



WBWG NEWS

Volume 10, Number 1

Winter 2015





WESTERN BAT WORKING GROUP NEWSLETTER

Winter 2015

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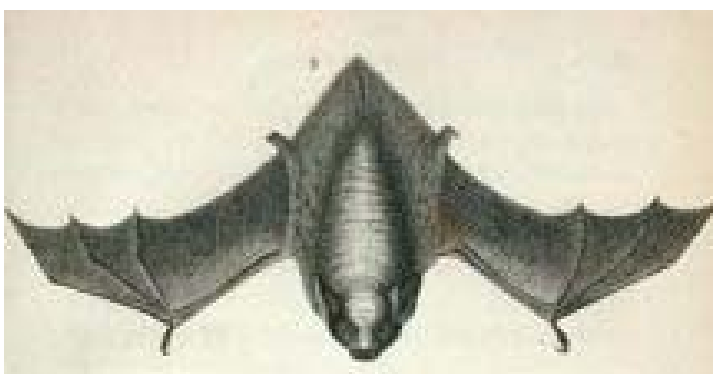


The Western Bat Working Group (WBWG) is a partner in the Coalition of North American Bat Working Groups. The WBWG is comprised of agencies, organizations and individuals interested in bat research, management, and conservation from 13 western States, the Provinces of British Columbia and Alberta, and Northern Mexico.

Membership in the WBWG is open to anyone who is interested in participating in bat conservation. There are no membership fees or dues. Funding for bat conservation work accomplished by the WBWG is generated by State and Federal land management agencies, non-governmental organizations, and by donations from individual members.

Visit our web page <http://wbwg.org> to contact us, find information on bat conservation and upcoming meetings, become a member, link to state or provincial bat working groups, or download previous issues of this newsletter.

President	<i>Ernie Valdez</i>
Vice President	<i>Laura Ellison</i>
Treasurer	<i>Brad Phillips</i>
Secretary	<i>Becky Abel</i>
At-large representatives:	<i>Amie Shovlain, Roger Rodriquez</i>
Newsletter Editor:	<i>Bronwyn Hogan</i>



NOTE: Generally common names are used for bat species in the newsletter. Corresponding scientific names are listed below.

Common Name	Scientific Name
Arizona myotis	<i>Myotis occultus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Cave myotis	<i>Myotis velifer</i>
Eastern red bat	<i>Lasiurus borealis</i>
Fringed myotis	<i>Myotis thysanodes</i>
Hoary bat	<i>Lasiurus cinereus</i>
Little brown myotis	<i>Myotis lucifugus</i>
Long-eared myotis	<i>Myotis evotis</i>
Long-legged myotis	<i>Myotis volans</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Northern myotis	<i>Myotis septentrionalis</i>
Pallid bat	<i>Antrozous pallidus</i>
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>
Silver-haired bat	<i>Lasionycterus noctivagans</i>
Southwestern myotis	<i>Myotis auriculus</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Western small-footed myotis	<i>Myotis ciliolabrum</i>
Yuma myotis	<i>Myotis yumanensis</i>



WBWG NEWS

ELECTIONS

First, thank you to all who ran for office. Whether you won or lost, throwing your hats in the ring and participating makes our organization stronger. Congratulations to our new officers.

Results of the 2015 elections are as follows:

President -	Ernie Valdez
Vice-President -	Laura Ellison
Secretary -	Becky Abel
Treasurer -	Brad Phillips
At Large -	Roger Rodriguez; Amie Shovlain

