the highest DRASTIC Indices. The dark colors, royal blue, turquoise, and dark blue, portray areas least vulnerable to contamination and within these areas the corresponding DRASTIC Index is below 120. The greens represent the middle values between 120 and 159.



LOWER PLATTE NORTH
NATURAL RESOURCES DISTRICT

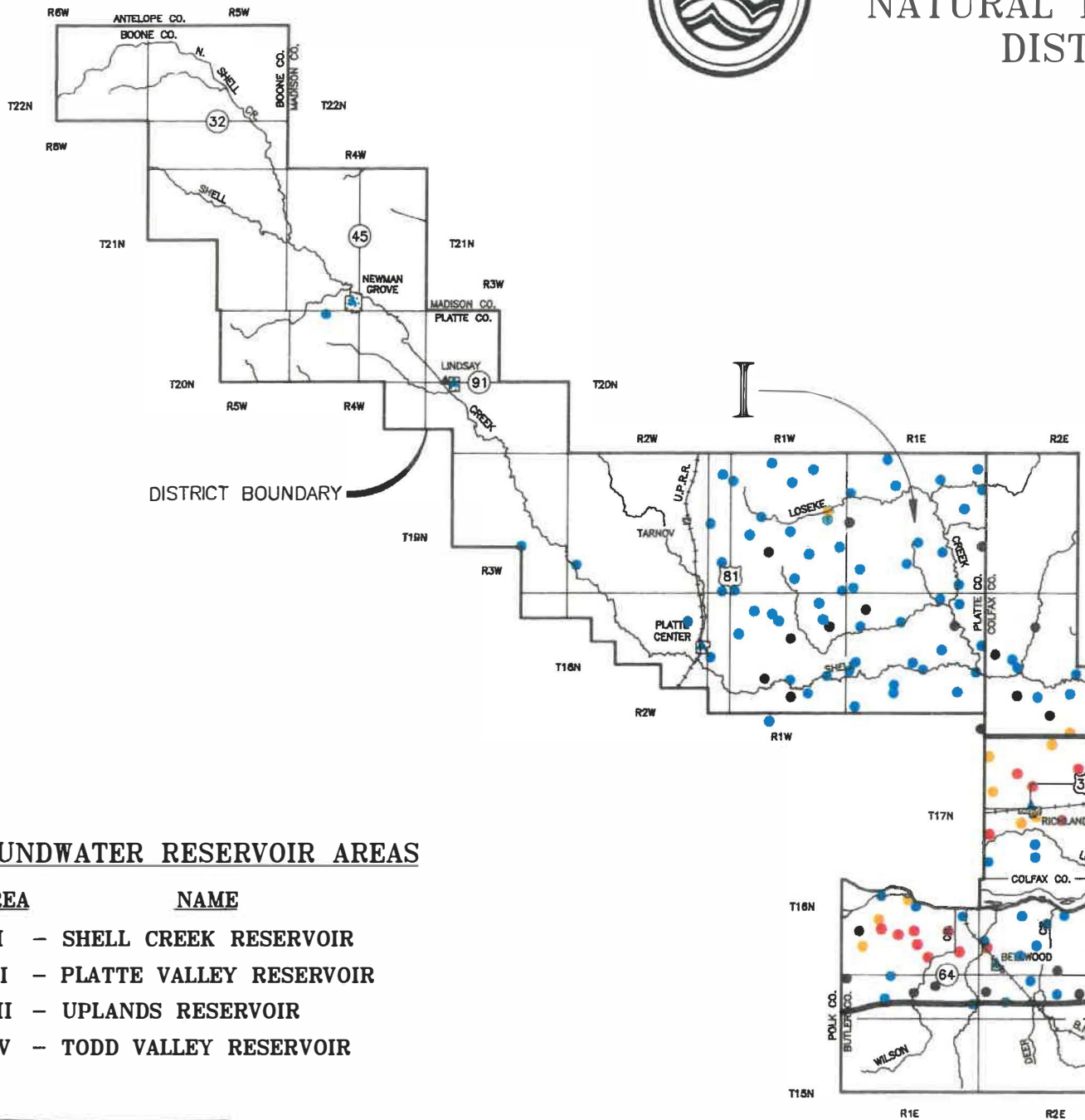
LOCATION

HWS
Consulting Group, Inc.



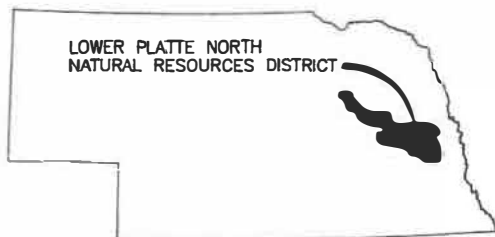


LOWER PLATTE NATURAL RESOURCES DISTRICT

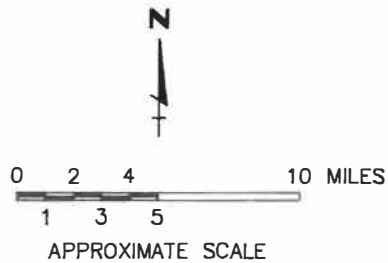


GROUNDWATER RESERVOIR AREAS

- | AREA | NAME |
|------|-------------------------|
| I | SHELL CREEK RESERVOIR |
| II | PLATTE VALLEY RESERVOIR |
| III | UPLANDS RESERVOIR |
| IV | TODD VALLEY RESERVOIR |



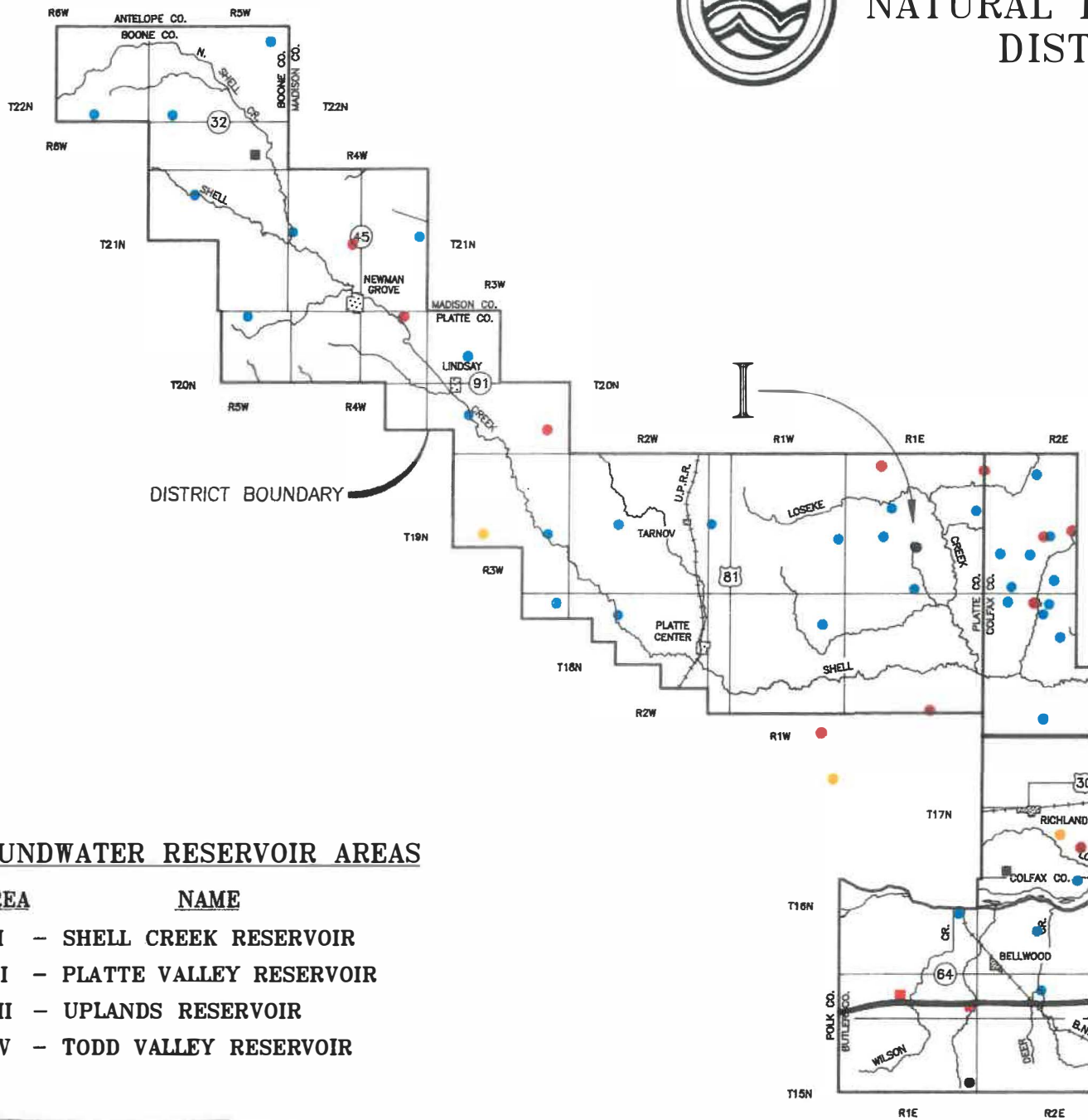
LOCATION



Source: Lower Platte
Nebraska
R.F. Spalding

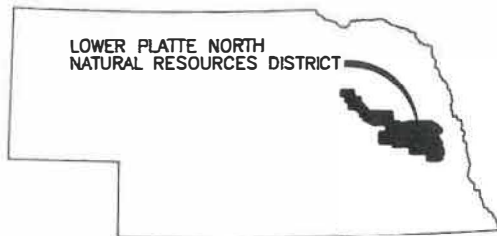


LOWER PLATTE
NATURAL RESOURCES
DISTRICT

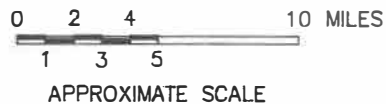


GROUNDWATER RESERVOIR AREAS

- | <u>AREA</u> | <u>NAME</u> |
|-------------|-------------------------|
| I | SHELL CREEK RESERVOIR |
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| III | UPLANDS RESERVOIR |
| IV | TODD VALLEY RESERVOIR |



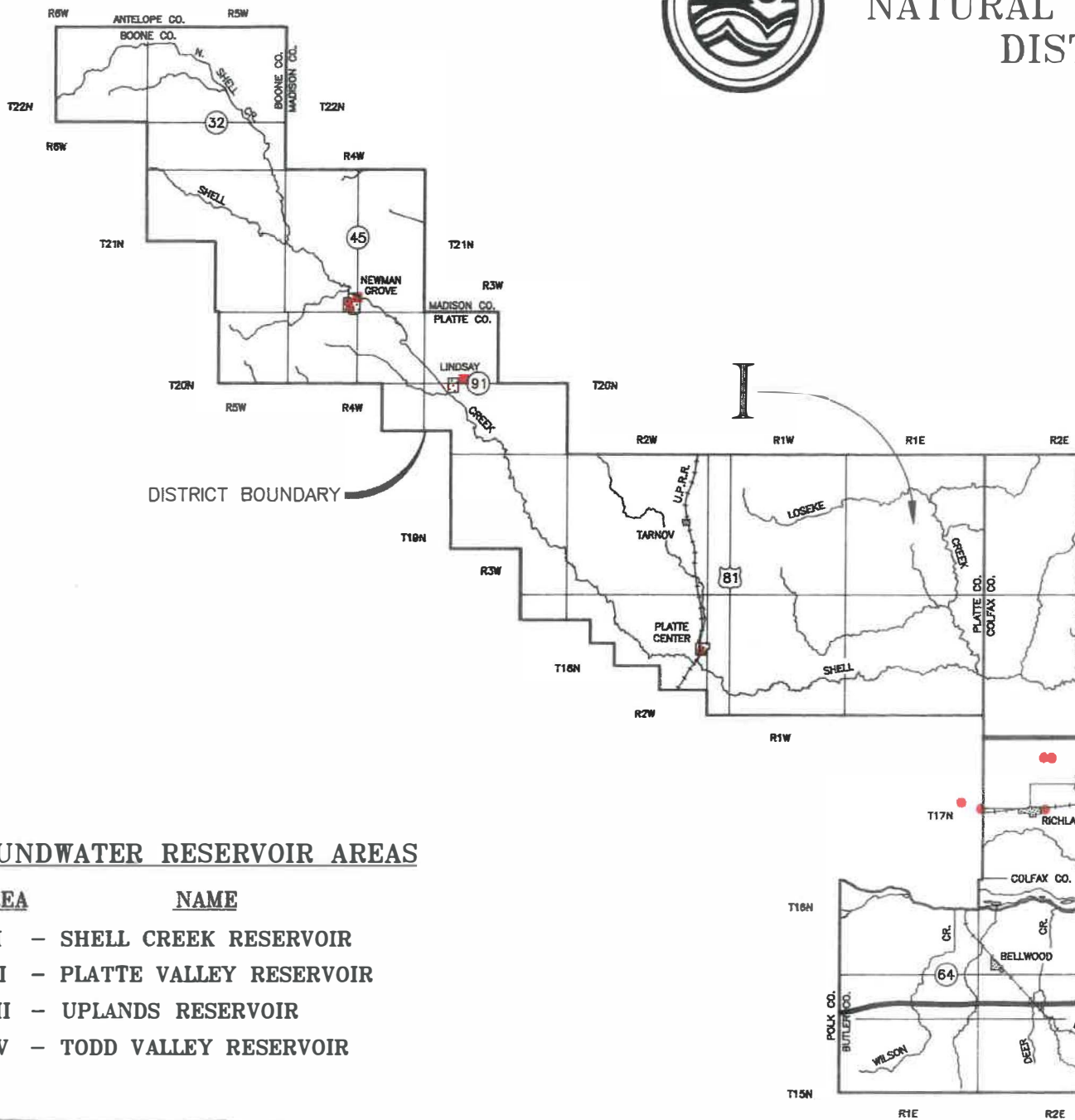
LOCATION



Source: Lower Platte
Nebraska
R.F. Spahr

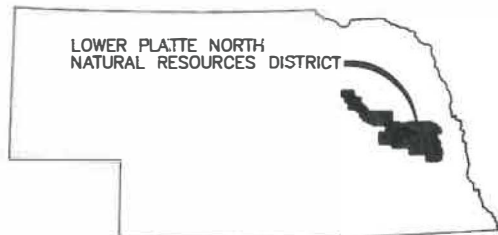


LOWER PLATTE
NATURAL RESOURCES
DISTRICT

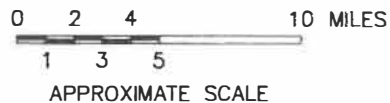


GROUNDWATER RESERVOIR AREAS

<u>AREA</u>	<u>NAME</u>
I	SHELL CREEK RESERVOIR
II	PLATTE VALLEY RESERVOIR
III	UPLANDS RESERVOIR
IV	TODD VALLEY RESERVOIR



LOCATION

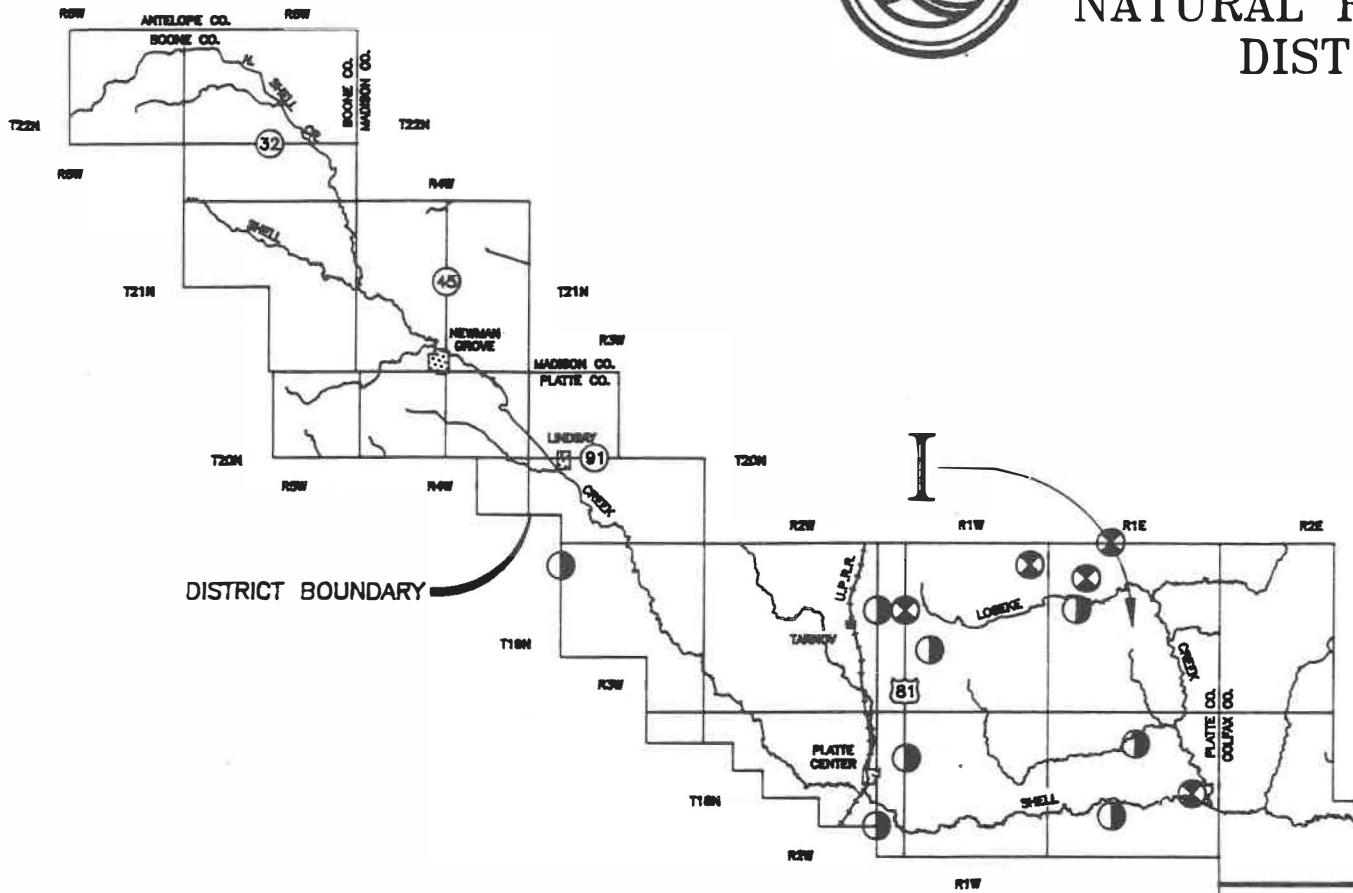


APPROXIMATE SCALE

Source: Nebraska []
Nebraska []
U.S. Enviro



LOWER PLATE
NATURAL RESOURCES
DISTRICT

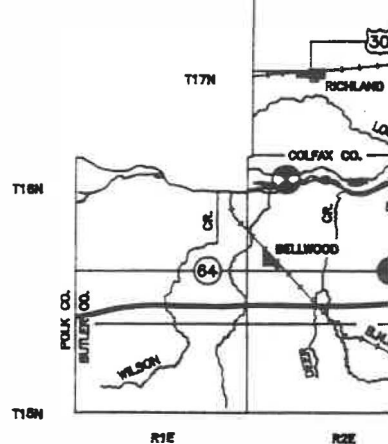
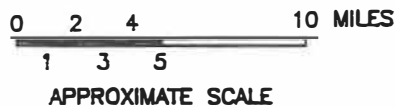


GROUNDWATER RESERVOIR AREAS

- | <u>AREA</u> | <u>NAME</u> |
|-------------|-------------------------|
| I | SHELL CREEK RESERVOIR |
| II | PLATTE VALLEY RESERVOIR |
| III | UPLANDS RESERVOIR |
| IV | TODD VALLEY RESERVOIR |

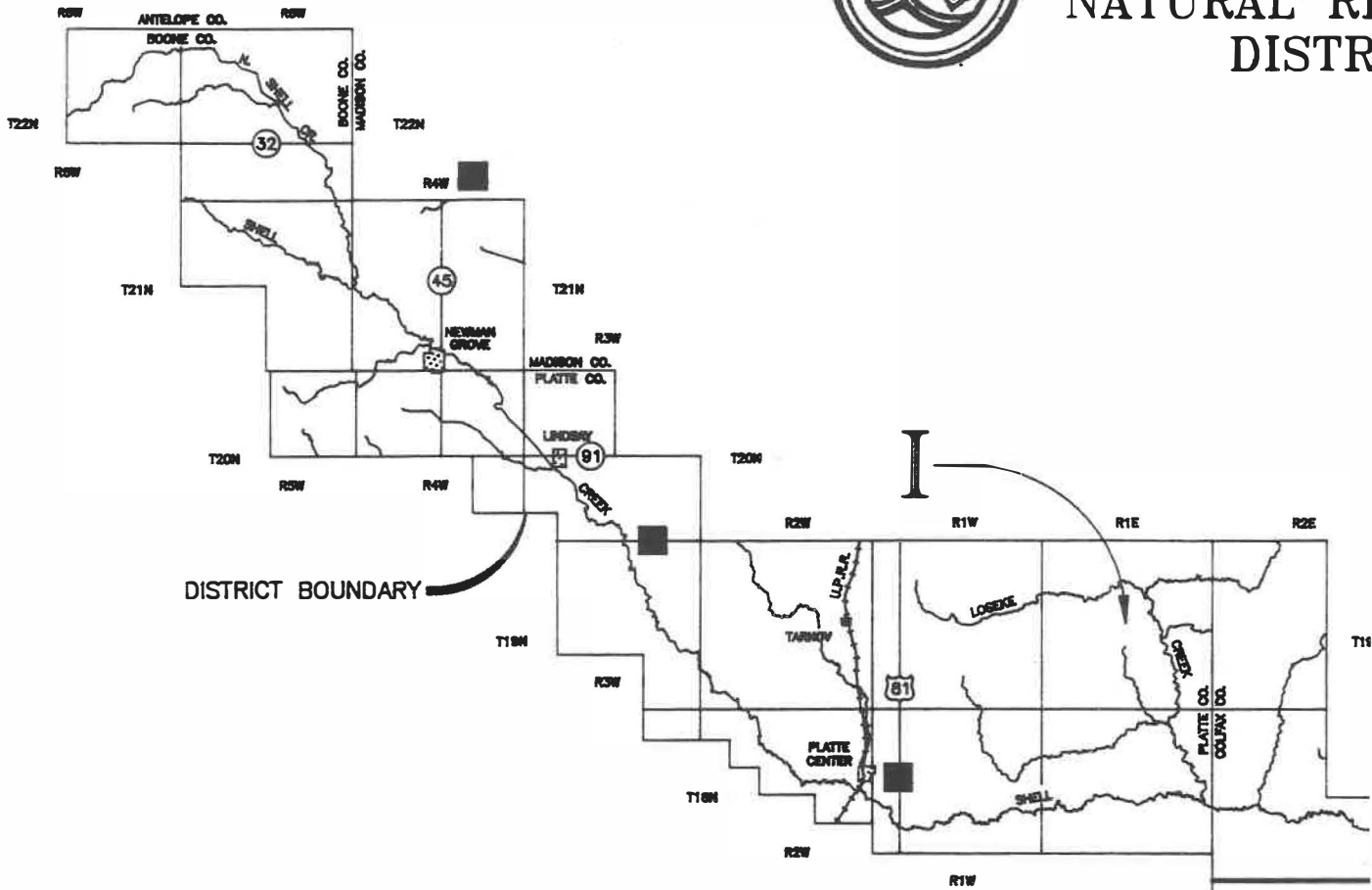


LOCATION





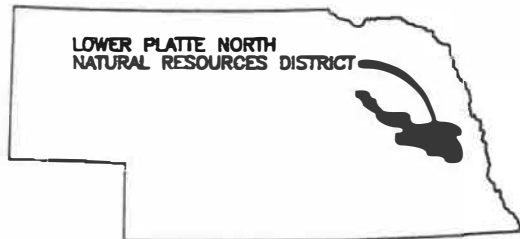
LOWER PLATTE NATURAL RESOURCES DISTRICT



DISTRICT BOUNDARY

GROUNDWATER RESERVOIR AREAS

- | <u>AREA</u> | <u>NAME</u> |
|-------------|-------------------------|
| I | SHELL CREEK RESERVOIR |
| II | PLATTE VALLEY RESERVOIR |
| III | UPLANDS RESERVOIR |
| IV | TODD VALLEY RESERVOIR |



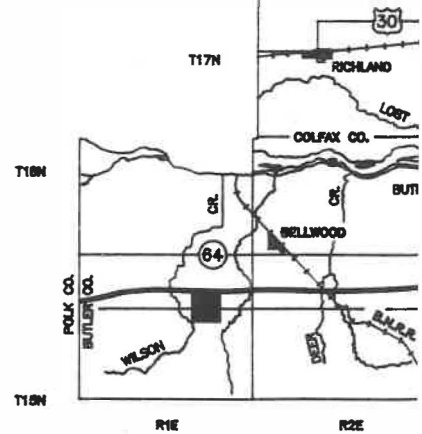
LOCATION

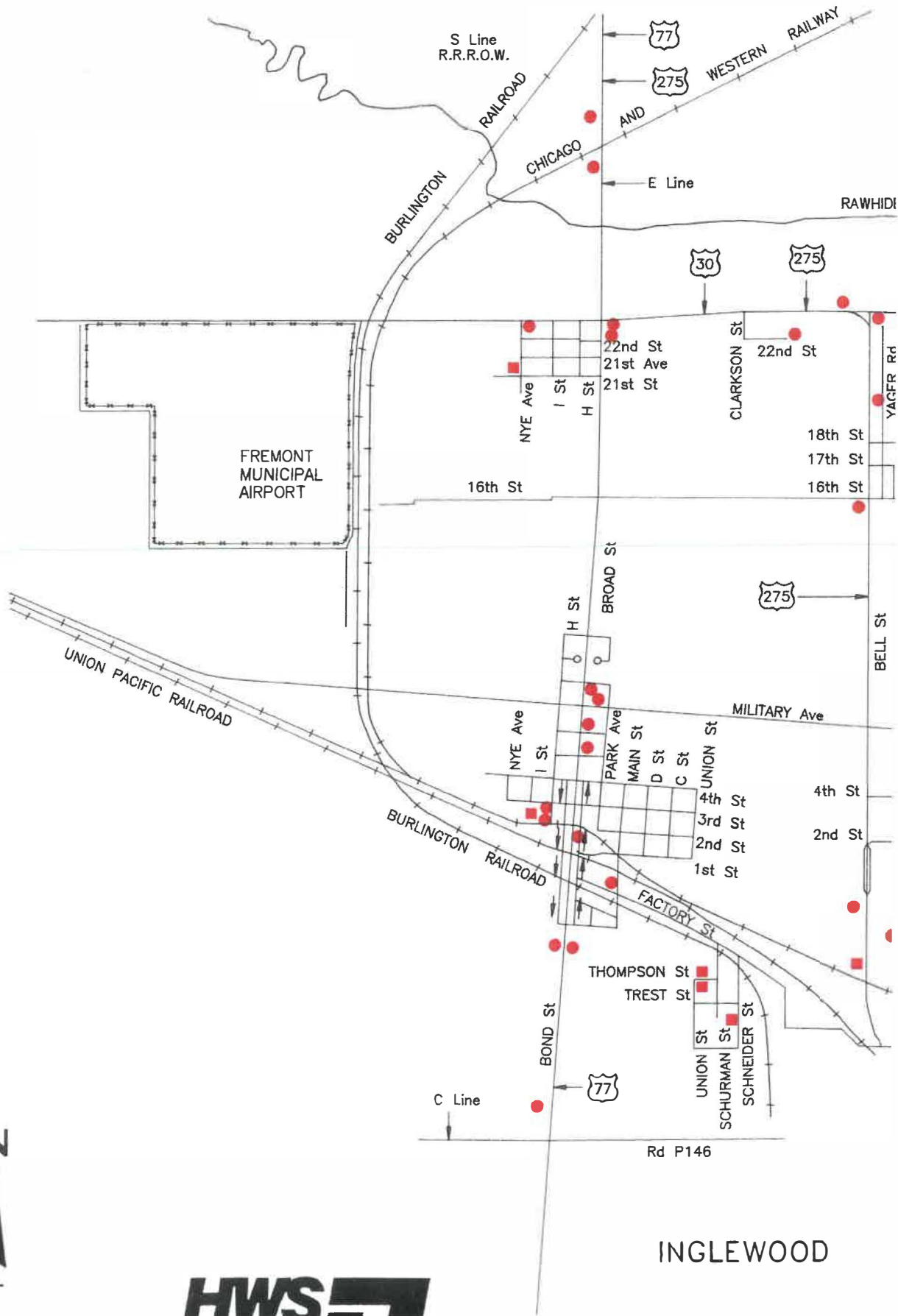


0 2 4 10 MILES

1 3 5

APPROXIMATE SCALE





NOT TO SCALE



INGLEWOOD

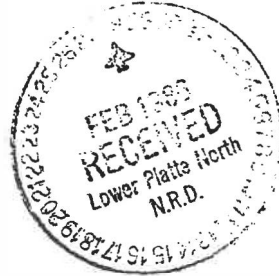
APPENDIX B



STATE OF NEBRASKA

ROBERT KERREY • GOVERNOR • J. MICHAEL JESS • DIRECTOR

February 27, 1986



IN REPLY REFER TO:

Richard Sabata, Chairman
Lower Platte North NRD
P. O. Box 258
David City, Nebraska 68632

Dear Rich,

Along with four other state agencies, Lee Becker and I have reviewed your Board's Ground Water Management Plan. I am generally impressed with it and believe it should be approved. This letter is my approval.

Copies of the various agency review comments are enclosed for your reference and use. As for me, several of Dayle Williamson's comments echo my thoughts. To a degree, several items in Part VIII of the plan are vague. What significance should area residents see in relating three management planning areas to the numerous provisions narrated in Part VIII?

Your Board's plan is one of the most ambitious ones I have reviewed. You have my support and a wish for "good luck" in carrying out its provisions.

Sincerely,

DEPARTMENT OF WATER RESOURCES

J. Michael Jess
Director

JMJ:ch

Enclosures (4)

cc: Gordon Kissel

cc/enc: Jack Daniel

Vince Dreeszen

Dennis Grams

Dayle Williamson



University of
Nebraska
Lincoln

Institute of Agriculture and Natural Resources

Conservation and Survey Division
113 Nebraska Hall
901 North 17th Street
Lincoln, NE 68588-0517
Telephone (402) 472-3471



Geological and Natural Resources Surveys



DATE: February 19, 1986

TO: Lee Becker
Nebraska Department of Water Resources

FROM: Bob Kuzelka *Bob Kuzelka*

RE: Review of the Lower Platte North NRD Groundwater Management Plan

The rationale for setting a goal time frame of the "foreseeable future" which is neither finite or infinite was a lack of "data base information." For this plan to be acceptable, the district must identify when such a time frame will be set. They do not do this. On page 119 in the items 1.3 and 1.4 they approach such a point, but do not commit themselves to setting a time frame. Aside from this major problem the policy section of the report is quite comprehensive and well thought out.

A major technical problem with this plan is the definition of what is the district's principal aquifer and whether or not the Dakota is part of it. The principal aquifer can be defined as the district wants, however it must be consistent. Well yield is not a meaningful basis for determining how much water can be taken from an aquifer. It is a site specific parameter. The Plan confuses well yield with other hydrogeologic parameters. Transmissivity and saturated thickness are more useful as regional parameters. The discussion on pages 65 and 66 under section c makes medical statements on cancer causes and comments on the correlation between nitrate levels and pesticides and herbicides without references to information sources. Such sources should be cited.

The plan divides the NRD into three potential management areas. This concept is not developed nor even referenced in the policy section of the plan.



STATE OF NEBRASKA

ROBERT KERREY • GOVERNOR • GREGG F. WRIGHT, M.D., M.Ed. • DIRECTOR
Water & Waste Water Section 402 471-2541

February 13, 1986

Mr. H. Lee Becker, P.E.
State Hydrologist
Dept. of Water Resources
P.O. Box 94676
Lincoln, NE 68509



Dear Lee:

The Groundwater Management Plan for the Lower Platte North Natural Resources District has been reviewed. The following comments are offered for your consideration:

1. Groundwater contamination resulting from manufacturing and commercial activities have adversely affected the municipal wells in Lindsay, Bruno, Morse Bluff, and Mead. Contamination sources involve acid waste disposal, petroleum waste, volatile organic chemical, and nitrate fertilizer handling. It should be recognized that similar situations could occur in any community that permits incompatible land uses to encroach on protected well locations.
2. It is our understanding that the Department of Defense plans a groundwater investigation in an area that might have been affected by storage operations south and east of Mead. It is possible the contamination from this area could influence the quality of water used by the City of Lincoln as a source of supply.

Thank you for the opportunity of commenting on this plan.

Sincerely,

Jack L. Daniel, Director
Env. Health & Hsng. Surveillance

JLD/cvw



STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

301 CENTENNIAL MALL SOUTH • P.O. BOX 94876 • LINCOLN, NEBRASKA 68509-4876 • PHONE (402)471-2081

February 13, 1986

Mr. H. Lee Becker
State Hydrologist
Department of Water Resources
P.O. Box 94676
Lincoln, Nebraska 68509-4676



RECEIVED

FEB 14 1986

DEPARTMENT OF
WATER RESOURCES

Dear Lee:

We have completed our review of the Lower Platte North Groundwater Management Plan, 1985. We believe the plan ought to be approved by the Department of Water Resources. For the most part the plan is quite well done. Two particular strengths lie in the thoroughness of the information about the groundwater supply and the extent of the commitment made by the NRD for future activity. However, we do believe the plan is subject to improvement. Some suggestions are noted below.

1. The plan could address the items required by statute in a more thorough manner.

The plan makes at least some reference to each of the 15 items required by the statute, but treatment of a few of the items is minimal. Included is information regarding item (5), relating to crop water needs; item (9), as it relates to supply augmentation programs; item (10), relating to the availability of supplemental water supplies; item (11), concerning the opportunities to integrate and coordinate different water sources; and item (15), relating to the relative economic values of different groundwater uses. However, we believe the coverage provided is sufficient for approval of the plan at this point, especially considering the fact that no groundwater management or control areas are now proposed.

The manner in which the groundwater reservoir life goal is stated is confusing. The terms "perpetual" and "foreseeable future" are both used in the goal. The narrative portions of the plan suggest that the district may not have intended a goal of perpetuity and also that it intends, with additional data collection, to eventually establish a goal for a finite period of time. Since the district seems to place more importance on the "foreseeable future" part of the goal for now, the plan could conceivably be disapproved as being inconsistent with statutory requirements. Our opinion is that the manner in which the goal has been structured to include the term "perpetual" makes it statutorily sufficient, even if somewhat confusing.

2. In some instances the plan could better project future problems and better define programs or actions to deal with the problems.

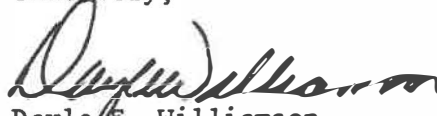
The plan mentions one source of information on potential quantity problems, but rejects it as being inadequate. However, this information and other projections indicate there is a potential problem. The NRD has outlined a system for identifying problems in the future, but they do not indicate how they would deal with those problems.

The plan does not specify any criteria, or "trigger mechanisms" for consideration of management areas. It has numerous proposed programs to accomplish the goals and policies, but many of these programs are too general to show what is intended. Several work items hint at promotion of fertilizer management practices, but this topic isn't specifically addressed. There also are many other work items that say they will "develop" or "study" something. Some effort should be made to assess the cost and assign priorities to these activities, because some of the studies will be very expensive.

In spite of missing some of the key items mentioned above, the district has done a thorough job of identifying action items for the future. The implementation time schedule on pages 124 and 125 is an excellent idea in that it can produce a definite district commitment to the goals and objectives set forth. Although some of the individual action items are not sufficiently specific, the detail necessary will be added in the near future if the district maintains its stated time table.

We will be happy to meet with district officials or staff if they would like to discuss any of the above comments. If you have any questions, please let us know.

Sincerely,



Dayle E. Williamson
Director of Natural Resources



STATE OF NEBRASKA

ROBERT KERREY • GOVERNOR • DENNIS GRAMS • DIRECTOR

February 12, 1986



RECEIVED

FEB 13 1986

DEPARTMENT OF
WATER RESOURCES

Mr. Lee Becker, State Hydrologist
Department of Water Resources
P.O. Box 94676
Lincoln, NE 68509

Dear Mr. Becker:

The Department has reviewed the Lower Platte North Natural Resources District Ground Water Management Plan and offers the following comments.

The reference "Conservation and Survey Division, 1980" listed in preparation of Figure 20 is titled in the list of references (page 126) as "General Soil Map of Fremont Area - Nebraska." Is that correct? Also, the reference "Freeze and Cherry, 1979" mentioned on page 49 needs to be added to the reference list.

The last paragraph under section C. Groundwater Quality states the need for ground water quality monitoring at the UNL experimental station at Mead because of the potential for contamination of well fields adjacent to the Platte River. However, the potential threat to wells along the Platte River is not as great as that to wells closer to or adjacent to the Field Lab. A map showing the location of the Field Lab with respect to municipal supply wells in the area would be helpful.

If you have any questions regarding these comments, please contact Gale Hutton, Water Quality Division Chief.

Sincerely,

Dennis Grams, P.E.

BR/krs



DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF PUBLIC UTILITIES

December 18, 1985

Mr. Raymond L. Hartung
General Manager
Lower Platte North Natural Resources District
North Hiway 15
David City, NE 68632

re: Lower Platte North NRD -
Groundwater Management Plan

Dear Mr. Hartung:

The Lincoln Water System greatly appreciates having had the opportunity to review your draft Groundwater Management Plan. The Lincoln Water System concurs with your District's foresight and desire for protecting Nebraska's groundwater by setting forth a goal in your management plan which would provide for a perpetual groundwater reservoir, addressing both quantity and quality of this natural resource.

As a significant user of groundwater within your District, the Lincoln Water System would offer the following comments, questions, and/or concerns:

1. If conditions arise necessitating the implementation of a groundwater control area, to whom would fall the responsibility of setting the limits on water use for each entity in a control area? What types of priorities will be set forth for water use within those control areas? Recommend that the "municipal water use" should have the same priority as "domestic water use".

2. We are interested in working with not only the Lower Platte North but also the Lower Platte South and Papio Districts in developing a systematic meeting process on groundwater management. A coordinated groundwater management and monitoring plan would provide us the necessary and pertinent data to assure that the existing groundwater reservoirs are being properly managed. One of the areas in which we would have an interest in working with the districts would be in setting up a monitoring well system. There are some monitoring wells in existence in our wellfields at the Ashland facility. We would be interested and willing to work with the NRD's, NRC, and USGS to:

- a) establish a systematic and properly spaced series of monitoring wells within our facility and throughout the District,
- b) accurately gauge groundwater levels,
- c) adequately monitor the quality of the groundwater throughout the Todd Valley.


4. We are interested in several technical aspects of the monitoring program or management system such as:

- a) What type of criteria will be implemented to monitor the management of the district?
- b) Adequate control of chemigation is necessary. Chemical application to surrounding farm ground should be monitored. A positive assurance that these chemicals are not being fed directly back into the groundwater reservoir can be provided through the use of a "reduced pressure backflow preventor"
- c) What type of production or irrigation well spacing might be recommended?
- d) What regulations will be implemented to determine:
 - 1) Proposed withdrawal allocations
 - 2) Type of measurement in the various irrigation wells
 - 3) Irrigation scheduling, etc. in groundwater control areas?

We will join with any municipality (such as Omaha or Fremont) or State agency that has an interest in working together for the common purpose of managing and protecting our most important natural resource in the state, water.

I thank you for the opportunity to review your plan and look forward to working with you in the future.

Sincerely,



Jerome G. Obrist
Chief Engineer of Water Works

RF/JGO/CSD323

cc: R. Erixson
B. Michaelson
R. Figard
G. DeFoil

LOWER PLATTE NORTH

Natural
Resources
District

North Highway 15, David City, Nebraska 68632 - Phone (402) 367-3103

January 21, 1986

Mr. Jerome G. Obrist
Chief Engineer of Water Works
Department of Public Utilities
County/City Building
Lincoln, NE 68508

RE: Lower Platte North NRD
Groundwater Management Plan

Dear Mr. Obrist:

I thank you for your letter concerning the Lower Platte North NRD Groundwater Management Plan, and shall attempt to answer your questions as best I am able.

(1) Who would set limits on water use in a control area?

The Lower Platte North NRD Board of Directors would set the limits with concurrence of the State Department of Water Resources. The district would also work with all involved.

(2) What types of priorities will be set forth for water use within those control areas?

We cannot answer this until the problems are known and the alternate type measures of control or management are determined.

Your recommendation concerning municipal and domestic water use priority would be given considerable discussion.

Mr. Jerome G. Obrist
January 21, 1986
Page 2

(3) Item number 2 of your letter expressed an interest in working together to; arrange systematic meetings on groundwater management; establish a systematic and properly spaced series of monitoring wells; accurate gauging of groundwater levels; and adequately monitor the quality of the groundwater in the Todd Valley.

The systematic meeting on groundwater is a necessity. I think the Lower Platte South NRD is presently arranging such an organizational meeting.

The staff is now in the process of establishing both a groundwater level and a groundwater quality monitoring network. Most of the groundwater level wells have been sampled for the past season. This coming summer will be the beginning of the water quality network sampling.

(4) What type of criteria will be implemented to monitor the management of the district (technical aspects of the monitoring program)?

We have been working with the U.S. Geological Survey and the Department of Environmental Control to develop the most equitable system that will provide meaningful results. Exact criteria or chemical constituents have not been determined.

(5) What type of production or irrigation well spacing might be recommended? and What regulations will be implemented?

I cannot answer these questions at the present time. A problem must first be defined, it cause determined and then corrective measures will be implemented.

I hope this provides some answers to your questions and look forward to your comments on program development. It is essential that all agencies and groups work together to develop proper programs.

Sincerely,


Raymond L. Hartung,
General Manager

C: Glen Johnson, LPSNRD
Jerry Wehrspann, Papio NRD

bp

APPENDIX C

DEFINITION OF GROUND WATER - RELATED TERMS

Aquifer - a water-bearing stratum of rock or sediment capable of yielding supplies of water.

Aquifer, Confined (or Artesian) - an aquifer overlain by a low permeability layer or layers, in which pressure head will force water to rise above the aquifer in which it is contained.

Aquifer, Perched - an aquifer containing unconfined ground water separated from an underlying body of ground water by an unsaturated zone.

Aquifer, Principal - the aquifer or combination of related aquifers in a given area which is the important economic source of water to wells--has been used, perhaps inaccurately, as synonymous with ground water reservoir.

Aquifer, Secondary - any aquifer other than the principal aquifer that is not the main source of water to wells in a given area e.g. includes perched aquifers, the Chadron Formation, the Dakota Sandstone in some areas, and several Paleozoic units.

Aquifer, Unconfined (or Water Table) - an aquifer in which the upper limit is the water table rather than an impermeable layer.

Bedrock - sequences of consolidated rock which outcrop at the surface or which underlie unconsolidated earth materials.

Chemigation - the application of crop nutrients or pesticides through an irrigation system.

Ground Water - water occupying voids within the saturated zone of a geologic stratum. This saturated zone is to be distinguished from an unsaturated or aeration zone where voids are filled with water and air.

Ground Water Model - a model designed to represent a simplified version of an actual, complex ground water system; may be mathematical or physical.

Hardness - the amount of certain dissolved minerals in water. Carbonate hardness refers to the hardness caused by calcium and magnesium bicarbonate; noncarbonate hardness is caused by calcium sulfate, calcium chloride, magnesium sulfate, and magnesium chloride in water.

Head - the height of a column of water, supported by static pressure, above a standard datum (usually mean sea level).

Hydraulic Conductivity - the capacity of a porous material to transmit water under a unit hydraulic gradient through a unit area. A measure of an aquifer's ability to transmit water.

Hydrograph - a graph which illustrates a specific hydrologic parameter such as water level, discharge, or velocity as a function of time.

Irrigation Efficiency - the rate at which water enters the soil under specified conditions.

Leaching - the downward transport of dissolved minerals in a soil by percolating water.

Loess - a wind deposited silt having little or no stratification.

Non-Point Source Pollution - pollution from diffuse sources where no one point of release can be identified.

Operator - shall mean that person having the most direct control over the day to day farming operation of the land concerned.

Parts Per Million (ppm) - a measure of the concentration of dissolved material in terms of a weight ratio. Roughly equivalent to milligrams per liter (mg/L).

Percolation - the downward movement of water through soil or other earth materials.

pH - a logarithmic measure of the relative acidity of water. Below 7 is increasingly acidic, 7 is neutral, and above 7 is increasingly alkaline (basic).

Piezometric (Potentiometric) Surface - the upper level to which a water level rises in a tightly cased well.

Point Source Pollution - pollution from discrete, identifiable locations which can usually be measured directly or otherwise quantified.

Pollution - the process of contaminating air, water, and land with impurities to a level that is undesirable.

Porosity - the proportion, commonly stated as a percentage, of the total volume of a rock material that consists of pore space or voids.

Precipitation - water in the form of hail, mist, rain, sleet, or snow that falls to the earth's surface.

Pressure Head - the height of a column of water which can be supported by the pressure at a given point.

Recovery of a Pumped Well - the rise of a water level in a well towards its pre-pumping elevation, which occurs after pumping ceases.

Reservoir (Ground Water) - for any given area the subsurface storage space between the water table and the base of the principal aquifer--includes one or more aquifers and any associated fine-grained material (usually excludes any perched aquifer).

Soil - the upper layer of earth which can be cultivated and in which plants grow.

Static Water Level - the water level in a well before pumping occurs.

Transmissivity - a rate which quantifies the ability of an aquifer to transmit water.

Unsaturated Zone - porous earth materials which contain both air and water in their pore spaces. Sometimes called the vadose zone.

Vadoze Zone - the unsaturated zone below the land surface and above the water table.

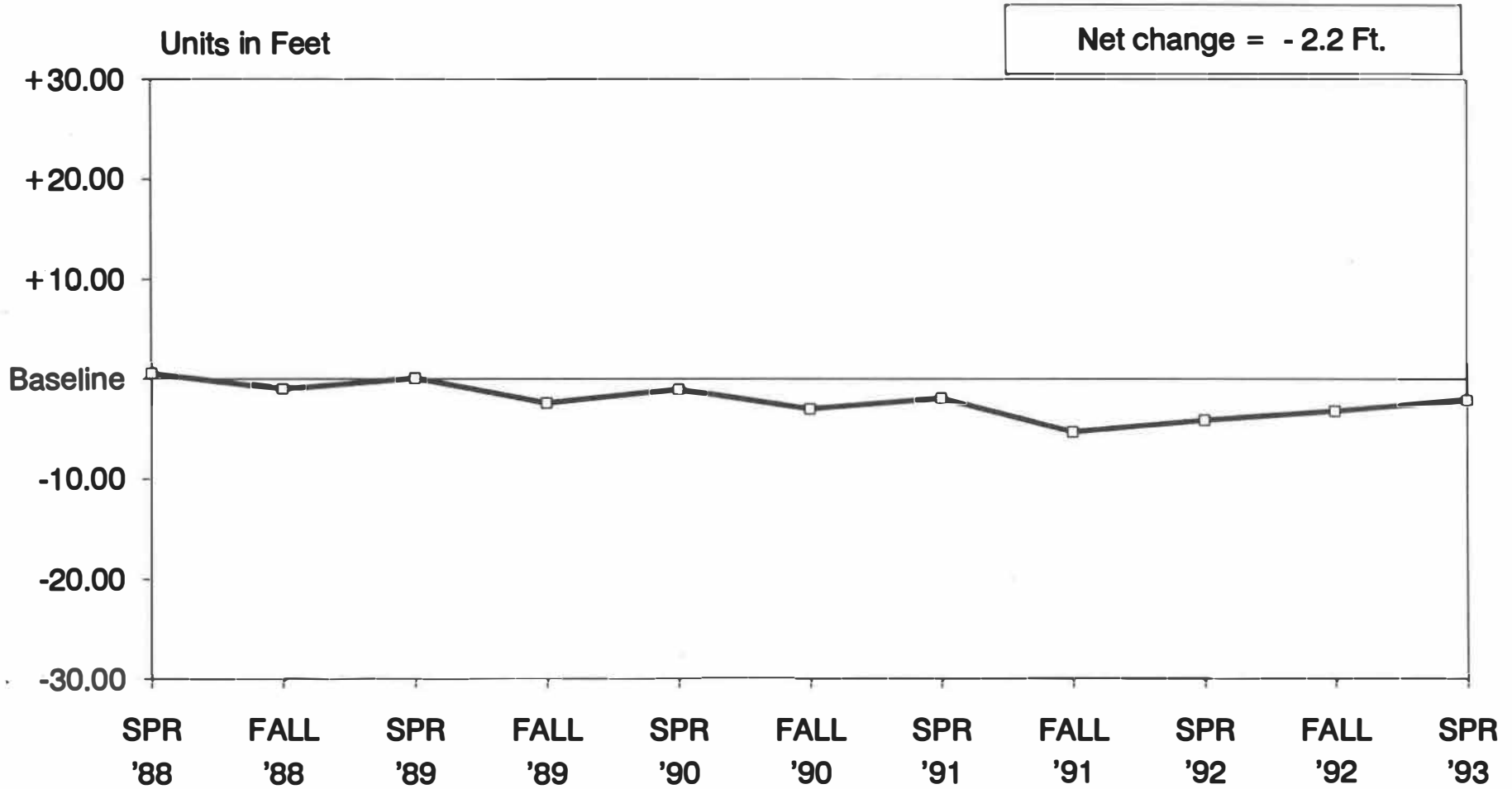
Water Table - the level below which the subsurface is saturated with water and at which the pressure head equals atmospheric pressure. A parameter associated with unconfined aquifers.

Zone of Saturation - porous earth materials, in which, all pore-spaces are filled with water.

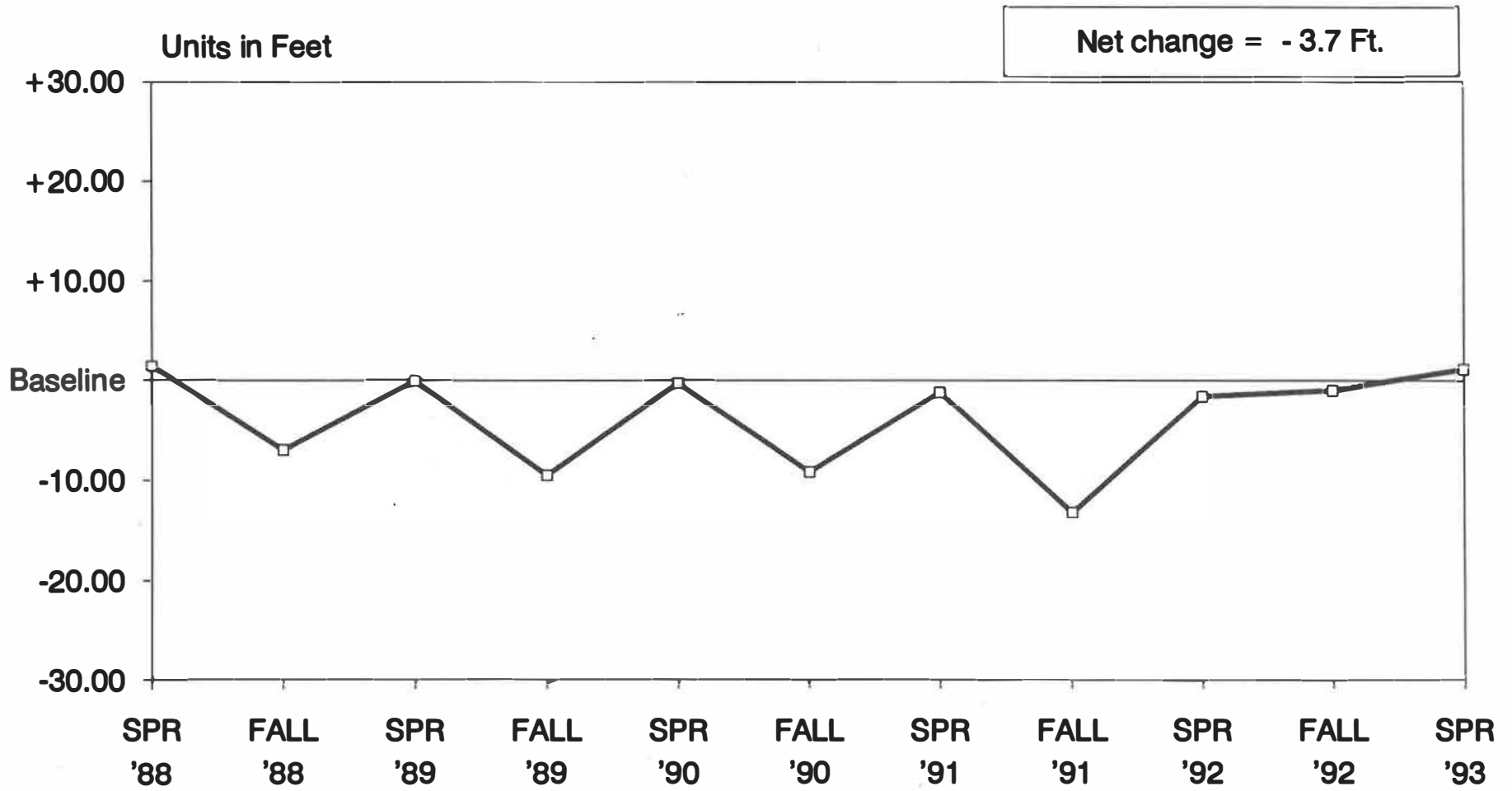
APPENDIX D

Changes in Water Levels Since 1987 (Baseline)

