Mapping Ferruginous Hawk Nest Sites Using GIS and GPS - Simple Ways to Map Wildlife Point Features[TWS]

Kristi DuBois
Wildlife Division, Montana Fish, Wildlife and Parks, P. O. Box 6610
Great Falls, MT 59406

New GPS and GIS equipment and software have become affordable to many wildlife professionals, yet barriers to the use of new techniques limit their use by management biologists. One of the barriers is the lack of time to learn how to use complex equipment and software. I will describe how I used an inexpensive Garmin GPS unit and ArcView to map ferruginous hawk nest sites and other wildlife point features. The Garmin GPS 45 unit was used with an external antenna taped to the overhead bar of a Supercub airplane to track the flight path of aerial surveys and mark locations of ferruginous hawk nests. The track and waypoint files, with locations recorded as UTM coordinates, were downloaded into a computer, then imported into dBase III Plus. These files were brought into ArcView and overlaid on base layers that were projected into the UTM coordinate system. The system enabled generation of a map depicting the areas surveyed and the nests located, within 1 hour of the completion of the flight. Flight time near nests was minimized by elimination of the need to circle around the nest area while attempting to locate the nest on a map. Uncorrected GPS locations were accurate to within approximately 100 to 300 meters (depending upon satellite configuration and selective availability), which is sufficient for aerial locations from an airplane. This system is adequate for much of the survey work conducted by wildlife management biologists, yet simple enough to be used without extensive training in GIS software.