

Abstracts– Presentation, Posters, and Workshops

‡ indicates corresponding author when multiple emails are listed

Please Note

Presenters of Papers and Workshops– It is mandatory that you load your powerpoint presentations onto the conference laptops prior to the day you are presenting. Presenters must meet Thursday in Windsor Hall between 4:00 pm-5:45 pm. Saturday presenters not present at the meeting on Thursday must meet on Friday between 5:30-6:30 pm in Windsor Hall.

Presenters of Posters- All posters must be set up either between 3:00-5:00 pm on Thursday September 9th, or between 11:00 am-12:00 pm on Friday September 10th.

‡‡ALEXANDER, JOHN D., †§NATHANIEL E. SEAVY, AND °C. JOHN RALPH. **Quantifying the effects of wildfire on birds: A before and after comparison from the Quartz Fire in southern Oregon.** †Klamath Bird Observatory, P.O. Box 758, Ashland OR 97520; ‡jda@klamathbird.org. §University of Florida, Department of Zoology, 223 Bartram Hall, Gainesville FL 32611. ° Redwood Sciences Laboratory, USDA Forest Service, 1700 Bayview Drive, Arcata CA 95521. **[Paper]**

Fires in the forests of western North America have the potential to profoundly effect ecological processes, patterns, and interactions, but our understanding of how fires influence animal communities is limited. In part, this is because logistical constraints prohibit randomized and replicated applications of fire at the appropriate spatial scale. One alternative for making ecological inferences is the use of before and after study designs. In 2001 the Klamath Bird Observatory conducted avian point counts and vegetation surveys at 1,000 stations in the Little Applegate Valley of southern Oregon. Later that summer, the Quartz Fire burned 2,493 ha of this area, including 57 survey stations. Surveys in 2002 and 2003 evaluated the effect of wildfire on vegetation structure, bird communities, and abundance of individual bird species. Fire reduced tree and shrub cover at burned stations, but fire severity varied within the burned area and created structural heterogeneity. Relative to the unburned control area, species richness in the burned area declined in the first year after the fire, but was recovering by the second year. This is explained in part by the temporal differences in species responses to fire: Species that decreased in abundance typically did so the first year after the fire, whereas species that increased did not do so until the second year. Most species that decreased after the fire were those associated with coniferous canopies. This study provides a quantitative description of the response of bird species to natural fire that can be used to evaluate the goals and success of fire-management activities.

‡‡ALEXANDER, JOHN D., AND °C. JOHN RALPH. **The Klamath Demographic Monitoring Network.** †Klamath Bird Observatory, P.O. Box 758, Ashland OR 97520; ‡jda@klamathbird.org. §University of Florida, Department of Zoology, 223 Bartram Hall, Gainesville FL 32611. °USDA Redwood Sciences Laboratory, USDA Forest Service, 1700 Bayview Drive, Arcata CA 95521. **[Paper]**

Together, the Klamath Bird Observatory (KBO) and USDA Forest Service Redwood Sciences Laboratory coordinate one of the world's most concentrated networks of standardized bird monitoring stations. This network, made up of partners from northern California and southern Oregon, spans the Klamath Siskiyou Ecoregion. It has been designed to support the long and short term objectives of Partners in Flight (PIF) and the North American Bird Conservation Initiative (NABCI) Coordinated Bird Monitoring Program, which includes monitoring long-term population trends, identifying habitat relationships, and developing a migration monitoring network. Through many standardized bird-monitoring projects, we are taking a scientific approach to integrating bird conservation plans with land management programs throughout our region. Data from the Network are used to identify conservation needs and monitoring the effectiveness of local restoration and regional conservation efforts. KBO uses data from the network to demonstrate the use of bird monitoring to track ecological change as it relates to riparian restoration and fire management. In 2004 the Network received three National awards: US forest Service and Ducks Unlimited Taking Wing Award, The US Fish and Wildlife Service Partners In Flight Leadership Award, and the Joint Fire Sciences Program Best Scientist-Manager partnership.

‡BARTON, DANIEL C., AND AARON L. HOLMES. **Habitat associations and nesting success of songbirds breeding in sagebrush and juniper dominated habitats in Lassen County, California.** †PRBO Conservation Science, P.O. Box 88, Litchfield CA 96117; ‡dbarton@prbo.org. **[Poster]**

Between 2002–2004, we studied the habitat associations and nest success of songbirds at 8 sites dominated by Wyoming big sagebrush (*Artemisia tridentata wyomingensis*) in eastern Lassen County, California. In 2003, we added to the study 4 sites dominated by mountain big sagebrush (*A. t. vaseyana*) and Western Juniper (*Juniperus occidentalis*), covering a spectrum of juniper cover levels. Songbird communities varied greatly between the Wyoming and mountain big sagebrush sites, and within the mountain big sagebrush sites, in response to juniper cover levels. We present general habitat association, clutch initiation, and nesting success data for Loggerhead Shrike, Blue-gray Gnatcatcher, Spotted Towhee, Sage Sparrow, Brewer's Sparrow, Black-throated Sparrow, and Brewer's Blackbird. Nesting success of Loggerhead Shrike was high, whereas success of Brewer's Blackbirds was low. We found that shrubland and grassland bird species declined in abundance with increasing juniper cover. We discuss the application of these data to shrubsteppe and juniper woodland conservation issues.

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BARTON, GINA, AND ‡SHERRY E. HUDSON. **Migratory patterns during spring and fall at a long-term bird banding station in California.** San Francisco Bay Bird Observatory, P.O. Box 247, Alviso CA 95002. ‡shudson@sfbbo.org. [Paper]

In order to explore seasonal patterns and population trends, we examined bird banding data from 1988–2003 for five migratory species occurring in riparian habitat in the south San Francisco Bay Area during spring (March–May) and fall (August–October). Two of the most abundant migratory species, Wilson’s Warbler and Swainson’s Thrush, occurred in greater numbers during spring migration than during the fall, whereas Pacific-slope Flycatcher, Willow Flycatcher, and Yellow Warbler occurred in higher numbers during fall. These results suggest that different migration routes exist for certain species between spring and fall seasons. Migrating Pacific-slope Flycatchers declined during the 15-year period at our study site, a trend also seen in Breeding Bird Survey data from California, the Western BBS region, and the region comprising California, Oregon, Washington, and British Columbia during the same time period. Understanding why species use different migration routes during the spring and fall, along with what life-history parameters are linked to population declines, will help us determine the best way to conserve habitat and resources during this crucial period in their life history cycle. We urge others with migratory bird data to work together in an effort to understand this important stage in a bird’s life history, and ultimately to conserve crucial habitat and resources for migratory birds.

†‡BOULAY, PEG, §BOB ALTMAN, †HOLLY MICHAEL, †AUDREY HATCH, AND †MARTIN NUGENT. **A birder’s field guide to Oregon’s Comprehensive Wildlife Conservation Strategy and Bird Conservation Initiatives.** †Oregon Department of Fish and Wildlife, 3406 Cherry Avenue Northeast, Salem OR 97303; ‡peg.c.boulay@state.or.us. §American Bird Conservancy, 311 Northeast Mistletoe Circle, Corvallis OR 97330. [Paper]

For long-term success, conservation initiatives must employ a systematic approach based on current ecological knowledge, they must quantify goals, they must monitor outcomes, and they just use adaptive management to readjust accordingly. The Oregon Department of Fish and Wildlife is preparing a Comprehensive Wildlife Conservation Strategy (Strategy) to provide a non-regulatory, statewide approach for species and habitat conservation and to fulfill U.S. Fish and Wildlife Service requirements for state agencies to continue to receive State Wildlife Grant funds. The purpose of the Strategy is to ensure the long-term health of wildlife communities and their habitats by providing a proactive conservation framework that considers all taxa, by describing cooperative solutions and voluntary approaches to wildlife conservation, and by highlighting incentive programs and other conservation tools. Because birds fill a variety of niches at multiple trophic levels and because they can be often be readily monitored, bird diversity and population trends can be valuable indicators of the health of the associated wildlife community. To address bird conservation needs and opportunities within the framework of the North American Bird Conservation Initiative, we will synthesize and build upon the foundation of regional and continental bird conservation initiatives and plans, including the North American Waterfowl Management Plan, Partners in Flight Plans, the Shorebird Conservation Plan, the North American Waterbird Conservation Plan, and the Pacific Region Seabird Conservation Plan. In this presentation, we describe our process for identifying priority species and habitats. We address how bird-conservation planning efforts can be coordinated and implemented at different scales. We identify the important role of field ornithologists in creating and implementing conservation initiatives, such as in providing field observations; collecting survey data; participating in habitat restoration projects; and monitoring bird response to restoration projects.