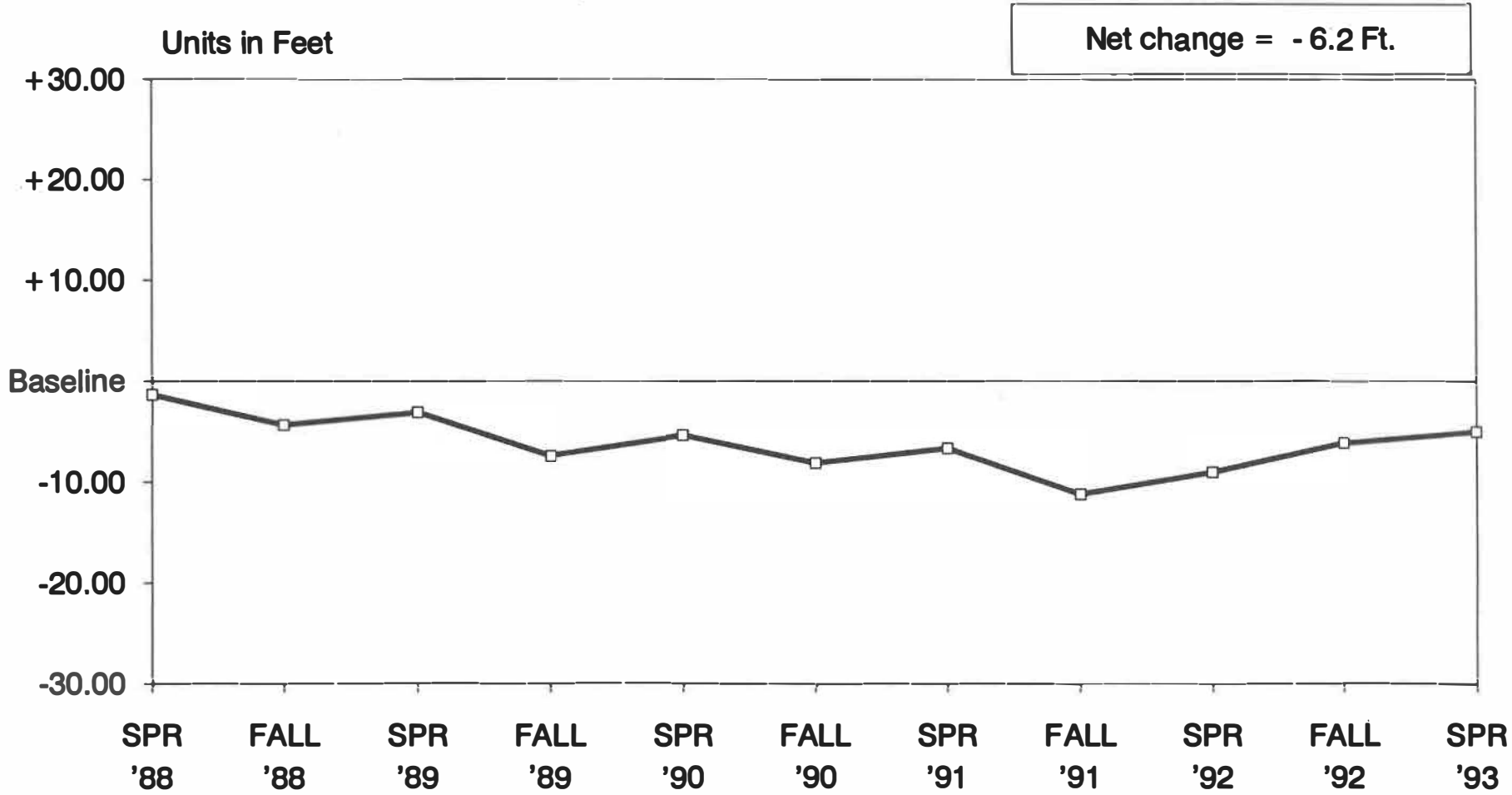
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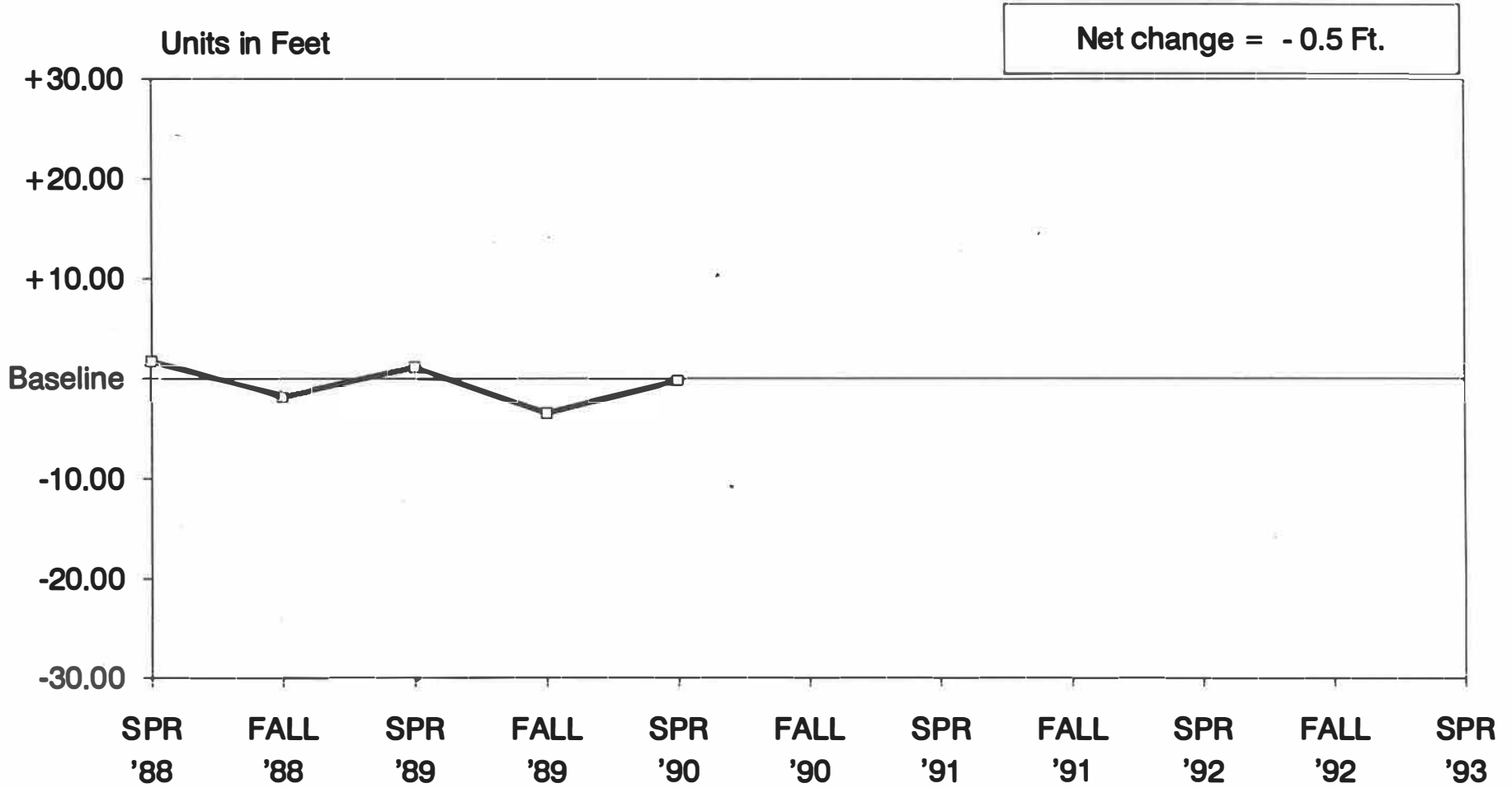
Changes in Water Levels Since 1987 (Baseline)
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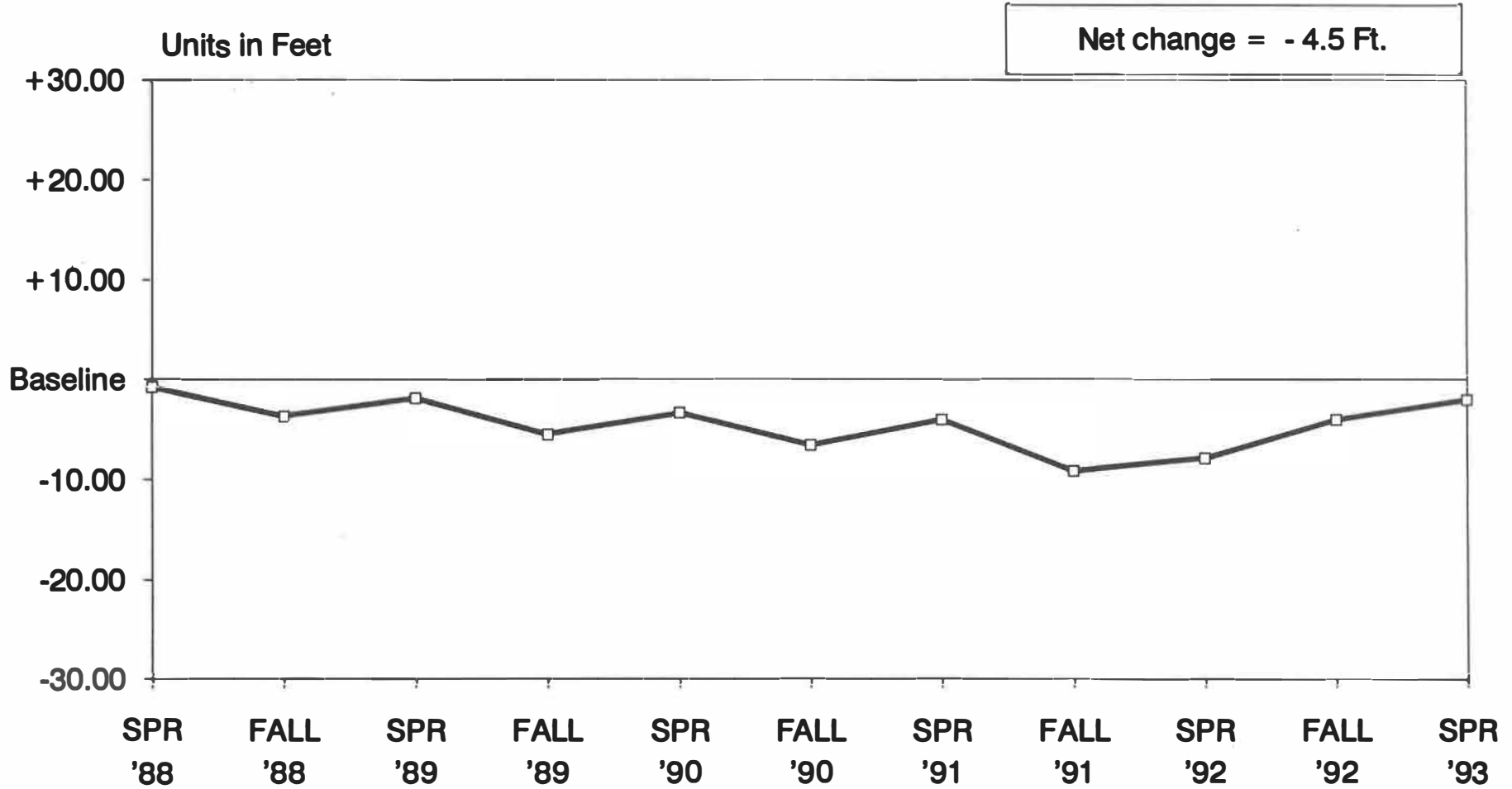
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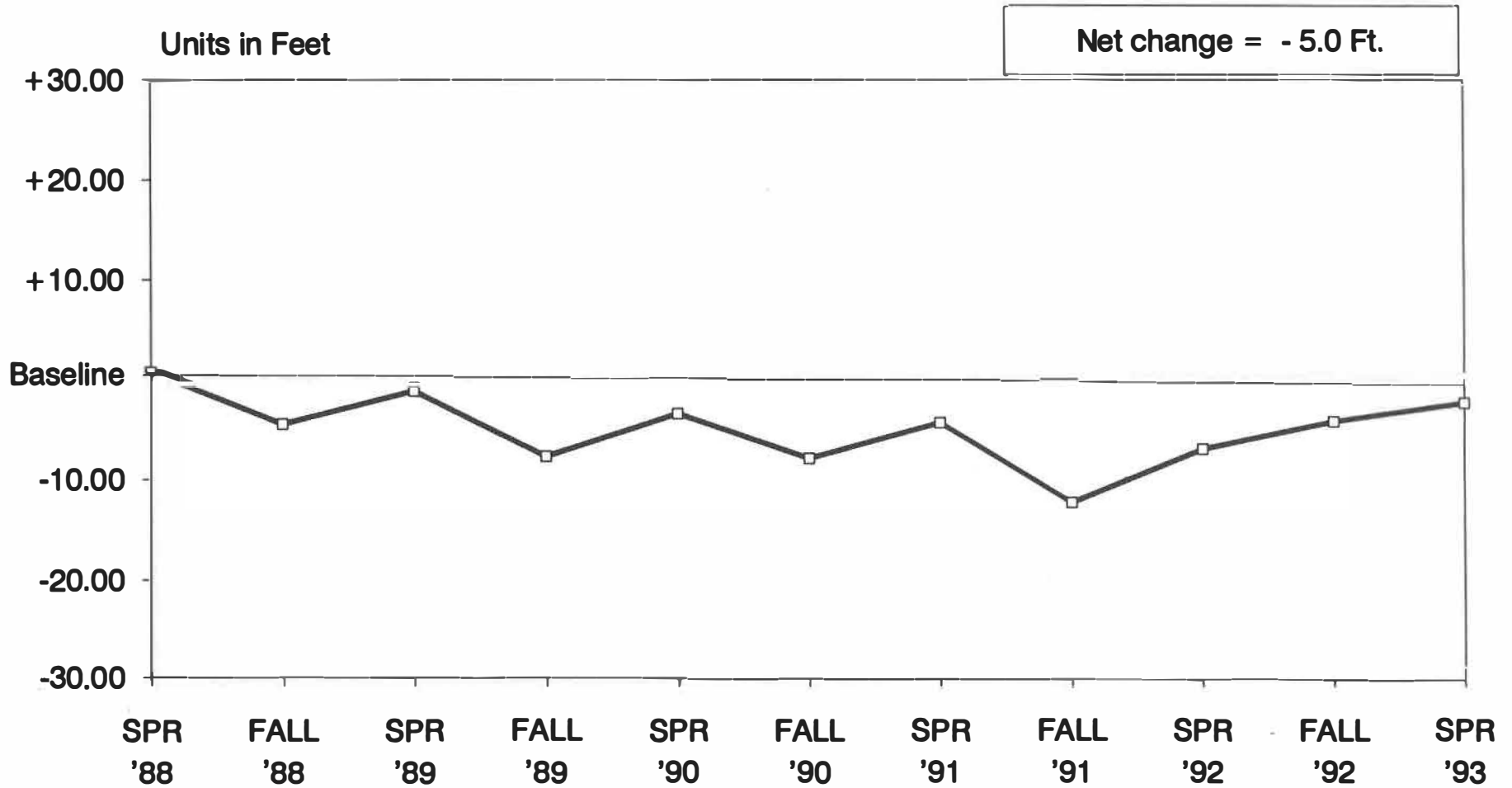
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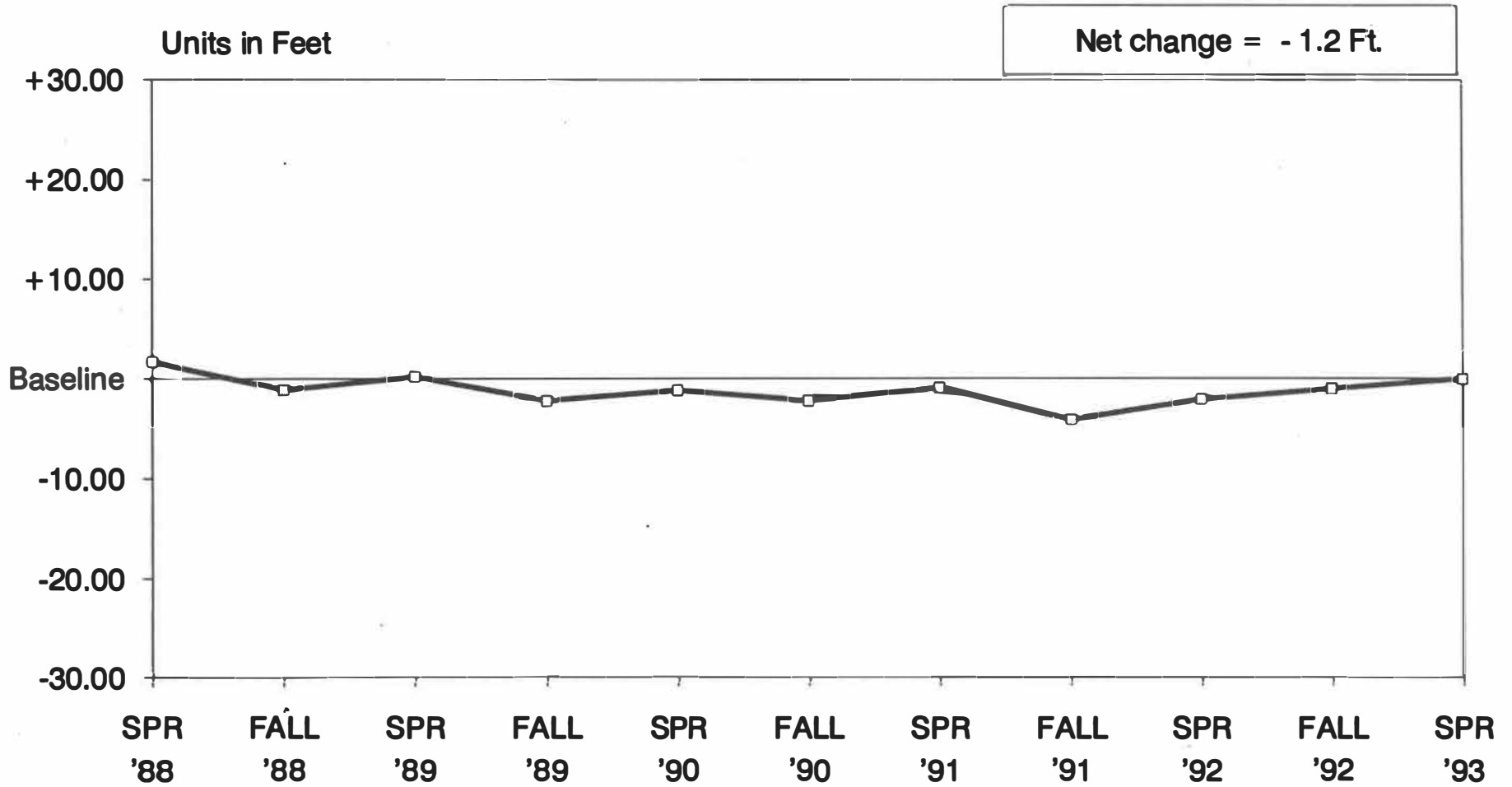
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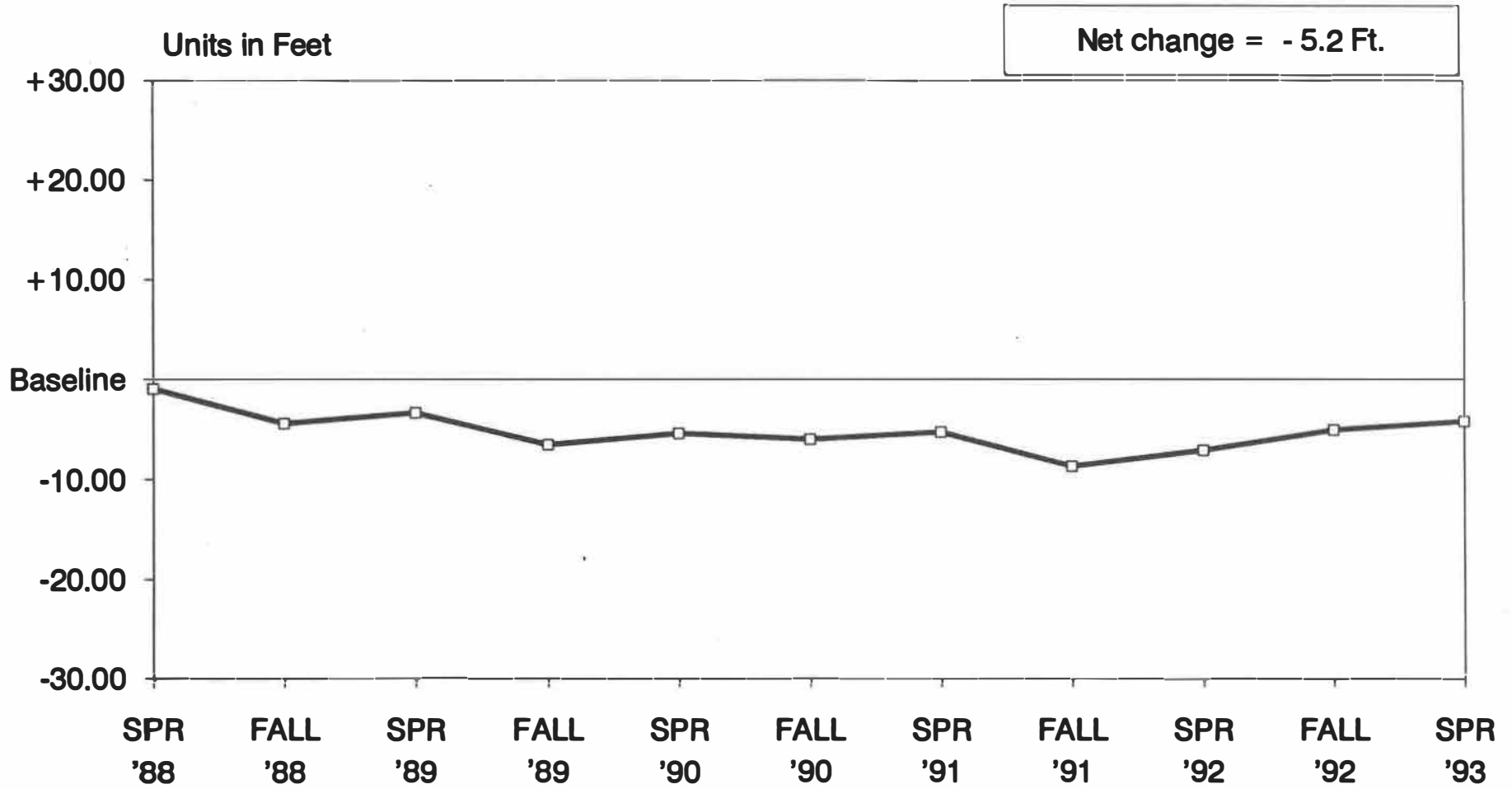
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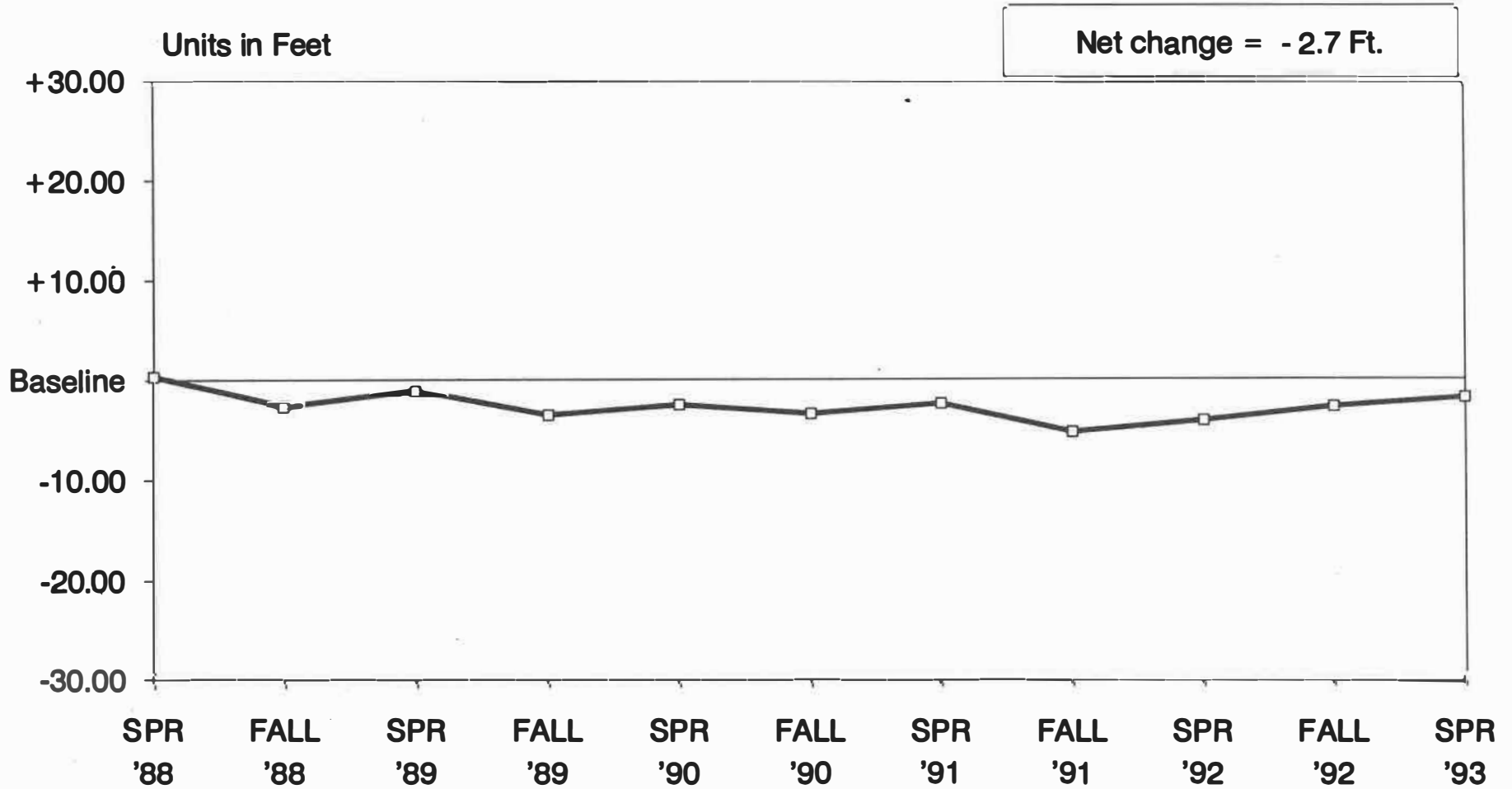
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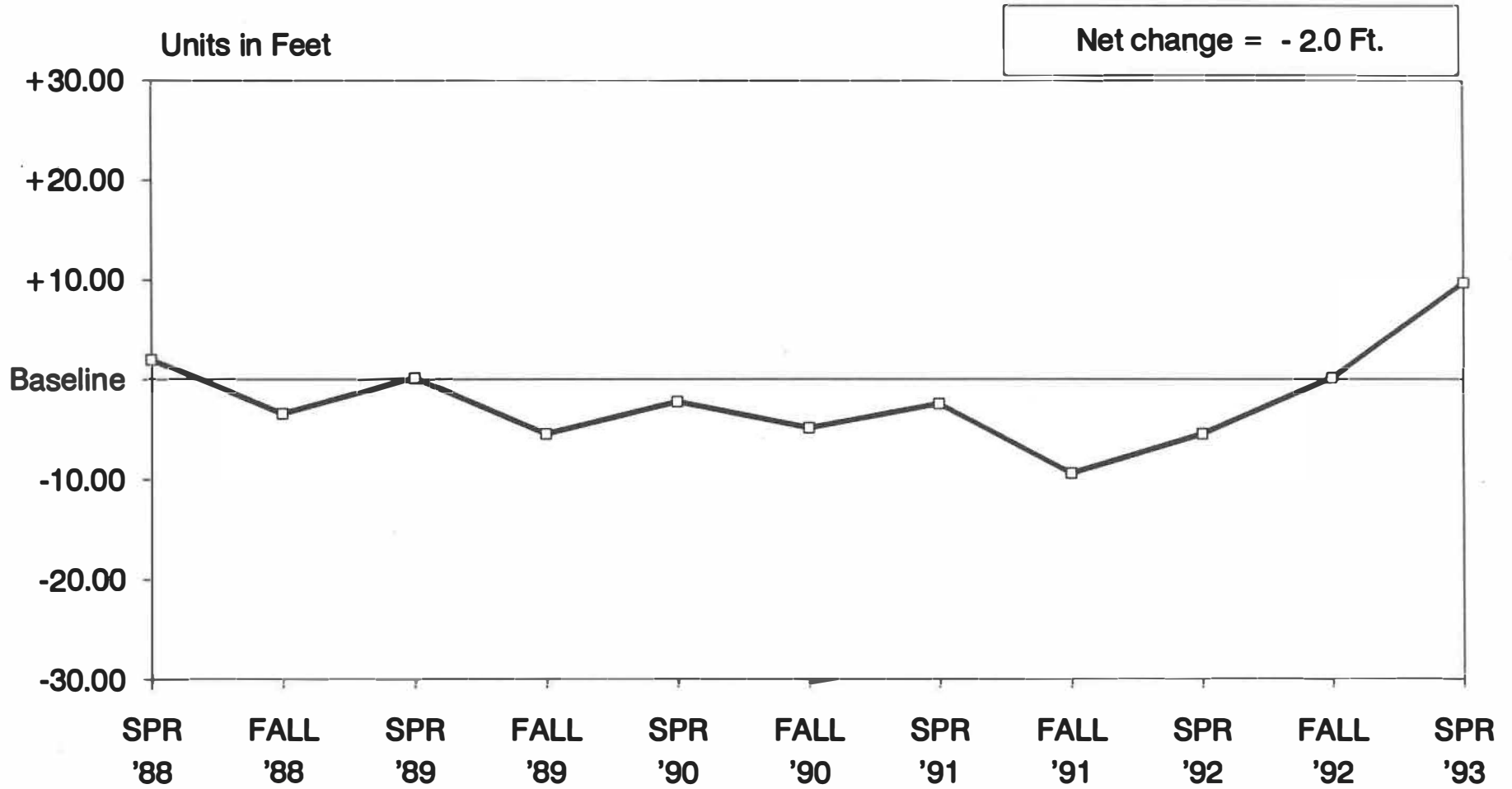
Changes in Water Levels Since 1987 (Baseline)
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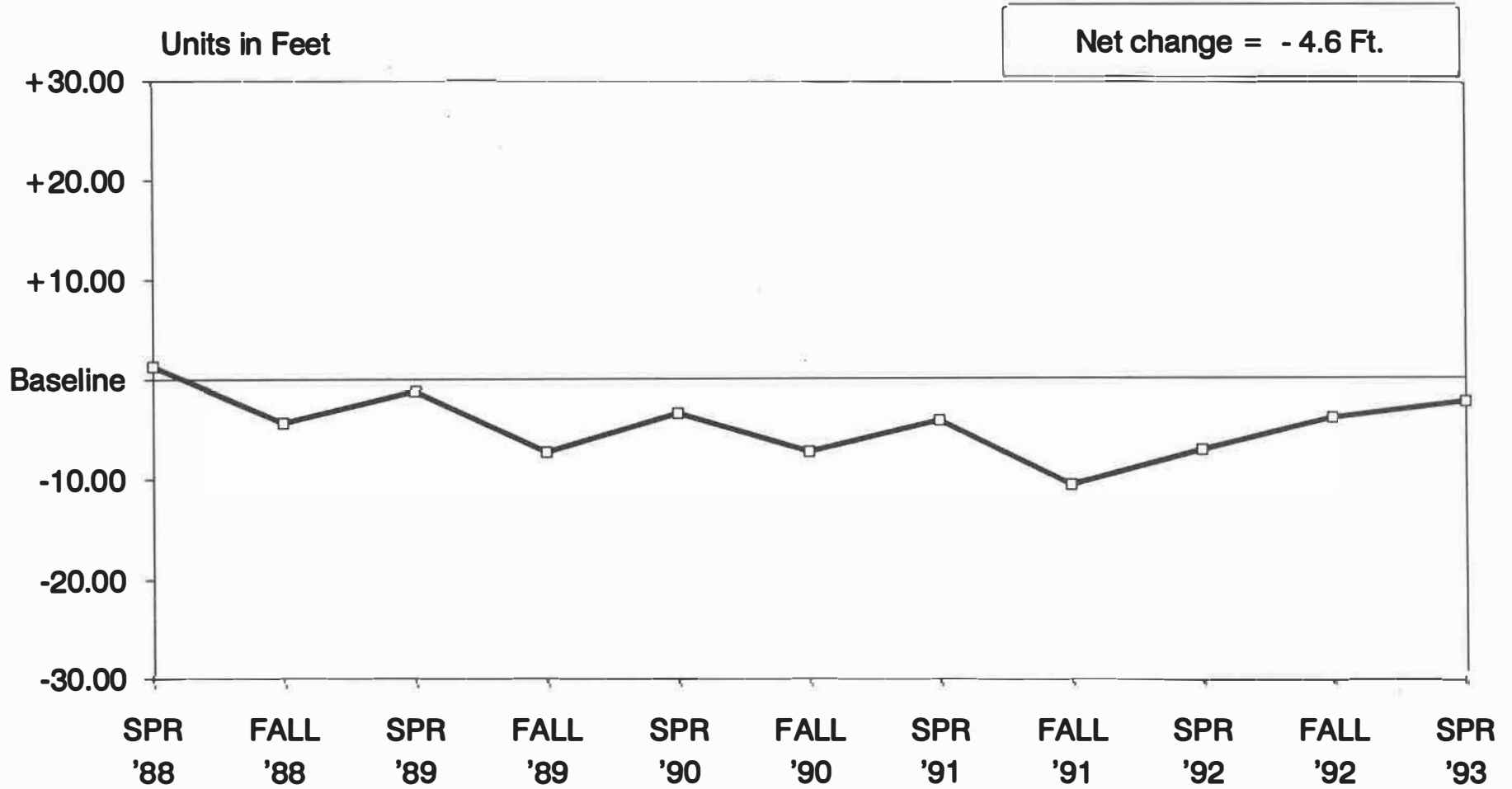
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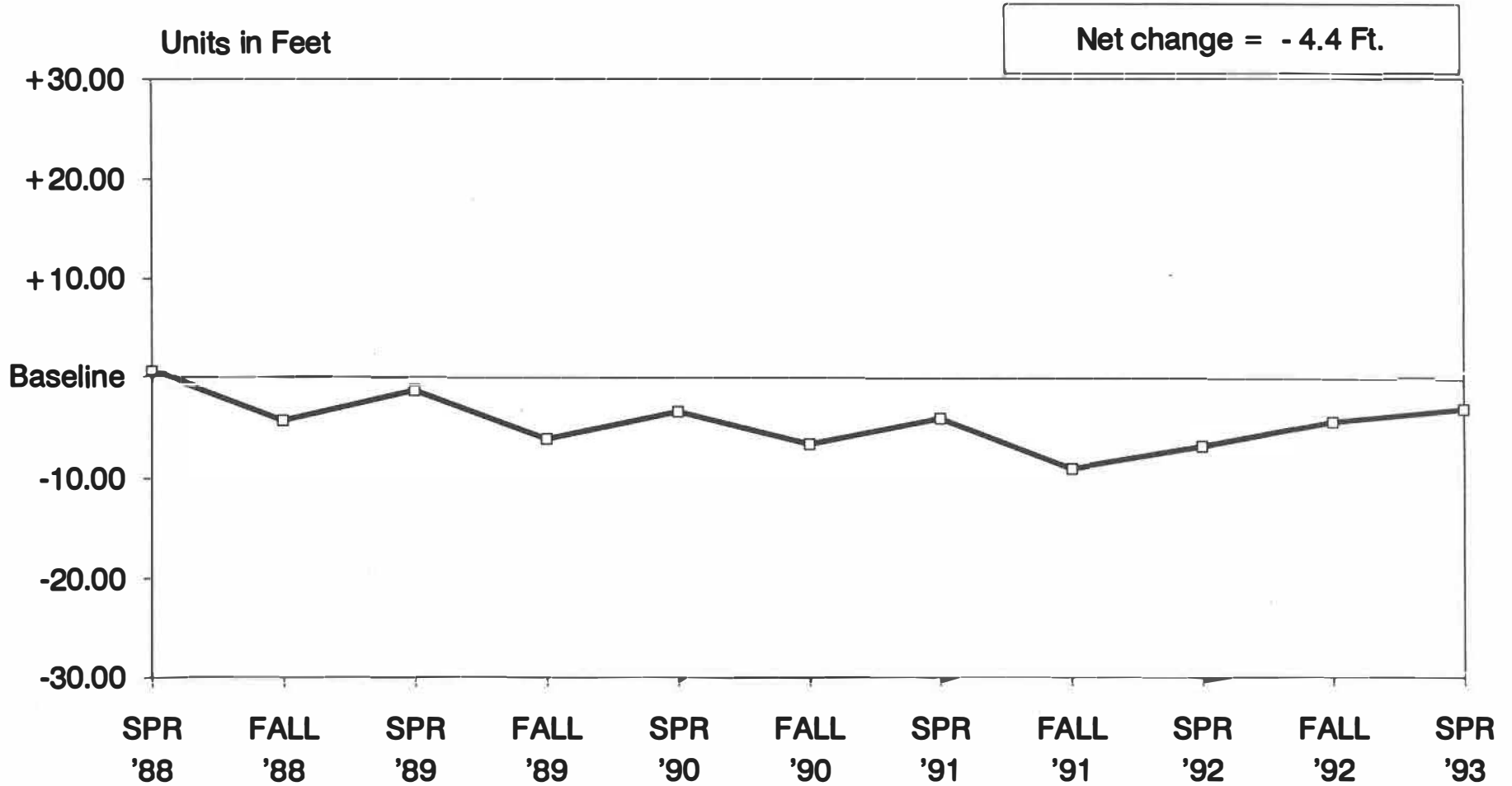
Changes in Water Levels Since 1987 (Baseline)
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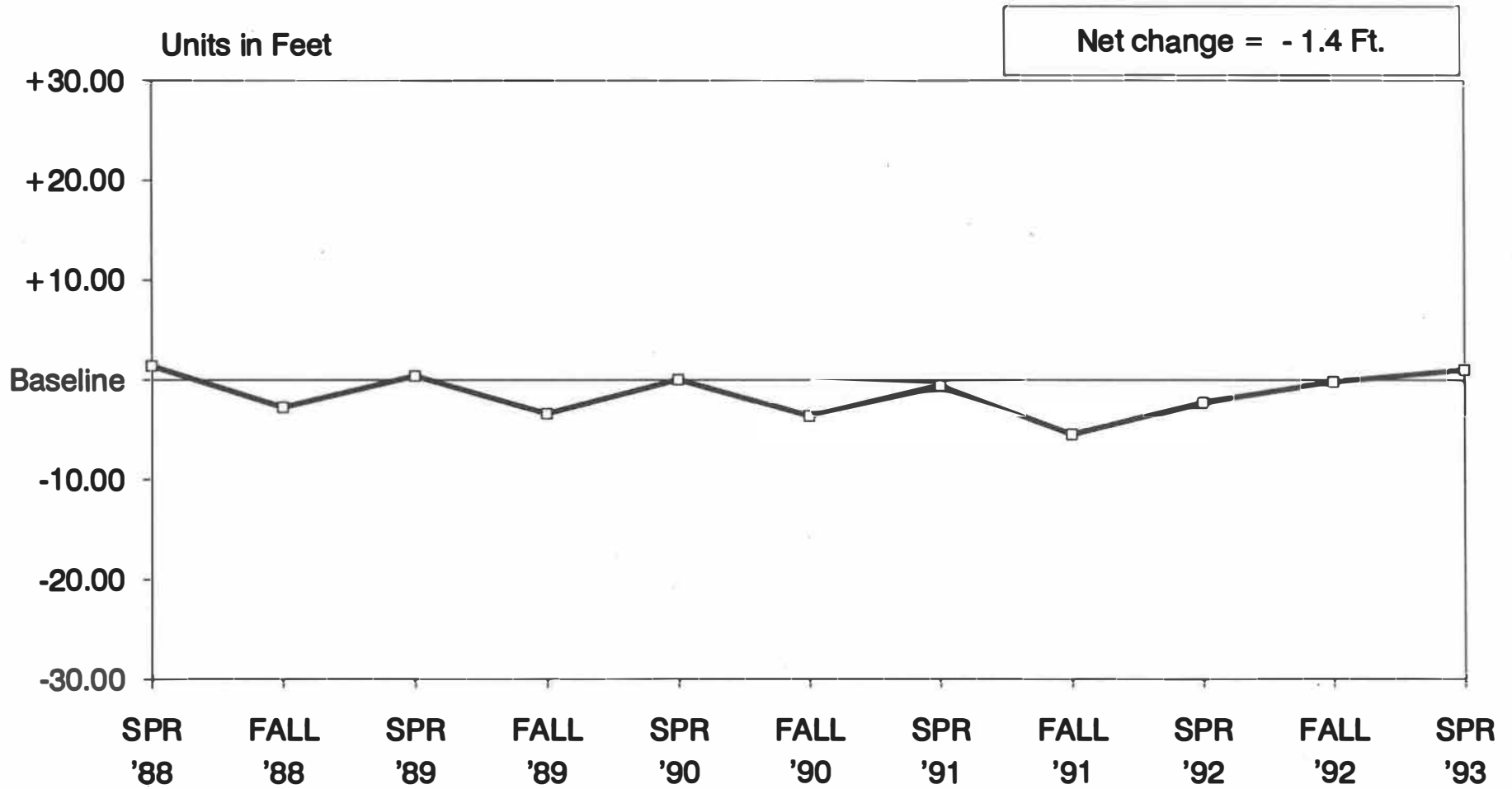
Changes in Water Levels Since 1987 (Baseline)
Well: 11 19N-1W-28ABBC Platte Co. Shell Cr. Aquifer



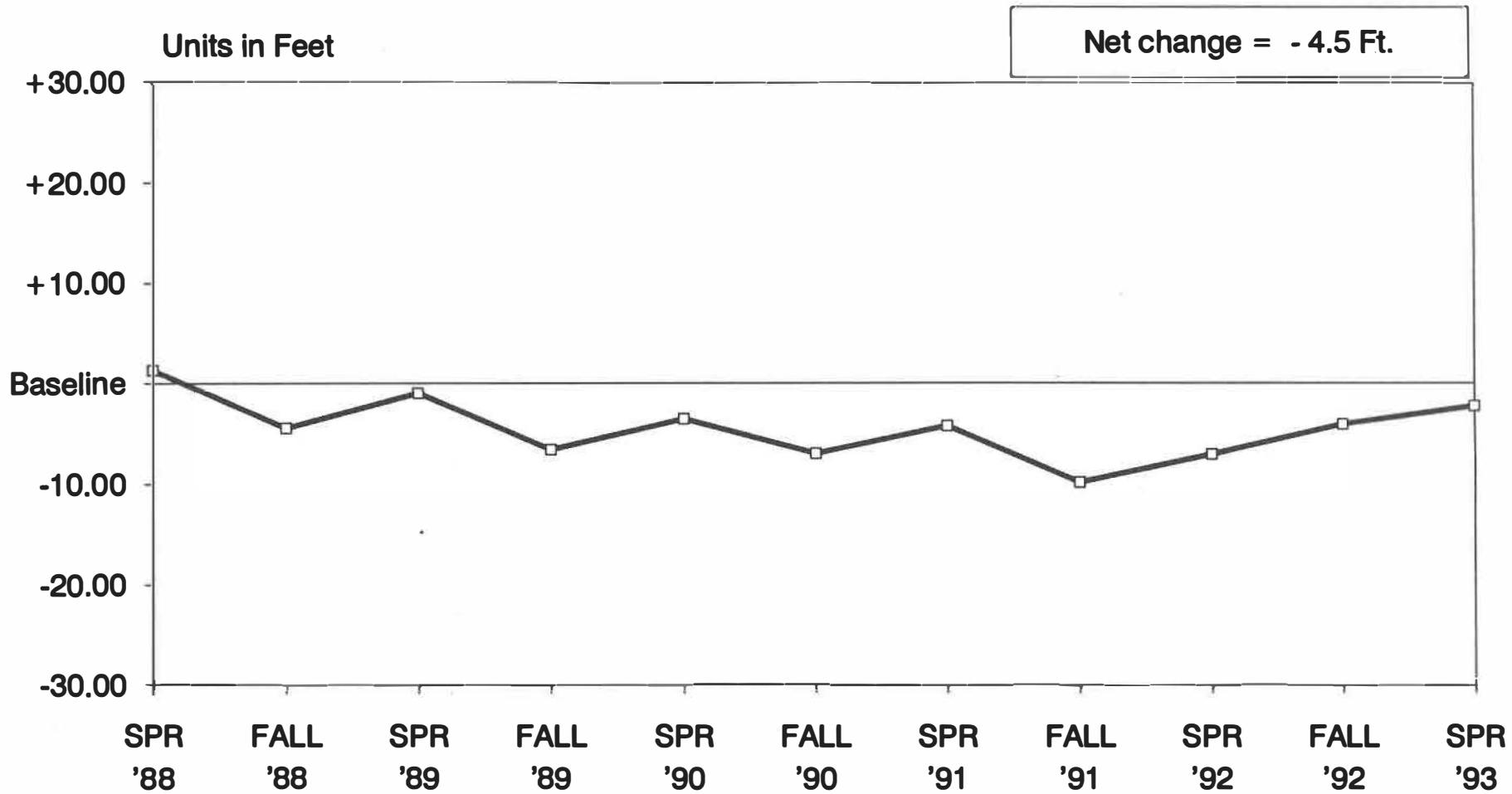
Changes in Water Levels Since 1987 (Baseline)
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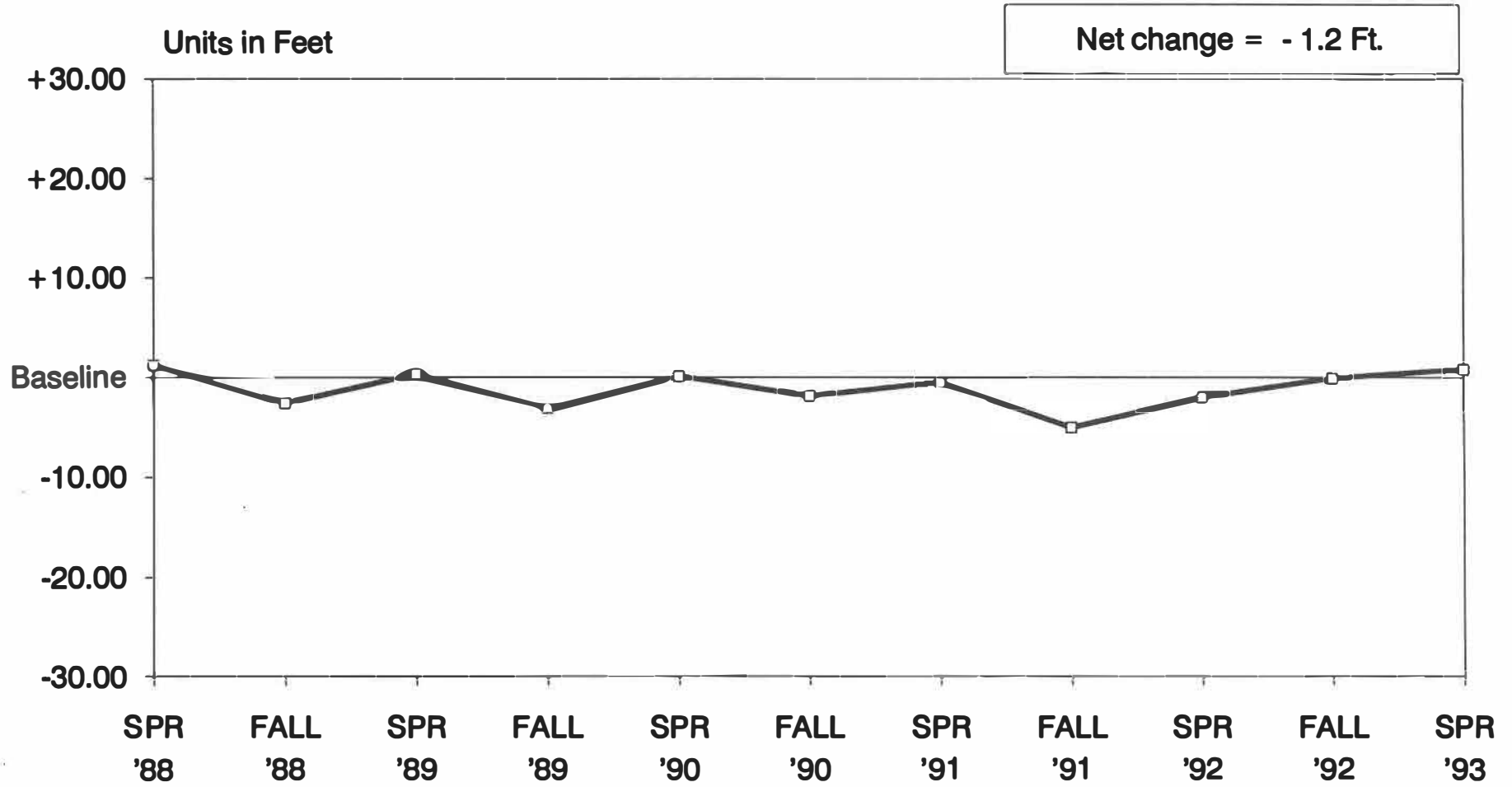
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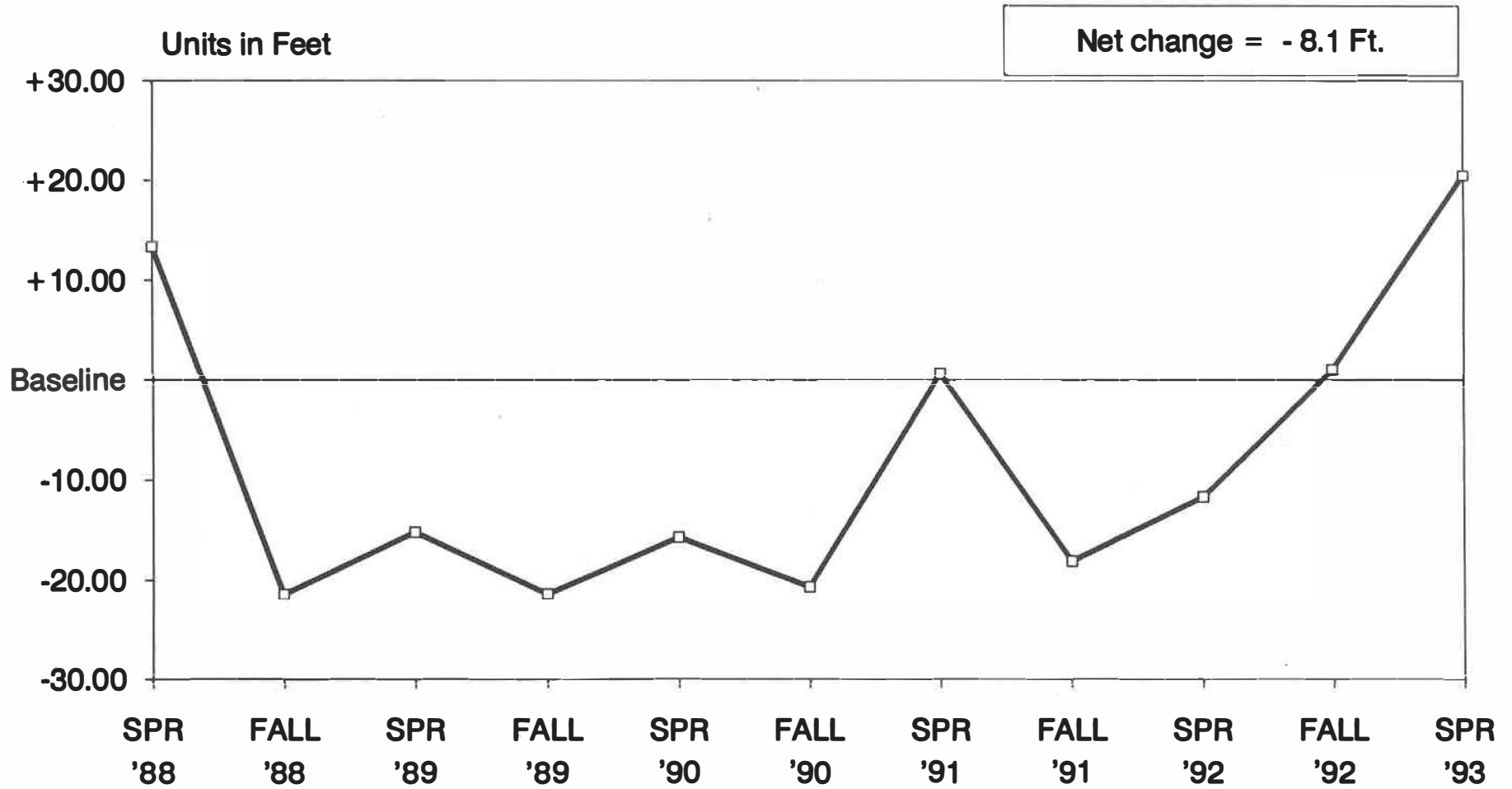
Changes in Water Levels Since 1987 (Baseline) Well: 14 19N-1W-12CDBB Platte Co. Shell Cr. Aquifer



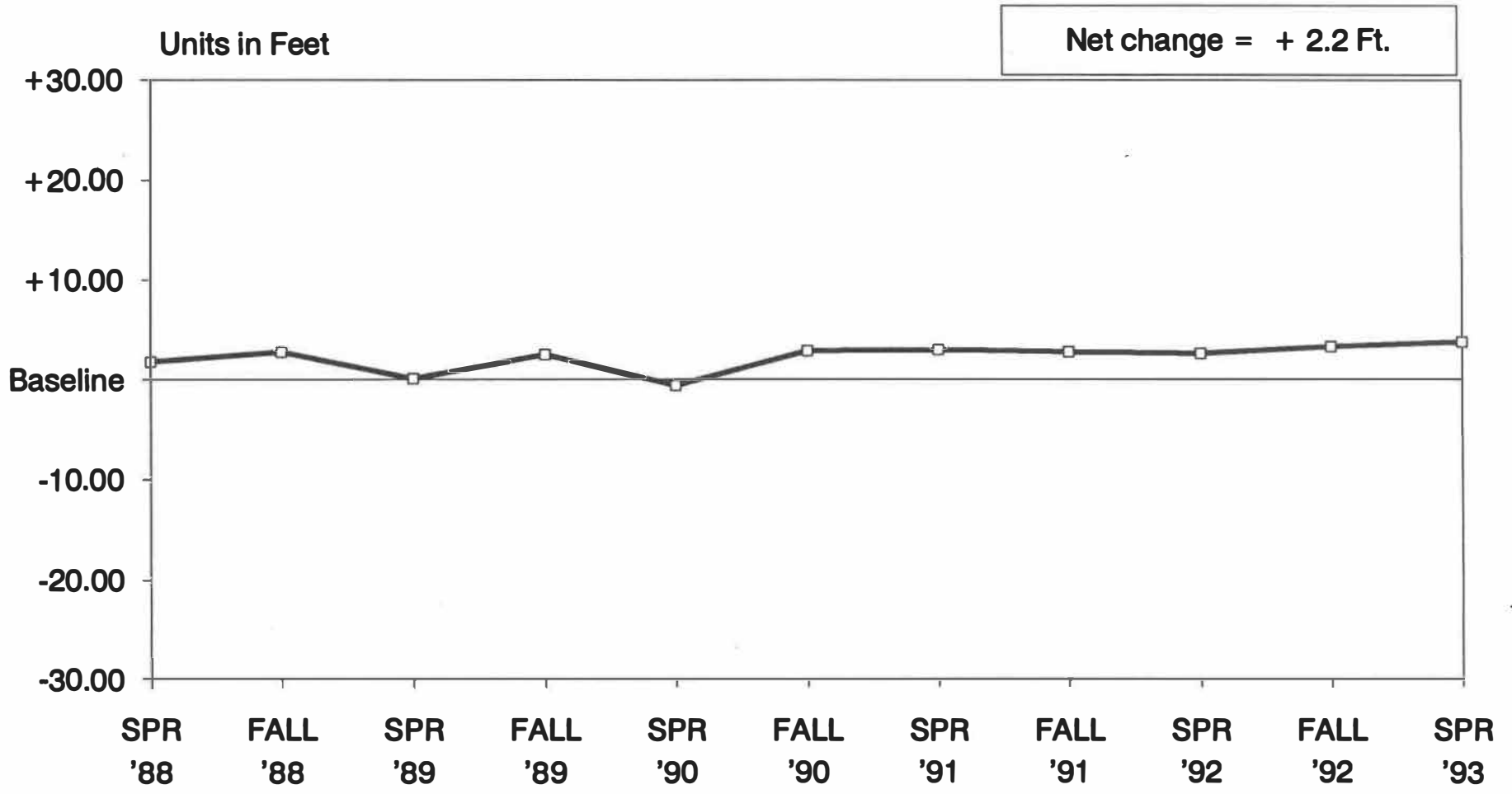
Changes in Water Levels Since 1987 (Baseline)
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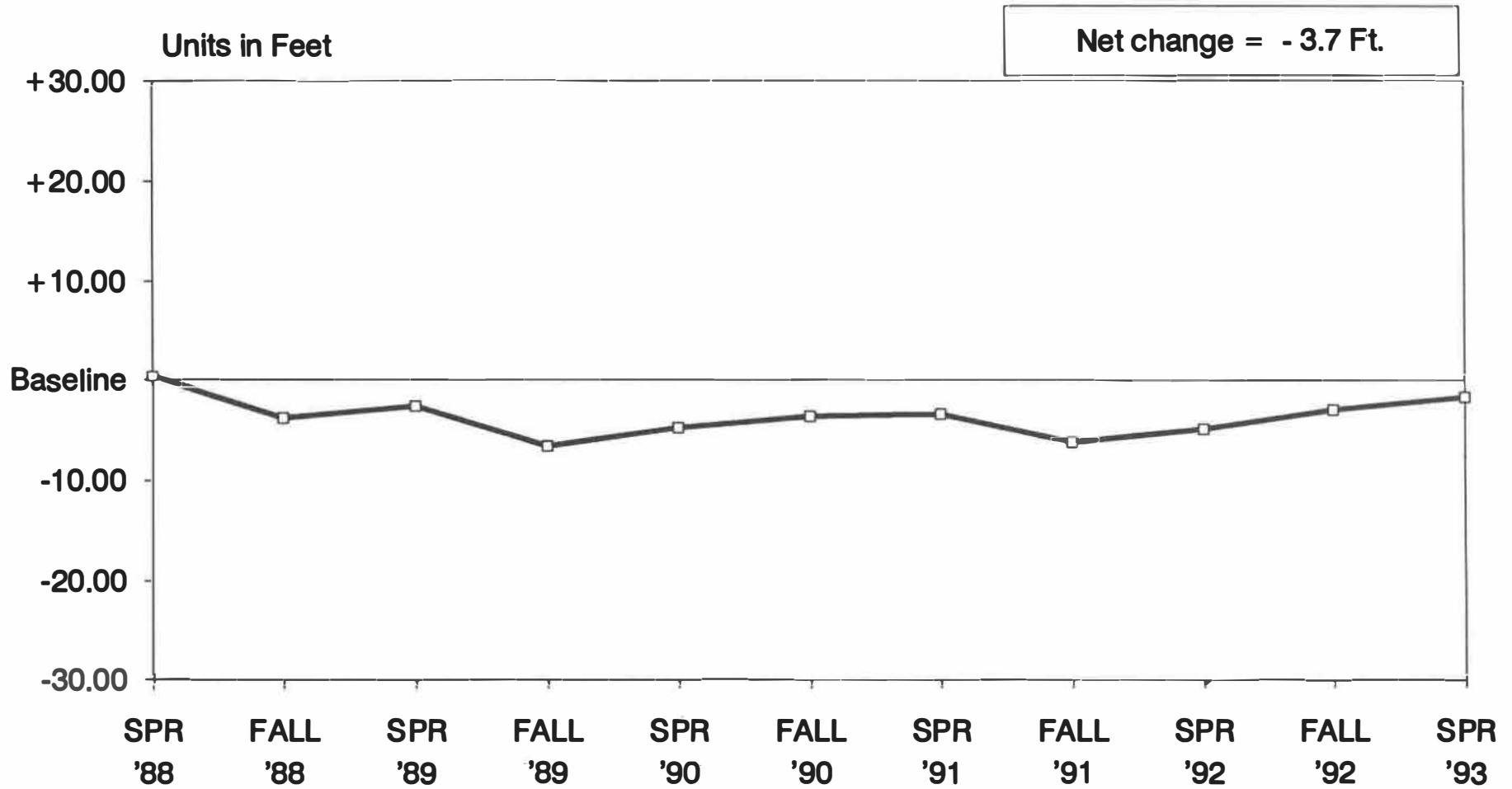
Changes in Water Levels Since 1987 (Baseline)
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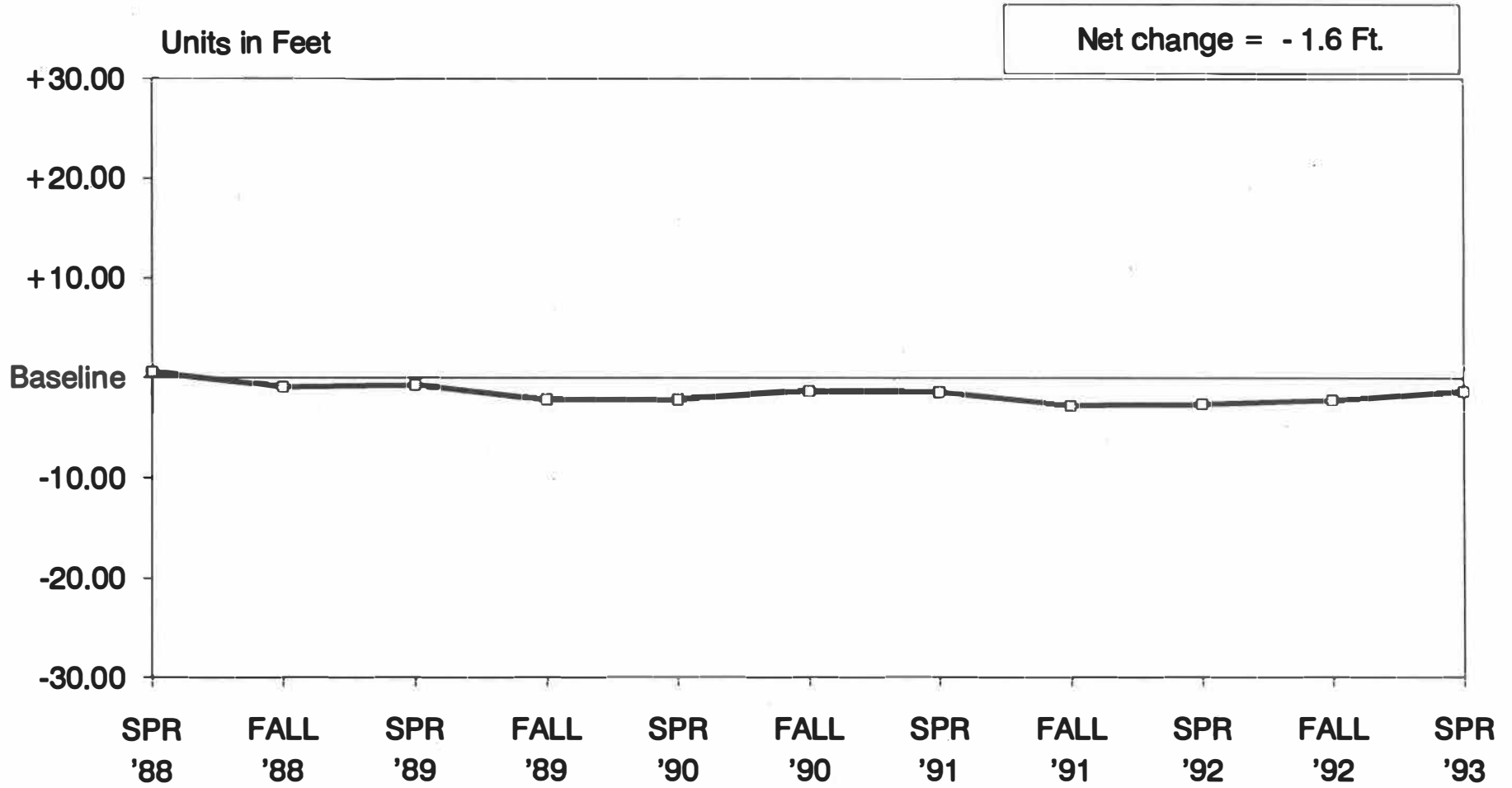
Changes in Water Levels Since 1987 (Baseline)
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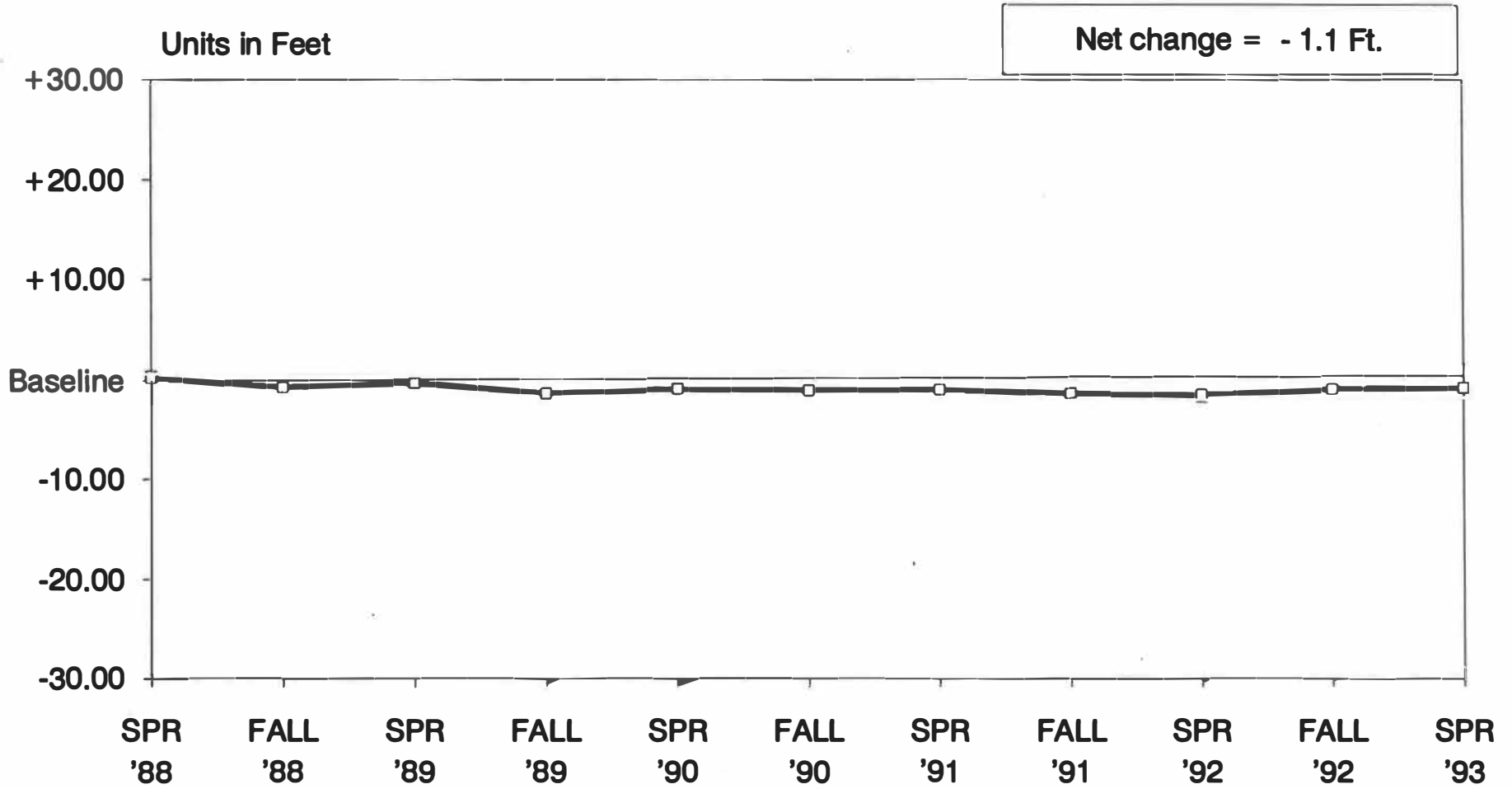
Changes in Water Levels Since 1987 (Baseline)
Well: 18 18N-1E- 9BABA Platte Co. Shell Cr. Aquifer