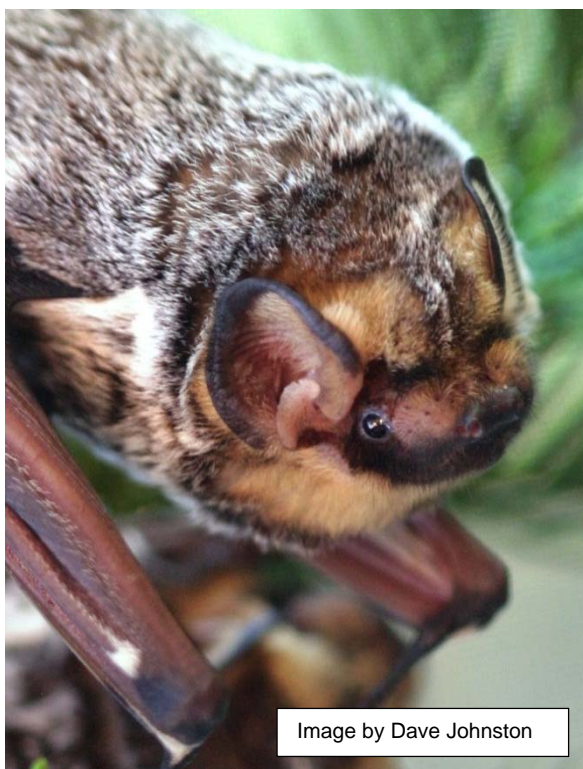


Image by Dave Johnston



NORTH AMERICA

BatAMP seeks long-term acoustic datasets

The Bat Acoustic Monitoring Portal (BatAMP) continues to gather momentum. It has now contains datasets from coast to coast, with heavy representation emanating from the Montana area (thanks Bryce Maxell and crew!) One of the primary objectives of BatAMP is to visualize movement patterns and seasonal changes in site occupancy by migratory species. The foundation has been laid for this, but more datasets from throughout the WBWG influence area will be key to filling the blanks. Have you conducted acoustic monitoring at the same location for a few weeks or more? If so, please consider uploading to the BatAMP. Data collected during any time from 2006 to the present will be useful and help us fill knowledge gaps about bats in western North America. Full instructions can be found at <http://batamp.databasin.org/> or contact Ted Weller (tweller@fs.fed.us)