BOUSMAN, WILLIAM. **A comparison of levels of birding effort over the past century.** 321 Arlington Way, Menlo Park CA 94025; barlowi@earthlink.net. [Paper]

The assessment of bird populations performed a century ago and comparison with current populations is confounded by numerous factors including determining how active birders were at that time. The objective of this presentation is to make an approximate comparison using two proxies: (1) egg collections in the active period of oology from about 1890 to 1930 and (2) active birders as listed in Audubon Field Notes and its successor publications. The egg collection database in the Museum of Vertebrate Zoology has been examined to determine the number of active collectors per year in the nine-county San Francisco Bay area and these data are normalized by census data. Observers cited in the Middle Pacific Coast Region quarterly reports published in Audubon Field Notes and its successor publications have been examined both on a yearly basis and for the nesting season alone and normalized by census data for Northern California. Comparison of normalized data shows that normalized observers/year are two to three times greater than egg normalized egg collectors/year from a century ago. However, if only nesting-season normalized observers/year are compared, the numbers are comparable. The results of my study suggest, at least for the study of breeding birds, that active efforts by dedicated amateur ornithologists are little changed over the past century on a normalized based. In terms of absolute effort, census data can be used as an effective measure.

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DeSANTE, DAVID F. DANIELLE R. KASCHUBE, M. PHILIP NOTT, NICOLE MICHEL, and ‡PETER PYLE. **The MAPS Program: Achieving Success in Monitoring, Research, and Management.** The Institute for Bird Populations, P.O. Box 1346, Pt. Reyes Sta., CA 94956. ‡ppyle@birdpop.org **[Paper]**

The Monitoring Avian Productivity and Survivorship (MAPS) Program is a cooperative network of about 500 constant-effort mist netting and banding stations operated each year across the United States and southern Canada. MAPS currently provides indices of adult population size and post-fledging productivity and estimates of apparent adult survival for over 100 species of landbirds. By ageing individuals as second-year or after-second-year, MAPS will be able to provide additional information on recruitment and survival of young birds and relative amounts of immigration. Here we present examples, at both local and regional spatial scales, of how MAPS is achieving the monitoring, research, and management objectives upon which it is organized. We show geographic differences and temporal variation in both productivity and survival of Wilson's Warblers in the Alaska Region, and show relationships between temporal variation in productivity and global climate cycles (El Niño/Southern Oscillation and North Atlantic Oscillation) for both the Alaska and Pacific Northwest (Washington and Oregon) Regions. We show how MAPS is achieving its management objectives by (1) identifying the proximate demographic cause(s) of population declines in the landbirds of Cape Cod National Seashore (MA); (2) aiding the formulation of management strategies for reversing declines of landbirds on Big Oak National Wildlife Refuge (IN) and on Pacific Northwest national forests (WA and OR); and (3) evaluating the effectiveness of conservation strategies implemented to reverse declines of landbirds on Fort Hood (TX).

†FARBER, STUART, AND ‡ROB HEWITT. **Bioforestry: Measuring response of song birds to retention of forest stand structures on Timber Products Company forestlands in interior Northern California.** †Timber Products Company, P.O. Box 766, Yreka CA 96097; stuf@sor.timberproducts.com. ‡LBJ Enterprises, 1707 East Street, Eureka CA 95501; lbjent@humboldt1.com. **[Paper]**

Since 1995 Timber Products Company has implemented a voluntary policy that retains forest stand structures within private commercial timber harvests. Retention of forest stand structures that mimics natural processes of wind, fire, and disease has been tested throughout the Pacific Northwest and is collectively known as "new forestry". The company's "Bioforestry" program has specific guidelines that encourage the aggregate retention of plant-species diversity, snags and wildlife trees, large woody debris in timber harvest units and around unique landforms including seeps, springs, rock outcrops, talus slopes, and meadows. The company completed compliance monitoring of Bioforestry stands harvested between 1995 and 1999. Fixed plot data were collected on a total of 48 even-aged units (863 acres), 14 shelter-wood-removal units (249 acres), and 28 commercial thinning units (1,414 acres). The mean acres retained (3.5%) and mean size of retention areas (0.20 acres) met or exceeded Bioforestry guidelines. Comparison of post-harvest conditions of tree species, size and density, wildlife trees, snags, and large woody debris within retention areas met or exceeded mean stand pre-harvest values. In 2001, the company began effectiveness monitoring using neotropical and resident song birds to measure a biological response to the Bioforestry stands. Preliminary results of effectiveness monitoring indicate that some edge and mid-seral neotropical and resident song bird guilds use Bioforestry stands in greater proportion than stands without Bioforestry retention.

FREY, ROBERT. **North American Banding Council bander certification session.** Sponsored by the Klamath Bird Observatory September 12-13, 2004. Klamath Bird Observatory, P.O. Box 758, Ashland, OR 97520 bif@klamathbird.org **[Workshop]**

The Klamath Bird Observatory (KBO) will present a North American Banding Council (NABC) landbird bander certification session at the Bander and Trainer levels for up to 10 candidates 12-13 September 2004. The session will consist of field and laboratory skills and knowledge examination at KBO's Rocky Point Field Station. KBO's field station sits on the west side of Upper Klamath Lake, an area recognized for its world renowned birding.

The mission of the NABC is to promote sound and ethical bird banding principles and techniques. The purpose of bander certification is to determine whether the candidate can safely, efficiently, and accurately complete all tasks required for certification. The Bander level of certification indicates that the successful candidate has achieved a level of competence in capturing birds, identifying, sexing and aging them, handling and banding them, taking appropriate measurements, keeping appropriate records, and supervising the work of others conducting the same tasks. The candidate should be familiar with the NABC *Banders' Study Guide*, the NABC *Passerine Guide*, the CWS/USGS *Bird Banding Manual* and the first 40 pages of Peter Pyle's *Identification Guide to North American Birds, Part I*, practice the Bander's Code of Ethics, and have intensive "hands-on" training and experience in performing the above tasks. The Trainer level of certification indicates that the successful candidate has achieved a level of competence in instruction of the above skills.

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FREY, ROBERT, AND JOHN ALEXANDER. **Bird banding techniques workshop.** KBO, P.O. Box 758, Ashland, Oregon, [Workshop Departs Lot A, 6:00 am]

Several topics and techniques will be presented for banders, concurrent to the active banding demonstration at Klamath Bird Observatory's (KBO) Willow Wind banding station. Demonstration tables will be set proximate to the banding station for participants to select the time they want to spend at each. Demonstrations by the Klamath Bird Observatory and our partners will include: **Mist netting at the Klamath Bird Observatory's Willow Wind banding station** – KBO and Redwood Sciences Laboratory, USDA Forest Service Forest Service Intern Students will operate this constant effort station following the Klamath Demographic Monitoring Network protocol. Some may find our techniques of mist net set up and processing innovative. Our "hit and run" banding operations that cover 26 stations throughout northern California and southern Oregon have inspired us to streamline field kits while being prepared for any banding situation. Demonstrations of the "body grasp" net extraction method, net set up using adjustable connectors, and net repair will be on going; **A presentation of the Tabular Pyle** – C. John Ralph of the Redwood Sciences Laboratory, USDA Forest Service will demonstrate how this new method of summarizing Peter Pyle's Identification Guide to North American Birds, Part I (1997) into a tabular guide has proven to be extremely useful for both novice and experienced banders. The format allows quick and accurate assessment by a bander as to their ability to distinguish species, age, and sex criteria; **Ageing raptors using molt and plumage patterns** – Buzz Hall of the Golden Gate Raptor Observatory will present and discussion raptor ageing techniques based on molt limits and retained contour feathers using raptor study skins; **The Bander's Merit Badge** – Pablo Herrera of Forest Service Redwood Sciences Laboratory, USDA Forest Service will present this checklist system that is based, in large part, on the North American Banding Council (NABC) requirements for Bander level certification. Banding trainees are encouraged to undertake the certification by providing them clear objectives to achieve certification. At the end of successful completion, the trainee is awarded a patch, or "merit badge"; **Bird first aid for banders** – Bob Frey of the Klamath Bird Observatory will present treatment for bird injuries related to mist netting and banding. Topics will including capture-related stress, wing strain, broken leg, and laceration; **Trapping and tracking Great Gray Owls: Radio transmitters and trapping equipment** – Steven Godwin of the Bureau of Land Management, Medford District will display and discuss of Great Gray Owl traps, radio transmitter backpack harnesses and tracking antenna and receiver used in an on-going study. Illustration and demonstration of trap set up and putting on backpack harnesses will be included; **Songbird Telemetry**– Jim Tietz—As transmitter batteries become increasingly lighter weight, songbird telemetry is gaining in popularity. One attachment method currently employed by many researchers is the harness technique that was first described by Rappole and Tipton (1991). In order to reduce time and stress during handling, I here present a technique that uses a pre-fitted elastic harness that simply stretches over the bird's legs.

