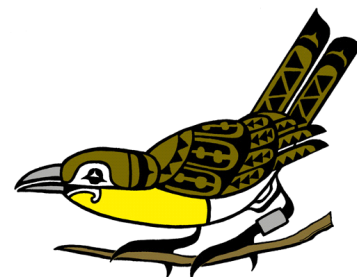


The Klamath Bird

Newsletter of the Klamath Bird Observatory, Fall 2012



Communication for Bird Conservation

Brandon Breen, KBO Outreach & Communications Specialist

A year ago I asked one of our nation's brightest environmental leaders this question: *What type of professionals, more than any other, do we need more of if we are to safeguard the health of the ecosystems upon which we all depend?* The environmental leader was at a loss for an answer and said he'd have to think about it. For my part, I have an idea, and a personal story that led me to it.

Two days after receiving my college diploma I loaded up my car and drove from Maine to Arizona for a job with the Peregrine Fund working on the California Condor Reintroduction Program. I remember sitting on my tailgate in the desert and watching the birds come in to roost. Sometimes right at sunset there would be around 30 condors circling above me, more than ten percent of the world's California Condor population at that time visible in a single view. The other field crew members and I were working long hours and making a difference (condor numbers in the wild have steadily increased), but we were helping just one species in a world of unraveling ecosystems.

After the condors I went on to work a number of seasonal field jobs. I studied the nest success of Brewer's Sparrows in sagebrush habitat in Montana. I tracked Turkey Vultures on migration down the eastern seaboard. I monitored endangered Golden-cheeked Warblers in Texas and observed the foraging behavior of Gray-crowned Rosy-Finches in the Sierra Nevada Mountains. These projects, bit by bit, were providing

the understanding needed to steward the environment, but in and of themselves the studies seemed ill-equipped for addressing the complex economic and cultural causes of environmental degradation. I needed more training and so I enrolled in the Conservation Biology graduate program at the University of Minnesota.

As I studied and continued to think about how I could contribute to conservation I became focused on a communication gap. On one side of the gap is the value of nature to human well-being and on the other side is society's comprehension of this value. It seemed the more people could understand how nature improves their lives the more inclined they would be to protect it. In this way, I came to choose a career in conservation communications. While this is a great need that I see, it is important to note that all the roles are essential to bird conservation; for example, scientists tell us the state of the environment and the consequences of our actions, land managers weigh priorities and make hard decisions for the well-being of the land, and members of conservation organizations generously provide the support needed for efficient stewardship.

I joined KBO four months ago as our Outreach and Communications Specialist. Thus far, I have been impressed by the KBO model of conservation science. In my role, I share and explain the KBO story, including the concept of birds as indicators of the health of the environment as a whole. Additionally, I deliver scientific findings to land managers and other

We look to the Future inside this Fall 2012 Issue:

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decision-makers to ensure that on-the-ground decisions are made in light of the best available science.

There is a lot of new activity in KBO communications. We will soon launch our new and improved website (www.klamathbird.org). We have a growing number of people following our Facebook page (Please "like" us at [Facebook.com/KlamathBird](https://www.facebook.com/KlamathBird)). We also are starting a blog, *The Klamath Call Note*, that will contain a range of informative and thought-provoking content related to bird conservation. We hope you stay in touch to learn more about our activities and achievements, and to tell us what's important to you. ✧

Note from the Executive Director

John Alexander, KBO Executive Director

As another successful year comes to a close, we stand upon our accomplishments, and challenges overcome, to gain perspective on the future that lies before us. Despite the economic uncertainties that define today's world, KBO remains steadfast to our mission and we continue to increase the contributions we are making to bird and habitat conservation through science, education, and partnerships. For example, just this fall, KBO's Jaime Stephens and Felicity Newell were recognized as members of a collaboration that received the US Department of Interior's Partners in Conservation Award. The award recognized KBO's use of our science to inform the design, implementation, and evaluation of oak woodlands restoration projects on private lands.

KBO and 22 of our partners, including project leader Loma-katsi, received national recognition for oak restoration achievements under the Central Umpqua-Mid-Klamath Oak Habitat Conservation Project.

As KBO plans for the future it is clear that we need to continue focusing our science to address our most pressing conservation challenges and to assure conservation success at relevant scales. In the coming year, we will be emphasizing science delivery. With the unveiling of our new state of the art online decision support system called *Avian Knowledge Northwest*, we are bringing vast amounts of information about birds together in a modern online interface. We will use this new interactive conservation tool to address priority forest management challenges regarding fire-adapted ecosystem restoration, forest management associated with older forest conditions, and climate change. We will be using new distribution models to relate forest landbird communities to critical habitat features associated with Spotted Owls in order to better evaluate management alternatives. We will also use these models to predict future bird distributions given various climate change scenarios. These will be used to guide large scale conservation prioritizations that account for changing climates.

