

1.01 PROJECT SUMMARY SHEET

PROJECT TITLE NAME: The Prairie Waters Education and Research Center

**NAME AND ADDRESS, TELEPHONE AND E-MAIL OF LEAD PROJECT SPONSOR/
SUBGRANTEE:**

Valley City State University
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CONTACT PERSON: Andre DeLorme **TITLE:** Center Director

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STATE: North Dakota **WATERSHED:** Statewide

HYDROLOGIC UNIT CODE: NA

HIGH PRIORITY WATERSHED:(YES/NO): NO

TMDL UNDER DEVELOPMENT: PENDING ____ **IMPLEMENTATION** ____

PROJECT TYPES WATERBODY TYPES NPS CATEGORY

- | | | |
|---|---|---------------------------------------|
| <input type="checkbox"/> STAFFING & SUPPORT | <input type="checkbox"/> GROUNDWATER | <input type="checkbox"/> AGRICULTURE |
| <input type="checkbox"/> WATERSHED | <input type="checkbox"/> LAKES/RESERVOIRS | <input type="checkbox"/> URBAN RUNOFF |
| <input type="checkbox"/> GROUNDWATER | <input type="checkbox"/> RIVERS | <input type="checkbox"/> SILVICULTURE |
| <input checked="" type="checkbox"/> I&E | <input type="checkbox"/> STREAMS | <input type="checkbox"/> CONSTRUCTION |
| | <input type="checkbox"/> WETLANDS | <input type="checkbox"/> RESOURCE |
| | <input type="checkbox"/> OTHER | EXTRACTION |
| | | <input type="checkbox"/> STOWAGE/LAND |
| | | DISPOSAL |
| | | <input type="checkbox"/> HYDRO |
| | | <input type="checkbox"/> OTHER |

PROJECT LOCATION: STATEWIDE X **LATITUDE** ____ **MIN.** ____ **LONGITUDE** ____ **MIN.**

SUMMARIZATION OF MAJOR GOALS: The purpose of this proposal is to continue the funding of the highly successful Prairie Waters Education and Research Center. The Center is a statewide resource for water education, research, and management. This center has four main areas of focus: educational activities for students, teacher workshops, professional workshops, and research on aquatic biological resources. It has partnered with a variety of government agencies to enhance their programs as well as local schools to provide quality educational activities.

**FY2023 319 Funds requested: \$357,052; Match \$238,035; Other Federal Funds \$0;
319 Funded Fulltime Personnel: 1.62**

Length of proposal: 27 months from July 1st, 2023 to September 30th, 2025

Total Project Cost: \$595,087

PROJECT DESCRIPTION:

We aim to raise awareness of non-point source (NPS) pollution through the activities of our Center dedicated to water education. We are a learning center that serves a wide variety of clientele including students, teachers, and resource personnel.

Prairie Waters collaborates with agencies such as the Department of Environmental Quality (DEQ), the Department of Water Resources, the North Dakota Game and Fish, the North Dakota Department of Parks and Recreation, and state Soil Conservation districts to produce a set of activities that cover a range of water issues in relation to NPS pollution. This center works with currently established educational entities such as Project Wet, River Watch, and Envirothon to provide educational experiences about water issues to a wide range of clients. Activities related to the Center include

- Educational activities for school groups
 - Bringing in school groups to the Center for educational activities related to water and NPS pollution.
 - Doing outreach programs for schools and other educational entities.
 - Acting as a support center for the River Watch program in North Dakota.
- Provide workshops for teachers in water education.
- Provide a site for workshops for resource professionals.
- House a research lab that addresses water issues in North Dakota.

An issue we will be addressing with this next grant is a possible change in where we are located. For the past 12 years we have been based out of the old Kathryn School in Kathryn North Dakota. We were informed that at the completion of our current rental agreement, which coincides with the completion of our current 319 grant, the city will look to sell the building to the highest bidder. Given the poor condition of the building we will most likely not buy the building. We are in conversations with the U.S. Federal Fish Hatchery located near Valley City to use their facilities for our activities. The fish hatchery already houses Camp Tonweya, a Girl Scout camp with buildings and acreage. We are hoping to develop a three-organization partnership with the US Fish & Wildlife Service (Fish Hatchery), the Girl Scouts, and Prairie Waters to continue our work.