GARCIA, DAWN AND JAIME ACKER. **Results of an on-going Barred Owl (*Strix Varia*) study on Bainbridge Island, Washington.** (DG: 11715 Kirk Avenue NE Bainbridge Island, WA 98110 Drmel@sprintmail.com) [Paper]

The first credible detection of the barred owl (*Strix varia*) on Bainbridge Island was in 1993, with an earlier potential detection heard in 1989. In 1995/96 Acker identified two established pairs of barred owls. He began inventorying owls on the island in 1997 using playback calls, and noted that the barred owl population was increasing; consistent with the trend in the Pacific Northwest. In 2000, we co-authored a proposal to determine home range of adult pairs and dispersal of juvenile owls, using color bands. We attracted birds to taped calls at dusk and used a variety of capture methods including mist nets, dho-gaza nets, and bal-chatri traps. Additionally, we banded nestlings if nest trees were located. In 2001, the National Council on Air and Stream Improvement (NCASI) donated slightly used transmitters previously fitted on spotted owls. We began installing tail-mounted transmitters on certain owls and have determined home ranges of two female territory holders. The adjacent home ranges of the females are approximately 233 hectares (0.75 miles x 1.2 miles) and 518 hectares (2 square miles) with some overlapping area occurring between the two. We have determined dispersal movements of three juvenile birds, at least one which currently holds a territory on the island. We have also documented nest locations, nest tree characteristics, prey taken by barred owls, and some molt characteristics. Acker documented a decrease in the response of western screech owls (*Otus kennicottii*) to playback tapes since the beginning of his monitoring. We have evidence that barred owls will prey on screech owls and other small owls. Are barred owls causing a decline in small owl populations? We also speculate as to how many barred owl pairs can exist on the island, particularly with development pressure on owl habitat.

GODWIN, STEVEN A. **Great Gray Owl Habitat Use and Seasonal Movement Analysis Via Radio-Telemetry, Vegetation Measurement, and Genetic Analysis.** Bureau of Land Management, 3040 Biddle Road, Medford, Oregon, 97504 Steve_Godwin@or.blm.gov [Paper]

Our objectives are to: analyze habitat selection and preference of the species; Evaluate great gray owl response to current forest management activities; analyze landscape composition within home-ranges to provide for management recommendations at the site and landscape level; ascertain breeding range size; ascertain home-range size; assess gene flow between breeding popu-

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lations in Idaho, Oregon, and California. Owls were captured at known breeding locations. Backpack style radio-transmitters were attached. DNA samples (blood or feathers) were collected. Owls were located through triangulation 5 times per 2-week period. Times of locations were rotated through 3 nocturnal periods. Our preliminary results show minimal movement by owls during the breeding season. Larger movements were documented during non-breeding season. Owls were located in a wide variety of habitats. Little study has occurred on great gray owls in this southerly portion of its range. This study will help us understand what habitat types are preferred by great gray owls. The genetic analysis portion of this study will help us to understand the extent to which movement occurs between known populations of great gray owls.

GREEN, MICHAEL. The 2004 Tricolored Blackbird survey: Species status, conservation efforts, and challenges. U. S. Fish & Wildlife Service, 911 Northeast 11th Avenue, Portland OR 97232; michael_green@fws.gov. **[Paper]**

April surveys run periodically since 1994 have revealed an alarming population decline in Tricolored Blackbirds. Conservation interest in this species by government agencies and non-governmental organizations is very high. A survey of Tricolored Blackbirds in 2004, organized by EDAW, Inc. (a consulting firm), the U.S. Fish & Wildlife Service, and the California Department of Fish & Game, limited its focus to Central Valley colonies historically numbering >2,000 birds. During the period 16–19 April, 27 volunteers visited 182 (90%) of 201 known sites meeting that criterion. An additional 43 sites, either outside the Central Valley or historically <2,000 birds, were also visited, and 7 more were surveyed outside the four-day count period, totaling 251 sites surveyed. Thirty-three colonies were found, numbering from 5 to 100,000 adults. Independent estimates of some colonies varied by factors of 2 to 10, resulting in a range of population estimates. Post-survey nest density transects made by Tricolored Blackbird experts will result in refined estimates of colony sizes and are still being analyzed. This survey highlighted the difficulties of counting this itinerant, highly colonial species. The USGS is working with the Tricolored Blackbird Working Group to develop more-accurate survey methods to track long-term population trends, a necessary complement to conservation efforts. Conservation efforts include working with farmers and ranchers on private lands to encourage conservation of breeding and foraging habitats for the Tricolored Blackbird, with the management of federal and state protected lands with Tricolor Blackbirds as the focus. Long-term conservation of this species will require multi-agency and NGO partnerships, plus a large volunteer base, to support and promote conservation efforts and to enlist in periodic population surveys, such as those planned for 2005.

‡GRIFFITHS, JESSICA, STOCK, SARAH; and THORNGATE, NELLI. **Productivity and Abundance of Riparian Focal Species Relative to Habitat Restoration in Central Coastal California.** Big Sur Ornithology Laboratory of the Ventana Wilderness Society, HC 67, Box 99, Monterey CA 93940, ‡jessicagriffiths@ventanaws.org. **[Paper]**

The Monterey Peninsula Water Management District (MPWMD) initiated multiple watershed restoration projects in 1984 to restore critical riparian habitat and hydrologic function that had been compromised by two dams followed by 80 years of intensive floodplain development. Since 2003 we have been conducting avian monitoring to evaluate the efficacy of the MPWMD's habitat restoration efforts. Over two breeding seasons we studied productivity and abundance of California Partners in Flight riparian focal species at five sites undergoing different degrees of restoration. The results of the present study were derived from data collected using the Monitoring Avian Productivity and Survivorship protocol during 2003 and 2004 breeding seasons. Bird populations responded differently to varying degrees of restoration. Bird productivity and abundance were higher at sites where restoration efforts created a diverse understory and where small (3 to 6 meters) willow species mixed with larger mature cottonwoods or alders composed the major vegetative cover. Productivity and abundance were lower at sites where restoration resulted in a monoculture of small willow trees with negligible understory. Areas with a mature canopy of large (>6 meters in height) willows, alders, and cottonwoods varied in their productivity and abundance. The results of this study substantiate the need for long-term avian monitoring in restoration areas to effectively evaluate different restoration techniques and to develop future restoration plans that create healthy and structurally diverse riparian areas.