Art © Gary Bloomfield 2007



More than ever, we look for your support to help us seize the opportunities that we see before us. KBO has continued to grow and successfully apply our

science-based approach to meeting conservation challenges in the Klamath-Siskiyou Bioregion and beyond. Despite the many uncertainties that we face as a society, we are certain that the knowledge we gain from studying birds will help us meet the conservation challenges of today and the future and we are certain that your investment in KBO is well spent. ✧

Introducing Avian Knowledge Northwest, a node of the Avian Knowledge Network. Through this decision support system we will be unveiling results from a distribution modeling research collaboration with PRBO Conservation Science, American Bird Conservancy, Bureau of Land Management, National Park Service and the North Pacific Landscape Conservation Cooperative. Visit us soon at: www.avianknowledgenorthwest.net

KBO Science Looks Forward

Jaime Stephens, KBO Research and Monitoring Director

Through a strategic planning process the staff at KBO had the opportunity to assess our past accomplishments and define a path forward to make conscious contributions to bird and habitat conservation. We work in a field where there are seemingly endless needs for new science, new products, and new partnerships. The question is, how do we best use our limited resources?

In order to address bird population declines we must consider what is happening across species' ranges and throughout their annual cycle. Thus, our approach to bird conservation encompasses local and distant regions where our birds spend their lives.

Within this context, we have identified our key science programs and new areas in which to expand. To begin with, long-term monitoring of bird populations is, and has always been, central to our mission. Long-term monitoring reveals local and regional population trends and the factors responsible for those trends. For example, through monitoring we can determine whether poor nesting success or poor winter survival accounts for a population decline. Ultimately, we can use this information to reverse declines of species that are in trouble.

We will build on our existing applied ecology work that looks at how land management and natural

Continued on next page

The President's Perch

Dick Ashford, KBO Board President

One theme of every KBO newsletter is "things are looking good." That's because it's true, and this edition is no different. Reading the articles, you will be impressed by the way our hardworking and professional staff continues to advance bird and bird habitat conservation. And, of course, we continue to be impressed by your generous support (thank you!).

Having said that, I want to remind everyone of the one area where we could use some more help, and that is the search for a new home for KBO. John Alexander and I have had many conversations on the subject and have come to the conclusion that any solution will require a significant charitable component. That's where you come in. We hope that you can be part of that charitable component.

As I wrote a little over a year ago, the classic approach to finding a new home would be to mount a capital campaign to purchase or build a new facility. However, we felt then, and we feel now, that a capital campaign in this economy (and in our area) will be a major undertaking.

Before we embark on a typical capital campaign, we are looking at our options, and continuing to ask for support from our "KBO Family." Thus we have started a "New Home" Fund for designated contributions.

Why give? As a valued supporter of KBO, you are critical to its future. While donors can recognize the

tangible benefits of giving that are encouraged by our tax laws, the intangible benefits are substantial. You can experience the personal satisfaction of realizing the impact your gift has on bird conservation. You can help "keep common birds common." You really can.

Depending on your personal, family, and business goals, there are a variety of ways you can help us attain our goal of finding a new home: e.g., cash gifts, corporate matching gifts, gifts of securities, charitable remainder trusts, gifts of remainder interest, or a gift of real property itself. If any of these options sound appealing, please consult your financial advisor and then give John or me a call. We'd love to hear from you.

I can assure you that the KBO board and staff alike are highly motivated to continue our good work. KBO's future is indeed promising, but a new home would make it more so. I am requesting your assistance in helping us move forward. We couldn't do it without you. Please continue to help us grow.

As always, thank you for your continuing support. The birds need it and deserve it.

Cheers,



Science *Continued from page 2*

disturbance affect bird abundance and nesting success. We have a number of studies assessing the effects of land management (e.g., restoration, fuel reduction) on birds over the short-term. Now almost ten years since the initiation of many of these studies, we have an opportunity to look at effects over the longer term.

In addition, we plan to build on existing research and study how disturbance affects bird populations at the landscape scale. Our work has shown that within a small area, such as a fuel reduction treatment unit, bird abundance can vary due to disturbance. We now need to understand the

significance of disturbance for bird abundance at watershed scales and beyond.

