LOWER PLATTE SOUTH
natural resources district
3125 Portia Street | P.O. Box 83581 • Lincoln, Nebraska 68501-3581
P: 402.476.2729 • F: 402.476.6454 | www.lpsnrd.org

Memorandum

Date: July 14, 2021

To: Board of Directors

From: David Potter, Assistant General Manager DP

RE: Land Resources Subcommittee Meeting Minutes

The Land Resources Subcommittee met in person at 5:30 pm on Tuesday, July 13th, 2021 at the District office to take action on two agenda items and discuss a third. Subcommittee members present included Gary Hellerich, Gary Aldridge, Bruce Johnson, Dave Landis, Ron Nolte, Anthony Schutz, Mark Spangler and Ken Vogel. Others present included Deborah Eagan, Cory Schmidt, Tracy Zayac, Donna Reid and David Potter. Hellerich called the meeting to order and gave a brief welcome. Potter reviewed the agenda.

a. The first agenda item was consideration of changes to the LPSNRD Cover Crop Program. Potter stated that the proposed changes to the program were identified and discussed at length at the April 28, 2021 Land Resources Subcommittee meeting. These were discussed at that time since the proposed expenditures ($125K) in the LRIP were based on the suggested program changes. No additional changes have been proposed since the draft was presented at the April meeting.

As the District enters into its fourth year of the LPSNRD Cover Crop Program, there have been a few additional changes proposed that would improve the program, number of applicants, and benefits. The cover crop pilot program was approved in 2017 with priority given to locations with existing groundwater, vadose zone, and soil sampling data. LPSNRD then developed the permanent cost-share program in 2018. The applications have increased each year and recommendations to the program have been noted. Although there are many benefits resulting from planting cover crops, LPSNRD's program was developed with water quality in mind and continues today with that as a primary goal. As such, our identified eligible areas are the targeted watersheds and CWSPAs (wellhead protection areas) as depicted on the program map. Groundwater Management Phase II or III Areas and fields where terrace systems are currently being installed in the NRD's Summer Conservation Program are also eligible. With water quality in mind, a recommended change to include the Salt Creek Watershed Upstream of Lincoln as an eligible area is proposed. This would increase the eligible acres in the District by approximately 298,000 acres and help reduce surface water runoff issues in the watershed. Other proposed changes to the program include an increase to the payment rate, payment limit, minimum acres, and prioritization of applications.

The subcommittee discussed the minimum acres for the program. It was agreed by the subcommittee that the required acres be left at 20-80 but may be allowed down to 10 acres, provided that it is a complete field. Such a change would allow smaller tracts in the program but prevent added administrative time determining portions of a particular field. Potter and Schmidt answered questions of the subcommittee members.

It was moved by Landis, seconded by Vogel, and unanimously approved by the Subcommittee to recommend the Board of Directors approve the identified and noted changes to the LPSNRD Cover Crop Program.

b. The second action item was consideration of the Inter-Governmental Agreement Between NDEE and LPSNRD for Twin Lakes Watershed Target Area Implementation Project. The District-wide Water Quality Management Plan (WQMP) that was approved in 2019 identified the Twin Lakes Watershed as one of our priority areas and the District's FY21 and proposed FY22 Long Range Implementation Plan have budgeted for the application of 319 funding, utilizing a watershed work group to identify watershed needs and implement Section 319 funding for BMPs in the watershed. The WQMP plan can be found at https://www.lpsnrd.org/publications/lpsnrd-plans.

Potter stated the Board Directors gave tentative approval at their February 17th meeting to the Twin Lakes Watershed, Section 319, cost-share assistance program, dependent upon the approval of a Section 319 application by EPA and an Agreement with the Nebraska Department of Environment and Energy. In March, LPSNRD submitted to NDEE a Project Implementation Plan (PIP) for the Twin Lakes Watershed 319 Project, which requested $300,000 in 319 funds to support cost-share incentives for selected BMPs in the watershed. Zayac discussed the schedule of the project and answered questions of the subcommittee. The project duration for this grant request will be three years. LPSNRD will match those funds with $200,000 to be used toward cost-share. LPSNRD was notified in late June that EPA had approved the PIP for funding through the 319 Program.

Zayac also informed the subcommittee that LPSNRD and NDEE are working together on water quality sampling in the watershed in order to measure progress of best management practices and water quality improvements. A memo from Zayac was provided.

The next step will be for the District and NDEE to execute the attached Agreement, which outlines responsibilities and governs the reimbursement and reporting requirements for the project. Once the Agreement is signed by both agencies, we can begin public awareness and project implementation.

The subcommittee discussed the benefits of the identified BMPs in the watershed, the incentive program, and public outreach. It was also noted that non-discrimination language in the agreement should be reviewed/changed to match the District's. Staff will contact NDEE and work with legal counsel to see if changes can be made.

It was moved by Vogel, seconded by Landis, and unanimously approved by the Subcommittee to recommend the Board of Directors approve the inter-local agreement between NDEE and LPSNRD regarding the Twin Lakes Watershed Target Area Implementation project, subject to legal counsel review.

c. The third item on the agenda was discussion of the schedule for fall cost-share applications review and consideration. Potter informed the subcommittee the District has received 72 Surface Water Quality BMP Cost-Share applications to date. The Eastern and Western Review groups will need to meet in late July to review the FY22 program budget and the applications in their appropriate portion of the District. The subcommittee discussed having the review group meetings virtually on Monday, July 26th. The next Land Resources Subcommittee meeting is planned for Tuesday August 10th at 5:30 to discuss and recommend the cost-share applications to the Board for consideration at the August 26th Board of Directors meeting.

There being no further business the meeting adjourned at approximately 6:50 pm.

Lower Platte South Natural Resources District

Cover Crop Program (Proposed Changes April 2021)

Purpose: Reduce erosion, increase soil organic matter, capture and recycle nutrients, increase biodiversity, suppress weeds, manage soil moisture, and minimize/reduce soil compaction by utilizing cover crops within selected areas of the LPSNRD.

Eligibility: Land shall be located in the Salt Creek Watershed upstream of Lincoln, a Community Water System Protection Area (CWSPA), a Targeted Watershed, a Groundwater Management Phase II or III Area and within LPSNRD (see Cover Crop Cost-Share Areas map), or fields where terrace systems are currently being installed in the NRD's Summer Conservation Program and left idle. Cover crops may be established on Highly Erodible (HEL) and Non-Highly Erodible (NHEL) land that is currently in a continuous no-till cropping system. HEL fields where corn has been cut for silage are not eligible, as per NRCS. Cover crops in the program shall not be harvested, hayed or grazed in order to maximize the water quality benefit. Each participant will enroll a total of 20 – 80 acres, and may be allowed down to 10 acres, provided it is a complete field.

Procedure: Producer will contact their local NRCS Field Office to determine land eligibility and prepare an application prior to October 1st. Applications will be reviewed by NRD staff and approved by the General Manager.

How To Apply:

1. Contact your County NRCS Office
2. Meet with NRCS/NRD Personnel to complete application
3. Submit application to NRCS (NRCS will forward completed application to NRD).
4. Applicant may be the producer (either landowner or operator) with corresponding social security number or tax id number, but the application must have the signature of the landowner, or legal representative of the landowner.

Priority: Priority will be given based on the date ~~of~~ application is received. The earliest applications will be approved up to the District's budgeted amount of the current fiscal year. Once the budgeted amount is reached, applications will not be approved. Furthermore, applications received prior to September 1st for CWSPAs, targeted watersheds, groundwater management Phase II or III areas, or fields where terrace systems are currently being installed in the NRD's Summer Conservation Program and left idle will be given priority over other eligible areas.

Terms:

- Cover crop options include: #1 – rye only; #2 – rye/rape/radish; or #3 – "deluxe cocktail" mix (5 species minimum).
- Payment rate/acres: Single species $~~25~~30/acre; multiple species $~~30~~35/acre.
- Annual Payment Limit of $~~2,000~~2,500 per ~~farm/~~producer.

- All Cover Crops must be planted prior to October 1st for aerial application and November 1st for drilling.
- NRCS will certify successful completion to the NRD upon termination of cover crop per NRCS Cover Crop Termination Guidelines, without inversion tillage. The NRD will make payment to the producer after certification by NRCS.
- The program will also comply with NRCS Code 340 - Cover Crop Conservation Practice Standards that may be found at https://efotg.sc.egov.usda.gov/

APPLICATION FOR ASSISTANCE
Cover Crop Cost-Share Program (Proposed Changes April 2021)
Lower Platte South Natural Resources District

Terms

- Cropland must be located in the Salt Creek Watershed upstream of Lincoln, a Community Water System Protection Area, a Targeted Watershed Area, a Groundwater Management Phase II or III Area located and within the LPSNRD, or fields where terrace systems are currently being installed in the NRD's Summer Conservation Program and left idle.
- Cover crop options include: #1 rye only; #2 rye/rape/radish; or #3 "deluxe cocktail" mix (5 species minimum).
- Payment rate/acre: Single species $~~25~~30/acre; multiple species $~~30~~35/acre.
- Annual payment limit of $~~2,000~~2,500 per ~~farm/~~producer. A total of 20-80 acres are eligible, and may be allowed down to 10 acres, provided it is a complete field.
- Application deadline is October 1st
- Cover crops must be seeded prior to October 1st for aerial application and November 1st if planted with a drill. The producer is responsible for arranging seeding (either by aerial or ground application).
- The producer will obtain NE-CPA-7 Cover Crop Design Worksheet from NRCS prior to seeding cover crop for approved species, seeding rates, and seeding dates.
- The program will also comply with NRCS Code 340 - Cover Crop Conservation Practice Standards that may be found at https://efotg.sc.egov.usda.gov/
- HEL fields where corn has been cut for silage are not eligible, as per NRCS. Cover crops in the program shall not be harvested, hayed or grazed in order to maximize the water quality benefit.
- Producer will provide NRCS with completed NE-CPA-7, seed bills, and aerial/drill application bills prior to NRCS certification of cover crop.
- NRCS will certify successful completion to the NRD upon termination of cover crop per NRCS Cover Crop Termination Guidelines, without inversion tillage. The NRD will make payment to the producer after NRCS certification.
- Priority on applications given as stated in program details.

Producer's (applicant) Name: _____

Address: _____

City:_____ **State:**_____ **ZIP:**_____

Phone: _____

Email: _____

Location of Cropland: _____, Sec. _____, T_____N, R_____E, _____County

Number of Acres: _____ **Type of Application:** ____ (aerial) ____ (ground)

Landowner: _____ **Signature:** _____ **Date:** _____

The undersigned (applicant) agrees to the terms listed above and hereby applies for cost-share assistance.

Producer's Signature: _____ **Date:** _____

PURPOSE

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Reduce erosion, increase soil organic matter, capture and recycle nutrients, increase biodiversity, suppress weeds, manage soil moisture, and minimize/reduce soil compaction by utilizing cover crops within selected areas of LPSNRD.

ELIGIBILITY

the Salt Creek Watershed upstream of Lincoln,

Land shall be located in a Community Water System Protection Area, a Targeted Watershed, or a Ground Water Management Phase II or III Area within LPSNRD (Refer to the Cover Crop Cost Share Areas map at LPSNRD.org. Click on Programs, Landowner Cost-Share, then Land Treatment.) or fields where terrace systems are currently being installed in the NRD's Summer Conservation Program. Cover crops may be established on Highly Erodible (HEL) and Non-Highly Erodible (NHEL) land that is currently in a continuous no-till cropping system. HEL fields where corn has been cut for silage are not eligible. Cover crops shall not be harvested, hayed or grazed. Each participant will enroll a total of ~~20 to 80~~ acres.

and

and left idle

as per NRCS.

