

Lake and Stream Ecology/Water Quality Workshop

NeSoDak Bible Camp – Enemy Swim Lake

July 18-20, 2012

The workshop will consist of three options for attendees. The first option is for agency personnel, lake association members and the general public who want to better understand the resources they work with or live by. Those in this group can attend the two day workshop to learn about basic limnology or the three day workshop if interested in learning about basic limnology and bio-assessment of lakes and streams. For teachers and college students there are two options to earn Continuing Education Unit Credits (CEU) and/or under-graduate graduate credit hours. The two day workshop (Thursday and Friday) will earn teachers 1.2 Continuing Education Units. The three day workshop (Wednesday through Friday) will earn teachers 2.0 Continuing Education Units and/or 1 Credit Hour for students and teachers needing under-graduate or graduate credit. Lodging and meals are provided at no cost to workshop participants. Those interested in receiving CEUs and under-graduate/graduate credit however must pay a fee of \$40 for 1 credit hour and \$5 for the CEUs.

The three day workshop will begin on Wednesday July 18th with a unit on stream and lake bio-assessment. Participants in this unit will be provided with invertebrate keys and a set of preserved reference specimens to take home that will include as many taxa as possible. The stream ecology unit of the workshop will include travel to the Little Minnesota River, Chekapa Creek and possibly Sica Hollow for collection of stream invertebrates, demonstrations of sampling equipment, and simple stream assessment techniques and water quality measurements. The lake ecology unit will be conducted at a nearby lake and will include collection of invertebrates from several types of shoreline habitats. Following collection of stream and lake invertebrates, the group will return to NeSoDak to sort, identify, and classify the organisms according to their pollution tolerance utilizing identification keys and references. Participants will use the collected invertebrates to assess the ecological health of the sampled streams and lakes using bio-assessment forms. The goal of the bio-assessment is to provide the participants with the knowledge and tools necessary to teach a unit on stream or lake ecology.

On Thursday and Friday (July 19-20), two day and three day attendees will partake in classroom lectures and demonstrations on basic limnology. Several hands-on demonstrations will be taught that participants can use to demonstrate to others limnology principles such as aquatic photosynthesis, stratification, aquatic food chains, bio-magnification, and the “Lake Game”. Workshop participants will receive two workshop workbooks, a “Healthy Waters, Healthy People” curriculum guide, and construct either a Secchi disk or collecting sieve to take home.

In addition to this workshop, a seven-hour “Project Wet/Leopold Education Workshop” will be held on July 17 at NeSoDak from 1 to 8 pm. Participants will receive the “Project Wet” curriculum guide, and a copy of Aldo Leopold’s “Sand County Almanac”.

The workshops will be limited to 25 people. Participants must make their own travel arrangements to the camp. Travel to and from sampling sites will be provided by the workshop. Please forward a completed registration form to the Day Conservation District by **July 1, 2012**. A separate health and participation form for NeSoDak Bible Camp must be completed and turned in when you arrive at camp.

Participants will need to bring the following items;

Sleeping bag or bedding and pillow

Towels and wash clothes

Personal hygiene items (sun block and insect repellent recommended)

Closed toe sandals, water socks, hip boots or waders for wading in streams and lakes

Shorts or swim suits for wading

Raingear

Water bottle

Optional Items

Camera

Notebook

Entertainment for after hours at camp - I-pods, DVDs (no inappropriate material please)

Laptop Computer (Wi-Fi available)

Fishing equipment (lots of nearby lakes with public access, also fish from camp shoreline)

Note: camp buildings are smoke free, no alcohol allowed anywhere on campus!