Finally, to ensure our data and findings have the largest conservation impact, we will continue to deliver our science to key decision-makers, and we are working towards the completion of our Avian Data Center, *Avian Knowledge Northwest*. Looking forward, we are confident our science will continue to have significant impacts on the conservation of birds and their habitats. ✧

Broadening the Horizons of Riparian Restoration on the Trinity River

Ian Ausprey, KBO Research Biologist

For over a decade KBO has been involved with monitoring riparian and riverine bird communities as part of the Trinity River Restoration Program in Weaverville, California through our collaboration with the U.S. Forest Service Redwood Sciences Laboratory (RSL). More recently we have taken on management of this project, creating an opportunity for KBO to develop a new suite of partnerships and allowing us to implement a number of intensive monitoring methodologies required to understand bird habitat selection and population dynamics. Data resulting from this work will not only inform restoration on the Trinity River but will also contribute more broadly to ornithologists' understanding of riparian species.

KBO's approach builds upon the strengths of the original monitoring strategy implemented by the Redwood Sciences Laboratory from 2002-2010. RSL previously demonstrated that focal riparian species, such as Yellow Warbler and Yellow-breasted Chat, were strongly associated with different structural components of riparian habitat, such as certain patch sizes of willow stands or percentages of tree canopy cover. While these results are critical for understanding how riparian birds use the Trinity River corridor, more information is needed to understand how birds respond to restoration practices. Hence, we proposed the addition of new



Trinity River, showing riparian vegetation on the right-hand side and a gravel bar in the middle of the river. Photo by Ian Ausprey.

monitoring methods designed to identify mechanistic linkages between the bird community and specific restoration actions. Specifically, we are now examining how territory density, nest site selection, and nest survival vary between un-manipulated riparian habitat and regenerating habitat at restoration sites. Results from these data will help managers to build better habitat for birds and other wildlife. Likewise, surprisingly little is known about the breeding biology of some of KBO's focal species on the Trinity River, such as the Yellow-breasted Chat, providing KBO an opportunity to make substantive contributions to avian ecology and conservation.

During the 2012 field season, KBO continued implementing much of the original monitoring strategy and began new monitoring methodologies at six restoration sites. This work is funded by the Bureau of Reclamation. With additional financial support from the U.S. Forest Service's International Programs we were able to hire a multinational field crew that included interns from Colombia and Peru. A hardy group of Student Volunteer Interns braved mosquito swarms, frigid mornings, and impenetrable blackberry thickets while mapping bird territories, finding nests, and quantifying habitat structure. In the end we were able to monitor over 90 nests, map over 370 individual bird territories, and survey some 600 vegetation plots! Data like these are extremely time-consuming to collect, yet they provide a detailed view of the processes that govern avian populations. As KBO looks to the future, we can be confident that our work with the Trinity River Restoration Program will not only strengthen riparian habitat restoration but also the science of ornithology. ✧



2012 Trinity Field Crew

Deciphering Bird Migration: Technology to the Rescue

Josée Rousseau, Humboldt Bay Bird Observatory Program Director

In the distant past, Aristotle claimed that swallows congregated in vast numbers in autumn to sink into the mud and water; that kites hibernated in holes in the ground; and that summer redstarts transformed themselves, each winter, into robins.

Then we discovered that our birds migrated. We confirmed the notion of high-traffic flyways, the existence of far-flung wintering grounds, and the magnitude of night-time migration. We gathered evidence of birds crossing large distances, but little was known until recently about speed of flight, arrival and departure dates, and the range of perils that migrants routinely face.

To further our discovery, biologists are now partnering with engineers, statisticians, and programmers. Technologies such as weather radars and audio recordings are being used, in complementary ways, to study bird movements. While radar gives us information about the direction and speed of migrating birds, recordings of nocturnal flight calls can tell us which species are flying overhead. And most recently, for the first time, the public has access to real-time bird migration forecasts (see www.birdcast.info).

Another promising new technology is the geolocator. These lightweight devices can be attached to some of our smallest birds to find out where they migrate. The geolocator records light intensity and can be used to extract general locations (based on day-length and sunrise and sunset times) along the migration route and on breeding and wintering grounds. Scientists have recently used geolocators to discover that the Pacific coast Swainson's Thrush population follows a coastal migration route whereas a neighboring inland population migrates east of the Rockies and stops-over in Panama and Guatemala before continuing south.