†‡GUILFOYLE, MICHAEL P., †§JAMES S. WAKELEY, AND °RICHARD A. FISCHER. **Development, testing, and refinement of an avian index of biological integrity for riparian ecosystems in the San Jacinto and Santa Margarita watersheds in southern California.** †U.S. Army Engineer Research and Development Center – Environmental Laboratory, 3909 Halls Ferry Road, Vicksburg MS 39180-6199; ‡michael.p.guilfoyle@erdc.usace.army.mil; §james.s.wakeley@usace.erdc.army.mil. °U.S. Army Engineer Research and Development Center – Environmental Laboratory, U.S. Army Louisville District, 600 Martin Luther King Junior Place, Louisville KY 40202; richard.a.fischer@usace.edrc.army.mil. **[Paper]**

We used measures of avian abundance and community composition in the San Jacinto River watershed in southern California during spring 2002 to develop an Index of Biological Integrity (IBI) that can be used to monitor trends in riparian ecosystem-health in response to continuing development, protection, and restoration pressures. We then tested the IBI in the adjacent watershed of the Santa Margarita River in spring 2003. We randomly selected 102 from over 600 identified riparian reaches in

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the San Jacinto watershed, plus 96 of over 500 reaches in the Santa Margarita watershed. Selected reaches were stratified among different bioregions in each watershed, representing different elevational and climatic conditions. Four to 5 point-count survey stations were established in each reach, and each station was sampled twice, using 5-minute point-count surveys during early spring and summer. Bird species detected during the surveys were placed into categories based on migratory status, predominant diet, foraging guild, conservation status, riparian dependence, native or exotic origin, and nest location. Detailed habitat and GIS data were used to calculate an index of human disturbance (IHD) for each sampled reach. The watershed-wide correlations between the San Jacinto IHD and IBI was $r=-0.74$. Application of the IBI to the Santa Margarita data yielded similar results, yet the final correlation was not as high ($r=-0.64$). Further refinement of the IBI involved adding bird-community metrics important to both watersheds, along with dropping other metrics important to only one of the watersheds. The final IBI provided a highly significant and predictive model applicable to both watersheds that emphasizes the presence of exotic species and the loss of species of conservation concern as key features characterizing disturbed habitats. Our method may provide a useful tool for assessing the impact of human disturbance on bird communities in other southwestern riparian habitats.

HAGAR, JOAN. **Foraging ecology of birds associated with understory vegetation in western Oregon forests.** U.S. Geological Survey – Forest & Rangeland Ecosystem Science Center, 777 Northwest 9th Street – Suite 400, Corvallis OR 97330; joan_hagar@usgs.gov. [Paper]

Understory vegetation is an important but often-overlooked component of habitat in western coniferous forests. I examined the relationships among bird abundance, availability of arthropod prey, and composition of understory vegetation communities in 13 forest stands representing a range of structural conditions in western Oregon. I used fecal analysis to describe the diet of several bird species that forage in the understory of conifer forests, and I compared the abundance of their arthropod prey among shrub species and silvicultural treatments. I also quantified the foraging patterns of Wilson's Warblers, MacGillivray's Warblers, and Orange-crowned Warblers to determine which shrub species were used for foraging. Tall, deciduous shrubs supported high abundances of arthropod prey, especially lepidoptera larvae. Wilson's and MacGillivray's Warblers also foraged extensively on tall, deciduous shrubs. These shrub species responded positively to partial removal of the overstory by thinning and group selection harvests. Furthermore, small gaps in the canopy of commercially thinned stands and larger gaps created by group selection harvests supported higher abundances of aerial arthropod prey than surrounding matrix forest. I conclude that understory vegetation in general, and deciduous shrubs in particular, make an important contribution to food resources for birds in conifer-dominated habitats.

HAMILTON, BILL. **Evaluating the Content of Tricolored Blackbird (*Agelaius tricolor*) Colonies.** University of California, Department of Environmental Science and Policy, Davis CA 95616. wjhamilton@ucdavis.edu. [Paper]

Behavioral studies of individually identifiable birds may enhance the accurate estimation of colony size. At colonies comprised of thousands of individuals, typical for breeding Tricolored Blackbirds (*Agelaius tricolor*), this need is difficult to satisfy because birds cannot be captured at colonies without disruption. This may account for the dearth of behavioral studies of tricolors (none since 1970) and the plethora (over 100 since 1970) of red-winged blackbird (*A. phoeniceus*) behavioral studies. I resolved this limitation for tricolors by observing a relatively small (4,000) tricolor colony and banding at bait several km from the colony before its settlement. Observations of color-banded birds showed that the number of males present when nestlings were being provisioned did not reliably identify the number of females or nests because unmated males hold territories in the same space where other males are provisioning nestlings. The most reliable estimates are made by establishing transects when colonies are active, then making more extensive counts of nests after the breeding season. Post-season estimates ranged from close verification of breeding season estimates to wildly differing totals. A colony nesting in a wheat silage field was estimated at 105,000 birds during the breeding season but a post-season estimate located only 22,000 nests. The reason for this particular discrepancy was that nests were placed only in patchily distributed mallow weeds, not wheat, a relationship identified by the post-season survey. To accurately determine the abundance and habitat relationships of Tricolored Blackbirds a combination of banding, field observations during the breeding season and post breeding nest and habitat analysis is needed.

†‡§HEINZELMANN, JAIME, †JOHN ALEXANDER, AND §STEWART JANES. **Effect of Wildlife Protection Areas Retained within Clearcuts on the Abundance of Songbirds in Coniferous Forests of Southwestern Oregon.** ¹Klamath Bird Observatory, Ashland, OR, 97520; ²Department of Biology, Southern Oregon University, Ashland, OR, 97520.

The goal of this study was to assess whether Wildlife Protection Areas (WPAs) provided habitat for resident and Neotropical migratory songbirds. WPAs are groups of trees retained as habitat patches within clearcuts. The WPAs in this study ranged in size from 0.1 to 0.8 hectares. Two years of off-road variable radius point count bird censuses were completed. Compari

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son of species abundance in WPAs, clearcuts and mature forests varied among species. Yellow-rumped Warblers, Red-breasted Nuthatches and Cassin's Vireos had abundance within WPAs that was greater than clearcuts, and more similar to mature forests; which indicated that WPAs did provide habitat for particular species. Species abundance within WPAs varied amongst nest guilds. Probability of detection was determined for species within different size WPAs. Although results between different size WPAs were not significant, they suggest that further study should include larger WPAs.

HELZER, DAVID. **An update on Oregon's Important Bird Areas (IBA) program.** Audubon Society of Portland, 5151 Northwest Cornell Road, Portland OR 97210; dhelzer@audubonportland.org. [Paper]

Initiated by the Audubon Society of Portland in 2002, the Important Bird Areas (IBA) program identifies areas in Oregon that are outstanding for their importance to populations of breeding, foraging, or resting birds. The IBA program encourages the continued productivity of these sites through awareness, conservation, monitoring, and research. This presentation will provide an overview of IBA site-selection criteria, a review of sites identified to date, and a look at future plans for the program.

¹HEWITT, ROBERT W., ¹GRETCHEN A. O'BRIEN, [‡]²PABLO A. HERRERA. **Riparian Bird Monitoring for Gravel Operators in Humboldt County, California, 1996-2003.** ¹LBJ Enterprises, 1707 E Street Eureka, CA 95501, LBJent@humboldt1.com. ²USFS Redwood Sciences Laboratory, 1700 Bayview, Arcata, California, 95521, [‡]paherrera@fs.fed.us. [Poster]

For the past nine years LBJ Enterprises has conducted bird monitoring at 24 gravel bar extraction sites on the Eel and Mad Rivers in Humboldt County, California. Monitoring methods include annual point counts, area searches, Constant-Effort Mist Netting, and Relevé vegetation surveys following Ralph *et al.* 1993 and 1995. This monitoring was started as a voluntary program by the gravel operators to address potential biological impacts as a result of their activities. In that time, the Snowy Plover (*Charadrius alexandrinus*) and the Willow Flycatcher (*Empidonax traillii*), have been confirmed as breeding on some of these gravel bars. We present our lower Eel River gravel preliminary monitoring results from point count surveys and our Constant-Effort Mist Netting Station. We compared the annual variation of mean number of detections for the five most abundant migrant and resident species. The mean detections showed consistent decreases in 1998 and 1999, possibly due to the strong *El Niño* weather events in the preceding winters. We also examined Cormack-Jolly-Seber models of adult survivorship for the Song Sparrow and Swainson's Thrush at our Constant-Effort Mist Netting Station. Of the five models tested, the constant survival and recapture rate model (Φ, p) had the highest degree of statistical support for both species. However, the second-best-supported model (Φ_{98-99}, p) indicated a negative effect for Song Sparrow survival in 1998 and 1999. Migrant species showed higher annual variation than resident species when examined using regression. The opposite result was predicted when examined by modeling. However, both approaches provide information about declines in 1998 and 1999 for some species.

HOWELL, STEVE, N.G. **Tips for identifying hummingbirds of western North America.** PRBO Conservation Science, 4990 Shoreline Hwy. Stinson Beach, CA 94970 [Workshop]

Based on the recently published book, Hummingbirds of North America, author Steve Howell will discuss the identification of hummingbirds in Western North America. This is an essential workshop for anyone striving to improve their hummingbird ID skills.