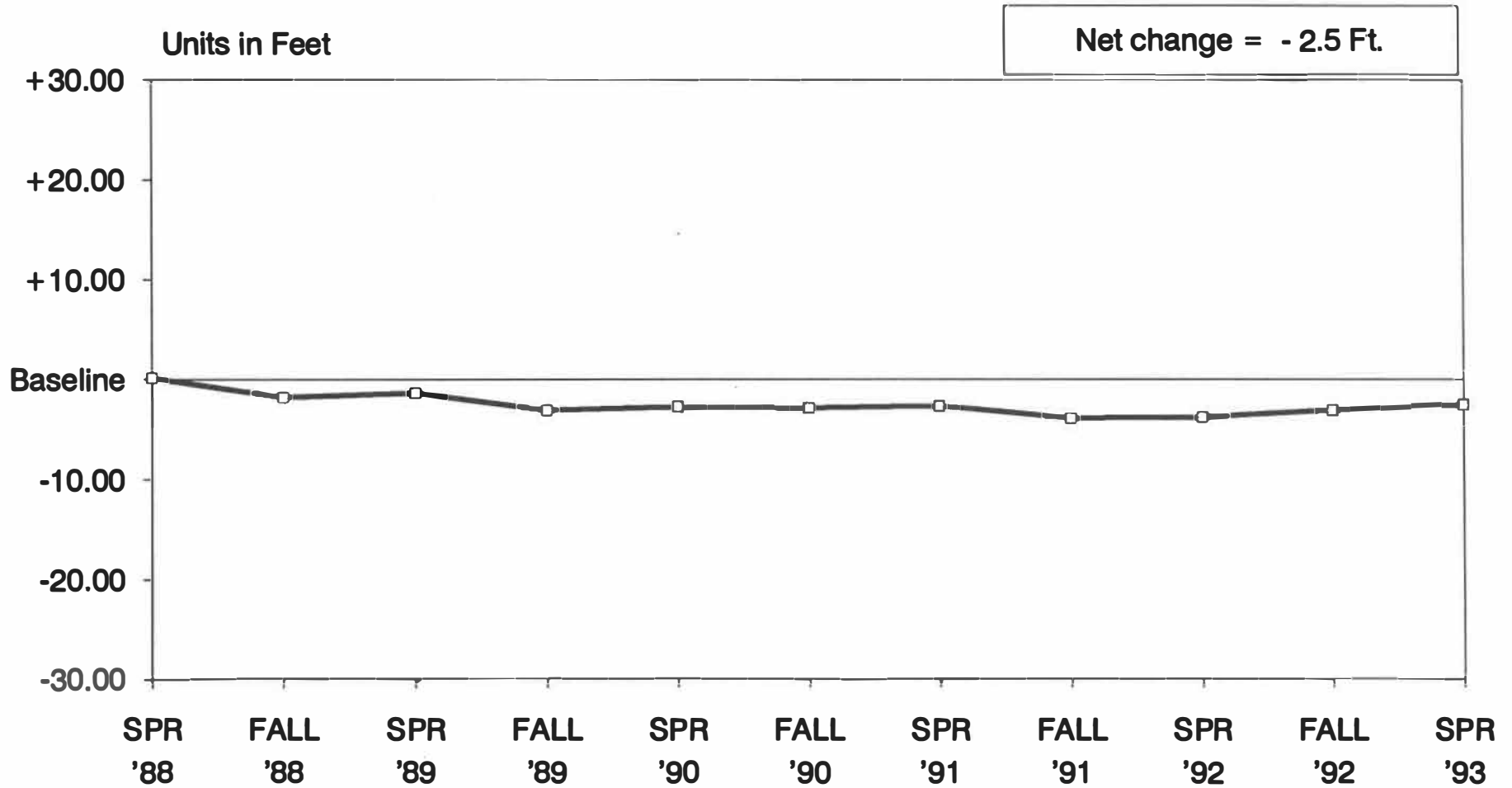
Changes in Water Levels Since 1987 (Baseline)
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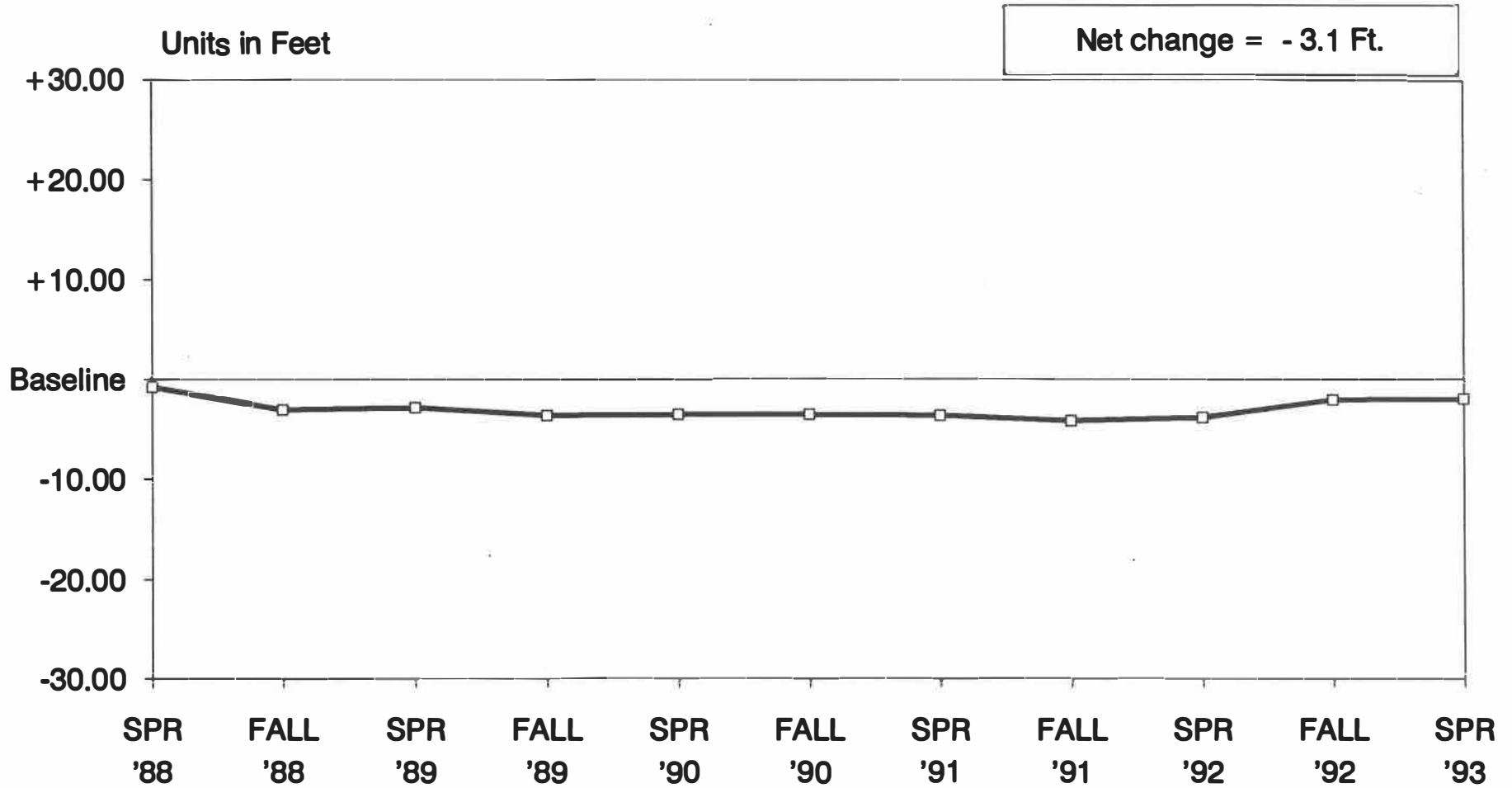
Changes in Water Levels Since 1987 (Baseline)
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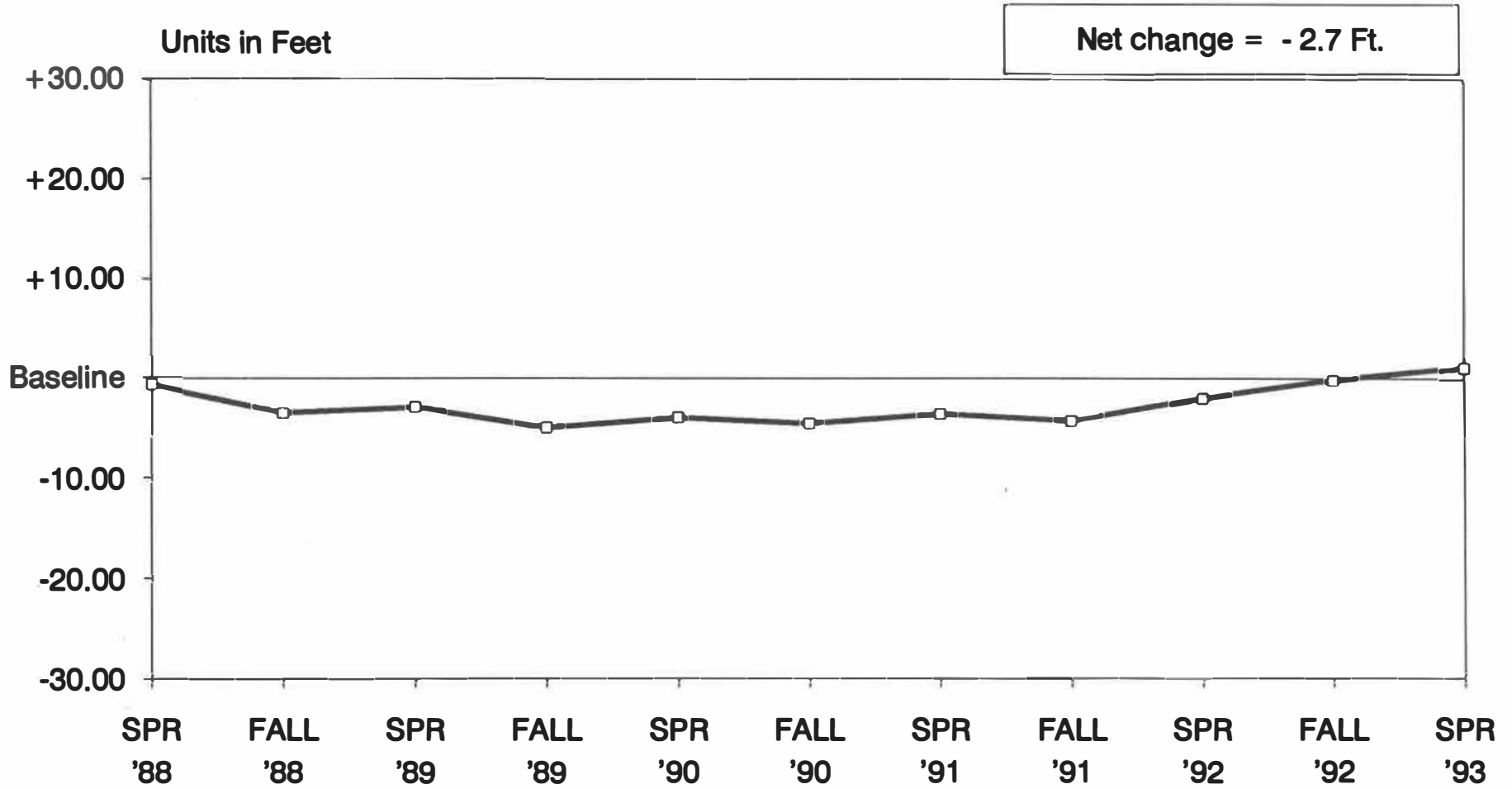
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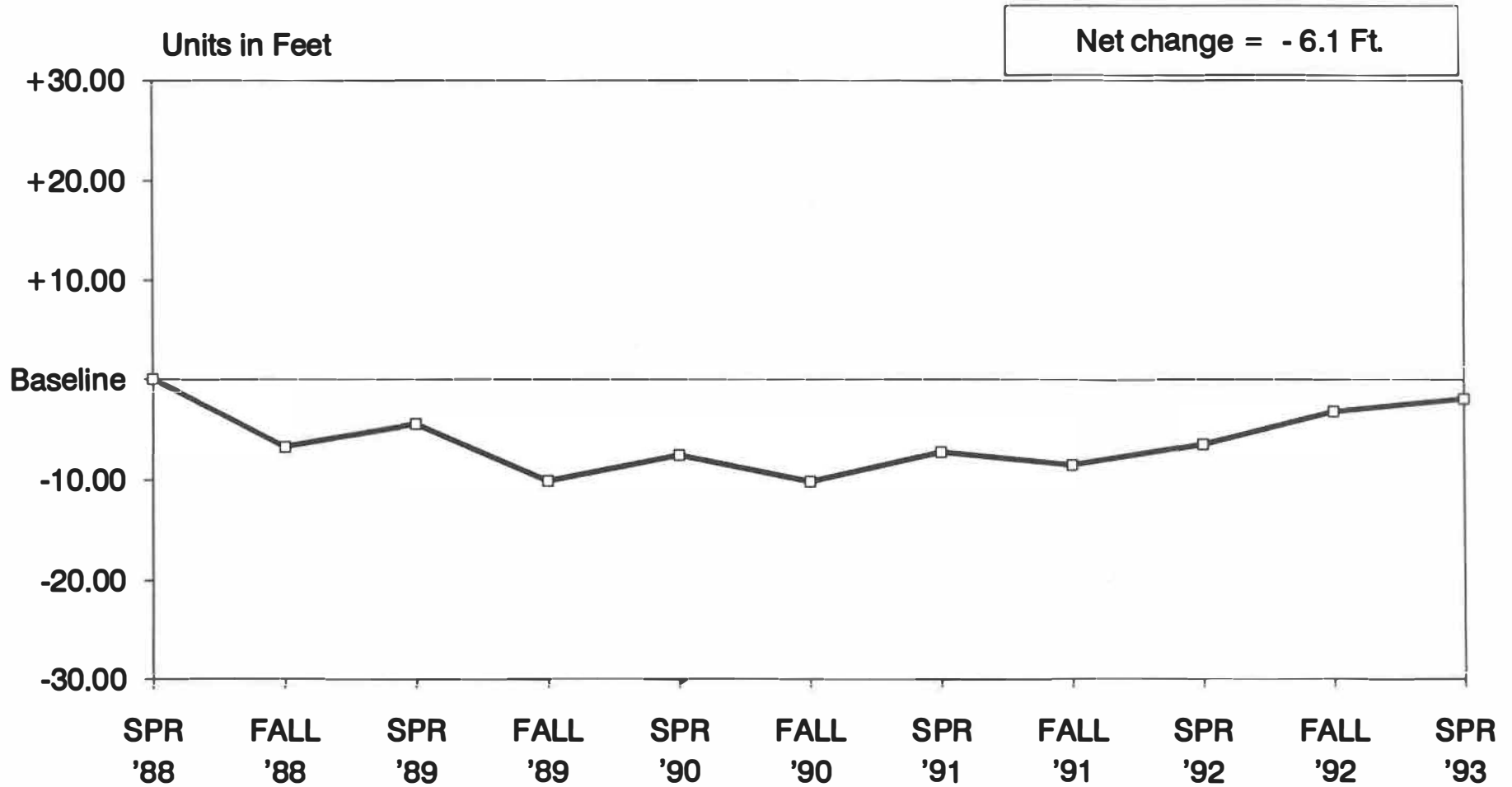
Changes in Water Levels Since 1987 (Baseline)
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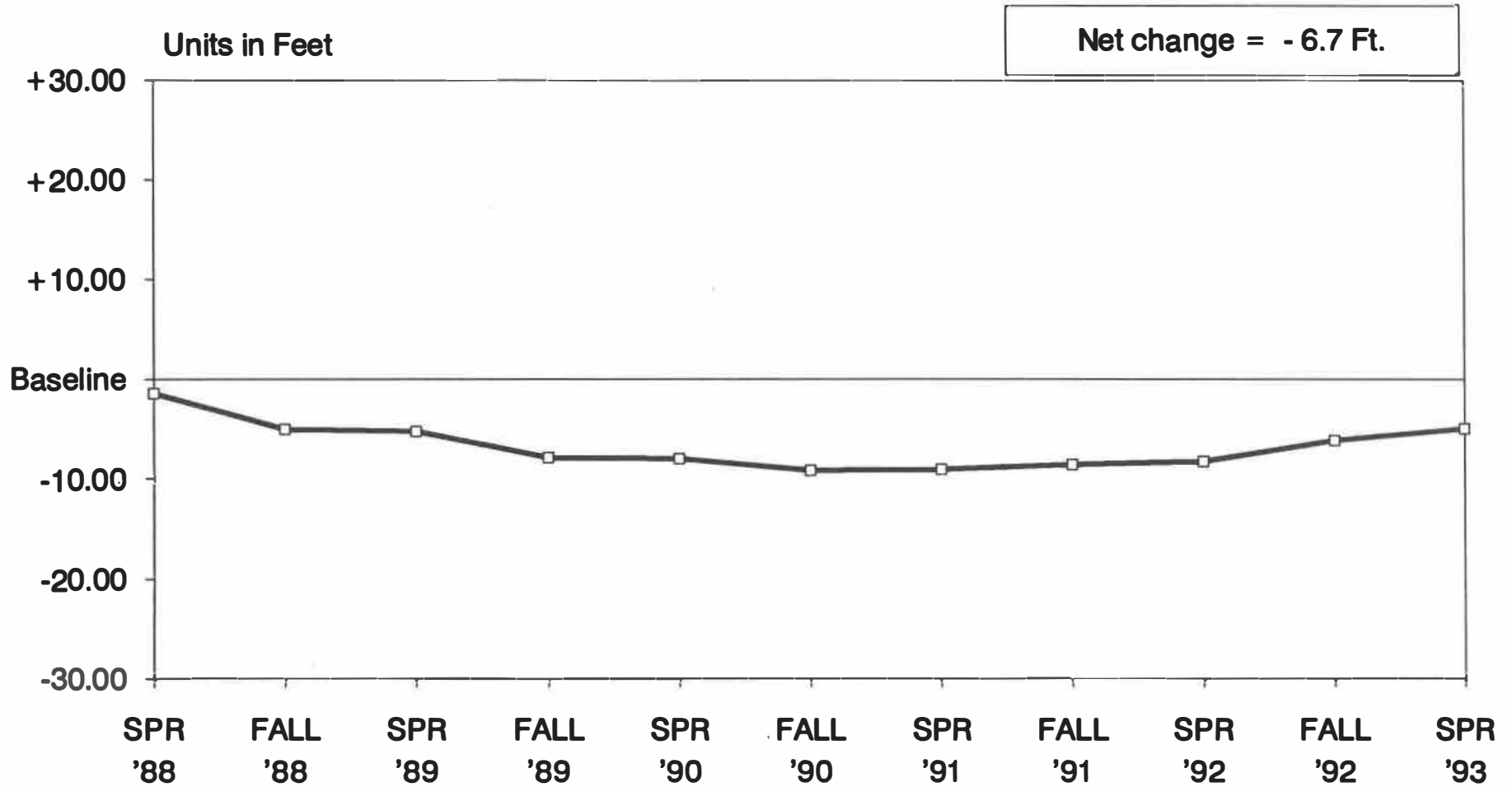
Changes in Water Levels Since 1987 (Baseline) Well: 23 16N-1E-17CBCC Butler Co. Platte V. Aquifer



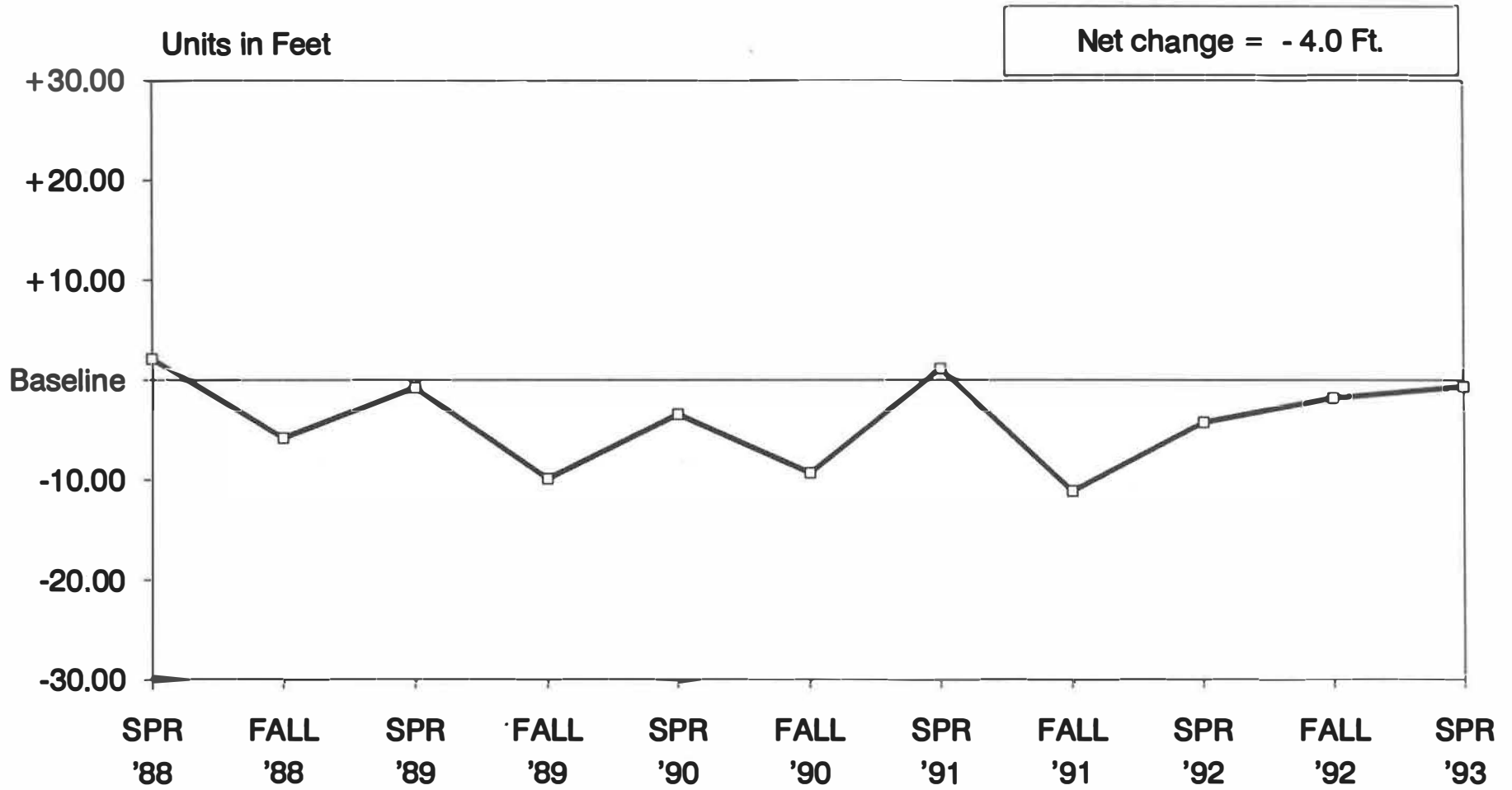
Changes in Water Levels Since 1987 (Baseline)
Well: 24 16N-1E-32AAD Butler Co. Platte V. Aquifer



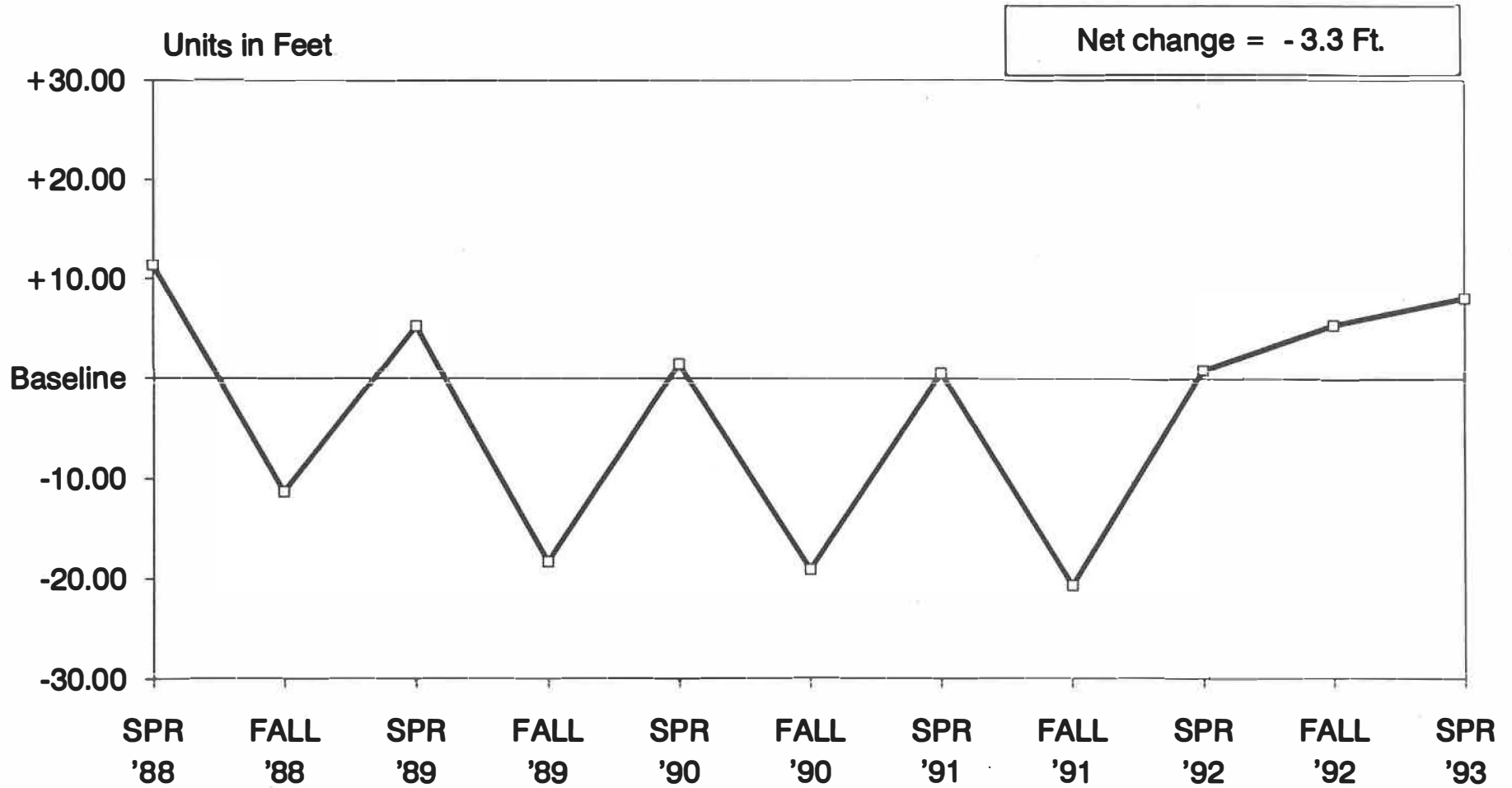
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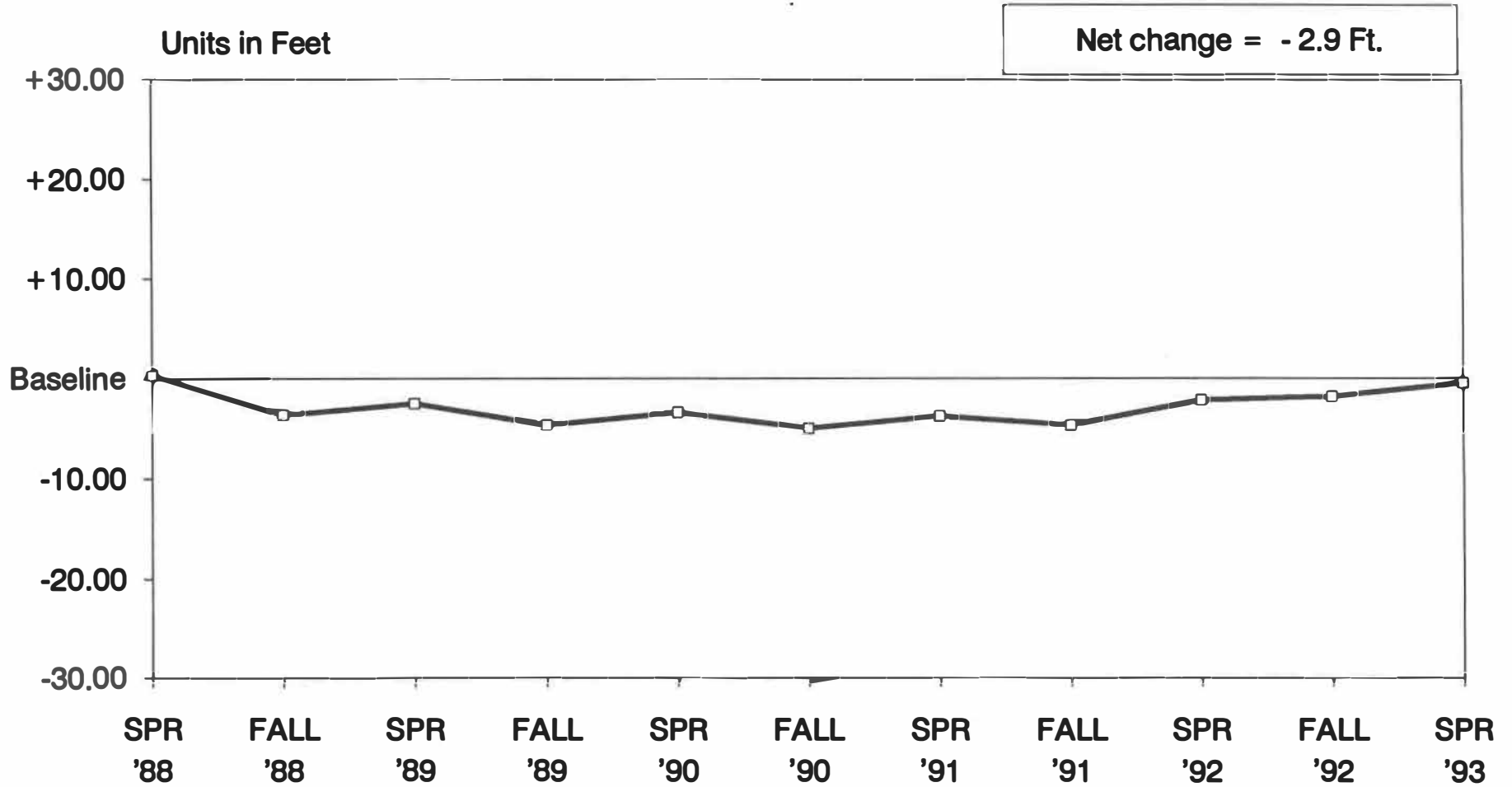
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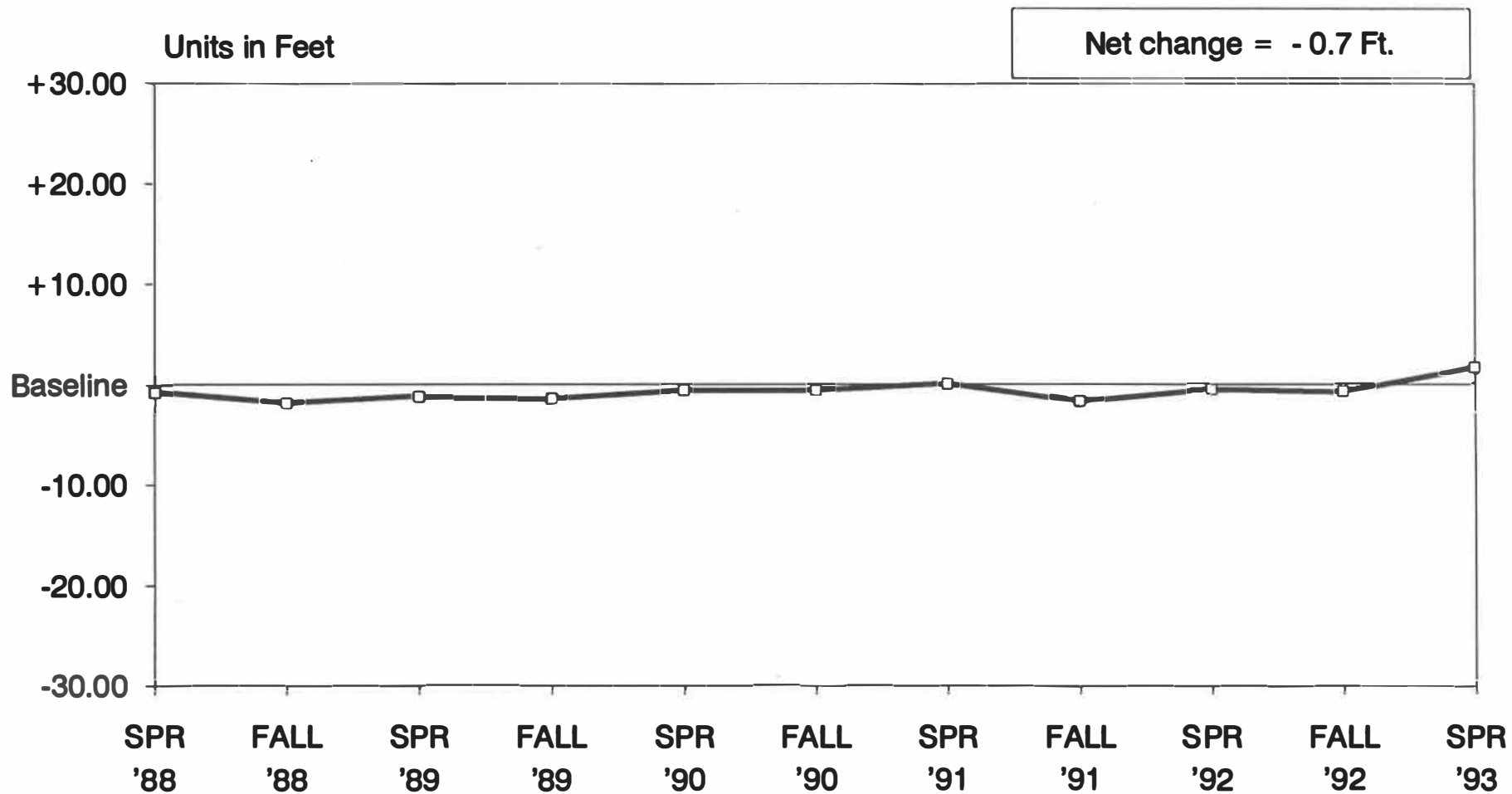
Changes in Water Levels Since 1988 (Baseline)
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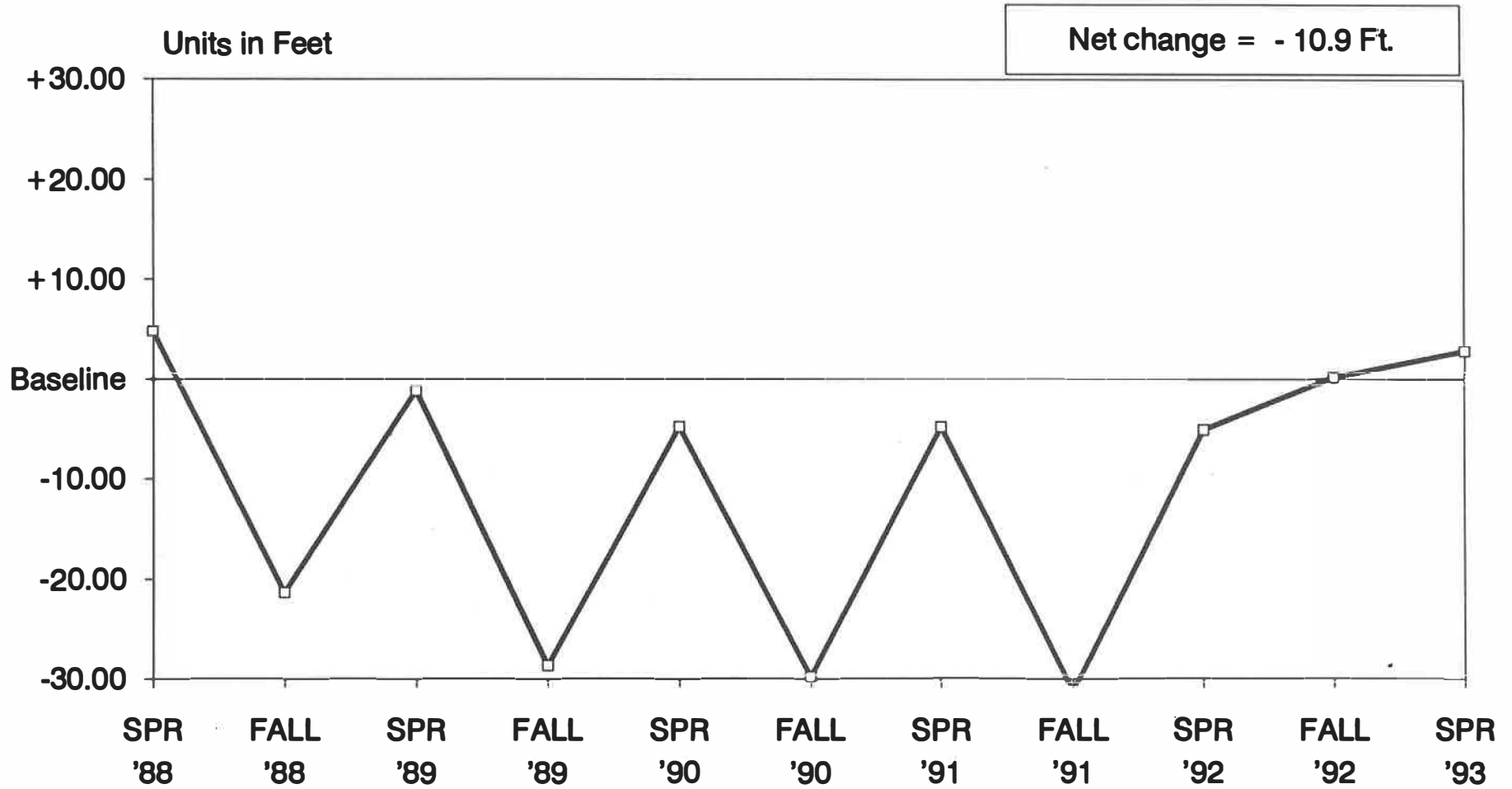
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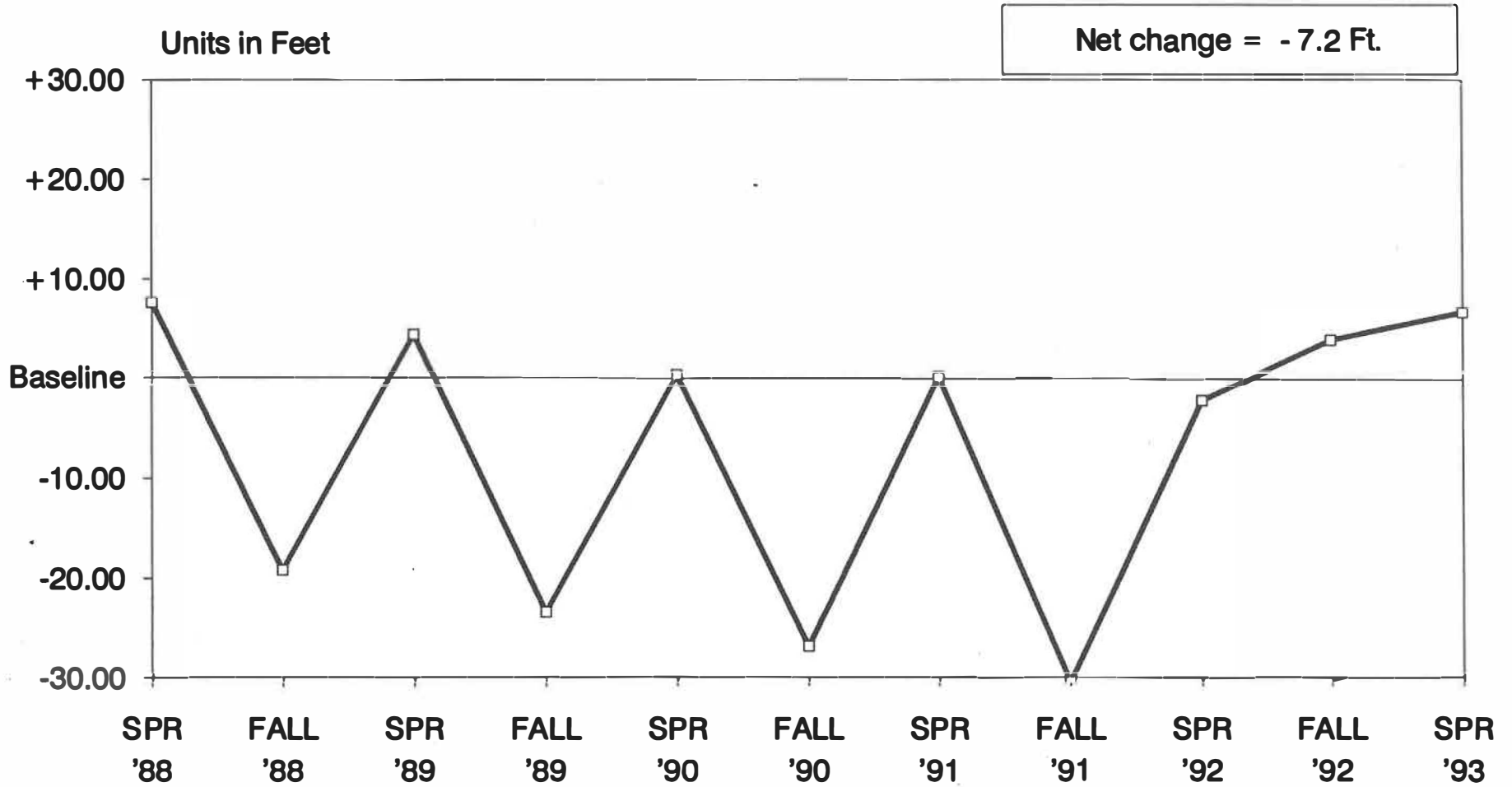
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Well: 29 17N-3E-24CCCC Colfax Co. Platte V. Aquifer



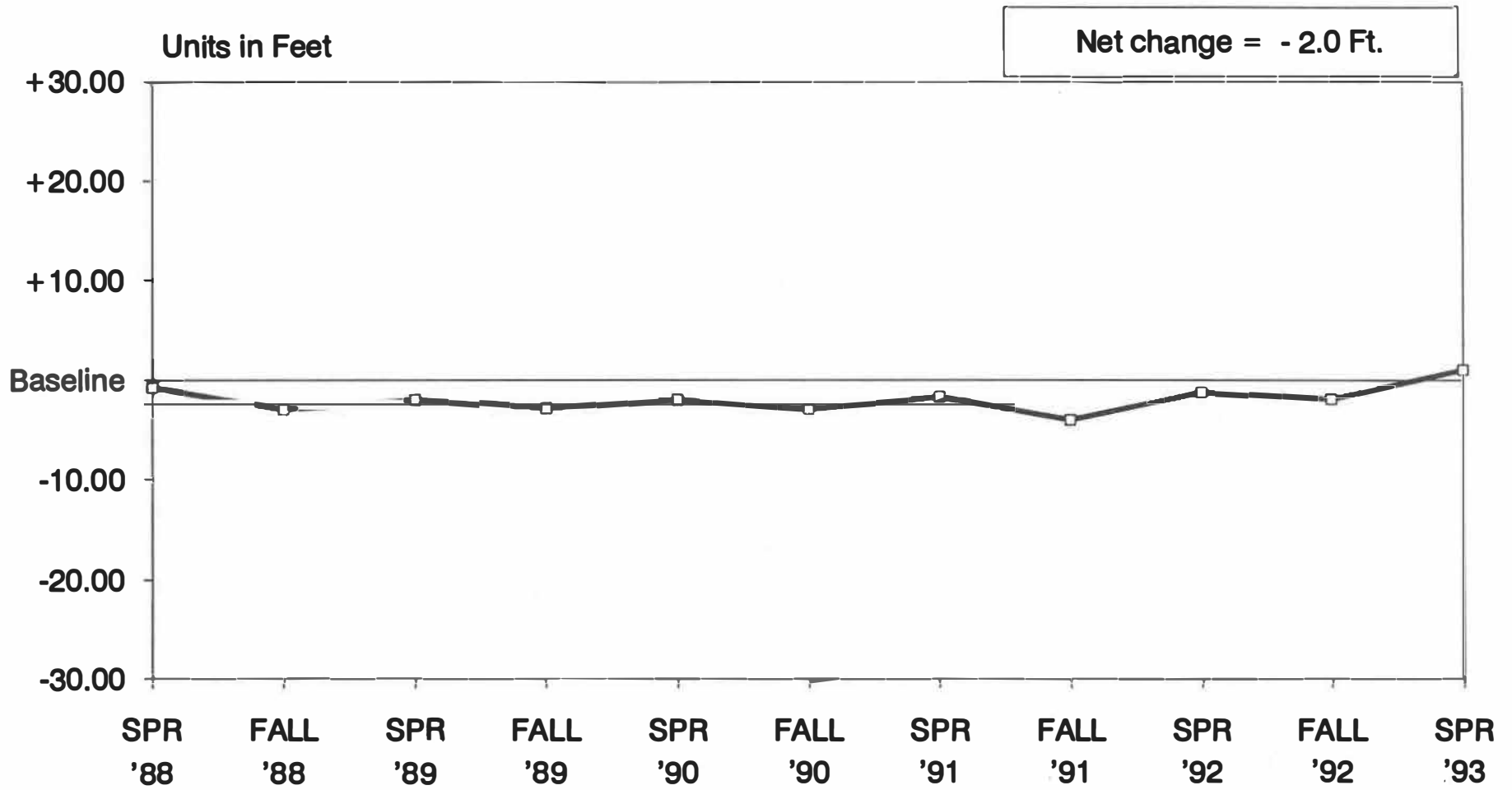
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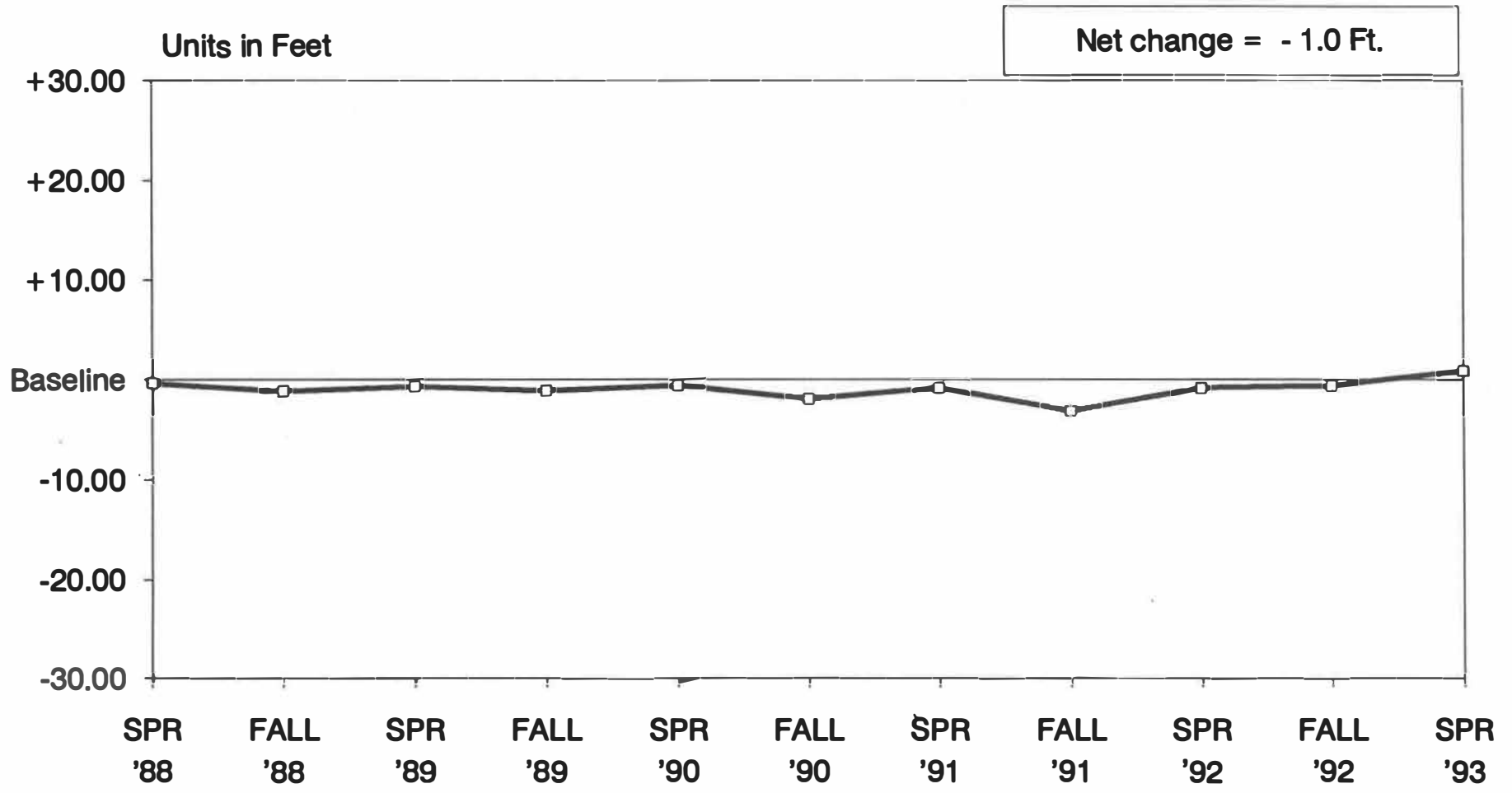
Changes in Water Levels Since 1987 (Baseline)
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Changes in Water Levels Since 1987 (Baseline)
Well: 32 17N-5E- 5CCCC Dodge Co. Platte V. Aquifer

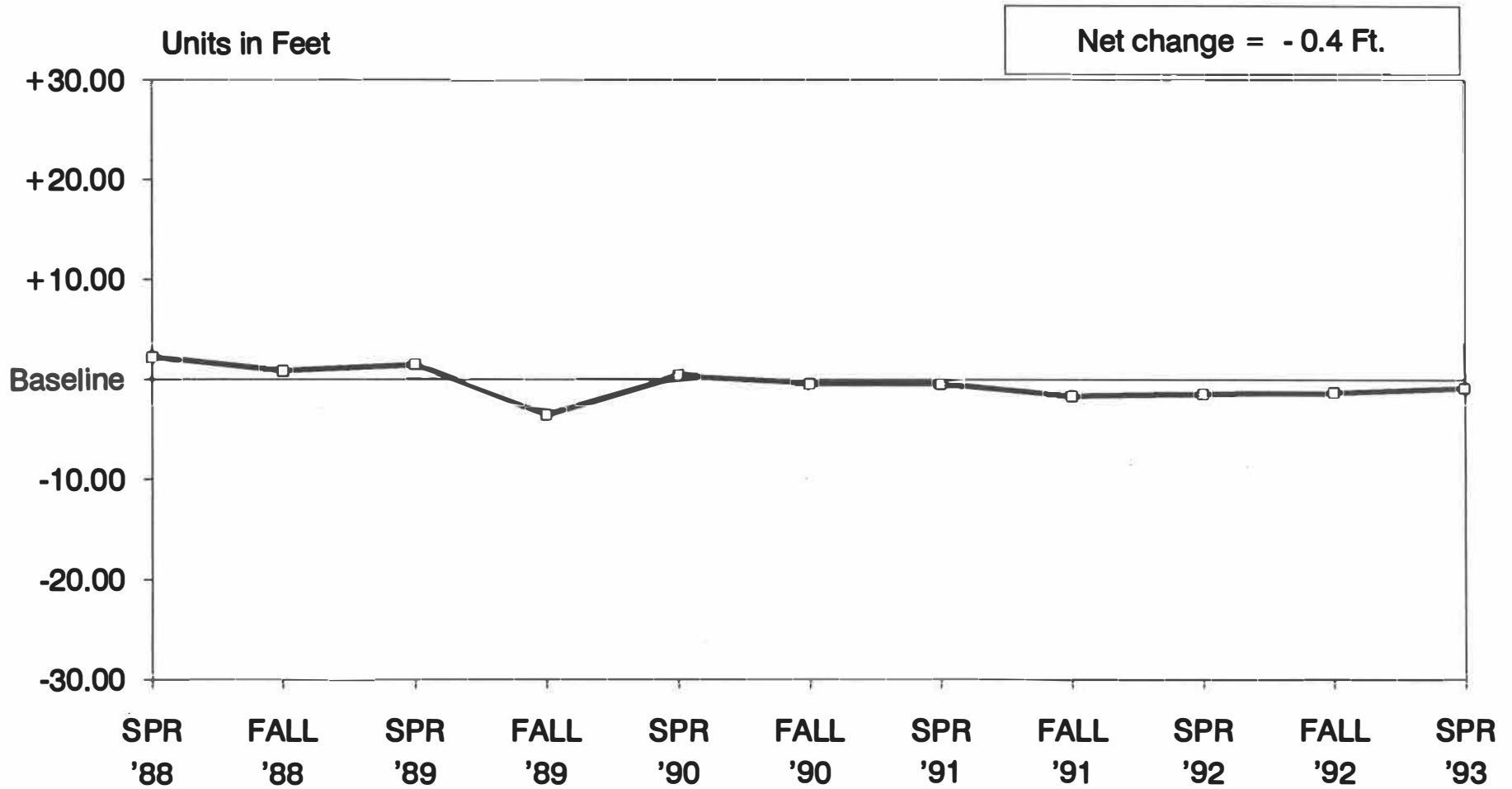


Changes in Water Levels Since 1987 (Baseline)
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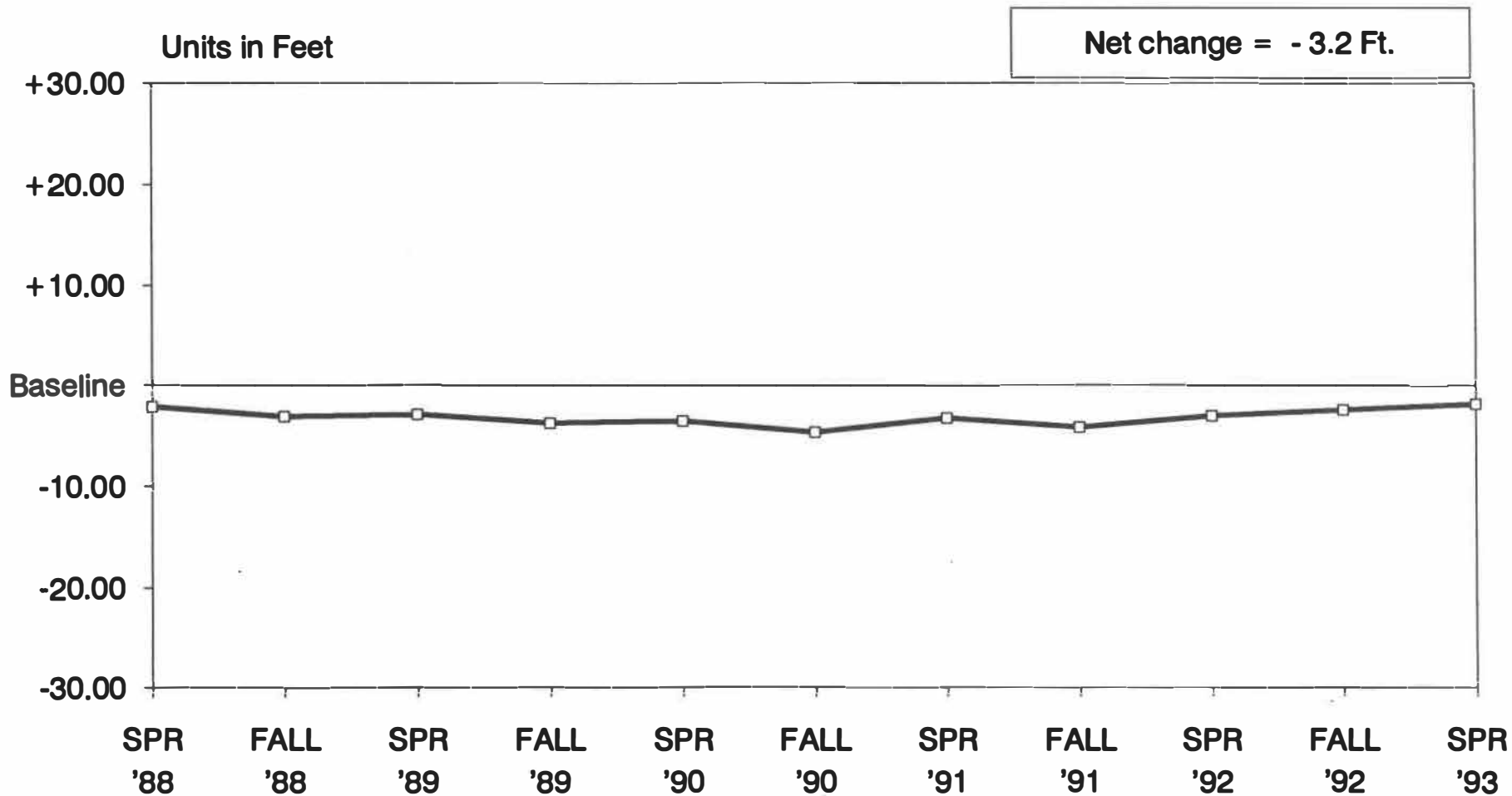


Changes in Water Levels Since 1987 (Baseline)

