

Forest Service Wildlife & Fish Research Updates - DIGEST

A monthly newsletter for the Wildlife and Fish research scientists and staff

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Station Updates

→ **NRS: Developing a Regional Bird Tracking Collaborative**

NRS Research Wildlife Biologist **David King** co-organized a work session at the recent “[Bridging the Implementation Gap: Bird Conservation Conference in the Northeast](#)” held in Plymouth, MA. The session was directed at developing a regional bird tracking collaborative, the “Atlantic Flyway Tracking Network”, which will help investigators throughout the flyway coordinate existing research activities and launch collaborative flyway-scale studies using new digital technologies. The feasibility of the passive receiver array system has been demonstrated and is now being incorporated by several research programs and wildlife refuge systems. However, rapid expansion of the system will require coordination

of effort and resources. Issues addressed included identifying potential participants in the network, developing funding to build the network, and developing public outreach components.

→ **SRS: New Book Highlights the Ecology and Conservation of 300 North American Freshwater Mussels**

A new book by SRS fisheries research biologist **Wendell Haag** provides the first comprehensive view of the ecology and conservation of the approximately 300 species of North American freshwater mussels. Intended for resource managers, scientists, students, and those interested in natural history, [North American Freshwater Mussels](#) (Cambridge University Press) highlights the diversity of the continent's mussel fauna, the animals' fascinating ecology, human uses of mussels, and mussels' desperate conservation plight. "It's equal parts ecology and human history, and I hope it will provide managers and policymakers with a fresh perspective from which to move conservation efforts forward," says Haag. "The outcome of conservation efforts in the next 30 years will determine whether half or more of remaining species are lost forever, and whether the critical ecosystem services these animals provide will continue to sustain freshwater resources." The book includes contemporary and historical photographs, maps, and graphs, as well as a color insert section that showcases the beauty of mussel shells and provides stunning photographs of live mussels in their natural habitat. Read more in the SRS Compass [article online](#).

→ **PNW: Publication Year in Review**

In FY12, PNW completed 40 fisheries and wildlife publications. Species in these studies include: red fox, fisher, marten, wolverine, elk, mule deer, barred owl, northern spotted owl, sage grouse, lizards, Oregon slender salamander, bull trout, coho salmon, millipedes, mountain pine beetle, and geometrid moths. Issues addressed include herbivory, habitat associations and connectivity, stream temperature, stream-riparian protection, landscape modeling, reintroduction/translocation, disease, climate change, and wildfire.

RMRS: Welcome Beth Hahn – Wildlife Ecologist



Beth Hahn, wildlife ecologist with expertise in multi-scale planning, adaptive management and monitoring for diverse taxa, is sharing a position with International Programs and the Aldo Leopold Wilderness Research Institute in Missoula for the next 12 months at RMRS. She holds a PhD in Ecology from the University of Michigan, and will provide International Programs with analytical support and technical assistance on biodiversity, protected area management and climate change projects. She will also work on a publication synthesizing wildlife and wilderness research issues and contribute to the development of a wilderness research agenda.

→ **RMRS Genetics Research Mentioned in Huffington Post Article**

A recent issue of the Huffington Post carried a story about a mountain lion that traveled from South Dakota to Connecticut. Officials made the connection that multiple sightings and samples were the same individual via work done by RMRS's wildlife genetics lab in Missoula, MT which includes Research Ecologists **Mike Schwartz** and **Kevin McKelvey**. Read the article [online here](#).



RMRS: Tree Climbing Extends RMRS Research to Chesapeake Bay

As part of a developing, long-term research collaboration with the Virginia Department of Game & Inland Fisheries (DGIF), RMRS Research Wildlife Biologist **Teryl Grubb** recently taught a Forest Service tree climbing certification class in Williamsburg, Virginia,

with special emphasis on bald eagle nest entry and chick handling. Participants included six departmental wildlife biologists and two College of William & Mary avian faculty researchers. Teryl is teaming with DGIF Avian Program Director, Jeff Cooper, and a professor from West Virginia University on a 3-year, funded project to assess impact risks and mitigation measures for bald eagles colliding with aircraft and wind turbines. A lead contaminant study will follow. During his visit, Teryl also consulted on project design and monitoring protocols for a public boat access project planned along the James River in a high bald eagle concentration area. "This collaboration not only brings in new partners and extends RMRS outreach into a another geographic area, but after more than 45 years of bald eagle research, I'm most excited to finally become involved with the historic Chesapeake Bay bald eagle population, one of the few I've never studied," said Teryl.