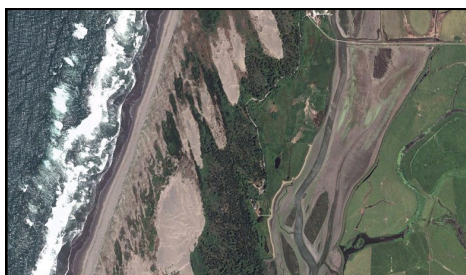
Geolocator on the back of a Painted Bunting. Photo © Eli Bridge (University of Oklahoma)

This is an exciting time! With continued miniaturization of technologies we should be able to soon find out where all of our birds migrate, including the smallest of hummingbirds, to assure better bird conservation strategies that account for each stage in the lives of our shared birds. ✧

HOME Sweet Home

Josée Rousseau, Humboldt Bay Bird Observatory Program Director

The Humboldt Bay Bird Observatory banding station, near the Lanphere Dunes in Arcata, California, is called HOME because it is located at the home of HBBO's founders, the Ralph family. There are also additional reasons why this is a good name for the station. In addition to being home to the Humboldt Bay Bird Observatory, HOME is also home to hundreds of birds who breed here each summer or seek shelter from the cold during the winter months. It is also a stop-over site for thousands of other birds during migration and a safe haven for vagrants returning to land after accidental offshore trips.



Aerial view of HOME, Google Earth.
(Ocean on left)

HOME is also noteworthy for other reasons. It is one of the longest running banding stations in North America.

Founded in 1982, HOME has now been running on a yearly basis for 30 years! Our banding data and other records document the range expansions of some species and the population declines of others. We have at our fingertips information about population trends, survival and reproductive rates, the timing of migration departure and arrival, and the effects of habitat change.

Thirty years ago, climate change and associated sea level rise were not on our radar. Today, HOME has over 70 thousand bird banding records that can help predict the effects of weather extremes on our bird populations. Those data are now safely archived in the *Avian Knowledge Northwest* data center and are available to biologists, scientists, and interested citizens who wish to answer pressing environmental questions.

While HOME station may be home for the Ralphs, HBBO, our volunteers, and thousands of birds, we can also see that HOME is much more. It is a source for long-term information about the past and the present that can be used to meet our current and future conservation needs. ✧

Bird Bio: Yellow-breasted Chat

Ian Ausprey, KBO Research Biologist

The Yellow-breasted Chat, one of our more charismatic riparian species, plays an important role in our region's cultural and ecological heritage. It is a Partners in Flight focal species for western riparian habitats, it is the "Salmon Grandmother" in local Native American mythology, responsible for bringing salmon to the Klamath River (see box on page 7), and it is KBO's official mascot. As KBO looks to the future we reflect on the Yellow-breasted Chat.

The chat has long been a controversial figure in avian taxonomy. Linnaeus first placed it with the thrushes in the 1700s but unsatisfied 19th Century biologists decided it was best classified as a wood-warbler, a classification that remains today. Since then the species has withstood countless attempts by skeptical taxonomists determined to label it as everything from a vireo to a tanager to even a honeycreeper! However, despite a barrage of morphological, behavioral, and molecular studies, the species has steadfastly remained in *Parulidae*, a proverbial "black sheep" within one of North America's most beloved avian families.

Breeding season is the best time to observe chats, as males defend territories through conspicuous song and behavioral displays. Of particular note is the in-flight display males perform to attract females. After singing for an extended time from a high, exposed perch, males will make a gentle, undulating flight to a second perch, their wings flapping vertically like those of a butterfly, tail spread wide, and legs dangling, all the while vocalizing loudly. Their song is highly recognizable, being a collection of whistles, burps, and mechanical noises.

Chats have a bifurcated breeding range separated by the Great Plains. The western subspecies, known as the Long-tailed Chat, occupies dense riparian thickets dominated by willows and blackberries. In the east chats have a similar affinity for complex understory structures

and are abundant in scrub-shrub habitats and regenerating clear cuts. Early successional habitats like these are highly ephemeral, as they depend on natural and human-induced disturbance regimes and rapidly

transition into mature forest. Hence, eastern chat population trends vary widely, likely reflecting the stochastic nature of the species' preferred habitat type. In Oregon and California populations have remained relatively stable since the 1960s, which may reflect progressive land use policies that conserve riparian habitats in both states. Even so, riparian habitat remains rare and imperiled in the west, and chats are frequently used as a focal species for assessing riparian ecological function by KBO and other conservation organizations.