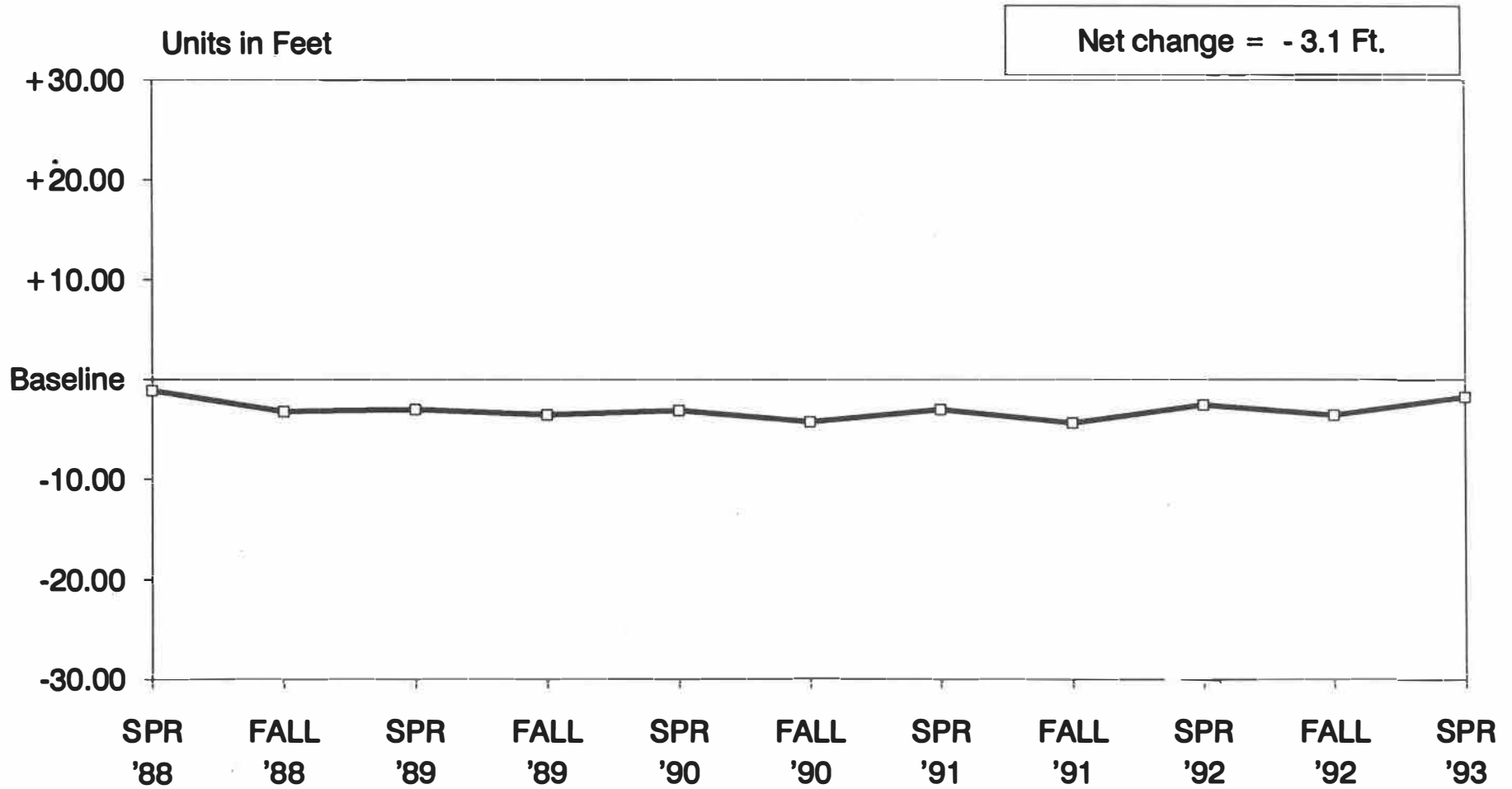
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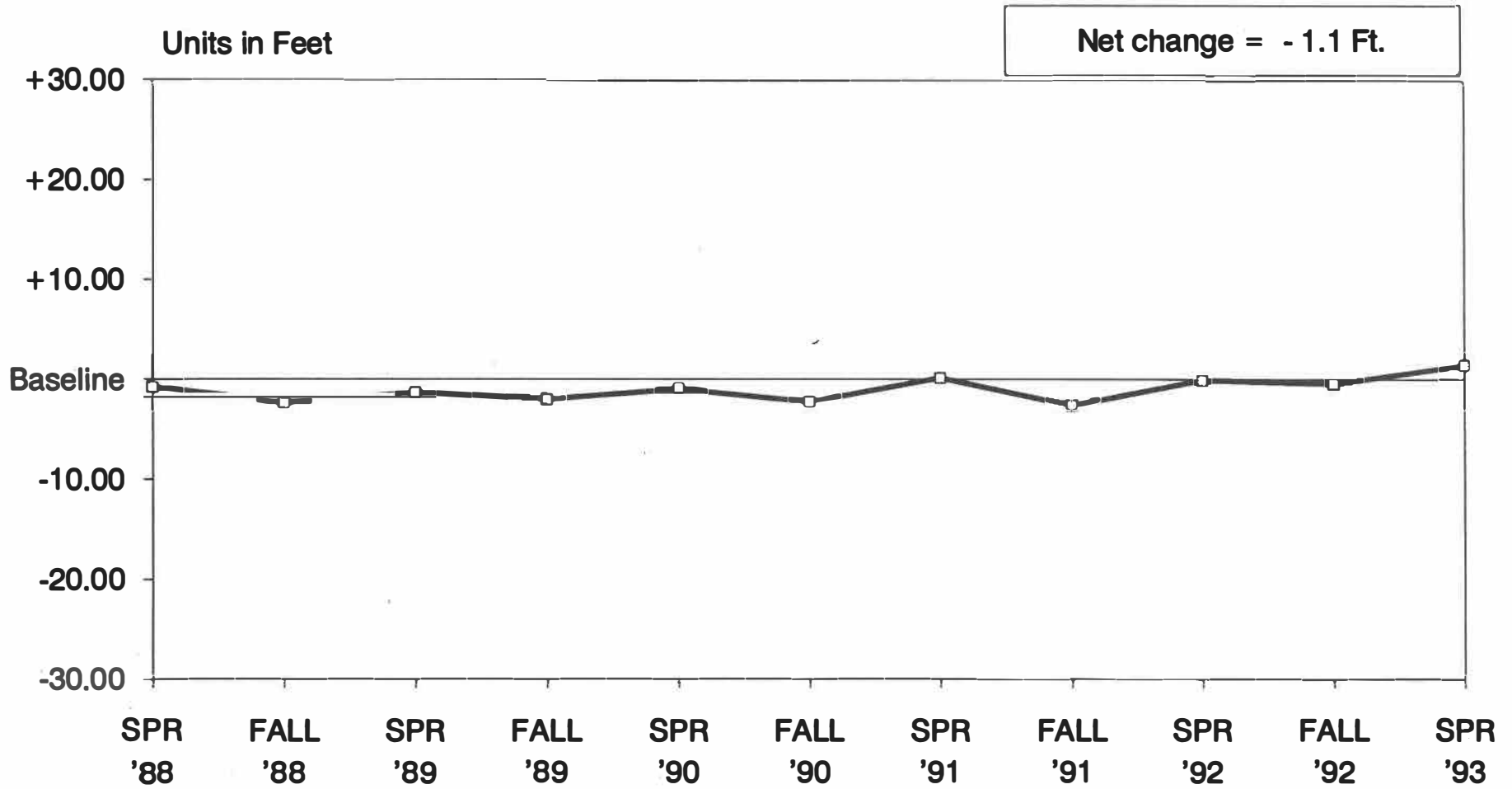
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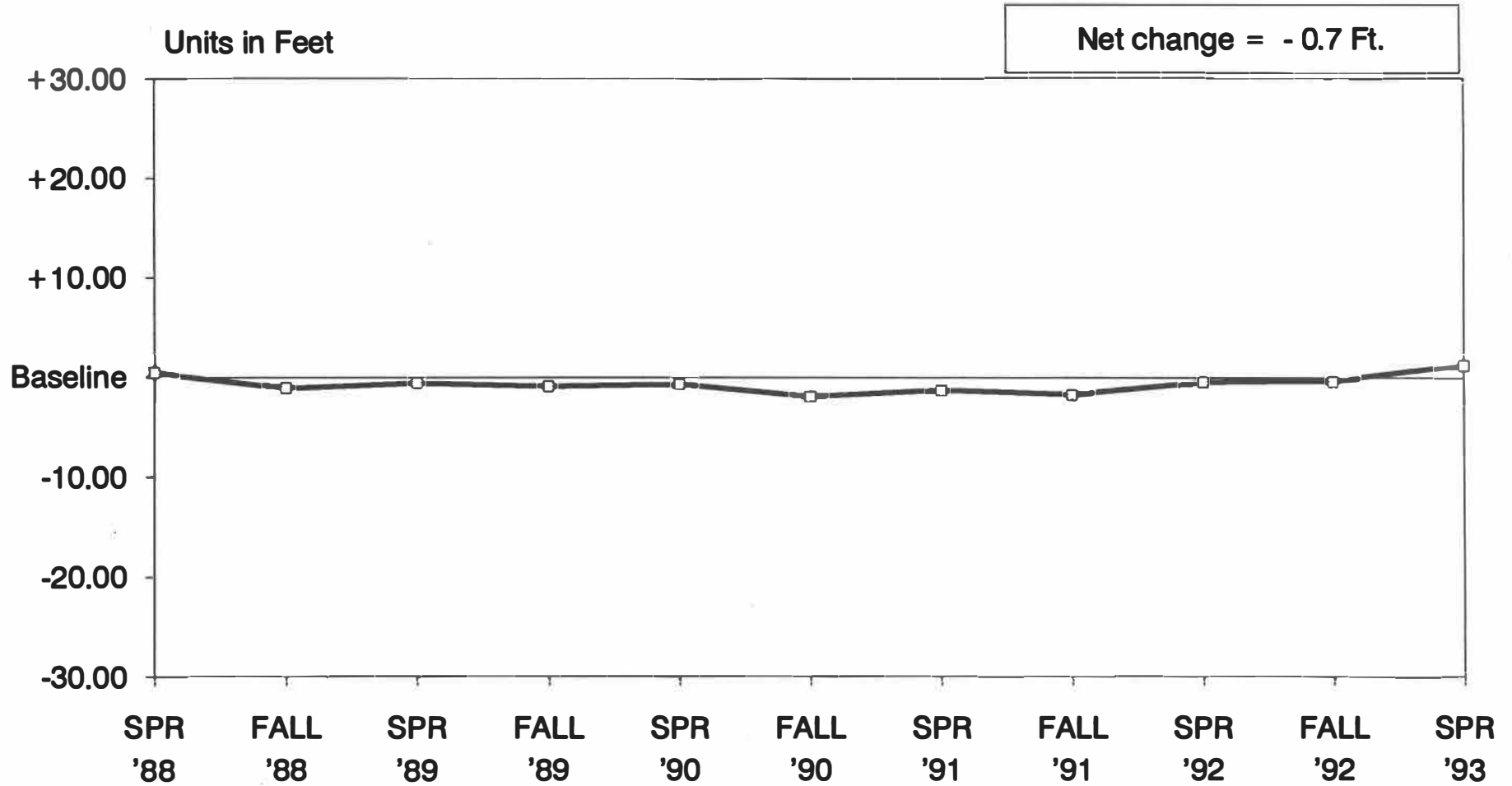
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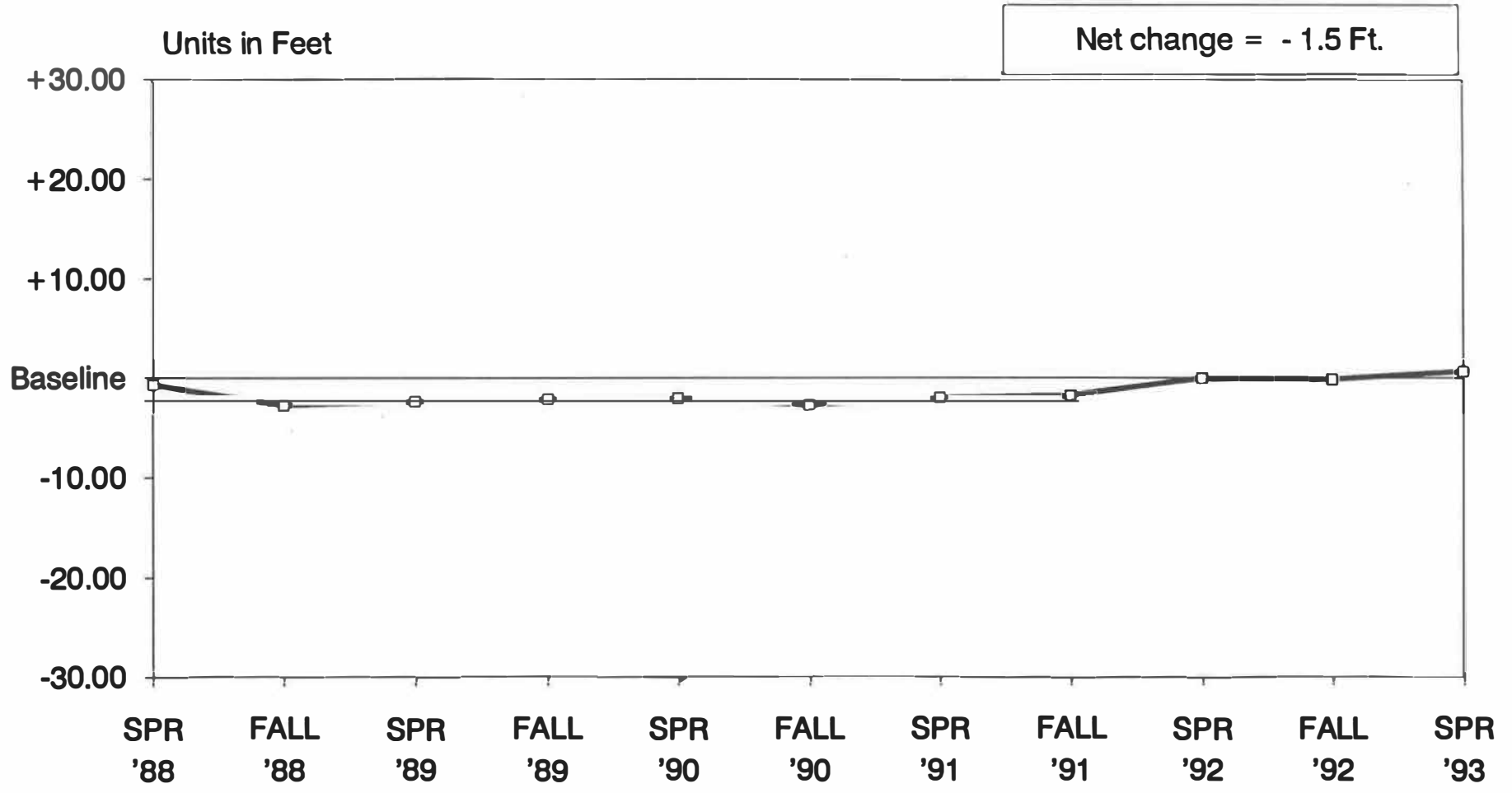
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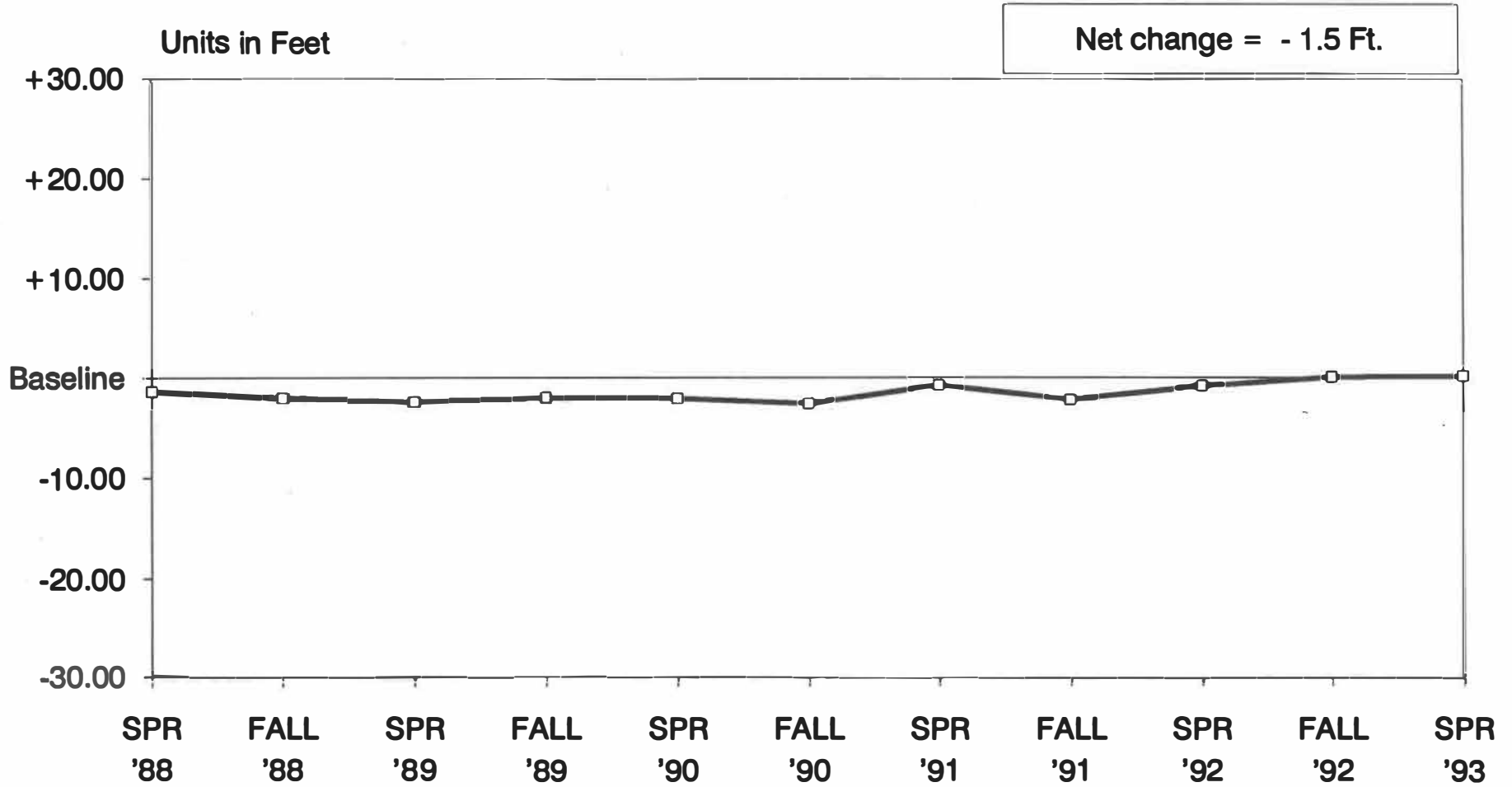
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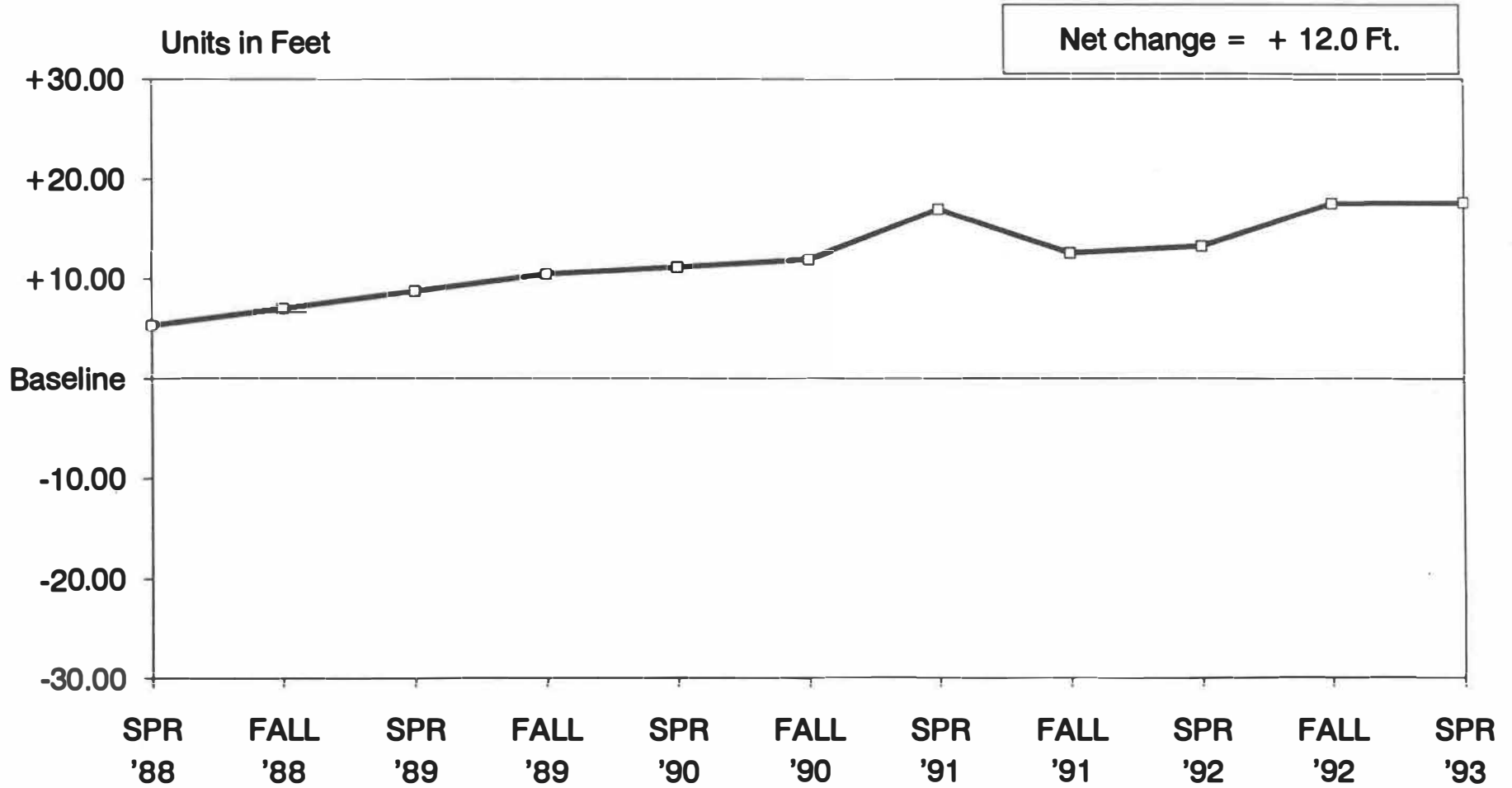
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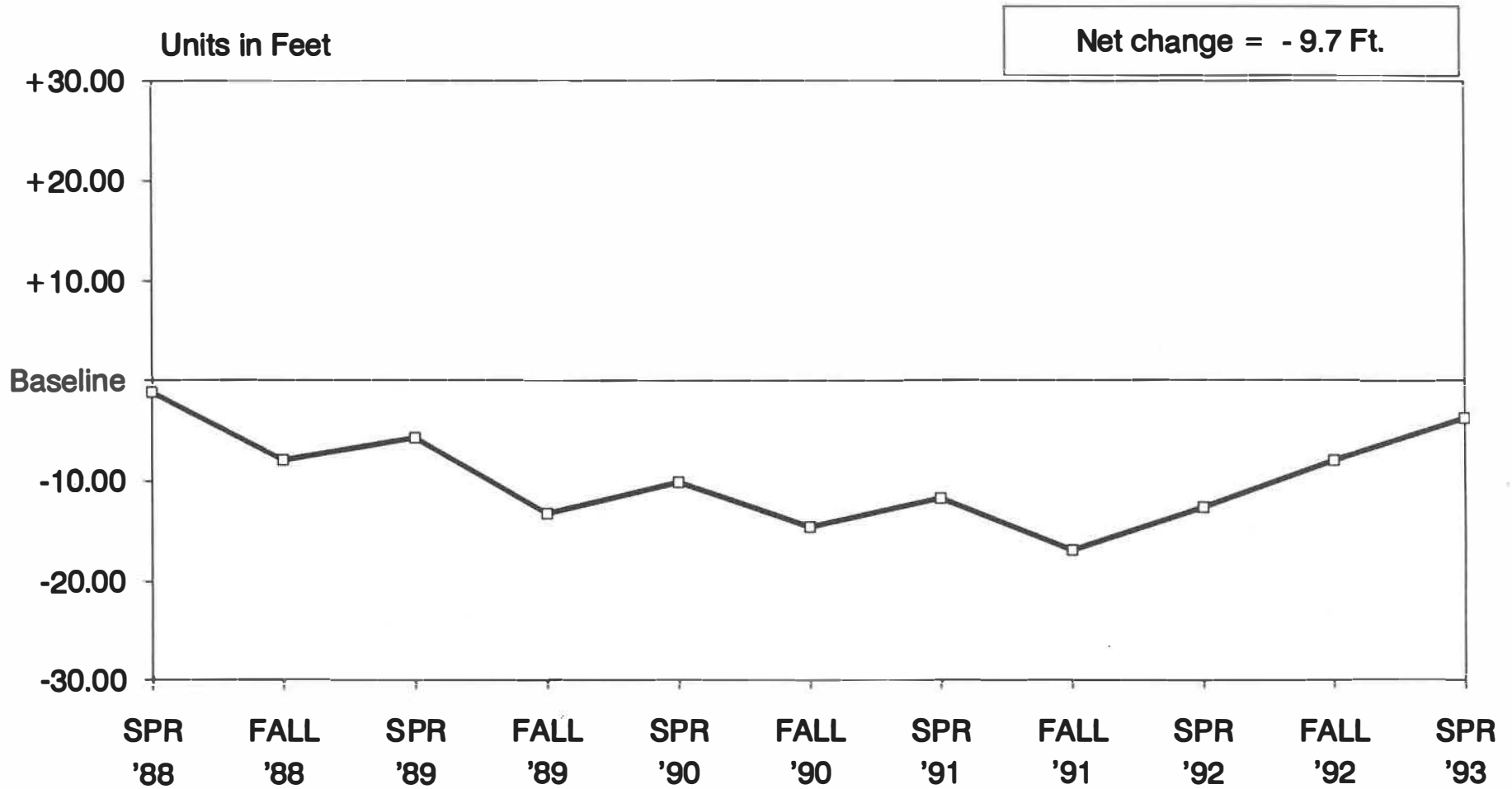
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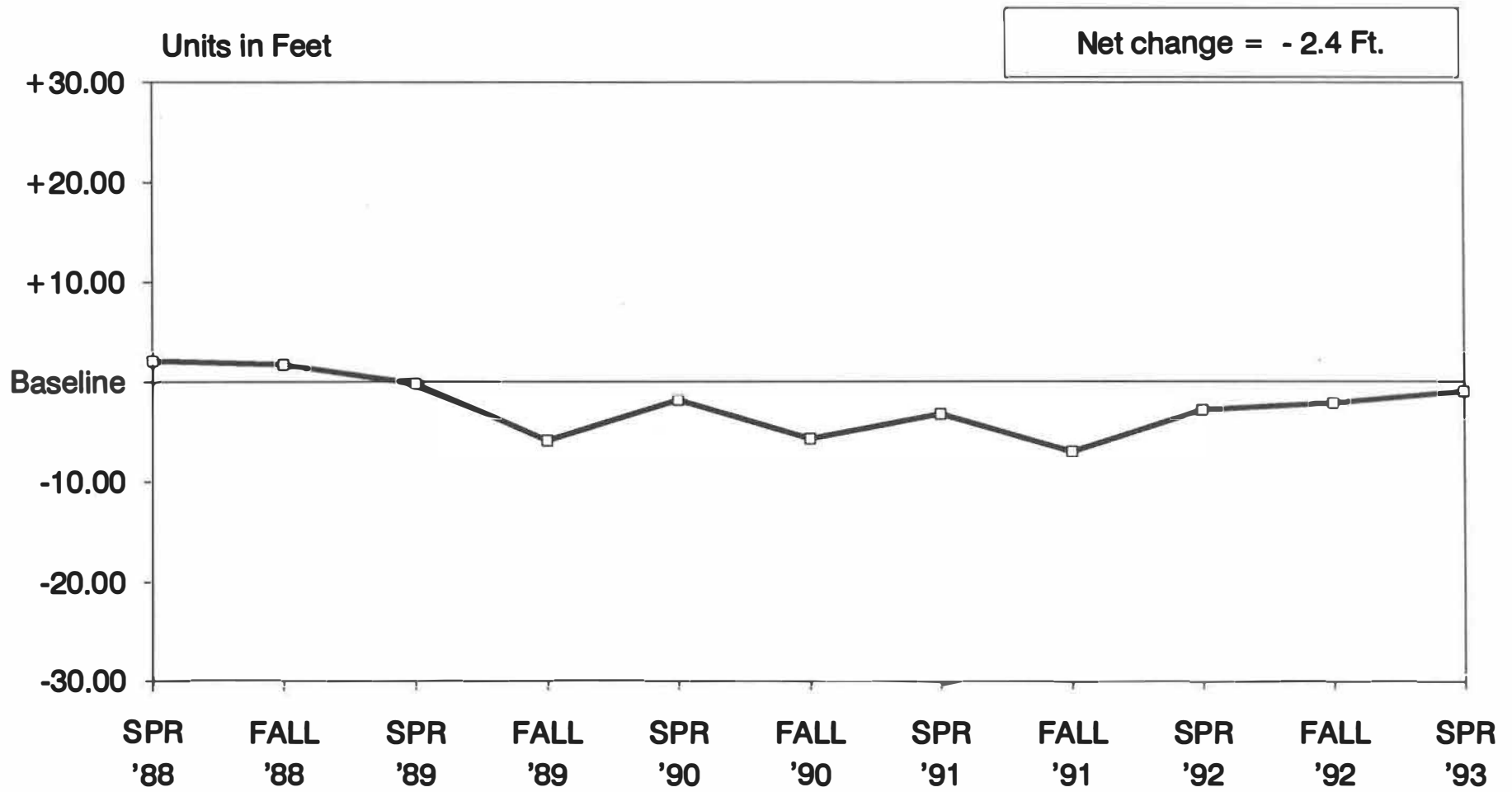
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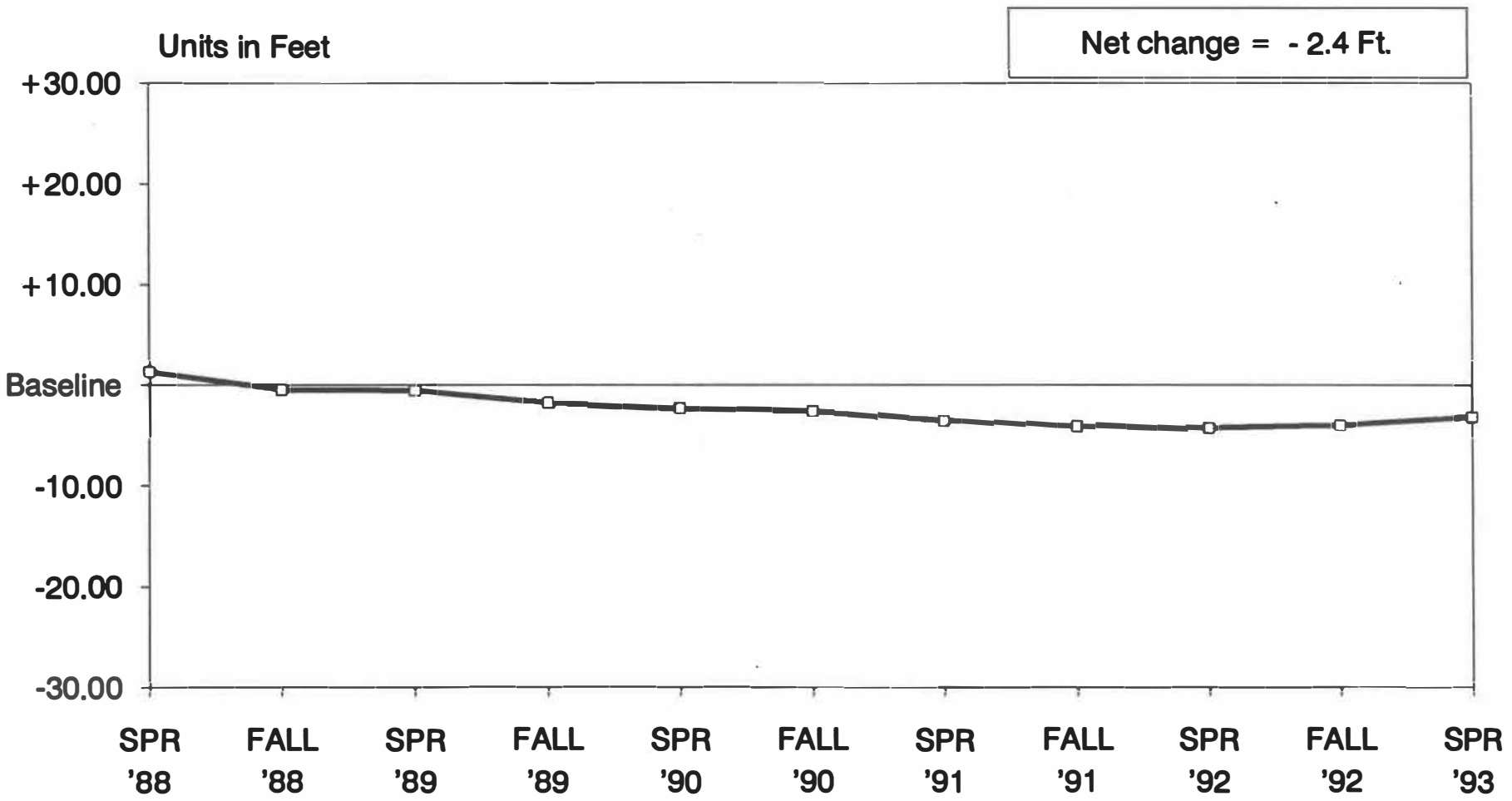
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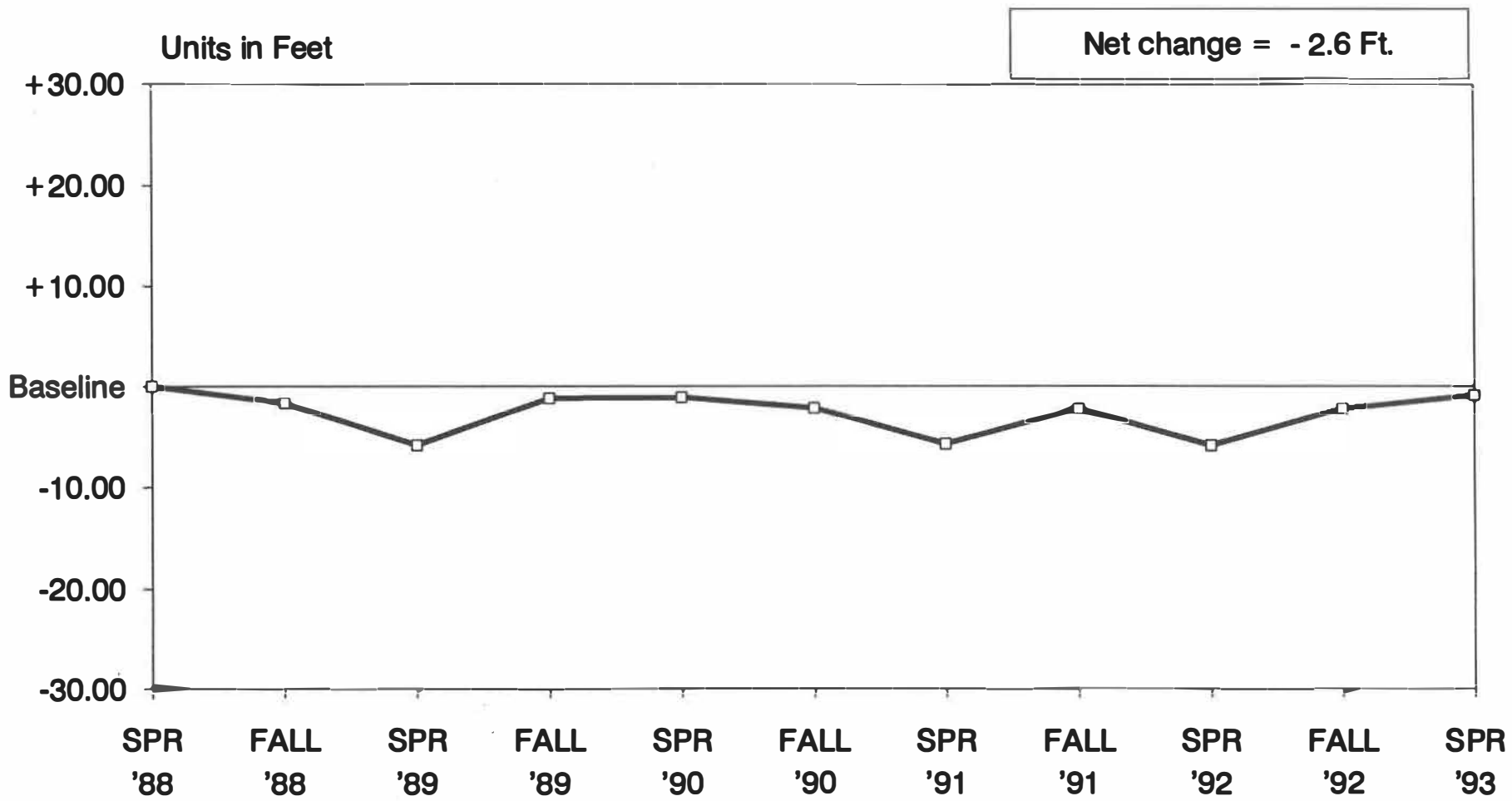
Changes in Water Levels Since 1987 (Baseline) Well: 43 17N-7E-36AACC Saunders Co. Uplands Aquifer



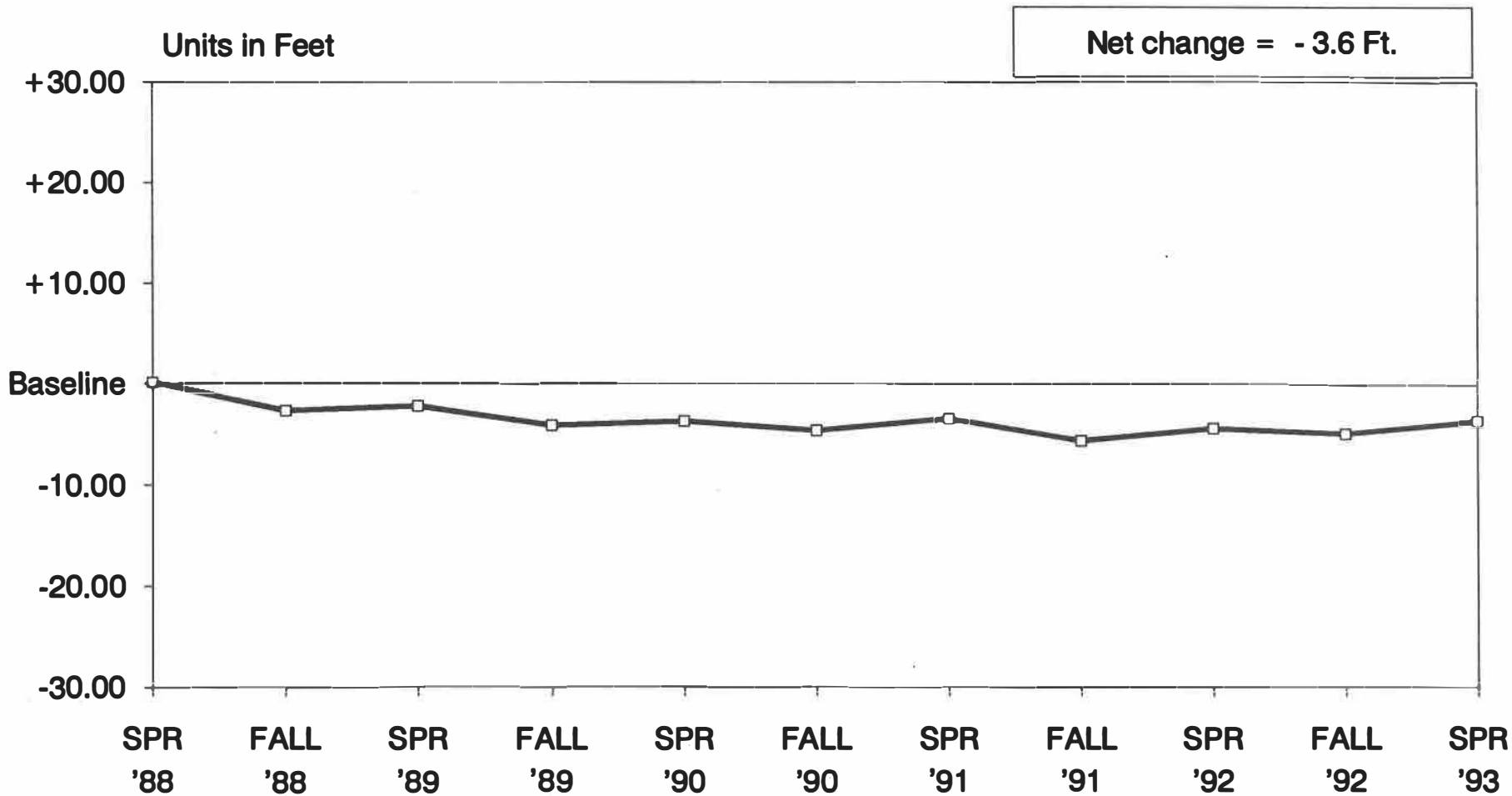
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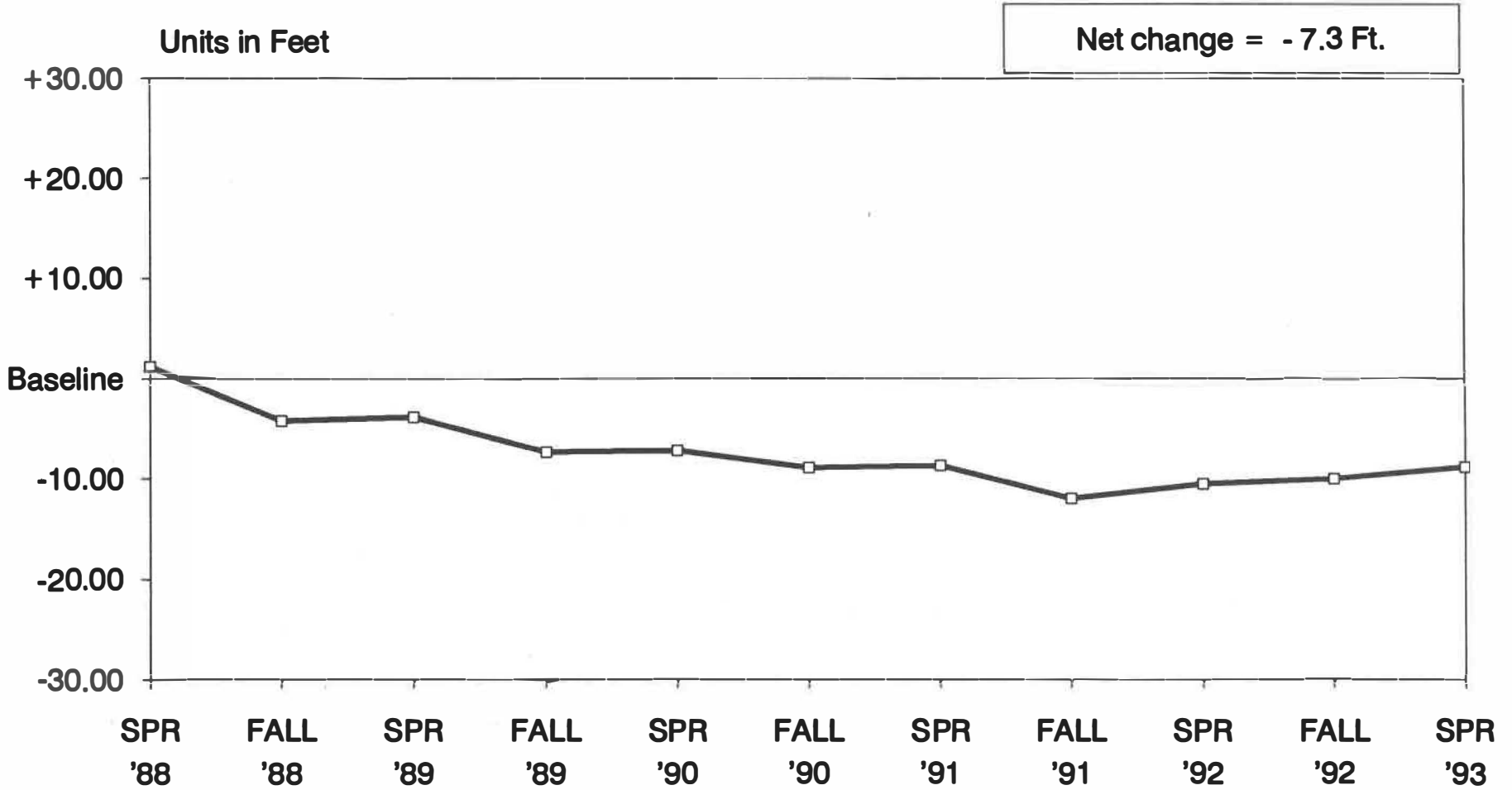
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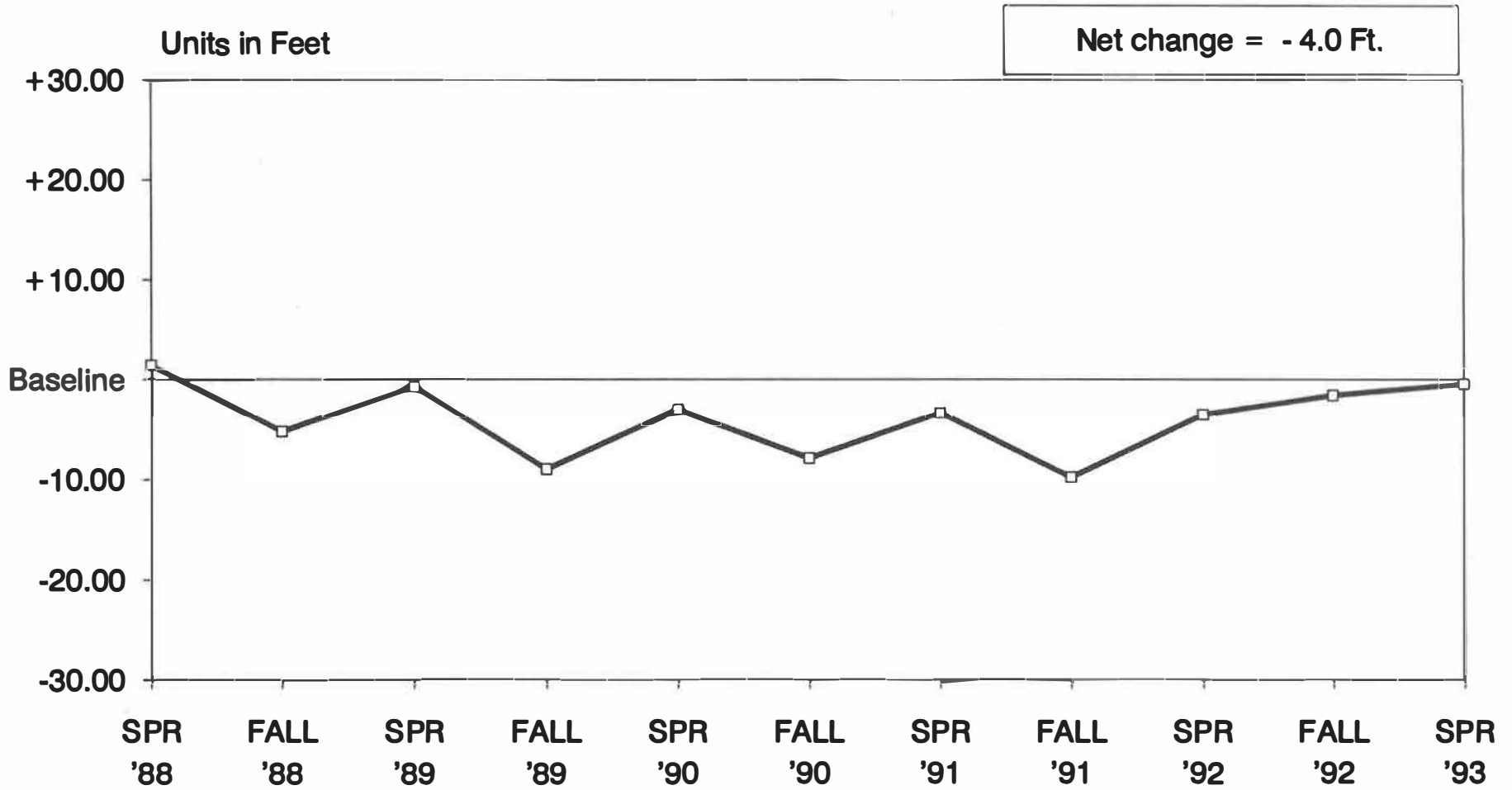
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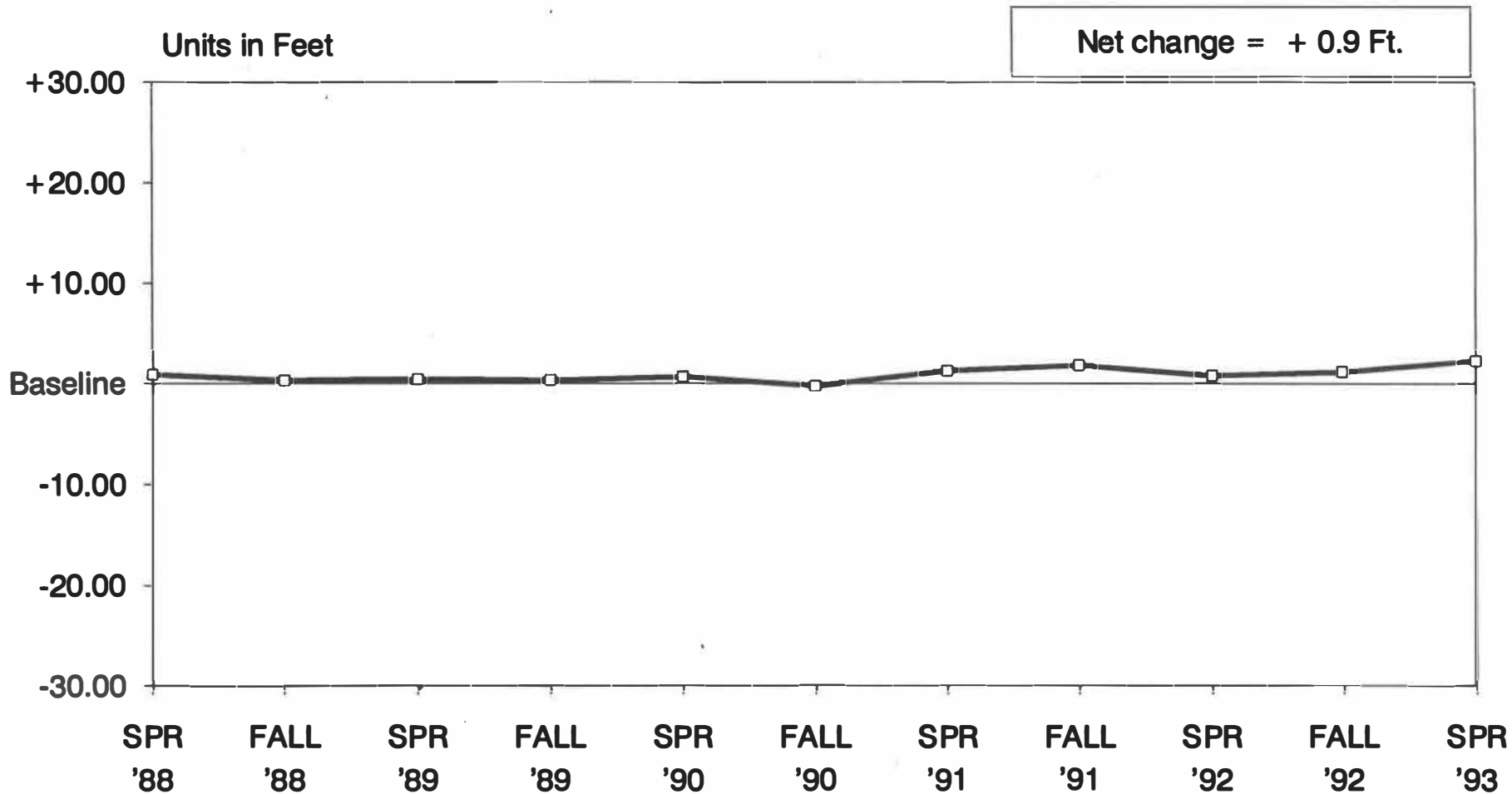
Changes in Water Levels Since 1987 (Baseline)
Well: 48 15N-8E-13DAAB Saunders Co. Uplands Aquifer



Changes in Water Levels Since 1987 (Baseline)
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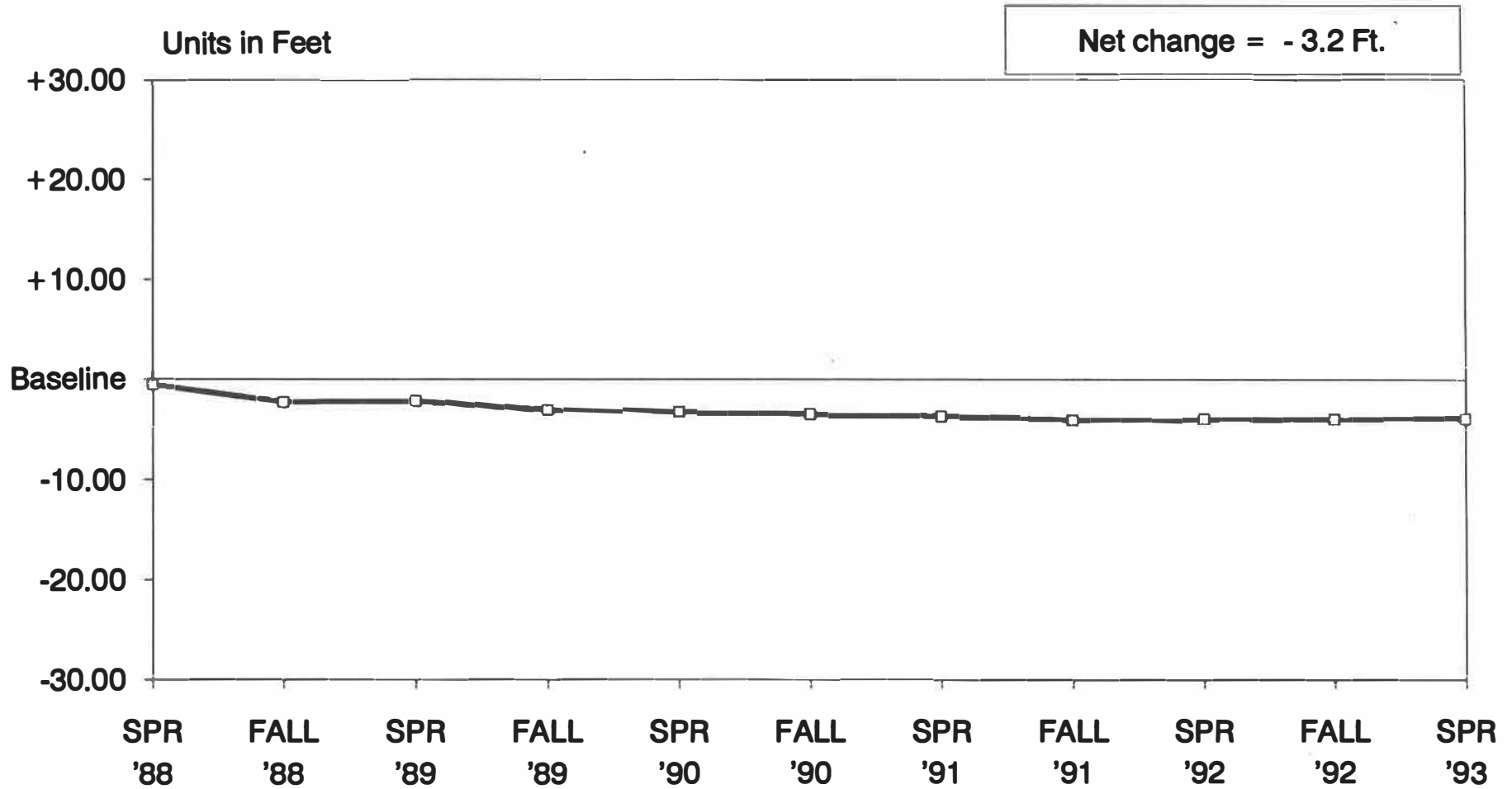


Changes in Water Levels Since 1987 (Baseline) Well: 50 17N-6E-21CABB Saunders Co. Platte V. Aquifer

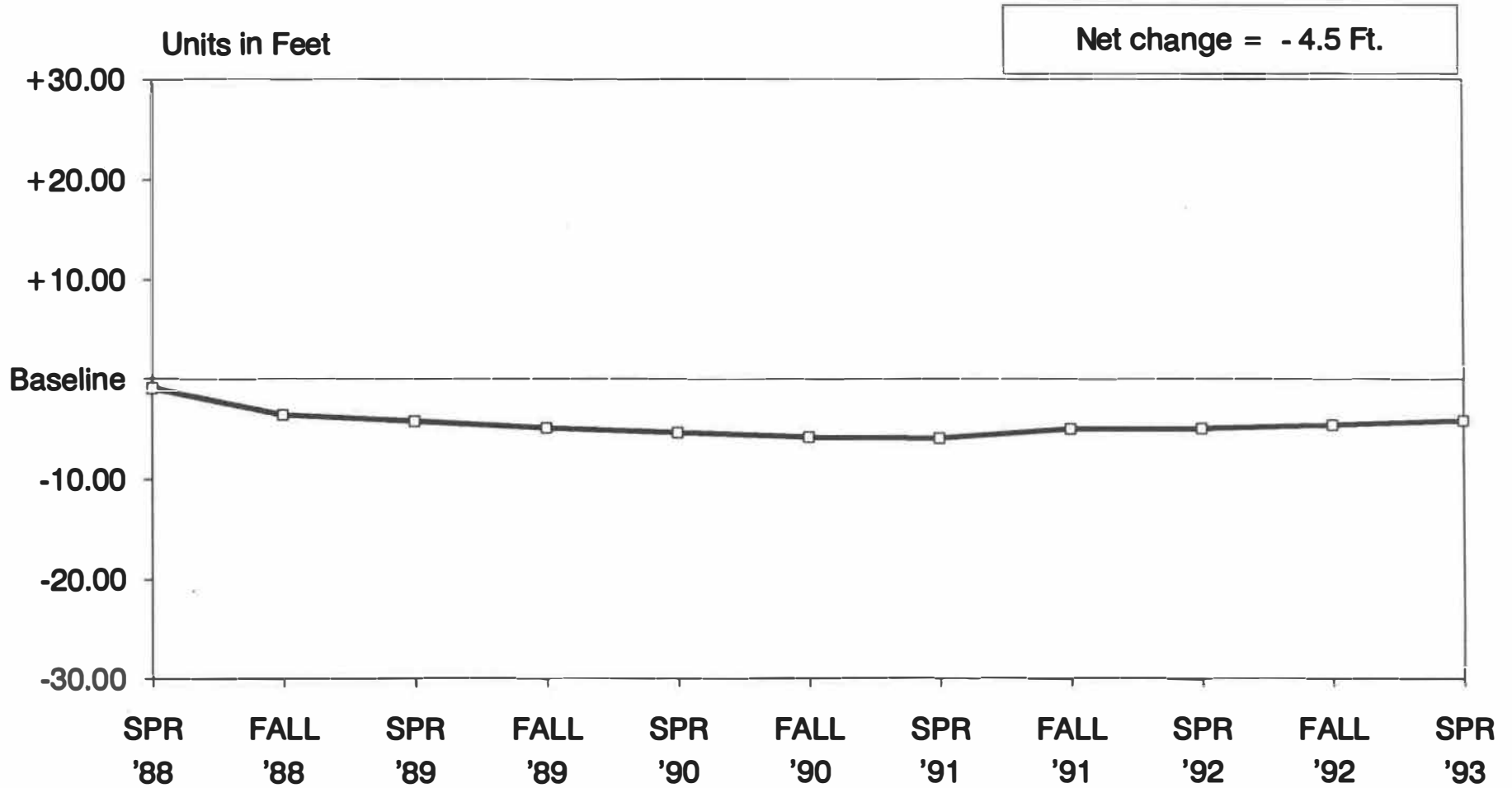


Changes in Water Levels Since 1987 (Baseline)

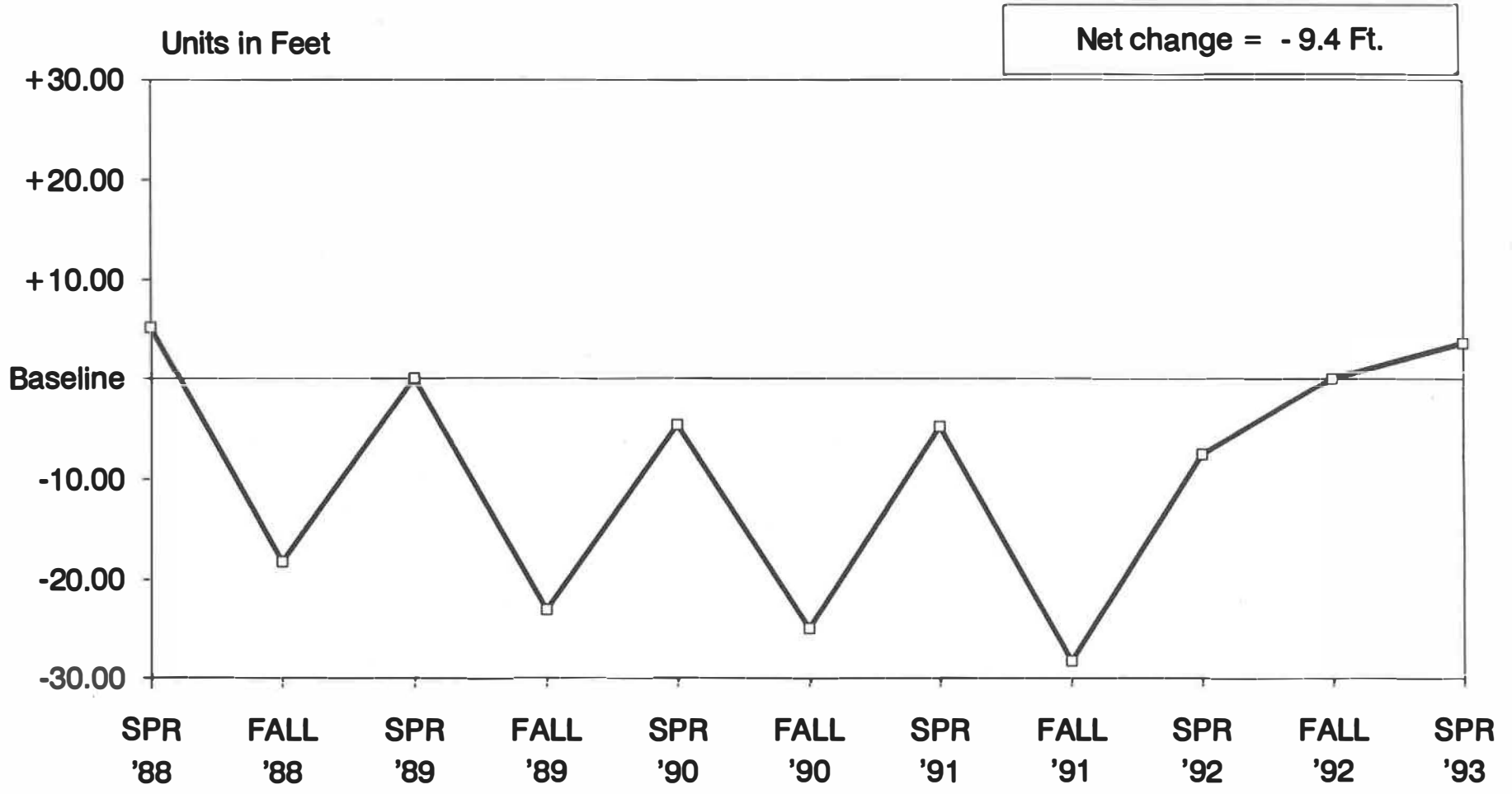
Well: 51 14N-8E-27BAAB Saunders Co. Todd V. Aquifer