→ **RMRS: Getting High School Students Interested in R&D**

RMRS Research Social Scientists Carol Raish and David Flores, and Research Ecologists Rosemary Pendleton and **Paulette Ford**, recently spoke to 700 students at Cleveland High School about Forest Service Research and Development. The school, which has over 50 percent minority enrollment, is one of five schools in the Nation that is part of the WO Sustainable Business Operations' [Adopt-a-school Program](#). Together with the Forest Service, the school is working to instill in students an interest in and appreciation of science and the environment.

→ **RMRS: USDA Blog Features New Grasslands, Shrublands, and Deserts Climate Change Assessment**

A lack of research on the effects of climate change on grasslands and shrublands is leaving land managers with little information to make decisions on sustaining these vital landscapes so important for recreation, tribal life, crop and livestock production, and native plant and wildlife conservation. Forest Service researchers point to recent climatic studies in predicting that by the end of the century, 55 percent of future landscapes in the West will likely have climates that are incompatible with the vegetation types that now occur on those landscapes. According to RMRS Program Manager **Deborah Finch**, there is direct evidence of the effects of climate change on bird migration, plant and animal distribution, and water reduction in the interior West. Scientists and researchers from RMRS in 2010 began working with colleagues across six states to produce more data to guide land managers. In a report called [Climate Change in Grasslands, Shrublands, and Deserts of the Interior American West: A Review and Needs Assessment](#), the scientists summarized current research on climate change and its potential effects on grasslands, shrublands and desert ecosystems. Read the full USDA blog entry [online here](#).



The image shows a banner for the USDA Blog. At the top left is the USDA logo. The text reads "UNITED STATES DEPARTMENT OF AGRICULTURE" and "USDA Blog" in large letters. Below that is the tagline "- Reaching Out. Every Day in Every Way -". At the bottom, it says "Want to be featured in a USDA Science Blog as well? Contact Nicole Buell today to help get you set up! Nbuell@fs.fed.us".

→ **RMRS Debuts New Science You Can Use Bulletin**

RMRS has recently debuted a new publication, *Science You Can Use Bulletin*. This bulletin is intended to provide scientific information to people who make and influence decisions about managing land in the Interior



West. The Bulletin will be produced bi-monthly by the RMRS Science Application & Integration staff. The first edition “From Death Comes Life: Recovery and Revolution in the Wake of Epidemic outbreaks of Mountain Pine Beetle” can be [found online here](#). Future editions of the Bulletin will be emailed to recipients who opt to receive it by signing up [online here](#). Please share with your interested colleagues and collaborators.

→ **New Forest Service Decision Science Synthesis Paper Published in *Forest Ecology and Management***

The “decision science” synthesis paper, “[Recent advances in applying decision science to managing national forests](#),” was published Sept. 13 in *Forest Ecology and Management*. This was an inter-station and inter-disciplinary effort that also included USGS and university collaboration. **Bruce Marcot** of PNW was the lead author, followed by Matt Thompson of RMRS, **Frank Thompson** of NRS, and Steve McNulty of SRS, David Cleaves, and **Monica Tomosy**, of the WO. The team applied their cumulative expertise in wildlife ecology, fire, climate change, hydrology, social science, and economics, to produce a condensed document that describes this field of science that has become more relevant to land managers as decisions become more challenging. A General Technical Report, geared toward the natural resource management audience, is forthcoming.

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Meetings, Webinars, and Workshops

→ **Webinar: Gordon Grant Presents on the Removal of Marmot Dam – November 1**

Dam removal has emerged as an important river restoration strategy in the U.S. Removals offer an excellent setting for validating analytical models of sediment transport and morphologic change, and testing our capacity to predict channel evolution in response to changing water and sediment transport regimes. The breaching of the Marmot coffer dam on the gravel-bed Sandy River in Oregon, USA in October 2007 was at that time the largest instantaneous and uncontrolled release of sediment accompanying a dam removal. Here we report on what we’ve learned about the geomorphic response to this singular event over the past four years of monitoring and analysis, and extract lessons useful in other dam removals. The webinar will be held **November 1, 2-3:30 ET**. Join online here: <http://bit.ly/VljPws>, call in information: 1-888.858.2144; *Participant Code*: 9055889# ; RSVP here: http://bit.ly/Webinar_RSVP.