10 to 80 acres, and may be allowed down to 10 acres, provided it is a complete field.

PROCEDURE

Producer will contact their local NRCS Field Office to determine land eligibility and prepare an application prior to ~~October~~ November 1st. Applications will be reviewed by NRD staff and approved by the General Manager.

leave as Oct 1st

TERMS

or

the Salt Creek watershed upstream of Lincoln,

- Cropland must be located in a Community Water System Protection Area, a Targeted Watershed Area, a Ground Water Management Phase II or III Area ~~located~~ within the LPSNRD, or fields where terrace systems are currently being installed in the NRD's Summer Conservation Program.

and

and left idle.

- Cover crop options include: #1 rye only; #2 rye/rape/radish; or #3 "deluxe cocktail" mix (5 species minimum).
- Payment rate/acre: Single species ~~$25/acre~~ $30/acre; multiple species ~~$30/acre~~ $35/acre.
- One application per producer with annual payment limit of ~~$2,000~~ $3500 per ~~farm~~/producer.
- Application deadline is ~~October 1st~~ ~~NOV. 1st~~
- Cover crops must be seeded prior to October 1st for aerial application and November 1st if planted with a drill. The producer is responsible for arranging seeding (either by aerial or ground application).

leave as Oct. 1st

- The producer will obtain NE-CPA-7 Cover Crop Design Worksheet from NRCS prior to seeding cover crop for approved species, seeding rates, and seeding dates.
- The program will also comply with NRCS Code 340 - Cover Crop Conservation Practice Standards that may be found at https:/efotg.sc.egov.usda.gov/
- HEL fields where corn has been cut for silage are not eligible. Cover crops shall not be harvested, hayed or grazed.

as per NRCS.

in order to maximize the water quality benefit.

- Producer will provide NRCS with completed NE-CPA-7, seed bills, and aerial/drill application bills prior to NRCS certification of cover crop.
- NRCS will certify successful completion to the NRD upon termination of cover crop per NRCS Cover Crop Termination Guidelines, without inversion tillage. The NRD will make payment to the producer after NRCS certification.

APPLY

1. Contact your county NRCS office
2. Meet with NRCS/NRD personnel to complete enclosed application and other required supplemental applications
3. Submit enclosed application to NRCS (NRCS will forward completed application to LPSNRD)
4. Applicant may be the producer (either landowner or operator) with corresponding social security number or tax ID number, but the application must have the signature of the landowner, or legal representative of the landowner.

PRIORITY

Priority will be given based on the date of application. The earliest applications will be approved up to the district's budgeted amount for the current fiscal year. Once the budgeted amount is reached, applications will not be approved.

Furthermore, applications received prior to September 1st for any eligible area will be given priority over the Salt Creek Watershed upstream of Lincoln.

WHERE TO BEGIN

1. Contact your county NRCS office to complete enclosed application and other required supplemental applciations:

Cass County NRCS
Weeping Water: (402) 267-2025 ext 3

Lancaster County NRCS
Lincoln: (402) 423-9683 ext 3

Butler County NRCS
David City: (402) 367-3074 ext 3

Otoe County NRCS
Syracuse: (402) 269-2361 ext 3

Saunders County NRCS
Wahoo: (402) 443-4106 ext 3

Seward County NRCS
Seward: (402) 643-4586 ext 3

2. If you have questions, contact the LPSNRD office at (402) 476-2729

~~August 2020~~
July ~~April~~ 2021 - Draft

Lower Platte South Natural Resources District

Cover Crop Cost-Share Areas Review

(Salt Creek Watershed Upstream of Lincoln, Community Water System Protection Areas,
Targeted Watersheds, Groundwater Management Phase II or III Area,
or Fields where Terrace Systems are currently being istalled
in the NRD's Summer Conservation Program) and left idle

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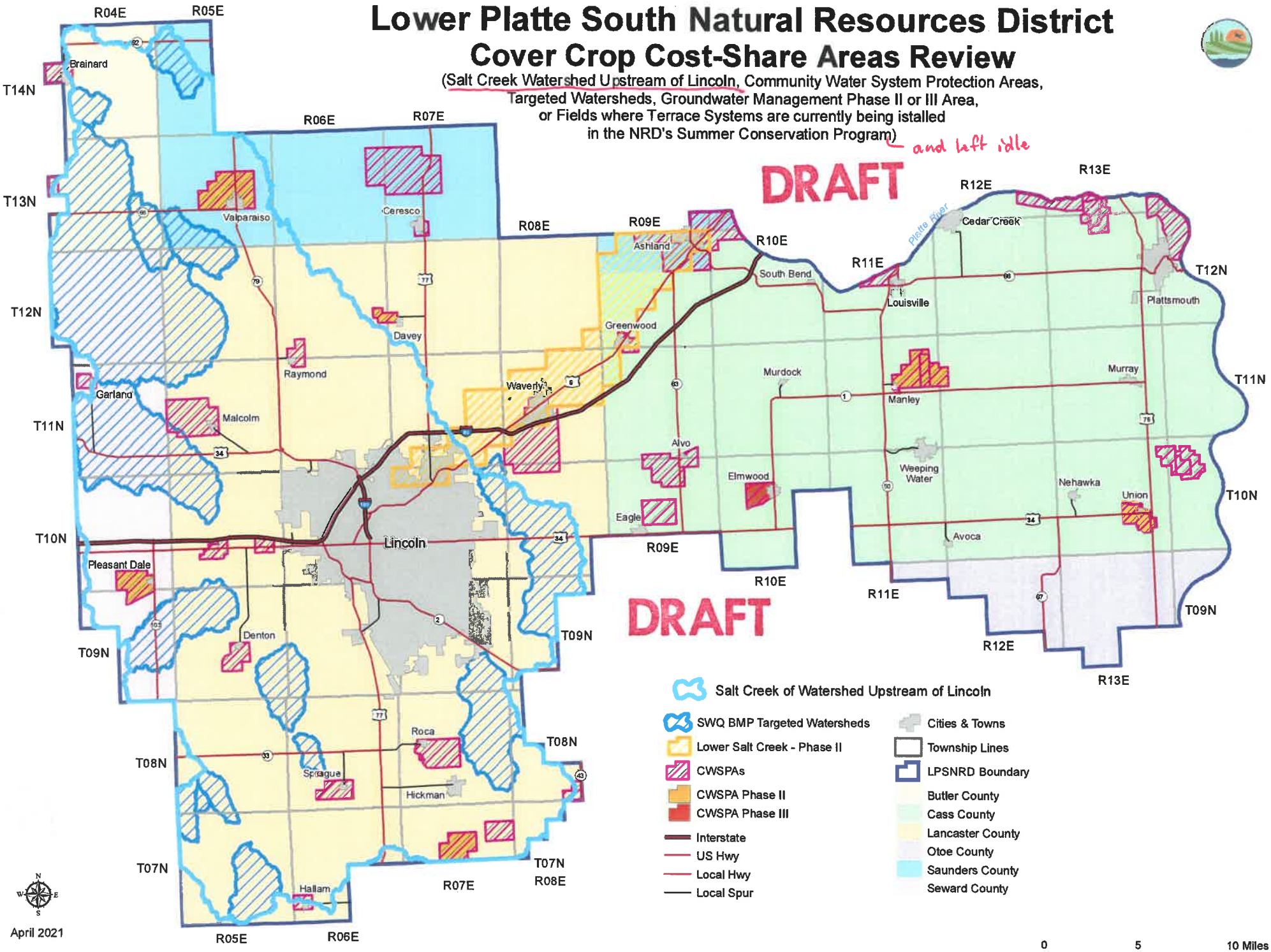


April 2021

Sources: Lower Platte South Natural Resources District; Nebraska Dept of Natural Resources; Nebraska Dept of Environmental Quality; Nebraska Department of Roads

INTER-GOVERNMENTAL AGREEMENT
Between the
Nebraska Department of Environment and Energy
and
Lower Platte South Natural Resources District
regarding the implementation of the project titled

Twin Lakes Watershed Target Area Implementation

NDEE Reference Number: 2021-112050113

THIS AGREEMENT is made and entered into by and between the Nebraska Department of Environment and Energy (NDEE) and Lower Platte South Natural Resources District (Sponsor) in accordance with Nebr. Rev. Stat. Sec. 81-1504 Nebraska Environmental Protection Act;

WHEREAS, the Sponsor made a request to the NDEE for Section 319 grant funds (CFDA #66.460), pursuant to the Federal Clean Water Act and the Nebraska Nonpoint Source (NPS) Management Program, which have been made available to NDEE through the Region VII Office of the U.S. Environmental Protection Agency (USEPA); and

WHEREAS, the Sponsor agrees to comply with all provisions of the Federal Clean Water Act as amended by the Water Quality Act of 1987, 33 U.S.C. §1251 et seq. and intends to use the funds as set out in this Agreement;

NOW, THEREFORE, the parties do hereby agree to the terms and requirements of this Agreement as follows:

I. TERM OF THE AGREEMENT

This Agreement will begin on July 1, 2021 and will remain in effect until all identified tasks are completed for this Section 319 Project unless terminated under §IV-C-12 of this agreement, but will not remain in effect past February 29, 2024.

II. WORK DESCRIPTION AND SCHEDULE

This project shall complete objectives and work items as described in the approved project implementation plan (PIP). The PIP is hereby incorporated into this document in its entirety (Attachment A).

III. FINANCIAL REQUIREMENTS

A. Grant funds in the amount up to $300,000 are to be used to implement this Section 319 NPS project.

B. Sponsor agrees to contribute 40% of grant funds spent up to $277,000 in nonfederal match as cash and/or services in-kind for implementation of project activities.

C. Statement of Costs

The Sponsor will submit, no more often than monthly, a properly documented statement of costs for which reimbursement is sought AND properly documented nonfederal match as claimed pursuant to the terms of this Agreement and the approved PIP. The statement of costs shall be signed by the Sponsor's authorized representative. For purposes of this agreement, reimbursable costs and nonfederal match claims shall be related to budget items as described in the approved PIP. Documentation of costs and match shall consist of paid receipts, signed time records, and/or similar verification of expenditures. A description of the activities performed, list of personnel and documentation of time worked, in relation to reported match dollars, shall be included.

D. Disbursements

1. All requests for reimbursement of costs incurred by the Sponsor shall be reviewed pursuant to the provisions of the Nebraska Prompt Payment Act.
2. Reimbursements will be contingent on receipt of required reports.
3. NDEE shall withhold 10% of the total award but not less than $10,000.00, of grant funds pending receipt and approval of the final project report.
4. The total amount of payments under this Agreement shall not exceed $300,000.
5. The Sponsor agrees to contribute 40% of grant funds spent or up to $277,000 in nonfederal match as cash and/or services in-kind for implementation of project activities.