Another issue we will be working to recover from is the effect of the Covid 19 pandemic on the functions of our Center. During this last couple of years, we saw a huge drop off in numbers, many schools were online and very few were sending students on field trips. In addition, most outreach opportunities such as eco-ed camps and in class presentations at schools, were eliminated. During this time all face to face workshops, such as our water quality certification workshops, were shut down. For two summers we did not have our summer camps. We will focus on attracting schools back to Prairie Waters and restarting our workshops and outreach activities. To address this we will step our recruitment of schools to attend Prairie Waters, we will contact teachers and schools who have come in the past and also reach out to those who have not been to Prairie Waters. Other strategies for recruiting will be improving our website and making it a resource for teachers. In the early years of Prairie waters we had an extensive website for the Center with activities and protocols for teachers to use in water education. Unfortunately VCSU underwent and “upgrade” in their website that saw a large amount of content disappear to make it more accessible, this left us with a page that had little more than our contact information. We are working with the administration to have autonomy over our website so we can make it a resource for teachers and students again. We are also working on doing videos and other digital content in relation to NPS that can go on the website. We have also developed many activities that we can do as outreach and increased our outreach activities during Covid. Finally we are planning to start a newsletter with information about the Center and articles about water quality and NPS.

This proposal is being written to extend the 319 grants awarded to Prairie Waters in past years. Our current award will take us to July 1, 2023. We anticipate that this proposal will add 27 months of operation which should take us to September 30th, 2025. We are very appreciative of the support from the 319 program.

2.0 STATEMENT OF NEED

2.1 Non-point source pollution is a problem that can have many negative effects on the state’s water resources. It is important that the causes and effects of NPS pollution are well understood by citizens of our state. Knowledge of not only what NPS pollution is, but also how the amount of NPS pollution is affected by a wide variety of water issues ranging from flooding, to farming practices, to drought, to wetland drainage is important. Our Center examines these components of NPS pollution in a variety of ways. The Center gives K-12 students hands on activities that demonstrate many features of NPS pollution. An excellent example of this is the River Watch program which is organized and run by the Center. The program engages high school students in doing river chemistry monitoring on rivers and streams in North Dakota. We have recently entered into a collaboration with the International Water Institute to assist them in their training

of River Watch school groups in macroinvertebrate collection techniques for water monitoring. We also partner with other entities in the state that focus on NPS to deliver quality education to both youth and professionals. The Center addresses several actions for the Information and Education Objective in the North Dakota NPS Management Program Plan: 2021 - 2025. We deliver a balanced statewide program that addresses NPS issues with K-12 school groups. In addition we work with the DEQ and other local resource managers to provide training to professionals so they can better understand the implications of NPS pollution.

An important focus of all our activities with students will be active participation in their learning and, whenever possible, getting them outside and either next to, on, or in the water. Educational research has shown that these types of active learning experiences do a better job of engaging students and lead to a better understanding of scientific principles.

Another need this Center fulfills is to provide teachers the information and activities to help educate their students on water related issues. Even many high school science teachers with a strong Biology background have little formal training in water issues. Most elementary school teachers have very little science training at all. By providing teachers with workshops and having them participate in activities with their classes we facilitate teacher knowledge in water issues in general and NPS in particular.

The Center also acts as a place to bring resource professionals together for workshops and discussion related to NPS pollution. We have held workshops for NRCS and Soil Conservation District personnel on several NPS issues from Bio Assessment techniques to proper water quality sample collection.

While there may be some concern about overlap between the Center and the other NPS educational programs such as Project WET, Envirothon, and ECO Ed. camp; we see this as a synergistic relationship that has strengthened all programs. We held a joint summer workshop with Project WET where we brought over 30 teachers together for watershed information and training. We have become involved in the Envirothon program, helping to prepare and run the aquatics portion of the program. For the past nine years we have helped with the Ransom County ECO Ed. program. In addition, we have helped with the Barnes County ECO Ed., Cass County ECO Ed., the Adams County Eco-ed, and the Slope/Hettinger County ECO Ed. programs.

