

## SCHEDULE

**Monday, June 1, 2020**

Registration begins at noon. First session begins at 1 P.M.

**What is the Souris River Watershed? ....Larry Brooks**

"Wad a watershed"

**Activity** — Create a watershed model and observe how surface water flows. By observing how surface water flows you can observe the physical characteristics of a watershed and investigate the impacts of human land use decisions.

**Stream Morphology .....Dr. Shubham Datta**

"Seeing a watershed"

**Activity** — Use maps to characterize what a watershed is; identify the key parts and functions of the watershed.

**Water Chemistry ..... Angie Bartholomay**

"Snapshot in Time"

**Activity** — Graph water quality data, then analyze, compare and summarize trends in water quality.

**Aquatic Biota..... Larry Brooks**

"Water quality? Ask the bugs!"

**Activity** — Conduct a simulated bioassessment of a stream to learn monitoring techniques that will be used in the field.

**Station #1: Macros ..... Larry Brooks**

Conduct a bioassessment of a stream, learning how to identify macroinvertebrates to determine the overall health of the stream.

**Station #2: Stream Morphology .....Shubham Datta**

Study stream flow, substrate, bank and stream morphology, aquatic habits and fish assemblages to determine stream quality.

**Station #3: Water Chemistry ..... Angie Bartholomay**

Conduct a chemical assessment of the stream to determine the overall health of the stream

**Data Analysis:** Working evening with a meal

**Evening Activities:** T-shirt making | Journaling



**Tuesday, June 2, 2020**

**Water sampling north of Willow City.**

Collect and test water samples at Willow Creek.

**Lunch** at J. Clark Salyer National Wildlife Refuge

**Presentation by Todd Grant, Wildlife Biologist followed by a tour of the refuge**

- Transportation is provided to Willow City and J. Clark Salyer National Wildlife Refuge. The afternoon will wrap up at 3:30 P.M.

**For More Information contact**

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believes that educating teachers will assist in increasing environmental awareness among students, eventually leading to public awareness on the importance of natural resources and their conservation.



**Natural Resource Institute**

**PART 1:**

**Water**

**June 1 – 2, 2020**

In partnership with North Dakota National Resources Trust and North Dakota State Water Commission

# Natural Resource Institute

## PART 1: Water

**NATURAL RESOURCE PROGRAM FACULTY AT DAKOTA COLLEGE** have designed a 2-credit Natural Resource Management course for K-12 teachers focusing on water. This two day institute is one of several annual trainings which will:

- familiarize you with watershed and stream morphology,
- perform bio-assessment where students will learn how to use benthic macroinvertebrates as indicators of water quality, and
- educate you about the application of chemistry in the study of natural resources which will include lessons on how water chemistry relates to various aspects of our natural world.

### PRESENTERS

**LARRY BROOKS**, Associate Professor of Biology at Dakota College, has extensive background in water quality monitoring and assessment. Larry holds an M.S. in Zoology, owns his own environmental consulting business, and has worked with numerous states, tribal, and federal agencies on projects related to water resource management. Larry also has taught courses in entomology and has experience identifying insects and other invertebrates.



**ANGELA BARTHOLOMAY**, Associate Professor of Science at Dakota College, holds an M.S. degree in Science and has substantial experience teaching science courses and curriculum development. Angela has extensive experience in educational outreach activities, which includes her role as a Project WET Facilitator, Lead Facilitator of Annual Watershed institutes, and facilitator of water festivals.



**DR. SHUBHAM DATTA**, Assistant Professor of Wildlife Management at DCB, holds a Ph.D. in Natural Resource Management and has extensive knowledge and experience of conducting research and educational outreach. Shubham has experience conducting applied field research on biodiversity assessment including but not limited to large and small-mammals, birds, amphibians and reptiles.



**TODD GRANT**, Senior Wildlife Biologist for Souris River Basin NWR Complex holds an M.S. in Wildlife Conservation and has demonstrated leadership that has made notable contributions. Todd completed over 30 field investigations within the Souris River Basin National Wildlife Refuge Complex. He has been recognized internationally as an expert on the geology of grassland-dependent wildlife and prairie ecology.



## June 1 – 2, 2020



### REGISTRATION INFORMATION

Registration fee: \$25 participant

- Includes room and board at Dakota College at Bottineau.
- Receive water test kit, classroom activities and resources.

Graduate Credit: \$50/credit hour

- Participating teachers will earn one credit for attending the 2-day camp and the remaining one credit for submitting online assignment and conducting activities with their students.