Chats are Neotropical migrants and spend much of the year on their nonbreeding grounds in Mexico and Central America. Unfortunately, little is known about the migratory linkages that exist between the breeding and wintering grounds, what ornithologists refer to as connectivity. Understanding the resource requirements of bird populations throughout the annual cycle is critical for implementing full

life cycle stewardship for chats and other migratory species. With the emergence of new technologies that are able to track small songbirds over large distances, such as light-level geolocators, we may yet learn more about the full life cycle of this enigmatic member of the Klamath-Siskiyou avifauna. ✧



Yellow-breasted Chat
5/21/11, Ashland Pond Ore.
Photo © Jim Livaudais

The Yellow-breasted Chat is a hard bird to pin down, taxonomically. Look for chats in riparian thickets, and identify them by their bright yellow throat and chest, olive-green back, white spectacles, and long tail. Photo © Jim Livaudais. 2012

Sources: **Eckerle, Kevin P. and Charles F. Thompson.** 2001. Yellow-breasted Chat (*Icteria virens*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online 24 September, 2012.; **Sibley, C. G. and J. E. Ahlquist.** 1982. The relationships of the Yellow-breasted Chat (*Icteria virens*) and the alleged slowdown in the rate of macromolecular evolution in birds. *Postilla* 187:1-19.; **Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link.** 2011. The North American Breeding Bird Survey, Results and Analysis 1966 - 2010. Version 12.07.2011. USGS Patuxent Wildlife Research Center, Laurel, MD. Retrieved online 24 September 2012.

The Hoopa story of the origin of the Yellow-breasted Chat...

"The mythical hero Yimantuwinyai knew that salmon existed, but had been searching for them in vain until Mink came and told him that a woman had all the world's salmon penned up across the ocean at the edge of the world. Yimantuwinyai collected some madrone berries and then journeyed to that place where she lived. Once there, he became her guest. By eating his madrone berries (which look like salmon eggs) and talking about them as if they were salmon eggs, he fooled the woman into thinking there were salmon where he came from too. This made her less wary of him. She served him salmon and eels, and he spied on her to find out where she kept them. He saw that they, along with all kinds of other fish were penned up in a lake nearby. After smoking himself in the sweathouse one evening, he ordered his flute to play music by itself so that the woman would think he was still there. Meanwhile he went out to dig an outlet from the lake. When he finished, the water and the fish flowed out in a stream which encircled the world. In front were the silversides (salmon), and leading them and all the other fish was one fish all by itself, the Salmon Leader. Yimantuwinyai said that every year when spring comes, Salmon Leader will always lead the salmon upstream. And he told the old woman who had owned and guarded the salmon that she would be called "Salmon's Grandmother" and henceforth would eat only berries... Then Yimantuwinyai went off to teach people how to prepare (for food) the fish he had released. Salmon's Grandmother followed behind crying for the fish. She came to Hoopa following her fish, and she still comes in the fifth month. Salmon's Grandmother is that bird we call the yellow-breasted chat."

Source: Steinberg, S.L., Dunk, J.R., & Comet, T.A. 2000. In Hoopa Territory. Published by Hoopa Valley Tribe.

A Critical Moment for Environmental Education

Jeanine Moy, KBO Education Programs Lead

Sometimes I explain to students what I like to call "critical moments." A critical moment occurs at the time when you make a decision that ends up having large consequences. For example, you are stranded in the rain and think back to the critical moment when you decided to leave your jacket at home. Making good decisions requires learning from the past and looking forward for potential outcomes.

This very moment is a critical one for the Klamath Bird Observatory's Education Programs as we stand between a decade's worth of hard work and a future of possibilities. Looking back, our Education Programs have proven successful by multiple measures. Over the past decade we have taught over 20,000 students throughout the Klamath-Siskiyou Bioregion. We have created a library of unique science-based K-12 education materials. Our published curriculum is freely available and has been used by educators throughout the western United States. Our program assessments show that we have imparted quality science learning and fostered positive attitudes toward the environment and science.

With these achievements in mind, we now look to expand our reach to students and educators by publishing the entirety of our curriculum library and conducting educator workshops with our network of education partners. Our goal is to implement a new, more sustainable model of environmental education.



Jeanine Moy (left) demonstrates how to use binoculars at a Crater Lake teacher workshop in August. Photo by Libby VanWyhe.

At a broader scale, it is a critical time for environmental education in our society. Environmental education provides a framework for understanding the interconnectedness of the world, and in turn, enables learners to have a sense of place and responsibility. Today, more than ever, it is necessary for children to have opportunities with environmental education to ensure our future leaders are prepared to make sound decisions in an increasingly complex world. At KBO we are proud to utilize our education program experience and resources for a better, more sustainable future. ✧

American Dippers at Ashland Creek

Barbara Massey, KBO Associate

The American Dipper is a denizen of fast, clear-running streams in the western United States and is usually only observable at high altitudes and in summer. But in the Rogue Valley of Oregon there is suitable habitat for dippers in the very accessible lowlands of Ashland Creek, including a two mile portion of the creek that runs through Lithia Park in the town of Ashland. It has long been known that dippers occur here, but the accessibility of the creek inspired a group of researchers and volunteers from the Rogue Valley Audubon Society and the Klamath Bird Observatory to conduct a detailed study of the population.