IV. GRANT REQUIREMENTS

A. Program Requirements

1. The Sponsor agrees to follow the approved Project Implementation Plan (PIP) outlining the project schedule, budget categories and amounts, and specific work items to be undertaken during the course of the project.
2. A Quality Assurance Project Plan (QAPP) must be approved by NDEE prior to any collection of environmental data and subsequent reimbursement request from Section 319 grant funds for monitoring activities. All environmental data collected under this agreement shall be provided to NDEE.
3. The Sponsor agrees to submit progress reports to the NDEE by March 20 and September 20 each year for the duration of the project agreement. These reports shall contain the following components:
   a. Progress to date;
   b. Significant findings or events;
   c. Corrective actions taken to resolve any problems that are encountered;
   d. Activities planned for the next reporting period.

4. The Sponsor agrees to MBE/WBE reports to the NDEE by September 20 each year for the duration of the project agreement and a final MBE/WBE report by April 30, 2024.

5. A final project report must be submitted to NDEE within 60 days after completion of project tasks, but no later than April 30, 2024. This report shall contain the following components in addition to those outlined in the 319 Project Final Report Guidelines to be provided by NDEE:
   a. Significant findings or events;
   b. Corrective actions taken to resolve any problems that were encountered;
   c. Final budget with actual amounts of expenditures and matching listed as well as the source(s) of matching identified.

6. The Sponsor agrees that if indirect costs are authorized, as specified in the approved PIP, they will be charged at the approved indirect rate.

7. The Sponsor agrees that any contract, inter-governmental agreement, sub-agreement and/or procurement of equipment under this grant must receive NDEE approval prior to expenditure of funds associated with those transactions. Copies of all sub-agreements and inter-governmental agreements will be provided to the NDEE.

8. All equipment purchased with Section 319 grant funds must be approved by the NDEE. Any such purchased equipment shall be retained by the NDEE upon completion of the project unless otherwise authorized in writing by the NDEE.

9. The Sponsor agrees that all water quality data collected under this grant shall be provided to the NDEE.

10. The Sponsor agrees to recognize the contributions and/or involvement of the Federal Nonpoint Source Management Program (authorized by Section 319 of the Clean Water Act and administered by USEPA and NDEE) in project publicity, reports, newsletters, and other materials. The Sponsor shall work with the NDEE to ensure that all necessary peer review requirements are met prior to publication. A minimum of three (3) copies of outreach material (printed or other media) produced under this grant shall be provided to the NDEE unless otherwise specified.

11. The Sponsor agrees to ensure that persons receiving cost-share assistance from Section 319(h) funds shall, where relevant, practice nutrient and best management on those portions of their operations that fall in the critical area of the project.

12. The Sponsor agrees to maintain all practices or structural Best Management Practices (BMPs) developed or constructed under Section 319, consistent with the operation and maintenance requirements for structures or practices as

described in standard engineering design or as identified in the Natural Resources Conservation Service's Field Office Technical Guides or other appropriate federal/state/local standards.

B. Federal Requirements

1. General Terms and Conditions

The recipient agrees to comply with the current EPA general terms and conditions. These terms and conditions are in addition to the assurances and certifications made as part of the award and the terms, conditions or restrictions cited throughout the award. The EPA repository for the general terms and conditions by year (Grant Conditions) can be found at: http://www.epa.gov/ogd/tc.htm

2. Federal Tax Liability

With signature on this Agreement, the sponsor certifies that they: (1) are not subject to any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, and (2) have not been convicted (or had an officer or agent acting on its behalf convicted) of a felony criminal conviction under any Federal law within 24 months preceding the award, unless EPA has considered suspension or debarment of the corporation, or such officer or agent, based on these tax liabilities or convictions and determined that such action is not necessary to protect the Government's interests.

3. Subaward Policy

If there will be contractual services provided in association with this agreement for $3,000 or more, the Sponsor is required to get three written bids. If there will be contractual services provided in association with this agreement exceeding $150,000, the Sponsor is required to conduct a sealed bid Request for Proposals.

4. Civil Rights Statutes and EPA Regulations

This term and condition incorporates by reference the signed assurance provided by the recipient's authorized representative on: 1) EPA Form 4700-4, "Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance"; and 2) Standard Form 424B or Standard Form 424D, as applicable. The assurances and this term and condition obligate the recipient to comply fully with applicable civil rights statutes and implementing EPA regulations.

C. State Requirements

1. Amendments

This agreement may be amended in writing at any time by mutual agreement of the parties, except insofar as any proposed amendments are in any way contrary to applicable law or requirements of the USEPA or NDEE.

2. Forfeiture, Repayment, and Delays in Disbursement of Funds

Violation of any of the requirements of this Agreement by the Sponsor or failure of the Sponsor to complete and maintain the project in the manner described in the project implementation plan, including any amendments thereto which have been properly approved, shall result in the forfeiture of any funds not disbursed. In addition, if for any reason the project is not completed as described in the project PIP, including any amendments thereto that have been or are hereafter approved by the NDEE, the NDEE may recover from the Sponsor any or all funds disbursed.

3. Remedies Not Exclusive

The use by either the Sponsor or the NDEE of any remedy specified herein for the enforcement of this Agreement is not exclusive and shall not deprive the party from using such remedy, or limit the application of any other remedy provided by law.

4. Assignment

No assignment or transfer of this agreement or any part hereof, rights hereunder, or interest herein by the Sponsor shall be valid unless and until it is approved by the NDEE and made subject to such reasonable terms and conditions as the NDEE may impose.

5. Waiver of Rights

The Sponsor or NDEE may from time to time waive any of their rights under this Agreement; however, any waiver of rights with respect to a default of any condition of this Agreement shall not be deemed to be a waiver with respect to any other default.

6. Applicable Rules and Regulations

Both parties shall abide by all applicable rules and regulations of the NDEE including any that may be adopted subsequent to the effective date of this Agreement except those that would invalidate or be inconsistent with the provisions of this Agreement.

7. Inspection of Books, Records, and Reports

The duly authorized representative of either party shall have the right to inspect and make copies of any books, records, or reports of the other party pertaining to this Agreement or related matters during regular office hours. Each party shall maintain and make available for such inspection accurate records of all its costs, disbursements, and receipts with respect to its activities under this Agreement. A single audit is required if $500,000 or more is provided by the federal funding in any one-year period. Verification of completion of the single audit report shall be sent to NDEE.

8. Independent Contractor

The Sponsor is and shall perform this Agreement as an independent contractor and as such shall have and maintain exclusive control over all of its employees, agents, and operations. Neither the Sponsor nor any person employed by the Sponsor shall act, propose to act, or be deemed the NDEE's agent, representative, or employee. The Sponsor assumes full and exclusive responsibility for the payment of all premiums, contributions, payroll taxes and other taxes now or hereafter required by any law or regulation and agrees to comply with all applicable laws, regulations, and orders relating to social security, unemployment compensation, OSHA, affirmative action, equal employment opportunity, and other laws, regulations, and orders of like nature. For any work hereunder subject to the Veterans Readjustment Assistance Act of 1974, or the Rehabilitation Act of 1973, the parties hereto shall comply with all provisions thereof, together with all applicable rules, regulations and orders of the Department of Labor, and the notices required pursuant to 41 CFR 60-1.4, 60-250.4 and 60-741.4, which are hereby incorporated by reference into this Agreement.

9. Nondiscrimination

The Nebraska Fair Employment Practice Act prohibits contractors to the State of Nebraska and their subcontractors from discriminating against any employee, or applicant for employment in the performance of such contracts, with respect to hire, tenure, terms, conditions or privileges of employment because of race, color, religion, sex, disability, or national origin. The Sponsor's signature is a guarantee of compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of this Agreement. The Sponsor shall insert a similar provision in all subcontracts for services to be covered by any contract resulting from this Agreement.

10. Drug Free Workplace

The Sponsor by executing this Agreement certifies and assures that it operates a drug free workplace as addressed in the State of Nebraska Drug Free Workplace Policy of July 7, 1989.

11. Publication

All parties shall have publication and reproduction rights for all reports and materials, which are produced as a result of this Agreement.

12. Termination

This agreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party provided that no termination may be effected unless the other party is given:

a. Not less than thirty (30) calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate, and
b. An opportunity for consultation with the terminating party prior to termination.
c. If an emergency situation occurs, the effective date of termination will be negotiated.

13. New Employee Work Eligibility

The Sponsor is required and hereby agrees to use, and require sub-contractors to use, a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

If the Sponsor or Contractor is an individual or sole proprietorship, the following applies:

The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at:

http://www.das.state.ne.us/
http://www.das.state.ne.us/lb403/attestation_form.pdf

If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

V. PROJECT MANAGERS

The Project Manager for each party to this agreement shall be as follows. The Project Manager may be changed by any agency upon written notification.

Nebraska Department of Environment and Energy (NDEE)

Mike Archer
Program Specialist
Water Quality Planning Unit
P.O. Box 98922
Lincoln, NE 68521
Phone: (402) 471-4224
mike.archer@nebraska.gov

Lower Platte South Natural Resources District

Tracy Zayac
Stormwater/Watershed Specialist

3125 Portia St.
Lincoln, NE 68521
Phone: (402) 476-2729
tzayac@lpsnrd.org

VI. SIGNATORIES TO THIS INTER-GOVERNMENTAL AGREEMENT

NEBRASKA DEPARTMENT OF ENVIRONMENT AND ENERGY

BY: Kevin Stoner **TITLE: Deputy Director**

_____ **DATE:** _____

SPONSOR

BY: Paul Zillig **TITLE: General Manager**
(Please Print)

_____ **DATE:** _____
(Signature)

DUNS #:
_____

ATTACHMENT A

NDEE NPS 319 Project Implementation Plan
Lower Platte South Natural Resources District
Twin Lakes Watershed Target Area Implementation
56-2082

Project Sponsor:	Lower Platte South Natural Resources District Project Manager: Tracy Zayac, Stormwater/Watershed Specialist 3125 Portia St. Lincoln, NE 68521 (402) 476-2729 tzayac@lpsnrd.org https://www.lpsnrd.org/
Project Partners:	*Lower Platte South Natural Resources District:* Provide project funding. Serve as local project lead on education & outreach activities and provide technical assistance to stakeholders and participants to install BMPs. *Nebraska Department of Environment and Energy:* Funding through the EPA Section 319 for landowner outreach, public engagement, and installation of conservation practices. Assistance in water quality sampling and monitoring. *Natural Resources Conservation Service:* Technical assistance, BMP design and implementation assistance, and project technical advisor. *Nebraska Game and Parks Commission:* Technical assistance, project technical advisor, and stream stabilization demonstration project. *University of Nebraska - Lincoln Extension:* Assistance with landowner and producer outreach, field days, and education.
Project Area:	Watershed area above East and West Twin Lakes, Seward County, Nebraska Approximately 26% of the South Branch Middle Creek HUC12 (102002030201) Total of 6,835 acres
319 Project Funds:	$300,000
Non-Federal Match:	$277,000
Project Duration:	March 2021 – February 2024 (3 Years)

Introduction/Background

The Lower Platte South Natural Resources District (LPSNRD), located in southeast Nebraska, covers approximately 977,525 acres, including nearly all of Lancaster and Cass counties and parts of Butler, Otoe, Saunders, and Seward counties (Figure 1). According to 2015 data from the US Census Bureau, the population of the area is approximately 303,000, which includes both rural residents and residents of 36 communities. The LPSNRD serves diverse rural and urban interests: 85% of the land is rural, but 89% of the population is urban or located in a city or village.

