Morrell Creek Monitoring with SLE Junior High
By Patti Bartlett

Seeley Lake Elementary junior high students have been monitoring the water in Morrell Creek for the past six years. They administer the chemical and biological tests and have begun helping with electrofishing and velocity for the past two years. The following paragraphs are excerpts from student writing about the various water activities they have been working on.

The 4 Cs – Bull trout need four things to make a habitat livable for them. One thing they need is Cold water, the colder the water, the more oxygen it can hold. Another thing they need is for all lakes, rivers, and streams to be connected. Streams should be Connected to lakes, rivers, and larger streams so the fish can spawn. Also they need their habitat to be Complex. It needs to have a mixture of deep pools, rapids, undercut banks, and logs in the water – this causes ripples, which are healthier for the fish. Lastly they need Clean, clear water. Clean water is healthier for the fish and the macroinvertebrate's gills. These are the four things Bull trout need in their habitat to survive. Katelyn Sly

Electrofishing – The backpack electrofisher generators are either battery or gas powered. They have a two-meter long pole that usually has a metal ring on the end of it. The cathode is a three-meter long braided steel wire that trails behind them. A switch on the anode pole operates the electrofisher. Electrofishing relies on two electrodes, which deliver a current through the water, and stuns the fish. The current runs from the anode to the cathode making a high voltage potential. At least two people are needed for an effective electrofishing crew – one to operate the anode and another to catch the stunned fish with a dip net. Electro fishing results in no harm to the fish, which return to there natural state in as little as two minutes after being stunned. Alex Pierson

Whatever fish is close to the electricity gets stunned and follows the electricity from the electrofisher. Then Ladd (Knotek) would move the electric ring and get it near a netter and someone would try to catch the fish. Then we put the fish in a bucket to hold them. Lana Higgins

All the fish that the Junior High caught were measured in millimeters, and weighed, except sculpin. When the fish are caught, they are placed in a bucket with a mild anesthetic used by a fisheries biologist, which calms the fish so it can be measured and weighed. Once the fish has been measured, weighed and identified, it is put in the netted cage in the stream. There the fish recuperate and get energized. Then they are released back into Morrell Creek. Ibby Lorentz

There are many ways to collect biological data in streams. The junior high uses the "Streamside Shuffle" method. We have two people with waders on and a net. One person stands in front of the net facing down stream and they move their feed side to side in the rocks for a minute while the other person stands in front of them holding the net. After one minute they switch positions. After doing this method, we empty what we have in the net into a clear terrarium and examine what we have collected. Shane Lindemer

(Benthic macroinvertebrates are organisms without backbones that are visible to the naked eye and live in or near the bottom of the stream.) Some macroinvertebrates indicate healthy streams and rivers, but some don't. Stoneflies and mayflies are two of the most common types of macroinvertebrates. They are indicators of healthy streams, as well as caddisflies, and others. There are a few exceptions to these rules; crayfish and damselflies can be in both healthy and unhealthy streams. Leaches, some mussels and some snails are indicators of unhealthy streams. Keaton Johnson

Water quality and fish population monitoring are just a couple of things that the SLE Junior High students are involved in at the Morrell Creek Riparian Classroom. The MCRC was created four years ago as a collaboration of partnerships of many individuals, organizations, and agencies. This group of partners – Seeley Lake Elementary School, USFS, MT FWP, Clearwater Resource Council, US Fish and Wildlife Service, Big Blackfoot Chapter of Trout Unlimited, Blackfoot Challenge, Missoula County Conservation District, and Patti Bartlett have come together to give our students a place-based educational experience in restoration work. To date, we have hauled 233 dump truck loads of wood chips off of the two acre site, planted native grasses and over 300 trees and shrubs, uncovered and are restoring a wetland, created a classroom space with tables and benches, and are currently working on interpretive signage and tree and shrub identification signage which will be installed in the spring of 2013. Through this experience, students were able to learn about a variety of economic, environmental, and social topics in addition to their core educational goals in math and science. It is our goal to foster a sense of place, better stewards of the land, and a sense of pride in a job well done for our students.