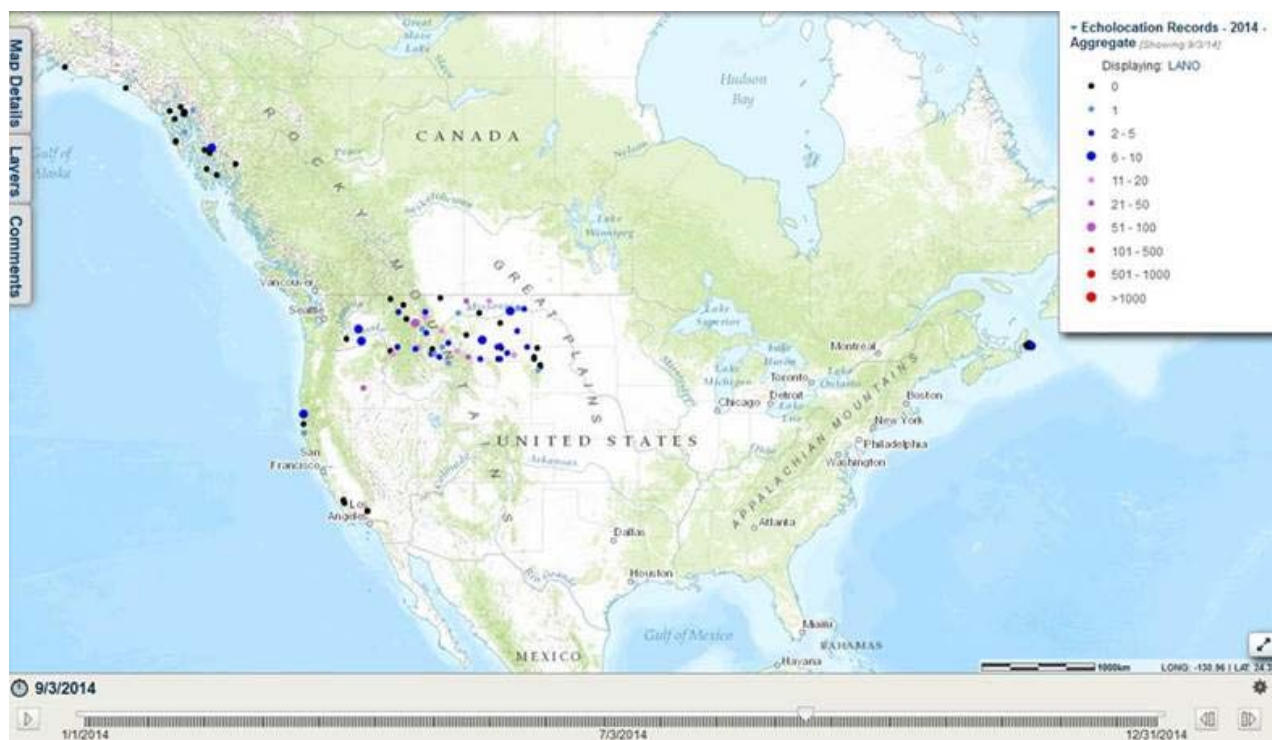


Figure 1. Map depicting number of detections of silver-haired bats, *Lasionycteris noctivagans*, recorded at acoustic monitoring stations on September 3, 2014. BatAMP maps allow day-by-day animations of detections, allowing users to view changes over time.

~submitted by Ted Weller



CANADA

Highlights from Wildlife Conservation Society Canada's work in Western Canada

Monitoring winter bat activity, BatCaver, inhibiting Pd, and WNS survivorship models

Some highlights from this fall for WCS Canada's bat conservation program include continued winter monitoring, focussing largely on northern BC; the official launch of BatCaver.org; a new collaboration with Thompson Rivers University, funded by US Fish and Wildlife Service; and joining an international team led by WCS' Global Health Program on a new initiative to model WNS survivorship in the west.

For 4 weeks this past summer, I travelled around northern BC, meeting great people interested in helping bats. I deployed bat detectors for fall, winter, and spring monitoring at: Fraser Lake, Terrace, Telegraph Creek, Dease Lake, Atlin, Liard Hot Springs, Muncho Lake, Williams Lake, Ft St John, Tatla Lake. There are many fabulous people assisting me with this effort including many local biologists and citizen scientists maintaining detectors this winter. This is the last year of a four year winter monitoring program funded by Habitat Conservation Trust Foundation (HCTF). During the first three years, I recorded a lot of bat activity throughout central and southern BC. All acoustics data will be summarized in a final report in 2016.

BatCaver.org, a WCS Canada citizen science program to locate cave and mine hibernacula, has officially launched! The website, designed and produced by program coordinator Martin Davis, and WCSC's Gillian Woolmer, and Lindsay Potts, went live this past August. Two Alberta BatCaver coordinators -- Greg Horne and Dave Critchley -- came onboard in August. Many cavers from BC and AB have been busy placing bat detectors (Titley Roostloggers) underground, along with temperature / relative humidity loggers. Although these are still being put into place, it is anticipated that more than 50 roostlogger detectors will be monitoring for bats this winter. BatCaver is sponsored largely by Environment Canada in BC, and TD Friends of Environment in Alberta, with additional support from HCTF, FWCP Columbia Basin and Golder Associates.

Most of you are aware of the new potential mitigation strategies for WNS -- 'banana' cure, natural wing bacteria, and other soil fungi. However, it is not clear what these potential strategies would do in a real cave environment, and especially in the west, where cave microbiomes are not well understood, and of course, neither are the bat communities that use them. WCS Canada has teamed up with Dr. Ann Cheeptham, Thompson Rivers University, to pursue a new 'west-specific' cure for WNS. Ann, a cave microbiologist, specializes in isolation of microbes from cave sediments. Funded by US Fish and Wildlife Service, the main goal of this research is to discover new ways to inhibit the growth of *Pseudogymnoascus destructans* (Pd), but at the same time, not introduce new microbes into western cave environments when and if treatment of WNS-infected bats becomes a reality in BC/AB. This research project has already received cave sediment samples from the BatCaver program. The search for natural cave microbes that inhibit Pd will begin in Ann's lab in 2016.