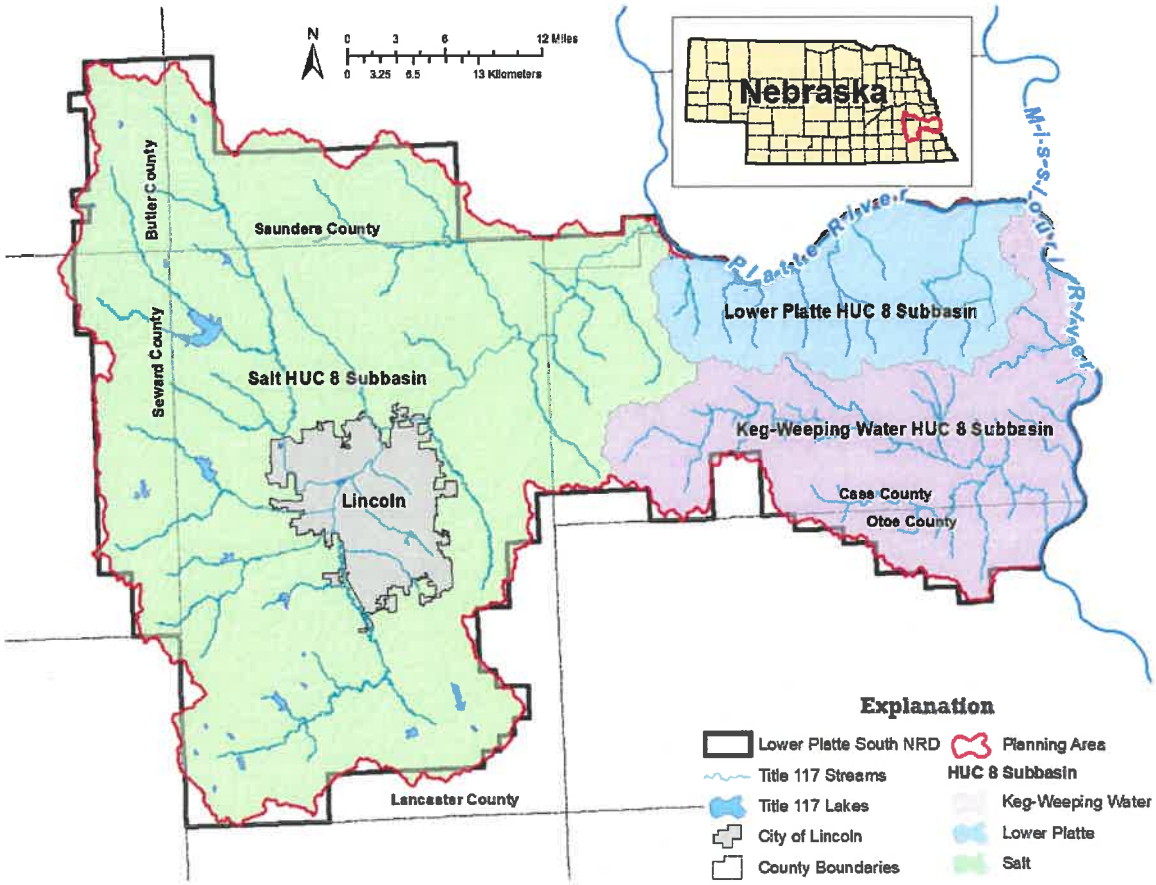


Figure 1: Location of Lower Platte South Natural Resources District

The LPSNRD and other area partners have a long history of managing water quality and completing watershed-based projects. Multiple projects, plans, and programs have been developed or completed in recent years. In May 2019, EPA accepted the LPSNRD District-wide Water Quality Management Plan (WQMP). The WQMP identified and prioritized several waterbodies within the District that are impaired due to nonpoint source pollution. Of those initial priorities, the District has elected to begin implementation with the East & West Twin Lakes Target Area (Figure 2).

East and West Twin Lakes, collectively known as Twin Lakes, are located in Seward County. The lakes are owned by the US Army Corps of Engineers and were originally constructed for flood control purposes.

Currently, the lakes are leased to the Nebraska Game and Parks Commission (NGPC), which manages them and the surrounding wildlife management area for recreation and wildlife purposes. The lakes lie on unnamed tributaries of the South Branch Middle Creek (LP2-21010) and are connected at conservation pool elevation by a narrow, shallow channel. East Twin Lake (LP2-L0240) encompasses 149 surface acres, with an approximate drainage area of 2,986 acres. West Twin Lake (LP2-L0260) encompasses approximately 45 surface acres. Although West Twin Lake is significantly smaller than East Twin Lake, it has the larger drainage area, at 3,836 acres. Both lakes and their drainages comprise approximately 26% of the South Branch Middle Creek HUC12 subwatershed (102002030201).

The Twin Lakes Watershed was selected for project implementation from the WQMP based on several factors:

- East Twin Lake is impaired from total phosphorus, total nitrogen, and Chlorophyll A.
- West Twin Lake is currently identified as impaired from total phosphorus, total nitrogen, ammonia, and Chlorophyll A.
- Most importantly, NGPC, who was a stakeholder during development of the WQMP, has indicated that they plan on completing a lake renovation project in the near future. However, any improvements to the lakes will not be sustainable unless land treatment and water quality improvements are implemented in their drainage areas. The Twin Lakes Watershed Project offers this opportunity, at a scale at which the LPSNRD can focus efforts and demonstrate success in a relatively short time period.

The overall intent of this project is to implement best management practices (BMPs) in the Twin Lakes watershed. This will reduce pollutant loadings to East and West Twin Lakes, which will improve water quality entering the lakes from the watershed and help protect future in-lake water quality improvements planned for the lakes.

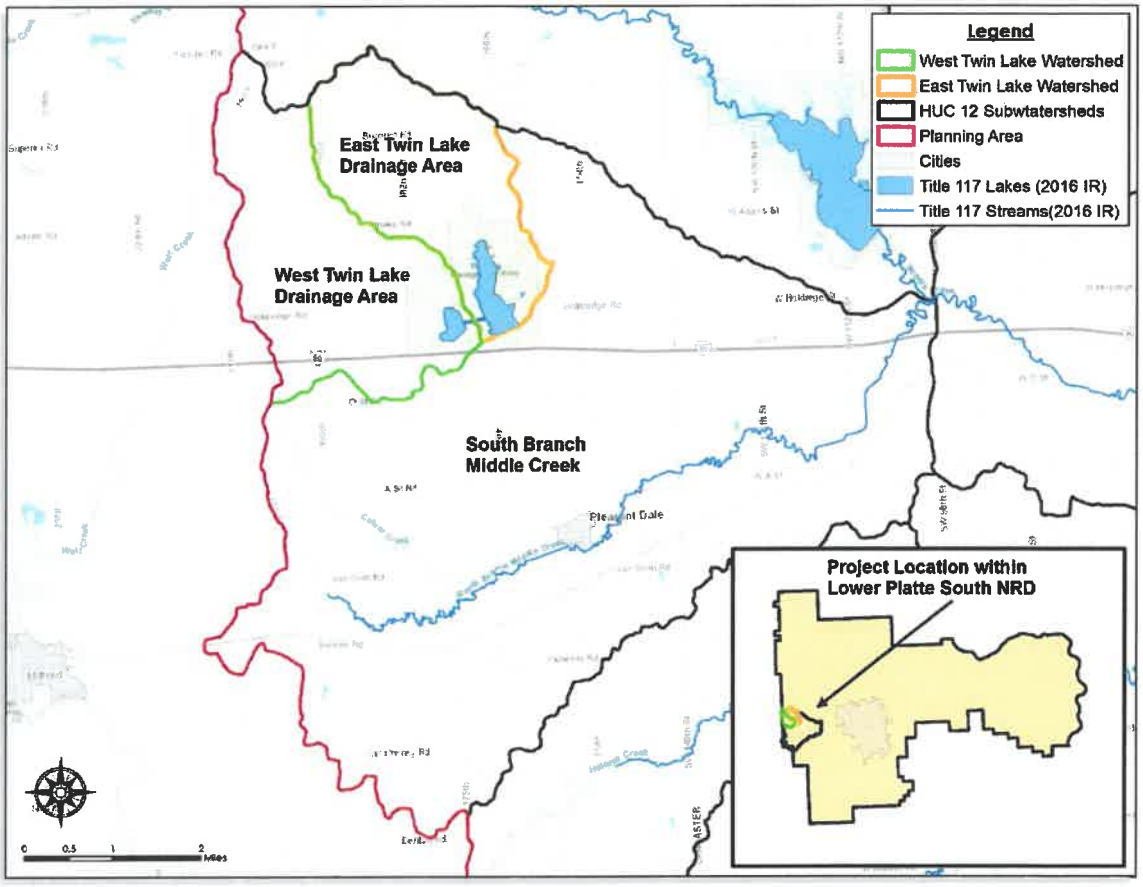


Figure 2: Project Area Map

Project Description

The purpose of this project is to improve the water quality within the East and West Twin Lakes Watershed. The existing WQMP outlined a full implementation strategy to address the following nonpoint source pollutants: phosphorus, nitrogen, sediment. The impairments derive from both external pollutant loading to the lakes and internal pollutant loading that has built up over the years. Nutrients are being targeted due to their direct contribution to the impairments in Twin Lakes. Sediment is also being targeted, as it contributes both to nutrient loads and volume loss in the lakes.

This project will address only the external loading sources; internal sources will be addressed in future phases during NGPC's lake renovation work. The LPSNRD will work with participating landowners and producers to implement a variety of BMPs. The project strategy relies on enhancing the cost-share of existing BMP programs from LPSNRD, the Natural Resources Conservation Service (NRCS), and/or others that may be identified, to increase landowner participation rates and the number of acres receiving treatment. These efforts will be paired with water quality monitoring and information and education (I&E) efforts, which were also identified in the WQMP.

Project Goals and Objectives

The following goals match those listed in the WQMP to illustrate how this project works towards meeting those goals. Objectives and action items are based on those found in the WQMP and have been modified to reflect specific project activities.

Goal 1: The surface and groundwater resources within the LPSNRD target areas, or special priority areas, will be enhanced through a comprehensive and collaborative program that efficiently and effectively implements actions to restore and protect natural resources from degradation and impairment.

Objective 1: Base natural resources management actions on sound data and effective directing of resources.

Action 1.1: Gather most recent available data on (1) water quality and (2) existing BMPs in the watershed.
Action 1.2: Work with the Nebraska Department of Environment and Energy (NDEE) to collect water quality sampling data for nutrients and sediment in the drainage areas above East and West Twin Lakes
Action 1.3: Identify gaps in available baseline data and work with partners (e.g., NDEE, NRCS) to develop additional necessary monitoring.
Action 1.4: Delineate target areas for landowner education, based on areas in greatest need of BMPs.
Action 1.5: Work with NRCS to identify most effective BMPs for lands in the watershed, and discuss with landowners their preferred BMPs, based on landowners' individual practices.
Action 1.6: Review monitoring data and BMP-implementation locations annually to ensure land-treatment coverage across the watershed and document effects of BMPs on water quality.

Goal 2: Resource managers, public officials, community leaders, and private citizens will be informed about the effects of human activities on water quality and change their behavior in order

support actions to restore and protect water resources from impairment by nonpoint source pollution.

Objective 1: Work with project partners to provide focused information and education to stakeholders within the project area to help them understand the resource concerns and benefits of implementing BMPs.