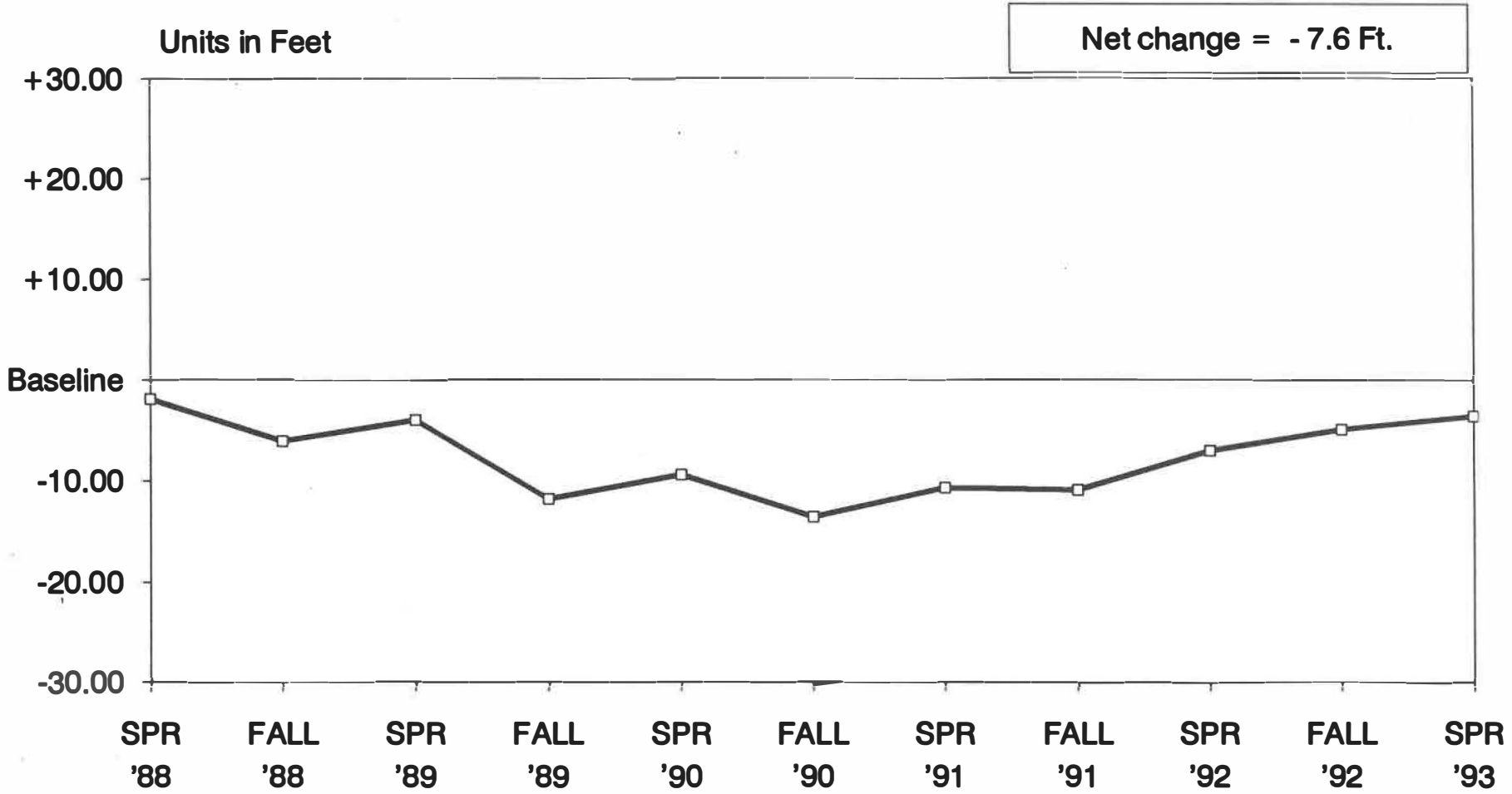
Changes in Water Levels Since 1987 (Baseline)
Well: 52 15N-7E- 3CABB Saunders Co. Todd V. Aquifer



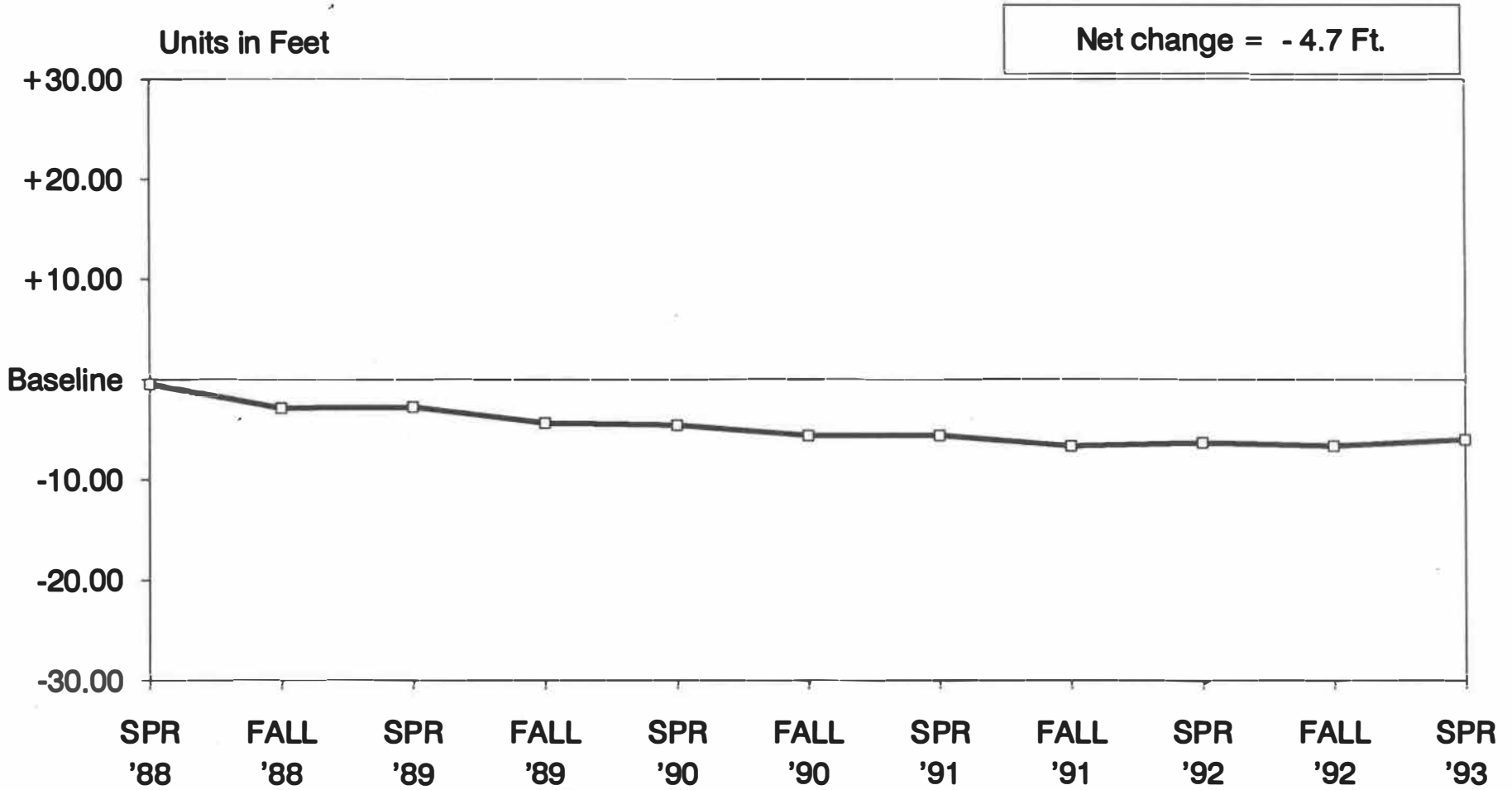
Changes in Water Levels Since 1987 (Baseline)
Well: 53 16N-4E-32DAAA Butler Co. Uplands Aquifer



Changes in Water Levels Since 1987 (Baseline) Well: 54 16N-6E-34CDBA Saunders Co. Uplands Aquifer

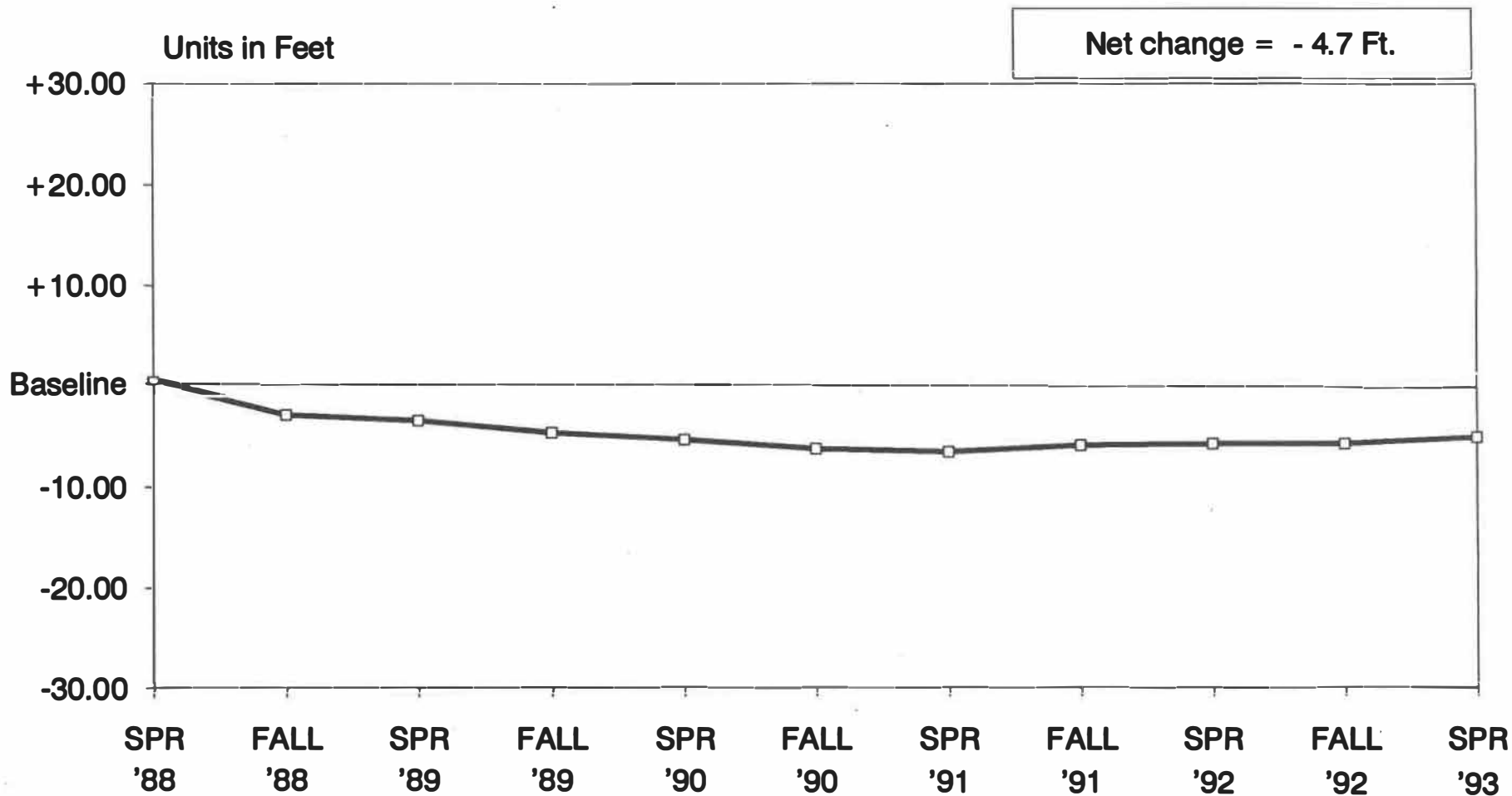


Changes in Water Levels Since 1987 (Baseline) Well: 55 15N-9E-30CCCD Saunders Co. Todd V. Aquifer



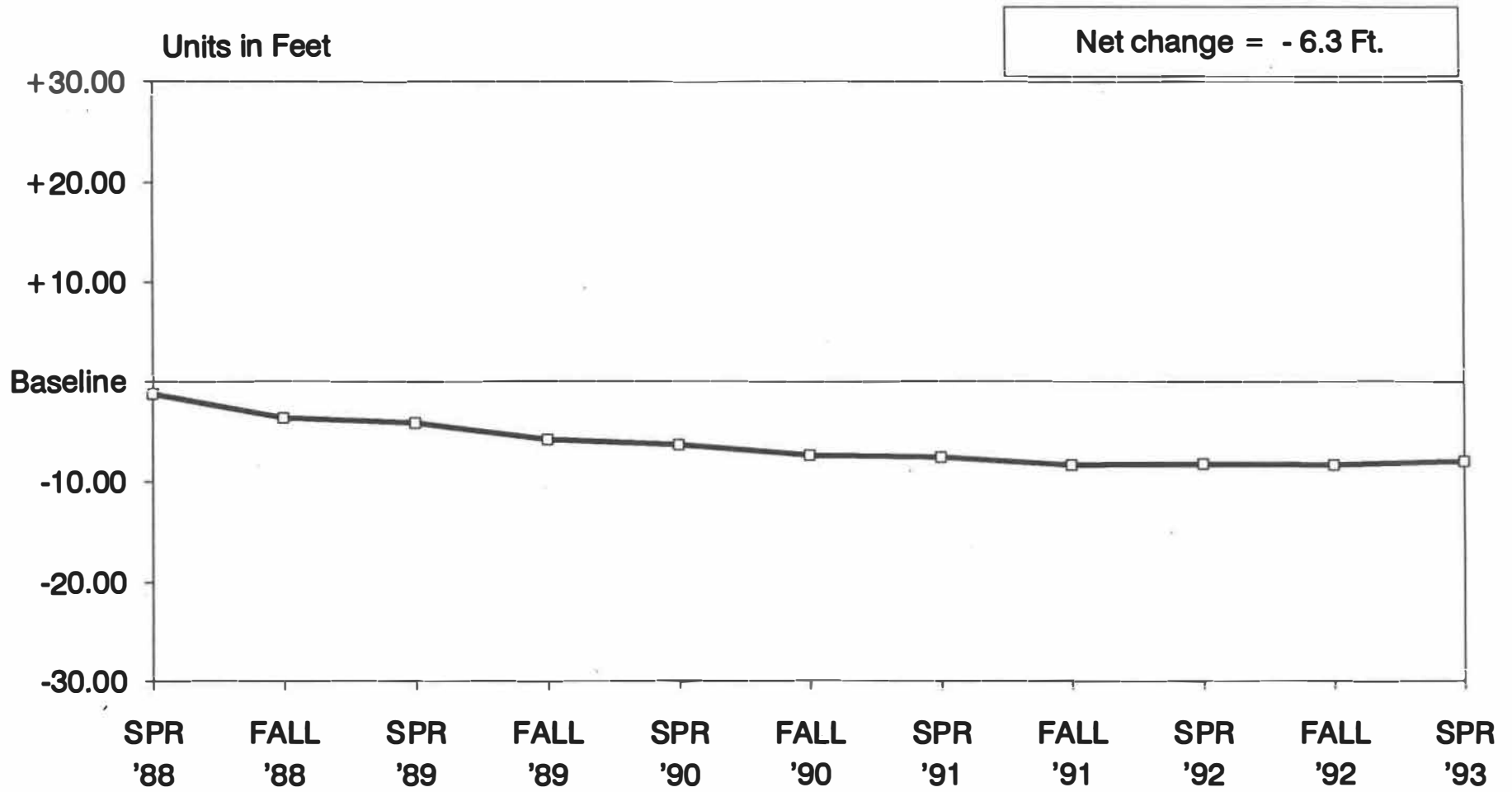
Changes in Water Levels Since 1987 (Baseline)

Well: 56 16N-7E-17ADBB Saunders Co. Todd V. Aquifer

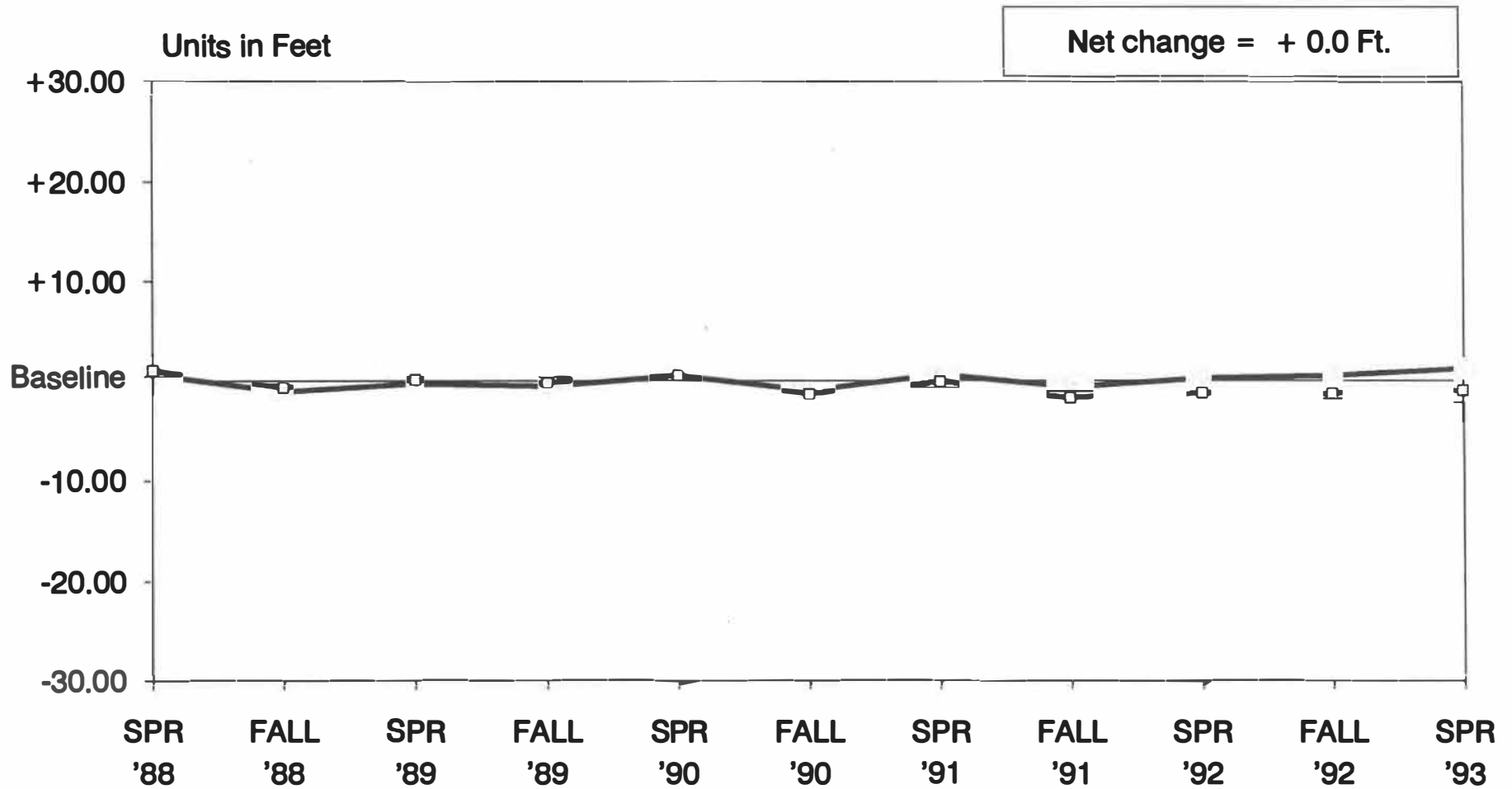


Changes in Water Levels Since 1987 (Baseline)

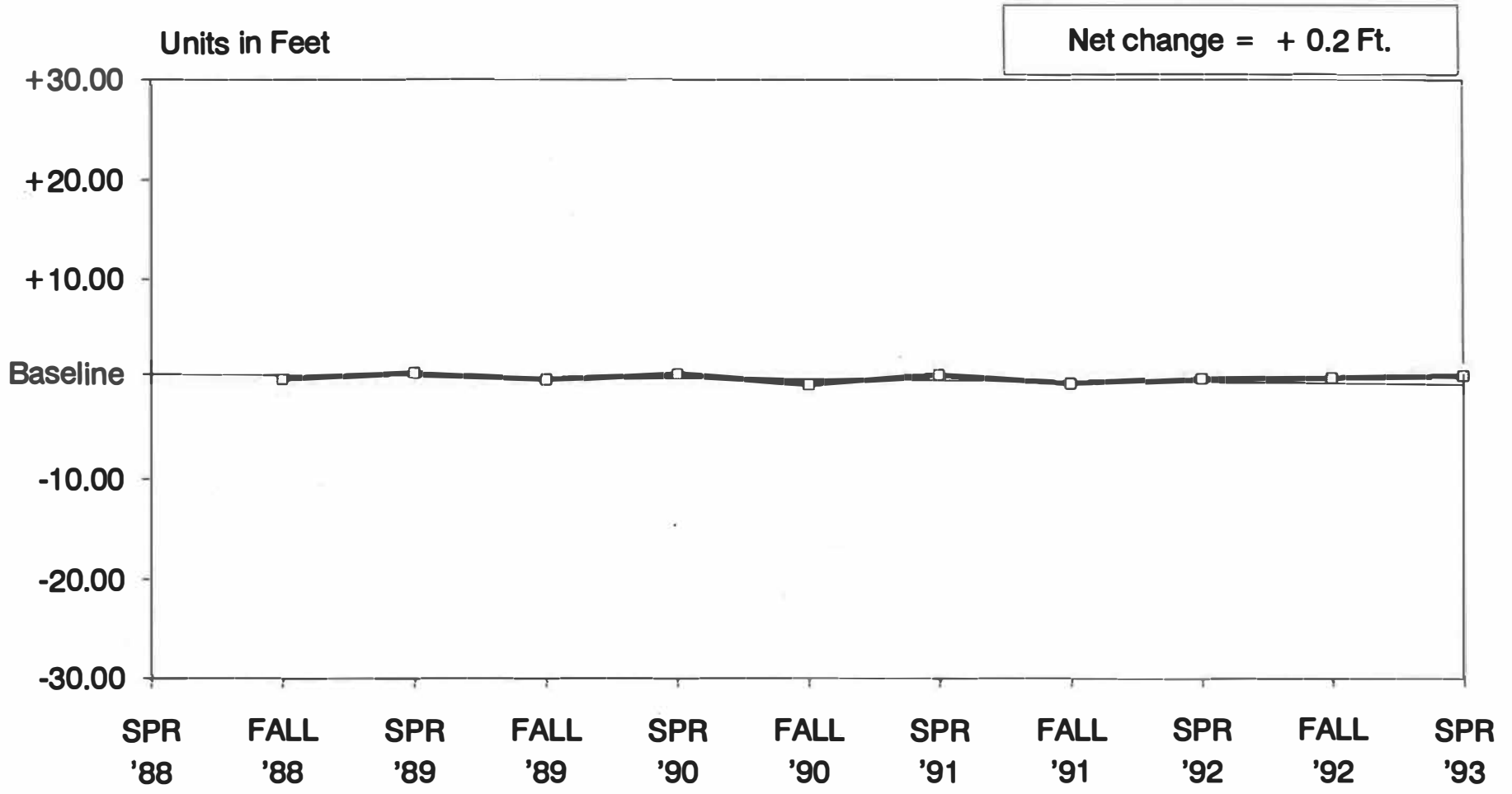
Well: 57 15N-7E-36DDBB Saunders Co. Todd V. Aquifer



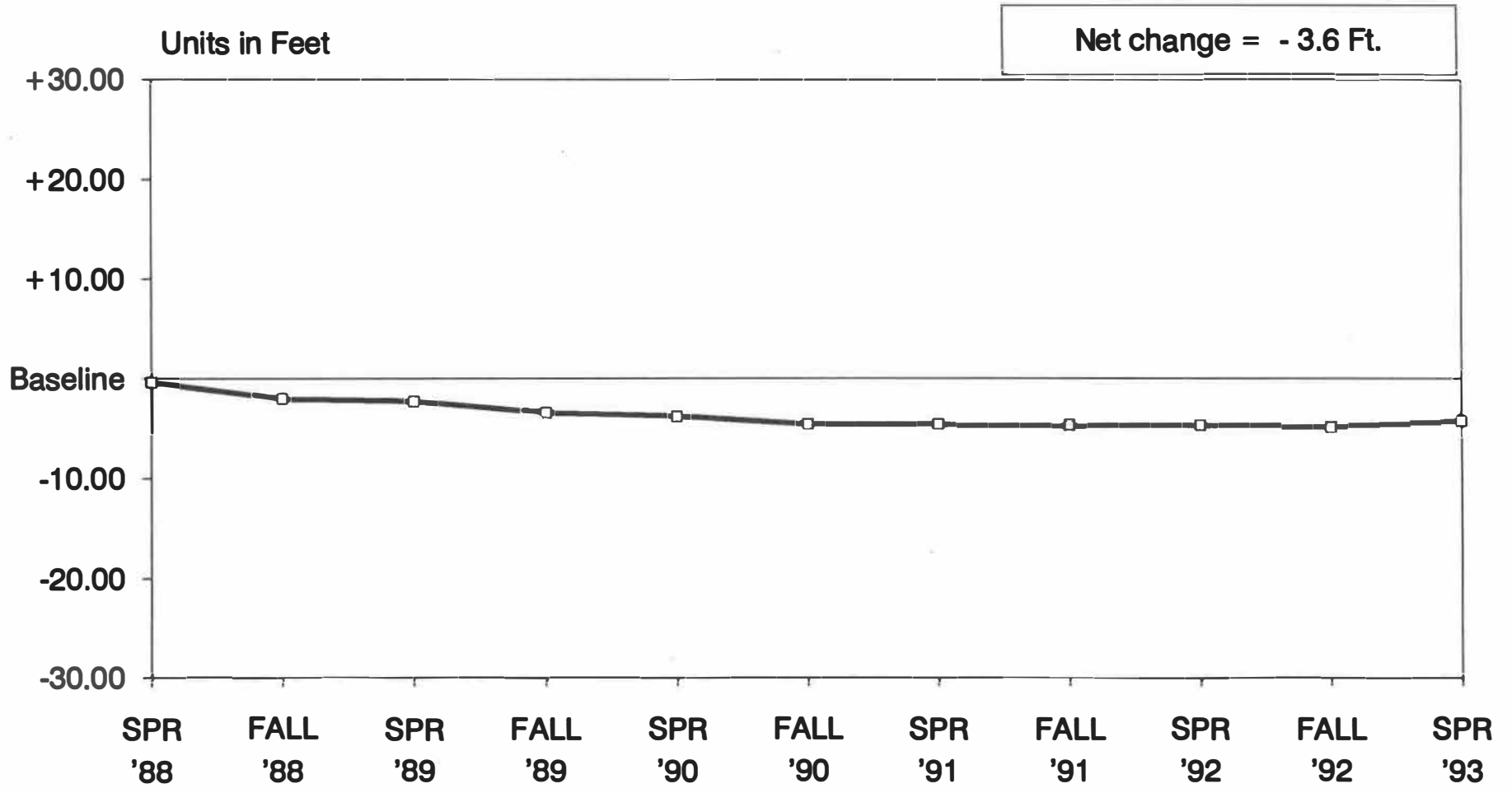
Changes in Water Levels Since 1987 (Baseline)
Well: 58 14N-9E-13AACA Saunders Co. Platte V. Aquifer



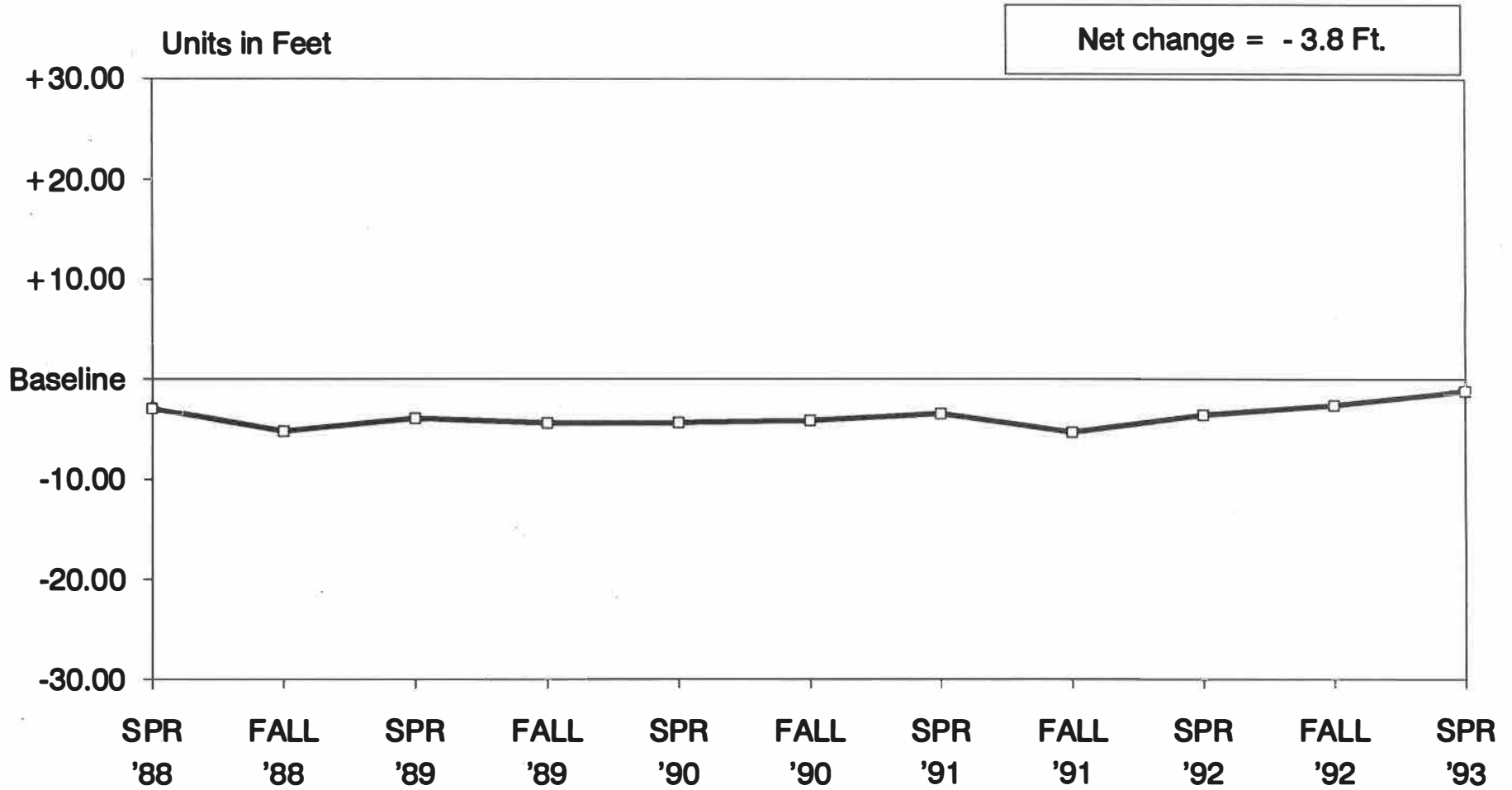
Changes in Water Levels Since 1989 (Baseline)
Well: 59 14N-9E-26CBAB Saunders Co. Platte V. Aquifer



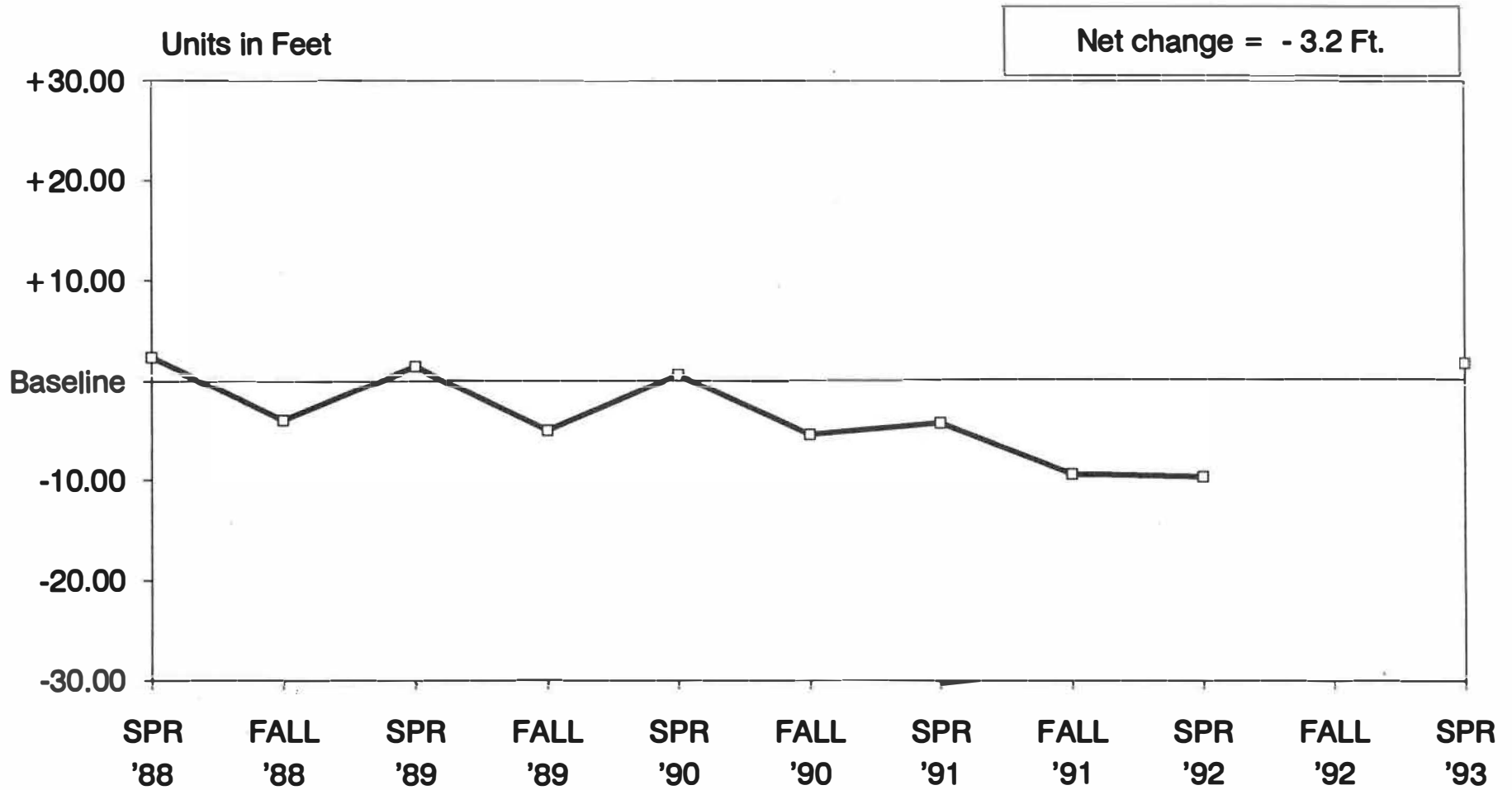
Changes in Water Levels Since 1987 (Baseline)
Well: 60 13N-9E-16BDBA Saunders Co. Todd V. Aquifer



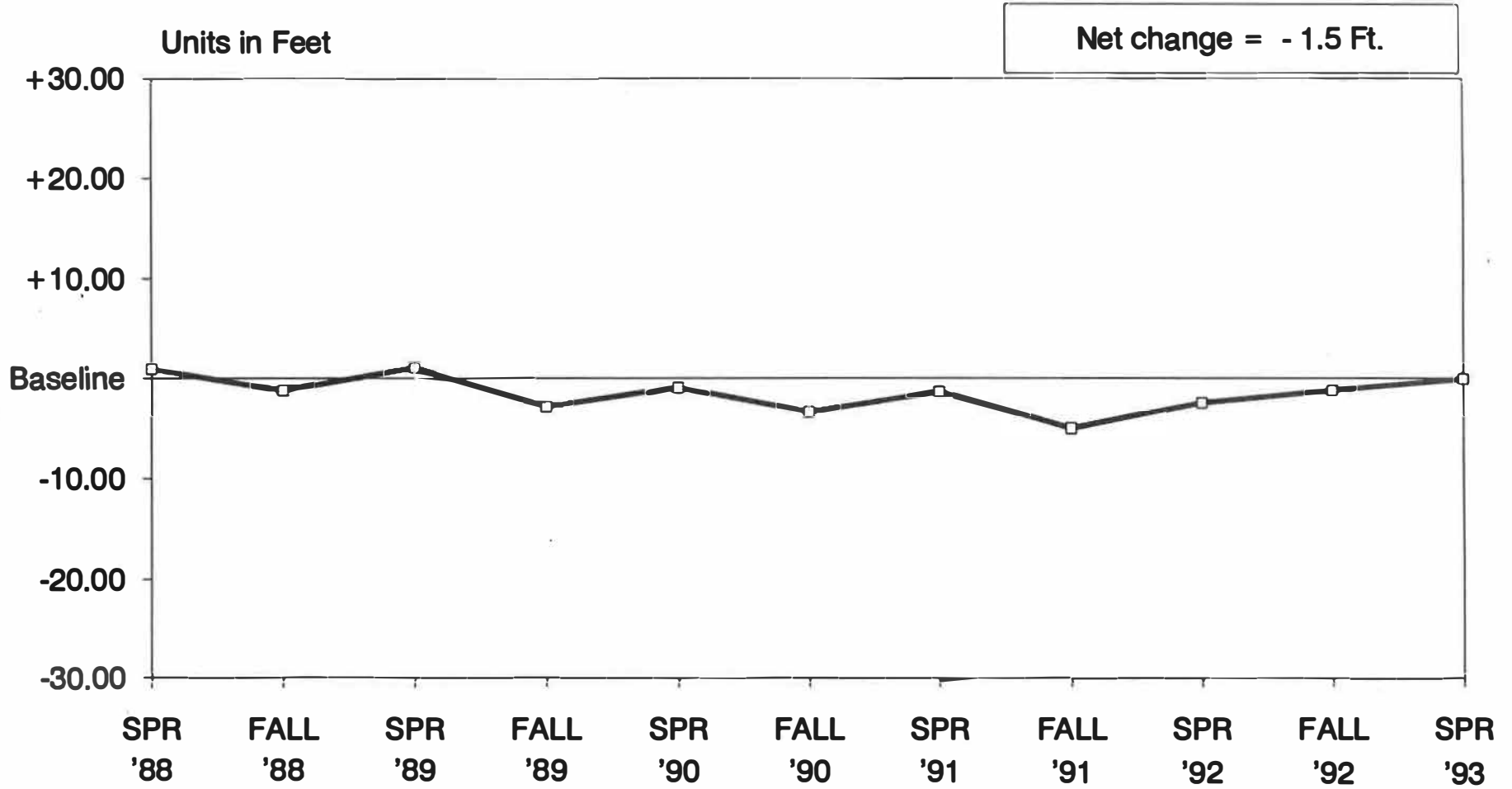
Changes in Water Levels Since 1987 (Baseline)
Well: 61 17N-3E-9CCBB Colfax Co. Platte V. Aquifer



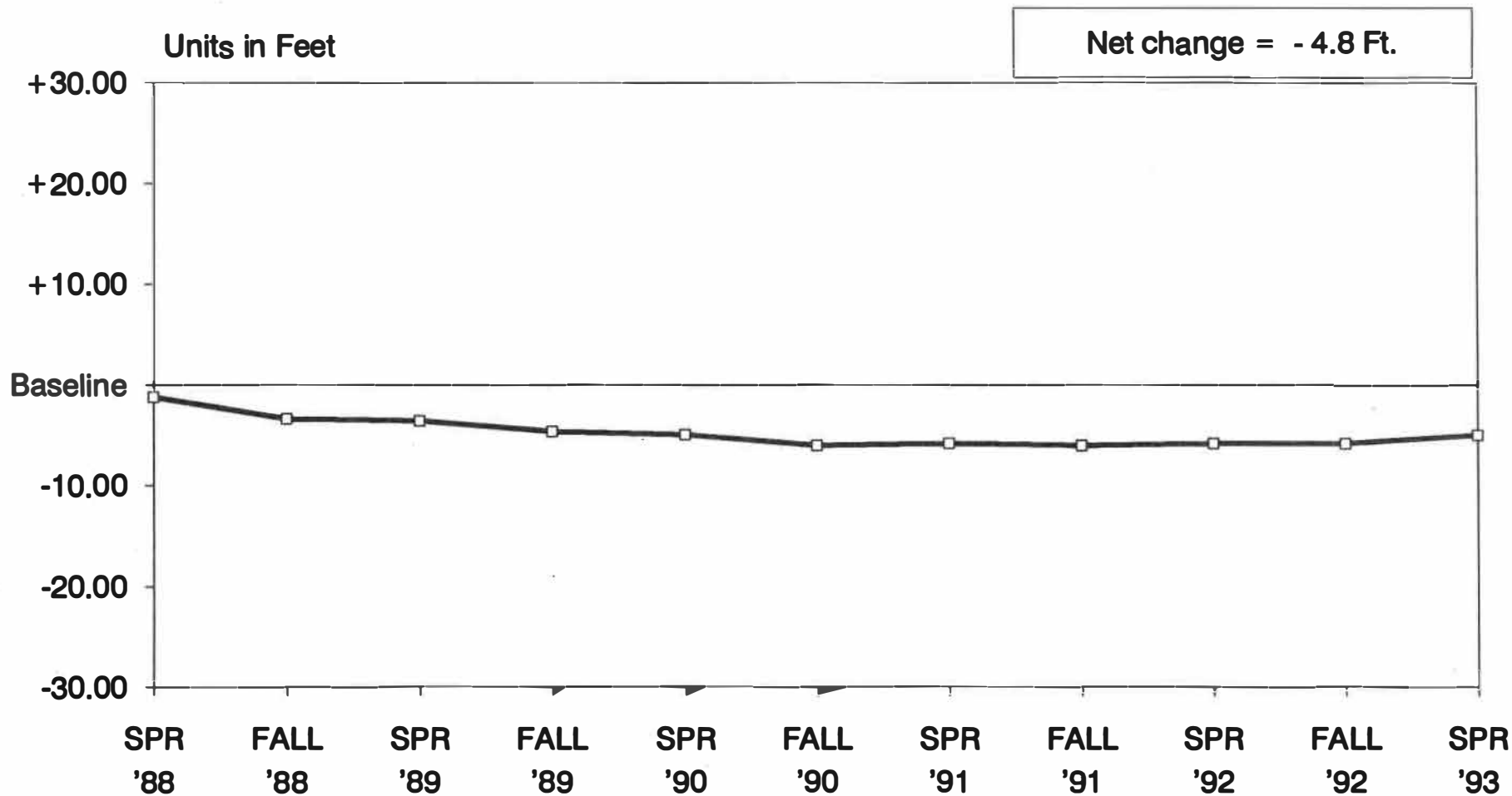
Changes in Water Levels Since 1987 (Baseline)
Well: 62 21N-4W- 9BDCC Madison Co. Shell Cr. Aquifer



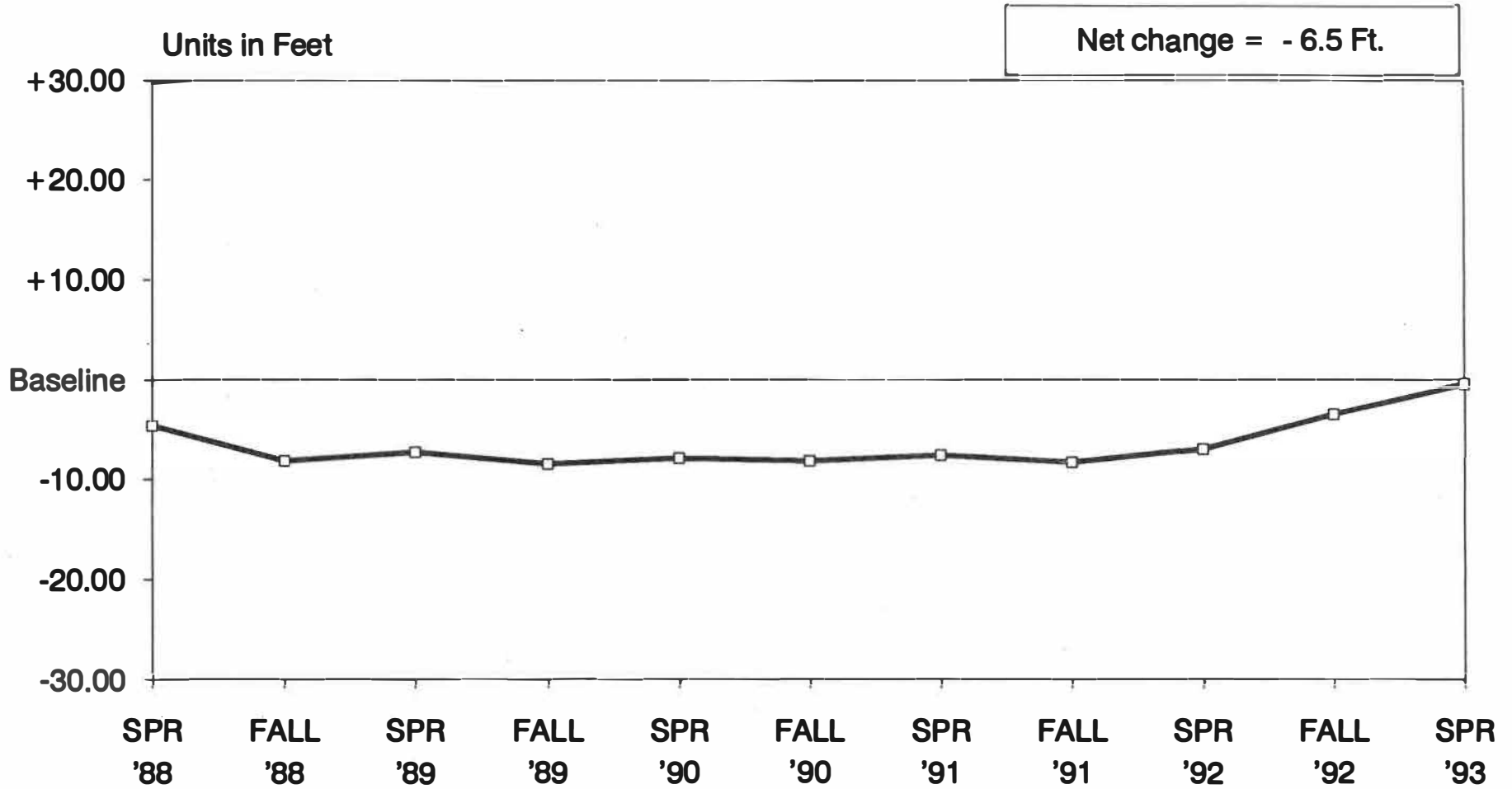
Changes in Water Levels Since 1987 (Baseline)
Well: 64 18N-1W- 5DCAA Platte Co. Shell Cr. Aquifer



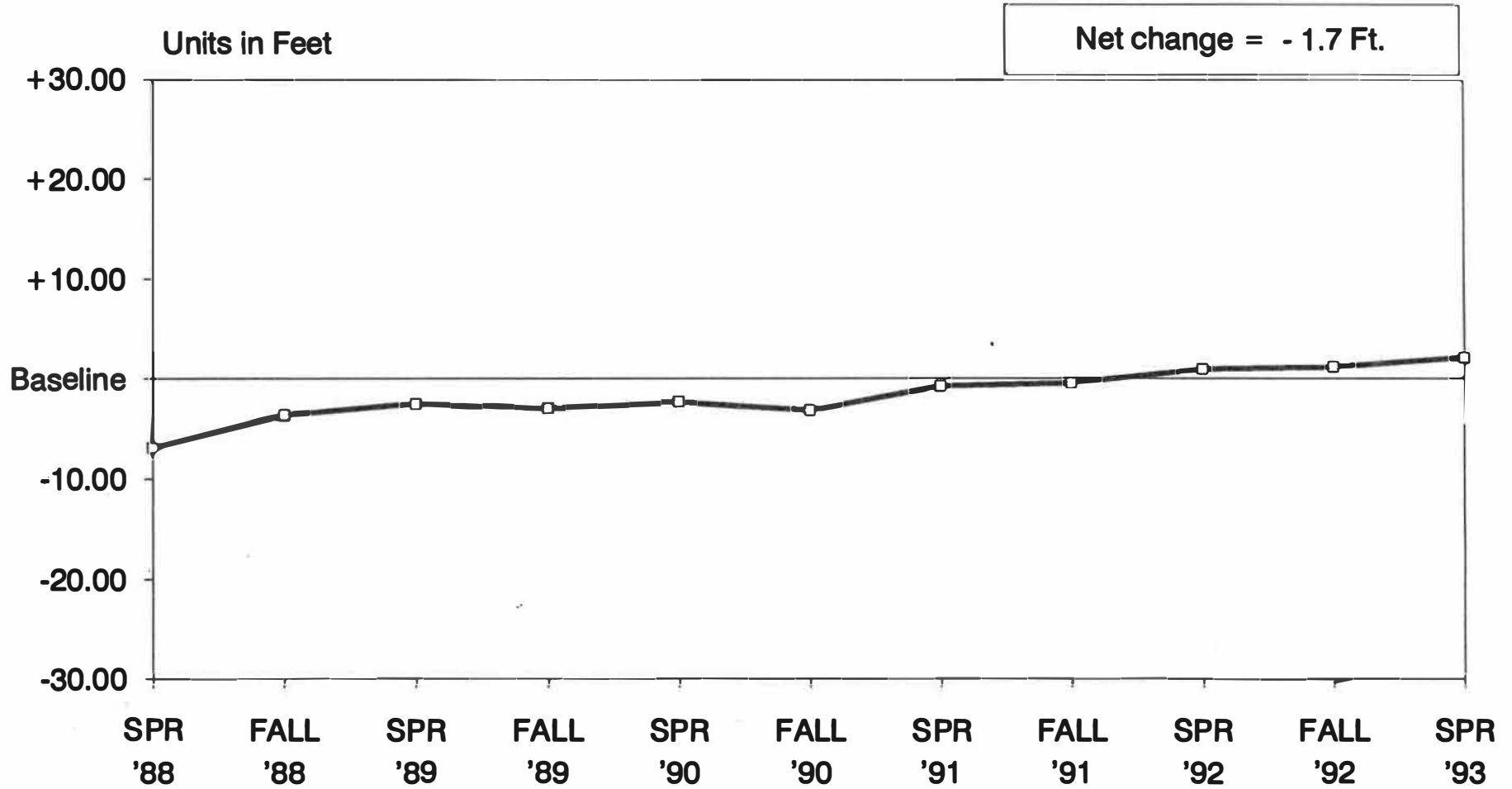
Changes in Water Levels Since 1987 (Baseline) Well: 65 15N-6E-25BBDD Saunders Co. Uplands Aquifer



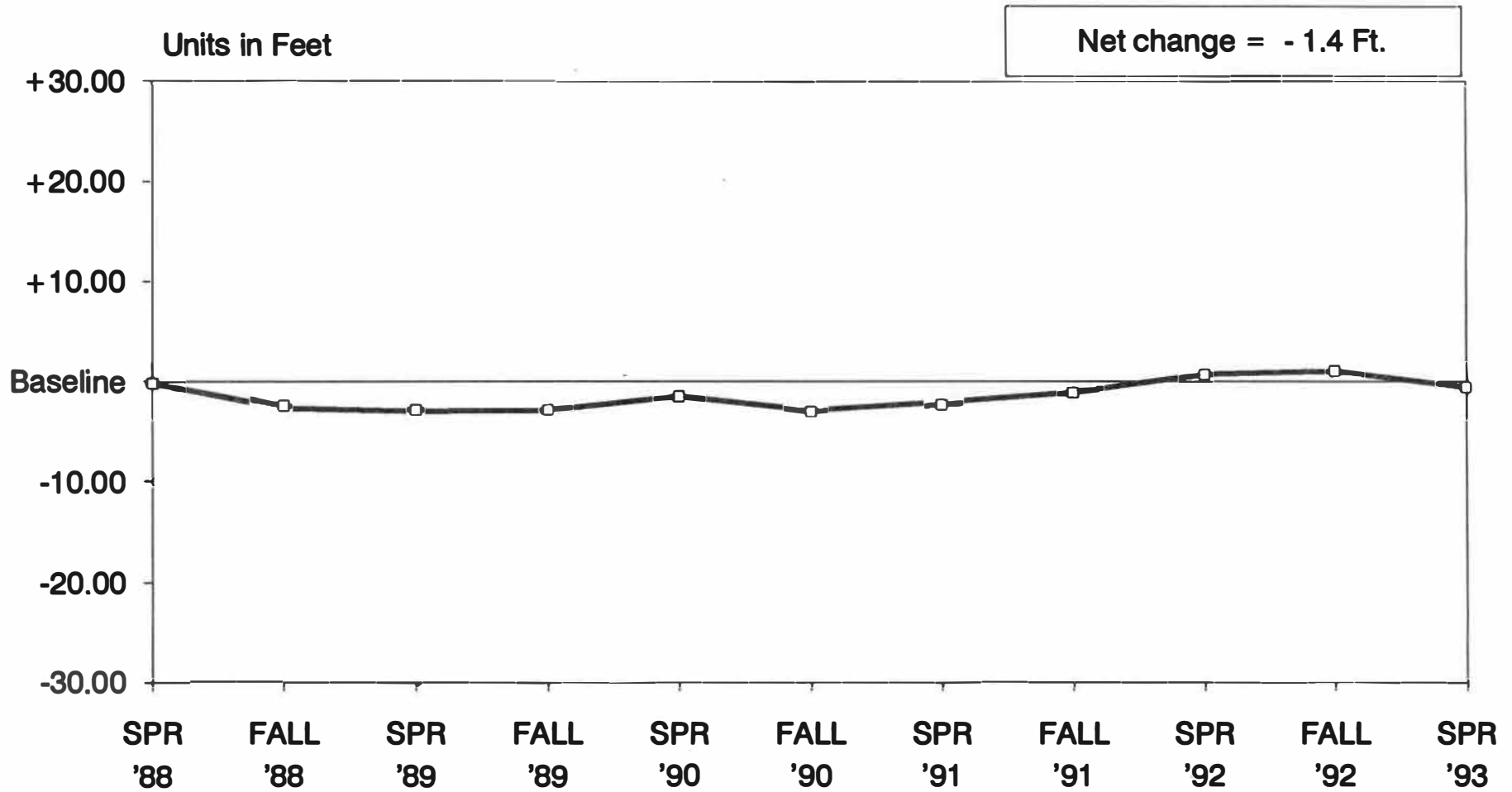
Changes in Water Levels Since 1987 (Baseline)
Well: 66 18N-6E-26CCDD Dodge Co. Platte V. Aquifer



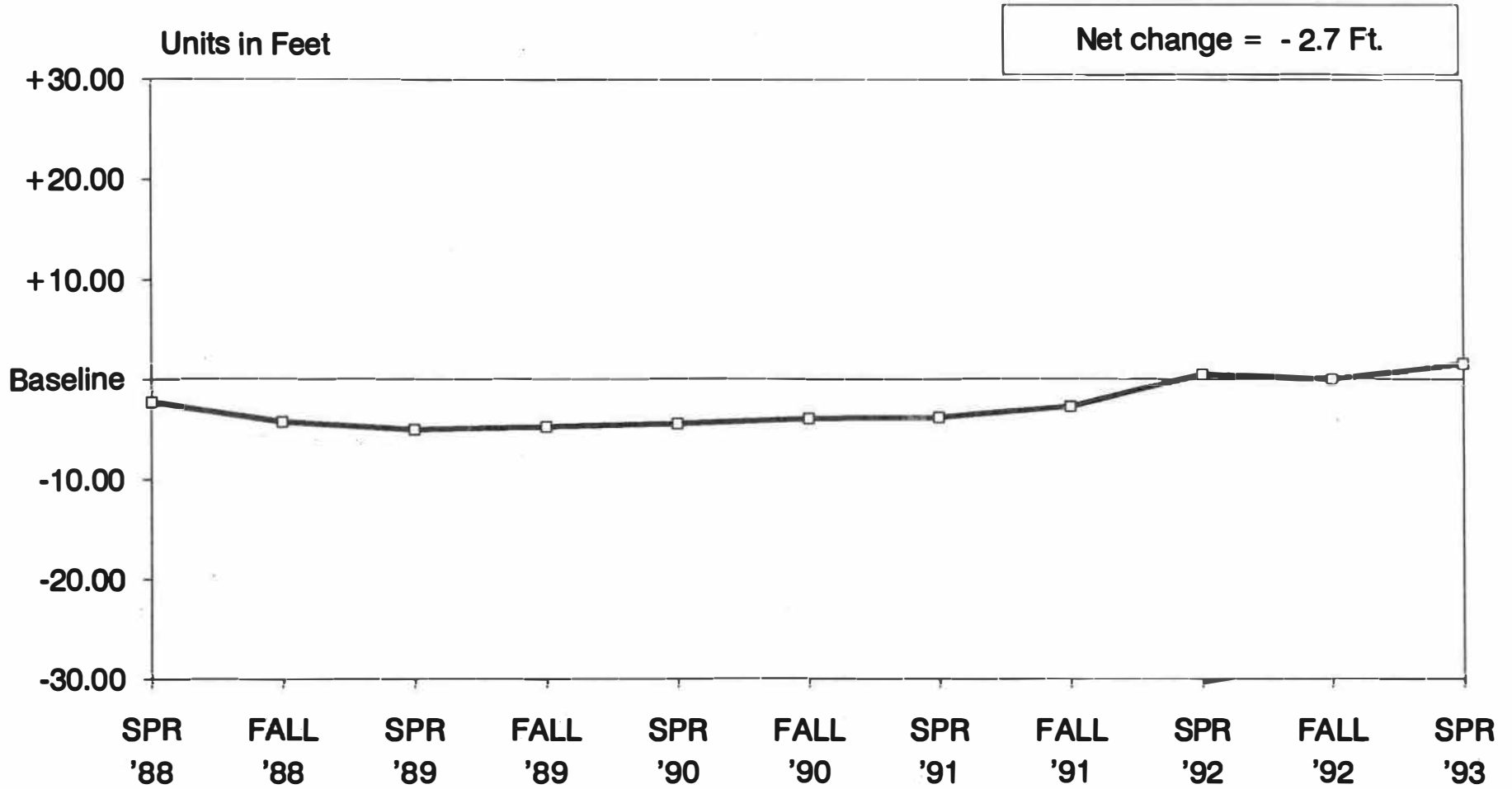
Changes in Water Levels Since 1987 (Baseline)
Well: 67 17N-8E-14CCAB Dodge Co. Platte V. Aquifer



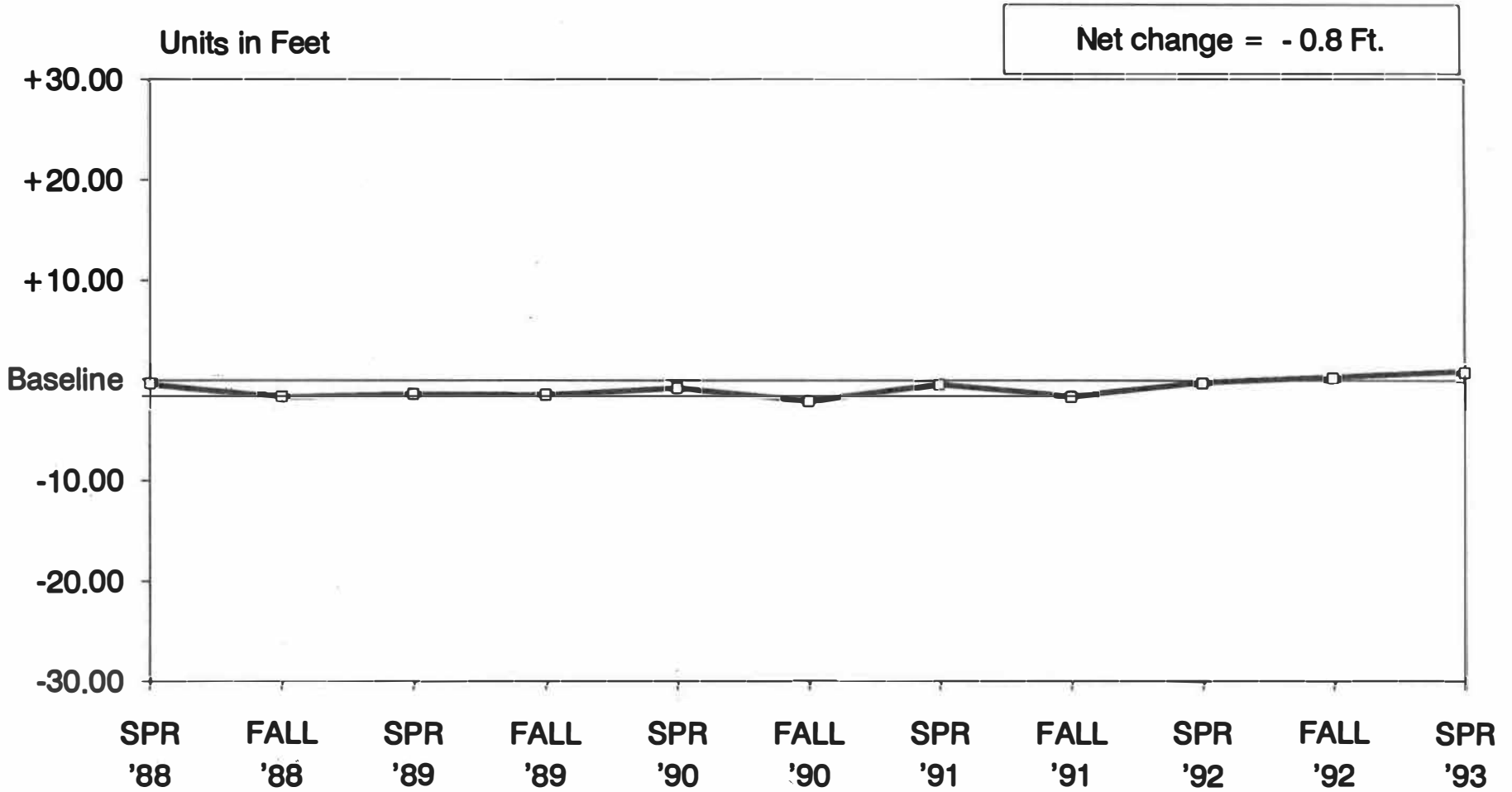
Changes in Water Levels Since 1987 (Baseline)
Well: 68 17N-9E-19DDDD Dodge Co. Platte V. Aquifer



Changes in Water Levels Since 1987 (Baseline)
Well: 69 17N-9E- 7CCBB Dodge Co. Platte V. Aquifer



Changes in Water Levels Since 1987 (Baseline)
Well: 70 17N-9E-28ABCD Dodge Co. Platte V. Aquifer



STATE OF NEBRASKA



E. Benjamin Nelson
Governor

DEPARTMENT OF WATER RESOURCES
J. Michael Jess
Director
RECEIVED
JAN 25 1995
CSD

January 24, 1995

IN REPLY REFER TO:

Don Kavan
Lower Platte North NRD
P.O. Box 126
Wahoo, Nebraska 68066

Dear Mr. Kavan,

Examination of your Board's 1994 Ground Water Management Plan has been completed. In addition to input from this agency's staff, the comments of five other agencies were reviewed. Copies of comments from the five agencies are enclosed. The deficiencies identified are significant enough to render the plan insufficient for approval.

