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## Michigan's Discriminating Troubadour

Home | Products & Publications | American Forests Magazine | Archives | Winter 2002 | Tree Deficit

### As American Forests prepares to plant its 20 millionth Global ReLeaf Forests tree, a look at three of its success stories. First Kirtland's warbler:

Springtime in the jack pine plains of Michigan always seems to warm a few degrees when a grey-over-yellow feathered native returns from the Bahamas. With a burst of lyrical song, male Kirtland's warblers establish command posts atop slender young pines, each tiny migrant summoned home to the Lower Peninsula by the fires of genetic renewal and an ageless will to survive.



Sweet-voiced and fragile, the endangered Kirtland's warbler requires specialized habitat that centers around jack pine.

The Kirtland's warbler evolved as a specialist. The bird's breeding range is limited to a particular sandy stretch of jack pine plains. Within that the criteria for successful renewal remains tightly entwined in an intricate environmental web. The Kirtland's specific nesting prejudices demand not just jack pines, but jack pine forest in the process of rebounding from what some might term natural disaster. Yet to the warbler it just looks like home.

These birds prefer to nest within a certain successional stage of regenerating woodland. It's the early stages of regrowth that provide the perfect habitat-young trees tall enough to offer singing stations yet with ample low branches for cover and feeding plus a thick herbaceous understory for nest cover. As the trees age and block out sunlight needed to produce the required lush undergrowth, the warblers go elsewhere.

In presettlement days a satisfactory elsewhere wasn't all that hard to find. Historically the jack pine plains were regularly swept by wildfire, resulting in a patchwork mosaic of uneven growth. Fire allowed jack pine seeds to germinate, and the cycle of forest succession continued unabated, replete with warblers swollen with song.

However a more civilized Michigan ultimately spelled trouble for the Kirtland's race. The warbler was unable to adapt to any other than this narrow reproductive niche, a niche that began to disappear due to roads, farms, and fire suppression.

No fires meant no young jack pine forests and diminished nesting success. At the same time the nest-parasitizing cowbird moved east into Michigan, laying eggs in the remaining Kirtland's nests and hampering successful reproduction efforts even more.

The rate of decline was drastic, resulting in the Kirtland's becoming one of the world's rarest birds-and an immediate candidate for the Endangered Species Act passed by Congress in 1973.

Recovery plans called for the reestablishment of crucial nesting habitat. It also called for cooperation between agencies charged with managing the jack pines, along with the corporations who profit from harvesting them.

Fortunately for the Kirtland's warbler, people from all walks of life were willing to work together to save this forest sprite. Biologists from the Michigan Department of Natural Resources teamed with those from the U.S. Fish & Wildlife Service and the U.S. Forest Service. At the same time, scientists appealed to local logging interests for additional help.

Essential to survival was an extensive effort to trap and euthanize cowbirds, an effort that has been in progress since the early 1970s. Habitat manipulation began in 1976, when mature pines were harvested for wood chips and paper and then seedlings planted to duplicate, within a matter of just a few years, the scruffy 80-acre forest patches sprinkled with numerous sunny openings thick with grass and brushy cover that the warblers desire.

These restored woodlots continue to serve as prime nesting habitat as the trees age. Jack pines from around 4 to 16 feet tall are ideal, and the areas remain productive as warbler nurseries for up to 18 years. Then the understory sunlight begins to dim, the groundcover grows spotty and the jack pine's lower branches begin to die.

At this biological juncture the warblers waste little time in moving to another young forest also carefully manicured by biologists and forest managers. In time the maturing trees in the former nesting area are harvested, new seedlings heeled in, and the cycle comes full circle.

Tools employed for the benefit of the warbler may seem minimal, but the labor is not. Professionals and volunteers alike spend countless hours burning, planting, and seeding jack pine and collecting cowbirds. Fortunately the effort has been right on target, because within a few years following artificial habitat manipulation the warbler population stabilized. Since 1986 it has increased proportionately, with the number of acres of suitable habitat awaiting when the migrants arrive.

"This year's spring count of 1,085 singing males is the highest ever," says Jerry Weinrich, biologist with the Michigan Department of Natural Resources. The new high figure contrasts with the low number of 500 singing males inventoried in 1951.

Weinrich has spent 29 years battling for the recovery of the Kirtland's warbler, a task that requires him to monitor more than 150,000 acres of mostly state and federal lands.

"The recovery program has had a positive impact due to a spirit of cooperation between state and federal agencies, commercial loggers, volunteer organizations, and the military, which allowed us to manage for the Kirtland's on their lands," Weinrich says.

"I've been really proud over the years to be a part of a successful effort that continues to result in additional breeding pairs. I think we've shown that private and public interests can work together to save an endangered species, and that's fulfilling. Most of all, I know we're committed to long-term success."

Hopefully someday soon the Kirtland's population will include at least a stationary 1,000 nesting pairs, and federal officials can consider removing the dapper songster from the endangered list. Even then the birds will bear watching and specialized habitat regularly maintained to insure populations don't plummet again.

But for now conservationists can be proud that their contributions have made a difference. American Forests supplied critical jack pine plantings in Michigan's Au Sable State Forest in 1990-the organization's first Global ReLeaf Forest planting site. Temple Campground in Clare County received seedlings for a second project in 1996.

Since then the Kirtland's warbler, a mighty flier not much bigger than a bur oak acorn and a virtuoso vocalist that literally twitches with a passion for life, has left the balmy Bahamas in a little better numerical shape than the year before. It continues to keep an appointment with a late northern spring, in a landscape that must remain in constant ecological flux just to measure up to the demands of its most famous tenant.

One thing's for certain-as long as people and wildlife strive to coexist in Michigan's Lower Peninsula, the Kirtland's special needs will always remain critical. Topping the list is a particular pine tree a few feet high, spaced just right to allow enough sunlight through the canopy to energize understory shrubs and grass, along with low limbs for foraging and concealment. Then, after a few more years, it needs fire to release seed from cone, reduce mature tree to ash to nurture the sandy soil, and then rains to ensure vigorous renewal. Once it was the hand of God that obliged with a bolt of lightning. Now the bird has found a closer angel in the caring hands of man.

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