Action 1.1: Establish a partnership with the University of Nebraska-Lincoln and NDEE to work toward developing a citizen science program in the watershed.
Action 1.2: Engage with and educate crop consultants, agri-chemical dealers, organic producers, and other agricultural service providers about water quality issues and programs available to producers.
Action 1.3: Collaborate with partners to target stakeholder education regarding water quality and conservation practices. LPSNRD will hold an annual public meeting/BMP workshop, field tours, and other informal meeting settings. If necessary, a facilitator will be utilized as part of public meetings.
Action 1.4: Provide targeted education materials to farmers discussing the benefits of soil health and the practices they can take to enhance it.
Action 1.5: Develop and distribute signage to post on participating properties, showing the source of funding and the project partners.

Objective 2: Provide technical assistance to landowners and producers in the project area to help them implement and maintain BMPs.
Action 2.1: Collaborate with NRCS to provide technical assistance to participants in selecting, installing, and maintaining BMPs.
Action 2.2: Regularly solicit feedback from landowners to improve the assistance they receive as part of this project.

Goal 3: The water, land, and biological resources utilized for beneficial uses in the LPSNRD WQMP target areas will be healthy, productive, and sustainable through actions of the LPSNRD, communities, and other resource agencies.

Objective 1: Provide cost-share to landowners and producers to increase the adoption or installation of priority BMPs within the project area to reduce pollutant loads to downstream waterbodies.
Action 1.1: Enroll new lands in BMP cost-share programs to increase the total number of acres in the watershed with BMPs installed.
Action 1.2: Use, and possibly expand, the LPSNRD's farm pond cost-share program to provide landowners in the watershed target area the opportunity to construct new farm-pond dam structures.
Action 1.3: Work with partners to develop projects to protect and stabilize streambanks and channel beds, to reduce the amount of sediment reaching the Twin Lakes from the watershed.

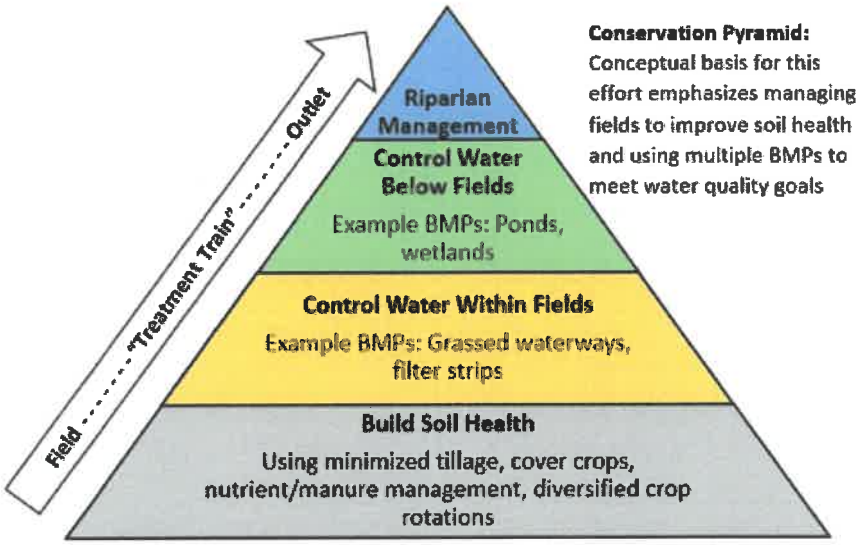
In addition to the BMP implementation described in here, NGPC will be constructing one to two stream stabilization demonstration projects at sites on the perimeter of the Twin Lakes Wildlife Management Area property. NGPC has selected the sites primarily because they are easily visible from the roads that cross the stream segments to be improved. This level of visibility will provide landowners in the

watershed with an opportunity to see for themselves the scope and benefits of stream stabilization projects, thus providing an additional form of education in the watershed.

Proposed Management Practices

Currently, assistance for BMPs is available through the NRCS's Environmental Quality Incentives Program (EQIP) and the LPSNRD's Land Treatment Programs. However, these programs are not specific to the Twin Lakes Watershed, and LPSNRD programs do not currently target this watershed for funding. LPSNRD will, through this project, designate this watershed as a "targeted area", allowing the LPSNRD to expand and enhance cost-share and outreach programs in this area to achieve higher rates of BMP adoption and installation, and offer some programs that are not currently eligible in the watershed. NGPC, in tandem with this project, will implement stream stabilization demonstration sites on Twin Lakes property that they manage, to show area landowners the benefits of addressing in-stream erosion. LPSNRD will actively participate in NGPC's outreach efforts around the demonstration project.

The WQMP includes a strategy to adopt BMPs across multiple scales to create a "treatment train" effect that will lead to pollutants being avoided, controlled, and finally treated. The NRCS calls this type of BMP system "Avoid, Control, and Trap". LPSNRD and project partners will encourage landowners to adopt multiple practices based on the principles encapsulated in the Conservation Pyramid, illustrated in Figure 3.



Modified from Tomer and others, 2013

Figure 3: The "Conservation Pyramid"

In the WQMP, BMPs were evaluated and prioritized for the watershed through GIS mapping, water quality modeling, and review by technical advisors, stakeholders, and the general public. Table 1 shows the practices that were identified and prioritized within the WQMP for the Twin Lakes Watershed. Detailed descriptions of each BMP can be found in Chapter 7 and Appendix E of the WQMP. Average pollutant reductions (treatment efficiencies) were identified through water quality modeling and a

review of scientific literature, which are documented within Chapter 10 and Appendix D of the WQMP. In addition, representative NRCS conservation practice standard codes are included in Table 1 for each practice. NRCS publishes technical literature and design standards for each of these practices, which are also eligible for cost-share from the NRCS.

This project will expand the implementation of proven conservation practices throughout the Twin Lakes Watershed. Through the adoption and installation of BMPs, project partners expect to achieve progress toward the water quality goals identified within the WQMP.

Table 1: Summary of Priority BMPs from WQMP, Estimated Treatment Efficiencies, and Representative NRCS Conservation Practice Standard Codes

Estimated Pollutant Reduction/Treatment Efficiency by BMP					
Representative NRCS Practice Code	Best Management Practice (BMP)	Total Nitrogen	Total Phosphorus	Sediment	Atrazine
n/a	**Education & Information**	10%	10%	10%	10%
n/a	**Onsite Wastewater Treatment System Upgrade**	85%	85%	0%	0%
590, 595	**Non-structural & Avoidance BMPs (Working Lands Management)**	20%	35%	0%	40%
	Nutrient management				
	Nitrogen Inhibitors				
	Soil and Plant Tissue Sampling				
	Integrated Pest Management				
382,528, 578, 614	**Grazing Lands Management BMPs**	15%	15%	15%	0%
	Exclusion or cross fencing				
	Alternative Water Sources				
	Grazing Management Plans				
	Stream Crossings				
340	**Cover Crops**	60%	15%	20%	0%
390, 391, 393, 580	**Riparian Buffers**	50%	60%	65%	30%
329	**No-Till Farming**	55%	45%	75%	0%
332	**Contour Buffer (Filter) Strips**	50%	60%	65%	30%
362, 561, 590, 367, 635, 313	**Non-permitted Animal Feeding Operation (AFO) Facility BMPs**	60%	80%	70%	0%
	Animal Waste / Manure Storage Systems				
	Clean Water Diversion Systems				
	Vegetative Treatment Systems (VTS)				
	Terraces				
	Containment				
	Evaporation Ponds				
	Open Lot Runoff Management				
	Heavy Use Area Protection				
	Feed Management Practices				
656, 658, 378, 350	**Wetlands, Farm Ponds, or Sediment Basins**	55%	70%	85%	0%
391, 580	**Stream Restoration**	77%	77%	77%	0%
600	**Terraces**	20%	70%	85%	30%
638	**Water and Sediment Control Basins (WASCOBS)**	55%	68%	86%	30%
412	**Grassed Waterways**	10%	25%	65%	30%

Source: Water quality modeling documentation within the Lower Platte South District-wide WQMP

Phase 1 will focus almost exclusively on BMPs selected from the list in Table 1 and for which LPSNRD already has cost-share programs; currently, LPSNRD has no program for wetlands and stream stabilization and will review any such requests as they are received. This strategy has two advantages: (1) LPSNRD can more quickly implement the new targeted area using established program guidelines

and mechanisms and (2) landowners in the watershed may already be familiar with several of the BMPs proposed for this phase, through previous LPSNRD and NRCS education efforts. Based on the actual levels of each BMP implemented in Phase 1, the LPSNRD will then assess which additional BMPs from Table 1 may be incorporated into the subsequent project phase. With this approach, LPSNRD will also be able to plan for additional program expansion as needed to incorporate additional Phase 2 BMPs and ensure those mechanisms are in place prior to the beginning of Phase 2, again paving the way for a smoother beginning to Phase 2 implementation.

Tables 2 and 3 show the proposed cost-share rate distribution for each BMP that will be included in Phase 1 of the project, along with estimated counts of BMPs that project partners will pursue in the watershed; the final count of BMPs actually implemented through this project, however, may vary from this estimate. The final numbers and types installed will depend on interest from willing landowners and suitability of BMPs to specific locations. LPSNRD will tailor its outreach activities to build local buy-in, showcase successful practices, and increase landowner participation in the watershed.

LPSNRD recognizes that many of the practices listed in Tables 2 and 3 are eligible for support through EQIP, and the LPSNRD will provide additional cost-share to landowners with successful EQIP applications, as shown in Table 2. For the purposes of planning and implementation, however, LPSNRD assumes that all practices will be funded with Section 319 and LPSNRD matching funds. The addition of Section 319 support for BMPs will allow the LPSNRD to add this area as a targeted area eligible for cost-share assistance that is not currently available and to provide assistance at a higher cost-share rate than would otherwise be available through its programs.

Table 2: Distribution of Cost-Share Rates

Practices to be implemented through LPSNRD programs. Funding for construction only; design and engineering costs are not eligible for cost-share. Practice must be completed and paid out prior to end of three-year project period. All percentages are approximate.

BMP	Total % cost-share available	NRD match % share of total cost	319 % share of total cost	Landowner % share of total cost
Sediment basins	90	35	55	10
Grassed waterways	90	35	55	10
Terraces	90	35	55	10
WASCOBS	90	35	55	10
Farm ponds[1]	90	35	55	10
Stream stabilization	75	25	50	25

[1]Application must be received in Year 1 of the project period and be completed and paid out prior to end of three-year project period.

Additional practices. All percentages are approximate.

BMP	Total cost share	NRD share	319 share
Cover crops[2]	$35/acre multiple species $40/acre multiple species	$14/acre single species $16/acre multiple species	$21/acre single species $24/acre multiple species
CRP incentive	$75/acre[3,6], Year 1 only $100/acre[4,6], Year 1 only	$30/acre $40/acre	$45/acre $60/acre
Riparian buffers[5,6]	Triple $/acre, Year 1 only	40% of triple payment	60% of triple payment

[2]Up to $5,000 per farm. An individual may enroll more than one farm. All other provisions of LPSNRD's Cover Crop Program shall apply.
[3]Additional payment in Year 1 of enrollment only, for all other vegetation types not included in Note 4 below. NRCS must certify that acres are enrolled and seeding has been successfully completed prior to payment.
[4]Additional payment in Year 1 of enrollment only, for grass mixtures including at least 12 species of forbs, wildflowers, or pollinators. NRCS must certify that acres are enrolled and seeding has been successfully completed prior to payment.
[5]Administered through the Nebraska Buffer Strip Program. Requires contract length of 5-10 years and seeding of a native grass mix. Additional incentive, calculated at (3 * $/enrolled acre), paid in Year 1 of enrollment only. All other provisions of Nebraska Buffer Strip Program shall apply.
[6]Additional incentive payments may be available through NGPC, if landowner grants public access to enrolled acres, in accordance with NGPC's conditions for participation.