Endangered Species

Through earlier efforts of NARD and others, we understand certain understandings and agreements for endangered species considerations were reached with Game and Parks Commission staff. Unfortunately, the Commission has identified deficiencies in your Board's language regarding threatened and endangered species. To meet the requirements of § 37-435, R.R.S., 1943, as amended, the plan must be revised to address these concerns.

Quantity

The District has developed a fairly comprehensive set of triggers and actions based on percent decline of saturated thickness. The method of setting triggers according to aquifer type is creative. However, more discussion is needed to explain what is meant by "taking into account climatic variables" and "comparable year well levels". Does the Board intend to somehow adjust the quantity triggers according to each year's climatic conditions? If so, the protocol for this adjustment must be discussed in detail.

On pages 89 and 90 are statements that the district will require volume metering for all wells with a capacity of more than 100 gallons per minute. Such a requirement does not comply with § 46-666(4) which permits different management area provisions only for different categories of ground water use or different portions of the management area. Water well capacity is not listed as one of the reasons that a district may vary the provisions of management area controls. This control measure must be modified or eliminated to comply with § 46-666(4).

Quality

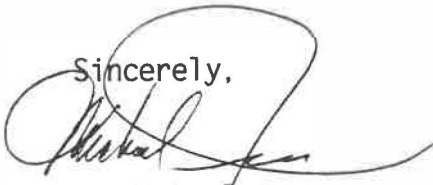
As with the discussion of water quantity above, language on page 85 requiring nitrogen analysis on wells pumping greater than 100 gpm must be changed to comply with § 46-666(4).

While not a matter strictly requiring revision, language on page 84 should be refined to better explain the protocol for setting management phase boundaries. From exhibit 9, and Department registration records, it is evident that portions of the district would not be considered for management phase areas because they lack ten high capacity wells in a nine mile area. This scheme suggests that significant acreage would be exempt from district controls.

Also noted are inconsistencies in the number of wells included in the District's monitoring network. Page 28 shows that 116 wells are being monitored and page 65 shows 79 wells in the network. Revisions of the plan should include an accurate description of the monitoring network.

With the exception of the problems outlined above, the overall quality and style of your Board's plan is commendable.

Sincerely,



J. Michael Jess
Director

JMJ:DV
cc/enc:

Randy Wood
Jack Daniel
Dayle Williamson
Perry Wigley
Ross Lock
Raymond Hartung

 **University of
Nebraska
Lincoln**
Institute of Agriculture and Natural Resources

Conservation and Survey Division
113 Nebraska Hall
901 North 17th Street
P.O. Box 880517
Lincoln, NE 68588-0517
(402) 472-3471

Geological and Natural Resources Surveys



January 20, 1995

Dale R. Vagts
Ground Water supervisor
Department of Water Resources
301 Centennial Mall South
4th Floor
P.O. Box 94676
Lincoln, NE 68509-4676

RE: Lower Platte North NRD 1994 Groundwater Management Plan

Dear Dale:

Enclosed are comments on the above referenced plan by Frank Smith and Scott Summerside of our staff.

With the changes noted, we recommend approval.

Sincerely,



Perry B. Wigley
Director

PBW/bm

January 18, 1995

TO: Perry Wigley
FROM: Scott Summerside
RE: Lower Platte North NRD Groundwater Management Plan

I have reviewed the Revised 1994 Groundwater Management Plan for the Lower Platte North Natural Resource District and I find it to be generally acceptable.

The "background chapters" regarding physical description of the NRD in terms of the geology, groundwater flow system, etc... contains some grammatical errors, a few misleading statements and minor inaccuracies. Nevertheless, I do not believe that the plan should be rejected on this basis. Chapter 11, what I view as "the actual plan", describes in detail how the NRD will monitor ground-water quantity and quality as well as what management or regulatory steps it will take when certain conditions or "trigger levels" are reached. It is my opinion that the plan shows a greater level of responsibility towards the goal of wise management of the ground-water resources; therefore, I recommend that the plan be approved.

file

STATE OF NEBRASKA



E. Benjamin Nelson
Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

Randolph Wood

Director

Suite 400, The Atrium

1200 'N' Street

P.O. Box 98922

Lincoln, Nebraska 68509-8922

Phone (402) 471-2186

DEC 19 1994

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JAN 20 1995

DEPARTMENT OF
WATER RESOURCES

Mr. Michael Jess, Director
Nebraska Department of Water Resources
301 Centennial Mall South
Lincoln, NE 68509-4676

REFERENCE: Lower Platte North Natural Resources District Revised Ground
Water Management Plan (second review)

Dear Mike:

The Nebraska Department of Environmental Quality (NDEQ) has reviewed the resubmittal of the Lower Platte North Natural Resources District's (LPNNRD) ground water management plan. We referred to our previous comments of November 29, 1993 when reviewing this newly revised plan.

Many positive changes are seen in this October, 1994 version of the LPNNRD's Ground Water Management Plan. The major problems seen in the previous version have been addressed, for the most part. Minor details will, by necessity, need to be addressed by the District when they implement their planned Ground Water Management Area. We feel the plan meets the requirements of LB 51 and recommend approval.

The attached pages include our specific comments concerning the referenced document. If you have any questions, please contact Marty Link of our Ground Water Section at 471-0096.

Sincerely,

A handwritten signature in cursive script that reads "Randolph Wood".

Randolph Wood, P.E.
Director

RW/ml1

cc: John Miyoshi, Lower Platte North NRD

Review Comments
Lower Platte North Ground Water Management Plan

This review of Lower Platte North Natural Resources District's (LPNNRD) Ground Water Management Plan, submitted to state agencies for review in October, 1994, is based on comments made in November, 1993. Different staff reviewed the original submittal, but I will try to address the same issues as were brought up previously. I did not look at quantity issues in detail.

1) Identify levels of ground water contamination.

Lower Platte North NRD has good maps of nitrate and other constituents in ground water from sampling results, 1986 to 1993. This and the defined areas ("reservoirs") targeted for baseline sampling will be a good basis to judge ground water quality. Although some work has been done on pesticide screening and sampling, the results are not given or mapped.

The monitoring network is described as 3 irrigation wells/township as fixed wells (sampled during each sampling event) and 3 wells/township as random wells (changes from the last sampling event). Since the district is approximately 1800 square miles in area, and there are at least 50 townships (probably more, because of boundary lines), this means about 150 "fixed" wells and 150 "random" wells (my figures). These will be sampled every 2-3 years (dependent on budget and weather), not sampling all the "reservoirs" in any given year. There is not a clear indication, however, of how long it will take to cover the entire network. It is also not defined as to how sampling more intensively (p.58) will be accomplished as problems arise (nor is it defined as to what constitutes a problem).

LPNNRD mentions using the sample analysis done by landowners in the Ground Water Management Area in the monitoring network. While it is good to consider these results, I do not believe they can substitute for results from sampling done by trained NRD staff with knowledge of ground water. Central Platte and Tri-Basin staff sample hundreds of wells, despite annual submittal of water quality results from farm operators.

2) Identify sources of ground water contamination.

The LPNNRD has a good handle on land use practices which can lead to nonpoint source contamination and specific facilities and operations which are or are potentially point sources of contamination. Septic tanks and feedlots are explained, such that general public utilizing this document will get a better understanding of these potential problems.

3) Establish ground water quality goals:

The plan states the following (p.74) goal: "Assure adequate quantity and quality of stream flow, groundwater, and surface reservoirs within the district for beneficial uses as prescribed by law." Two other goals are presented that tie into and support this first one, for groundwater reservoir life: "To provide a sustained ground water supply of quality water adequate to support reasonable and beneficial uses, and maintain long-term quality yields" (p.77) and, for management systems development, "Provide a system of groundwater management to support the ground water reservoir life goal, based upon an adequate technical foundation and public awareness of groundwater issues." (p.78). These goals are supported by the objectives following each goal, and by the entire document's intent.

4) Identify long-term solutions to prevent levels of ground water contaminants from becoming too high and to reduce high levels sufficiently to eliminate health hazards. Recommend practices to stabilize, reduce, and prevent ground water contamination.

Upon approval of this Ground Water Management Plan, the entire District will be declared a Ground Water Management Area (GWMA) within two years. A phased approach is given, with well defined boundary setting mechanisms (p.84). Nitrate, pesticides, and other human originated nonpoint source contaminants will be considered. I have only a couple of questions/comments about the boundary setting procedures. 1) How is a problem area identified? This has to do with the monitoring network and baseline information previously gathered, but in the section (section 8, p.58) describing this, it was not clear how problem areas were to be "sampled more intensively". Also, the area must have concentrations at the trigger level a minimum of two consecutive sampling events. Is a sampling event the regularly scheduled network sampling which may happen only every 2-3 years? Or will district staff come back to an area a month later and sample? 2) On page 84, second full paragraph, it is implied that Wellhead Protection Areas are established due to nonpoint source pollution. Wellhead Protection Areas are determined independently of contamination. I applaud the District's idea of allowing a smaller minimum size for trigger action when a Public Water Supply is involved.

The proposed controls for the GWMA are generally pretty good. I think as it gets closer to actual implementation of the Phase I controls, the District will need to define topics to be covered in their education program in much greater detail. I am especially pleased to see the District tackling the calibration of fertilizer application equipment. One criticism I do have is that in Phase II, organic fertilizers (manure products) must be applied taking into account the soil and water credits available, whereas commercial fertilizer does not fall under the same constraints. Commercial fertilizer has timing and soil type constraints. I feel both organic and commercial fertilizer application rates need to take into account soil and water credits, and a realistic yield goal (not mentioned in plan).

There seems to be some contradiction between Phase III controls text (p.87) and Table 9, which summarizes Phases and Control Requirements. The last diamond (♦) on page 87 states "The application of fertilizer (>50 lb/ac) would be required to be calibrated to the results of soil and water tests and monitored for compliance." Table 9, #19 states "Require fertilizer monitors on all applications greater than 50 lb/ac". Is this saying the same thing? Table 9 appears to be referring to the calibration of equipment again (as in Phase II, Table 9 #13; p.86, second to last diamond).

5) General Comments.

While there are still a few problems with this plan, I think there is enough detail and explanation of the important issues to merit approval. The monitoring network is explained, the triggering and boundary setting process is given (maybe more detail is needed on problem area definitions), and there is a pretty good explanation of the controls that are planned for the GWMA. Items that aren't clear or detailed enough will be straightened out, by necessity, by the time the GWMA is implemented. LPNDRD has done a great job presenting maps, geologic, and ground water information in this plan. I recommend its approval.

STATE OF NEBRASKA

DEPARTMENT OF HEALTH
Mark B. Horton, M.D., M.S.P.H.
Director



E. Benjamin Nelson
Governor

MEMO

To: Dale Vagts, Department of Water Resources
From: Jack L. Daniel, Department of Health *JLD*
Date: December 22, 1994
Subject: Lower Platte North NRD's 1994 Groundwater Management Plan

The referenced plan appears to have adequately covered groundwater quality according to our reviewer, Mr. Tom Michels; however, specific reference to the following Department of Health regulations would be appreciated.

- Wellhead encroachment regulations (Title 179 NAC 2)
- Well abandonment regulations (Title 178 NAC 12)

Thank you for the opportunity to comment.

J.M.
JLD:TM:dm

RECEIVED

DEC 30 1994

DEPARTMENT OF
WATER RESOURCES



Nebraska Game and Parks Commission

2200 N. 33rd St. / P.O. Box 30370 / Lincoln, NE 68508-0370 / 402-471-0641 / Fax: 402-471-5528

December 20, 1994

Dale Vagts
Ground Water Supervisor
Department of Water Resources
301 Centennial Mall South
Lincoln, Nebraska 68509

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DEC 22 1994

DEPARTMENT OF
WATER RESOURCES

Dear Dale:

The Lower Platte North Natural Resources District's ground water management plan had been reviewed. The following changes need to be made before a "no adverse effect" opinion can be issued.

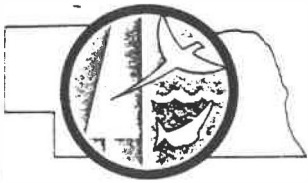
- 1) While the potential occurrence of prairie white fringed orchid in the District is noted in the plan, no mention is made that this species could be affected by groundwater levels.
- 2) A statement needs to be added that acknowledges potential impact, positive or negative, on the orchid from groundwater management activities proposed in the plan.
- 3) While the NRD indicates that it will evaluate the need for modification of its plan to reduce adverse effects, they need to specify that **such modifications will include actions that they could take to reduce adverse effects on the orchid by maintaining a groundwater level that will help sustain this species.**

The three changes as described above that we are recommending are consistent with the language developed by the NRD and Commission committee and outlined in a March, 1994 Commission memo to the NRD's. I have included a copy of this memo for you to include with your correspondence to the Lower Platte North.

Sincerely,

Ross A. Lock
Wildlife Diversity Program Manager
Wildlife Division

RAL/me
Enc.



Nebraska Game and Parks Commission

2200 N. 33rd St. / P.O. Box 30370 / Lincoln, NE 68503-0370 / (402) 471-0641

MEMORANDUM

TO: (one to each NRD District Manager)

FROM: WES SHEETS, ASSISTANT DIRECTOR

DATE: MARCH 2, 1994

SUBJECT: GROUND WATER MANAGEMENT PLANS AND ENDANGERED AND THREATENED SPECIES

On January 25, 1994, Ross Lock, of my staff, attended the quarterly meeting of Natural Resource District Managers. His purpose was to explain the Game and Parks Commission's position intended to resolve the differences between the NRDs and the Commission on how endangered and threatened species are to be considered in groundwater management plans. He outlined language and identified information that, if included in the groundwater management plans, would facilitate approval of the plans by the Department of Water Resources. A committee of NRD managers, chaired by Glenn Johnson, was organized at that meeting to develop refinements in the language. The committee, that included the Upper Big Blue NRD (John Turnbull), Papio-Missouri River NRD (Jerry Bowen), Middle Niobrara NRD (Bob Hilske), Lower Elkhorn NRD (Stan Staab), Lower Platte South NRD (Glenn Johnson), and Ross Lock, met on February 4. Agreement was reached on four statements that describe how endangered and threatened species should be addressed in groundwater management plans that consider groundwater quantity. The group determined that groundwater management plans should include:

1. Recognition of the existence and/or potential existence of threatened species that may be affected by groundwater levels. Include lists of species and confirmed occurrences by counties. (Game and Parks Commission has provided this information to the NRDs).
2. Recognition that general protection of groundwater quantity and quality has many benefits including protecting the habitats of threatened species listed above.
3. Recognition that any groundwater management activities proposed in the plan may have some impact (positive or negative) on threatened species listed in the plan.

4. Should specific adverse effects on threatened species listed in the plan from changing groundwater levels be identified, the NRD acknowledges the potential need to modify groundwater management plans in the future. Such modifications should include actions within control or management areas consistent with the Nebraska Groundwater Management and Protection Act that could be taken by the NRDs to reduce adverse effects on species by maintaining a groundwater level that will help sustain these species.

The Nebraska Game and Parks Commission will submit the following statement to the Department of Water Resources after reviewing groundwater management plans containing the information described above:

Approval of the (specific NRD) groundwater management plan by the Department of Water Resources and subsequent management of groundwater quantity by the NRD will not, at this time, adversely effect endangered or threatened species or result in the modification or destruction of critical habitat. Should it be determined at some time in the future that an endangered or threatened species is being adversely effected by changes in groundwater levels, informal consultation would be reinitiated between the Department of Water Resources and the Game and Parks Commission. Consultation would address the conditions adversely effecting the species and how the groundwater management plan could be modified to include appropriate remedial actions that could be taken by the NRD. Participation of the appropriate NRD in the consultation would be necessary.

The proposed content of the groundwater management plans pertaining to endangered and threatened species and our statement as to the effects of managing groundwater quantity on the species as described above have been reviewed by the Department of Water Resources and will accomodate their approval of the plans.

Regarding NRD management plans that consider only groundwater quality, the Commission's response to the Department of Water Resources will remain unchanged; that approval of the plans by the Department of Water Resources and subsequent management of groundwater quality by the NRDs will not adversely effect endangered or threatened species. No changes or additions to the content of the management plans considering groundwater quality are necessary.

Following the February 4 meeting, a dialogue was initiated between Glenn Johnson and Ross Lock to address the need for future discussions between the NRDs and the Commission on unresolved issues. Glenn and Ross developed language that described the intent of future discussions. After review of the language by the rest of the committee,

it was agreed that the Nebraska Game and Parks Commission and the Natural Resources Districts will continue discussions to explore approaches to reducing the adverse impacts of groundwater level changes on the threatened species. The purpose of such discussions will be to develop cooperative research studies and projects that will determine cause-and-effect relationships; identify effective actions that could be taken by the NRDs and the Game and Parks Commission to reduce adverse effects to the threatened species; and develop appropriate amendments to the Nebraska Groundwater Management and Protection Act and other statutes that would facilitate the NRDs taking action to reduce adverse effects to the threatened species.

The efforts and cooperation of the NRD committee in developing this agreement are most appreciated. We will be seeking the guidance of this committee and encouraging their involvement in future discussions on the unresolved issues. We look forward to working with the committee and other NRDs. Should any of you have questions regarding the agreement or suggestions for future discussions, please contact Ross Lock (402/471-5438) or any of the NRD committee members.

RA/RL/me

cc: All Natural Resource District Managers
Gordon Kissel

STATE OF NEBRASKA



E. Benjamin Nelson
Governor

Mr. Dale R. Vagts
Ground Water Supervisor
Department of Water Resources
P.O. Box 94676
Lincoln, Nebraska 68509-4676

Dear Dale:

We have completed our review of the Revised 1994 Lower Platte North NRD Groundwater Management Plan. I recommend the Department of Water Resources approve the revised plan. I believe the revised plan addresses the three deficiencies identified in your Department's December 17, 1993 comment letter on the original plan. Namely: it includes further discussion of monitoring, addresses the Game and Parks Commission's concerns about the western prairie fringe orchid, and addresses more than just nitrates in its' action plan. The District has also responded to our agency's most important comment on the earlier draft by providing more detail on the boundary setting process for its action plan. Overall, this is one of the best plans we have reviewed to date.

Despite the revisions to what was in most respects already a very good plan, we continue to believe there at least one aspect in which it needs improvement. I consider the District's groundwater reservoir life goal, which is retained in the current draft, to be a weak portion of the plan. As I noted in my November 19, 1993 comment letter on the previous plan, the use of the words "sustained" and "long term" in the same sentence leaves the reader confused about what is meant. The use of the words "long term" may arguably result in some difficulty in meeting the statutory requirement that the goal be established for a finite or infinite period of time. The goal also results in a problem in the District's Groundwater Quantity Action Plan. At certain triggers that plan results in acre-inch allocations and well spacing restrictions. However, in order to set those allocations and restrictions the NRD should have a water level or specified duration of use as its' goal. The current goal doesn't lend clarity to that process.

We do have one very minor correction related to page 61 of the plan. Unless our staff is mistaken the Kobus landfill is in the Lower Platte North NRD. The NRD staff may wish to check that.

Overall, this is an excellent revision and I believe the Lower Platte North NRD is to be congratulated on a superb effort. If you have any questions, please let us know.

Sincerely,

A handwritten signature in cursive script that reads "Dayle".

Dayle E. Williamson
Director of Natural Resources

NATURAL RESOURCES COMMISSION

Dayle Williamson

Director

301 Centennial Mail South

P.O. Box 94876

Lincoln, Nebraska 68509-4876

Phone (402) 471-2081

Fax (402) 471-3132

December 1, 1994

RECEIVED

DEC 1 1994

DEPARTMENT OF
WATER RESOURCES

**Lower Platte North NRD
Director Retreat
Schneider Building – 935 Schneider St. Fremont, NE
March 9, 2023**

9:00 a.m. Welcome – Eric

9:05 a.m. Wahoo Creek Watershed Update – Ryan, Sean, Eric

9:35 a.m. Wanahoo Stilling Basin Repairs History/Update – Bob Heimann

10:00 a.m. Dodge County/East Fremont – Tom Smith, Ryan, Sean

10:45 a.m. GDFC, Port Authority Update – Megan Stiles

11:15 a.m. Water Dept Nitrate/Phase IV? – Daryl, Russell, Tyler, Noah

12:00 p.m. Lunch

1:00 p.m. 2023 Wanahoo Improvements – Bret, Eric

1:30 p.m. Water Dept. Draught Triggers/Variations – Daryl, Russell, Bret

2:15 p.m. New Office Funding – Eric

2:45 p.m. Adjourn – Reception – Thompson Construction

2404 N Lincoln Ave, Fremont, NE 68025

2/28/2022

Projects being worked on:

- Phase Reports/Management Areas
 - Reviewed/Approved reports that came in online
 - Sent out reminders to producers
 - Made and updated missing report list, sent updates to Daryl/staff
- Phase Report Data
 - Started gathering and using 2022 report data
- Posters/Handouts
 - Assisted Daryl and Lacey on making posters for upcoming NRD events
 - Updated charts and graphs with 2022 data
 - Reviewed and edited posters
- Meetings/Workshops
 - UNL workshop via Zoom on communication with the public
 - Staff Meetings/Committee meeting via Zoom
- Other
 - Fieldclimate/Metos
 - Continuing to check stations online
 - QA/QC
 - Reviewing other reports/data that comes in online

**Lower Platte North
Natural Resources District**

**Soil & Water Conservation Program
(SWCP)**

LPNNRD Board Approval 3/13/23

Table of Contents

I. PURPOSE	PG. 3
II. ELIGIBILITY, DISTRIBUTION OF FUNDS	PG. 3
III. APPLICATION REQUIREMENTS	PG. 3
IV. ELIGIBLE HIGH PRIORITY PRACTICES	PG. 3
V. INELIGIBLE PRACTICES	PG. 4
VI. APPLICATION SUBMITTAL, APPROVAL & COMPETITION PERIODS	PG. 5
VII. 2017 PRIORITY AREAS & ELIGIBLE COST SHARE PERCENTAGES	PG. 6
VIII. COST SHARE PERCENTAGE - PRACTICE EXCEPTIONS	PG. 7
IX. MAXIMUM COST SHARE LIMITS	PG. 7
X. AMENDMENTS FOR ADDITIONAL COST SHARE	PG. 8
XI. APPLICATION EXTENSIONS	PG. 8
XII. CONSERVATION PRACTICE DESIGN, STAKING & PERMITS	PG. 8
XIII. SUBMITTING BILLS & PAPERWORK ON COMPLETED WORK	PG. 8
XIV. COST SHARE PAYMENTS	PG. 8
XV. PAYMENT OVERRUNS & REQUESTED REFUNDS	PG. 9
<u>ATTACHMENTS:</u>	
ATTACH A: SEDIMENT & WATER CONTROL BASINS/DIVERSIONS	PG. 10
ATTACH B: PLANNED GRAZING SYSTEMS	PG. 11
ATTACH C: WATER IMPOUNDMENT & GRADE STAB. STRUCTURES	PG. 12-14
ATTACH D: WINDBREAK RENOVATION PRACTICES	PG. 15
ATTACH E: EMERGENCY REPAIR OF CONSERVATION PRACTICES	PG. 16
ATTACH F: LANDS FOR CONSERVATION PROGRAM	PG. 17

**LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT POLICY
2023 SOIL & WATER CONSERVATION PROGRAM (SWCP)**

I. PURPOSE

The purpose of this program is to provide guidance for administering federal (EPA 319 grants), state (NSWCP, Environmental Trust grants) and local cost-share assistance as an incentive to landowners for the construction and application of soil and water conservation practices.

II. ELIGIBILITY, DISTRIBUTION OF FUNDS

- A. Any landowner within the Lower Platte North NRD (LPNNRD), individual, partnership, corporation or other legal entity is eligible to apply for SWCP funds.
- B. Cost-share program funds will be approved and distributed based on the number of high priority applications received each fiscal year (July 1 - June 30).
- C. Funds may be reserved and targeted toward high priority watersheds and projects as determined and approved by the LPNNRD Projects Committee and Board.
- D. Unobligated or unused SWCP funds in priority watersheds may be redistributed to other areas if not used in a timely manner.
- E. The LPNNRD may supplement the Nebraska Soil and Water Conservation Program (NSWCP) state funds with available federal, other state & local funds. The amount of local funds budgeted and available will be decided each year.
- F. Landowners will be expected to apply for available federal EQIP cost-share funding when applicable and available for eligible high priority practices A, C through M, before state and local cost share funding is approved. It is also generally expected to approve available state funding before local funds are considered.
- G. Lands for Conservation (LFC) program is exempt from the payment cap stipulations of the SWCP policy.

III. APPLICATION REQUIREMENTS

- A. Eligible SWCP applicants are to apply at their local NRCS Service Office (also the LPNNRD office if for tree planting or windbreak renovations). Applications with appropriate NRCS comments/recommendations are to be forwarded to the NRD for consideration.
- B. Applications will contain sufficient information to include:
 - 1. Date construction (summer or fall) is expected to be completed.
 - 2. Type of Project to be installed.
 - 3. Whether the proposed project is located in a priority watershed area or if other special conditions exist.
 - 4. An aerial photograph showing the project location.
 - 5. Total estimated cost-share needed for the project.
 - 6. When applying for a small dam or grade stabilization structure, the estimated percent of land treatment draining to the proposed site (Attachment C).

IV. ELIGIBLE HIGH PRIORITY PRACTICES

- A. **Establishment of warm and cool season grass on crop land**
- B. **Small conservation project (terraces, basins, diversion, grass waterways and/or underground outlets) applications.** This priority practice includes newly established

grass waterways and/or replacement grass waterways.

- i. Small projects are only eligible on fields where a complete no-till cropping management system is currently being applied.
- ii. Existing grassed waterway applications must be over 10-years old and part of an approved terrace system or on 100% no-tilled fields)
- iii. Small Projects may involve the construction of a new terrace and/or sediment & water control basins systems or it may include the extension of an existing terrace system with the inclusion of sediment & water control basins (this priority does “NOT” include the replacement of functionally obsolete terrace systems, waterways and sediment & water control basins in excess of 10-years old).
- iv. Small projects do not include practice of installing tile outlets into existing functional terrace outlet systems (refer to priority G).
- v. Small projects will not exceed \$5000.00 in cost incentive request.
*For small projects, landowners will not be expected to apply for available federal EQIP cost-share funding for eligible high priority practice B. It will generally be expected to approve available state funding before local funds are considered.

- C. ***Construction of new terrace systems** (includes replacement of functionally obsolete terrace systems in excess of 20-years old).
- D. **Construction of sediment & water control basins when part of a new terrace system where cost share incentives exceeds \$5,000** (Attachment A).
- E. **Construction of Diversions when part of a new terrace system or dam** (Attachments A & C).
- F. **Planned Grazing Management Systems** (Attachment B)
- G. *** Installation of Tiled Outlets into Existing Terraces** (includes the storage portion of the terrace).
- H. **Water Impoundment and Grade Stabilization Structures** (Attachment C)
- I. **Tree/Shrub Planting** (Only when NRD stock is provided and planted by the District) For riparian buffer strips, field, acreage and farmstead windbreaks and for wildlife habitat 200- tree/shrub minimum is required for riparian buffer strips, and for field and farmstead windbreaks. A 300-tree/shrub minimum is required for wildlife habitat.
An eligible high priority practice under our Soil and Water Conservation Program (SWCP), at 50% cost share assistance on handplanting of 600 or more trees, provided that the cooperators use our tree planting machine. It is further recommended that final approved payments will be subject to LPNNRD inspection. (4/2022)
- J. **Windbreak Renovation** (Attachment D)
- K. **Supplementing EOIP Contracts in Priority Areas**
When federal EQIP funds are approved in LPNNRD priority areas, the District may approve additional local and/or state cost share not to exceed the established maximum cost share percentage approved for a practice or the specific area.
- L. **Emergency Repair of Conservation Practices** (Attachment E)
- M. **Lands for Conservation (LFC) Program :** (Attachment F) **Any approved EQIP contract that agrees to the terms of the LFC program; summer construction Jun 1 – September 30 of the calendar year.**

***NOTE:** Cost share only applies toward the tile outlet portion of approved terrace systems to establish a stable outlet. A stable outlet is considered to be on land that has a 2% grade or less. A landowner may choose to install a portion of the outlet without cost share

assistance provided that it meets NRCS design standards and specifications.

V. INELIGIBLE PRACTICES

A. Any application that would allow the installation of terraces on land that has established

- grass will not be approved.
- B. The LPNNRD will not approve any conservation practice that will encourage the conversion of grassland, including CRP land, to crop land. This includes CRP land in the last year of the contract.
 - C. Rebuilding grassed waterways or tile outlets if under 10-years old. Note: Cost share for replacing grass waterways will be considered on a case-by-case basis when over ten (10) years old and part of an approved terrace system or on 100% no-till fields (see IV. M.).
 - D. Work that is considered normal maintenance of existing conservation practices.
 - E. Rebuilding terraces on existing terrace lines.
 - F. Terraces systems on Class VI land or greater.
 - G. Sediment removal from small dams or other impoundments and/or from adjacent lands of said structures.
 - H. Work started or constructed prior to approval.
 - I. Livestock Waste Pits.
 - J. The District will not provide cost share for practices on farmland that does not have a certified Nitrogen operator or on irrigated land where the irrigated acres are not certified by LPNNRD.
 - K. Any practice on fields that are determined sod-busted by the NRCS.
 - L. Repair of damage to conservation practices that is determined to be landowner negligence in performing normal maintenance as outlined in NRCS specifications.

VI. APPLICATION SUBMITTAL, APPROVAL & PROJECT COMPLETION PERIODS

A. Summer Construction Applications (For June through September 15):

To insure LPNNRD consideration, **applications for summer construction must be submitted by February 1.** Most generally, the Projects Committee will review, rank and recommend summer application approvals prior to construction season. . However, consideration and approval of summer applications received after **February 1** may occur depending on available funds. All **summer construction projects are to be completed by September 15** and **final paperwork submitted to the LPNNRD office by October 15.** The Projects Committee will review all uncompleted or unpaid applications at the end of each period to determine **if** application extensions and/or cancellations are warranted. **The field must be available for construction by August 1. The area must be planted to a cover crop or a crop preceding or after construction. The crop or cover may be harvested or pastured during the contract period.** Work not completed by **September 15**, may be canceled or receive reduced cost share as determined by the Projects Committee/Board.

NOTE: Cooperators who are approved for incentive payments within special designated watersheds, must follow these same summer construction requirements (refer to the “Lands for Conservation Program” – Attachment F).

B. Fall Construction Applications (September through December project completion):

To insure LPNNRD consideration, applications for fall construction must be received by **July 1.** Most generally, the Projects Committee will review, rank and recommend fall construction application approvals prior to fall construction season. However, additional approvals for fall work may occur after July/August as funds are available.

Approved fall applications will be given until December 31 to complete the work. The Committee will review all unpaid applications at the end of each year to determine application extensions and cancellations.

C. Grass, Tree Planting, Windbreak Renovation Applications:

Application periods for grass establishment will be approved based on NRCS seed and seeding specifications. Applications for trees are generally considered for approval just before the spring planting season. For approved Windbreak Renovation applications, tree removal will normally be completed in the summer or fall so the site will be ready before spring tree planting.

D. Small Dam Application (Attachment C):

To ensure consideration for approval, the **District will need NRCS/NRD technician recommended applications by December 15.** The Projects Committee will review and prioritize and submit a recommendation for approval at the January Board Meeting.

E. LPNNRD Signatures on Approved Applications & Related Documents:

The Manager, Assistant Manager and Projects Coordinator are authorized to sign Board approved SWCP applications, Completion and Document Certifications and other related documents on behalf of the LPNNRD.

VII. 2023 PRIORITY AREAS & ELIGIBLE COST-SHARE PERCENTAGES

Priority areas for 2023 listed below are given first consideration for District cost share assistance. Each year, high priority practice applications located in priority areas are reviewed and approved by the Projects Committee and Board for the upcoming program year. The cost-share assistance payment may not exceed a total of the eligible percent for an area when combining all sources of federal, state and local assistance. If there is not enough funding for all applications for all listed priority areas, the Projects Committee may rank areas for approval or approve a lower maximum cost share percent.

LPNNRD Cost-Share Amounts	Average (%) and Actual
FALL Work (District Wide) max \$ limit: \$12,500.00	75
FALL Work (Targeted Areas) max \$ limit: \$12,500.00	75
SUMMER Work (District Wide) max \$ limit: \$10,000.00	75
SUMMER Work (Targeted Areas) max \$ limit: \$12,500.00	75

Targeted Areas	Notes
A. LPNNRD Lands North of the Platte River	Platte, Boone, Madison, Colfax & Dodge Counties. Shell Creek is also in ET & EPA 319 grant area - actual percent depends on priority area and practice as defined in approved grant application).
B. Lake Wanhoo (Sand/Duck Creek) Watershed	
C. Czechland Lake Recreation Area Watershed	
D. Homestead Lake Recreation Area Watershed	
E. Wahoo Creek Sub-Basins	Dunlap Creek; North Fork Wahoo Creek; Miller Branch Creek. These Wahoo Creek Sub-Basins are designated EQIP NWQI, EPA 319 and Environmental Trust Priority Areas.
F. Skull Creek Watershed	It is anticipated to alternate this watershed with the Bone Creek Watershed every two years
G. Watersheds Above All Existing and Planned LPNNRD Flood Control Structures	Non-public structures that are or will be LPNNRD Flood Control Structures operated and maintained by the District
H. Watersheds Above Proposed or Completed Landowner SWCP Cost Share Dams	That will or have received LPNNRD assistance
I. Voluntary Compliance of Verified Erosion & Sediment Complaints	District-wide
J. All High Priority Practice Summer Applications	District-wide (June 1 through September 15 completion)
K. Tree/Shrub Planting	District-wide
L. Voluntary Compliance of Verified Erosion & Sediment Complaints	District-wide
M. All High Priority Practice Summer Applications	District-wide (June 1 through September 15 completion)
N. Tree/Shrub Planting	District-wide

VIII. COST SHARE PERCENTAGE - PRACTICE EXCEPTIONS

The maximum cost share percentage for most high priority conservation practices will be 75%; depending on the where the practice is located (**Refer to VII. above**). The exception to this is for the following high priority practices:

- A. **Water Impoundment Dams and Grade Stabilization Structures: 65% - 75%**
(Attachment C)
- B. **Windbreak Renovation Practice: 50%** (Attachment D)
- C. **Emergency Repair of Conservation Practices: 50%** (Attachment E)

IX. MAXIMUM COST SHARE LIMITS

A. **General Maximum Limit:**

A cooperator may receive up to \$12,500 SWCP funds within any program year (July 1 - June 30) for most high priority practices unless otherwise specified below.

B. **Priority Areas with Federal or State Grant Funding:**

Within priority areas (**Wahoo Creek and Shell Creek e.g.**) that are receiving reimbursable federal or state grant funding, the maximum limits may be exceeded to expedite use of those special funds within the specified grant period time line.

C. **Planned Grazing Systems – Livestock Well Pumping Plants:**

The maximum limit for planned grazing systems is \$12,500, however a maximum cost share limit of \$5,000 will also apply toward the livestock well and well pumping plant components (combined) when part of the approved system (Attachment B).

D. **Water Impoundment & Grade Stabilization Structures:**

The maximum limit for water impoundment dams and grade stabilization structures is \$15,000 upon NRCS recommendation and Projects Committee/Board approval on a case-by-case basis (Attachment C).

E. **Windbreak Renovation:**

The maximum limit for windbreak renovation is \$1,000 per landowner per year (Attachment D).

F. **Emergency Repair of Conservation Practices:**

The maximum limit for emergency repair of conservation practices is \$1,000 per landowner per year (Attachment E).

G. **2022 Summer Conservation Practices in Non-Priority Areas:**

For 2022, the maximum limit for approved conservation practices in non-priority areas will be \$10,000 per landowner per year.

X. AMENDMENTS FOR ADDITIONAL COST SHARE

When applications are approved under the maximum limit, additional funds, up to the limit, may be approved if notified by the landowner or technician before construction. LPNNRD staff is authorized to approve an additional \$1,000 above the original approval (up to the maximum limit) if the request is received from the landowner and/or technician prior to construction. Staff will notify the Projects Committee of any staff authorized changes.

XI. APPLICATION EXTENSIONS

Extensions may be granted for inclement weather or for other conditions beyond the landowner's control. All extension requests will be considered by the Projects Committee and Board on a case-by-case basis. No more than one 6-month extension can be approved for the same application.

XII. CONSERVATION PRACTICE DESIGN, STAKING & PERMITS

- A. All conservation measures must be designed and staked by Natural Resources Conservation Service personnel (NRCS), NRD technicians or other NRCS approved technical service providers. All completed conservation work must be according to the NRCS design standards and specifications as outlined in the NRCS Procedures Handbook for LPNNRD.
- B. The landowner is responsible for contacting the NRCS office to secure funds and schedule the layout (design and staking) of the approved work
- C. The landowner is responsible for obtaining all required local, state and federal permits.

XIII. SUBMITTING BILLS & PAPERWORK ON COMPLETED WORK

- A. The landowner is responsible for submitting all bills to the NRCS office. The NRCS will calculate the eligible cost share payment (on NSWCP form # 3) and submit completed and properly signed paperwork to the LPNNRD.
- B. Drawings of the completed practices at to be provided by the NRCS/NRD technician on an aerial photo and submitted with the payment request.

XIV. COST SHARE PAYMENTS

- A. LPNNRD has approved use of NeDNR's 2023 conservation practice payment rates for calculating SWCP contract cost-share payments. Payments will be based on NeDNR's conservation practice payment rates that were in force at the time the application was approved. The cost-share percent may be lowered if summer work is extended into fall.
- B. The LPNNRD calculates and pays cost-share on terraces only by the linear foot, not by the cubic yard.
- C. The cost-share percentages are calculated by multiplying the eligible cost share percentage by the approved cost share practice payment schedule rate or actual cost whichever is less. The cost-share assistance payment may not exceed a total of the eligible percent for an area when combining all sources of federal, state and local assistance.
- D. **Splitting Cost-Share Percentages:** When a field splits two cost-share priority areas, the corresponding eligible cost share percentage will be applied to each portion of the field being treated. When a field splits into a non-priority area, that area will be allowed up to 50% cost share assistance, if the non-priority area is 50% or less of the entire field being treated.
- E. When grant funds are available special conditions aligned with terms of grants will be implemented; in some cases a higher payment percentage rate, or payment cap may be allowed.

XV. PAYMENT OVERRUNS AND LANDOWNER REQUESTED REFUNDS

A. Payment Overruns:

Overruns of up to 10 % above the approved project amount may be approved by staff. Overruns above 10% will need Board approval. Payments are not to exceed the maximum cost share limits set for the various practices. Exception to this is when payments are combined with grant funds in priority areas.

B. Landowner Refunds:

If an SWCP practice is purposely damaged, removed or destroyed within ten years after completion (25 years for a small dam), the cooperator who received cost share, will be requested to reimburse the District, all or a portion of the SWCP cost share funds, as determined by the Projects Completion (25 years for a small dam), the cooperator who received cost share will be required to reimburse the District all or a prorated portion of the funding assistance, as determined by the Projects Committee and Board.

SWCP ATTACHMENT A
SEDIMENT & WATER CONTROL BASINS AND DIVERSIONS

This attachment is to help clarify the use of sediment & water control basins and diversions as an eligible cost-share practice. Basins and diversions are to be used as a part of an approved conservation system according to the NRCS technical guides and field manual.

- A. Sediment & water control basins and diversions may be approved as a high priority practice when in conjunction with terraces or dams.
- B. Basins and diversions will be considered a high priority practice when a part of a terrace system or in conjunction with a 100% no-till system. A 100% no-till system must have the goal of controlling soil erosion to soil replacement levels (“T”). A 100% no-till system is accepted land treatment when ephemeral and gully erosion is controlled, or “T” is met. Basins and/or diversions built separately on a terraced field are not considered a part of the terrace system.
- C. Basins and diversions not part of a terrace system may be considered as a high priority practice on fields where the NRCS or NRD technician determines terraces are not feasible and/or they offer the most practical solution to a problem. This will be determined by the Projects Committee on a case-by-case basis.

LOWER PLATTE NORTH NRDSWCP ATTACHMENT B PLANNED GRAZING SYSTEM PRACTICE

I. GENERAL REQUIREMENTS

- A. An applicant must have at least 40 acres of connecting grassland to be developed into at least two grazing cells with planned rest periods in accordance with Natural Resources Conservation Service (NRCS) recommendations.
- B. Applicants must complete a minimum 10-year planned grazing system developed by the NRCS prior to submitting an application.
- C. Applicants are required to sign a 10-year cost-share agreement with the LPNNRD. (Form NSWCP-10)
- D. All approved cost-share items must meet NRCS Standards and Specifications.
- E. Funds for approved practices may be used on CRP lands if such lands are in the last year of the CRP contract.
- F. The amount and type of eligible practices approved for each application will be determined by the overall grazing system plan and the most cost effective alternative available.
- G. Cost-share on eligible practices will be based on the approved cost-share percentage times the approved practice payment schedule cost share rate or 75 percent of the actual cost, whichever is less.

II. ELIGIBLE PRACTICES

- A. **Cross Fencing:** Only fencing designed to facilitate cell division is eligible for cost-share (Standard 382 specifications). Boundary fences are not eligible for cost-share.
- B. **Livestock Water Dugouts:** Dugouts will be sized by daily animal needs and Nebraska Engineering Handbook Standards.
- C. **Livestock Well Installation:** Livestock wells will be sized to provide a maximum of 15 gallons of water per animal-unit per day within each cell. No cost-share will be available for domestic or irrigation wells. Well test holes are not eligible for cost-share.
- D. **Pumping Plants for Livestock Wells** (As outlined by State NSWCP Guidelines): While a cooperator may receive up to \$12,500 SWCP funds toward completing a Planned Grazing System, a maximum cost share limit of \$5,000 will apply toward the livestock well and well pumping plant component (combined) if part of the approved system.
- E. **Livestock Water Tanks:** Tanks sized according to standard storage requirements in the NRCS Technical Guide, Standard 614, are eligible.
- F. **Livestock Water Pipeline Installation**

**LOWER PLATTE NORTH NRD
SWCP ATTACHMENT C
GUIDELINES FOR WATER IMPOUNDMENT (SMALL DAMS) &
GRADE STABILIZATION STRUCTURES**

I. PURPOSE

The purpose of this program is to assist landowners with the construction of water impoundment and grade stabilization structures on their property.

II. ELIGIBLE PROJECT ITEMS

A. Eligible Project Costs Include:

1. Construction (Not to include site preparation)
2. Seeding (Structure and emergency spillway)
3. Fencing when required by the NRCS

III. LAND TREATMENT REQUIREMENT

To be eligible for cost-share assistance, a minimum of 75% land treatment is required within the watershed above each proposed structure site. To calculate this percentage, non-highly erodible land is considered treated.

Land Treatment Definition:

Land treatment is defined as any practice or combination of practices (i.e. terraces, no-till etc.), that control soil erosion rates on highly erodible soils to soil replacement levels or less (Soil replacement level or "T" = 5 tons/acre in the LPNNRD). Any approved NRCS farm plan that treats land to "T" qualifies under this definition (8/2/00 Projects Committee).

IV. COST-SHARE PERCENTAGE AND MAXIMUM ASSISTANCE

The cost-share percent for approved applications outside selected priority areas is up to a maximum of 65%. For small dams approved within selected LPNNRD priority areas, the cost-share rate is up to a maximum of 75%. Eligible assistance will be based on the eligible cost-share percent times the county average costs or 75% of actual costs whichever is less. The maximum cost-share limit will be \$15,000 upon NRCS recommendation and Projects Committee approval on a case-by-case basis (see Special conditions below).

Special conditions: The Board may approve a higher cost-share percentage and increase the maximum assistance if an application site is above an LPNNRD recreation area, within a targeted watershed or when other special conditions exist. The Board may also approve a lower cost-share percent and decrease the maximum assistance for structure sites of lower priority. **Special** conditions will be evaluated by the Board on a case-by-case basis.

V. PRIORITY AREAS

Priority-areas for small dams and grade stabilization structures include the following watersheds:

- A. Sand & Duck Creek
- B. Wahoo Creek*

- C. Skull Creek
- D. Shell Creek* (Additional grant funding available)
- E. Bone Creek
- F. Watersheds above Pubic Recreation Structures (e.g. Czechland Lake, Homestead Lake, Lake Wanahoo)
- G. Above all existing LPNNRD Operated and Maintained Watershed Structures.

VI. APPLICATION ELIGIBILITY AND SIGN-UP

- A. Any landowner within the Lower Platte North NRD who is an individual, a partnership, a corporation or other legal entity.
- B. Applications may be submitted any time during the year; however, only NRCS inspected and recommended applications received by December 15, will ensure consideration for the following construction year. Unapproved applications will expire on May 1 of each year, requiring a new landowner application for future consideration. The Projects Committee will review, prioritize and submit a recommendation for approval at the January Board Meeting.
- C. The applicant shall apply at the county NRCS office on forms provided by the LPNNRD. An aerial photo showing the proposed project location must accompany the application. The application must be signed by the applicant and sent to the LPNNRD before December 15 of each year to insure consideration for the immediate year's construction.
- D. At the time of application, the NRCS will be requested to provide an estimate of drainage acres, percentage of land treatment present, quantities and costs for the project.

VII. APPLICATION EVALUATION AND TENTATIVE APPROVAL

- A. Application sites will be inspected by LPNNRD and NRCS representatives to evaluate feasibility, benefits and cost. Benefits to be evaluated will include but not be limited to: flood control, grade control, erosion and sediment control, wildlife habitat enhancement, livestock water, and protection to public roads and property.
- B. The Projects Committee will most generally review, prioritize, and make recommendations on applications at their January meeting.
- C. The NRD Board of Directors will generally approve, reject, or table each request at the January Board Meeting.
- D. After receiving LPNNRD approval, the applicant will be required to submit a \$500 deposit to the NRD before a survey or design is started. The deposit will be returned to the applicant after project completion. If the deposit is not received by February 1, the application will be canceled. If the applicant withdraws from the project after the design has been complete, the deposit will be retained by the LPNNRD unless conditions in XII. B. apply.
- E. In February of each year, the Natural Resources Conservation Service will be requested to proceed with survey and design of approved projects.
- F. After receiving LPNNRD approval, the applicant will be given two years to obtain necessary permits, complete the structure and submit all required paperwork. If the project is delayed due to adverse weather conditions, or other conditions beyond the

applicant's control, an extension may be granted by the LPNNRD Board of Directors. Extensions will be considered by the LPNNRD Board on a case-by-case basis.

VIII. LAND RIGHTS, AGREEMENTS AND PERMITS

- A. The applicant is responsible for obtaining any required easements and any required federal, state and local (i.e. NDNR, Army COE, and County Zoning) permits.
- B. The applicant is responsible for the relocation or modification of water lines, power lines and telephone lines and pay the costs involved.
- C. The applicant will be required to enter into a 25-year cost-share agreement with the LPNNRD. This agreement states that the applicant will refund cost-share funds if the project is removed, altered, or modified without the consent of the LPNNRD.

IX. STRUCTURE DESIGN AND CONSTRUCTION

- A. The NRCS will be requested to survey, design, and supervise all structures approved by the LPNNRD Board.
- B. Construction will not commence until formal notice to proceed is given by the LPNNRD. This notice will be given after NRD Board approval, and after receiving the applicant's deposit and signed cost-share agreement.

X. FINAL APPROVAL AND PAYMENT

- A. Final Approval and Payment will occur when:
 - 1. The project is completed and certified by the NRCS/NRD technician to meet all NRCS standards and specifications.
 - 2. The completed application form NSWCP-3 is signed and returned to the LPNNRD with a copy of all project bills.

XI. OPERATION AND MAINTENANCE

The landowner is responsible for all operation and maintenance after project construction.

XII. SMALL DAM DEPOSIT REQUIREMENT & REIMBURSEMENT

- A. The applicant will be required to submit a \$500 deposit to the NRD before a survey or design is started. The deposit will be returned to the applicant after NRCS approves the completed project and all paperwork is submitted and approved by the District. If the deposit is not received by February 1, the application will be canceled. If the applicant withdraws from the project after the design has been complete, the deposit will be retained by the LPNNRD unless conditions in B. apply.
- B. If a landowner does not proceed with the small dam project because the final cost estimate is 40% or more over the original project estimate, the LPNNRD will return the \$500 deposit based on financial hardship. All other conditions will be reviewed by the Projects Committee on a case-by-case basis.

**LOWER PLATTE NORTH NRD
SWCP ATTACHMENT D
WINDBREAK RENOVATION PRACTICE**

I. PURPOSE

To provide for the restoration of farmstead, acreage or field windbreaks that have been rendered substantially ineffective due to the death of trees or other windbreak plantings as a result of weather, disease, or other natural causes.

II. PLAN REQUIREMENT

A windbreak renovation plan is to be based on a plan reviewed and approved by a forester of the Nebraska Forest Service. The forester is to certify that the windbreak has lost its effectiveness, should be renovated and that they approve the plan of renovation.

III. SITE PREPARATION

Tree removal off the site is required to be accomplished in late fall/early winter at least before the planting occurs the following spring. The only area that is replanted with a new windbreak receives cost share for removal costs. Tree removal work should not be initiated until the application is approved by the Lower Platte North NRD and the landowner agrees to replant the windbreak in the same area.

IV. COST SHARE RATE AND MAXIMUM ASSISTANCE

The windbreak renovation cost-share payment will not be based on a cost greater than the county average unit cost adopted by the USDA-FSA. The renovation practice is not to include the replanting of the windbreak because of different cost-share percentage rates. The windbreak planting cost-share will be separate. The Lower Platte North NRD will cost share at a 50% rate, up to \$1,000.

Tree planting cost-share is eligible for riparian buffers, farmsteads, acreages, field and livestock protection windbreaks. Windbreaks must contain 200 or more trees and shrubs which are purchased through and planted by the NRD. When the planting is strictly for wildlife habitat, a minimum of 300 trees/shrubs purchased and planted by the NRD is required.

**LOWER PLATTE NORTH NRD
SWCP ATTACHMENT E
FOR EMERGENCY REPAIR OF CONSERVATION PRACTICES**

I. PURPOSE

On occasion, the LPNNRD Board of Directors may approve local SWCP funds for the Repair of conservation practices damaged from intense rainstorms. The decision for approving emergency repair funds will be considered annually, with the location and total amount of available funds dependent on the severity of storm damage to conservation practices in designated areas in the District. When approved by the Board, Emergency repair funds will be allocated in the following manner:

- A. The LPNNRD Board will consider approval of the amount and eligible area for emergency repair funds, with a recommendation from the Projects Committee. Typically, this will occur on or prior to the LPNNRD September Board Meeting.
- B. Only eligible Conservation Practices, two years old and newer that were originally built to NRCS design specifications, will be eligible for cost-share assistance.
- C. The committee will consider approval of emergency repair assistance only when it is determined by an NRCS technician that the damage was not due to landowner negligence in performing normal maintenance as outlined in NRCS O&M specifications.
- D. To be eligible for emergency repair funds, the landowner must be following an approved NRCS farm plan.
- E. Prior to LPNNRD approval, applications will receive recommendations from LPNNRD and NRCS staff. The LPNNRD Projects Committee will prioritize application practices and areas.
- F. Eligible assistance will be 50% of the approved amount up to a maximum of \$1,000 per landowner per program period.

**LOWER PLATTE NORTH NRD
SWCP ATTACHMENT F
2022 LANDS FOR CONSERVATION PROGRAM**

)

Purpose: The Lands for Conservation program provides landowners with an incentive to get conservation structures constructed on the land during the growing season.

1. The Lands for Conservation program will be on contractual basis between the landowner (cooperator) and the Lower Platte North Natural Resources District for one year while conservation practices are being established. Applications deadline for each calendar year will be February 1.
2. Sediment and Water Control Basins with tile outlets and/or terraces with grassed waterways and terraces with tile outlets qualify for this program. Sediment and Water Control Basins/Terraces and/or waterways must be seeded during the contract period.
3. NRCS and/or NRD personnel will design terraces with waterways or tile drains or Sediment and Water Control Basins with tile outlets. These practices must protect the entire field on which they are established. However, the area under contract will be the smallest practical area to encompass the practices, as agreed upon with the cooperator.
4. Land enrolled in another program (ex: CRP) may not be eligible for Lands for Conservation contracts.
5. Sediment and Water Control Basins with tile outlets and terraces with waterways or tile outlets may be cost-shared through the EQIP program administered by Natural Resources Conservation Service (NRCS). If federal funds are not available, cost-sharing assistance may be available through LPNNRD's Soil & Water Conservation Cost-Share Program.
6. **Construction must be done between June 1 and September 15.** The field must be available for construction by August 1. The area enrolled in the LPNNRD Lands for Conservation will be planted to cover crop or a non-grain forage crop (forage sorghum, etc.) preceding and/or after construction. The crop or cover may be harvested or pastured during the contract period.
7. **For 2022: Payment is \$195 per acre*.**
*Payment Rate will be reviewed annually. Payment rate is based on 2021 Nebraska Non-Irrigated Cropland Cash Rent Paid per Acre, Source: USDA National Agricultural Statistics Service.
Payment will not be processed and forward to the NRD applicant until the project (including the planting of the cover crop) has been certified as completed by the NRCS.
8. If used for permanent pasture before or after the contract period, these areas are not eligible for the Lands for Conservation Program. Money received through this program resulting in permanent pasture after the contract period, must be returned. Land can be used for hayland as a normal part of the crop rotation.
9. If ownership of land changes during the contract period, the contract becomes void. The new owner may continue the contract, if agreed to with the Lower Platte North NRD.
10. Approval of contracts will be on a rotating basis.
11. The landowner will contract for the construction of Sediment and Water Control Basins, terraces, waterways, tile outlets and any other necessary construction.
12. Terraces, Sediment and Water Control Basins, waterways and tile outlets must be maintained for 10 years or as long as the current owner has control of the land, whichever is less.
13. **Eligible Watersheds for the Lands for Conservation Program: Within the Wahoo Watershed, three of the HUC 12 sub watersheds were identified as highest priority areas for this program: North Fork-Wahoo Creek, Dunlop Creek and Miller Branch-Wahoo Creek. The Shell Creek Watershed. Applications OUTSIDE of priority watersheds will be evaluated after high priority applications.**

14. Separate fund pool allotted in 2022 for the remainder of the LPNNRD outside of 319/NWQI watersheds.

2023 Lower Platte North NRD Lands for Conservation Program (LFC) for summer construction

Purpose: The Lands for Conservation program (LFC) provides landowners with an incentive to get conservation structures constructed on the land during the growing season.

1. The Lands for Conservation program will be on contractual basis between the landowner (cooperator) and the Lower Platte North Natural Resources District (LPNNRD) for one year while conservation practices are being established. Application deadline for each calendar year will be March 1.
2. Sediment and Water Control Basins with tile outlets and/or terraces with grassed waterways and terraces with tile outlets qualify for this program. Sediment and Water Control Basins/Terraces and/or waterways must be seeded during the contract period.
3. NRCS and/or NRD personnel will design terraces with waterways or tile drains or Sediment and Water Control Basins with tile outlets. These practices must protect the entire field on which they are established. However, the area under contract will be the smallest practical area to encompass the practice, as agreed upon with the cooperator.
4. Land enrolled in another program (ex: CRP) may not be eligible for Lands for Conservation contracts.
5. Sediment and Water Control Basins with tile outlets and terraces with waterways or tile outlets may be cost-shared through the EQIP program administered by Natural Resources Conservation Service (NRCS). If federal funds are not available, cost-sharing assistance may be available through the Soil & Water Conservation Cost-Share Program.
6. Construction must be done between June 1 and September 15. The field must be available for construction by August 1. The area enrolled in the LPNNRD Lands for Conservation will be planted to cover crop or a non-grain forage crop (forage sorghum, etc.) preceding or after construction. The crop or cover may be harvested or pastured during the contract period.
7. **For 2023: Payment is \$235 per acre*. Payment will not be processed and forward to the NRD applicant until the project (including the planting of the cover crop) has been certified as completed by the NRCS.**
8. If used for permanent pasture before or after the contract period, these areas are not eligible for the Lands for Conservation Program. Money received through this program resulting in permanent pasture after the contract period, must be returned. Land can be used for hayland as a normal part of the crop rotation.
9. If ownership of land changes during the contract period, the contract becomes void. The new owner may continue the contract, if agreed to with the Lower Platte North NRD.
10. Approval of contracts will be on a rotating basis.
11. The landowner will contract for the construction of Sediment and Water Control Basins, terraces, waterways, tile outlets and any other necessary construction.
12. Terraces, Sediment and Water Control Basins, waterways and tile outlets must be maintained for 10 years or as long as the current owner has control of the land, whichever is less.

* Based on the 2022 Nebraska Farmland Values and Cash Rental Rates from the University of Nebraska publication.

