

The Klamath Bird



Newsletter of the Klamath Bird Observatory, Summer 2005

Science, Education and Partnerships

Is burning for the birds?

Fire and fuels management from a bird's perspective

Nat Seavy, KBO Research Associate

Images of large wild-fires destroying homes and property are common during the summer months. This dramatic portrayal of wildfire is influential, and naturally raises concerns for wildlife habitat. When I explain that I study how fire affects birds, most people respond by saying "Well, fire certainly can't be good for birds!" However, for birds and other animals that depend on habitats created by natural disturbances, fire is important. Increasingly, ecologists are recognizing the role that fire plays in natural systems and the importance of creating management plans that include the effects of natural disturbances.

As a result of this interest, there is an increasing need for information that can help managers design fire and fuels management plans compatible with bird conservation. This summer, *Studies in Avian Biology*, a peer-reviewed publication by the Cooper Ornithological Society, published their 30th volume, titled *Fire and Avian Ecology* (www.cooper.org/SAB/sab30.html). This collection of scientific papers describes current knowledge of how fire influences bird communities in North America.



To view Gary Bloomfield's "The Fire Cycle" in color, visit our newsletter online at www.klamathbird.org/newsletter.

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As a contribution to this volume, I collaborated with John Alexander, KBO's Executive Director, C. John Ralph of the US Forest Service Redwood Sciences Laboratory, and Mark Huff of the US Fish and Wildlife Service to review the current knowledge of fire effects on bird communities in the maritime Pacific Northwest (Washington, Oregon, and Northern California west of the Cascade Mountains).

In our review of studies from the Pacific Northwest, we found that relatively little information exists on how wildfire influences bird communities. In response to this lack of information, we outlined ten research questions (see box page 2) that need to be answered in order for land managers to institute fire management plans that will benefit

(Continued on page 2)

Is burning for the birds? *cont.*

the long-term goals of bird conservation.

The Klamath Bird Observatory is currently conducting research that we hope will begin to answer these questions. With funding from the Joint Fire Sciences Program, we are collaborating with the National Park Service, Bureau of Land Management, and Forest Service to understand how and why wildfire, prescribed fire, and mechanical fuels reduction influence bird abundance. In this newsletter we highlight a handful of the exciting fire-related projects on which KBO biologists and partners are currently working.



Rainbow in the Quartz Fire burned area Frank Laspalluto

Birds in the Biscuit

Redwood Sciences Laboratory

In 2002, the largest wildfire in recent history burned 500,000 acres of southern Oregon and northern California. The "Biscuit", as it is now commonly known, inspired emotions ranging from fear, disbelief, and awe for residents of southern Oregon. The forces of nature combined to create a fire that burned from the Rogue River outside of Galice (Oregon), across the California border and nearly to the Pacific Coast. What does this mean for birds, wildlife, ecosystems, and people?

That is the question many researchers are trying to answer.

Fire and Birds: What do we need to know?

In the recent volume of *Studies in Avian Biology*, KBO biologists outlined ten questions that will provide critical information for the application of fire management toward effective bird conservation. KBO and its partners are designing our fire effects research program to answer these questions.

1. What were historic characteristics of natural fire regimes in the Pacific Northwest?
2. How do bird populations change in response to fire?
3. When bird populations change in response to fire, what are the driving factors?
4. How do fire regimes influence the bird community structure at local and landscape levels?
5. How do changes to fire return intervals affect bird populations?
6. Have the effects of wildfires on bird populations changed?
7. How does prescribed fire change conditions for birds?
8. How do fire surrogates (fuels treatments) affect bird populations?
9. What are effects of post-fire salvage on bird populations?
10. If global climate-change influences fire regimes, what will be the effects on bird communities?

At the US Forest Service Redwood Sciences Laboratory (Arcata, California), biologists are evaluating bird response to this fire using birds as ecological indicators. Fortunately, the Forest Service had collected bird and vegetation data at long-term ecosystem monitoring plots before the fire. These plots were originally designed to investigate the effects of large-scale silvicultural treatments, however, when these plots were burned they provided an excellent opportunity to understand the effects of wildfire on bird communities.