After observing the dippers at Ashland Creek in 2010 and 2011, it became clear there was a dearth of good nesting sites. There were no banks with burrows, no mid-stream rocks safe from squirrels, and no natural waterfalls with ledges behind them. But maybe some of the several foot bridges in the study area could be modified to support nests? With this idea in mind, Eric Setterberg built a variety of nesting structures – including platforms, nest boxes, and a polyethylene tube – that he and Frank Lospalluto installed in early March of 2012 under seven bridges in Lithia Park.

This season we also stepped up our banding efforts and placed colored bands on four adults and five chicks. John Alexander led the banding effort in the early spring as he and volunteers waded up to their waists in the creek's swift current to set up their nets. And what a boon came from their efforts! Being able to identify individuals, by the unique arrangement of colored bands on their legs, gave us a whole new understanding of the dipper breeding cycle.

Two of last season's nest sites were used again this year – one at the reservoir spillway and one in a culvert under Main Street – and a new breeding site was used under the 3rd Street Bridge, where a nesting structure had been installed. This latter pair proved particularly instructive. The nest under the 3rd Street Bridge was almost completed when it

was found in mid-March, and by early April the female was incubating 4 eggs. The eggs hatched around April 18th and a week later both adults were banded. When the three chicks were 10-12 days old they too were banded. This is the optimal time to band chicks because their legs are long enough to hold the bands but the chicks are not yet able to clamber out of the nest. While the chicks were being banded the parents waited on rocks below with food in their beaks and immediately resumed feeding once the chicks were returned to the nest.

A week before the first brood had fledged, we saw the female displaying to her mate and carrying nest material under the bridge. He seemed fully occupied feeding the chicks but, as later events testified, he took time out for copulation. After the first brood fledged from the nest the male became their sole feeder as his mate was already incubating the second clutch. Interestingly, when Eric climbed under the bridge to photograph the new nest he found it had been built just above the first

nest on the roof of the nest box. We knew from the literature that second nesting is not unusual for dippers, but it usually occurs in the refurbished first nest and not until the fledglings are feeding themselves. The male did ALL of the feeding of the three fledglings until they were seen foraging on their own eight days after leaving the nest. Then the male returned to take up vigil on his rock below the nest.

In late May two out of four eggs hatched in the second nest. Both parents fed the chicks until they fledged 23 days later, at which point the male took over as the sole feeder. Five days later we saw him downstream feeding the two fledglings while farther downstream his mate had resumed her non-parental



American Dipper. Photo © Jim Livaudis 2012



A dipper (at bottom) watches two biologists contemplating their capture and banding strategy

Continued on next page

Dipper *continued from page 8*

lifestyle. She was standing on a rock in mid-stream preening, then foraging in a desultory way, and then basking in the sun. It is difficult to refrain from anthropomorphizing. She looked so serene, alone to do as she pleased after two intense breeding cycles. Did she know her mate would take on the chicks? It would seem so. Her job was to build nests and incubate eggs, with some occasional feeding duties. And after that day we saw her no more. Her achievement: five chicks successfully hatched and reared. His role: most of the feeding of the hatchlings and total care and feeding of the fledglings.

This unique project provides a great example of a current social trend that is shaping the future of ornithology. More and more, citizen scientists are contributing to our understanding of bird biology and advancing our efforts to inform conservation with excellent science. ✧

If you'd like to learn more about the dipper project, please contact Barbara Massey (bmassey AT mac.com). Our group this season consisted of Eric Setterbeg, Jeff Tufts, Frank Lospalluto, Barbara Massey, Bob Quaccia, Gwyneth Ragsine, Sally Jones, Kathy Simonsen, and John Alexander.