If you look up hibernation metabolic rates of North American bats in the literature, you will find rates for eastern species and populations, but nothing from the west. And yet, a new WNS survivorship model by Dr. David Hayman, Massey University, New Zealand, suggests that metabolic rates during hibernation, along with roosting conditions, stored fat mass, arousal rates, and other parameters, are important for populating a model to predict WNS mortality. Hence, the need to measure hibernation metabolic rates for the various western bat species, and across latitudes given the variation that is known to exist.

I started this work this past fall in Creston, BC with Brandon Klug (University of Regina) and Yvonne Dzal (University of British Columbia). In fall, we measured oxygen consumption of 23 bats, mostly *Myotis yumanensis*, but a few *M. californicus* and *M. lucifugus*, determining their metabolic rates at varying temperature regimes (ranging from 35 – 0°C). In early December, we captured 10 free-flying *M. californicus*, and measured their oxygen consumption in a temperature controlled environmental chamber at 8, 6, 4 and 2°C over a 24 hour period.



Funded by BC Ministry of Forests, Lands, and Natural Resource Operations, and by FWCP Columbia Basin, we have completed the respirometry measurement component of this year's work, and will next measure arousal rates in hibernating bats

using temperature-sensitive transmitters.

Meanwhile, Dr. Sarah Olson, WCS Health and Health Policy Program, has been leading the international team who will be using these data to model WNS survivorship. This past fall, the team was successful in receiving a multi-million dollar Department of Defense Strategic Environmental Research and Development grant to study metabolic rates of hibernating bats across western US, and model survivorship of bats under changing conditions including WNS and climate



change. In addition to those mentioned above, the larger team also draws on expertise from Texas Tech University (Dr. Liam McGuire), Montana State University (Dr. Raina Plowright), and Conservation Science Partners (Dr. Brett Dickson).

~ submitted by Cori Lausen, WCS Canada, Kaslo, BC clausen@wcs.org

USA



California

California Department of Fish and Wildlife

Thanks to generous funding by the US Fish and Wildlife Service and the participation, volunteer effort, and in-kind services offered by many collaborators, the California Department of Fish and Wildlife has initiated new bat survey and monitoring projects and is nearing completion of its long-awaited state Bat Conservation Plan. CDFW secured three State Wildlife Grants and a WNS Grant-to-States award to provide the seed money for all these projects, but their success relies on the generous donation of time and effort by many individuals and organizations. A brief summary of these CDFW projects:

- Completion of the California Bat Conservation Plan. This effort was led by Dixie Pierson, who sadly passed away before completion of the project. State Wildlife Grant (SWG) funds supported the hiring of an Editorial Assistant to help ensure the many volunteer chapter authors have the support they need to complete the draft Plan, which is scheduled for June 2016.
- Statewide Survey for Townsend's Big-Eared Bat. SWG funds, along with generous in-kind donations by the Principal Investigators, are being used to conduct a two-year survey throughout California for Townsend's big-eared bat (COTO), which is currently a candidate for listing as threatened or endangered under the California Endangered Species Act. Co-PIs Joe Szewczak and Mike Morrison are leading this effort, with the collaboration of many state and federal agencies, private landowners, and numerous biologists. The current project is intended to provide an updated snapshot of the population status of COTO in the state. The most recent statewide assessment was conducted by Dixie Pierson and Bill Rainey in the 1980s and early 1990s.
- NABat Pilot Expansion Project. CDFW partnered with several other western state wildlife agencies and Bat Conservation International to obtain funds to initiate what is intended to be a long-term bat monitoring project in California. The North American Bat Monitoring Program (NABat) was developed as a framework for roost and acoustic monitoring programs. The multi-state SWG funds are being used in California to gather bat acoustic data at 30 state land units throughout the state, conduct initial analysis of the call data, and to provide those data to data repositories.
- White-Nose Syndrome efforts. The WNS Grants-to-States program provided funds for Pd surveillance to California, as well as funds to expand acoustic monitoring of bats (adding to the NABat project's effort to monitoring pre-WNS bat populations). Pd surveillance will be conducted in the winter of 2016 under the direction of Anne Ballmann at the USGS-National Wildlife Health Center.