2.2 The Center targets a wide audience with three main areas. The first, school groups, are an excellent audience for our Center because these students are the future of our state and instilling knowledge of water issues will produce a more concerned and informed group of citizens. The second area, teachers and educators, are also important targets for our Center. Elementary education teachers especially have little or

no training in NPS pollution and water issues education. To put it bluntly, teachers are more likely to teach subjects that they are familiar with and understand themselves. Providing them with information and support will greatly increase awareness and lead to more classroom activities on water issues. The collaborations with other programs such as Project Wet, Envirothon, and River Watch play a strong role in reaching both school groups and educators. Finally, working with resource personnel, farmers, and producers will allow us to provide a service to several state agencies and to North Dakota's agricultural businesses.

3.0 PROJECT DESCRIPTION

As stated earlier, the Center has four main areas of focus. A further description of those areas follows plus you can visit our website:

<https://www.vcsu.edu/academics/academic-centers/prairie-waters-education-research-center/>.

Educational activities for school groups – Our work with school groups is a combination of onsite activities at Prairie Waters and outreach programs to accommodate schools who may not be able to travel to Prairie Waters. A variety of activities are done at the Center, others are hands-on field trips to any one of several aquatic resources in the near vicinity of the Center. Examples of some of the subjects covered in our activities are watersheds, aquatic macroinvertebrates, flooding, fish, biomonitoring, stream erosion, and wetlands studies to name a few.

We also do summer programs with kids. We host two day camps that run three days each. One is for 5th and 6th graders and is titled "Splashin Around". The other is a fishing camp for 7th and 8th graders. We also have done activities at the 4-H camp in Washburn in past summers.

One of the prime responsibilities of the Center is to act as the coordination center for River Watch. River Watch is a program that involves a team of high school students in river monitoring. The objectives of the program are as follows:

- Improved citizen awareness and understanding of watersheds and proper land and water stewardship practices.
- Sustainable citizen based, scientifically sound monitoring using standard methods, equipment, and training.
- Availability of useful, reliable, comparable water quality data for analysis, evaluation, and decision making.
- Sound resource management decisions based on quality data and informed discussion.

The students take water quality measurements in a river or stream in their area and are encouraged to examine how certain factors affect the water quality. This program does an excellent job of introducing students to water quality parameters and what they mean in relation to NPS pollution. We provide training for the teacher and students at the Center and are available to visit the school as needed for trouble shooting and support services. In addition, the Center will purchase the supplies needed for the monitoring and supply it to the schools. If a school decides to leave the program we can take back the equipment and provide it to another school. We also cover 60% of the school's cost for travel and substitute teachers, meaning the school is responsible for 40% of the cost. This ensures that schools have a commitment to the program. One of the examples of success for this program has been our River Watch presentations at the 2012, 2014, 2016, 2018, and 2021 North Dakota Water Quality Monitoring Council Conference. We had several schools give power point presentations on their projects to a room full of resource professionals; feedback from both the students and the attendees to the conference has been overwhelmingly positive.

Unfortunately, participation in River Watch has dropped considerably during and after the Covid 19 pandemic. We currently have two schools that are participating, Montpelier High School and Mayville Portland High School. We will work hard to recruit schools into the program. One area we will work towards is having a River Watch program where we can target Junior High programs. In the past we have limited it to Senior High students, but we have had inquiries from Junior High teachers and feel it may be a good fit. Plus, it may create a group of students who will continue in the program into High School

We will continue to develop our monitoring stations for River Watch groups. These are stand-alone solar powered stations that take water quality readings from a stream. We are hoping that the data and operation of these stations will help us improve and perfect our system. We have developed a manual on the design and use of the station along with ideas for class activities that utilize the data. We have included funding in this proposal to continue this initiative (see Task 6 in section 3.2 of this document).

Teacher training – The Center provides workshops in water education for teachers. These include workshops for Project Wet and training for River Watch, but also will include other workshops. We will hold at least one River Watch symposium where teachers and their students will come and present their work. This workshop takes place during the school year, most likely in late Fall or early Spring.

We are also looking at developing pre-service workshops for students in our Science education programs and elementary education programs. We see the Center as being a very useful resource for these future teachers. In our current location, 17 miles south of Valley City, we have found it is difficult to get college students to come help at Prairie

Waters. We are hoping that with the much closer proximity of the Fish Hatchery, 4 miles from VCSU, we will be able to get Education majors active in helping Prairie Waters.

Professional workshops – Covid 19 disrupted our professional workshops that we have offered in the past. We will work with the North Dakota DEQ to restart the certification workshops for water quality sampling at Prairie Waters. We will also work with the Soil Conservation Districts and the NRCS offices to see if they have any training needs.

