



Nyambayar Batbayar/WSCC Mongolia

Roller Coaster Ganders: Geese Migrating Over Himalayas Hug Terrain to Save Energy

USGS Western Ecological Research Center emeritus scientist **John Takekawa** is a coauthor on the recent *Science* article detailing the previously-unknown flight strategy of the bar-headed goose (*Anser indica*). A focus of avian influenza research, these birds undertake arduous migrations over the Himalayas, but apparently do so using highly optimized altitude profiles and wingbeats to minimize energy use.

<http://theconversation.com/how-high-flying-geese-treat-the-himalayas-like-a-roller-coaster-36270>

<http://www.npr.org/2015/01/15/377321027>

<http://www.bbc.com/news/science-environment-30799436>

<http://www.cbsnews.com/news/geese-ride-airborne-roller-coaster-in-migration-across-himalayas>

<http://www.latimes.com/science/sciencenow/la-sci-sn-geese-roller-coaster-migration-birds-20150115-story.html>

NEW JOURNAL ARTICLES

Scoles-Sciulla, SJ, LA DeFalco, TC Esque. 2015. **Contrasting long-term survival of two outplanted Mojave Desert perennials for post-fire revegetation.**

Arid Land Research and Management 29:110-124. doi: 10.1080/15324982.2014.901994

<http://www.werc.usgs.gov/ProductDetails.aspx?ID=5064>

Lafferty, KD, CD Harvell, JM Conrad, CS Friedman, ML Kent, AM Kuris, EN Powell, D Rondeau, SM Saksida. 2014. **Infectious Diseases Affect Marine Fisheries and Aquaculture Economics.** *Annual Review of Marine Science* 7:471-496.

doi: 10.1146/annurev-marine-010814-015646

<http://www.werc.usgs.gov/ProductDetails.aspx?ID=5150>

Bishop, CM, RJ Spivey, LA Hawkes, N Batbayar, B Chua, PB Frappell, WK Milsom, T Natsagdorj, SH Newman, GR Scott, JY Takekawa, M Wikelski, PJ Butler. 2015.

The roller coaster flight strategy of bar-headed geese conserves energy during Himalayan migrations. *Science* 347(6219):250-254. doi: 10.1126/science.1258732

<http://www.werc.usgs.gov/ProductDetails.aspx?ID=5157>

EVENTS

January 15-17, 2015 (San Jose, CA)

Kathryn McEachern, Jon Keeley, and Barbara Kus had research presented at the **California Native Plant Society 2015 Conservation Conference.**

<http://www.werc.usgs.gov/Event.aspx?ID=204>

January 23, 2015 (Los Angeles, CA)

Erin Boydston and **Robert Fisher** have been invited to attend the **Greater Los Angeles Biodiversity Workshop** by the Natural History Museum of Los Angeles County and The Nature Conservancy.

<http://www.werc.usgs.gov/Event.aspx?ID=202>

January 26-30, 2015 (Santa Rosa, CA)

Wetland restoration design studies by **Lacy Smith** and acoustic monitoring of California amphibians by **Patrick Kleeman** are part of the scheduled program for the **2015 Annual Meeting of The Wildlife Society's Western Section.**

<http://www.werc.usgs.gov/Event.aspx?ID=201>

January 27-30, 2015 (Frascati, Italy)

Nathan Stephenson has been invited to speak at the **European Space Agency's** first-ever **BIOMASS Science Workshop** in Italy. "Improving Understanding of Environmental Controls of Forest Biomass and Productivity: Insights from Permanent Plot Networks" will be the talk's title.

<http://www.werc.usgs.gov/Event.aspx?ID=203>

February 25-26, 2015 (Minden, NV)

Pete Coates will be presenting greater sage-grouse and habitat decision-making research at the **Bi-State Pinyon Juniper Expansion Forum** for federal, state, nonprofit, and private stakeholders. Registration due February 20th.

<http://www.werc.usgs.gov/Event.aspx?ID=206>

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NEW WERC PUBLICATION BRIEFS

Long-Term Survival of Outplants in a Burned Arid Shrubland

Post-fire recovery of arid shrublands is typically slow, and planting greenhouse-raised seedlings may be a means of jump-starting this process. In a study published in *Arid Land Research and Management*, [Sara Scoles-Sciulla](#), [Lesley DeFalco](#), and [Todd Esque](#) followed the post-planting survival of blackbrush and Nevada jointfir in the Mojave Desert to investigate the most important determinants of successful establishment.