Aquatic Bird Monitoring: From Black Terns to Big Impacts

Karen Hussey, KBO Research and Monitoring Program Manager

The Klamath Bird Observatory has a long history of monitoring aquatic birds. Even before we became an official bird observatory we were monitoring Black Terns in Oregon's Upper Klamath Basin with our partners at the U.S. Forest Service Redwood Sciences Laboratory. Since then our Aquatic Bird Program has been busy tackling the region's most pressing aquatic bird information needs. Here are some of our accomplishments:

- We created descriptions of important sites for aquatic birds in Oregon and northern coastal California to aid conservation efforts (www.klamathbird.org/science/aquaticbirds)
- We coordinated secretive marsh bird surveys in eastern Oregon
- We implemented a comprehensive inland colonial waterbird survey in Oregon and parts of southwestern Washington
- We compiled a database of historic Great Blue Heron colonies in Oregon and Washington
- We implemented Snowy Plover surveys in eastern Oregon as part of the International Breeding Survey for Snowy Plovers
- We implemented long-term monitoring of Black Terns in Oregon's Upper Klamath Basin to determine population trends and habitat associations
- We contributed our data to national databases for secretive marsh birds and colonial waterbirds



Black Tern. Photo © Jim Livaudais 2012

All of these projects were accomplished by working with partners, from federal and state agencies to private land owners and other non-profit organizations. The Aquatic Bird Program will continue this tradition of partnerships as we work to address the information needs of the future.

In the coming years we plan to:

- Continue colonial waterbird monitoring at priority sites
- Revisit secretive marshbird survey sites
- Support coordinated monitoring efforts for shorebirds to determine population trends and factors limiting populations
- Bring aquatic bird survey data from multiple sources into *Avian Knowledge Northwest*, our avian data center, to ensure they are readily accessible to conservation practitioners

Our future efforts will continue to meet needs outlined in the *Oregon Conservation Strategy*, the *Intermountain West Waterbird Conservation Plan*, and the *North American Waterbird Conservation Plan*, as well as new needs as they arise. We will continue making our findings accessible to diverse audiences to increase understanding of aquatic birds and to inform habitat management and conservation at multiple levels. In the near future, stay tuned for our Black Tern Decision Support Tool, which will provide a summary of population trends and habitat needs as revealed by our long-term Black Tern monitoring, the work that kicked off the Aquatic Bird Program at KBO. ✧

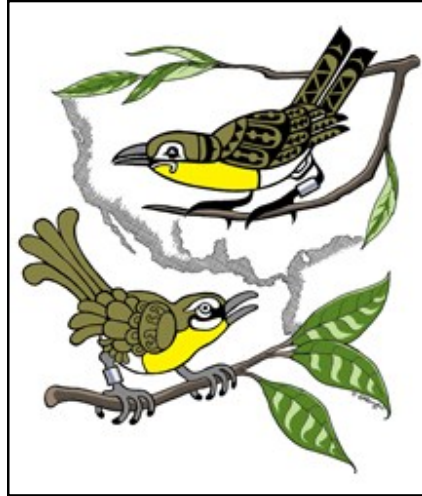
Using Data to Shape a Better Future

Jenna Curtis, KBO Research & Monitoring Intern

We are approaching an exciting time in the history of avian data management with increasing numbers of avian datasets being made available through a group of data centers that make up the Avian Knowledge Network. Researchers, conservationists and natural resource managers are realizing the long-term benefits of preserving their data in accessible digital formats, as well as the importance of data sharing. Better data access offers opportunities for analyzing the information that we collect and making the results readily available to conservation practitioners. Meanwhile online applications like eBird are allowing everyday citizen scientists to contribute to the growing volume of digital data.

Of course, every large-scale endeavor comes with challenges. Imagine how difficult it might be to share bird monitoring information when many organizations have different methods for collecting, entering, and storing data. One of the biggest obstacles that avian data centers face is the ability to gather and store electronic data from many sources in a central location using a standardized system for processing and presentation. KBO is tackling this problem head-on through our efforts to develop our data center, *Avian Knowledge Northwest* (www.avianknowledgenorthwest.net), a node of the Avian Knowledge Network. We are working with PRBO Conservation Science to design tools that efficiently bring new datasets into a unified format, allowing data

contributors to safely store their data and share the data with other researchers and the public. We are also collaborating to develop state of the art data visualization and analysis tools. By giving data owners the ability to visualize and analyze their data, and the option to make their data available to land managers, government agencies, conservation groups, and the general public, KBO is promoting better -informed avian conservation.



Logo for our avian data center, *Avian Knowledge Northwest*. Art work © Gary Bloomfield 1994.

This year, KBO used our data processing tools to contribute to a North Pacific Landscape Conservation Cooperative climate change modeling project, in collaboration with PRBO, American Bird Conservancy, the US Forest Service Redwood Sciences Laboratory and many data contributors. We processed nearly a million records from 17 cooperators in Washington, Oregon, and California. This successful application of our data processing tools has advanced the state of scientific cooperation and information sharing in the western United States. Through our Avian Knowledge Network collaborations we are pioneering

methods of data management that will advance avian conservation science. Through collaborative data sharing we are helping to bring many different people together, including public agency personnel, university professors and students, non-government agency employees, and citizen scientists, to help better understand and protect the birds we love, and the habitats that we all depend on. ✧



Bald Eagle
2/10/07, Lower Klamath NWR, Calif.