Practices eligible for potential EQIP funding. Additional cost share from NRD and/or Section 319 to increase total amount available to landowners with successful EQIP applications. Funding for construction only; private design will not be funded. Practice must be completed and paid out prior to end of three-year project period.

BMP	EQIP % share	NRD % share	319 % share	Total % cost share	Landowner % share
Wetlands	75	15	--	90	10
Sediment basins	50	15	25	90	10
Grassed waterways	50	15	25	90	10
Terraces	45	20	25	90	10
WASCOBS	45	20	25	90	10
Stream stabilization	50	10	15	75	25

USDA is an equal opportunity provider, employer and lender.

Table 3: Estimated Counts of BMP Adoption

BMP Practice	Estimated Count	Unit
Farm ponds, sediments basins, or wetlands	5	# of BMPs
Cover crops	750	acres of BMP
CRP incentive	300	acres of BMP
Riparian buffers	20	acres of BMP
Grassed waterways	6	acres of BMP
Stream stabilization	700	feet
Terraces	21,120	feet
WASCOBS	10,000	feet

Pollutant Sources

Nonpoint source pollution identified for management through this project includes sediment, phosphorus, and nitrogen loading to East and West Twin Lakes; internal loads from waterfowl, resuspension, and phosphorus release have also been identified, but this project will address only external (watershed) pollutant sources. Elevated levels of phosphorus and nitrogen have caused algal blooms, impaired aquatic life, and led to the lakes being listed as impaired in the Section 303d list. Four major sources of pollutants were identified in the WQMP: corn/soybean farmland, grass/pasture, unpermitted animal feeding operations (AFOs), and stream erosion. Other sources, which account for a very small fraction, include other crops, forest-urban, onsite wastewater systems, and atmospheric deposition. Figures 4 and 5 depict the relative contributions from each major source.

Although neither East Twin Lake nor West Twin Lake is listed as impaired from sediment, conservation pool volume-loss estimates indicate that an impairment may exist. Twin Lakes is annually losing between 0.56% and 0.82% of the original conservation-pool volume. The high end of this range falls slightly above the 0.75% volume-loss criteria used by NDEE to determine an impairment. Total volume-loss since construction is estimated between 28% and 41%. The low end of this range falls above NDEE assessment criteria of 25%. Soil and streambank erosion contribute a large part of the incoming sediment, as well as phosphorus, load.

Pollutant sources were identified, evaluated, and quantified through water quality modeling in the WQMP using existing water-quality sampling data and watershed data. Table 4 summarizes the average annual pollutant loads for the drainage area associated with each lake. Detailed pollutant loads by source are in Chapter 10 and Appendix D of the WQMP.

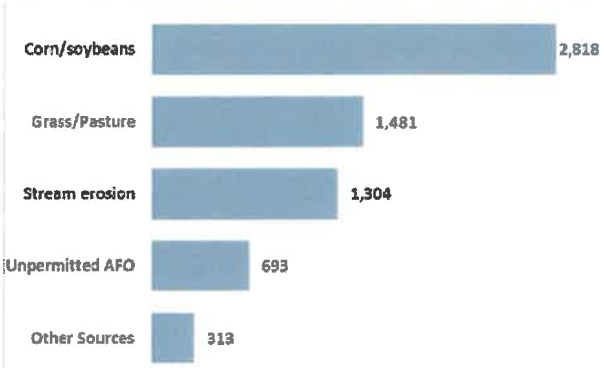
Table 4: Average Annual Existing Pollutant Loads from Twin Lake Watershed

	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (tons/yr)
West Twin Lake Watershed	6,609	30,823	2,309
East Twin Lake Watershed	3,886	20,343	1,098
Total	10,495	51,166	3,407

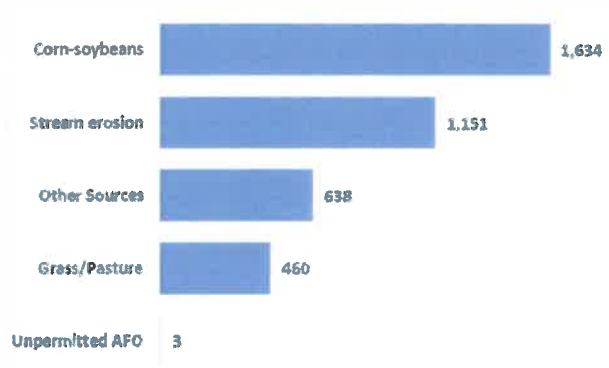
West Twin Lake

East Twin Lake

Phosphorus

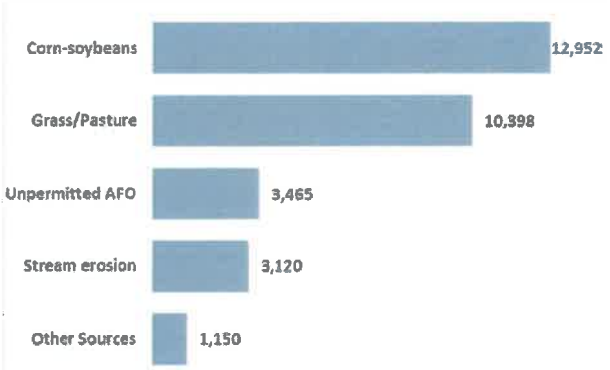


Total phosphorus load: 6,609 lbs/year

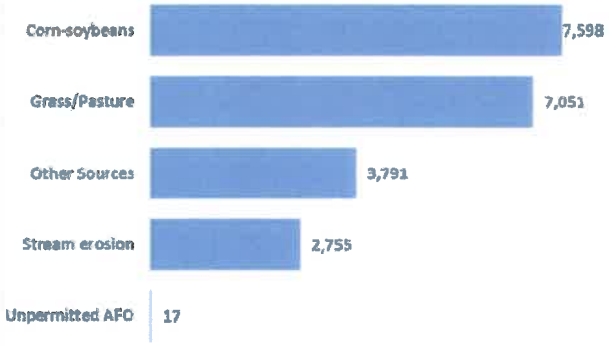


Total phosphorus load: 3,886 lbs/year

Nitrogen

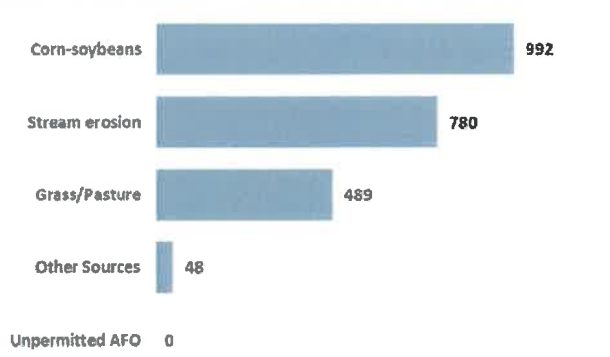


Total nitrogen load: 31,085 lbs/year

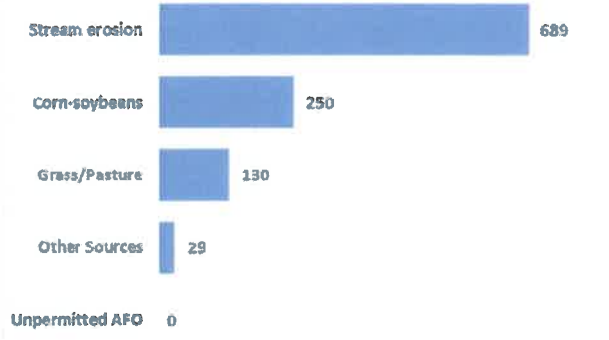


Total nitrogen load: 21,212 lbs/year

Sediment



Total sediment load: 2,309 lbs/year



Total sediment load: 1,098 lbs/year

Figure 4: Top Sources of Pollutants in the Watershed

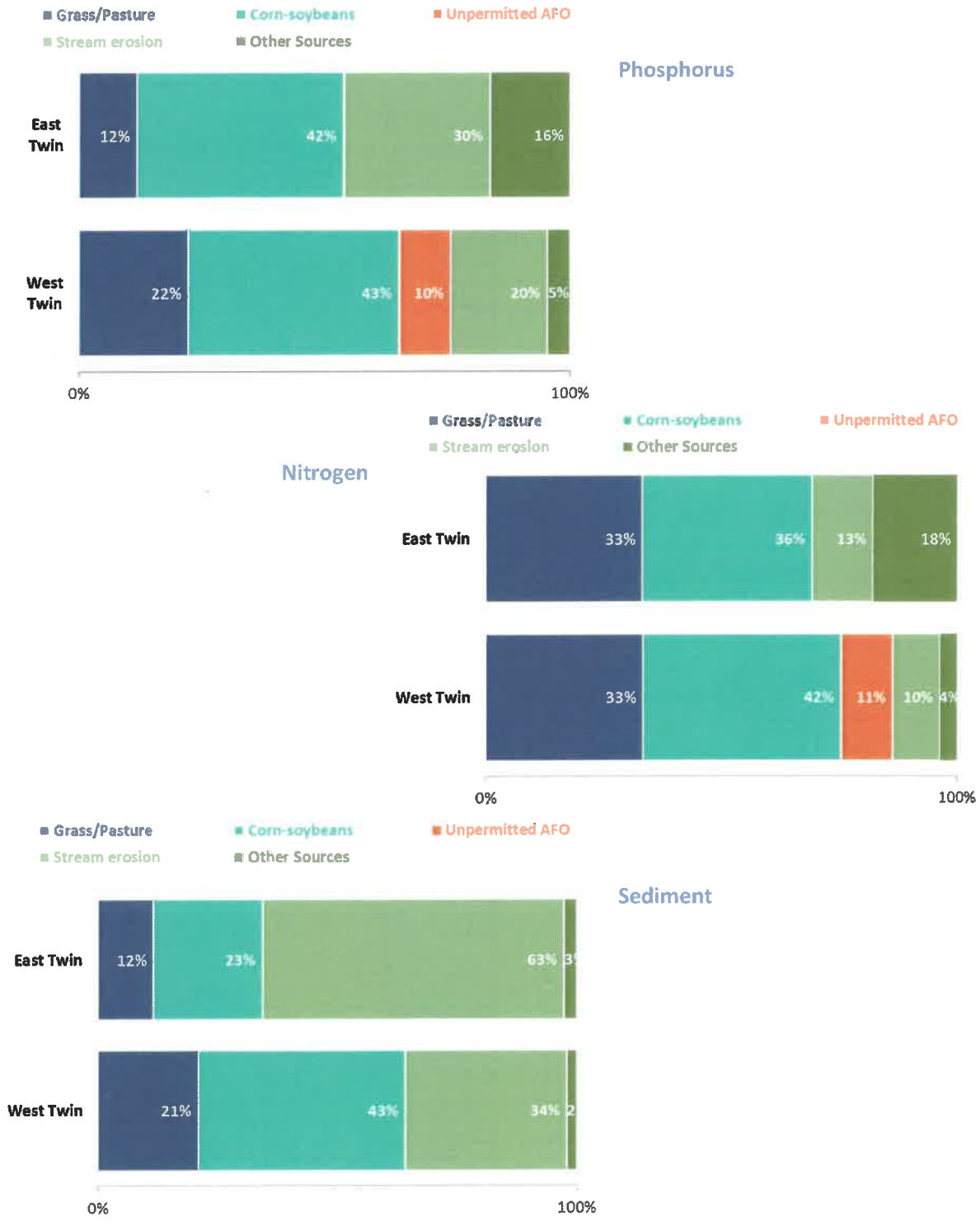


Figure 5: Top Sources of Pollutants in the Watershed

Load Reduction

Implementing a long-term, comprehensive strategy for Twin Lakes that includes both external and internal management practices will result in Twin Lakes meeting water-quality standards for in-lake nitrogen and phosphorus concentrations. This project will focus on reducing pollutant loads from the watersheds above Twin Lakes, with future projects focused on internal reductions. Project partners also anticipate that, if in-lake nutrient concentrations move toward meeting the water quality standards, then Chlorophyll A will also be brought into line with the standard. Aesthetic benefits will also result from this project as sediment loading is reduced and, eventually, lake storage and pollutant attenuation capacity are increased.

