

## ESC America's Top 10

General Information		Please Use this Column to Provide the Requested Information	
Organization & web address		Center for Biological Diversity <a href="http://www.biologicaldiversity.org">http://www.biologicaldiversity.org</a>	
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Report Questions			
Do you have photos that can be used in the report?	Yes		
Will you want printed reports?	No		
If your species is selected, will you use the opportunity to organize around the species and/or publicize its plight?	Yes		
The Species & Its Status Questions			
Common name, genus & species		Kirtland's warbler ( <i>Dendroica kirtlandii</i> )	
Conservation Status		Endangered	
Current population size		1,805 pairs in 2011	
Has the species been delisted? If yes, when? Was the recovery on time? (Skip questions 17+18.)	No		
If no, does the species have a recovery plan?	Yes		
If it does have a recovery plan, what is the projected downlisting and/or delisting date?		delisting goal is set at 1,000 pairs	
Background Questions (for the report profile)			
Geographic range		FL(m), GA(m), KY(m), MI(b), NC(m), OH(m), PA(m), SC(m), WV(m), WI(b) [key: (b) currently breeds, (m) migration route]	

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Habitat	Kirtland's warblers nest in grasses and shrubs below living tree branches in young jack pine forests [1]. This early seral stage habitat was historically maintained by fire [2]. The warbler first appears in an area about six years after a fire when the new growth is dense and is about 1.5 to 2.0 meters (5.0-6.5 feet) high. After about 15 years, when the trees are 3.0 to 5.0 meters (10.0 to 16.5 feet) high, the warbler leaves the area.
Primary diet (if applicable)	Insects and small fruits
<b>Public Engagement Questions (Please explain why the species is interesting, why it matters, why decision-makers + the public should care.)</b>	
Interesting facts about the species	Kirtland's warbler was described in 1851 and the first nest was discovered in 1903 in northern lower Michigan [1]. Until 1996 all known nests were within 60 miles of this site [1]. The Kirtland's Warbler is the rarest warbler in nesting North America. In the breeding season, these birds are limited to the jack pine habitat of north-central Michigan. The bird might well have gone extinct if not for intensive habitat management and cowbird control measures. It is also a neotropical migrant, spending the winter in the Bahamas.
Additional background information to complete the species profile in the report.	Its nests generally are concealed in mixed vegetation of grasses and shrubs below the living branches of five to 20 year old jack pine ( <i>Pinus banksiana</i> ) forests.
What are the most important messages that should be communicated about this success story?	Federal agency (FWS) successfully cooperated with state and local government agencies as well as NGOs to recover the Warbler
Outline and describe the <b>existing threats</b> that might impede its recovery, e.g., new threats to its habitat, etc. Include any potential political threats, e.g., a Congressional delisting before its time. Cite any substantiating scientific studies.	Lack of crucial young jack pine ( <i>Pinus banksiana</i> ) forest habitat and the parasitic brown-headed cowbird ( <i>Molothrus ater</i> ). [National Forest Service] The cowbirds lay their eggs in warbler nests. The warblers then raise cowbird young instead of their own.

### Criteria-Specific Questions

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Detail the ecological and scientific importance of the species. Note if it is a keystone species. Describe its role in the biodiversity of its environment. Cite any substantiating scientific studies.

According to Smithsonian National Zoological Park: Kirtland's are habitat specialists with very exacting requirements. The species avoids competition with other bird species by using a habitat that other warblers don't use. Insects that feast on the new pine shoots, most notably the jack pine budworm, are plentiful but few other birds are there to eat them.

Provide information on any additional benefits the species provides, such as economic, medicinal, or ecosystem services.

Some tourists are attracted by the Kirtland's warbler to Northern Michigan. 835 visitors from 38 States, Washington D.C., and 6 foreign countries attended U.S. Fish and Wildlife Service and Forest Service Kirtland's warbler guided tour programs in 2011.

### Judge's score for importance of species.

What recovery actions have been taken for the species?

Between 1957 and 1962, the U.S. Forest Service and the Michigan Department of Natural Resources created four warbler management areas within state and national forests [1]. The population increased slightly to 502 pairs by 1961, but then declined to its lowest point of 201 pairs in 1971 [3]. By 1973, the Kirtland's warbler management areas contained 53% of the nesting population [1]. During the mid 1970s, some 134,000 acres of jack pine forest in 24 units was designated for Kirtland's warbler management on state and national forests. Additional lands were added through the 1990's to bring the total public land specifically managed for the Kirtland's warbler to more than 150,000 acres [1]. These forests are managed by logging, burning, seeding, and replanting on a rotational basis to consistently provide approximately 38,000 acres of productive nesting habitat [1]. In addition, in 1972 the U.S. Fish and Wildlife Service, in cooperation with the U.S. Forest Service, Michigan Department of Natural Resources, and the Michigan Audubon Society, initiated a program to control cowbirds which had been causing drastic declines in Kirtland's warbler reproductive success [1]. An average of 4,000 cowbirds per year have been removed from Kirtland's warbler breeding areas [1].

Why were those recovery actions successful? If there are or have been multi-agency and/or public/private collaboration to protect the species, please describe.

Yes (see population increases)

US Forest Service, Michigan Department of Natural Resources, FWS, Michigan Audubon Society all work together (see recovery above)

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Please detail the species' recovery. What increases have there been in the size of the population and in the number of populations?

If there is political support for the conservation of the species, please explain.

Are there actions that need to be taken by government officials and/or NGOs to continue the recovery?

Are there additional actions that individuals can take to continue the species' recovery?

The total population remained at about 200 pairs through 1989, began to increase in 1990, and grew steadily to a preliminary count of 1,701 territorial males in 2007 [1, 2, 4, 5]. 1,679 of the 2007 territories were in Michigan, three in Wisconsin, and one in Ontario [5]. This marked the first reported nesting in Ontario since the 1940s [4] and the first ever reported in Wisconsin [5]. At least one of the Wisconsin territories was on Plum Creek Timber Company lands in the central part of the state [4]. Currently there are 1,805 pairs.

Yes, partnerships have been pivotal in managing habitat to provide for the specific habitat needs of the warbler.

Current management actions need to continue. In 2011, 52 cowbird traps in Michigan's Lower Peninsula captured 1,625 cowbirds, aiding in efforts to prevent nest parasitism. A total of 153,365 cowbirds have been trapped during the 40 years of this program.

Management of jack pine forest continues in the Huron-Manistee National Forest, Hiawatha National Forest, U.S. Fish & Wildlife Service lands, and Michigan State lands. A total of 6,552 acres of jack pine habitat were regenerated through the combined efforts of the Michigan Department of Natural Resources, U.S. Forest Service and U.S. Fish and Wildlife Service, in 2010.

**Judge's score for recovery.**

***Final Judge's Score***

0

**Please submit to Nancy Welch at [nwelch@endangered.org](mailto:nwelch@endangered.org) by July 3, 2013.** Thank you for participating in the 2013 Top Ten Report.