Progress Report for Wahoo Creek Watershed Dams Sites



Lower Platte North NRD

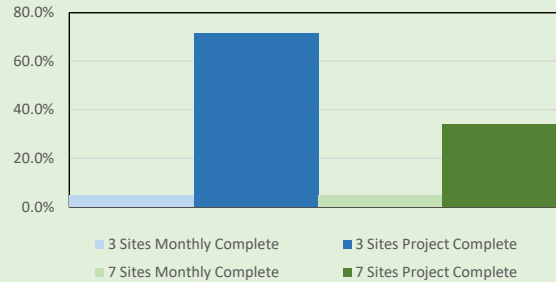
For Work Completed During The Month Of : **January, 2023**
(through 2/4/23)

Project # 018-3423 Dam Site 26A, 26B, &27 Project Phase	Phase Budget	Billings for Month		Project Total Billings to Date	
		Current Earned/Billings	% Completed This Month	JTD Earned/Billings	% Completed Overall
010 - Project Management/Meetings	\$ 23,213	\$ 1,796.13	7.7%	\$ 13,905.88	59.9%
020 - Geotechnical Engineering	\$ 224,493	\$ 1,990.27	0.9%	\$ 226,775.48	101.0%
030 - Dam Design	\$ 184,885	\$ 22,422.71	12.1%	\$ 191,155.33	103.4%
040 - Permitting	\$ 86,634	\$ 7,371.36	8.5%	\$ 43,146.30	49.8%
050 - Survey and Legal Descriptions	\$ 11,142		0.0%	\$ 23,636.47	212.1%
060 - Community/Public Participation	\$ -			\$ -	
070 - Construction Services	\$ 171,962			\$ 1,590.75	
				\$ -	
				\$ -	
3 Sites Totals	\$ 702,329	\$ 33,580.47	4.8%	\$ 500,210.21	71.2%

Project # A18-3423 (separate invoice) Sites 55, 66, 77, 82, 84, 85, &86 Project Phase	Phase Totals	Billings for Month		Project Total Billings to Date	
		Current Earned/Billings	% Completed This Month	JTD Earned/Billings	% Completed Overall
100 - Project Management/Meetings	\$ 60,813	\$ 1,757.56	2.9%	\$ 27,462.44	45.2%
110 - Geotechnical Engineering	\$ 592,047	\$ 25,314.28	4.3%	\$ 377,994.94	63.8%
120 - Dam Design	\$ 425,202	\$ 53,572.99	12.6%	\$ 168,062.38	39.5%
130 - Permitting	\$ 244,810		0.0%	\$ 69,119.27	28.2%
140 - Survey and Legal Descriptions	\$ 28,165	\$ 13,839.00	49.1%	\$ 27,166.70	96.5%
150 - Community/Public Participation	\$ 30,000		0.0%	\$ 5,899.20	19.7%
160 - Other	\$ -			\$ -	
170- Construction Services	\$ 603,992			\$ -	
7 Sites Totals	\$ 1,985,029	\$ 94,483.83	4.8%	\$ 675,704.93	34.0%

Billings For Month	\$ 128,064.30
Total Billings To Date	\$ 1,175,915.14
Project Budget	\$ 2,687,358
Budget Remaining	\$ 1,511,442.86

% Budget Spent Per Site



Summary Of Work Completed This Month	
Sites 26A, 26B, & 27	Sites 55,66,77,82,84,85, & 86
Completed 90% submittal to NRCS and LPNDRD -Specification updates -Finalize plans -NEScap environmental report updates -Finalize geotechnical reports -Finalize structural design	- H&H design and centerline layout -Geotechnical analysis for sites 66 & 77 -Processing of collected survey information -Survey for section corners for legal descriptions -Project Management -NeSCAP and preparing USACE permit application

Planned Work For Next Month	
Site 26A, 26B, & 27	Sites 55, 66, 77, 82, 84, 85, & 86
-Meeting with NRCS to discuss review comments -Providing exhibits for land owner discussions -Discussions regarding USACE alternatives	-H&H design, centerline layout, and auxiliary spillway design -Geotechnical laboratory testing -Mitigation discussions and design -Preliminary structural analysis of risers

For questions regarding billings, please contact Andrew Phillips at (402) 440-8807 or aphillips@olsson.com

Invoice



601 P St Suite 200
PO Box 84608
Lincoln, NE 68501-4608
Tel 402.474.6311, Fax 402.474.5063

February 17, 2023
Invoice No: 448120

Ryan Chapman
Lower Platte North NRD
PO Box 126
Wahoo, NE 68066-0126

Invoice Total \$33,580.47

Olsson Project # 018-34230 Lower Platte North NRD Wahoo Creek Watershed & 3 Dam Sites
Professional services rendered January 1, 2023 through February 4, 2023 for work completed in accordance with agreement.

Phase 010 Sites 26A 26B & 27 Project Management

Labor

	Hours	Amount	
Principal	7.00	1,796.13	
Totals	7.00	1,796.13	
Total Labor			1,796.13
Total this Phase			\$1,796.13

Phase 020 Geotechnical Engineering

Labor

	Hours	Amount	
Project Professional	14.75	1,990.27	
Totals	14.75	1,990.27	
Total Labor			1,990.27
Total this Phase			\$1,990.27

Phase 030 Dam Design 26a, 26b, 27

Labor

	Hours	Amount	
Principal	6.50	1,127.21	
Assistant Professional	140.25	13,587.87	
Designer	15.00	1,819.56	
CAD Operator	67.25	5,855.29	
Administrative/Clerical	.50	32.78	
Totals	229.50	22,422.71	
Total Labor			22,422.71
Total this Phase			\$22,422.71

Phase 040 Permitting

INVOICE PAYMENT IS REQUESTED WITHIN 30 DAYS

Labor

	Hours	Amount	
Assistant Professional	68.25	7,371.36	
Totals	68.25	7,371.36	
Total Labor			7,371.36
		Total this Phase	\$7,371.36

Billing Limits

	Current	Prior	To-Date
Total Billings	33,580.47	466,629.74	500,210.21
Limit			702,329.00
Balance Remaining			202,118.79
	AMOUNT DUE THIS INVOICE		
			\$33,580.47

Outstanding Invoices

Number	Date	Balance
445542	1/12/2023	9,431.75
Total		9,431.75

Email invoice to: rchapman@lpnrd.org

Authorized By: Andrew Phillips

Invoice



601 P St Suite 200
PO Box 84608
Lincoln, NE 68501-4608
Tel 402.474.6311, Fax 402.474.5063

February 17, 2023
Invoice No: 448121

Ryan Chapman
Lower Platte North NRD
PO Box 126
Wahoo, NE 68066-0126

Invoice Total \$94,483.83

Olsson Project # A18-34230 Lower Platte North NRD Wahoo Creek Watershed & 7 Dam Sites
Phase II

Professional services rendered January 1, 2023 through February 4, 2023 for work completed in accordance with agreement.

Phase 100 Sites 55 66 77 82 84 85 86 Project Management

Labor

	Hours	Amount	
Principal	7.00	1,757.56	
Totals	7.00	1,757.56	
Total Labor			1,757.56

Billing Limits

	Current	Prior	To-Date
Total Billings	1,757.56	25,704.88	27,462.44
Limit			62,400.00
Balance Remaining			34,937.56

Total this Phase \$1,757.56

Phase 110 Geotechnical Engineering

Labor

	Hours	Amount	
Assistant Engineer	34.50	3,377.21	
Technician	12.25	904.11	
Principal	2.75	493.90	
Project Professional	74.75	10,354.18	
Assistant Professional	2.75	420.86	
Administrative/Clerical	1.75	139.02	
Totals	128.75	15,689.28	
Total Labor			15,689.28

Unit Billing

Atterberg Limit		
1 Test @ \$95/Test		95.00
Flex-Wall Permeameter Remolded		
1 Test @ \$565/Test		565.00
1 Test @ \$565/Test		565.00

INVOICE PAYMENT IS REQUESTED WITHIN 30 DAYS

Mech. Grain Size Analysis (Hydrometer)			
1 Test @ \$165/Test			165.00
1 Test @ \$165/Test			165.00
1 Test @ \$165/Test			165.00
Mechanical Grain Size Analysis (Sieves)			
1 Test @ \$90/Test			90.00
One-Dimensional Consolidation Test			
1 Test @ \$165/Test			165.00
1 Test @ \$165/Test			165.00
1 Test @ \$165/Test			165.00
1 Test @ \$165/Test			165.00
1 Test @ \$165/Test			165.00
Permeability of Soil - Undisturbed			
1 Test @ \$200/Test			200.00
1 Test @ \$200/Test			200.00
Standard Proctor			
1 Test @ \$170/Test			170.00
1 Test @ \$170/Test			170.00
Triaxial Comp Cons Undrained-Intact			
1 Test @ \$1925/Test			1,925.00
1 Test @ \$1,925/Test			1,925.00
Triaxial Comp Cons Undrained-Remold			
1 Test @ \$2400/Test			2,400.00
Total Units			9,625.00
			9,625.00

Billing Limits	Current	Prior	To-Date	
Total Billings	25,314.28	352,680.66	377,994.94	
Limit			607,460.00	
Balance Remaining			229,465.06	
			Total this Phase	\$25,314.28

Phase	120	Dam Design		
Labor				
			Hours	Amount
Assistant Professional			325.75	33,726.62
Designer			113.00	13,938.96
CAD Operator			58.50	5,837.28
Totals			497.25	53,502.86
Total Labor				53,502.86

Unit Billing				
Line Drawing-Bond				70.13
Total Units			70.13	70.13

Billing Limits	Current	Prior	To-Date	
Total Billings	53,572.99	114,489.39	168,062.38	
Limit			436,278.00	
Balance Remaining			268,215.62	

INVOICE PAYMENT IS REQUESTED WITHIN 30 DAYS

Total this Phase \$53,572.99

Phase 140 Survey & Legal Descriptions

Labor

	Hours	Amount	
Team Leader	6.50	990.02	
Surveyor	10.75	1,061.24	
Survey 2-Man Crew	68.75	6,589.59	
SRVY Crew Survey 1-Man Crew	5.50	296.95	
Survey Crew Support	68.75	4,089.70	
Totals	160.25	13,027.50	
Total Labor			13,027.50

Unit Billing

Field Vehicle 1013	81.0 Miles @ 0.75	60.75	
Field Vehicle 1457	1,001.0 Miles @ 0.75	750.75	
Total Units		811.50	811.50

Billing Limits

	Current	Prior	To-Date	
Total Billings	13,839.00	13,327.70	27,166.70	
Limit			28,875.00	
Balance Remaining			1,708.30	

Total this Phase \$13,839.00

AMOUNT DUE THIS INVOICE \$94,483.83

Outstanding Invoices

Number	Date	Balance
445545	1/12/2023	42,817.55
Total		42,817.55

Authorized By: Andrew Phillips

Drainage Improvement Project - Phase 1 Payments						
		State of NE				
Date	Amount Paid	Grant	pd	NRD	pd	Leshara
Nov-22	10,547.85	8,765.51	x	891.17	x	891.17
Dec-22	5,067.85	4,211.51		428.17		428.17
Jan-23	4,805.70	3,499.76		652.97		652.97
Feb-23	0.00					
Mar-23	0.00					
Apr-23	0.00					
May-23	0.00					
Jun-23	0.00					
Jul-23	0.00					
Aug-23	0.00					
Sep-23	0.00					
Total	20,421.40	16,476.78		1,972.31		1,972.31



1/26/2023

Village of Leshara, NE
Attn: Paula Wagner
210 Summit Street
Leshara, NE 68064

RE: Village of Leshara #21-PW-013 Drawdown #2

Dear Mrs. Wagner:

Enclosed is Drawdown #2 for your Public Works, street and drainage improvement project. After you have reviewed the material, please have Board Chairperson, Melvina Ruhe-Langfeldt and yourself sign the Drawdown (DD) as noted and mail the original DD form back to SEND D for processing. Please sign all documents in "BLUE INK" and place in File IV.

After the drawdown documents are submitted, the Village can expect an automatic transfer from the Nebraska Department of Economic Development (NDED) within 10-30 business days that will be deposited into the designated Community Development Block Grant (CDBG) account. Once received, please write the following check(s):

	TOTAL	CDBG	Match
Drawdown #2: The following #21A General Administration and #03K Street Improvements bills have not yet been paid.			
SEND D Invoice(s): Activity Code #21A General Administration	\$17,801.25	\$17,801.25	\$0.00
Street Improvements: Activity Code #03K Street Improvements	\$9,873.55	\$7,711.27	\$2,162.28
SEND D Invoice(s): Activity Code #03K Construction Management	\$0.00	\$0.00	\$0.00
Totals:	\$27,674.80	\$25,512.52	\$2,162.28

LINCOLN OFFICE
7407 O Street
Lincoln, NE 68510
Office: 402-475-2560

www.sendd.org



AUBURN OFFICE
919 Central Ave
Auburn, NE 68305
Office: 402-862-2201

SEND D is an Equal Opportunity Provider and Employer



According to the above figures, the Village should make the following payments:

Activity Code: #21A

Amount: \$17,801.25

To: Southeast Nebraska Development District

Address: 7407 O St., Lincoln, NE 68510

Activity Code: #03K

Amount: \$9,873.55

To: JEO Consulting Group

Address: 1937 North Chestnut St., Wahoo, NE 68066

NOTES:

1. Upon completed processing at NDED/State, the CDBG funds will be electronically deposited in the identified City's account. **Please disburse NDED funds within five days;** otherwise, it may result in a finding during monitoring.
2. If you make a payment with local funds before the CDBG funds are electronically deposited in your City account, that will be "reimbursement" and those funds are no longer considered "federal" and may be transferred to local accounts as you wish.
3. Please remember to keep copies of the checks made as payment for CDBG activities and keep copies of the bank statements showing deposits of CDBG funds and clearance of checks distributed.

Please feel free to give me a call at (402) 475-2560 if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Ceylon J. Herath". The signature is fluid and cursive, written over a light blue background.

Ceylon J. Herath

Community Development Specialist

LINCOLN OFFICE

7407 O Street
Lincoln, NE 68510
Office: 402-475-2560

www.sendd.org



AUBURN OFFICE

919 Central Ave
Auburn, NE 68305
Office: 402-862-2201



Request for Funds (Drawdown/Payment Request)
Community Development Block Grant Program
 Nebraska Department of Economic Development

Name of Subrecipient (Local Unit of Government) Village of Leshara			Mailing Address 210 Summit Street		City Leshara	State NE	ZIP 68064
CDBG Agreement Number #21-PW-013	Federal Identification Number 470663927	DUNS Number 118125358	UEI Number ZAF7F9TRL5K2	SAM Expiration Date 10/07/2023	Number sequence order of funds 2	Final Drawdown	DED Program Representative Aaron Boucher

Part I – STATUS OF FUNDS

1. CDBG Funds Received to Date	\$ 8,765.51
2. Add: Program Income Received to Date (exclude RLF)	
3. Subtotal	\$ 8,765.51
4. Less: Federal Funds Disbursed To Date (Must Agree To Total Of Part II, Line 3)	\$ 8,765.51
5. Total: Federal Funds On Hand (Must Agree To Part II, Line 6)	

Part II – CASH REQUIREMENTS (Identify all activities listed in the CDBG Agreement, even if funds are not being requested.)

Activity/Budget Category	#21A General Administration	#03K Construction Management	03K Street Improvements				TOTAL
1. Total Cash Requirements To Date	\$ 17,801.25	\$ 0.00	\$ 20,421.40	\$ 0.00	\$ 0.00	\$ 0.00	\$ 38,222.65
2. Less: Local Funds Disbursed (includes RLF) (exclude Program Income)	\$ 0.00	\$ 0.00	\$ 3,944.62	\$ 0.00	\$ 0.00	\$ 0.00	\$ 3,944.62
3. Less: Federal Funds Disbursed (include Program Income) Total Must Agree To Part I, Line 4 (exclude RLF)	\$ 0.00	\$ 0.00	\$ 8,765.51	\$ 0.00	\$ 0.00	\$ 0.00	\$ 8,765.51
4. Total Current Cash Requirements	\$ 17,801.25		\$ 7,711.27				\$ 25,512.52
5. Less: Unpaid Previous Request.							\$ 0.00
6. Less: Federal Funds On Hand (Must Agree To Part I, Line 5)							
7. Net Amount of Federal Funds Requested							\$ 25,512.52

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award, I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812). I also certify that the amount of the request for federal funds is not in excess of current needs.

Signature of Authorized Official (Mayor/Board Chairman)	Typed Name of Authorized Official Melvina Ruhe-Langefeldt, Board Chairperson	Date
Signature of Authorized Official (Clerk/Treasurer)	Typed Name of Authorized Official Paula Wagner, Village Clerk	Date
Person Preparing Request for CDBG Funds Form Name: Ceylon J. Herath	Organization: Southeast Nebraska Development District	Telephone Number: 402-475-2560
		Email: cherath@sended.org

PLEASE REFER TO INSTRUCTIONS FOR ADDITIONAL GUIDANCE. INCOMPLETE OR INCORRECT FORMS WILL NOT BE PROCESSED

****To update calculations, either tab two (2) fields or click on a different field with your mouse.**

Village of Leshara Street and Drainage Improvements (#21-PW-013) Contract Obligation Spreadsheet

Recipient Village of Leshara
CDBG Grant # 21-PW-013

Elected Official
DED Program Rep.

Melvina Ruhe-Langfel
Aaron Boucher

Clerk/City Admin. Paula Wagner
Clerk/Admin Email thevillageofleshara@gmail.com

SENDD Admin
SENDD Admin Email cayerath@sendd.org

Approval

Mailing Address	210 Summit Street	SOURCES	21A General Admin.	03K Construction Management	03K Streets/Bridges	TOTAL	
Fed. ID #	470663927	CDBG	\$ 25,000.00	\$ 10,000.00	\$ 300,000.00	\$	335,000.00
DUNS	118125358	OTHER City Match	\$ -	\$ -	\$ 61,000.00	\$	61,000.00
UEI	ZAF7F9TRL5K2	TOTAL	\$ 25,000.00	\$ 10,000.00	\$ 361,000.00	\$	396,000.00
Release of Funds	6/18/2022	% CDBG	100.00%	100.0000%		83.10%	
Program Income	No	% Other Business				16.90%	
Sam.gov Expiry	10/7/2023	1.Total Cash Requirements to Date	\$ 17,801.25	\$ -	\$ 20,421.40	\$ 38,222.65	Current Fund Request 2
Amendment #		2.Local Funds Disbursed	\$ -	\$ -	\$ 3,944.620	\$ 3,944.62	7. Net Fund Request \$ 25,512.52
Contract End Date	4/17/2024	3.Federal Funds Disbursed	\$ -	\$ -	\$ 8,765.510	\$ 8,765.51	Fed Funds Disbursed \$ 8,765.51
USDA/Other Reporting	No	4.Total Cash Required to Date	\$ 17,801.25	\$ -	\$ 7,711.27	\$ 25,512.52	Local Funds Disbursed \$ 3,944.62
		5. Total Funds Remaining	\$ 7,198.75	\$ 10,000.00	\$ 340,678.60	\$ 357,777.35	Funds Remaining \$ 357,777.35
Previous Fund Requests	Submit Date	Net Amount of Fed. Fund Request	21A General Admin.	03K Const. Mgmt	03K Street Improvements		Disbursement Date
			CDBG	CDBG	INVOICE TOTAL.	CDBG LOCAL	
1	12/7/2022	\$ 10,547.85	\$ -	\$ -	\$ 10,547.85	\$ 8,765.518	\$ 1,782.34
2	1/26/2023	\$ 25,512.52	\$ 17,801.25	\$ -	\$ 9,873.55	\$ 7,711.27	\$ 2,162.28
			\$ -	\$ -			

Fund Request Details									
Drawdown 2									
Contractor	Description	Invoice Date	Invoice #	CDBG 21A Gen. Admin	CDBG 03K Const Mgmt.	Invoice Total	CDBG 03K	Match 03K	Check #
JEO Consulting Group		12/16/2022	137909			\$ 5,067.850	\$ 4,211.510	\$ 856.34	1003
JEO Consulting Group		1/13/2023	138552			\$ 4,805.700	\$ 3,499.765	\$ 1,305.94	1004
SENDD - General Administration		12/31/2021 - 12/31/2022	GA Invoices 1 - 11	\$	17,801.25				

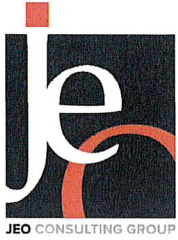
**SEND
21A General Administration**

General Administration Amount	\$ 25,000.00		
Billed To Date	\$ 17,801.25	Current Rate \$/hr	\$ 85.00
Contract Remaining	\$ 7,198.75	Remaining Hours	85
10% of Contract	\$ 2,500.00	Close-out Hours	29

DD #	Invoice Date	Invoice #	Quantity	Rate	Amount
2	12/31/2021	1	42.25	\$ 70.00	\$ 2,957.50
2	1/31/2022	2	32.00	\$ 70.00	\$ 2,240.00
2	2/28/2022	3	1.00	\$ 70.00	\$ 70.00
2	3/31/2022	4	38.00	\$ 70.00	\$ 2,660.00
2	4/30/2022	5	40.00	\$ 70.00	\$ 2,800.00
2	5/31/2022	6	40.00	\$ 70.00	\$ 2,800.00
2	6/30/2022	7	42.00	\$ 70.00	\$ 2,940.00
2	7/31/2022	8	5.00	\$ 75.00	\$ 375.00
2	8/31/2022	9	4.00	\$ 75.00	\$ 300.00
2	11/30/2022	10	5.75	\$ 85.00	\$ 488.75
2	12/31/2022	11	2.00	\$ 85.00	\$ 170.00

Total Hours 252.00

Summary	Check #	Invoice #s	Totals
DD #2		GA #1-11	\$ 17,801.25



Invoice

December 16, 2022
Project No: R210551.00
Invoice No: 137909
Invoice Amount: 5,067.85

Village of Leshara
210 Summit Street
Leshara, NE 68064

Project Manager Nathan Boone
Project R210551.00 Leshara CDBG Phase I Drainage Improvements

Professional Services through December 9, 2022

- Phase 2, the study phase, is ongoing and nearing completion. The project will soon move into preliminary design with an anticipated bid period late Winter 2022/2023.

Table with 6 columns: Lump Sum Phase(s), Contract Amount, Percent Complete, Billed-to-Date, Previous Billing, Current Billing. Rows include Funding Assistance, Topographic Survey, Urban Drainage Study, Design, Permitting, Bidding and Negotiation, Construction Administration, Construction Observation, and Total.

Email Invoice to: thevillageofleshara@gmail.com

IF THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND OR WHITE PAPER AND ORIGINAL DOCUMENT SECURITY SCREEN ON BACK WITH PADLOCK SECURITY ICON

1003

Village Of Leshara
210 Summit Street
Leshara, NE 68064

FOUNDATION ONE BANK
Waterloo, Nebraska 68069
76-777/1049

12/20/2022

\$ **5,067 85

PAY TO THE ORDER OF JEO Consulting Group Inc

Five Thousand Sixty-Seven and 85/100 ***** DOLLARS


1937 North Chestnut Street
Wahoo, NE 68066

Paula Wagner
Mel Rube-Hangfeldt
AUTHORIZED SIGNATURE

Security features included: Details on back

MEMO

⑈001003⑈ ⑆104907779⑆ 52⑈01975 6⑈


Padlock design is a registered trademark of the Check Payment Systems Association.
Absence of the following features may indicate alteration:
- MP Microprint
- Security Penetration
- Varying Backgrounds of Padlock Logo
- Security Screen Pattern
- MP
- Item Num
- Bus Dr
- Rt Num
- Batch

* FEDERAL RESERVE BOARD OF GOVERNORS REG. C.C.

>104913255<
Wahoo State Bank #885
2022-12-23
2300037977
Batch

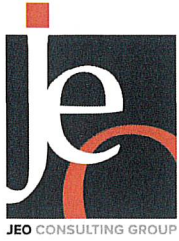
-RtNum=>104913255<
-BusDr=12/23/22
-ItemNum=230003797733

MP
DO NOT WRITE, STAMP OR SIGN BELOW THIS LINE
RESERVED FOR FINANCIAL INSTITUTION USE
MP

FOR DEPOSIT ONLY
JEO CONSULTING GROUP INC.

ENDORSE HERE

BusDt=12/23/22 StartTm= 2 10 28 PM-TirID=1001
RtNum=104913255
ItemNum=230003797733



Invoice

January 13, 2023
Project No: R210551.00
Invoice No: 138552
Invoice Amount: 4,805.70

Village of Leshara
210 Summit Street
Leshara, NE 68064

Project Manager Nathan Boone
Project R210551.00 Leshara CDBG Phase I Drainage Improvements

Professional Services through January 6, 2023

- Phase 2, the study phase, is ongoing and nearing completion. The project will soon move into preliminary design with an anticipated bid period late Winter 2022/2023.

Table with 6 columns: Contract Amount, Percent Complete, Billed-to-Date, Previous Billing, Current Billing. Rows include Funding Assistance, Topographic Survey, Urban Drainage Study, Design, Permitting, Bidding and Negotiation, Construction Administration, Construction Observation, and Total.

Total Amount Due Upon Receipt : \$4,805.70

Email Invoice to: thevillageofleshara@gmail.com

**Southeast Nebraska Development
District**
7407 O St
Lincoln, NE 68510-2444 US
402-475-2560
bookkeeper@sendedd.org
www.sendedd.org

Invoice 1

BILL TO

Village of LeShara
210 Summit
LeShara, NE 68064

DATE
12/31/2021

PLEASE PAY
\$2,957.50

DUE DATE
03/01/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
12/06/2021	GA 1. Contract Documents	Preparation of both DED and SENDD contracts	1:00	70.00	70.00
12/06/2021	GA 1. Contract Documents	Preparation of both DED and SENDD contracts	1:00	70.00	70.00
12/07/2021	GA 8. Correspondence & Notes	Correspondence with City Clerk	1:00	70.00	70.00
12/07/2021	GA 8. Correspondence & Notes	Correspondence with City Clerk	1:00	70.00	70.00
12/08/2021	GA 2.1 Special Conditions	Drafted and sent out Authorization to Request Funds form to be signed by the Village Clerk and Board Chair	1:00	70.00	70.00
12/08/2021	GA 2.1 Special Conditions	Drafted and sent out Excessive Force Certification to be signed by Chief Elected Official	1:00	70.00	70.00
12/09/2021	GA 2.1 Special Conditions	Drafted and sent out LEP letter to be signed by Chief Elected Official	1:00	70.00	70.00
12/09/2021	GA 8. Correspondence & Notes	Correspondence with Village clerk	1:00	70.00	70.00
12/10/2021	GA 2.1 Special Conditions	Drafted and sent out Procurement Procedures and Code of Conduct to be signed by Chief Elected Official	1:00	70.00	70.00
12/10/2021	GA 2.1 Special Conditions	Uploaded State of Nebraska W9 and ACH Enrollment Form into Amplifund	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
12/13/2021	GA 2.1 Special Conditions	Drafted CDBG Grantee Information and sent out to Village Clerk to be signed	1:00	70.00	70.00
12/13/2021	GA 2.1 Special Conditions	Drafted Financial Management Certification	1:00	70.00	70.00
12/14/2021	GA 2.2 Environmental Review	Drafted Determination of Level of Review and 24 CFR §58.6 (Other Requirements) document	1:00	70.00	70.00
12/14/2021	GA 2.2 Environmental Review	Began working on full Environmental Review Record (ERR) Statutory Checklist	1:00	70.00	70.00
12/15/2021	GA 2.2 Environmental Review	Continued work on Statutory Checklist categories 1-4 (Air Quality, Airport Hazards, Coastal Zone Management, and Contamination and Toxic Substances)	1:00	70.00	70.00
12/15/2021	GA 2.2 Environmental Review	Continued work on Statutory Checklist categories 5-8 (Endangered Species, Environmental Justice, Explosive and Flammable Operations, and Farmland Protection)	1:00	70.00	70.00
12/16/2021	GA 2.2 Environmental Review	Continued work on Statutory Checklist categories 9-14 (Floodplain Management, Historic Preservation, Noise Control, Water Quality, Wetland Protection, and Wild and Scenic Rivers)	1:00	70.00	70.00
12/16/2021	GA 2.2 Environmental Review	Creation of project maps and pertinent reports for full ERR	1:00	70.00	70.00
12/17/2021	GA 2.2 Environmental Review	Continued work on creating project maps and pertinent reports for full ERR	1:00	70.00	70.00
12/17/2021	GA 2.2 Environmental Review	Continued work on creating project maps and pertinent reports for full ERR	1:00	70.00	70.00
12/20/2021	GA 2.2 Environmental Review	Compiled exhibits for Statutory Checklist	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
12/20/2021	GA 2.2 Environmental Review	Finalizations for Statutory Checklist, exhibits, and full ERR	1:00	70.00	70.00
12/20/2021	GA 2.2 Environmental Review	Continued finalizations for Statutory Checklist, exhibits, and full ERR	1:00	70.00	70.00
12/21/2021	GA 2.2 Environmental Review	Uploaded all Special Conditions into AmpliFund	1:00	70.00	70.00
12/21/2021	GA 2.1 Special Conditions	Correspondence with Betty Gillespie (SHPO) in regard to Section 106 review	1:00	70.00	70.00
12/21/2021	GA 2.1 Special Conditions	Created a physical file for all pertinent project documentation	1:00	70.00	70.00
12/21/2021	GA 8. Correspondence & Notes	Uploaded all digital project documentation into SENDD internal drive	1:00	70.00	70.00
12/22/2021	GA 2.1 Special Conditions	Drafted and finalized updated Fair Housing letter	1:00	70.00	70.00
12/22/2021	GA 8. Correspondence & Notes	Correspondence with Village Clerk in regard to receiving executed documentation	1:00	70.00	70.00
12/22/2021	GA 8. Correspondence & Notes	Attempted correspondence with Village Boardchairperson	1:00	70.00	70.00
12/27/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/27/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/27/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/28/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/28/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/28/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/29/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
12/29/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/29/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/30/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	0:15	70.00	17.50
12/30/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/30/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00
12/30/2021	GA 2.1 Special Conditions	Completion of all Special Conditions documentation	1:00	70.00	70.00

TOTAL DUE

\$2,957.50

THANK YOU.

**Southeast Nebraska Development
District**
7407 O St
Lincoln, NE 68510-2444 US
402-475-2560
bookkeeper@sendedd.org
www.sendedd.org

Invoice 2

BILL TO

Village of LeShara
210 Summit
LeShara, NE 68064

DATE
01/31/2022

PLEASE PAY
\$2,240.00

DUE DATE
04/01/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
01/03/2022	GA 2.2 Environmental Review	Correspondence with Aaron Boucher in regard to requested ERR edits	2	70.00	140.00
01/04/2022	GA 2.2 Environmental Review	Correspondence with Andrew Wilshusen in regard to project scope and fee	2	70.00	140.00
01/05/2022	GA 2.2 Environmental Review	Edits made to full Environmental Review Record (ERR) Statutory Checklist	2	70.00	140.00
01/06/2022	GA 2.2 Environmental Review	Edits made to full Environmental Review Record (ERR) Statutory Checklist categories 1-4 (Air Quality, Airport Hazards, Coastal Zone Management, and Contamination and Toxic Substances	2	70.00	140.00
01/07/2022	GA 2.2 Environmental Review	Edits made to full Environmental Review Record (ERR) Statutory Checklist categories 5-8 (Endangered Species, Environmental Justice, Explosive and Flammable Operations, and Farmland Protection)	2	70.00	140.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
01/10/2022	GA 2.2 Environmental Review	Edits made to full Environmental Review Record (ERR) Statutory Checklist categories 9-14 (Floodplain Management, Historic Preservation, Noise Control, Water Quality, Wetland Protection, and Wild and Scenic Rivers)	2	70.00	140.00
01/11/2022	GA 2.2 Environmental Review	Edits made to project maps and pertinent reports for full ERR	2	70.00	140.00
01/12/2022	GA 2.2 Environmental Review	Continued edits made to project maps and pertinent reports for full ERR	2	70.00	140.00
01/13/2022	GA 2.2 Environmental Review	Uploaded revised documentation into AmpliFund	2	70.00	140.00
01/14/2022	GA 8. Correspondence & Notes	Correspondence with Aaron Boucher in regard to project requiring an Environmental Assessment (EA), began putting together extension materials and pertinent documentation for EA	2	70.00	140.00
01/17/2022	GA 2.2 Environmental Review	Full submission of extension request for EA	2	70.00	140.00
01/18/2022	GA 2.2 Environmental Review	Outreach to Mitch Polacek and Village Clerk in regard to land development questions for EA, began full EA	2	70.00	140.00
01/19/2022	GA 2.2 Environmental Review	Continued work on EA for full ERR	2	70.00	140.00
01/20/2022	GA 2.2 Environmental Review	Continued work on EA for full ERR and correspondence with agency officials in regard to required documentation	2	70.00	140.00
01/21/2022	GA 2.2 Environmental Review	Correspondence with Village Clerk and continued work on EA	2	70.00	140.00
01/25/2022	GA 8. Correspondence & Notes	File Organization and Management	1	70.00	70.00
01/31/2022	GA 8. Correspondence & Notes	File Organization and Management	1	70.00	70.00

TOTAL DUE

\$2,240.00

THANK YOU.

Southeast Nebraska Development

District

7407 O St
Lincoln, NE 68510-2444 US
402-475-2560
bookkeeper@sendedd.org
www.sendedd.org

Invoice 3

BILL TO

Village of LeShara
210 Summit
LeShara, NE 68064

DATE
02/28/2022

PLEASE PAY
\$70.00

DUE DATE
04/29/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
02/01/2022	GA 8. Correspondence & Notes	File Organization and Management	1:00	70.00	70.00

TOTAL DUE

\$70.00

THANK YOU.

Southeast Nebraska Development**District**

7407 O St

Lincoln, NE 68510-2444 US

402-475-2560

bookkeeper@sendedd.org

www.sendedd.org

Invoice 4**BILL TO**

Village of LeShara

210 Summit

LeShara, NE 68064

DATE
03/31/2022PLEASE PAY
\$2,660.00DUE DATE
05/30/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
03/07/2022	GA 2.2 Environmental Review	Began Floodplain and Wetland Review for the 8-Step Process	1:00	70.00	70.00
03/07/2022	GA 2.2 Environmental Review	Continued work on Floodplain and Wetland Review for the 8-Step Process	1:00	70.00	70.00
03/08/2022	GA 2.2 Environmental Review	Continued work on Floodplain and Wetland Review for the 8-Step Process	1:00	70.00	70.00
03/08/2022	GA 2.2 Environmental Review	Continued work on Floodplain and Wetland Review for the 8-Step Process	1:00	70.00	70.00
03/09/2022	GA 2.2 Environmental Review	Continued work on Floodplain and Wetland Review for the 8-Step Process	1:00	70.00	70.00
03/09/2022	GA 2.2 Environmental Review	Began full HUD Environmental Assessment	1:00	70.00	70.00
03/10/2022	GA 2.2 Environmental Review	Continued work on HUD Environmental Assessment	1:00	70.00	70.00
03/10/2022	GA 2.2 Environmental Review	Completion of Statutory Checklist within HUD Environmental Assessment	1:00	70.00	70.00
03/11/2022	GA 2.2 Environmental Review	Began HUD Environmental Assessment Checklist	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
03/11/2022	GA 2.2 Environmental Review	Correspondence with Village Clerk and Board Chairperson in regard to HUD EA Checklist	1:00	70.00	70.00
03/15/2022	GA 2.2 Environmental Review	No response from Village Clerk and Board Chairperson, continued work on HUD EA Checklist	2:00	70.00	140.00
03/15/2022	GA 8. Correspondence & Notes	Telephone call to Michael Pettinger, Village Board Member, continued work on HUD EA Checklist	1:00	70.00	70.00
03/16/2022	GA 2.2 Environmental Review	Telephone call to Michael Pettinger, Village Board Member, continued work on HUD EA Checklist	2:00	70.00	140.00
03/16/2022	GA 2.2 Environmental Review	Completion of Land Development portion of HUD EA Checklist	1:00	70.00	70.00
03/16/2022	GA 8. Correspondence & Notes	Outreach to Village and DED to ensure compliance	0:30	70.00	35.00
03/17/2022	GA 2.2 Environmental Review	Completion of Socioeconomic Factors portion of HUD EA Checklist	2:00	70.00	140.00
03/17/2022	GA 2.2 Environmental Review	Work on Community Facilities and Services portion of HUD EA Checklist	1:00	70.00	70.00
03/17/2022	GA 8. Correspondence & Notes	Outreach to Village and DED to ensure compliance	0:30	70.00	35.00
03/21/2022	GA 2.2 Environmental Review	Continued work on Community Facilities and Services portion of HUD EA Checklist	1:00	70.00	70.00
03/21/2022	GA 2.2 Environmental Review	Work on Natural Features portion of HUD EA Checklist	1:00	70.00	70.00
03/22/2022	GA 2.2 Environmental Review	Continued work on Natural Features portion of HUD EA Checklist	1:00	70.00	70.00
03/22/2022	GA 2.2 Environmental Review	Completion of Natural Features portion of HUD EA Checklist	1:00	70.00	70.00
03/23/2022	GA 2.2 Environmental Review	Completion of Part III: 58.6 Checklist	1:00	70.00	70.00
03/23/2022	GA 2.2 Environmental Review	Work on Summary of Findings and Conclusions	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
03/24/2022	GA 2.2 Environmental Review	Completed work on Summary of Findings and Conclusions	1:00	70.00	70.00
03/24/2022	GA 8. Correspondence & Notes	Digital file organization	1:00	70.00	70.00
03/25/2022	GA 8. Correspondence & Notes	Physical file organization	1:00	70.00	70.00
03/25/2022	GA 8. Correspondence & Notes	Project progress update with Village Clerk and DED	1:00	70.00	70.00
03/28/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
03/28/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
03/29/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
03/29/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
03/30/2022	GA 8. Correspondence & Notes	Outreach to Village Clerk in regard to Floodplain Development permit	1:00	70.00	70.00
03/30/2022	GA 8. Correspondence & Notes	Outreach to John Miller and Lalit Jha in regard to Floodplain Development permit	1:00	70.00	70.00
03/31/2022	GA 8. Correspondence & Notes	Outreach to SENDD colleagues and organized digital and physical files to ensure that we did not already have a Floodplain Development permit on file	1:00	70.00	70.00
03/31/2022	GA 8. Correspondence & Notes	Outreach to SENDD colleagues and organized digital and physical files to ensure that we did not already have a Floodplain Development permit on file	1:00	70.00	70.00

TOTAL DUE

\$2,660.00

THANK YOU.

Southeast Nebraska Development
District
 7407 O St
 Lincoln, NE 68510-2444 US
 402-475-2560
 bookkeeper@sendedd.org
 www.sendedd.org

Invoice 5

BILL TO

Village of LeShara
 210 Summit
 LeShara, NE 68064

DATE
 04/30/2022

PLEASE PAY
\$2,800.00

DUE DATE
 06/29/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
04/01/2022	GA 8. Correspondence & Notes	Correspondence with Lalit Jha, John Miller, and John Callen in regard to water resources question for completion of full ERR	1:00	70.00	70.00
04/01/2022	GA 2.2 Environmental Review	Began Timing Summary worksheet for 8-Step Process	1:00	70.00	70.00
04/04/2022	GA 2.2 Environmental Review	Completed Steps 1-3 for HUD 8-Step Process	1:00	70.00	70.00
04/04/2022	GA 2.2 Environmental Review	Completed Steps 4-5 for HUD 8-Step Process	1:00	70.00	70.00
04/05/2022	GA 8. Correspondence & Notes	Floodplain Insurance correspondence with Floodplain Administration	1:00	70.00	70.00
04/05/2022	GA 8. Correspondence & Notes	Floodplain Insurance correspondence with Floodplain Administration	1:00	70.00	70.00
04/06/2022	GA 8. Correspondence & Notes	Floodplain Insurance correspondence with JEO Consulting Group	1:00	70.00	70.00
04/06/2022	GA 8. Correspondence & Notes	Floodplain Insurance correspondence with JEO Consulting Group	1:00	70.00	70.00
04/06/2022	GA 8. Correspondence & Notes	Liz and Ceylon meeting for 8-Step Process timing summary	0:30	70.00	35.00
04/07/2022	GA 2.2 Environmental Review	Created Early Public Notice for 8-Step Process	1:00	70.00	70.00
04/07/2022	GA 2.2 Environmental Review	Continued work on Early Public Notice for 8-Step Process	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
04/07/2022	GA 8. Correspondence & Notes	Correspondence with Aaron Boucher in regard to approval of draft of Early Public Notice	0:30	70.00	35.00
04/08/2022	GA 8. Correspondence & Notes	Created a finalized draft of the Early Public Notice	1:00	70.00	70.00
04/08/2022	GA 2.2 Environmental Review	Reached out to the Fremont Tribune for publication of Early Public Notice	1:00	70.00	70.00
04/11/2022	GA 8. Correspondence & Notes	Continued work on HUD 8-Step Process	1:00	70.00	70.00
04/11/2022	GA 2.2 Environmental Review	Created first draft of Notice of Explanation	1:00	70.00	70.00
04/12/2022	GA 2.2 Environmental Review	Continued work on Notice of Explanation	1:00	70.00	70.00
04/12/2022	GA 2.2 Environmental Review	Completion and finalization of Notice of Explanation, submitted to Fremont Tribune for publication	1:00	70.00	70.00
04/13/2022	GA 2.2 Environmental Review	Completed Steps 6-8 for HUD 8-Step Process	1:00	70.00	70.00
04/13/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/14/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/14/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/18/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/18/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/19/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/19/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
04/20/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/20/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/21/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/21/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/25/2022	GA 2.2 Environmental Review	Correspondence with DED in regard to publications for 8-Step Process	1:00	70.00	70.00
04/25/2022	GA 2.2 Environmental Review	Created Finding of No Significant Impact (FONSI) documentation	1:00	70.00	70.00
04/26/2022	GA 2.2 Environmental Review	Continued work on FONSI documentation	1:00	70.00	70.00
04/26/2022	GA 2.2 Environmental Review	Completion of FONSI documentation	1:00	70.00	70.00
04/27/2022	GA 2.2 Environmental Review	Submission of FONSI and correspondence with Fremont Tribune	1:00	70.00	70.00
04/27/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/28/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/28/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/28/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00
04/29/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
04/29/2022	GA 2.2 Environmental Review	Completion of entire HUD 8-Step Process and full Environmental Review Record (ERR)	1:00	70.00	70.00

TOTAL DUE

\$2,800.00

THANK YOU.

Southeast Nebraska Development

District

7407 O St
Lincoln, NE 68510-2444 US
402-475-2560
bookkeeper@sendedd.org
www.sendedd.org

Invoice 6

BILL TO

Village of LeShara
210 Summit
LeShara, NE 68064

DATE
05/31/2022

PLEASE PAY
\$2,800.00

DUE DATE
07/30/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
05/02/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/02/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/02/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/03/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/03/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/04/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/04/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/05/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/05/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/09/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/09/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/09/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/10/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/10/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/11/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00
05/11/2022	GA 2.2 Environmental Review	GA 2.2 Environmental Review	1:00	70.00	70.00

TOTAL DUE

\$2,800.00

THANK YOU.

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Invoice 7

BILL TO

Village of LeShara
 210 Summit
 LeShara, NE 68064

DATE
 06/30/2022

PLEASE PAY
\$2,940.00

DUE DATE
 08/29/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
06/01/2022	GA 2.2 Environmental Review	Work on Request for Release of Funds (RROF) certificate	2:00	70.00	140.00
06/01/2022	GA 2.2 Environmental Review	Continued work on Request for Release of Funds (RROF) certificate	1:00	70.00	70.00
06/02/2022	GA 2.2 Environmental Review	Completion of Request for Release of Funds (RROF) certificate, correspondence with DED	2:00	70.00	140.00
06/02/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/06/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/06/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/07/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/07/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/08/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/08/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
06/09/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/09/2022	GA 2.2 Environmental Review	Completion of whole Environmental Review Record (ERR)	1:00	70.00	70.00
06/10/2022	GA 3. Financial Management	Review of General Administration invoices	1:00	70.00	70.00
06/10/2022	GA 3. Financial Management	Review of General Administration invoices	1:00	70.00	70.00
06/13/2022	GA 3. Financial Management	Created first draft of Payment Request #1	2:00	70.00	140.00
06/13/2022	GA 3. Financial Management	Continued work on first draft of Payment Request #1	1:00	70.00	70.00
06/14/2022	GA 3. Financial Management	Continued work on first draft of Payment Request #1	2:00	70.00	140.00
06/14/2022	GA 2.2 Environmental Review	Finalization of Timing Summary worksheet	1:00	70.00	70.00
06/15/2022	GA 2.2 Environmental Review	Finalization of Timing Summary worksheet	2:00	70.00	140.00
06/15/2022	GA 2.2 Environmental Review	Completion of full Environmental Review Record (ERR)	1:00	70.00	70.00
06/16/2022	GA 2.2 Environmental Review	Completion of full Environmental Review Record (ERR)	2:00	70.00	140.00
06/16/2022	GA 2.2 Environmental Review	Completion of full Environmental Review Record (ERR)	1:00	70.00	70.00
06/17/2022	GA 2.2 Environmental Review	Completion of full Environmental Review Record (ERR)	2:00	70.00	140.00
06/17/2022	GA 2.2 Environmental Review	Correspondence with DED in regard to Release of Funds	1:00	70.00	70.00
06/20/2022	GA 3. Financial Management	Continued review of General Administration invoices	2:00	70.00	140.00
06/21/2022	GA 3. Financial Management	Continued review of General Administration invoices	2:00	70.00	140.00
06/22/2022	GA 3. Financial Management	Continued review of General Administration invoices	2:00	70.00	140.00
06/23/2022	GA 2.2 Environmental Review	Correspondence with DED in regard to Environmental Clearance	2:00	70.00	140.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
06/23/2022	GA 2.2 Environmental Review	Edits made to Environmental Clearance	1:00	70.00	70.00
06/24/2022	GA 2.2 Environmental Review	Submission of all pertinent Release of Funds and Environmental Clearance documentation, correspondence with DED	2:00	70.00	140.00

TOTAL DUE

\$2,940.00

THANK YOU.

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Invoice 8

BILL TO

Village of LeShara
210 Summit
LeShara, NE 68064

DATE
07/31/2022

PLEASE PAY
\$375.00

DUE DATE
09/29/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
07/25/2022	GA 5. Periodic Reports & Monitoring	Began Project Status Report (PSR) for January-June 2022	1:00	75.00	75.00
07/26/2022	GA 5. Periodic Reports & Monitoring	Completed and submitted Project Status Report (PSR) for January-June 2022	1:00	75.00	75.00
07/27/2022	GA 8. Correspondence & Notes	Correspondence with Village Clerk	1:00	75.00	75.00
07/28/2022	GA 8. Correspondence & Notes	Monitoring digital and physical files to ensure compliance with DED guidelines	1:00	75.00	75.00
07/29/2022	GA 8. Correspondence & Notes	Monitoring digital and physical files to ensure compliance with DED guidelines	1:00	75.00	75.00

TOTAL DUE

\$375.00

THANK YOU.

Southeast Nebraska Development

District

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www.sendedd.org

Invoice 9

BILL TO

Village of LeShara
210 Summit
LeShara, NE 68064

DATE
08/31/2022

PLEASE PAY
\$300.00

DUE DATE
10/30/2022

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
08/01/2022	GA 5. Periodic Reports & Monitoring	Correspondence with Amber Helmick in regard to PSR Corrections, proceeded to complete PSR corrections	1:00	75.00	75.00
08/02/2022	GA 5. Periodic Reports & Monitoring	Completed requested PSR corrections in AmpliFund	1:00	75.00	75.00
08/03/2022	GA 8. Correspondence & Notes	Organization of physical and digital files	1:00	75.00	75.00
08/04/2022	GA 8. Correspondence & Notes	Organization of physical and digital files	1:00	75.00	75.00

TOTAL DUE

\$300.00

THANK YOU.

Southeast Nebraska Development**District**

7407 O St

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402-475-2560

bookkeeper@sendedd.org

www.sendedd.org

Invoice 10**BILL TO**

Village of LeShara

210 Summit

LeShara, NE 68064

DATE
11/30/2022PLEASE PAY
\$488.75DUE DATE
01/29/2023

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
11/09/2022	GA 5. Periodic Reports & Monitoring	Notification of Annual Audit correspondence	0:15	85.00	21.25
11/10/2022	GA 3. Financial Management	Review of invoices for CDBG project #21-PW-013 and correspondence with Village Clerk, Paula Wagner in regard to JEO invoices and payment requests	1:00	85.00	85.00
11/22/2022	GA 3. Financial Management	Correspondence with Paula Wagner and Aaron Boucher in regard to payment for JEO Consulting Group invoices	1:30	85.00	127.50
11/23/2022	GA 3. Financial Management	Created ledger for Payment Request #1	1:00	85.00	85.00
11/28/2022	GA 3. Financial Management	Continued work on Payment Request #1 ledger	1:00	85.00	85.00
11/29/2022	GA 3. Financial Management	Continued work on Payment Request #1 ledger	1:00	85.00	85.00

TOTAL DUE

\$488.75

THANK YOU.

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Invoice 11

BILL TO

Village of LeShara
210 Summit
LeShara, NE 68064

DATE 12/31/2022	PLEASE PAY \$170.00	DUE DATE 03/01/2023
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DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
12/07/2022	GA 8. Correspondence & Notes	Completion of full Payment Request #1, correspondence with Aaron Boucher and Paula Wagner	1:00	85.00	85.00
12/08/2022	GA 8. Correspondence & Notes	Uploaded all pertinent documentation into AmpliFund, File Maintenance	1:00	85.00	85.00

TOTAL DUE \$170.00

THANK YOU.

**Lower Platte North NRD
Director Retreat
Schneider Building – 935 Schneider St. Fremont, NE
March 9, 2023**

9:00 a.m. Welcome – Eric

9:05 a.m. Wahoo Creek Watershed Update – Ryan, Sean, Eric

9:35 a.m. Wanahoo Stilling Basin Repairs History/Update – Bob Heimann

10:00 a.m. Dodge County/East Fremont – Tom Smith, Ryan, Sean

10:45 a.m. GDFC, Port Authority Update – Megan Stiles

11:15 a.m. Water Dept Nitrate/Phase IV? – Daryl, Russell, Tyler, Noah

12:00 p.m. Lunch

1:00 p.m. 2023 Wanahoo Improvements – Bret, Eric

1:30 p.m. Water Dept. Drought Triggers/Variations – Daryl, Russell, Bret

2:15 p.m. New Office Funding – Eric

2:45 p.m. Adjourn – Reception – Thompson Construction

2404 N Lincoln Ave, Fremont, NE 68025

Soil Erosion	<ul style="list-style-type: none"> * Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff or wind that degrades soil quality. * Untreated classic gullies may enlarge progressively by head cutting and/or lateral widening. Ephemeral gullies occur in the same flow area and are obscured by tillage. This includes concentrated flow erosion caused by runoff from rainfall, snowmelt or irrigation water. * Sediment from banks or shorelines threatens to degrade water quality and limit use for intended purposes.
Soil Quality Degradation	<ul style="list-style-type: none"> * Loss of volume and depth of organic soils due to oxidation caused by above normal microbial activity resulting from excessive water drainage, soil disturbance, or extended drought. This excludes karst / sinkholes issues or depressions caused by underground activities. * Management induced soil compaction resulting in decreased rooting depth that reduces plant growth, animal habitat and soil biological activity. * Soil organic matter is not adequate to provide a suitable medium for plant growth, animal habitat, and soil biological activity. * Concentration of salts leading to salinity and/or sodicity reducing productivity or limiting desired use, or concentrations of other chemicals impacting productivity or limiting desired use.
Excess Water	<ul style="list-style-type: none"> * Surface water or poor subsurface drainage restricts land use and management goals. * Wind-blown snow accumulates around and over surface structures, restricting access to humans and animals.
Insufficient Water	<ul style="list-style-type: none"> * Natural precipitation is not optimally managed to support desired land use goals or ecological processes. * Irrigation water is not stored, delivered, scheduled and/or applied efficiently. Aquifer or surface water withdrawals threaten sustained availability of ground or surface water. Available irrigation water supplies have been reduced due to aquifer depletion, competition, regulation and/or drought.
Water Quality Degradation	<ul style="list-style-type: none"> * Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes. * Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes. * Pest control chemicals are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes. * Pathogens, pharmaceuticals, and other chemicals carried by land applied soil amendments are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes. * This resource concern also includes the off-site transport of leachate and runoff from compost or other organic materials of animal origin. * Irrigation or rainfall runoff transports salts to receiving water in quantities that degrade water quality and limit use for intended purposes. * Heavy metals, petroleum and other pollutants are transported to receiving water sources in quantities that degrade water quality and limit use for intended purposes. * Off-site transport of sediment from sheet, rill, gully, and wind erosion into surface water that threatens to degrade surface water quality and limit use for intended purposes. * Surface water temperatures exceed State/Federal standards and/or limit use for intended purposes.
Air Quality	<ul style="list-style-type: none"> * Direct emissions of particulate matter - dust and smoke -, as well as the formation of fine particulate matter in the atmosphere from other agricultural emissions - ammonia, NOx, and VOCs - cause multiple environmental impacts, such as:- The unintended movement of particulate matter - typically dust or smoke - results in safety or nuisance visibility restriction.- The unintended movement of particulate matter and/or chemical droplets results in unwanted deposits on surfaces.- Increased atmospheric concentrations of particulate matter can impact human and animal health and degrade regional visibility. * Emissions increase atmospheric concentrations of greenhouse gases. * Emissions of ozone precursors - NOx and VOCs - resulting in formation of ground- level ozone that cause negative impacts to plants and animals. Emissions of odorous compounds - VOCs, ammonia and odorous sulfur compounds - cause nuisance conditions.
Degraded Plants	<ul style="list-style-type: none"> * Plant productivity, vigor and/or quality negatively impacts other resources or does not meet yield potential due to improper fertility, management or plants not adapted to site. This includes addressing pollinators and beneficial insects. * Plant communities have insufficient composition and structure to achieve ecological functions and management objectives. * This includes degradation of wetland habitat, targeted ecosystems, or unique plant communities. * Excessive pest damage to plants including that from undesired plants, diseases, animals, soil borne pathogens, and nematodes. * This concern addresses invasive plant, animal and insect species The kinds and amounts of fuel loadings - plant biomass - create wildfire hazards that pose risks to human safety, structures, plants, animals, and air resources.
Fish and Wildlife	<ul style="list-style-type: none"> * Quantity, quality or connectivity of food, cover, space, shelter and/or water is inadequate to meet requirements of identified fish, wildlife or invertebrate species. * Quantity, quality or connectivity of food, cover, space, shelter and/or water is inadequate to meet requirements of identified fish, wildlife or invertebrate species.
Livestock Production Limitation	<ul style="list-style-type: none"> * Feed and forage quality or quantity is inadequate for nutritional needs and production goals of the kinds and classes of livestock. * Livestock lack adequate shelter from climatic conditions to maintain health or production goals. * Quantity, quality and/or distribution of drinking water are insufficient to maintain health or production goals for the kinds and classes of livestock.
Inefficient Energy	<ul style="list-style-type: none"> * Inefficient use of energy in the Farm Operation increases dependence on non-renewable energy sources that can be addressed through improved energy efficiency and the use of on-farm renewable energy sources. * As an example, this concern addresses inefficient energy use in pumping plants, on-farm processing, drying and storage. * Inefficient use of energy in field operations increases dependence on non-renewable energy sources that can be addressed through improved efficiency and the use of on-farm renewable energy sources.

<p><i>Soil Erosion/Quality Resource Concerns</i></p> <p><i>Applications under this fund pool, will implement conservation practices to address soil erosion and/or soil quality resource concerns on existing cropland land use.</i></p>				
HIGH PRIORITY:	1. Applications* where 50% or more of the conservation practices to be applied will be physically located north of the Platte River (Platte, Colfax and Dodge counties).	2. Applications* where 50% or more of the conservation practices to be applied will be physically located south of the Platte River (Saunders and Butler counties). The soil erosion and/or soil quality conservation practices will include only management practice(s). Management practices will result in the highest level of Soil Quality/Erosion achievement by implementing [receiving and management practice payment] one or more of the following management practices to be include, but not limited to are: a. Cropland to Grassland Conversion b. Cover Crops c. No-Till d. Crop Rotation (ex: adding small grain to rotation) e. Vegetative Practices (ex: grassed waterways) f. Filter Strips h. Field Borders	3. Applications are a result of a completed conservation activity plan or where the conservation planning and all construction permits (i.e. - COE 404, DNR permits, etc.) has been completed.	* Applications that meet the criteria for a low priority will be considered a “low priority”
MEDIUM PRIORITY:	1. Applications* where 50% or more of the conservation practices applied will be physically located south of the Platte River (Saunders and Butler counties). The soil erosion and/or soil quality conservation practices will include structural conservation practices, with or without, one or more of the above management practices [must receive an incentive payment or the contract area must be enrolled within a NRD cost share program for management practice installation]. Structural Practices to be include, but not limited to are: a. Terraces b. Water and Sediment Control Basins c. Underground Outlets d. Diversion Note: Critical Area Seeding required for all other structural practice, such as sediment basin, does not meet the requirements for high priority management practices as a stand-alone item.			* Applications that meet the criteria for a low priority will be considered a “low priority”
LOW PRIORITY:	1. Applications that include land being terminated from an existing CRP contract or that has been sobbuster* in the last 5 crop years.	2. Applications to install a conservation practice(s) where 50% or more of the contract area is currently treated with an approved conservation practice(s) and the contract area does not have a significant gully erosion resource concern. Includes applications where a planned structural practice(s), will convert/replace existing structural practices that are currently fully functional.	3. Applications requiring construction permits (i.e. - COE 404, DNR permits, etc.)	4. Applicant has been associated with a contract that has been terminated without a meritorious reason, within the last 3 years (2019-2021). Meritorious reason examples include personal hardship, adverse weather conditions, etc.

Please complete the following – which land uses apply to you and or your operation?

Please select the order to how you want to prioritize and see the Resource Concerns addressed in LPN NRD.

LAND USES
Crop
Forest
Range
Pasture
Farmstead
Developed Land
Water
Associated Ag Land

<input type="checkbox"/>	Agriculture Producer	<input type="checkbox"/>	Non- agriculture producer/landowner
Prioritize Local Resource Concerns in priority order (1 through 17 - with 1 being the highest priority, 17 being the lowest priority)			
			Aquatic Habitat
			Storage and Handling of Pollutants
			Fire Manangement
			Water (Soil) Erosion
			Weather Resilience
			Terrestrial Habitat (Fish & Wildlife)
			Inefficient Energy Use
			Concentrated Erosion
			Salt Losses to Water
			Field Pesticide Loss
			Soil Quality Limitations
			Livestock Production Limitations
			Pest pressure
			Source Water Depletion
			Field Sediment, Nutrient and Pathogen Loss
			Air Quality Emissions
			Degraded Plants Condition

FY 2024 Farm Bill Programs/ Initiatives Impacted by LWG recommendations

A. Environmental Quality Incentive Program (EQIP)

EQIP provides financial and technical assistance to agricultural producers in order to address natural resource concerns and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation or improved or created wildlife habitat.

a. National Water Quality Initiative (NWQI)

Through the National Water Quality Initiative, the Natural Resources Conservation Service will work with farmers and ranchers in small watersheds to improve water quality where this is a critical concern. NRCS will provide financial assistance to help farmers and ranchers implement conservation systems to reduce nitrogen, phosphorous, sediment and pathogen contributions from agricultural land. Eligible producers will receive assistance under the Environmental Quality Incentives Program (EQIP) for installing conservation systems that may include practices such as nutrient management, cover crops, conservation cropping systems, filter strips, terraces, and in some cases, edge-of-field water quality monitoring.

- b. Conservation Incentive Contracts (CIC)** Contract Incentive Contracts offers producers financial assistance to adopt conservation management practices on working landscapes. Conservation Incentive Contracts are available to help producers address priority resource concerns, like sequestering carbon and improving water quality. Producers can use incentive contracts as a “steppingstone,” from correcting resource issues on specific land units, to achieving sustainable stewardship on their entire operation. Conservation Incentive Contracts, have an initial length of five years, require producers to address at least one priority resource concern during the contract period and offer two types of payments, (practice implementation payments, which are paid after completion and certification of a conservation practice and management practice payments, which include management practices that will serve as annual payments and are paid as soon as practicable after October 1 of each fiscal year.

B. Conservation Stewardship Program (CSP)

The Conservation Stewardship Program helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns.

Participants earn CSP payments for conservation performance—the higher the performance, the higher the payment.

C. Regional Conservation Partnership Program (RCPP)

The Regional Conservation Partnership Program is a partner-driven approach to conservation that funds solutions to natural resource challenges on agricultural land. RCPP projects fall under two different categories:

- a. **RCPP Classic** - RCPP Classic projects are implemented using NRCS contracts and easements with producers, landowners, and communities, in collaboration with project partners.
- b. **RCPP Grants**- Through RCPP Grants, the lead partner must work directly with agricultural producers to support the development of new conservation structures and approaches that would not otherwise be available under RCPP Classic.

D. Agricultural Conservation Easement Program (ACEP)

The Agricultural Conservation Easement Program (ACEP) provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Indian tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect, and enhance enrolled wetlands.

E. CRP and NRD Programs

F. Inflation Reduction Act Funding for Climate-Smart Agriculture (IRA).

The Inflation Reduction Act provided unprecedented funding levels for several of the existing programs that NRCS implements. The additional funding will provide direct climate mitigation benefits and expand access to financial and technical assistance for producers to advance conservation on their farm, ranch or forest land. The Inflation Reduction Act (IRA) provided an additional \$19.5 billion over five years for climate smart agriculture through several of the conservation programs that USDA's Natural Resources Conservation Service (NRCS) implements. NRCS is making available \$850 million in fiscal year 2023 for its oversubscribed conservation programs: the Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), Agricultural Conservation Easement Program (ACEP) and Regional Conservation Partnership Program (RCPP).

The IRA funding includes an additional \$8.45 billion for EQIP, \$4.95 billion for RCPP, \$3.25 billion for CSP, and \$1.4 billion for ACEP. The IRA funds will provide direct climate mitigation benefits and will expand access to financial and technical assistance for producers to advance conservation on their farm, ranch or forest land through practices like cover cropping, conservation tillage, wetland restoration, prescribed grazing, nutrient management, tree planting and more. USDA will also support other environmental co-benefits, including – among other things – water conservation, wildlife habitat improvements, and reducing runoff.