Birds in the Biscuit, *cont.*

(Continued from page 2)

In 2003 and 2004, biologists from the Redwood Sciences Lab returned to these plots to re-measure bird abundance and habitat characteristics. A preliminary analysis found that about half the bird species that were detected at the plots before the fire, were present in the first two years following the fire. Species like the Yellow-rumped Warbler and Hermit Warbler were not detected following the fire; they may be negatively affected by the reduction of insects that forage on green leaves. Interestingly, a few bird species such as the Hairy Woodpecker and Red Crossbill were only detected at the plots after the fire. The flush of insects and cones from dying conifers may be attracting

these species into burned areas.

Data that informs us about changes in bird communities as a result of wildfire are critical for understanding the influence of fire on bird communities. With projects like these, the ongoing collaboration between the Redwood Sciences Laboratory and the Klamath Bird Observatory is providing information on how large fires, like the Biscuit, influence bird abundance.

For more information about Forest Service long-term ecosystem monitoring plots and the Biscuit Fire research see: www.fsl.orst.edu/ltep/Biscuit/Biscuit_files/frame.htm

Looking toward the future:

KBO receives funding for riparian fuels treatment project

Jaime Stephens, KBO Research Biologist

The Applegate Valley, with its hot and dry climate, historically had a frequent, low intensity fire regime. Decades of fire suppression and timber harvest have left unnaturally high amounts of fuel in the forests. As a response to the current condition, there has been increased forest management to reduce these fuel loads. Fuels reduction treatments include thinning smaller trees and brush, and controlled burning within these overcrowded forests. In order to reduce risks of wildfire in the Applegate Valley, the Medford Bureau of Land Management (BLM) has been implementing such fuels treatments.

However, riparian habitats have been left untreated because of the biological diversity of plants and animals unique to these areas. Research examining the effect of fuels reduction in riparian areas on stream hydrology or the plants and animals that reside in these riparian and aquatic ecosystems is limited. We know that fire has historically been an important part of western riparian ecosystems.

In order to provide the best available information to local land managers, KBO is embarking on a new study collaborating with existing and new partners. The Joint Fire Sciences Program has funded a study in which we are working with the Medford District BLM, Southern Oregon University, and US Geological Society. Over the next three years, we will study the birds of these riparian areas before and af-

ter fuels treatments. Birds will provide an indication of the health of the riparian ecosystem. In addition, we will assess whether there is an immediate impact of prescribed burns on reproductive success of select species. The other components of this study include how hydrology, macroinvertebrates, herpetofauna, and plant communities are affected by riparian fuels treatments. Through this collaborative effort we will be able to provide a picture of ecosystem changes that will guide future land management decisions.



The Yellow Warbler, a Neotropical Migrant, is one species that we will observe to determine the immediate effects of prescribed burning on breeding success.
photo-Don Baccus

Education

Intern spotlight: Laurel Genzoli

Nat Seavy, KBO Research Associate

Since the summer of 2004, Laurel Genzoli has been an integral part of the Klamath Bird Observatory. Laurel came to KBO from Southern Oregon University, where she is an undergraduate student with a Ford Family Foundation scholarship (www.tfff.org/cms/). Last year, Laurel applied to a competitive program that awards Ford Scholars extra support to work with a non-profit of their choice. Laurel chose to work with the Klamath Bird Observatory to broaden her experience with non-profit groups that work on forest management and education in rural areas. After the funding from the Ford Family Foundation was finished, the Klamath Bird Observatory raised additional funds to extend Laurel's internship.

During this time, Laurel has gained experience while working on a wide variety of projects. In the office she helped KBO biologists layout bird survey locations in fuels treatment areas with GIS software. In the field she has assisted with mist-netting and sampling insect abundance (bird food!)

Telling the story of science

Melissa Pitkin, KBO Education and Outreach Coordinator

During 2004 and 2005, the Klamath Bird Observatory educated the public of all ages with programs on fuels management projects, effects of wildfire, and forest and riparian habitat restoration. These programs have involved more than 4,000 community members and school children, with events such as mist netting demonstrations, school programs, outreach materials development, and community presentations. The resources for these programs were provided by the Jackson County Title III program and donations from individual members.