<http://www.werc.usgs.gov/ProductDetails.aspx?ID=5068>

High Tides and Rising Seas:

Can the California Ridgway's Rail Survive in Existing Habitats?

Many basic ecology aspects of this rail remain poorly understood. Two studies led by [Cory Overton](#) and [Mike Casazza](#) now provide insights on how tidal inundation and invasive *Spartina* influence its survival, and whether artificial habitats can provide refuge in extreme tides.

<http://www.werc.usgs.gov/ProductDetails.aspx?ID=5152>

NEW PROJECT WEBSITES

Suisun Marsh Waterfowl and Waterbird Studies

Suisun Marsh is a critical habitat for wintering and breeding waterbirds in California. [Josh Ackerman](#), [Mike Casazza](#), and [Joe Fleskes](#) are working with the California Department of Water Resources to examine the trends in bird decline and to assess the habitat factors driving long-term survival of waterfowl, rails, and other birds in this important area. The project will analyze hunter harvest data, population trends, and species distributions of birds that utilize Suisun Marsh, including the black rail and California Ridgway's rail.

<http://www.werc.usgs.gov/suisunwaterfowl>

IN THE NEWS



Katy Raddatz/San Francisco Chronicle

Chemicals' Phaseout a 'Success Story' for S.F. Bay Wildlife (*San Francisco Chronicle*)

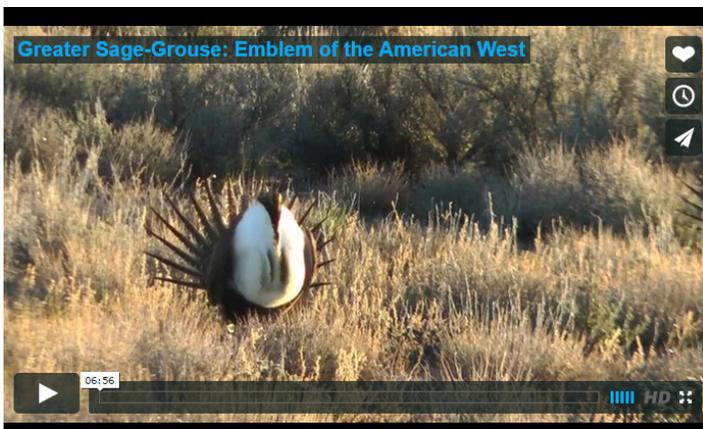
Photographer Katy Raddatz published a gallery showcasing [Josh Ackerman's](#) research sampling waterbird eggs in San Francisco Bay for toxic contaminants, which contributed to a recent SFEI study.

<http://www.sfgate.com/science/article/Dramatic-drop-found-in-PBDE-levels-of-S-F-Bay-5981427.php>

Densovirus Calculated as Culprit Killing Sea Stars (USGS GeoHealth)

The USGS Environmental Health blog highlights [Kevin Lafferty's](#) recently coauthored study on the sea star epidemic along the U.S. Pacific Coast.

<http://www.usgs.gov/envirohealth/headlines/2015-01-16-sswd.html>



'Greater Sage-Grouse: Emblem of the American West'

A new documentary short by the non-profit filmmakers WildLens presents the stunning beauty of the sagebrush landscapes of Nevada. The seven-minute film follows the research crew of [Pete Coates](#) and colleagues into the field, and showcases USGS WERC research as one example of the government, public, and private collaborative efforts trying to understand resource stewardship solutions for the sagebrush ecosystem of the Great Basin.

<http://www.wildlensinc.org/greater-sage-grouse.html>

Stunning Serpents & Celebrated Salientians:
Studying Reptiles & Amphibians in NorCal

A conversation with
US Geological Survey
Wildlife Biologist
Brian Halstead

Wednesday, Feb. 4th - 6pm - FREE!

Brought to you by (Food & beverages will be available for purchase.)

LIVE from Lodi, it's SCIENCE NIGHT!

Science Night Live is an engaging science experience within a casual atmosphere for the curious minds in our community!

WORLD WONDERS SCIENCE MUSEUM

CAPITAL SCIENCE COMMUNICATORS

'Stunning Serpents' at February's Lodi Science Café

[Brian Halstead](#) is the guest speaker for the February 4th edition of the "Science Night Live" science café hosted by the World of Wonders Science Museum in Lodi. Science cafés are after-work meetups for the public that blend food, drink, and science learning. Halstead will discuss his Northern California research on threatened and endangered amphibian and reptile species, including the giant gartersnake, and demonstrate tracking and population sampling techniques through audience activities. The event is free to the public.

<http://www.werc.usgs.gov/Event.aspx?ID=207>