HULL, BUZZ and FISH, A.M. **A study of juvenile Red-tailed Hawk (*Buteo Jamaicensis*) movement through the Marin Headlands, California, in autumn and winter.** Golden Gate Raptor Observatory, Building 1064 Fort Cronkrite, Sausalito, CA 94965. [Paper]

Fall and winter raptor banding was initiated in 1983 in the Marin Headlands and formal fall migration counts of raptors were started in 1986. Both efforts have continued each year since then from mid-August to Mid-December. Bimodal distribution of juvenile Red-tailed Hawks (*B. jamaicensis*) counts have been recorded each year by the counting team with the first peak occurring in September and the second in early November. There is a significant difference in the pattern of band recoveries between the juvenile Red-tails banded in the two periods of peak activity. Within the same fall and winter that they were banded, a greater proportion of the juvenile Red-tails banded in the first peak-period in September were reported to the north of the banding site. A significantly greater proportion of those banded in October, November, and December were reported to the south of the banding site during the winter of banding. These results suggest that the juvenile Red-tail movement during the September peak may consist partly of post-fledging dispersers, and that more of the later birds are migrating.

^{†‡}JONGSOMJIT, DENNIS, [†]THOMAS GARDALI, [†]GEOFF GEUPEL, [§]STEPHANIE JONES, AND [§]PAULA J. GOUSE. **Building a nestling aging guide: A call to researchers.** PRBO Conservation Science, 4990 Shoreline Highway, Stinson Beach CA 94970; [‡]djongsomjit@prbo.org. U.S. Fish & Wildlife Service, P.O. Box 25486, DFC, Denver CO 80225. [Poster]

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We are building a nestling aging guide of descriptive statistics and photographs, and we encourage the participation of researchers to make this guide as useful and comprehensive as possible. The ability to age nestlings when a nest is found is desirable due to emerging methods (such as survival-time analysis) for evaluating nest success that require knowing the age of the nest at finding. These new methods offer several improvements over the popular Mayfield method, which requires several assumptions be met: a constant probability of nest-failure within a nesting period (laying, incubation, or nestling), an equal probability of failure among nests, and independence of outcome among nests. Additionally, these new methods allow researchers to analyze the effect of covariates on daily nest survivorship. For example, researchers can look at temporal variation in nest survival or at the effects of vegetation or landscape characteristics—analyses that are clumsy at best using Mayfield estimates. These sorts of insights should make the most of nest monitoring data to inform managers on how best to enhance songbird reproductive success. An aging guide is also useful for those interested in the life history of a species, to help gauge the proper time to band nestlings, and to help estimate more-precise fledging dates. In order to facilitate this process we present guidelines, suggested protocols, and data-forms for researchers who band nestlings and are interested in contributing data to this project or who want to create a similar guide for their study species. We present these guidelines using examples from Song Sparrows measured from our study plots in the Point Reyes National Seashore, California.

JANES, STEWART. **Exciting new insights into Hermit and Black-throated Gray Warbler songs.** Southern Oregon University. 1250 Siskiyou Boulevard, Ashland, OR 97520 janes@sou.edu. **[Workshop]**

Research on forest warblers has revealed exciting new results about distinct Hermit Warbler song populations and convergence of Hermit and Black-throated Gray Warbler songs in Southern Oregon. This interactive workshop will cover techniques used to analyze warbler songs, differences in songs of sound-alike warblers, Type I and Type II songs, and results from current research being conducted in the Siskiyou and Cascade mountain ranges of southern Oregon.

KRISSMAN, CORTNIE. **Abundance patterns of three sagebrush obligate passerines in eastern Oregon.** Oregon State University, Department of Fisheries and Wildlife, 104 Nash Hall, Corvallis OR 97331-3803; cortnie.krissman@oregonstate.edu. **[Poster]**

Abundance within the geographic range of a species is not uniform, but fluctuates across the range, often decreasing gradually towards the edge of the range, where resources and habitat conditions become less suitable. Sagebrush obligate passerines provide a unique opportunity to study how songbirds with similar habitat requirements vary in abundance with respect to the distribution limits of sagebrush. Using North American Breeding Bird Survey count data and sagebrush distribution maps, I examine the patterns of abundance of three species of sagebrush obligate birds, Brewer's Sparrow, Sage Sparrow, and Sage Thrasher, within the geographic distribution of sagebrush (*Artemisia*) in eastern Oregon. I predict a strong positive relationship between habitat availability and abundance. While these species share a requirement for sagebrush, Sage Sparrow and Sage Thrasher may exhibit an abrupt decline in abundance toward the limits of sagebrush in Oregon's Great Basin. Brewer's Sparrows appear to have less strict dependence on sagebrush than do Sage Sparrow and Sage Thrasher and are thus more likely to exhibit a gradual decline in abundance. Distributional patterns of species may be influenced by anthropogenic changes in habitat. My results will aid in determining how these species may react to continuing changes in sagebrush habitat. Overall abundance and distribution of these sagebrush obligates across their range must be considered when developing effective conservation strategies for these species.

LARSON, KEITH. **Band manager workshop.** Klamath Bird Observatory, P.O. Box 758, Ashland, OR 97520. **[Workshop]**

This two-hour workshop covers the basic fundamentals of Band Manager, the computer program used throughout the USA and Canada for banders to report banding data to the Bird Banding Offices. This workshop is designed to be an introduction to the program for first-time Band Manager users, or a refresher course for those who have used the program before. During this workshop, Mr. Larson will walk participants through the steps of entering and verifying banding data, and producing schedule reports using a pre-prepared data set. He will offer tips and tricks designed to streamline your Band Manager experience, and will be available for questions after the demonstration.

‡LORENZ, TERESA, AND †VICTORIA FURSMAN. **Monitoring songbird response to thinning and coarse woody debris treatments in coniferous forests on the Olympic Peninsula, Washington.** USDA Forest Service, Olympic National Forest, Hood Canal Ranger District, P.O. Box 280, Quilcene WA 98376; ‡tjlorenz@fs.fed.us. **[Poster]**

For nearly a century, the timber on Olympic National Forest was intensely harvested using an approximately 80-year cycle of clear-cutting, broadcast burning, and reseedling. The result of this management regime is second growth stands composed of young, even-aged stands. The Forest is currently managing timber to accelerate late successional forest characteristics using variable-density thinning. The effects of various prescriptions of coarse woody debris are currently being studied in the USDA

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Forest Service Pacific Northwest Research Station Olympic Habitat-Development Study (HDS). Songbirds are useful indicators of habitat quality. The current study monitored avian response to various treatments of variable-density thinned stands. The study has just completed its pilot year. Eight treated stands were compared to three control stands in three different forest associations. An intensive study of avian relative abundance, density, and productivity was undertaken using point counts, spot mapping, and nest monitoring as survey methods. The study looked at avian community structure five to nine years after thinning. Preliminary findings suggest that the songbird community response following a thin was affected by moisture regime and climate, as demonstrated by differences in results between dry, east-side vs. wet, west-side study-sites. On wet sites, the songbird community appeared to recover rapidly from thinning. Relative abundance, density, and productivity were higher in thinned stands than in control stands. Conversely, on dry sites, songbird relative abundance seemed to increase following a thin, but productivity may have been severely affected. The project will continue indefinitely to monitor avian community-structure over time.

†MARSHALL, DAVE, ‡MATT HUNTER, AND §ALAN CONTRERAS. **The making of *Birds Of Oregon: A General Reference*.** †1424 Timberline Drive, Lake Oswego OR 97034; dmarsh@teleport.com. ‡2205 Northwest 13th Street, Corvallis OR 97330; matt.hunter@comcast.net. §795 East 29th Avenue, Eugene OR 97405; acontrer@mindspring.com. **[Special Evening Program]**

The first comprehensive book on Oregon's birds since 1940, *Birds of Oregon: A General Reference* came out in May of 2003, over five years after publication of the book was approved by Oregon State University Press. This 752-page book was intended for serious birders, wildlife biologists and conservationists, but the audience has proven to be broader. It represents the work of three editors, an artist, a taxonomic editor, a cartographer, a senior contributor, an editorial assistant, and 100 authors, plus others, e.g., data collectors and reviewers, and it incorporates data from the Oregon Breeding Bird Atlas. The book covers 353 regularly occurring species with full accounts, plus 133 vagrants with brief accounts. While mainly a volunteer effort, it soon became apparent that completion of the book exceeded what could be done on a volunteer basis in terms of editing and miscellaneous expenses. Approximately \$80,000 was raised for such expenses, in addition to \$30,000 for the artwork and production by OSU Press. Over 60 percent of funding came from nine private donors with the remainder coming from 18 corporations, conservation organizations, government agencies, and foundations. Writing, editing time, and expenses exceeded original estimates by more than twice. OSU Press printed 2,600 copies of the book. The inventory is down to about 200 copies, which exceeds the press's expectations for a \$65 book that is restricted to a limited audience. The book has received widespread favorable reviews from the popular press in Oregon. Reviews from scientific journals are now emerging, and again have been complimentary.