KBO's education and outreach programs have focused on telling the story of how birds can help managers answer questions about the ecological effects of wildfire and fuels treatments. Fire and fuels treatments are commonly evaluated for their ability to protect homes and natural resources, but are they able to create the ecological conditions important for wildlife? The answer, well, it depends, as we are finding out through scientific studies like those outlined in this newsletter.

Our education programs emphasize understanding the

in areas that were burned by the Quartz fire. Laurel has also engaged in a number of outreach activities. Specifically, she played a critical role in helping KBO organize and sponsor a joint meeting of the Western Bird Banding Association and Oregon Field Ornithologists that was held in Ashland. Laurel will be leaving us this summer, first to tour Washington's Olympic Peninsula by bike, and then to spend four months in the Galapagos Islands of Ecuador as part of a Southern Oregon University study abroad program. Thanks for your hard work Laurel!



techniques (such as mist-netting and point-counting) used to generate these data, and how these data can be applied to land management. For example, in oak woodland habitats in southern Oregon, small-scale fuels treatments (removal of shrubs and small trees) created a patchy habitat consisting of clumps of large oaks and openings within the canopy. These habitat conditions are those that the Purple Finch prefers. In southwest Oregon, KBO's mist netting data show that Purple Finches are declining. In this case, the conditions created by the small scale fuels treatments created habitat preferred by a regionally declining bird species. Communicating this information demonstrates how science can be linked with habitat management to benefit wildlife, people, and the natural world.

One goal of KBO's education program is to take the results of scientific studies, like those outlined in this newsletter, and make them available to the public. We hope that by providing information about how we collect data, the results, and how they can be applied to land management, we can help educate the public about the scientific process and how it can be used to make informed decisions.

Education

Bird Bio– Black-throated Gray Warbler

Deborah Zierten, KBO Education Intern

Distribution:

Generally found in the western United States, from Mexico to southern Canada. Found in southern Oregon and northern CA during the summer months and migrates to Northern Mexico in the winter.

Habitat:

Commonly found in coniferous forests. In the Klamath-Siskiyou, they frequently occur where white oak mixes with Douglas fir.

Feeding:

Glean a variety of insects from foliage in both the forest canopy and wooded understory.

Conservation:

A recent increase in early successional forest habitats has resulted in increased populations in our region. Habitat is not in jeopardy of disappearing but they are frequent hosts for the Brown-headed Cowbird.

Behavior Notes

The Black-throated Gray Warbler arrives in southern Oregon and northern California the first week in April, making it one



Black-throated Gray Warbler artwork- Stewart Jones

of the first spring migrants to return. The male’s buzzy song announces its arrival and can be heard as it darts through the canopy in search of insects. This reclusive warbler is best seen perched singing on an exposed branch high in the canopy.

Information summarized from Birds of Oregon, A General Reference, Marshall et al. 2003.

Trivia Corner– Fire Facts

Nat Seavy– Research Associate

In 2004, was more area of Oregon burned by wild-land fire or prescribed fire?

- A. wildland fire
- B. prescribed fire

Wildland fires are generally ignited either by lightning or unintentionally by humans. In contrast, prescribed fires are intentionally set by land managers to reduce fuels and mimic the ecological effects of natural fire.

In 2004 there were 2,266 wildland fires that burned 30,000 acres of Oregon. Although there were only 1,055 prescribed fires, these fires covered a much larger area: 138,900 acres! (source: National Interagency Fire Center, www.nifc.gov/news/2004_statsumm)

Partnerships

Partnerships in education:

KBO provides opportunities for graduate research on birds and fire

One of the goals of the Klamath Bird Observatory is to provide opportunities for graduate students to conduct research projects in the Klamath Siskiyou Ecoregion that take advantage of KBO's extensive network of point count and mist-netting data. In 2002, KBO received funding from the Joint Fire Science Program to research the ecological effects of wildfire and fire management. With this funding, KBO has supported two graduate students, a Ph.D. student from the University of Florida and a Master's student from Southern Oregon University. Here are brief updates on their progress:

Nat Seavy, Ph.D. student in the Department of Zoology, University of Florida

Four years ago this August, lightning ignited the Quartz Fire in the Little Applegate Valley of southern Oregon, eventually burning 6,000 acres (about 7.5 times the size of Emigrant Lake outside of Ashland). Earlier that spring, the Klamath Bird Observatory had conducted extensive surveys in the Little Applegate Valley, providing excellent information on vegetation structure and bird communities before the fire. Each year since, KBO has returned to the same areas to record how the bird communities and vegetation have changed.

For the last three years, Nat Seavy has worked with the Klamath Bird Observatory as part of a Ph.D. dissertation in the Department of Zoology, University of Florida. Nat's research focuses on the effects of fire on bird communities in



Nat Seavy enjoying the Rogue River in his kayak.

coniferous forests, and the Quartz Fire data set provides an excellent opportunity to understand these effects. In addition to monitoring changes in bird abundance,

Nat has been collecting data on food availability, foraging behavior, and predator abundance in the burned and unburned areas. These data will help us understand how and why wildfire changes bird communities.

Thomas Sabol, Master's student in the Environmental Education Program, Southern Oregon University

In cooperation with the Klamath Falls Resource Area of the Bureau of Land Management, KBO has been evaluating the effects of western juniper removal from ponderosa pine and shrubsteppe habitats since 2000. This year, Thomas Sabol, a graduate student in the Environmental Education program at Southern Oregon University, has been analyzing these data as part of his master's thesis. His work includes comparing bird abundance in untreated control areas and in areas where juniper removal has been implemented. This project has involved extensive work with GIS and statistics in the analysis and interpretation of vegetation data to document the extent and severity of the juniper removal treatments. Thomas' thesis will provide important information on how bird distribution and abundance are affected by juniper removal and fuels reduction projects in shrubsteppe habitats.



Thomas Sabol atop Sahale Glacier, North Cascades National Park

KBO News

KBO interns help Rotary float win 1st prize

John Alexander, KBO Executive Director

This 4th of July Klamath Bird Observatory intern students joined the Ashland Rotarians on their float in the Ashland annual Independence Day parade. The float was celebrating a community project to honor 100 years of Rotary's positive global influence. Rotary is a worldwide organization of business and professional leaders that provides humanitarian service, encourages high ethical standards in all vocations, and helps build goodwill and peace in the world.

The Rotary Clubs of Ashland, the Ashland Woodlands and Trails Association, the City of Ashland's Park Department, and the Klamath Bird Observatory are building a one mile extension of the Bear Creek Greenway in Ashland. KBO is taking part by designing educational signs that will be found along the trail. The signs will inform trail-goers about birds, riparian habitats, and fire's role in our ecosystem. KBO's role has been supported by the Conservation Fund

(www.conservationfund.org).

The 4th of July float was decorated to look like the Greenway with live trees, families with strollers, joggers, bikers, and of course birders who chased KBO's Yellow-breasted Chat logo through the trees. Parade judges recognized the float with a first place award in its category.



Riparian birds of Bear Creek, featured on the greenway signs. Artwork by Zachary Denning, taken from the Riparian Bird Conservation Plan. www.prbo.org/calpif.

Wish List

KBO's biggest strength is our ability to collect substantial amounts of data on birds and their habitats. You can help directly support our on-the-ground research by sponsoring the following critical components:

\$1000—Publication costs of a new KBO brochure

\$600— one set of mist-nets

\$500— one month stipend for one intern

\$100—fuel cost of traveling to one point count route

\$60—one mist net

Upcoming Events

Join KBO staff at the following events:

- September 24, 2005: Mist netting and bird banding at North Mountain Park. Join KBO biologists and biologist Gail Rible from North Mountain Park to learn about mist netting and bird banding during Fall migration. Stop by anytime between 7:30-11:00 am.

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 97520
 541-201-0866

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