

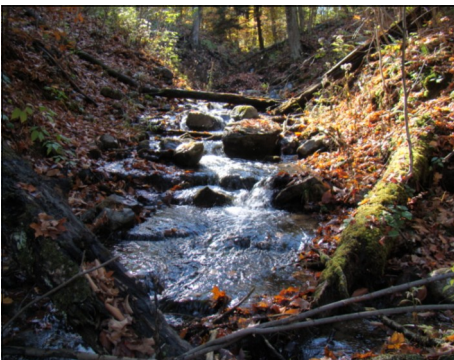
ACTIVITIES OF THE FORT DRUM FISH & WILDLIFE MANAGEMENT PROGRAM : AQUATIC MONITORING



Electrofishing



Brook Strickleback



Tributary of Pleasant Creek in Cantonment Area



Seining on Black Creek



Stonefly larvae magnified on a penny

Fort Drum's Fish & Wildlife Management Program is responsible for all aspects of fish and wildlife resources on the installation. The primary focus is to support and sustain the military mission, but supporting the mission takes many forms. We ensure compliance with state and federal regulations; review proposed actions for potential impacts to fish, wildlife and their habitats; monitor various environmental parameters to maintain healthy ecosystems; promote and manage outdoor recreation; and ensure good stewardship of lands for military training and the public in perpetuity. Monitoring aquatic ecosystems is just one activity of the Fish & Wildlife Management Program.

Fort Drum contains an impressive diversity of aquatic systems, including 8 lakes and ponds totaling more than 400 acres; 2 rivers and 8 main streams totaling more than 90 miles (as well as other streams and tributaries throughout the installation), and more than 15,000 acres of wetlands. With a wide variety of aquatic habitats, Fort Drum contains a diversity of species that depend on these habitats.

To assess aquatic systems on Fort Drum and ensure current or future activities do not impact those systems, Fort Drum is beginning to examine and establish long-term monitoring sites on specific watersheds. (A watershed is an area of land where all of the rain that falls on it flows into the same waterbody). The first watershed to be assessed was Pleasant Creek in 2008. This watershed includes Fort Drum's Cantonment Area and Training Areas 3 and 4.

When examining the health of a stream there are a number of different things to consider. First, the habitat was evaluated to get an idea of the types of animals that are expected to be present. Different types and sizes of streams will have a surprising diversity among them. The water chemistry is also important—this can provide information about the condition of the actual water within the streams. Water quality meters were used to collect information on pH (measuring acidity), temperature, dissolved oxygen (oxygen that is in the water), and conductivity (ion concentration). Finally, aquatic macroinvertebrates and fish were surveyed to determine what is living in the streams.

Macroinvertebrates are the organisms that lack a backbone and are large enough to see with the naked eye (e.g., crayfish, dragonfly larvae, and stonefly larvae). These are caught in a net or seine and often brought back to the lab to be identified. Most fish surveys are done using a backpack electrofishing unit. This device puts an electrical current into the water to temporarily stun fish so they can be easily caught with a net. Each fish is identified, tallied, and released unharmed.

So what can a bunch of bugs, fish, and water chemistry tell us about a stream? Each one of these components represents an important piece of a puzzle, that together create a picture of the overall health of the stream. We are generally looking for specific organisms that are known to be intolerant of pollution, disturbance, erosion, etc. If we have a fair number of intolerant species present, then we can assume that the system is healthy. If we expect to see certain species, but don't, this can mean that there are potentially some important impacts occurring that require more investigation to identify and repair.

Currently samples and data are still being analyzed for the work on the Pleasant Creek watershed and plans are already underway to start work on the West Creek watershed this summer.

Stay tuned for the next installment about Fort Drum's Fish & Wildlife Management Program!