The WQMP estimated the maximum level of BMP adoption or implementation that stakeholders and technical advisors considered reasonable. This level of BMP adoption was then modeled to identify pollutant load reduction targets from external pollutant sources in the Twin Lakes watershed (Table 5). These reductions will serve as long term goals for LPSNRD efforts in the watershed. The remaining pollutant load reductions needed for Twin Lakes to meet in-lake water quality standards will come from in-lake management measures.

Table 5: Long Term Load Reduction Goals from Twin Lakes Watershed

Reduction from Current Load	Phosphorus		Nitrogen		Sediment	
	lbs/yr	%	lbs/yr	%	lbs/yr	%
West Twin Lake	4,438	67%	20,106	65%	1,535	66%
East Twin Lake	2584	66%	13,423	63%	558	51%
Total	7,022	67%	33,529	64%	2,093	61%

Source: Modeling Report

Initial estimates suggest that the load reduction goals in Table 5 may not be achieved with a single project phase. If that is the case, then LPSNRD will explore additional project phases. As this project progresses water quality monitoring and updated pollutant load reductions (based on final BMP designs) will help to inform this assessment. LPSNRD estimates that this project will result in the load reductions summarized in Table 6; the Appendix contains additional load reduction data. Actual reduction of pollutant loads may vary considerably depending on the location, size of the treated area, and final design of BMPs. Locations will be determined as the project progresses and landowners or producers sign up for practices.

Table 6: Estimated Pollutant Load Reductions Due to Project

	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (tons/yr)
Existing Watershed Load*	10,495	52,297	3,407
Reductions due to BMPs**	4,278	17,418	2,360
New Load	6,217	34,879	1,047
Reduction to Current Load	41%	33%	69%

**Source: Modeling report*
***Source: Updated BMP Calculator Tool*

Communications

Communication efforts began during the development of the WQMP, which included meetings with technical staff, stakeholders, and the general public. These activities generated information on the values and general concerns of residents and stakeholders within the watershed, provided education on the sources of impairments, and solicited feedback on proposed management practices for the watershed. Successful implementation of the WQMP will depend on the continued participation of willing landowners.

Communication, education, and outreach will continue to play crucial role in maintaining stakeholder and landowner participation in implementation during this project. LPSNRD's Watershed Coordinator will be a central point of contact for all agencies, partners, stakeholder, landowners, and public throughout the project. Because of their proximity to the watershed, the Villages of Malcolm or Pleasant Dale may serve as a central meeting location.

The WQMP identified the following target audiences for communication efforts:

- Recreational water users of East and West Twin Lakes;
- Land managers, tenants, and property owners within Twin Lakes drainage area; and
- Agricultural producers with existing BMPs who may be interested in implementing additional practices.

Specific educational efforts of this project will include the following, which the LPSNRD will conduct in collaboration with NRCS, the University of Nebraska, and other partners:

- Site visits with landowners and producers
- Targeted coffee shop meetings, tailgate sessions, and other informal/casual informational exchanges
- Website and social media posts
- Distribution of flyers, pamphlets, brochures, or other products describing BMPs and/or the project
- Postcard mailings utilizing GIS database
- Installation of signage at BMP demonstration sites, key watershed entrances or landmarks, and other highly visible areas
- Watershed tours with all stakeholders to see existing BMPs and review impaired sites
- Annual BMP workshops or townhall meetings
- Surveys and questionnaires
- Other peer-to-peer outreach and meetings
- Media releases, informational brochures, and newsletter articles
- Activities with area high schools or FFA programs (e.g., citizen science, water quality test kits)
- A NGPC stream stabilization demonstration site will be a featured project within the watershed. Construction will be ongoing simultaneously with other watershed BMP sign-ups. LPSNRD and NGPC will use onsite signage and opportunities to meet with landowners to showcase the project and its benefits to increase landowner buy-in.

Note: All events will follow local directed health measures; social distancing and virtual meeting formats will be employed as needed.

Monitoring and Evaluation

For this project, the LPSNRD will work with NDEE to capture pre- and post-project water sampling information. This information will be utilized to evaluate the long-term effectiveness of BMPs adopted and installed in improving water quality in the lakes.

NDEE and the LPSNRD will work together in a joint agency partnership to collect data within the watershed in 2021. LPSNRD will collect biweekly samples from May 1 to September 30 at the three tributaries that enter the Twin Lakes (Figure 6).

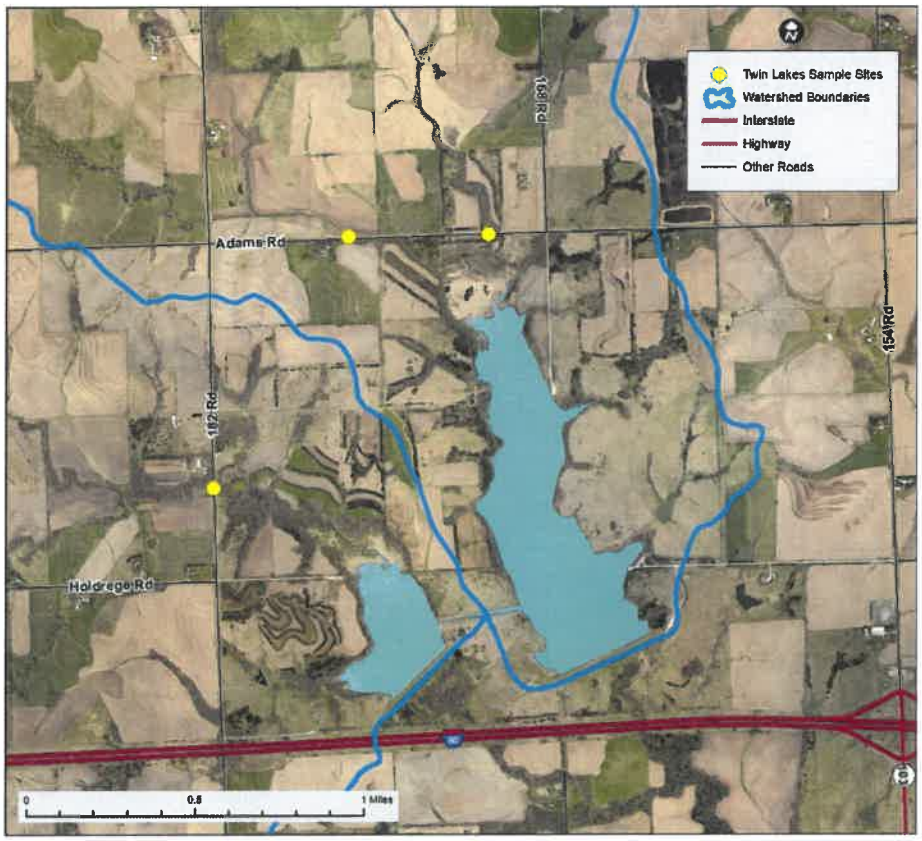


Figure 6: Sampling site locations

NDEE will take up to six water quality samples from these same sites during runoff events. This sampling will be continued into 2022 if weather limits the amount of successful samples that can be obtained. Tables 7 and 8 show parameters that will be analyzed in the samples collected. Data obtained from these samples will provide a sufficient baseline from which to determine the effectiveness of the BMPs to be installed in the watershed through this project.

Table 7: Field-Measured Parameters for Twin Lakes Monitoring

Parameter	Units	STORET Number	Holding Time	Method Analysis
Water Temp.	°C	00010	ASAP	Meter
Diss. Oxygen	mg/l	00299	ASAP	Meter
pH	Stand. units	00400	ASAP	Meter
Conductivity	µmhos	00095	28 days	Meter
Turbidity (field)	NTU	N/A	14 days	Meter

Table 8: Lab-Analyzed Parameters for Twin Lakes Monitoring

Parameter	Units	STORET Number	Container	Preserv.	Holding Time	Method Analysis	Reporting Limit
NHHS Lab							
Total Suspended Solids (TSS)	mg/l	00530	500 ml plastic	Cool 4°C	28 days	EPA 160.2	5 mg/l
Kjeldahl Nitrogen, Total	mg/l	00625	500 ml plastic	H2SO4, pH<2 Cool 4°C	28 days	EPA 351.2	0.5 mg/l
Nitrate/Nitrite Nitrogen, as N	mg/l	00630	500 ml plastic	H2SO4, pH<2 Cool 4°C	28 days	EPA 353.2	0.05 mg/l
Phosphorus, as P, Total	mg/l	00665	500 ml plastic	H2SO4, pH<2 Cool 4°C	28 days	EPA 365.4	0.04 mg/l
LPSNRD Lab							
Bacteria, E. coli	Col./ 100 mL	50468	120 ml sterilized plastic	Cool 4°C	6 hours	Colilert™ 9223 B-QT	1 col./100 ml

LPSNRD will base its short-term and ongoing monitoring and evaluation of project effectiveness on the following criteria:

- Tracking numbers and types of BMPs installed and mapped in GIS
- Quantifying pollutant load reductions for sediment and nutrients using reduction estimates for BMPs that are implemented
- Assessing rates of producer and landowner adoption of conservation practice programs
- Examining quality and quantity of outreach activities, materials and methods
- Measuring increased awareness and knowledge about nonpoint sources pollution management through feedback surveys and questionnaires
- Additional sampling at the sites shown in Figure 6

If implementation efforts stall or are unsuccessful, the types of BMPs and the outreach approach will be adjusted as necessary.

Schedule

The following table outlines the anticipated project schedule:

Table 9: Project Schedule

	Year															
	2021				2022				2023				2024			
Communication Activities	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project brochure/educational materials																
Conduct public meeting/BMP workshop																
Install watershed/BMP signage																
Information Gathering and Assistance																
Solicit producers for cost share programs																
Implement BMPs																
Construction Activities																
BMP construction																
NGPC stream stabilization demo construction																
Monitoring Activities																
NDEE/LPSNRD baseline sampling																
Additional NDEE/LPSNRD sampling activities																
Other monitoring (e.g., BMP tracking)																
Other																
Complete semiannual reports																
Complete project and submit final report																
Apply for Phase 2 Section 319 funds																

Budget

The total cost of this project is estimated to be $647,600 over three years, and a detailed breakdown in federal and non-federal contributions are shown in Table 10. Cost estimates were based upon those provided in the WQMP and proposed cost-share rates; however, final costs of BMPs will be determined when they are sited. The project will be accomplished through funding from Section 319, LPSNRD land treatment programs, and landowner contributions. The project strategy relies on enhancing the cost-share of existing BMP programs from LPSNRD; the Appendix contains anticipated unit costs per BMP. Additional funding from existing USDA, NRCS, or FSA financial assistance programs, such as EQIP, will be utilized, where possible, to achieve the maximum levels of BMP adoption or construction; these federal funds, however, are not eligible as match towards Section 319 funds, and the LPSNRD does not assume a defined level of participation from these programs.