→ **Biodiversity Without Boundaries – Save the Date/Call for Presentations – April 14**

NatureServe’s annual conservation and natural heritage conference, [Biodiversity Without Boundaries](#), will take place next April 14–18 at the Tremont Plaza Hotel in downtown Baltimore, Maryland. BWB presents a range of topics affecting biodiversity, from the most pressing issues in the conservation community to the latest in scientific tools and methods. From scientists, natural resource managers, and environmental consultants to planners, environmental advocates, and corporate and public policy-makers, BWB participants come together to present, explore, and address urgent and emerging conservation issues and solutions. The Call for Presentations (talks, panels, workshops) closed October

12, but limited additional presentations will be considered by contacting Don Kent at don_kent@naturereserve.org

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News, Reports, & Publications

→ **Article Reviews the Importance of the LCC Co-Governance Structure**

A new article, "Landscape Conservation Cooperatives: Bridging Entities to Facilitate Adaptive Co-Governance of Social-Ecological Systems", published in *Human Dimensions of Wildlife* discusses LCCs and the importance of the co-governance approach that they utilize. To address rapidly changing and uncertain environmental and social change on large landscapes/seascapes, conservation organizations need to overcome barriers to collaboration and create governance structures that integrate ecological, biological and physical sciences with social science insight and refine decisions based on new information. This article reinforces the need for institutionalization of adaptive co-governance of social-ecological systems and suggests that Landscape Conservation Cooperatives are bridging entities within a broader co-governance framework. LCCs, a network of conservation organizations both governmental and nongovernmental, have great potential to facilitate conservation of rapidly changing social-ecological systems by providing structure and incentives for collaboration and shared learning. Read the full article [online here](#).

→ **Global Ranavirus Consortium Works to Facilitate Research Collaboration and Communication**

Ranavirus is an emerging infectious disease affecting amphibians, reptiles, and fish. Amphibian mass mortality events are known from the Americas, Europe, and Asia. The Forest Service co-sponsored the 2011 International Ranavirus Symposium to assemble disease specialists to compile existing research and initiate a network of researchers to accelerate our knowledge discovery of this threat. Since then, 4 publications on Ranavirus and the symposium have come out (see below), a [Global Ranavirus Consortium of experts](#) was convened, publications compiled, an online information and reporting system is developing similar to Bd-maps.net, and a second symposium is being planned for July 2013 at the University of Tennessee. Save the Date!

- Kerby, Jake 2011. 1st international symposium on ranaviruses. *FrogLog*. 98: 33-35.
- Lesbarreres, D.; Balseiro, A.; Brunner, J. [and others]. 2011. Ranavirus: past, present, future. *Biology Letters* doi: 10.1098/rsbl.2011-0951 (2011). *Biology Letters*. doi: 10.1098/rsbl.2011-0951: 1-3.
- Marschang, Rachel E.; Miller, Debra 2011. 2011 International ranavirus symposium. *Journal of Herpetological Medicine and Surgery*. 21(1): 1-2.
- Robert, Jacques; Chinchar, V. Gregory 2012. "Ranavirus: an emerging threat to ectothermic vertebrates" Report of the first international symposium on ranaviruses, Minneapolis MN July 8, 2011. *Developmental and Comparative Immunology*. 32: 259-261.

→ **Monitoring Informs Yosemite Toad Conservation**

The Forest Service's Sierra Nevada Amphibian Monitoring Program epitomizes the state-of-the-science for multi-scale, rare species inventory, monitoring and assessment. Using a watershed-scale, probability-based sampling design with extensive and intensive components, scientists evaluate



species status and determine spatial and temporal patterns of occupancy and demography (abundance, survival). Developed and implemented by US Forest Service Region 5 biologists and partners, products of this long-term effort are now emerging. First off the docket is the comprehensive bioregional assessment of the status of the Yosemite Toad, *Anaxyrus [Bufo] canorus*, authored by Cathy Brown, Katie Kiehl, and Lucas Wilkinson of the Stanislaus National Forest and published in September 2012 in the journal *Herpetological Conservation and Biology* ([available online here](#)). Their data “will inform management decisions at both bioregional and population scales and the development of conservation priorities.” Use of science-based management decisions for rare native species, a slice of our natural heritage that is gaining intrinsic value in today’s society, adds substance to our motto ‘Caring for the land, and serving people.’

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FS R&D Publications

→ **Climate change, forests, fire, water, and fish: Building resilient landscapes, streams, and managers.** Luce, Charles; Morgan, Penny; Dwire, Kathleen; Isaak, Daniel; Holden, Zachary; Rieman, Bruce. 2012. Gen. Tech. Rep. RMRS-GTR-290. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 207 p. <http://1.usa.gov/TGGxO6>

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Do you have any updates, webinars, publications, or information to submit to the newsletter? We welcome and greatly encourage your contributions! Please send updates to Nicole Buell, nbuell@fs.fed.us

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