<p>Excess/insufficient water resource “irrigation” applications</p> <p>*Applications under this fund pool, will implement conservation practices to address excess/insufficient water resource concerns on existing irrigated cropland land use.</p>			
<p>HIGH PRIORITY:</p>	<p>1. Applications* that intend to implement conservation practices that include(s) only management practices within a contract. Management practices will result in the highest level of Irrigation Water Management and must be receiving an management practice payment. Examples of this management practices; advance irrigation scheduling, no irrigation on the entire irrigated area within the contract area.</p>	<p>2. Applications that intend to implement conservation practices that include(s) a flow meters and management practices within a contract. Management practices will result in the highest level of Irrigation Water Management and must be receiving an management practice payment. Examples of this management practices; advance irrigation scheduling.</p>	<p>* Applications that meet the criteria for a low priority will be considered a “low priority”</p>
<p>MEDIUM PRIORITY:</p>	<p>1. Applications* that intend to implement hardware practice(s). Hardware practice(s) include items such as, but not limited to; sprinkler systems (conversion of gravity to sprinkler systems), SDI and re-nozzling pivot. Contract must also include management practices that will result in receiving an management practice payment of advance irrigation scheduling on the entire irrigated area within the contract area.</p>		<p>* Applications that meet the criteria for a low priority will be considered a “low priority”</p>
<p>LOW PRIORITY:</p>	<p>1. Applicant has been associated with a contract that has been terminated without a meritorious reason, within the last 3 years (2019-2021). Meritorious reason examples include personal hardship, adverse weather conditions, etc.</p>		

Local Work Groups in Nebraska

Setting Natural Resource Priorities



Local Working Groups (LWG) provide recommendations on local natural resource priorities and criteria for conservation activities and programs. Recommendations may include, but are not limited to priority natural resource concerns in the local community, criteria to be used in ranking program applications techniques and for outreach.

Participants

The LWG is a diverse group of people with agricultural and natural resource interests. The local NRCS District Conservationist (DC) is the chair of each group. Members are diverse, with a focus on local agriculture and various natural resource issues. Agricultural land producers and non industrial private foresters representing a variety of crops and livestock raised within the local area, private woodland owners, representatives of agricultural and environmental organizations and representatives of other agriculture and natural resource agencies are welcome and should be represented.

To ensure that LWG recommendations take into account the broad scope of people served by USDA, members will include historically underserved groups, such as minorities; persons with disabilities; beginning and limited resource farmers, and socially and economically disadvantaged groups.

Meetings

The meetings will be conducted as an open discussion among members. Discussion will focus on identifying local natural resource concerns that can be treated using USDA NRCS programs and activities through the Farm Bill. All recommendations will be considered. LWG recommendations are to be submitted to the Designated Conservationist as appropriate, within 14 calendar days after a meeting.

Summaries for all Local Working Group meetings will be available within 30 calendar days of the meeting and will be filed at the appropriate local NRCS office.

Individuals attending LWG meetings will be given the opportunity to address the group if wanted. Opportunity to address non-agenda items will be provided if time allows at the end of the meeting. Presenters are encouraged to



provide written records of their comments to the Chairperson at the time of the presentation, but are not required to do so.

Logistics

The LWG meets at least once each year. Other meetings may be held at the discretion of the Chairperson. Meetings will be called by the Chairperson whenever it is determined that there is business that should be brought before the group.

LWG meetings are open to the public. Persons with disabilities who require accommodations to attend or participate in their LWG meeting should contact their local NRCS office at least 2 weeks prior to event date. You can view the LWG meeting schedule online at www.ne.nrcs.usda.gov under the State Technical Meeting header.

LWG Benefits

- Ensures conservation needs are developed using community stakeholder input.
- Conservation needs are assessed and are used to help identify program funding needs and conservation practices at the local level.
- Priority resource concerns and high-priority areas needing assistance are identified.
- Recommendations are gathered for USDA conservation program application and funding criteria, eligible practices and payment rates.
- Multi-county cooperation and partnership building where program funding and priority area proposals cross county boundaries.
- Recommendations for state and national program policy to the State Technical committee are gathered.



FY 2024 Farm Bill Programs/ Initiatives Impacted by LWG recommendations

A. Environmental Quality Incentive Program (EQIP)

EQIP provides financial and technical assistance to agricultural producers in order to address natural resource concerns and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation or improved or created wildlife habitat.

a. National Water Quality Initiative (NWQI)

Through the National Water Quality Initiative, the Natural Resources Conservation Service will work with farmers and ranchers in small watersheds to improve water quality where this is a critical concern. NRCS will provide financial assistance to help farmers and ranchers implement conservation systems to reduce nitrogen, phosphorous, sediment and pathogen contributions from agricultural land. Eligible producers will receive assistance under the Environmental Quality Incentives Program (EQIP) for installing conservation systems that may include practices such as nutrient management, cover crops, conservation cropping systems, filter strips, terraces, and in some cases, edge-of-field water quality monitoring.

b. Conservation Incentive Contracts (CIC) Contract Incentive Contracts offers producers financial assistance to adopt conservation management practices on working landscapes. Conservation Incentive Contracts are available to help producers address priority resource concerns, like sequestering carbon and improving water quality. Producers can use incentive contracts as a “steppingstone,” from correcting resource issues on specific land units, to achieving sustainable stewardship on their entire operation. Conservation Incentive Contracts, have an initial length of five years, require producers to address at least one priority resource concern during the contract period and offer two types of payments, (practice implementation payments, which are paid after completion and certification of a conservation practice and management practice payments, which include management practices that will serve as annual payments and are paid as soon as practicable after October 1 of each fiscal year.

B. Conservation Stewardship Program (CSP)

The Conservation Stewardship Program helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns.

Participants earn CSP payments for conservation performance—the higher the performance, the higher the payment.

C. Regional Conservation Partnership Program (RCPP)

The Regional Conservation Partnership Program is a partner-driven approach to conservation that funds solutions to natural resource challenges on agricultural land. RCPP projects fall under two different categories:

- a. **RCPP Classic** - RCPP Classic projects are implemented using NRCS contracts and easements with producers, landowners, and communities, in collaboration with project partners.
- b. **RCPP Grants**- Through RCPP Grants, the lead partner must work directly with agricultural producers to support the development of new conservation structures and approaches that would not otherwise be available under RCPP Classic.

D. Agricultural Conservation Easement Program (ACEP)

The Agricultural Conservation Easement Program (ACEP) provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Indian tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect, and enhance enrolled wetlands.

E. CRP and NRD Programs

F. Inflation Reduction Act Funding for Climate-Smart Agriculture (IRA).

The Inflation Reduction Act provided unprecedented funding levels for several of the existing programs that NRCS implements. The additional funding will provide direct climate mitigation benefits and expand access to financial and technical assistance for producers to advance conservation on their farm, ranch or forest land. The Inflation Reduction Act (IRA) provided an additional \$19.5 billion over five years for climate smart agriculture through several of the conservation programs that USDA's Natural Resources Conservation Service (NRCS) implements. NRCS is making available \$850 million in fiscal year 2023 for its oversubscribed conservation programs: the Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), Agricultural Conservation Easement Program (ACEP) and Regional Conservation Partnership Program (RCPP).

The IRA funding includes an additional \$8.45 billion for EQIP, \$4.95 billion for RCPP, \$3.25 billion for CSP, and \$1.4 billion for ACEP. The IRA funds will provide direct climate mitigation benefits and will expand access to financial and technical assistance for producers to advance conservation on their farm, ranch or forest land through practices like cover cropping, conservation tillage, wetland restoration, prescribed grazing, nutrient management, tree planting and more. USDA will also support other environmental co-benefits, including – among other things – water conservation, wildlife habitat improvements, and reducing runoff.

Soil Erosion	<ul style="list-style-type: none"> * Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff or wind that degrades soil quality. * Untreated classic gullies may enlarge progressively by head cutting and/or lateral widening. Ephemeral gullies occur in the same flow area and are obscured by tillage. This includes concentrated flow erosion caused by runoff from rainfall, snowmelt or irrigation water. * Sediment from banks or shorelines threatens to degrade water quality and limit use for intended purposes.
Soil Quality Degradation	<ul style="list-style-type: none"> * Loss of volume and depth of organic soils due to oxidation caused by above normal microbial activity resulting from excessive water drainage, soil disturbance, or extended drought. This excludes karst / sinkholes issues or depressions caused by underground activities. * Management induced soil compaction resulting in decreased rooting depth that reduces plant growth, animal habitat and soil biological activity. * Soil organic matter is not adequate to provide a suitable medium for plant growth, animal habitat, and soil biological activity. * Concentration of salts leading to salinity and/or sodicity reducing productivity or limiting desired use, or concentrations of other chemicals impacting productivity or limiting desired use.
Excess Water	<ul style="list-style-type: none"> * Surface water or poor subsurface drainage restricts land use and management goals. * Wind-blown snow accumulates around and over surface structures, restricting access to humans and animals.
Insufficient Water	<ul style="list-style-type: none"> * Natural precipitation is not optimally managed to support desired land use goals or ecological processes. * Irrigation water is not stored, delivered, scheduled and/or applied efficiently. Aquifer or surface water withdrawals threaten sustained availability of ground or surface water. Available irrigation water supplies have been reduced due to aquifer depletion, competition, regulation and/or drought.
Water Quality Degradation	<ul style="list-style-type: none"> * Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes. * Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes. * Pest control chemicals are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes. * Pathogens, pharmaceuticals, and other chemicals carried by land applied soil amendments are transported to receiving waters in quantities that degrade water quality and limit use for intended purposes. * This resource concern also includes the off-site transport of leachate and runoff from compost or other organic materials of animal origin. * Irrigation or rainfall runoff transports salts to receiving water in quantities that degrade water quality and limit use for intended purposes. * Heavy metals, petroleum and other pollutants are transported to receiving water sources in quantities that degrade water quality and limit use for intended purposes. * Off-site transport of sediment from sheet, rill, gully, and wind erosion into surface water that threatens to degrade surface water quality and limit use for intended purposes. * Surface water temperatures exceed State/Federal standards and/or limit use for intended purposes.
Air Quality	<ul style="list-style-type: none"> * Direct emissions of particulate matter - dust and smoke -, as well as the formation of fine particulate matter in the atmosphere from other agricultural emissions - ammonia, NOx, and VOCs - cause multiple environmental impacts, such as: The unintended movement of particulate matter - typically dust or smoke - results in safety or nuisance visibility restriction.- The unintended movement of particulate matter and/or chemical droplets results in unwanted deposits on surfaces.- Increased atmospheric concentrations of particulate matter can impact human and animal health and degrade regional visibility. * Emissions increase atmospheric concentrations of greenhouse gases. * Emissions of ozone precursors - NOx and VOCs - resulting in formation of ground-level ozone that cause negative impacts to plants and animals. * Emissions of odorous compounds - VOCs, ammonia and odorous sulfur compounds - cause nuisance conditions.
Degraded Plants	<ul style="list-style-type: none"> * Plant productivity, vigor and/or quality negatively impacts other resources or does not meet yield potential due to improper fertility, management or plants not adapted to site. This includes addressing pollinators and beneficial insects. * Plant communities have insufficient composition and structure to achieve ecological functions and management objectives. * This includes degradation of wetland habitat, targeted ecosystems, or unique plant communities. * Excessive pest damage to plants including that from undesired plants, diseases, animals, soil borne pathogens, and nematodes. * This concern addresses invasive plant, animal and insect species The kinds and amounts of fuel loadings - plant biomass - create wildfire hazards that pose risks to human safety, structures, plants, animals, and air resources.
Fish and Wildlife	<ul style="list-style-type: none"> * Quantity, quality or connectivity of food, cover, space, shelter and/or water is inadequate to meet requirements of identified fish, wildlife or invertebrate species. * Quantity, quality or connectivity of food, cover, space, shelter and/or water is inadequate to meet requirements of identified fish, wildlife or invertebrate species.
Livestock Production Limitation	<ul style="list-style-type: none"> * Feed and forage quality or quantity is inadequate for nutritional needs and production goals of the kinds and classes of livestock. * Livestock lack adequate shelter from climatic conditions to maintain health or production goals. * Quantity, quality and/or distribution of drinking water are insufficient to maintain health or production goals for the kinds and classes of livestock.
Inefficient Energy	<ul style="list-style-type: none"> * Inefficient use of energy in the Farm Operation increases dependence on non-renewable energy sources that can be addressed through improved energy efficiency and the use of on-farm renewable energy sources. * As an example, this concern addresses inefficient energy use in pumping plants, on-farm processing, drying and storage. * Inefficient use of energy in field operations increases dependence on non-renewable energy sources that can be addressed through improved efficiency and the use of on-farm renewable energy sources.

Soil Erosion/Quality Resource Concerns

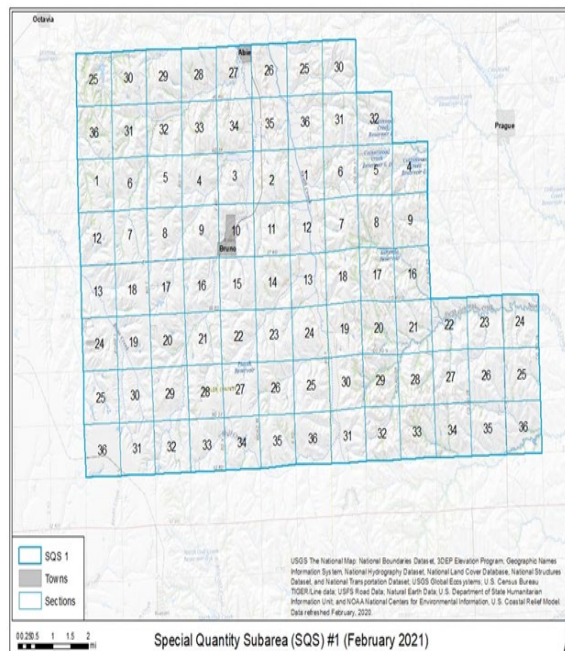
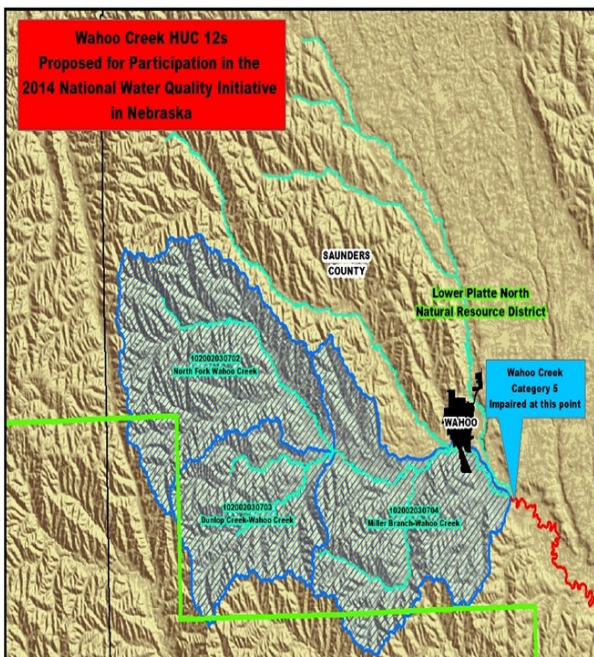
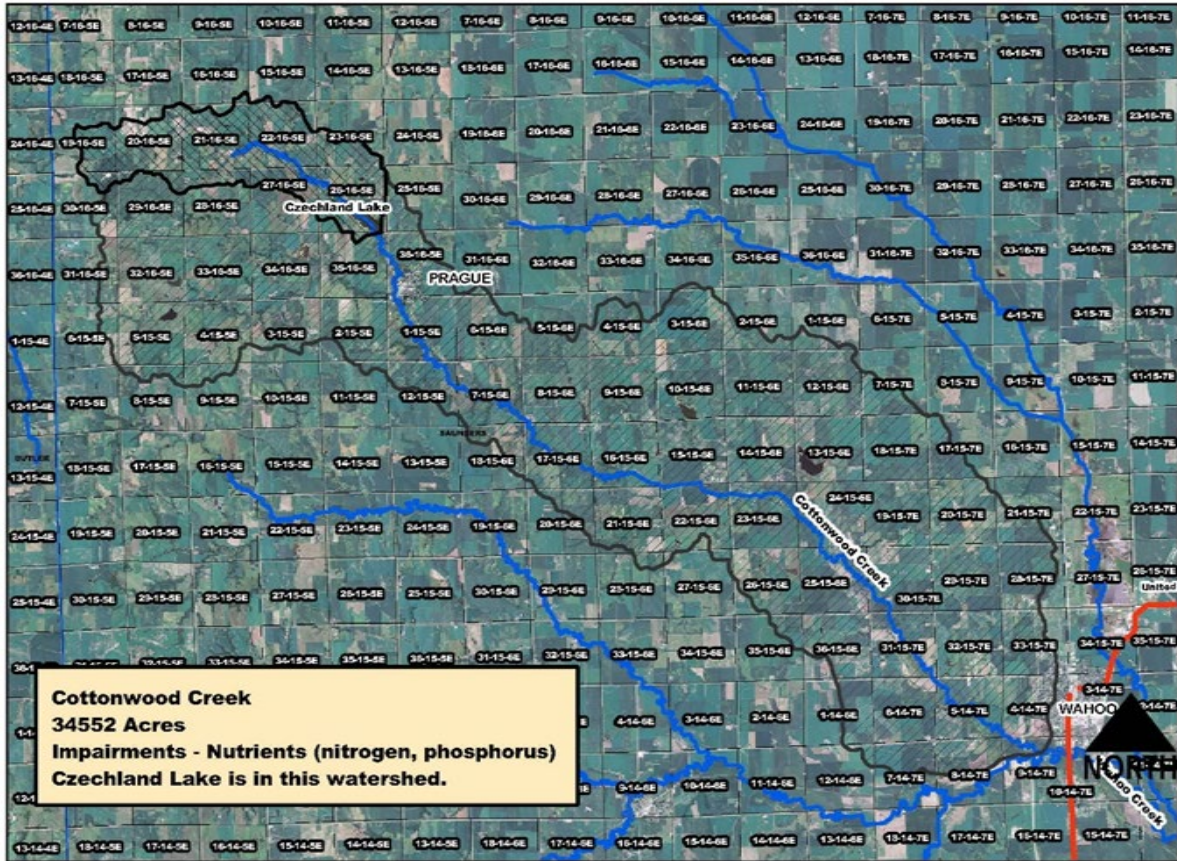
Applications under this fund pool, will implement conservation practices to address soil erosion and/or soil quality resource concerns on existing cropland land use.

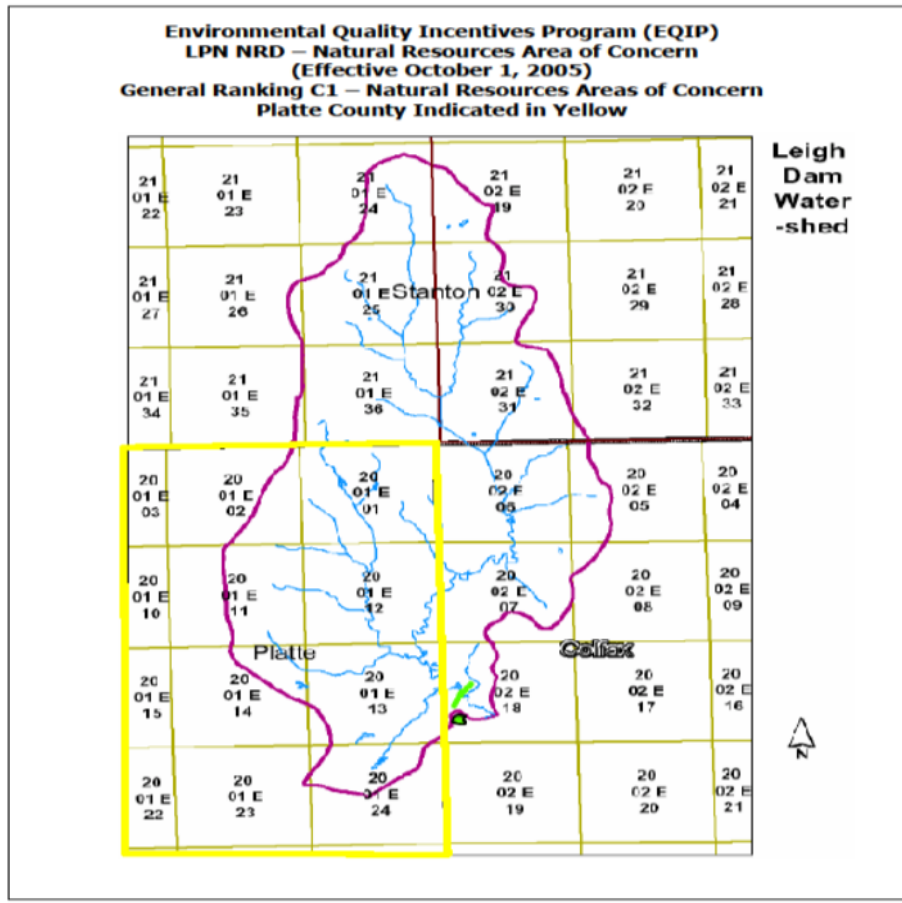
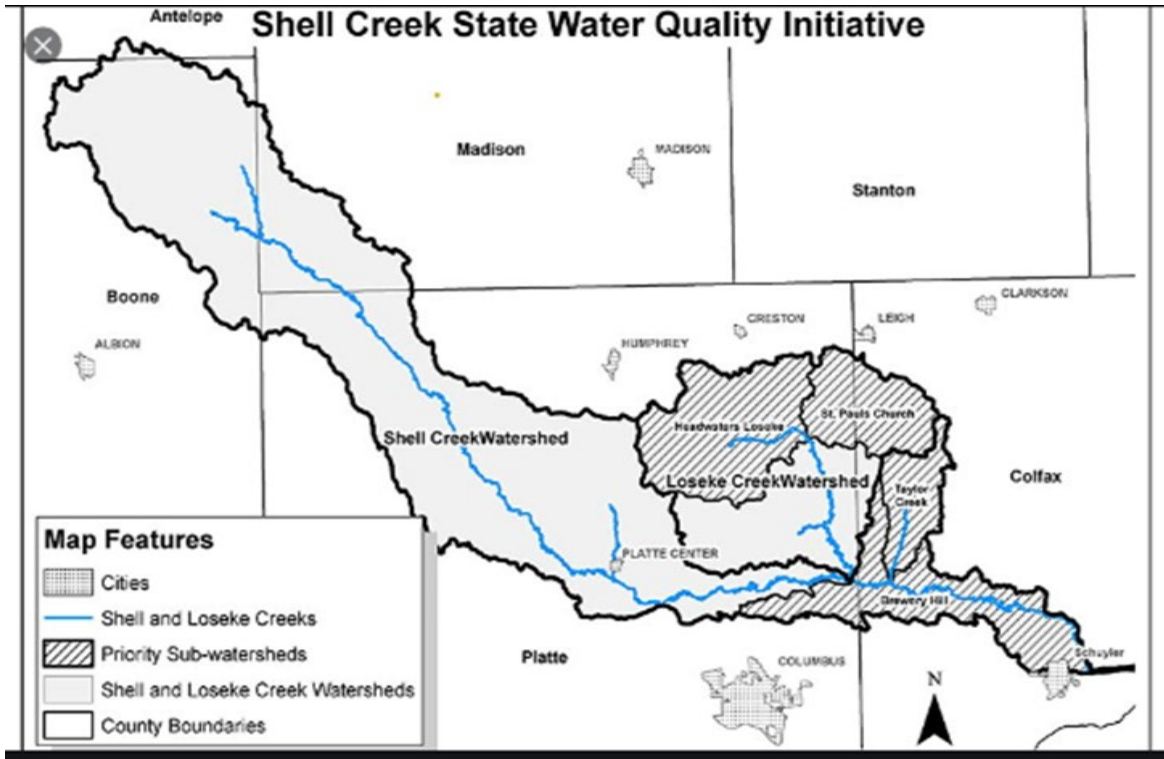
HIGH PRIORITY:	<p>1. Applications* where 50% or more of the conservation practices to be applied will be physically located north of the Platte River (Platte, Colfax and Dodge counties).</p>	<p>2. Applications* where 50% or more of the conservation practices to be applied will be physically located south of the Platte River (Saunders and Butler counties). The soil erosion and/or soil quality conservation practices will include only management practice(s). Management achievement by implementing [receiving and management practice payment] one or more of the following management practices to be include, but not limited to are: a. Cropland to Grassland Conversion b. Cover Crops c. No-Till d. Crop Rotation (ex: adding small grain to rotation) e. Vegetative Practices (ex: grassed waterways) f. Filter Strips h. Field Borders</p>	<p>3. Applications are a result of a completed conservation activity plan or where the conservation planning and all construction permits (i.e. - COE 404, DNR permits, etc.) has been completed.</p>	<p>* Applications that meet the criteria for a low priority will be considered a "low priority"</p>
MEDIUM PRIORITY:	<p>1. Applications* where 50% or more of the conservation practices applied will be physically located south of the Platte River (Saunders and Butler counties). The soil erosion and/or soil quality conservation practices will include structural conservation practices, with or without, one or more of the above management practices [must receive an incentive payment or the contract area must be enrolled within a NRD cost share program for management practice installation]. Structural Practices to be include, but not limited to are: a. Terraces b. Water and Sediment Control Basins c. Underground Outlets d. Diversion Note: Critical Area Seeding required for all other structural practice, such as sediment basin, does not meet the requirements for high priority management practices as a stand-alone item.</p>			<p>* Applications that meet the criteria for a low priority will be considered a "low priority"</p>
LOW PRIORITY:	<p>1. Applications that include land being terminated from an existing CRP contract or that has been sodbuster* in the last 5 crop years.</p>	<p>2. Applications to install a conservation practice(s) where 50% or more of the contract area is currently treated with an approved conservation practice(s) and the contract area does not have a significant gully erosion resource concern. Includes applications where a planned structural practice(s), will convert/replace existing structural practices that are currently fully functional.</p>	<p>3. Applications requiring construction permits (i.e. - COE 404, DNR permits, etc.)</p>	<p>4. Applicant has been associated with a contract that has been terminated without a meritorious reason, within the last 3 years (2019-2021). Meritorious reason examples include personal hardship, adverse weather conditions, etc.</p>

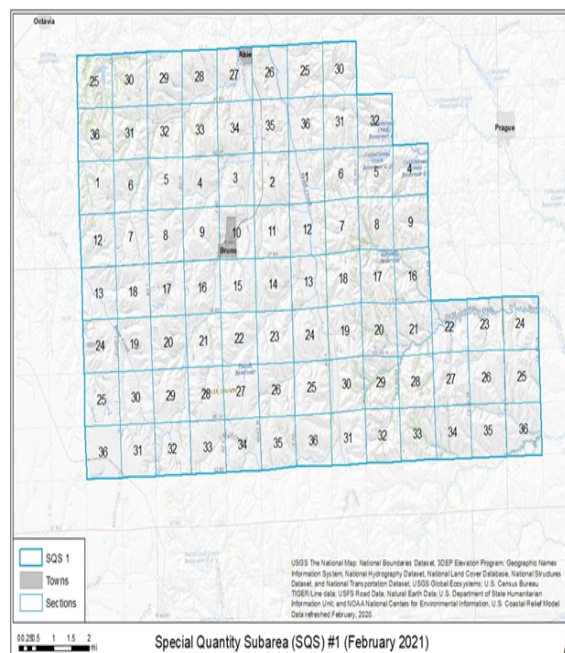
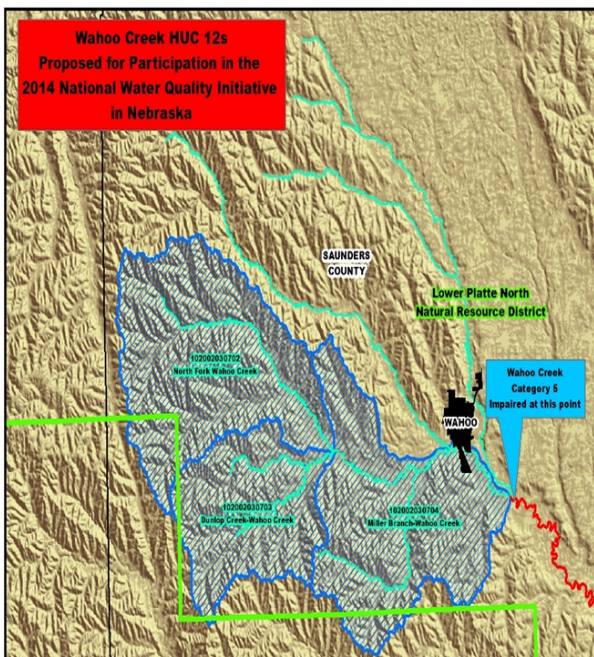
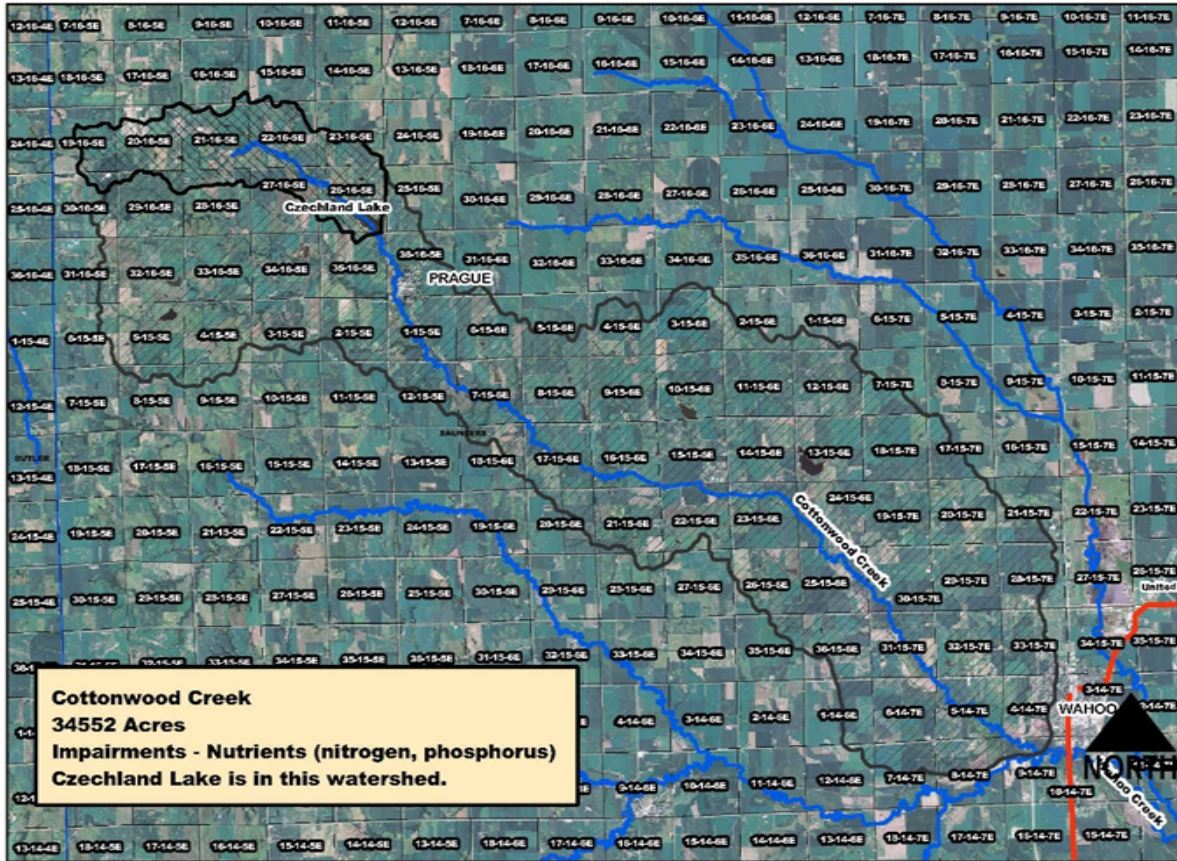
Excess/insufficient water resource “irrigation” applications

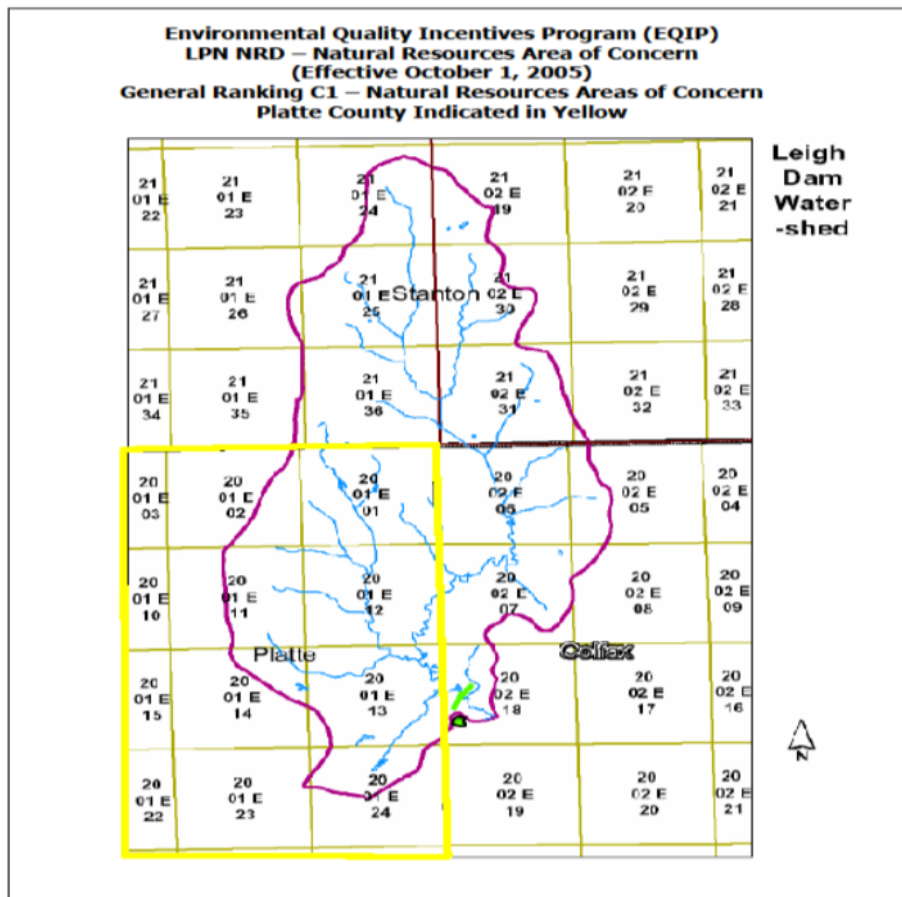
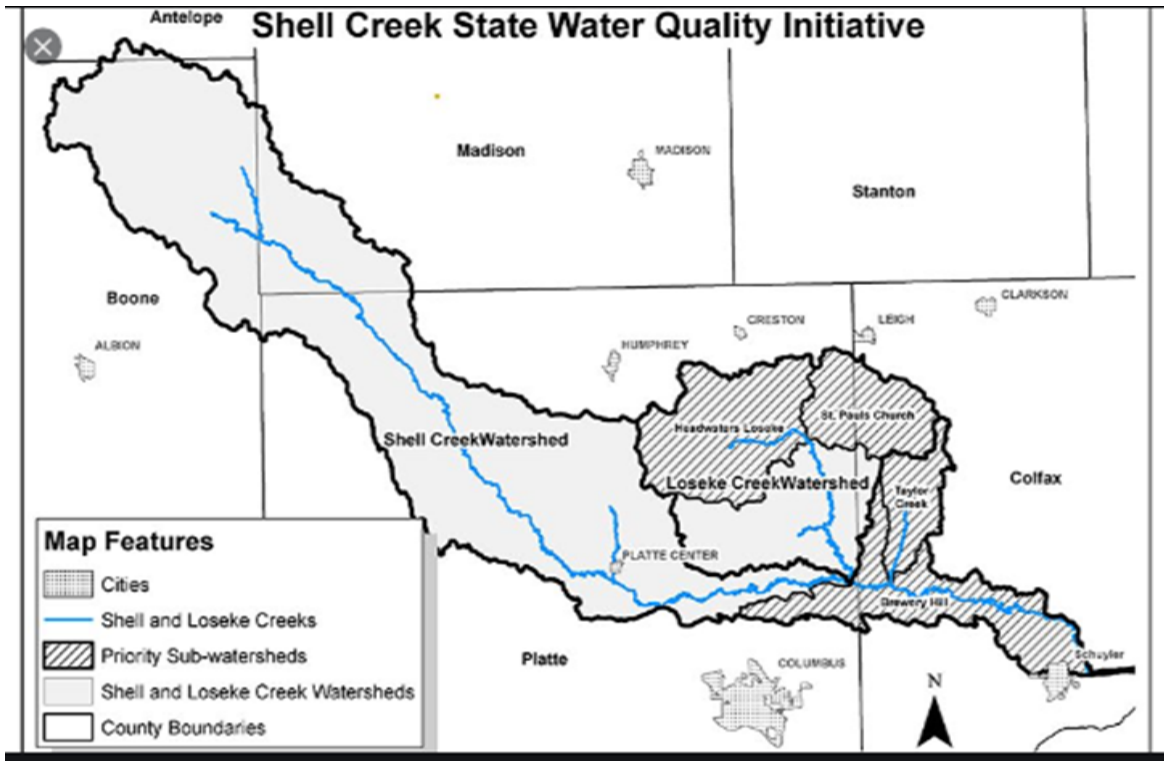
*Applications under this fund pool, will implement conservation practices to address excess/insufficient water resource concerns on existing irrigated cropland land use.

<p>HIGH PRIORITY:</p>	<p>1. Applications* that intend to implement conservation practices that include(s) only management practices within a contract. Management practices will result in the highest level of Irrigation Water Management and must be receiving an management practice payment. Examples of this management practices; advance irrigation scheduling, no irrigation on the entire irrigated area within the contract area.</p>	<p>2. Applications that intend to implement conservation practices that include(s) a flow meters and management practices within a contract. Management practices will result in the highest level of Irrigation Water Management and must be receiving an management practice payment. Examples of this management practices; advance irrigation scheduling.</p>	<p>* Applications that meet the criteria for a low priority will be considered a “low priority”</p>
<p>MEDIUM PRIORITY:</p>	<p>1. Applications* that intend to implement hardware practice(s). Hardware practice(s) include items such as, but not limited to; sprinkler systems (conversion of gravity to sprinkler systems), SDI and re-nozzling pivot. Contract must also include management practices that will result in receiving an management practice payment of advance irrigation scheduling on the entire irrigated area within the contract area.</p>		<p>* Applications that meet the criteria for a low priority will be considered a “low priority”</p>
<p>LOW PRIORITY:</p>	<p>1. Applicant has been associated with a contract that has been terminated without a meritorious reason, within the last 3 years (2019-2021). Meritorious reason examples include personal hardship, adverse weather conditions, etc.</p>		











Nebraska Loess Hills

Resource Conservation & Development Council

P.O. Box 24 Oakland, NE 68045 Phone (402)685-4020

<https://www.facebook.com/NELoessHillsRCDCouncil>

RENEWAL INVOICE

Annual Sponsor Membership Dues 2023 (January 1-December 31, 2023)

SPONSOR MEMBERSHIP: \$350.00

Please make checks payable to: **Nebraska Loess Hills RC&D Council**

Send to: Dick Leitschuck, Treasurer
Nebraska Loess Hills RC&D Council
523 East 18th Street
South Sioux City, NE 68776

The Nebraska Loess Hills RC&D Council is approved as a 501(c)3 non-profit organization. Your contributions are tax-deductible to the extent permitted by law.

Please return with payment:

Contact Name: _____

Organization: _____

Address: _____

Phone: _____ **Email:** _____

spon23

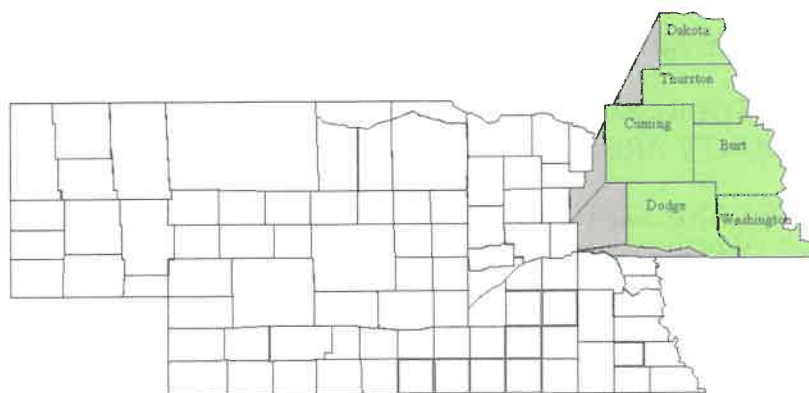
The Nebraska Loess Hills RC&D is a proud member of the US Department of Agriculture's Circle of Diamonds – awarded to a select number of RC&D Councils nationwide for demonstrating; "Excellence by an RC&D Council".

2022 Annual Report



Burt, Cuming, Dakota, Dodge, Thurston,
and Washington Counties

Resource Conservation & Development Council
PO Box 24, Oakland NE 68045-0024
Ph: (402)685-4020 e-mail: Office@nlhrcd.org



Introduction:

❖ Purpose

The Purpose of the Nebraska Loess Hills RC&D Council, Inc. is to serve the will of local residents to the best of their ability with the tools they have available.

Vision Statement

People working actively and in cooperation to strengthen communities.

Mission Statement

Manage and conserve natural resources and develop human capital for present and future generations.

❖ Goals

GOAL A: ENHANCE & PROTECT LAND-BASED NATURAL RESOURCES & PROMOTE ENVIRONMENTAL STEWARDSHIP

GOAL B: ENHANCE & PROTECT WATER-BASED NATURAL RESOURCES & PROMOTE ENVIRONMENTAL STEWARDSHIP

GOAL C: PROMOTE TOURISM AND DEVELOP RECREATIONAL OPPORTUNITIES IN THE RC&D'S SIX COUNTY AREA

GOAL D: PROMOTE LAND STEWARDSHIP BY WORKING WITH LOCAL GROUPS TO OFFER RECYCLING OPPORTUNITIES

GOAL E: DEVELOP HUMAN RESOURCES IN THE SIX COUNTY RC&D AREA BY INCREASING PARTICIPATION IN RC&D EVENTS.

❖ History

- October 9, 1991 - The first informational meeting about the RC&D program was held for area residents at the Legion Hall in Walthill.
- March 1, 1992 - A steering committee was formed which proceeded to develop Bylaws and secure Articles of Incorporation and apply to the Secretary of Agriculture for authorization.
- September 23, 1992 - After numerous Steering Committee meetings, meetings of the Application and Bylaws Committees, twelve informational presentations, and six public participation meetings, the Nebraska Loess Hills RC&D Council was formed.
- September 24, 1992 - an application for authorization from the RC&D Board of Directors was submitted to (then) SCS State Conservationist Ron Moreland, which was forwarded to (then) U.S. Secretary of Agriculture Edward Madigan.
- November 16, 1992 - Bylaws and Articles of Incorporation were adopted.
- January 11, 1993, the Nebraska Loess Hills RC&D Council became incorporated in the State of Nebraska.
- October 18, 1993 - the Council presented their second proposal for authorization to (then) Nebraska SCS State Conservationist Ron Moreland.
- August 10, 1994 - The Nominal Group Process was used to develop and prioritize Goals, Objectives, and Action Items for the group's first Annual Plan of Work (approved by the RC&D Board of Directors on September 28, 1994).
- April 11, 1995 - A logo development contest was held, and a winner was selected – it was a pencil drawing of our current logo. (Color was added to the logo in 2001 and was again updated in 2009).
- October 15, 1997 - Another application for authorization was submitted to Dan Glickman, U.S. Secretary of Agriculture.
- December 3, 1997 - Received a Federal Tax Identification Number from the IRS.
- April 13, 1998 - The Internal Revenue Service determined the Nebraska Loess Hills Resource Conservation and Development (RC&D) Council Incorporated, to be exempt from federal income tax under section 501(a) of the Internal Revenue Code as an organization described in section 501(c)(3).
- September 7, 2000 - The Board of Directors, despite being passed over for funding numerous times, was persistent and submitted another application for funding.
- January 4, 2001 - Secretary of Agriculture Dan Glickman authorized the Nebraska Loess Hills RC&D.
- April 15, 2011 – President Barack Obama approved the termination of the RC&D Program nation-wide. Staff was given 3 days to redistribute all furniture and vehicle and to vacate the office.
- 2011 to present – The RC&D Council operates on donations from public entities, business, and private citizens.

❖ Committees

- Education
- Economic Development
- Tourism
- Environment and Conservation
- Infrastructure and Community Resources
- Finance

Declaration of the Area of Operation:

The Nebraska Loess Hills RC&D consists of six counties – Burt, Cuming, Dakota, Dodge, Thurston, and Washington – encompassing 1,671,808 acres in East Central and Northeastern Nebraska. The Omaha and Winnebago Indian Reservations occupy all of Thurston County and small portions of Burt and Cuming Counties. The area is predominately rural with a population of 100,358 (2000 U.S. Census). About two thirds of area residents live in 38 communities. The largest communities are: Fremont– 25,174; South Sioux City – 11,925; and Blair – 7,512. The median size community in the area is 693. The area hosts 37,823 households. Per capita income for the RC&D area is \$24,927. 10.3% of area residents live in poverty.

The six-county Nebraska Loess Hills RC&D Area covers approximately 2600 square miles and is bordered on the east by the Missouri River and the Platte River on the south. A third major river, the Elkhorn, flows through three counties in the southwest part of the area. All three rivers provide recreation for Nebraska and Area residents as well as habitat for several threatened or endangered species such as the Bald Eagle, Piping Plover, Interior Least Tern, and the Pallid Sturgeon. The Missouri River is the primary source of domestic and municipal water supply for several large cities and communities in Nebraska and neighboring states. About 100 miles of Missouri River shoreline border the Nebraska Loess Hills RC&D Area.

All soils begin as rock or “Parent material”. Destruction of certain properties of parent material leads to unconsolidated forms of “rock” in which soils are forming. Soils can be moved by wind, water, gravity, man/animals, or glaciers. Those soils transported by wind are either loess (pronounced luss), or aeolian sand (windblown sand). Except for the “Sand Hills” where soils formed in aeolian sand, loess is the parent material for many soils throughout Nebraska. A large portion of the Nebraska Loess Hills RC&D Area lies in the Loess Uplands and Till Plains Major Land Resource Area (102B). About 15% of the area lying along the Missouri River Valley is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area (107N). A small area in southwestern Washington and southeastern Dodge counties is located in the Nebraska and Kansas Loess Drift Hills Major Land Resource Area (106). All three Major Land Resource Areas are characterized by rolling to hilly topography with narrow to moderate ridge tops dissected by numerous drainage-ways. Predominant soils are typically well-drained upland soils with silty clay loam surface layers formed in loess with underlying material of silty clay loam or silt loam. Water erosion (sheet & rill, ephemeral, and gully) is the primary resource concern on these soils.

Warm summers and cold winters characterize the climate of the area. Monthly average high temperatures are in the 20s (degrees F) in January and 80s (degrees F) in July. Annual precipitation averages 24”-26”, with 60% of the precipitation occurring during the May to October growing season.

Types of RC&D Assistance:

GOAL A: ENHANCE & PROTECT LAND-BASED NATURAL RESOURCES & PROMOTE ENVIRONMENTAL STEWARDSHIP...

- ✓ The Middle Missouri Valley Weed Management Area is made up of 5 County Weed Superintendents who work together as a group, facilitated by the RC&D, to identify and treat noxious and invasive weed species. The Weed Management Area did not complete any projects as a group, but rather engaged in helping one another on an as-needed basis.

GOAL B: ENHANCE & PROTECT WATER-BASED NATURAL RESOURCES & PROMOTE ENVIRONMENTAL STEWARDSHIP...

- ✓ The Nebraska Loess Hills RC&D Council received a grant from Nebraska Department of Environment and Energy to hold (3) Household Hazardous Waste collections. Host communities were Jackson, Lyons, and Wisner. A total of 10,675 lbs. of hazardous waste plus 166 fluorescent bulbs were collected. Hazardous waste was collected from 150 vehicles that included 199 households. A total of 25 volunteers from the Village of Jackson, City of Lyons, City of Wisner, Papio-Missouri River NRD, and the Nebraska Loess Hills RC&D Council helped make these collections run smoothly and successfully.
- ✓ The Nebraska Loess Hills RC&D Council assisted in unloading vehicles and collecting surveys at the PMRNRD E-Waste collections held in Dakota City, Walthill, Tekamah, and Blair. 298 loads totaling 33,385 lbs. of e-waste was brought in from 317 households and 55 businesses. The contractor will recycle more than 97% of this waste. Six RC&D board members helped at these collections.

GOAL C: PROMOTE TOURISM AND DEVELOP RECREATIONAL OPPORTUNITIES...

- ✓ The RC&D hosts and facilitates the Lewis & Clark Scenic Byway which is a group dedicated toward promoting area attractions and services which may be of interest to travelers and tourists.
- ✓ The RC&D worked with the Lewis & Clark Scenic Byway to conduct a "Scavenger Puzzle Hunt" throughout the summer. Visitors collected puzzle pieces from participating business and museums. Prizes were given for how many puzzle pieces were collected.
- ✓ The RC&D worked with the Burt County Road Dept, the Nebraska Dept of Roads, and the City of Oakland, to erect 3 signs for canoe access along the Logan Creek.
- ✓ The RC&D is maintaining a tourism rack at the Jackson Pump & Pantry to provide tourists with brochures of things to see along the Lewis & Clark Scenic Byway.

GOAL D: PROMOTE LAND STEWARDSHIP BY WORKING WITH LOCAL GROUPS TO OFFER RECYCLING OPPORTUNITIES...

- ✓ The RC&D coordinates and conducts several recycling opportunities for area residents including: E-Waste collection; Household Hazardous Waste collections; and Scrap Tire Collections.

GOAL E: DEVELOP HUMAN RESOURCES IN THE SIX COUNTY RC&D AREA BY INCREASING PARTICIPATION IN RC&D EVENTS.

- ✓ The Nebraska Loess Hills RC&D Council discussed, approved, and created a scholarship for current high school seniors, current college students and non-traditional students. The scholarship application was distributed to the high schools in our service area as well as an article in the area newspapers advertising this opportunity. The Nebraska Loess Hills Resource Conservation & Development (RC&D) Council offered (2) \$500 scholarships to (2) individuals within the service area of Burt, Cuming, Dakota, Dodge, Thurston, and Washington counties. The scholarships primarily were offered to individuals that showed volunteering in community events. This was the first year the RC&D offered this scholarship and believe it was a success. Applications were received from every county and many great applications were reviewed. These year's scholarship recipients were Noel Monif, a high-school senior at Tekamah-Herman and Michael Bracht, West Point, a 3rd year college student at IA State University.

Completed Projects in 2022

<u>Project#</u>	<u>Project Name</u>
22-375	Scholarship
22-376	PMRNRD E-Waste
22-377	Sign for Oakland's Logan Access
22-378	E-Waste Grant – 2022
22-379	HHW Grant – 2022
22-380	HHW Collection for 2022 (Jackson, Lyons, Wisner)
22-381	Lewis & Clark Scenic Byway -2022
22-382	Tourism Display - 2022

Impact of the Council's Projects in the Area of Operation:

The Nebraska Loess Hills RC&D Council completed 8 projects in 2022. Over thirty-five volunteers donated more than 500 hours to RC&D projects. Financially, the total value of the projects completed in 2022 was over \$55,000.00.

Major Impact Projects

- Household Hazardous Waste Collection
The Nebraska Loess Hills RC&D Council received a grant from Nebraska Department of Environment and Energy to hold (3) Household Hazardous Waste collections. Host communities were Jackson, Lyons, and Wisner. A total of 10,675 lbs. of hazardous waste plus 166 fluorescent bulbs were collected. Hazardous waste was collected from

150 vehicles that included 199 households. A total of 25 volunteers helped make these collections a success.

- ❑ **RC&D Scholarship**
The Nebraska Loess Hills RC&D Council created a scholarship for current high school seniors, current college students and non-traditional students. The scholarship application was distributed to the high schools in our service area. The Nebraska Loess Hills Resource Conservation & Development (RC&D) Council offered (2) \$500 scholarships to (2) individuals within the service area of Burt, Cuming, Dakota, Dodge, Thurston and Washington counties. Applications were received from every county and many great applications were reviewed.
- ❑ The Nebraska Loess Hills RC&D Council helped unload vehicles and collect surveys from the PMRNRD E-Waste Collections held at Dakota City, Walthill, Tekamah, and Blair. 298 loads totaling 33,385 lbs. of e-waste were brought in from 317 households and 55 businesses.
- ❑ **Board meetings and Little News mailings.**
More than 1800 copies of the agenda and Little News were sent to board members and the public.
- ❑ **Completed Projects**
The NLHRCD completed 8 projects in FY 2022.
- ❑ **Volunteerism**
Over 35 volunteers donated more than 500 hours of time working on RC&D projects.

Council's Financial Summary (Oct. 2021-Sept. 2022)

Income:	
Dues and Support from 26 members	\$11,400.00
Nebraska Department of Environment and Energy (NDEE)	\$2,803.75
Grant for Scrap Electronics Collection in Previous FY	
Cargill- Grant for Household Hazardous Waste Collection in Blair	\$15,000.00
Papio-Missouri River NRD- Grant for Household Hazardous Waste collection in Blair	\$3,982.00
Expenditures	
Household Hazardous Waste Collection in Blair	\$18,982.00
Council Operations	\$5,585.89
End of Year Balance	
Checking Account	\$31,891.46
Savings Account	\$1,524.86
Certificate of Deposit (CD)	<u>\$16,740.50</u>
Total	\$50,156.82

Nebraska Loess Hills RC&D Council

Board of Directors – FY 2022

JOHN (Judy) ROSS
President
At Large
2200 Highway 16
Bancroft, NE 68004
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Vacant
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Lower Platte North NRD

Bills Pending

March 13, 2023

<u>Vendor</u>	<u>Description</u>	<u>Balance</u>
Aflac	Employee Benefits	\$ 369.72
Albion News	Viaduct	\$ 152.00
All Copy Products	Lease/Maintenance Agreement	\$ 442.85
Bobcat of Omaha	Equipment Repairs	\$ 2,629.74
Bomgaars	Wanahoo Rec/Vehicles/ O & M	\$ 243.14
Bret C. Schomer	Cell Phone Reimbursement	\$ 35.00
Bromm, Lindahl, ET AL	Retainer/Legal General	\$ 2,411.50
Butler Public Power	Utilities Expense	\$ 782.25
Cintas	Ed. Building	\$ 136.94
Cintas	Ed. Building	\$ 281.52
Cuda's Auto, Inc.	Trailer Tires/Repair	\$ 469.00
Daryl Andersen	Cell Phone Reimbursement	\$ 45.00
DAS State Acctg - Central Finance OCIO	Cell Phone Expense	\$ 428.96
David A Moore	Cell Phone Reimbursement	\$ 40.00
David City Utilities	Bruno Water Purchase	\$ 1,150.67
Dept of Revenue	Lake Wanahoo Lodging Tax	\$ 121.51
DHHS	Groundwater Quality	\$ 114.00
DHHS	Groundwater Quality	\$ 146.00
DHHS	Groundwater Quality	\$ 310.00
Diode Communications	NRD/Ed. Building Open Path	\$ 54.25
Diode Technologies	Software/Maintenance	\$ 956.76
Duane E. Johnson	Abandoned Well Cost Share	\$ 1,693.13
Eakes	Name Plates	\$ 54.45
Eric Gottschalk	Mileage Expense	\$ 62.88
Eric Gottschalk	Cell Phone Reimbursement	\$ 45.00
Eric Gottschalk	NARD DC Expense Check	\$ 225.50
Fremont Sanitation	NRD/Wanahoo Garbage	\$ 325.49
Google	Email Expense	\$ 239.53
HBE	Professional Service Accounting	\$ 6,750.00
Hegert Oil Company	Fuel Expense	\$ 996.51
Hergert Oil	Fuel	\$ 939.79
Holiday Inn - Kearney	Personnel Meeting Expense	\$ 839.65
Houston Engineering, Inc.	Wanahoo Stilling Basin/Apron	\$ 36,667.03
Humphrey Democrat	Viaduct	\$ 250.00
Intermedia	Long Distance	\$ 156.63
JEO	New Office Building - Professional Service	\$ 3,975.00
Jerry Johnson	NARD DC Expense Check	\$ 164.50
Jill Breunig	Mileage Expense	\$ 34.06
Jill Breunig	Cell Phone Reimbursement	\$ 35.00
Joe Birkel	GMDA Reimbursement Hotel/Travel	\$ 1,299.35
John Deere Financial	Filters for Mower	\$ 37.34
Karen Rezac	Cell Phone Reimbursement	\$ 35.00
Kim Homes	Ed. Building Cleaning	\$ 150.00
KTIC 840 Rural Radio	Radio Ads	\$ 196.00
Lacey Sabatka	Cell Phone Reimbursement	\$ 40.00
Lincoln Journal Star	Director Vacancy/Viaduct	\$ 734.48
Lisa Russ	NRD Cleaning	\$ 460.00
Mead Signs	Wanahoo Rec	\$ 150.00

Lower Platte North NRD

Bills Pending

March 13, 2023

Metos USA	Software Subscription	\$ 5,390.00
Mid-American Benefits, Inc	Employee Benefits	\$ 858.00
Midland University	Career Fair Booth Rental	\$ 93.00
NARD	Meeting Expense/Land Judging Scantron	\$ 1,290.84
NARD Risk Pool Association	Employee Benefits	\$ 41,718.85
Nationwide	Retirement	\$ 6,276.97
Nebraska Loess Hills RC&D Council	Dues and Membership	\$ 350.00
Nebraska Public Health Environmental Lab	Groundwater Quality	\$ 210.00
Nebraska's Natural Resource District	Director/Staff Meeting Registration	\$ 2,570.00
Nick Street Eats	Director Meeting Expense	\$ 253.00
Noah Franzen	Cell Phone Reimbursement	\$ 40.00
North Bend Eagle	Director Vacancy/Viaduct	\$ 142.88
Olsson Associates	Wahoo Creek Watershed 26 A/B - 27	\$ 33,580.47
Olsson Associates	Wahoo Creek Watershed	\$ 94,483.83
One Call Concepts, Inc	One Call Expense	\$ 5.14
OOP	Diesel	\$ 475.86
Otte Oil & Propane	Operation and Maintenance	\$ 139.13
Papio-Missouri River NRD	Water Strategies Reimbursement	\$ 2,100.00
Phoenix Web Group Inc	Software Subscription	\$ 2,500.00
Pitney Bowes - Purchase Power	Postage Expense	\$ 1,008.50
Print Solutions LLC	Ed. Building Brochures	\$ 165.00
Quill.com	Toner/Office Supplies	\$ 179.75
Rixstine	Uniform Expense	\$ 232.00
Robert Meduna	GMDA Reimbursement Hotel/Travel	\$ 991.39
Ryan Chapman	Cell Phone Reimbursement	\$ 45.00
Ryan Chapman	NARD DC Expense Check	\$ 225.50
Saint Benedict Center	GWMP - Info and Ed.	\$ 490.00
Sam's Club	Office Supplies	\$ 285.35
Sean Elliott	Cell Phone Reimbursement	\$ 45.00
Simons Home Store	Wanahoo Rec/Vehicles/ O & M	\$ 88.23
Spartan Stores, LLC	GWMP - Info and Ed./Nitrogen Certification	\$ 143.98
Sydney Abbott	Mileage Expense	\$ 83.84
Sydney Abbott	Cell Phone Reimbursement	\$ 40.00
Thomas McKnight	Washington DC Airline Reimbursement	\$ 330.88
Thomas McKnight	NARD DC Expense Check	\$ 200.50
Tyler Benal	Personnel Meeting Expense	\$ 27.08
Tyler Benal	Cell Phone Reimbursement	\$ 40.00
UBT	Bi-Weekly Payroll - 2/17/23	\$ 44,046.21
UBT	Bi-Weekly Payroll - 3/3/23	\$ 42,896.11
UBT VISA	P. Mtg/Software/Dues Membership	\$ 6,120.33
Union Bank & Trust	Bank Fees	\$ 39.44
USPS	PO Box Rent	\$ 234.00
Village of Leshara	Drainage Improvement	\$ 652.97
Wahoo Auto Parts	Filters	\$ 22.10
Wahoo Utilities	Colon Water/Utilities	\$ 2,113.28
Wahoo-Waverly-Ashland Newspapers	Public Notices/Viaduct/Position Openings	\$ 777.60
William Brueggemann	Cell Phone Reimbursement	\$ 35.00
Windstream	Internet	\$ 541.46
Total		\$ 362,455.60

Consent Agenda

March 13, 2023

- 5. Approval of Minutes
- 6.A.3.a. Directors Absence
- 6.A.3.e. Director NRD Logo Clothing
- 6.A.5.a. Poole Leave Payout
- 6.A.5.b. Poole Contract Employee
- 6.A.6.a. Approval of Financial Reports
- 6.A.6.b. Approval Manager Time and Expense Sheets
- 6.C.3. Age Dating Project
- 6.C.4 Precision Nitrogen Application Project
- 6.C.5.a.1. Variance Request in Hydrologically Connected Area (Limited)
- 6.C.6.c. Phoenix Database
- 6.C.6.d. Groundwater Modeling Project
- 6.C.6.e. Monitoring Wells Remote Reads
- 6.D.2. SWCP Policy
- 6.D.2.a. SWCP Payments
- 6.D.2.d. Lands for Conservation 2023
- 6.D.3.a.1. Shell Creek Implementation - 319
- 6.D.12. Other – Nebraska Loess Hills
- 8. Authorize General Manager to approve and then treasurer to pay monthly recurring expenses pursuant to April 11, 2011 board policy.