

in the bog, and compared it with a local marsh, bog snow, tap water, and rain water. The students saw green-winged teal using the bog as well as larch trees just beginning to green up. It was too early to see carnivorous plants, but the millions of mosquito larvae in the bog water were a true indication of what kind of "buggy" spring/summer to expect in McGrath.

A day was spent by ROS Skinner at Clam Lake (located up the Takotna River from McGrath) with the McGrath fifth grade class during their first week back at school in the fall. Wetland ecology topics were discussed and the lake was sampled for invertebrates. The favorite "bugs" caught were the caddis fly larvae with their distinctive and unique cases. While completing her four-month student teaching assignment at the McGrath School, ROS Skinner was able to teach a one-hour a day science class to the McGrath second grade. Subjects covered included the identification and uses of local plants as well as the ecology of local winter and summer birds in Interior Alaska. Science classes taught at the high school level included past and present gold mining practices on the headwaters of the Innoko River, which flows through the Refuge, as well as uses of topographical maps and compasses. Middle school classes included an in-depth study of Alaska's invertebrates, as well as field trips to local bogs, marshes, and an upland white spruce/aspen forest.

AT Collins spoke to several school groups over the year on local history. McGrath students call on AT Collins every year to ask questions on the history of names in the area, as well as people who came through here at the turn of the century. She accompanied the fourth grade class on a bus tour of the town so they could add historical footnotes to their table size paper mache model of McGrath. She also spoke to a group of 24 students and teachers from visiting high school basketball teams about the local history of McGrath and the functions of the Refuge.

Three of the four Challenge Cost Share Grant Proposals submitted in the fall of 1992 were funded in December of 1992. The three proposals funded were: a second McGrath Earth Week Program (\$2500); a natural garden of local plants for the Refuge Headquarters (\$1350); and the establishment of a residential EE Science Camp on the Refuge (\$27,500).

McGrath Earth Week Program:

The Refuge, in conjunction with the McGrath School, put together the second annual week long Earth Day celebration (May 10-14). Participants included the McGrath School student body, the McGrath School teachers, local volunteers, and staff members from the following local, State, and Federal organizations: Innoko National Wildlife Refuge (NWR); National Weather Service; Alaska State Department of Natural Resources (ADNR); Four Rivers Counseling Infant Learning; McGrath Native Village Council; and Alaska Department of Fish and Game (ADF&G).

Weekly planning meetings with McGrath teachers for the Earth Day Program began in January. Each of the elementary and middle

school classes (Head Start through 8th grade) planned a project idea related to the rainforest (1993 National Wildlife Week) or wetlands. Because students of all ages learn best by hands-on activities, the teachers were encouraged to select projects in which the students themselves could participate. Teachers were also encouraged to create unique and unusual projects so that students could see how events in the rainforest can affect Alaska's people and wildlife. We also wanted students to gain an appreciation of area wetlands and their importance to wildlife as well as themselves and their families.

Participation from the high school was greatly improved over last year with the addition of the english classes writing environmental essays. The students wrote and put together a collection of environmental essays which were read by community volunteers on KSKO, McGrath, and repeated on KIYU, Galena. Other high school projects included student generated computer hypercard stacks on Alaskan wildlife, a high school black bear collaring science project, and an Alaskan environmental-style Monopoly game. Materials needed to complete the projects were purchased through the Challenge Cost Share Grant. In all, approximately 130 students and 10 teachers participated. Along with supplies needed for each of the class projects, grant monies were also spent on purchasing two radio-telemetry bear collars for the McGrath High School black bear collaring study, now in it's second year.

Because of last years overwhelming success of the Earth Week student projects, the teachers requested longer periods of time be spent in each of the classrooms visiting each other's projects. This left time for fewer outside volunteer demonstrators. A preliminary list of possible demonstrators was put together by the teachers in February and ROS Skinner contacted each one and put together a one and a half day program of all volunteer demonstrators.

A final schedule was worked out so that each class could visit all the classrooms to view the projects. The student-generated projects were presented to each class in 30-40 minute blocks. The younger students especially enjoyed being peer tutors to their older siblings and friends during these demonstrations. For a short while, they were the ones with the most knowledge on their particular subject and they were quite proud to share this new knowledge. Although we again had invited parents and other community members to also participate in the class demonstrations, very few actually attended.

The final schedule allowed for volunteer demonstrations on owl pellets (Innoko NWR); environmental games and a movie (McGrath Bahai's); southeast Alaska rain forests (ADF&G); environmental music and singing (National Weather Service); native story telling (McGrath Native Village Council); rainforest forestry techniques and ecology (ADNR); and wildlife habitat puzzles and riddles (McGrath Little Dippers Head Start).

The students were each issued an Earth Week 1993 passbook which they individually stamped with a class stamp after they had participated in each project. They also added a favorite owl pellet bone to their passbooks from the Refuge demonstration. Refuge staff took pictures all week of the activities so a nice collection of photos record the week's work by the students and participants.

This year's program again included an art contest which was judged by volunteers from the Four Rivers Counseling Center. The judging was difficult as they had quite a selection of Alaskan wetlands and tropical rain forest pictures to choose from. The art work decorated the walls of the school commons until year's end, with the winners receiving official recognition as well as ribbons.

The Earth Week celebration was enjoyed by participants and observers alike. The students were enthused about their projects and took great pride in sharing them with their fellow students. The teaching staff put in a lot of extra work and time and each commented that it was well worth all the effort. The Refuge sent letters to all of the teachers and demonstrators thanking them for their enthusiasm and help in putting together an outstanding program. Plans are already in the works for Earth Week III for the spring of 1994.

The following are subject areas of each of the projects and demonstrations:

Building a five foot diameter beaver lodge complete with tunnel by which students could crawl up into the lodge and sit with stuffed beaver and collected beaver sticks from the river.

Constructing an eight foot tall dome containing a tropical rain forest complete with rubber snakes, poison frogs, and a rain forest soundtrack.

A collection of rain forest foods and drinks for the students to try.

A lesson on food chains both in Alaska and the rain forest.

A lesson on Alaskan carnivorous plants and bogs.

A play about loons adapted from *The Alaska Loon Kit*.

Student generated computer stacks involving Alaskan animals.

A series of environmental essays compiled into a book *Impressions from Nature* read by area volunteers on KSKO McGrath and KIYU Galena.

A student designed environmental game based on Monopoly.

A student demonstration on rain forests and a fundraiser to buy an acre of rain forest through The Nature Conservancy *Adopt An Acre Program*.

A bear collar and radio telemetry demonstration including the receiving of a signal from a locally collared bear.