Section 319 funds are being matched by non-federal funds (percentages approximate):

- Section 319: 45%
- Non-federal: 55%

The non-federal share includes landowner contributions toward BMP implementation, which vary according to practice. LPSNRD will budget additional funds toward, e.g., education and monitoring, to accomplish project goals, but LPSNRD is not seeking Section 319 match for these costs.

Table 10: Project Budget

Activity	Section 319 (federal funds)	LPSNRD (non-federal match)	Landowner (non-federal match)	NDEE (other federal funds)	USDA, NRCS, FSA (other federal funds)*	Total
Twin Lakes Project BMP Implementation						
BMP cost-share	$ 300,000.00	$ 200,000.00	$ 60,000.00			$ 560,000.00
Other NRD funds						
Personnel						
Salary & benefits		$ 40,000.00				$ 40,000.00
Education						
Watershed education		$ 15,000.00				$ 15,000.00
Water quality test kits**		$ 3,000.00				$ 3,000.00
Supplies						
Printing, mailing, etc.		$ 1,000.00				$ 1,000.00
Watershed & BMP educational signage		$ 6,000.00				$ 6,000.00
Monitoring						
2021 baseline sampling		$ 2,000.00		$ 5,600.00		$ 7,600.00
Additional project sampling		$ 10,000.00		$ 5,000.00		$ 15,000.00
Contractual***						
Total	**$ 300,000.00**	**$ 277,000.00**	**$ 60,000.00**	**$ 10,600.00**	**$ -**	**$ 647,600.00**

** LPSNRD acknowledges that EQIP funding may be available for certain BMPs and will work with successful applicants to that program. EQIP cost-share is not included in the project budget at this time.*

*** Water quality test kits to be used for citizen science/public education & outreach purposes only*

****Additional contractual costs may accrue in the course of project implementation. LPSNRD has not developed an estimate for these costs at this time.*

Appendix

Table A-1: Load Reductions per BMP

Conservation Practice (measurement units)	Estimated Load Reduction by Conservation Practice								
	Anticipated number of BMPS	E. coli Bacteria	Units	Total Nitrogen	Units	Total Phosphorus	Units	Sediment	Units
Watershed Education (square miles)	10	5.8	CFU/100mL	4,970.8	lbs	1,016.3	lbs	599.5	tons
CRP (acres)	300	6.7	CFU/100mL	8,100.0	lbs	2,397.0	lbs	1,284.0	tons
Cover Crops (acres of BMP)	750	0.9	CFU/100mL	1,882.7	lbs	149.9	lbs	108.3	tons
Riparian Buffers (acres of BMP)	20	0.9	CFU/100mL	53.4	lbs	16.0	lbs	9.4	tons
Wetlands/Farm Ponds/Sed. Basins (acres treated)	800	8.0	CFU/100mL	1,378.7	lbs	307.8	lbs	99.2	tons
Stream Restoration (feet of stream stabilized)	750	1.0	CFU/100mL	51.1	lbs	21.3	lbs	12.8	tons
Grassed waterways (acres)	6	0.3	CFU/100mL	4.0	lbs	2.4	lbs	2.8	tons
Terraces (miles of BMP)	4	1.5	CFU/100mL	77.8	lbs	67.6	lbs	44.4	tons
WASCOBS (feet of BMP)	10,000	10.0	CFU/100mL	900.0	lbs	300.0	lbs	200.0	tons
Totals		35.1	CFU/100mL	17,418.5	lbs	4,278.4	lbs	2,360.3	tons

Source: Modeling Report

Table A-2: Unit Cost per BMP

Conservation Practice (measurement units)	Anticipated number of BMPS	Unit Cost	Total Cost
Watershed Education (square miles)	10	$5,000.00	$15,000.00
CRP (used filter strip numbers)	300	$100.00	$30,000.00
Cover Crops (acres of BMP)	750	$40.00	$30,000.00
Riparian Buffers (acres of BMP)	20	$570.00	$11,400.00
Wetlands/Farm Ponds/Sed. Basins (acres treated)	800	$45,000.00	$225,000.00
Stream Restoration (feet of stream stabilized)	750	$150.00	$112,500.00
Grassed waterways (used riparian buffer numbers)	6	$6,500.00	$39,000.00
Terraces (miles of BMP)	4	$14,843.00	$59,372.00
WASCOBS (feet of BMP)	10,000	$5.00	$50,000.00
Total			**$557,272.00**

Based on USDA NRCS cost docket for Nebraska used for EQIP and state-based cost-share programs

LOWER PLATTE SOUTH
natural resources district

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Memorandum

Date: July 7, 2021

To: Land Resources Subcommittee

From: Tracy Zayac, Stormwater/Watershed Specialist

Subject: Twin Lakes Watershed stream sampling progress

LPSNRD and NDEE are working in partnership to gather background data on the water quality of small streams flowing into East and West Twin Lakes. This will help us to measure our progress on water-quality improvements during the implementation of the Twin Lakes Watershed project. NRD staff have sampled weekly through May and June and will sample biweekly until the end of September. We are measuring the following:

Field measurements

- pH
- temperature
- dissolved oxygen
- turbidity
- specific conductance

Lab samples

- TDS (total dissolved solids)
- Nitrogen
- Phosphorus
- Pesticides (atrazine)
- Bacteria

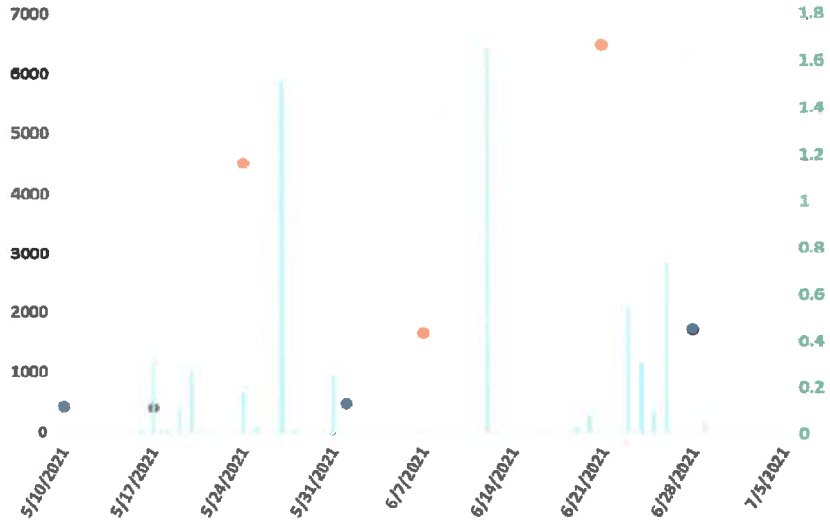
NRD staff conduct bacteria analyses in-house; the remaining lab samples are analyzed at either NDEE or HHHS labs. Attached is a summary of the bacteria data gathered through the end of June. The data are plotted with rainfall data from the Seward rain gauge, which is the closest upstream gauge to the sampling sites.

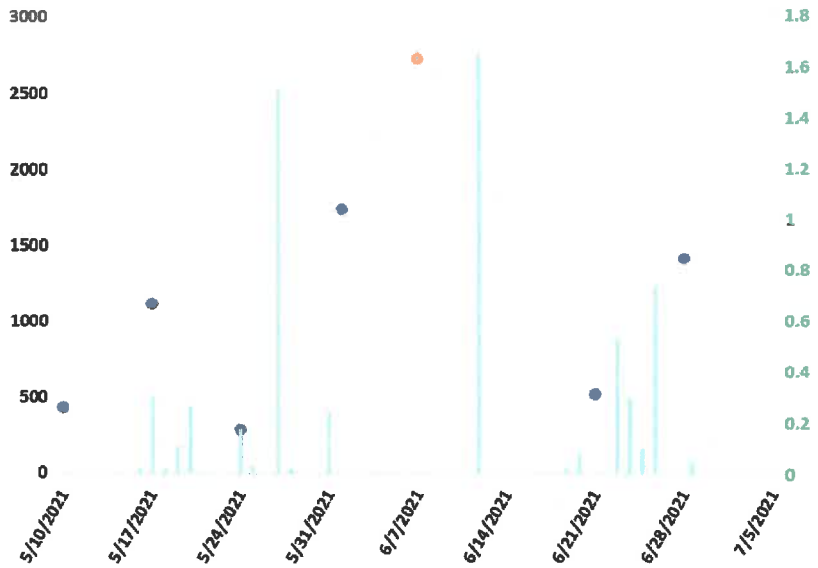
So far, the concentration of E. coli in the streams does not correlate directly to precipitation events. NRD staff have observed that turbidity (i.e., cloudiness of the water) has increased over the month of June at all sites, and flows have decreased in spite of the occasional rain events in the area.

Enc.: Sampling sites map
Bacteria data summary, May-June 2021


Highway 34
W Fletcher Ave
Site 08 (East Twin)
Site 07 (East Twin)
Adams Rd
Site 15 (West Twin)
Pleasant Dale exit
(# 388)
I-80
NW 126th St
2 mi
Google Earth
© 2021 Google

Site 07: Least flow, most bacteria

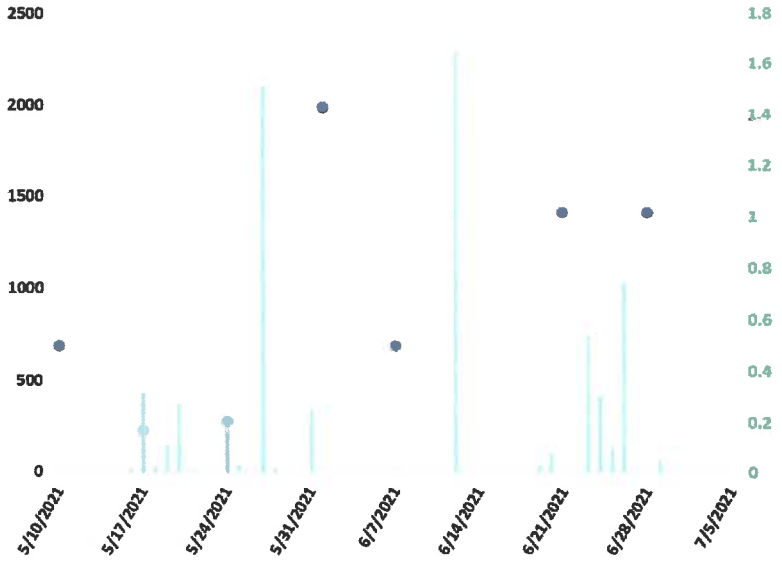




Twin Lakes Watershed sampling results for E. coli, May-June 2021

E. coli shows no strong correlation with precipitation at any site.

Site 08: Least variable concentrations



Site 15: Most sediment