

any people think this handsome yellow and blue-gray songbird should be the state bird of Michigan,

as it nests only in select areas of northern Michigan, whereas the American robin, the present state bird, is abundant in many other states. But regardless of whether it ever achieves this distinction, many are interested in conserving the endangered Kirtland's warbler, and a three-year banding project proves this.

The U.S. Geological Survey's Biological Resources Division recently completed the research project in jack pine stands near Mio and Grayling. What make the Kirtland's warbler so unique to Michigan are its habitat requirements. Not many birds are this picky. This species requires young jack pine forests growing on a special type of sandy soil, known as "Grayling sand" and found in northern Michigan, for nesting. The warbler prefers to nest in forests that are about 80 acres or larger with many grassy openings. It also prefers to nest in groups and builds its nest only on the ground among grass or other plants like blueberry bushes.

The habitat is even more specific in regard to tree size. The trees in the nesting area must be between five and 16 feet tall, about Christmas-tree sized. The trees must be spaced to allow sunlight to reach the ground. This light helps keep the lower branches alive and bushy and provides the Kirtland's warbler with cover from predators. When the trees become too tall, the upper branches block the sun and the lower branches die. Grasses and other plants become less dense. There no longer is suitable nesting habitat for the warbler.

In the state's early days, natural fires created young jack pine stands, as this pine's cones only open when exposed to fire. Now that humans suppress fires, fewer of these jack pine stands remain. A habitat recovery plan was created in 1981. Since then thousands of acres of jack pines were planted and continue to be maintained specifically for the Kirtland's warbler.

Wildlife management for the bird includes the banding project. Fine mesh nets that look like badminton nets are set up along trails in certain sites. They are placed in a north-south direction so the sun does not shine on the nets, which would make them easier to see for birds that then might avoid being netted. The trees in a plantation are planted in rows that are curved to create the necessary openings. The nets are placed at a certain height above the ground so as not to attract ground-loving mammals like rabbits, chip-

# Warbler Watchers

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Michigan Out-of-Doors

munks, and ground squirrels, feisty animals that can be difficult to remove from a net.

Only experienced bird banders could participate in this project, as the warbler is an extremely endangered species, and no one wanted to lose birds in the process of handling. Nets were set up in places where researchers knew they nested. After erecting the nets early in the morning, researchers checked the nets every 20 minutes so a warbler would not be



enmeshed longer than was necessary. (Non-warblers, or "trash birds" as the researchers nicknamed them, also would become entangled, and they were released

swiftly. However, Kirtland's warblers were released at the exact site where they were caught, so juveniles could find their

parents easily. Little is left to chance when dealing with an endangered species.)

After a bird was caught in a net, it fell into a pocket formed in the net. After the day's banding was completed, researchers took down the nets completely so no birds accidentally were caught during non-banding times and were kept in the net overnight.

"Kirtland's warblers are very territorial," said Burr Fisher, a researcher with the U.S. Fish and Wildlife Service in East Lansing. "In June when we came in to catch males, we came in with one net. We then played a recording [of the bird's song] right underneath the net. The male thinks another male is intruding into its territory, and flies into the net, and then he's still thrashing. He's pretty intense about it."

"Fair-weather biology" is practiced in this bird-banding project. If it were too windy or rainy, banding would not take place that day. That was done not for the biologists' benefit, but the warblers'. Too much wind, for instance, could cause a bird to become too tangled in a net, causing it stress as a researcher removed it.

Once a warbler was removed from a net, a researcher attached a tiny aluminum band to a leg. Each leg band had its own unique number. Three additional colored plastic leg bands, arranged in a special sequence, also were attached so those individuals could be identified from a distance with binoculars. Information was recorded regarding the age, sex, and weight of the birds and age and location of the jack pine habitat from which the bird was caught.

Approximately 250 to 260 birds have been banded since the project, which was partially funded by the Michigan National Guard, began in 1995. A Kirtland's warbler captured in 1996 had been banded in 1986, so the bird was at least 10 years old (that's at least 20 trips between Michigan and the warblers' wintering grounds in the Bahamas). That's the oldest bird of this species ever documented.

Cameron Kepler of the Geological Survey's Biological Resources Division said that through the project researchers discovered that Kirtland's warblers stay in Michigan longer than previously was thought. Some birds have been netted as late as October, but most are gone from northern Michigan and on their way to the Bahamas by September.

Kepler said that 70 percent of the banded warblers return the next year to breed, while 30 percent of the chicks make it back. "With that kind of survival, the

population can sustain itself or even grow," he remarked.

Research conducted from 1984 through 1992 showed that the Kirtland's warbler decline was attributed to the lack of suitable nesting habitat in Michigan. The number of banded warblers leaving the state in autumn was compared to the number of banded warblers returning the following year. This data was compared to other non-endangered songbirds. Similar return rates between the two groups of species indicate the Kirtland's warbler did not suffer losses from migration or on its wintering grounds but from a shortage of nesting grounds. Now recovery efforts can focus on habitat management in northern Michigan. This is a relatively easy task; the warbler can be studied here because of its small, specialized habitat.

