This Land is Their Land

A New Report Tabulates the Value of Public Lands for Birds

Our national landmarks make a pretty good argument about the value of public lands. Just standing in a wild place like Yosemite or the Great Smoky Mountains can thrill us to our core. But have you ever wondered why we as a nation own out-of-the-way parcels all over the continent—say, Michigan pine forests, Colorado sage, or California oak woodlands? If you have, you'll find more than 300 specific reasons published in the *State of the Birds 2011* report.

This monumental study combines data about land ownership, habitat, and bird occurrences to put hard numbers on the degree to which birds depend on publicly managed land. Coordinated by the U.S. Fish and Wildlife Service, the report gets those numbers by combining detailed land data from the U.S. Gap Analysis Program and bird occurrence data submitted by people who use our eBird project (see How Do You Measure It?).

In all, the report concludes that public lands, which encompass 36 percent of the nation's area, harbor at least 50 percent of the breeding distribution of more than 300 of our nation's most habitat-specific bird species. Because public lands are largely protected from development, and they can be managed in large parcels for specific objectives including conservation, they offer a safety net for many of the species that live there. This illustration highlights just a few examples.

Read the full report: www.stateofthebirds.org

How Do You Measure It?

The *State of the Birds 2011* compiled massive amounts of data to find out how much of a species' distribution falls on publicly owned land. To get ownership statistics for each of 300 species, the report authors followed four steps:

1. Which species? Scientists combed through North America's bird list to select "obligates"—species that live in only one main habitat. These specialists are the most in need of attention from land managers and conservationists. The final list consisted of about 300 species.

2. Where does each species occur? Using eBird data contributed by the public from more than 177,000 locations, Cornell Lab of Ornithology analysts modeled species distributions across the nation. The models used habitat data to estimate probabilities of occurrence, providing more detail than standard range maps. Supercomputers spent 70,000 hours doing these calculations.

3. Where is the public land? The U.S. Geological Survey GAP Analysis Program compiled land ownership information for the entire country (including Alaska and Hawai`i) onto a single map database. They also scored the land's management mandates according to the importance assigned to conservation versus other uses.

4. Add it up. By combining ownership and occurrence into the same map database, the report authors could calculate which public lands, and which public agencies, bird species in each of the major habitats depend on.

The Cornell Lab's analysis work was generously supported by the Leon Levy Foundation, Wolf Creek Foundation, National Science Foundation, Institute for Computational Stability, TeraGrid, DataONE, and Oak Ridge National Laboratory.

Habitat	Key management agencies	Percentage publicly owned	No. of habitat specialists
Arctic and Alpine	BLM USFWS	86%	59

Making up almost half of Alaska but only 1 percent of the Lower 48, arctic and alpine habitats are largely publicly owned, providing habitat for terrestrial species, waterfowl, and shorebirds alike.

Stilt Sandpipers have 95 percent of their arctic-tundra breeding range on public lands. Other notable species include Emperor Goose, Surfbird, and American Pipit.

Habitat	Key management agencies	Percentage publicly owned	No. of habitat specialists
Boreal Forest	BLM State	86%	38

Some 125 million acres of U.S. boreal forest are publicly owned—but this figure is dwarfed by the 800 million acres in Canada, pointing to the need for international cooperation.

Black-backed Woodpeckers benefit from recurring fires and beetle outbreaks—on public lands these powerful natural forces can be managed to benefit sensitive species. Other notable species include Great Gray Owl, Trumpeter Swan, and Blackpoll Warbler.

Habitat	Key management agencies	Percentage publicly owned	No. of habitat specialists
Western Forest	NPS USFS	63%	41

Public lands often represent the largest unfragmented forests in many regions, and are therefore very important to the long-term health of forest bird populations.

Unlike most western forest types, California's oak woodland is largely privately owned. It's home to the **Yellow-billed Magpie**, and only 11 percent of its distribution lies on public land. Other notable western forest species include White-headed Woodpecker, Clark's Nutcracker, and Sooty Grouse.

Who Manages Public Lands?

Six main organizations manage most of our public land, making the decisions that balance the needs of plants, animals, and people:

- BLM — Bureau of Land Management: 245 million acres
- USFS — U.S. Forest Service: 193 million acres
- State — State-owned lands: 189 million acres
- USFWS — U.S. Fish and Wildlife Service: 77 million acres
- NPS — National Park Service: 84 million acres
- DoD — Department of Defense: 30 million acres

Habitat	Key management agencies	Percentage publicly owned	No. of habitat specialists
Aridlands	BLM USFS	56%	36

More than half of our aridlands are publicly owned, but conservation contends with other uses such as grazing, mining, and energy extraction, requiring careful management.

The **Gunnison Sage-Grouse**, a candidate for the Endangered Species List, relies on public aridlands for 79 percent of its distribution. Other notable species include California Condor, Lucifer Hummingbird, and Sage Thrasher.

Habitat	Key management agencies	Percentage publicly owned	No. of habitat specialists
Grasslands	DoD State	13%	29

About 3% of our nation's grasslands remain; most are privately owned. Conservation should be a high priority on existing public grasslands, and expansion of public grasslands is critical.

The iconic **Scissor-tailed Flycatcher** finds only 5 percent of its distribution on public lands. Other notable species include Grasshopper Sparrow, Bobolink, and Short-eared Owl.

Habitat	Key management agencies	Percentage publicly owned	No. of habitat specialists
Eastern Forest	State USFS	15%	34

Publicly owned forests in the East represent some of the last green spaces amid rapid development.

With relatively little public forest in the East, state and national forests are a haven for the rare **Golden-winged Warbler,** providing 30 percent of its distribution. Other notable species include Red-cockaded Woodpecker, Cerulean Warbler, and Brown Thrasher.

ILLUSTRATIONS BY JANE KIM