

In the Winter 2000 issue of our newsletter, we invited readers to submit proposals for projects that involve school children in field research using our PTTs. Four school groups were awarded a total of eight transmitters for their research. Jim Watson of the Washington State Dept. of Fish and Wildlife, working with Liberty Bell Junior-Senior High School, is the first to report results back to us.

## Taking the Classroom into the Field: Hawk Migration at Chelan Ridge, Washington

Submitted by Jim Watson, Kent Woodruff, and Mike Putnam

Liberty Bell Junior-Senior High School, located in north-central Washington near the town of Winthrop, lies in the shadow of a major hawk migration corridor along Chelan Ridge. Although over 2,000 hawks have been counted annually during the fall for a number of years, little is known about their long-range movements. Because the US Forest Service encourages public education and appreciation of hawk migration at the ridge, it was the ideal setting for seventh-grade students to participate in the field capture of hawks, learn about satellite telemetry, and track hawk movements on their own web page.



Chelan Ridge was the ideal setting for students to participate in the field capture of hawks and learn about satellite telemetry.



Students get hands on experience trapping and banding a Cooper's hawk.

Students had first hand experience in the capture, banding, and handling of raptors.

### Telemetry

Two 18 gram solar PTTs were selected to deploy on adult Cooper's hawks, northern harriers, or northern goshawks. Migratory movements of these species are of interest at Chelan Ridge since they account for a high proportion of hawks that pass over the ridge. The recent advent of small PTTs made the possibility of following Cooper's hawks and harriers especially interesting, but required capturing birds of adequate weight. Late into the migration season, an adult female northern harrier and a juvenile northern goshawk were chosen for study. Migration of northern harriers



A telemetered adult northern harrier is ready for release.

Photos courtesy of Jim Watson and Kent Woodruff

### Field Day

The project began with a school bus climb up the narrow mountain road to 1,800 meters. This was enough to get the students excited for an early October day in the field with snow already showing on the surrounding peaks. The hawks and eagles were moving when the students arrived. A golden eagle soared past on its way to winter areas right as the students got off the bus!

Students then got a close hand view of captured raptors, including one of the target species for the study, the Cooper's hawk. For most students this was the first time to see a raptor at close range, generating a great deal of interest and excitement over the prospect of monitoring the long-distance movements of a bird they had handled. Although on this day no Cooper's hawks of adequate weight were captured for telemetry, the stu-

dent migration of northern harriers has not been studied with satellite telemetry, but they are ideal subjects because of the high aspect ratio of the species (more efficient wing for continuous soaring and gliding and generous exposure to solar rays), and the associated very low wing loading (20 to 30 N/square meter) which makes them just about the most efficient raptor in terms of flight energetics. Northern goshawks are forest dwellers, but during migration they are exposed to adequate sunlight to operate the solar PTTs.

### The Classroom

The enthusiasm generated in the field set the stage for classroom discussions. After demonstrating how to download and interpret Argos data and how to map geographic coordinates, students participated in a contest to pick the winter destination of the northern har-

Continued on page 6