~ submitted by Scott Osborn, California Department of Fish and Wildlife



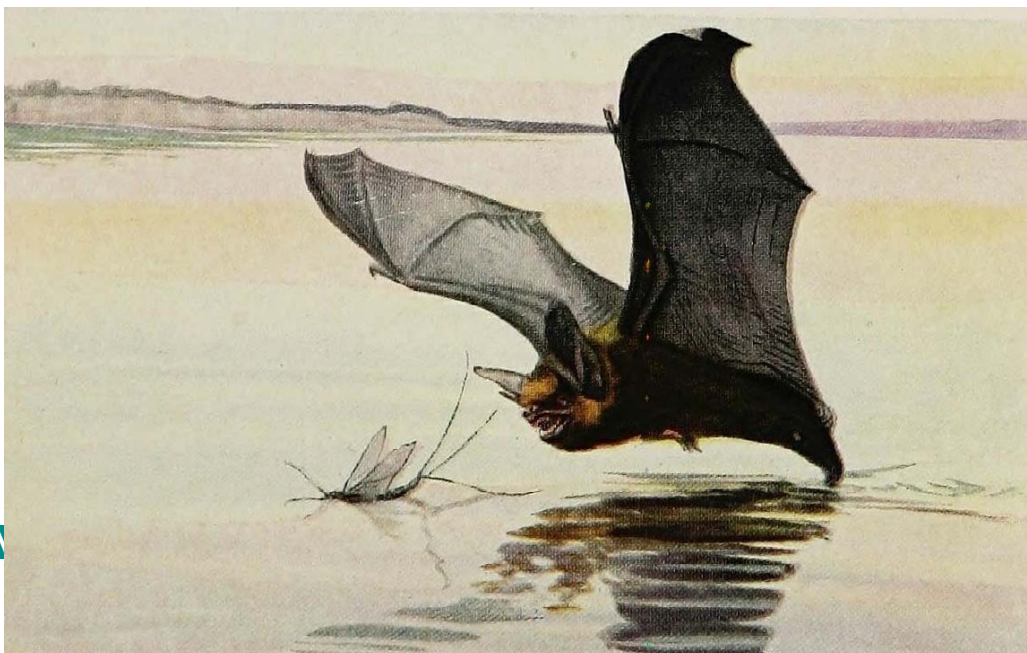
H. T. Harvey & Associates bat biologists have been wrapping up some large solar projects such as the acoustic monitoring at the California Valley Solar Ranch in San Luis Obispo County, and we've had several new smaller projects involving the usual radio-tracking, surveying, and monitoring. One of the new projects is located along the Colorado River where we've been locating roosts of several species including *Antrozous pallidus*, *Myotis yumanensis* and *Myotis velifer*. Naturally many of the new projects include monitoring Townsend's big-eared bats because of its status in California as a Candidate Threatened species under the California Endangered Species Act.

In addition to co-hosting this year's NASBR conference in Monterey, Dave worked with a dozen middle school students and their teacher, Kelly Terry, to teach them the scientific method and investigate bats' use of Monterey pine forests in the Monterey Peninsula. The students found that there was not a correlation between the size of the forested area and the amount of bat activity measured as average bat calls per night.

~submitted by Dave Johnston, HT Harvey and Associates.



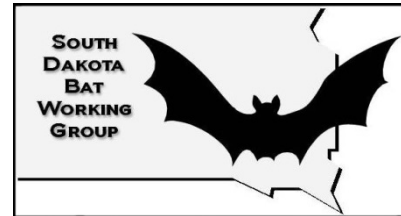
Gabe Reyes, Kim Briones, Meredith Jantzen and Dave Johnston (not shown) radio-tracking pallid bats along the Colorado River, Summer 2015.





South Dakota

Greetings. The SDBWG has had an active year. Our website (sdbwg.org) continues to provide up to date information for South Dakotans and surrounding states.



In June we had **Sonobat** developer Joe Szewczak come out and give a training session on his acoustic analysis software to Black Hills region biologists (USFS and NPS).

NABAT- Black Hills National Forest biologists participated in the NABAT acoustic monitoring program for the first time. As did some adjacent National Park Service biologists.