Summary of accomplishments - Below is a summary of the number of people served during our current grant cycle. The effects of Covid 19 are obvious. During FY 20 -21 we saw our total number of participants sink to 817. They rebounded a bit in FY 21-22 to 2059. As a comparison during the FY 17-18 year we had a total of 2,801 participants and in FY 18-19 we had 2,860 participants. We are hoping to get our numbers back up and continue growing. The rebound to 2059 participants in FY 21 -22 shows we are on the right track.

FY	Students	Teachers	Other	TOTAL
FY July 1, 2020 to June 30, 2021	754	48	15	817
FY July 1, 2021 to June 30, 2022	1884	114	61	2059
			TOTAL	2876

Table 1. Overview of participants in Prairie Waters activities by fiscal year.

Here is a list of different activities we have done over the last grant cycle.

June 1, 2020 – June 30, 2020: Summer Camps canceled due to Covid-19

FY 2020 – 21

- Bismarck Earth Day
- 4-H Camp in Washburn
- Summer Camps

FY 2021 – 22

- Dakota Horizons Girl Scouts
- Eco Ed- Barnes, Stutsman, and Ransom Counties
- Bismarck Earth Day

- VCSU STEM Camp
- Summer Camps

New Schools that we haven't reached before:

- Victory Christian School
- Lidgerwood
- Dakota Prairie (Petersburg/McVille)
- Fairview Colony School
- Wheatland Colony School
- New Rockford--Outreach
- Sargent Central—Outreach

VCSU Macroinvertebrate Lab Research – This research lab focuses on aquatic biological resources and water quality in North Dakota. It is currently the identification lab for the DEQ's aquatic macroinvertebrate biomonitoring program and has had many contracts and grants related to North Dakota waters and water quality. In addition, the lab oversees two websites that focus on aquatic macroinvertebrates found in North Dakota waters (www.waterbugkey.vcsu.edu and www.ndfreshwaterinverts.vcsu.edu). These sites were developed by a previous 319 grant and are a valuable resource for the Center. Much of the information, data, and biological samples from these projects and future projects are available for use by the other three areas of focus for the center. *This proposal does not include any direct funding for this component of the Center.* It is the responsibility of the Center Director to find research funds. In the past four years the Macroinvertebrate Lab has brought in approximately \$100,000 in grants and contracts from entities such as the North Dakota Department of Health, the North Dakota Game and Fish, and the Army Corp of Engineers. The fact that the Center and the Macroinvertebrate Lab have separate funding accounts set up with the VCSU Business Office ensures that funding will be separate.

This Center is a part of Valley City State University and has enjoyed considerable support from the University over the years.

The Center has an advisory board to oversee its work and provide input for future directions. It meets twice a year to review the work of the Center and offer suggestions for future improvement. A list of current board members is included in the Coordination Plan of this document, section 4.1.

3.1 Goal. The mission of the Prairie Water Education and Research Center is to provide a site dedicated to water education, research, and management in North Dakota. In addition, there is currently much concern and emphasis on the quality of

Science, Technology, Engineering, and Math (STEM) education. This Center will take an active role in addressing those concerns. An important part of this mission is to have a broad reach across the state. Although we are based in southeast North Dakota we have made a commitment to provide our services across the state. We presented our “Water 101” workshop in Bismarck for NRCS, SCD, and other professionals in that area. We have presented several workshops in Fort Yates for teachers on the Standing Rock Reservation. We have presented at the Slope /Hettinger county ECO Ed. in Regent, ND and the Adams county ECO Ed. in Hettinger, ND. We have schools come from as far away as Linton and Starkweather for our onsite activities.

3.2 Objectives/Tasks: Specific objectives and underlying tasks for the FY 2023 Prairie Waters Education and Research Center for the period of July 30, 2023 – June 30, 2025 are defined in this section.

Objective 1. Staff, assess and monitor the success of the Center.

Task 1. Staff the PWERC with a 42% time director, fulltime education specialist, one summer student employee, and 75% time staff person. Dr. Andre DeLorme, Professor of Biology and Director of the VCSU Macroinvertebrate Lab at VCSU, is the Director of the Center. He will receive a summer salary for 1.5 months from 319 funds (17% of his time) and will have 3 months of volunteer time for Prairie Waters. This release will be an inkind match for the project. He will be responsible for all major Center decisions and grant writing. He is also in charge of the research component of the Center.