†‡MARTZ, CODY, †AARON L. HOLMES, AND †ADAM M. HANNUKSELA. **Habitat use and songbird response to thinning and burning in a sagebrush–juniper woodland.** †PRBO Conservation Science, 4990 Shoreline Highway, Stinson Beach CA 94970; ‡cmartz@prbo.org. **[Paper]**

Due to political issues surrounding declines and potential listings under the Endangered Species Act of Greater Sage-Grouse and other shrub-steppe dependent species, management of sagebrush habitats for wildlife has become a priority for federal and state agencies. At higher elevations, sagebrush communities in much of the Intermountain West are transitioning toward juniper (*Juniperus* spp.) and pinyon (*Pinus* spp.) woodlands, and treatments designed to maintain shrub and herbaceous habitat components are increasingly widespread. Little information, however, is available on the responses of songbird populations to either woodland expansion or habitat manipulations. We conducted surveys of treated and untreated sites representing a spectrum of structural conditions on Steens Mountain, Harney County, Oregon during the breeding seasons of 2003 and 2004. We compared abundances of 5 widespread songbirds (Gray Flycatcher, Green-tailed Towhee, and Chipping, Brewer's, and Vesper Sparrows) among study areas that were untreated, burned, or manually thinned. Three of the 5 species were more abundant on sites where juniper had been thinned relative to untreated sites. Only Vesper Sparrow occurred in greater abundance in burned treatments. These initial results suggest that numbers of woodland associated species, including Chipping Sparrow and Gray Flycatcher, are reduced as a function of tree removal. Shrub-nesting species such as Brewer's Sparrow may benefit from cutting of juniper trees and subsequent increases in shrub cover, but they decline if sites are burned and the shrub layer is removed. Our results also provide evidence that avian diversity increases with increased structural diversity in a sagebrush-woodland mosaic.

MCCALLUM, ARCH. **Distinguishing Pacific-slope Flycatcher and Cordilleran Flycatcher vocalizations with spectrograms.** Applied Bioacoustics, P.O. Box 51063, Eugene OR 97405; mcalluma@qwest.net. **[Paper]**

The Western Flycatcher was split into the Cordilleran Flycatcher of interior western North American cordilleras and the Pacific-slope Flycatcher of the Pacific slope (including the Sierra Nevada – Cascade axis) on the basis of morphological, vocal,

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and genetic differences documented by Ned K. Johnson and associates. Because field-usable plumage differences do not exist, because vocalizations are very similar, and because some individuals are “bilingual” in the Pacific Northwest, numerous north-western ornithological groups and individuals have questioned the wisdom of the split and do not attempt to distinguish the species in the field. I argue that the Phylogenetic Species Concept, which underlies the split, is the more-desirable species concept for conservation, and that conservation-minded naturalists should attempt to map the variation in vocalizations across the zone of contact. To this end, I review the published evidence for the split, present new data on the distribution of vocal types in the Pacific Northwest, and conclude that spectrograms of advertising song and position notes can be used to assign individuals to species or to a third, hybrid, category. Observers should be aware that females can give “male position notes” of indeterminate form, which can confuse the issue.

MORLAN, JOSEPH, MODERATOR. **Expert bird ID by sight and sound.** 1359 Solano Drive, Pacific CA 94044; jmorlan@ccsf.edu. **[Special Evening Presentation]**

An annual offering at WFO meetings, the expert panel consists of 3–5 bird-identification experts who are presented with slides of difficult or problematic birds. The identities of the bird, if known, are not revealed at first to the panel. Operating as a group, the panel works through the identification process, “thinking out loud” for the benefit of audience members. The proceedings are often entertaining, but the more important end-result is distinctly educational: All of us gain improved insight into the actual process of bird identification.

PITKIN, MELISSA. **Mist-netting with the public- Encouraging public participation in mist-netting demonstrations.** Klamath Bird Observatory, Ashland, Oregon mp@klamathbird.org **[Paper]**

Involving the public (students, community members, and wildlife managers) directly with scientific monitoring and research is critical to teaching people about the importance of science-based conservation and for building support for wildlife monitoring and research. In-the-field activities provide participants firsthand experiences with birds up close and in the hand. Simple guidelines for how to safely involve the public in mist-netting demonstrations are outlined along with recommendations for creating interpretive tools and selecting appropriate sites. Constant effort mist netting and MAPS programs should encourage public involvement whenever possible. This unique experience will benefit birds and habitat conservation.

MICHEL, NICOLE. **MAPSPROG workshop.** The Institute for Bird Populations, P.O. Box 1346, Pt. Reyes Sta., CA 94956. **[Workshop]**

This one-hour workshop covers the basic fundamentals of MAPSPROG, the data input/import, verification/editing, and error-tracking program for MAPS (Monitoring Avian Productivity and Survivorship) banding, effort, breeding status, and habitat data. This workshop is designed to be an introduction to the program for first-time MAPSPROG users, or a refresher course for those who have used the program before. During this workshop, Nicole Michel will walk through the steps of entering and verifying banding and effort data (and perhaps breeding status, depending on time) using a pre-prepared data set. She will offer tips and tricks designed to streamline your MAPSPROG experience, and will be available for questions after the demonstration.

POLLINGER, JOHN, CLEGG, S.M., LOVETTE, I, KIMURA, M., RUEGG, K., MILA, B., SMITH, T.B. **Linking breeding and overwintering areas for five Neotropical migrant passerines using genetic markers.** Center for Tropical Research, UCLA UCLA Conservation Genetics Resource Center 621 Charles Young Drive South, Los Angeles CA 90095. jpollinger@ucla.edu and bmila@ucla.edu **[Paper]**

Linking breeding and overwintering areas for five Neotropical migrant passerines using genetic markers Assessing levels of connectivity between breeding populations and overwintering locations for small migratory songbirds has proved difficult via traditional marking and tracking approaches. Here we briefly assess the utility of molecular genetic approaches to provide information on population connectivity in five widespread Neotropical migrant passerines: common yellowthroat, Nashville warbler, Wilson's warbler, yellow-breasted chat and Swainson's thrush. The approach used to determine the geographic scale that breeding and wintering sites may be linked involved (1) the assessment of levels of mitochondrial DNA phylogeographic structure across the breeding range of each species, (2) the identification of diagnostic restriction sites that defined different geographic populations and (3) the use of this information to assign individuals caught at overwintering sites to a breeding area. Broadly congruent phylogeographic patterns were evident, with well supported 'eastern' and 'western' lineages identified in all five species. Overwintering individuals were diagnosed as being of eastern or western breeding origin. Limited mixing of breeding lineages at overwintering sites was evident for Wilson's warbler; for all other species, overwintering locations comprised individuals belonging to a single lineage. Resolution of finer scale geographic structure on the breeding grounds

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was not possible using mtDNA, therefore overwintering individuals could not be assigned to smaller geographic breeding areas. Greater resolution may be possible when molecular genetic techniques are combined with other sources of information on geographic origin.