We continue to work with USFWS on the recent listing of the northern long-eared bat (*Myotis septentrionalis*) as a federally listed Threatened species. The northern long-eared bat has been considered 'common' in the Black Hills and we pray (yes, I said pray) that it continues to be that way.

On August 15th SDBWG had its **10th annual Bat Festival** in Custer State Park. Again, it was a success with over 120 folks coming out to see bat biology presentations, bat survey equipment demonstrations, bat house construction advice, activities for kids, eat some 'bat cookies', and watch the emergence of a hundred or so bats from the nearby bat house.



Custer State Park – Tatanka Theater



Kids making bats



watching the bat house emergence



bat cookies!

SDBWG provided technical advice to the Forest Service on the construction of a bat gate at an abandoned mine used by four species of bats.

We conducted **limited** hibernacula surveys (in the Black Hills region) in early 2015. No evidence of Pd or WNS was detected at that time. We expect to do **limited** *surveys this winter. And our focus may be on spring emergence surveys.

**We understand the need for sound science that will benefit bats, but have strong concerns regarding the disturbance to hibernating bats caused by swabbing for Pd. Hibernacula disturbance can kill bats just as dead as WNS. We continue to work with Federal and State agencies to monitor and help protect bat habitat.*

SDBWG is currently planning our next meeting, likely to be held in early 2016.

~ submitted by Brad Phillips (contact bphillips@goldenwest.net with any questions)



Wyoming

Discoveries at Devils Tower National Monument!

The 2015 summer field season at Devils Tower National Monument in Northeastern Wyoming was busy and full of discovery and excitement!

In addition to acoustic monitoring, the park and the University of Wyoming's Natural Diversity Database teamed up to research the day roost preferences of *Myotis septentrionalis*, the northern long-eared bat (NLEB).

Although results are preliminary with a small sample size, it appears the bats prefer burr oak and ponderosa trees with some degree of decay. Eight bats were radio-tagged (seven males and one female), and were found roosting in a downed ponderosa tree, scrawny burr oak trees and robust ponderosa trees. Unfortunately, the female either lost the transmitter or left the park, and could not be tracked. To the right you can see the first bat roost found in the park (with University of Wyoming Natural Database partner, Douglas Keinath).



To the left is a northern long-eared bat wearing its transmitter. The transmitters are attached with surgical glue, and fall off on their own within about 10 days. This bat lost its transmitter in the pictured roost tree, and we were able to recover it later. We are looking forward to continuing this work next summer!



On August 29, Devils Tower hosted an interagency Bat Festival, with support from the Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, Wyoming Natural Diversity Database, Devils Tower Natural History Association, and Bat Works. The event reached hundreds of visitors, including many from local communities in Wyoming and South Dakota.



Festival attendees enjoyed an air-conditioned inflatable bat cave, learned how to build bat houses, participated in games and crafts, and learned why bats are so important! There was also a high turnout for evening bat acoustic listening walks and presentations.





In other exciting news, two bat species were newly confirmed at Devils Tower through mist-netting. These new species are *Myotis volans* (one was a lactating female!) and *Myotis ciliolabrum*. The confirmation of these two species has brought the park's species total up to 10! In addition, the park this summer has recorded several *Corynorhinus townsendii* calls throughout the park. This is the first known confirmed acoustic detection of *C. townsendii* within the monument. We hope next summer we will be able to capture this species in mist netting efforts, bringing the official park total up to 11 species.



Lastly, Devils Tower is conducting a hibernacula assessment, to determine if there are overwintering bat populations in the park. There are currently acoustic detectors in two locations around the deep boulder fields surrounding the Tower, where we suspect bats could be hibernating. As of November 18, 2015 we are still recording bats in these areas. We can't wait to discover what else we find over this winter!

~ submitted by Amy Hammesfahr & Rene Ohms

Utah

Bat work in Utah in 2015 focused on completing the third round of the Utah Bat Monitoring Protocol. This statewide occupancy-designed protocol was supported by a Department of Defense Legacy grant and was designed to: 1) determine species specific ranges; 2) determine species distribution in a spatial landscape; 3) monitor metapopulation dynamics; 4) evaluate bat community species richness; 5) monitor species presence or absence; 6) estimate population change across time.