A jack pine habitat truly is distinctive. A single jack pine to an observer may not seem like much. It is more scraggly than a white pine or a red pine, and its needles are short and stubby. However, put many jack pines together and you have a unique habitat. The banding area near Mio, for example, is the home to British soldier lichens (named for their red color, or "redcoats"), blueberries, a fragrant plant called sweet fern, and pin oaks. A total of 120 bird species has been caught in nets, so a wide variety of avian life is found here. It also is an especially good habitat for migrating birds as the site is undisturbed and provides good cover. Anyone who's heard the flutelike singing of a hermit thrush early in the morning can testify how much little things like that can add to the ambiance of a place.

A total of 726 singing males were counted during this year's warbler census. (Only the males sing, to attract females and to establish territory.) This is the second all-time high since censusing began in 1951. The highest count was 765 in 1995. The number of warblers in the state is assumed to be double the number of singing males. A record 19 singing males this year were found in Delta, Schoolcraft, and Marquette counties in the Upper Peninsula. Even more exciting, the production of young was confirmed in the U.P. also in 1996.

The banding research provides critical information used to create a Kirtland's warbler population model, which is a type of computer simulation. The model will help biologists evaluate different management strategies and to make knowledgeable, timely land-management decisions. For example, they can determine if one larger habitat area would be more beneficial to warblers than several smaller ones. Biologists could run a population model for a 50-, 75-, or 100-year time span. The model could predict the future size of a population and the birds' probable move-

ments.

What's so important about saving a tiny bird? For one thing, the bird is unique to Michigan, so it can give this state—particularly Crawford, Oscoda, Ogemaw, and Roscommon counties—something with which to identify itself. On the county courthouse lawn in Mio, for example, a three-foot-high statue of the Kirtland's warbler is displayed, which is accurately painted and encased in glass, resembling a shrine. Not many courthouses in the country have a huge bird statue on their lawns.

Economically speaking, there is not nearly as much opposition to conservation efforts for the Kirtland's warbler now as there had been in the past. In fact, it can



**Researcher Cameron Kepler said the banding project showed the birds stay in Michigan as late as October.**

be seen as a boon to the area's economy. "That's a big sell for this bird," Fisher said. The 48-mile self-guided road tour that features jack pine-warbler habitat is very popular, as are walk-through tours at recovery sites near Grayling and Mio that take place between May and July. Many birders attend these tours to add the endangered warbler to their "life lists," which in birding lingo means a list of all the bird species seen in a lifetime. Special snags were erected on the sites so visitors could see the rare birds perched on them; otherwise, it would be difficult to spot them among the dense jack pine stands.

"Literally, people come from all over the world," Fisher said of the walking tour. "Several years ago, I was looking at the records and there were people from seven different countries."

The annual Kirtland's Warbler Festival, held in May at Kirtland Community College (named after the famed bird) in St. Helen, is another way the bird is celebrated. Partners In Protecting the Jack Pine Ecosystem was formed to host this event and provide environmental education opportunities to promote the natural resources found in the jack pine and Au Sable River ecosystems.

All these visits to northern Michigan bring in folks who spend money on motels and hotels, food, and gasoline, all of which contribute to the local economy. Local motels even have developed special tour packages and include warbler information in guest check-in packages. This is an example of "ecotourism." The Kirtland's warbler can be a valuable marketing tool.

Unlike the bitter battle between loggers favoring jobs and environmentalists wanting to save the spotted owl and old-growth forests in the western United States, commercial loggers have no problem with Kirtland's warbler recovery efforts. The bird nests in areas that are in and near communities where logging is an important industry, but the two are compatible. Warblers only use jack pines for 16 years. After that, the trees will be allowed to grow until they are 50 years old, and then they will be harvested. The wood is used to make pulp, and particularly is valuable in the making of shiny paper.

This was the final year of the three-year banding project. It could continue if funding is added. In any case, information gathered from the project will continue to be used in warbler conservation.

Fisher said if the state population increases to 1,000 nesting pairs, the bird will be downlisted from an endangered species to a threatened species, which means it still will be monitored but will be a lower priority in a kind of "triage" system.

No matter how successful the recovery efforts are, don't expect the Kirtland's warbler to be as common as, say, that ubiquitous state bird of Michigan, the robin. "Because of its habitat requirements, it probably never will be abundant," Fisher explained. Besides, he added, any catastrophic event, such as a storm in its wintering grounds, could wipe out a great percentage of the precarious population. "You'll never have them everywhere," he stressed.

But maybe that's what makes the Kirtland's warbler so special to so many people. After all, if the cliché "familiarity breeds contempt" is true, this bird is not contemptuous at all.