POLLINGER, JOHN, BORJA MILA, and TOM SMITH. **Genetics, Migration, and Bird Conservation.** Thomas Center for Tropical Research, UCLA Conservation Genetics Resource Center 621 Charles Young Drive South, Los Angeles CA 90095 jpolling@ucla.edu and bmila@ucla.edu **[Workshop]**

Assessing levels of connectivity and population structure between breeding populations and overwintering locations has proved difficult via traditional marking and tracking approaches, especially for small migratory songbirds. Genetic characterization and isotope tracking studies can provide significant insight for both migratory and resident species. The UCLA Conservation Genetics Resource Center (CGRC), and the Center for Tropical Research (CTR) at UCLA have applied a variety of genetic approaches and isotope tracking methods to the study and conservation of migratory birds. We will briefly discuss the range of genetic tools available (e.g. microsatellites, sequences, AFLPs), their potential information content and appropriate application, and provide specific examples of their application to studies of migratory bird connectivity and population structure. We will also discuss suitable samples for genetic and isotope studies, emphasizing blood and feather samples. Finally, we will conduct an open discussion where participants can discuss and get advice on specific studies of interest for: (1) genetic and isotope study design, (2) suitable sample selection, collection and storage, (3) selection and application of genetic and isotope tracking tools, and (4) analysis of results.

POWERS, DONALD. **The impact of social interactions on torpor use in hummingbirds.** Department of Biology, George Fox University, Newberg OR 97132; dpowers@georgefox.edu. **[Paper]**

Measurements of metabolic rate and fat deposition were made on a three-species hummingbird guild in southeastern Arizona to determine if the energetic advantage gained by a dominant territorial species (Blue-throated Hummingbird) over subordinate competitors (Black-chinned Hummingbird and Magnificent Hummingbird) resulted in less-frequent use of torpor. Results showed that Blue-throated Hummingbird was able to store enough fat during the day to avoid nocturnal torpor. Restricted access to food-limited fat storage in both competitors resulted in frequent torpor use. Avoidance of torpor by Blue-throated Hummingbird supports the notion that use of nocturnal torpor by hummingbirds comes with a cost, and that the ability to avoid torpor is an important benefit to dominant species.

PYLE, PETER. **Great trans-Pacific migrations: From albatrosses to turtles and sharks to pipits.** The Institute for Bird Populations, P.O. Box 1346, Point Reyes Station CA 94956-1346; ppyle@birdpop.org. **[Special Evening Presentation]**

The Pacific Ocean covers over 69 million square miles of, for the most part, hostile territory for migrant animals. There is no place to land and little to eat. Yet many species need to navigate these waters to take advantage of seasonal food resources or protected areas to raise their young. Through the advent of state-of-the-art satellite-tag technology, we are discovering some amazing things about how far these animals travel and the methods they use to get there. Whereas north-to-south migrations are considered the norm, there is a strong, heretofore unrecognized east-to-west component to Pacific migrations. We'll travel from Siberia to Baja California, the Gulf of the Farallones to Hawaii, and Indonesia to Point Reyes, in quest of some of these great trans-Pacific migratory pathways.

PYLE, PETER. **Feather Molt Workshop.** The Institute for Bird Populations, P.O. Box 1346, Pt. Reyes Sta., CA 94956. **[Workshop]**

Participants will be trained in a synthesis of methods pertaining to identification, ageing, and sexing of landbirds in the hand and in the field. The course will focus on ageing passerines and other landbirds to SY / ASY (second-year / after second-year) using molt limits, which allows for the calculation of juvenile recruitment and survival as used by MAPS programs and other population studies. The workshop will consist of presentations, study of specimens, field mist netting, banding, and assessing live birds at two different locations. The accurate identification, ageing, and sexing of North American near-passerines and passerines generally is complicated by a high degree of variation in size, plumage, and molt patterns found within each species, subspecies, and age/sex class. Biologists use various techniques for accurate ageing, sexing, and identification of birds in the hand and the field. The understanding of these concepts is crucial to accurate data collection and analysis. In this training workshop, participants will receive instruction on advanced bird identification, ageing, and sexing methods.

†ROBILLARD, KEITH A., AND ‡MICHAEL T. MURPHY. **Influence of age, weather, and body size on reproduction of Tree Swallows in the Willamette Valley, Oregon.** †Department of Biology, Portland State University, Portland OR

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97201; keithr89@hotmail.com. ‡1719 Southwest 10th Street #246, Portland OR 97201; goshawk2004@yahoo.com. [Paper]

We studied the reproductive ecology of Tree Swallows in a climatically mild portion of their range in the Willamette Valley, Oregon. We tested the hypotheses that age effects would be pronounced (due to lack of climatic stress), and that weather and body size would have little influence on reproduction. For the main breeding period (3 May – 6 June), older females produced larger clutches, but there were no differences in timing of breeding or fledging success in comparisons of age classes. But poor weather caused a decrease in clutch size. Interruptions in laying were also associated with lower maximum daily temperatures, and incubation length was inversely related to temperature during incubation. We found no relationship between body mass and wing chord vs. the reproductive traits reported here. However, we found consistent inverse relationships between measures of productivity and tarsus length. Thus, for this population, age effects are similar to what has been described in eastern portions of the range. Weather had little effect on reproduction except during egg-laying and incubation, but body size appeared to influence reproductive success, a finding not reported elsewhere.

SABIN, LAURA BETH. **Using year-round mist-netting to gather baseline data of avian use along the lower Colorado River on typical and restored habitat.** Bureau of Reclamation, P.O. Box 61470, Boulder City NV 89006; lsabin@lc.usbr.gov. [Poster]

The Bureau of Reclamation, Lower Colorado Region, has initiated an avian monitoring program along the Lower Colorado River (LCR) to gather baseline data on avian use of typical and restored habitats. A major component of this monitoring program is year round mist-netting. The data obtained through year-round mist netting will serve the following purposes: (1) to monitor avian population and trends along the LCR watershed; (2) to determine differences in bird activity between restored and typical habitat; and (3) to use avian monitoring data in development of future restoration sites. Since 2000, Reclamation has initiated two MAPS (Monitoring Avian Productivity and Survivorship) stations during the breeding season, one in typical habitat and one in restored habitat. Since 2002, Reclamation has initiated two winter and fall migration mist netting stations; in two separate restoration-sites. Data collected from these stations will include the following: avian abundance, species composition, fat levels, pectoral muscle mass, productivity index, survivorship, age and sex ratios, over-winter site persistence and annual return rate. The HERO site (non-restored) yielded 0.41 birds per net-hour encompassing 24 species, and the CIBO site (restored) yielded 0.84 birds per net-hour encompassing 27 species in the breeding season of 2003. The CIBO site yielded 0.43 birds per net-hour encompassing twenty two species in the winter of 2003–2004. The PRAT site (restored) yielded 0.39 birds per net hour encompassing 17 species in the winter of 2003–2004. Reclamation is expected to add a third winter mist-netting station in typical habitat and add additional MAPS station in restored and typical habitat for continual avian monitoring along the LCR.

†‡SAKAI, WALTER H., †ANDRES AGUILAR, †ANN DUSEBOUT, †SARA ENGELSEN, †JAN GOERRISSEN, †ANASTASIA GONCHARKO, †GIL HOFTMAN, †LAUREN MATSUI, †JAY PARK, AND †FRANCINE STROMAN. **Are black mist nets really better than other-colored mist nets?** †Life Sciences Department, Santa Monica College, 1900 Pico Boulevard, Santa Monica CA 90405-1628; ‡sakai_walter@smc.edu. [Paper]

If there is a central dogma to bird banding, it might be that black mist nets catch more birds than other-colored mist nets. We found that most papers do not even mention the color mists that were used. We found that bird band manuals and the MAPS protocol “suggests” that banders use black. Yet we found nothing in the literature to support the notion that black mist nets capture more birds than other colors. To test this assumption, students at Santa Monica College tested the effectiveness of black, blue, brown, gray, and white mist nets in the high desert of southern California in the spring of 1994, and black, brown, green, and white mist nets in a chaparral habitat in southern California in the fall of 2003. We found that black mist nets did capture more birds than other-colored mist nets, but the differences were not always statistically significant. We found that while some birds were caught more successfully in black mist nets, the rule did not hold true for all birds.