Sixty-five, 20km sampling hexagons are sampled 2-3 times each summer on a 3-year rotation. One capture station and (generally) two acoustic recording stations are sampled in each hex at each visit. Data are entered in the statewide Utah BatBase database, which was also developed through the Legacy grant program. Utah bat researches are currently entering capture data in BatBase and evaluating thousands of bat recordings.

Approximately 10 NABat grid cells were sampled using the established protocols. Lack of equipment and competing projects prohibited greater coverage. We anticipate



adding additional grid cells in 2016. Several questions have arisen about implementation of the protocol in Utah. Utah managers and researchers look forward to the scheduled January 21, 2016 NABat conference call to better understand the protocol, program goals, and to make needed adjustments.

A small-scale project is also under way in southeast Utah to see if tree roosting bats, and specifically *Idionycteris phyllotis*, will use artificial bark affixed to ponderosa pine snags. There is no shortage of such snags in many areas, but not all snags retain bark in suitable condition for roosting bats.

~ submitted by Keith Day, Utah Bat Conservation Cooperative





ANNOUNCEMENTS

Dear Colleagues and Supporters of Bat Conservation:

Please consider a donation to the Western Bat Working Group (501 c3 non-profit). Contributions can be made via <http://wbwg.org/donations/> or by sending a check to Western Bat Working Group
PO Box 2153
Rapid City, SD 57709

The Dixie Pierson Memorial Fund

Dr. Elizabeth (Dixie) Pierson was one of the core founding members of the Western Bat Working Group. She was a member of the team that developed the Townsend's big-eared bat Conservation Strategy in 1993 and 1994 that eventually led to the formation of the Western Bat Working Group in 1996. Dixie's leadership promoted more effective bat conservation efforts across the western United States. She inspired and provided training and field experience to many students and agency biologists.

The Dixie Pierson Memorial Fund was established by her husband, Dr. Bill Rainey, and colleagues at the Western Bat Working Group. Donations are now being accepted for 2017 Scholarship awards. The goal is to award two \$500 stipends biennially to defray travel costs and provide the opportunity for biologists to present their papers at the biennial meeting of the WBWG, where they can network with other biologists across western North America.

Bob Berry Scholarship Donation

We are now accepting donations for the Bob Berry Fund. Patricia Brown-Berry will match contributions up to \$1000. The impetus behind this fund is to perpetuate Bob's memory in the way that he assisted aspiring bat biologists the most. He used his engineering and computer skills to refine the tools of bat field work, and to help people to understand the different and changing technologies. Bob worked best one-on-one and patiently offered his expertise to students and agency biologists. He loved challenges. The scholarship is awarded, through a competitive process, at the WBWG Biennial Meetings.

Bonnie Bat Educational Fund

Bonnie, the big brown bat, introduced thousands of adults and children to the wonderful world of bats through classes and programs. She never tried to bite, and rarely emitted an irritation buzz. She also appeared on the Jay Leno Show, Nickelodeon and Beekman's World. To honor Bonnie's memory and continue her legacy of bat education, contributions can be made to the Western Bat Working Group Bonnie Bat Education Fund.



PDF CORNER

The PDF Corner lists recent open-access publications that may be of interest to WBWG members. If you come across a full-text on-line publication that you think should be listed here, please send the link to: bronwyn_hogan@fws.gov.

Book (open access):

Bats in the Anthropocene: Conservation of Bats in a Changing World
<http://link.springer.com/book/10.1007/978-3-319-25220-9>

Publications:

Widespread Bat White-Nose Syndrome Fungus, Northeastern China
Hoyt JR, Sun K, Parise KL, Lu G, Langwig KE, Jiang T, et al.
http://wwwnc.cdc.gov/eid/article/22/1/15-1314_article

North American Symposium on Bat Research 2015 Meeting Abstracts

https://www.nasbr.org/pdfs/2015_Abstracts.pdf

UPCOMING EVENTS

USA

The Wildlife Society (Western Section), Feb. 22-26, 2015, Pomona, CA