The Education Specialist/Presenter is a fulltime position. This person is responsible for designing and delivering educational activities for student groups, developing and implementing teacher workshops, developing displays for the commons area, and day to day activities at the Center. The salary will be 75% 319 funds and 25% VCSU funds.

The Lab Manager/Presenter will oversee the day to day activities of the research lab in the Center as well as help present activities to school groups. This is a full time position with 75% of its time devoted to Prairie Waters; 50% paid by 319 funds, 25% paid by VCSU. The remaining 25% of the time is devoted to research and contract work which will be paid by research grants and contracts.

We will hire one summer student employee working approximately 400 hrs. at \$12 an hour. This would be a 0.20 FTE.

Product: An effective staff of 2.37 FTE for the Center, 1.62 funded by 319, 0.75 funded by in kind or match from VCSU.

Estimated Cost: \$447,254 = \$290,436 from 319 funds; \$156,818 match (\$93,635 – VCSU funds; and \$63,182 - inkind salary match)

Task 2. Advertise the Center to Educators, Schools, and the general public throughout North Dakota. We will use pamphlets and other mailings along with a website to make educators aware of our facility. We also plan to start a monthly newsletter to promote water quality education and issues.

Product: Pamphlets and other promotional material plus postage. Travel to meetings.

Estimated Cost: \$1,350 – 319 funds

Task 3. Develop and administer assessment components. We will document all visitors to the Center to gauge the amount and type of usage the Center receives. In addition, we will develop questionnaires and other assessment tools for all workshops and educational activities.

Product: Questionnaires and documentation of usage.

Estimated Cost: \$112.50 – 319 funds

Task 4. Advisory board. The board will meet twice yearly to oversee the workings of the Center. Many of our board members can provide inkind match for travel and participation in meetings.

Product: Travel and meeting costs.

Estimated Cost: \$200 = \$0 319 funds; \$200 in kind match

Objective 2. Provide educational activities for school groups.

Task 5. Run the River Watch Program in North Dakota. We will focus on maintaining the schools we have and attract other schools with the EnviroDIY initiative. We will provide funds to partially cover the costs of travel, supplies, and hiring substitute teachers at these schools.

Products: Funds for misc. supplies (calibration solutions, repairs, and sampling items) along with 60% of the costs for transportation and hiring of substitute teachers at our participating schools.

Estimated Cost \$7,425 = \$5,000 from 319; \$2,425 In-kind match
(school contribution to travel and substitute teachers)

Task 6. Start the EnviroDIY initiative. We will strengthen the River Watch program by continuing to provide monitoring stations for schools to use on their stream or river. Includes funding for station maintenance plus travel to workshops and travel for visiting the River Watch schools to advise and help set up the stations.

Products: Eight functioning monitoring stations. We currently have eight stations available to schools. These funds provide for maintaining and upgrading the stations. Also includes funding to attend workshops on the EnviroDIY program.

Estimated costs: \$4,250 = \$4,250 from 319:

Task 7. Provide onsite and outreach educational activities to North Dakota K-12 schools. Our goal is to have an annual average of 2500 - 3000 students served.

Product: For onsite activities this includes cost for local transport to area aquatic resources, materials for use in activities, and cost of transporting students to the center. Costs also cover travel for outreach activities.

Estimated Cost: \$22,207 = \$13,207 - from 319; \$9,000 In-kind match (\$6,000 school costs for transportation of students to center; \$3000 match from Barnes County Wildlife Federation).

Objective 3. Provide Teacher training related to water issues.

Task 8. Provide teacher training for River Watch

Product: An in-depth summer workshop for River Watch teachers.

Estimated Cost: \$7,717 = \$6,187 in 319 funds; \$1,530 in kind match, (travel costs)

Task 9. Provide teacher workshops and training for Water education to pre-service and in-service teachers. We plan to alternate two workshops, one for K-6 teachers and one for 7-12 teachers each geared to activities and subjects for those grade levels.

Product: We will provide at least one workshop each summer for either K-6 or 7-12 teachers with a focus on water quality education. These workshops will take place in the summer of 2023-2025.

Estimated Cost: \$3,800 = \$2,250 from 319 funds and \$1,550 in kind match.