†‡SALLABANKS, REX, AND †COLLEEN MOULTON. **The Idaho Bird Inventory and Survey (IBIS).** Idaho Department of Fish and Game, P.O. Box 25, Boise ID 83707; ‡rsallabanks@idfg.state.id.us. [Poster]

The Idaho Bird Inventory and Survey (IBIS) is a new statewide, coordinated, all-bird monitoring program designed to help managers decide which of 306 bird species that regularly occur in Idaho warrant management action; to identify declines and their causes; and to help managers plan and evaluate land-use practices, conservation, and restoration. In addition, IBIS will address specific high-priority habitat-related management issues for the birds of Idaho. Examples include assessing effects of human activities on wetlands; conflicts between piscivorous birds and fish populations; condition of aspen habitat and its importance to birds; effects of management in Pinyon-juniper habitats; and impacts of forest thinning and fuel-reduction projects. Identifying

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species at risk and the causes of their declines is a permanent need, whereas habitat-specific management issues can be addressed with relatively short-term (e.g., 3–5 year) studies. To identify species at risk, population-trend information is needed. Management issues will be addressed by describing spatial patterns in bird abundance and by identifying habitat relationships, followed by studies of avian productivity to determine quality of available habitats. IBIS provides quantitative objectives for addressing each of the management issues, identifies the best methods for collecting the needed information, provides estimated sample-size requirements, identifies responsibilities for implementation, and makes recommendations on project management and the next steps toward implementation. Version 1.0 of IBIS was launched in 2004 with pilot surveys of Idaho's wetland Important Bird Areas; waterbird monitoring will be expanded in 2005–2006 and terrestrial species added. Finally, IBIS has been developed as part of a national Coordinated Bird Monitoring network, the basic framework of which could easily be applied to other states, especially in the West.

SAN MIGUEL, MIKE. **Baja California: Looking for specialties and rarities in the other Mexico.** 2132 Highland Oaks Drive, Arcadia CA 91006; sanmigbird@aol.com. **[Paper]**

The checklist for the birds of Baja California, Mexico, currently stands at 480 species. Many of the birds on this list are of single records, are residents only, or are found nowhere else in Mexico except in Baja. Until recently Baja has received little coverage from birders, but the discovery of many rarities has prompted a surge in interest among enthusiasts from the United States. My presentation discusses very rare Asian and eastern Pacific species; Baja's resident specialties and endemic species; and rare/uncommon visitors and neotropical migrants/vagrants more easily found in Baja than in mainland Mexico. For birders wishing to visit and explore Baja, specific strategies and resources for pursuing its birds and suggested itineraries are provided.

†‡SHUFORD, W. DAVID, §°DAVID M. MAUSER, §DANIELLE L. THOMSON, AND §JOHN BECKSTRAND. **Nongame waterbirds in the Klamath Basin: A neglected group.** †PRBO Conservation Science, 4990 Shoreline Highway, Stinson Beach CA 94970; ‡dshuford@prbo.org. §Klamath Basin National Wildlife Refuge Complex, 4009 Hill Road, Tule Lake CA 96134; °dave_mauser@r1.fws.gov. **[Paper]**

The Klamath Basin, well known for its remarkable concentrations of waterfowl and Bald Eagles, also hosts many non-game waterbirds. With a tightening water supply and extensive historic habitat loss, there is a crucial need for biological knowledge to assess how future water allocations might affect the Basin's waterbird resources, which are among the most important in the Intermountain West. To this end, we conducted surveys of waterbirds in the Klamath Basin in 2003 and 2004. In 2003, we tallied 49 species of waterbirds on three comprehensive surveys of the Basin's wetlands. Estimated totals for all waterbirds were 62,561 individuals in May, 59,392 in June, and 87,727 in August. Species or species-groups with basinwide populations of >5,000 individuals included Eared Grebe, American White Pelican, White-faced Ibis, Black-necked Stilt, Western and Least Sandpipers, Long-billed Dowitcher, and Ring-billed Gull. Eleven other species exceeded 1,000 individuals in at least one season. The Klamath Basin is of regional or continental importance to populations of at least 14 species of breeding waterbirds and to migrant Sandhill Cranes, shorebirds, and Black Terns. Four others species have disjunct populations in the Basin or reach the limit of their range in the area. Species varied considerably in their patterns of seasonal use, demonstrating the need for extensive suitable wetland habitat year round. Many species were distributed widely, but many others were concentrated at relatively few wetlands. Key sites that supply breeding or foraging habitat for large numbers of particular species or species-groups, that host species of very limited distribution within the Basin, or that support populations of regional or continental importance include the following: Clear Lake National Wildlife Refuge (NWR), Klamath Marsh NWR, Lower Klamath NWR, Sycan Marsh, Tule Lake NWR, and Upper Klamath Lake. Other wetlands are notable for supporting large colonies of one or two species or particular at-risk species.

TAYLOR, CLAY AND ROY HALPIN. **Digiscoping.** CTaylor@worldnet.att.global.net **[Workshop]**

Ever wanted to take a picture through your spotting scope? Clay and Roy have perfected the art of using their spotting scopes and digital cameras for photographing butterflies, birds and nature. Come to this workshop to find out what Digiscoping is and learn some tips for taking professional bird photographs!

†‡TIETZ, JAMES R., AND †MATTHEW D. JOHNSON. **Stopover-habitat ecology of the Swainson's Thrush in north-western California.** Humboldt State University, Department of Wildlife, 1 Harpst Street, Arcata CA 95521; jrt24@humboldt.edu. **[Paper]**

The importance of conserving stopover-habitat to protect declining migratory songbirds has only recently been given attention in eastern North America, and as of yet, remains under-studied in the West. Prior research has shown the importance of fruit in the diet of many fall-migrant songbirds but has not yet been able to correlate resource abundance with habitat selection.

Abstracts– Presentations, Posters, and Workshops

This information is critical for land managers who make decisions about habitat conservation. We used radio telemetry to study the stopover ecology of the Swainson's Thrush, a typical yet declining species, during its fall migration in the Lanphere Dunes Unit of the Humboldt Bay National Wildlife Refuge in northwestern California. Radio telemetry provides unbiased information on songbird behavior with no apparent side effects and provides a more direct method to study habitat selection than simply mist-netting. Birds receiving transmitters (n=22) were triangulated by three trackers with handheld radio-receivers six days per week. Positions obtained for an individual were used to describe its stopover home-range using the fixed kernel method in GIS ArcView. The mean home-range size during stopover was 25,163 square meters. Compositional analysis was used to determine that beach pine is selected significantly more than broadleaf and spruce. Huckleberry fruit abundance was determined to be significantly greater at occupied sites than random sites during the first year, but not during the second year when fruit abundance was more localized. These results indicate that correlating fruit abundance with forest type may provide useful information in the conservation of stopover-habitat.

TOMOSY, MONICA, Chief, Bird-Banding Laboratory. **New Perspectives From The Bird Banding Laboratory.** U.S. Geological Survey, Patuxent Wildlife Research Center, 12100 Beech Forest Rd., Laurel, MD 20708 mtomosy@usgs.gov
[Paper]

It is traditional for the Chief of the banding lab to bring information on new programs at the lab to the regional bird-banding meetings. With the new chief of the lab now in place, it will be interesting to hear her perspectives on this highly successful program—*C.J.Ralph*

WHEELER, SARAH. **West Nile Virus antibodies in wild birds collected in the Coachella Valley, California.** Center for Vector Borne Diseases, School of Veterinary Medicine, University of California at Davis, c/o Coachella Valley Mosquito and Vector Control District, 43-420 Trader Place, Indio CA 92241; sswheeler@ucdavis.edu. **[Paper]**

Prevalence of antibodies (seroprevalence) to mosquito-borne arboviruses (arthropod borne viruses) have been monitored in bird populations of the Coachella Valley since 1996. Seroprevalence data were used to track the occurrence of infection in time and space, and to determine which bird species were important as maintenance hosts. Against this historical backdrop of virus surveillance, our program monitored the introduction, spread, and amplification of West Nile virus (WNV) within avian populations during 2003. Overall, 3,455 birds comprising 63 species were collected at 9 locations throughout Coachella Valley, of which 33, 7, and 2, respectively, were antibody-positive for West Nile, St. Louis, encephalitis (SLE) and Western equine encephalomyelitis (WEE) viruses, respectively. Virus activity appeared to be restricted to wetlands and agricultural habitats near the Salton Sea and did not disperse to suburban areas in the upper valley. Nearly all birds seropositive for WNV were resident species in the orders Columbiformes and Galliformes, taxa known to survive infection. Passeriform species previously positive for WEE and SLE were negative for WNV, most likely because they frequently do not survive WN infection to produce antibody. Spring/fall migrants and winter residents were negative throughout. WN virus has over-wintered successfully and has amplified over the spring of 2004. We are continuing to monitor WNV seroprevalence as the virus establishes in the Valley.