Photo © Jim Livaudais 2012

Klamath Basin Raptor Trip

January 5th, 2013

**With Dick Ashford*

**Includes Raptor Presentation*

Learn more on the next page

Join KBO on Upcoming Events

Saturday, December 1st, KBO Bird Walk to Scott Valley

Terence Philippe will lead this trip to the beautiful Scott Valley to search for raptors. The agricultural fields of the valley attract a large variety and quantity of hawks, falcons and eagles. Past trips have recorded Ferruginous, Rough-legged, Red-shouldered, Red-tailed, and Cooper's hawks, Bald and Golden Eagles, and Prairie Falcons, Kestrels, and Merlins. Also, we should see Black-billed Magpies, Bluebirds, Say's Phoebes and Lewis's Woodpeckers. This is a driving tour and will not require walking, but do bring appropriate clothing for the season and snacks and lunch. Meet at the Northwest Nature Shop at 8:00am, and we will depart the Scott Valley at 3:00pm for the return trip to Ashland. Adverse weather will cancel trip so call ahead to the Northwest Nature Shop for the latest trip updates. This trip is limited to 15 participants for carpool safety. To register, call the Northwest Nature Shop, (541) 482-3241.

Saturday, January 5th, Klamath Basin Raptor Trip

Celebrate the New Year and support conservation by joining local raptor expert and longtime KBO board member Dick Ashford for this all-day outing. We will head to the Klamath Basin in search of Ferruginous Hawks, Rough-legged Hawks, Prairie Falcons, and Golden and Bald Eagles. The Klamath Basin is nationally famous for its excellent raptor viewing and we will make every effort to show you why. You will be impressed by Dick's enthusiasm and knowledge about raptor life history, behavior, and identification. This special outing will include a maximum of 10 participants, so be sure to register soon! **Cost is**

\$125, includes \$100 tax-deductible donation. Call Brandon for details and to register, (612) 910-6502.

April 19-22, Malheur Trip for Photographers

Want to take spectacular wildlife photos? Here's your chance. Support bird conservation and improve your photography on this KBO outing for photographers to the Malheur National Wildlife Refuge. Bird guide Harry Fuller and photographer Dan Elster will lead this exceptional trip. Sage Grouse will be lekking and the flooded fields will be full of Ross's Geese. Bald and Golden Eagles, Prairie Falcons, Great Horned Owls, and Ferruginous Hawks will be nesting, while the first wave of eastern vagrants will be passing through. This special outing will include a maximum of 10 participants, so be sure to register soon! **Cost is \$345, includes lodging, two dinners, and \$200 tax-deductible donation.** Call Brandon for details and to register, (612) 910-6502.

May 30-June 2, Spring Birds of Malheur NWR

Join professional birding guide and KBO Board Member, Harry Fuller, and hawk expert and KBO Board President, Dick Ashford, for a trip to this world-renowned birding destination and the largest wetland in eastern Oregon. This is truly an unforgettable trip. We should see Bobolinks, Sage Sparrows, and Eastern Kingbirds, and the area provides important breeding grounds for Sandhill Cranes, Swainson's and Ferruginous Hawks, Prairie Falcons and more! This special outing will include a maximum of 10 participants, so be sure to register soon. **Cost is \$345, includes lodging, two dinners, and \$200 tax-deductible donation.** Call Brandon for details and to register, (612) 910-6502.

Support Klamath Bird Observatory

Your contributions help KBO advance bird and habitat conservation.

Name: _____

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Give the gift of a healthy environment to future generations.

Please select one and make your tax-deductible donation payable to KBO.

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| <input type="checkbox"/> \$35 Regular Annual Membership | <input type="checkbox"/> \$100 Supporting Membership |
| <input type="checkbox"/> \$50 Family Membership | <input type="checkbox"/> Other Amount \$ _____ |



**PO Box 758
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Return Service Requested

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Felicity Newell, MS—*Research Biologist*
Karen Hussey, MS—*Research & Monitoring Program Manager*
Robert Frey—*Biologist & Banding Project Lead*
Brandon Breen, MS—*Outreach & Communications Specialist*
Jeanine Moy, MS—*Education Programs Lead*
Josée Rousseau, MS—*HBBO Program Director*
Kim Hollinger—*HBBO Banding Project Leader*

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Tonya Del'Acqua	Sara Estrada Vaglio
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