Objective 4. Provide a site for Professional workshops.

Task 10. Present workshops and training to Resource professionals.

Product: A water quality sampling certification workshop and workshops/training activities for a variety of resource professionals including soil conservation district and NRCS personnel.

Estimated Cost: \$1,800 – 319 funds

Objective 5. House the VCSU Macroinvertebrate Research Lab.

Task 11. Provide the space for the lab and integrate components of the research, specimens and data for example, into the educational mission of the Center.

Product: Integration of VCSU Macroinvertebrate Lab into the educational aspects of the Center.

Estimated Cost: \$0, The work of the research lab will be funded by outside sources.

3.4 Valley City State University is well positioned to sponsor this program. They have made a considerable investment in the Center. VCSU has spent nearly \$100,000 renovating the Kathryn school building to make it appropriate for our mission. They cover the costs of utilities which include electricity, heating costs, internet, and other utilities. In addition, they have agreed to provide a 25% match for the Education Specialist position and the Lab manager position.

Dr. Andre DeLorme is uniquely qualified to lead this project. Raised in North and South Dakota he has a natural affinity for Prairie ecosystems. Early in his career he worked as a naturalist for an Outdoor Environmental Education Center in New York state developing and presenting activities to elementary and middle school aged students. He then taught high school science for nine years, during which he spent several summers working as camp naturalist at different youth summer camps. This gives him insight into the workings of environmental education activities for youth and the needs and barriers faced by teachers in presenting environmental education activities. After obtaining his Ph.D he returned to North Dakota as a faculty member of Valley City State University and started the VCSU Macroinvertebrate Lab. This Lab has done a wide range of projects in North Dakota waters. The lab does macroinvertebrate identification contract work for the North Dakota Department of Environmental Quality and other government agencies and has had a large National Institute of Health grant for the INBRE program in which they looked at heavy metals and atrazine concentrations and their effects in North Dakota rivers. In 2001 the lab performed Macroinvertebrate sampling for the Environmental Impact Statement for the federal proposed Devils Lake outlet. It also designed and implemented a website covering aquatic macroinvertebrates found in North Dakota waters (funded by a 319 grant) and completed a State Wildlife Grant to survey mussel species in North Dakota. The lab currently does water quality sampling for the Army Corp of Engineers on Lake Ashtabula. In addition, the lab houses the North Dakota Aquatic Macroinvertebrate Collection which is a valuable resource to the Center.

Bonita Roswick is our Education Specialist. She has a BS in Food Science from NDSU and later returned to school to obtain a secondary Biology teaching degree from Valley City State University. She has worked as an Associate Chemist at Cargill and an Ag Statistics Enumerator for the North Dakota Department of Agriculture. Bonita has brought new and fresh ideas to the Center.

Louis Wieland is our Lab Manager. He has worked in Dr. DeLorme's Macroinvertebrate lab for the past 20 years and has a wide range of experience in sampling aquatic systems. He supervises the Macroinvertebrate samples the lab does for the DEQ and has been in almost every river in the State of North Dakota. He has a great presence

with the kids and does an excellent job as a presenter and trouble shooter for the Center. Louis also manages our website content.

The lab provides many experiences for undergraduate students to do research and present their findings. Over the last fifteen years 18 undergraduate students have given over 28 different poster or talk presentations at regional and national conferences. In those fifteen years the lab has brought in over \$1 million in grants and contracts to VCSU.

4.0 COORDINATION PLAN

4.1 Valley City State University will be the sponsoring organization for this project. Dr. Andre DeLorme, Professor of Biology will be in charge of the project. Valley City State University has supplied the lab equipment, much of the furniture and presentation equipment, the North Dakota Aquatic Macroinvertebrate Collection, and the website for this project.

We have a strong record of working with other entities in delivering NPS education. We have worked closely with the River Watch program in Minnesota to develop our program. In the future we will collaborate with the International Water Institute to improve training and presentation opportunities between our River Watch and their River watch program. We work well with Tina Harding of Project Wet, a program run by the Department of Water Resources, to coordinate and collaborate on such things as Envirothon, an annual water festival at Prairie Waters, and Project Wet Teacher workshops. We have worked with the DEQ (formerly North Dakota Department of Health) on workshops and training for NRCS, Soil Conservation District, and other resource professionals.

As part of our coordination and assessment plan we have established an advisory board. The purpose of the board is two-fold; to oversee the Center and ensure it is run properly, and to involve representative groups in the activities of the Center. Below is a list of people who are board members and their agency or institution.

Tyler Modlin, Park Manager, Fort Ransom State Park.

Marty Egeland – North Dakota Game and Fish Outreach specialist.

Emilee Lachenmeier – Department of Environmental Quality; Water Quality Division.

Mary Lee Neilson - City Commissioner for Valley City.

Dean Strand – High School Teacher, Mayville-Portland High School

Joelle Manlove – Junior High Teacher, Valley City Public Schools

Julie Ann Racine - Lamoure County Extension Agent

4.2 A major feature of this venture is the wide-ranging support of governmental, educational, and citizen groups. As an example of this interest, the North Dakota Game and Fish Outreach/Education has given the Center several small grants to summer students working at the Center. We worked with Lori Frank, former Barnes County Watershed Director, to facilitate and advertise our workshops to SCD and NRCS personnel. In the spring of 2014, we received a grant from the North Dakota Resources Trust to integrate a Wetlands activity in our curriculum. The Barnes County Wildlife Federation has been kind enough to donate \$1000 per year for the purchase of waders for our programs. These are all examples of the support we receive from other entities.

4.3 The Center has a history of working with existing educational activities, several of which are currently supported by 319 funds. As stated earlier we have worked with Project Wet in presenting teacher workshops, running a water festival, and working together on the aquatic component for the Envirothon, another 319 supported program. We have worked with several county ECO Ed groups. Our education specialist, Bonita, is a member of the Coalition for Conservation and Environmental Education (C2E2). We also work with a variety of government agencies such as SCD's, the NRCS, the DEQ, the ND Game and Fish, and the National Fish and Wildlife Service to facilitate training and improve our educational activities.

As stated earlier in this proposal, our goal is not to replace these activities or entities listed above, it is to help strengthen them and act as an instrument to help increase their distribution.

These relationships and connections will be important as this program moves forward. We realize that 319 funds are getting scarce and so we tried to make our budget as lean as possible. We anticipate that we will need to generate a variety of small grants to help cover some of the supplies and equipment we will need to continue our program.

4.4 The Center does not duplicate the activities of any other Center in the area. In fact we believe that there is no other Center in the state that has the focus we have specifically to water issues education.

5.0 EVALUATION AND MONITORING PLAN

5.1 We use both formative and summative assessments as part of our evaluation process. Our formative assessments take place on an ongoing basis and allow us to gauge our success and make needed changes as we go. To accomplish this all clientele are given an opportunity to fill out comment forms and evaluation forms. We have forms for teachers, students and workshop participants to fill out. These forms are read by staff personnel, discussed, acted upon, and then summarized in a final report

which becomes part of our summative assessment. Our summative assessment will take place once a year and will involve an overall examination of the Center. Each year we prepare a report on the progress of the Center. This report includes an overview of the total number of K-12 students that have used the center, the total number of teachers who have undergone some type of training, the number of professionals that have taken part in a workshop at the site, the number of VCSU students involved in the Center either through research or as education majors, and research activities carried out. In addition, an expense report detailing the money received by the Center and the expenses of the Center will be prepared. This data is collected, reviewed, and discussed by the Center Staff. A compilation of this data will be presented to major funding sources, the Vice President of Academic Affairs at VCSU, and the Advisory board. The Director will receive feedback from these entities and implement any needed changes.

6.0 BUDGET

6.1 See the attached tables for our budget. We will start our new budget on July 1st, 2023 and end on Sept. 30th, 2025. Raises are calculated into the first, second, and third year. Here is a brief detail of our matching funds:

- VCSU money match – Valley City State University has agreed to pay 25% of the Education Specialist position and the Lab Manager position. Over the 27 months of the grant this comes to \$93,635.
- Barnes County Wildlife – donates \$1000 per year to the Center for the purchase of Waders.
- Facility match – Being at the Fish Hatchery will be helpful because we will be much closer to the VCSU campus at this location. It is only 4 miles away. Unfortunately, the Fish hatchery does not have permanent office space for us. VCSU will provide office space for the three employees. Space will be approximately 121 sq. ft. each and the current rate for retail rental space in Valley City is \$10-12 an hour per square foot per year. For three office spaces over the time of the grant this comes to \$9,801 in kind match.
- Dr. DeLorme inkind salary match – Dr. DeLorme is retiring from teaching and will commit to working at Prairie Waters. He will receive 1.5 months' pay and will donate 3 months of his time to the Center. He will continue to direct the center and handle administrative duties as well as assist with the various groups with which we work. We will use his salary from his last year at VCSU as a basis, since he will be doing the same tasks he has done in the past for the Center. We place the value over three years at \$63,183.
- Other inkind – this is inkind matching of the expenses by the schools, board members, and workshop presenters. For the River Watch program, it is 40% of

their costs and for school groups coming to the centers it is their travel cost. We are estimating this as a total of \$14,905

- Indirect match – Valley City State University has a Negotiated 40% Indirect rate on Salary and Fringe for Federal grants. For this grant we can only claim a 10% indirect rate. We are using the difference between these rates as a match. Our Salary and Fringe total is \$290,436; 40% of this is \$116,174. Our 10% indirect is \$32,459. If you subtract that from the \$116, 174 that leaves \$83,715 to claim as match. We only need \$56,511 of this to cover our match.

Budget Tables for Prairie Water Education and Research Center

Part 1 – Funding sources – The funds for this project will be used for 27 month period of time spread over three fiscal years. Funding will start July 1, 2023, and continue through to Sept 30, 2025.

	FY 24	FY 25	FY26	Total
FY2024 Section 319 Funds	\$155,554	\$160,258	\$41,240	\$357,052
State and Local match:				
1) VCSU salary match	\$38,541	\$43,726	\$11,369	\$93,635
2) Inkind Salary Match	\$28,081	\$28,081	\$7,020	\$63,182
3) Indirect cost match	\$26,775	\$23,526	\$6,210	\$56,511
4) Office match	\$4,356	\$4,356	\$1,089	\$9,801
4) Participating schools/Advisory Board match	\$5,950	\$7,150	\$1,805	\$14,905
Subtotals	\$103,703	\$106,839	\$27,493	\$238,035
Totals	\$259,257	\$267,097	\$68,733	\$595,087

Part 2 – Funding - The funds for this project will be used for funding 27 months; full years of FY24 and FY25, and 3 months of FY26.

Project Objectives and Tasks	FY 24	FY 25	FY26	Total Costs	Cash Match	In Kind Match	319 funds
Objective 1: Staff facility, advertise, and assess program.							
Salary/Fringe	\$126,213	\$130,489	\$33,734	\$447,254	\$93,635	\$63,183	\$290,436
Travel	\$300	\$300	\$75	\$1,075	0	\$400	\$675
Supplies	\$350	\$350	\$88	\$788	0	0	\$788
Subtotals	\$126,863	\$131,139	\$33,897	\$449,117	\$93,635	\$63,583	\$291,899
Objective 2: Provide educational activities to approximately 2500 students a year							
Travel	\$4,500	\$4,500	\$1,250	\$16,924	0	\$6,674	\$10,250
Supplies	\$5,500	\$5,500	\$1,207	\$16,957	\$3,000	1,750	\$12,207
Subtotals	\$10,000	\$10,000	\$2,457	\$33,881	\$3,000	\$8,424	\$22,457
Objective 3: Provide Teacher training workshops each summer							
Travel	\$2,750	\$2,750	\$687	\$7,717	0	\$1,530	\$6,187
Workshops	\$1,000	\$1,000	\$250	\$3,800	0	1,550	\$2,250
Subtotals	\$3,750	\$3,750	\$937	\$11,517	0	\$3,080	\$8,437
Objective 4: Provide a site for at least one Professional workshop per year							
Workshops	\$800	\$800	\$200	\$1,800	0	0	\$1,800
Subtotals	\$800	\$800	\$200	\$1,800	0	0	\$1,800
Objective 5: House VCSU Macro Lab	0	0	0	0	0	0	0
10 % Administrative Costs	\$14,141	\$14,569	\$3,749	\$32,459	0	0	\$32,549
Office Match	\$4,356	\$4,356	\$1,089	\$9,801	0	\$9,801	0
Indirect Match	\$26,775	\$23,527	\$6,210	\$56,512	0	\$56,512	0
TOTALS	\$155,554	\$160,258	\$41,240	\$595,087	\$96,635	\$141,400	\$357,052