

# WBWG NEWS

Volume 4, Number 1

Spring 2008

## Feature Section:

## Chytrid Fungus and White Nose Syndrome



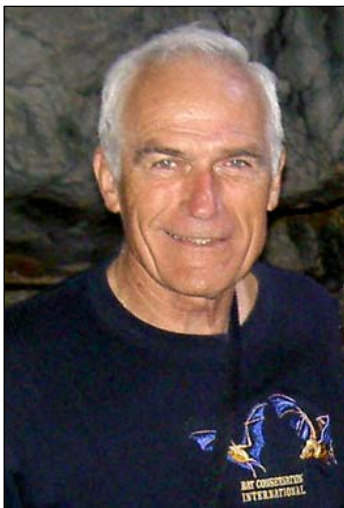
Kristi DuBois Photo



New York Dept. of Environ. Conserv.

## In Memorandum:

## Bob Perry and Chuck Harris



*Western Bat Working Group*

# WESTERN BAT WORKING GROUP NEWSLETTER

**Spring 2008**

**Volume 4, Number 1**

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PRESIDENT'S CORNER .....	3
ACCOLADES.....	4
NOTES FROM THE EDITORS.....	4
IN MEMORY .....	5
A Tribute to Chuck Harris .....	5
A Tribute to Bob Berry .....	6
FEATURE SECTION: CHYTRID FUNGUS AND WNS .....	7
CHYTRID FUNGUS.....	7
WHITE-NOSE SYNDROME .....	9
STATE/PROVINCIAL UPDATES.....	11
CALIFORNIA .....	11
CANADA .....	12
COLORADO .....	12
NEVADA.....	13
NEW MEXICO.....	13
OREGON.....	14
SOUTH DAKOTA .....	14
WASHINGTON .....	15
COMMITTEE REPORTS AND OTHER NEWS.....	17
2009 WBWG BIENNIAL CONFERENCE .....	17
WIND.....	17
WBWG BIENNIAL ELECTIONS.....	18
MEMBERSHIP SURVEY RESULTS .....	19
BANDING MIGRATORY BATS.....	20
WBWG LAUNCHES NEW FORUM! .....	20
BATS AND MINES .....	21
WILDLIFE FOR WATER.....	21
ADDITIONAL UPDATES FROM BAT CONSERVATION INTERNATIONAL.....	23
EDUCATION, WORKSHOPS & BCI GRANTS.....	24
BAT BULLETIN BOARD.....	25
UPCOMING EVENTS.....	26
A FINAL WORD.....	28

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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. 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'S CORNER

It was a rough winter. Loosing Chuck Harris and Bob Berry to cancer has left some significant holes in our community of bat folks. While I understand that death is part of the natural cycle, I just wasn't ready for either of them to go. I have things I want to ask them and discussions I now can only imagine. It just plain hurts to lose two respected colleagues that I took for granted would always be here because they had so much to offer and were always willing to give all they could to the rest of us.

Then there is White Nose Syndrome for a second year with more profound effects than the first. Wiping out colonies of bats in the Northeastern U.S. and leaving only vague clues that add up mostly to more questions than answers. From a bat perspective, it reads like something out of a Grade B horror movie - only it's real. It's frightening to think it is a contagion that could be easily spread between colonies as bats go about their normal patterns of seasonal dispersal, or even more frightening to think it could be associated with climate change. There might be a chance to intervene against a contagion; I'm not sure how to protect bats against climate shifts.

I won't even go in to the bigger picture items like the war and the economy – talk about depressing. It has been a winter of excellent reasons to just stay in bed with the shades down.

Sitting here today on this fine sunny Sunday in my little house on Sunnyside (yes, that really is the name of my street), a question creeps across my radar screen: “What would Chuck and Bob do?” Well, both men adored food – if they had been a lot shorter and furrer, they would have made great hobbits – so I would guess that even on a gloomy day with the weight of the world staring them in the face, they would start with a substantial and tasty breakfast, a breakfast of champions if you will. Sufficiently fueled at least until snack time, I believe they would focus their energy where they could effect change and inspire and engage others to join in. I don't think either of them would spend a minute feeling disabled by the woes of the world, but rather inspired by them to facilitate change.

We're still working out how best to remember Bob and Chuck formally through WBWG. Yet, there is no reason each one of us can't serve as a living legacy of the strengths both men brought to the world such as, giving others the benefit of the doubt, working for solutions, cultivating a childlike curiosity and enthusiasm for what we and others do, being a good listener, remembering our sense of humor, and of course adoring our food.

So in memory of two dear and insightful men, have a fun, safe, and productive summer full of good friends and good eats.

*Pat*

## ACCOLADES

Special thanks to Al Hicks for educating and consulting with us on WNS, he's got to be one of the busiest folks in the entire bat world right now so we RRRREEEAALLLYY appreciate that he took the time to join us on a couple of Board of Director calls. Steve Langenstein and Rita Dixon assisted in writing the WNS Advisory, and we also benefited from a review of our WNS advisory by our Scientific Advisory Committee, which includes Cori Lausen, Toni Piaggio, Burr Betts, and Mike Bogan – thanks much folks.

Thanks to Marylou Schnoes for bringing the chytrid issue to our attention and to Betsy Bolster, Purnima Govindarajulu, and Kristi DuBois for providing detailed information on this topic so we could pass it on to our members.

Thanks to Rob Schorr and Laura Ellison for working on bat banding guidance, and to the rest of the banding committee, Dixie Pierson, Dave Johnston, Robert Barclay, Pat Brown, and Sandy Wolf for pulling together a bat banding database and continuing to address this important issue.

Thanks to Ed Arnett for being our liaison with the Austin Radisson and working to get a contract signed for our 2009 Conference.

Thanks to our Membership Committee and especially Toni Piaggio for putting together and conducting the membership questionnaire and especially to all the members that responded!

A big thanks to Erinn Shirley who continues to improve our website and be responsive to our digital needs – it just keeps getting better.

## NOTES FROM THE EDITORS

Through informal survey we have determined this was one of the busiest springs on record for many of us, so hats off to everyone for helping put this newsletter together. Some highlights in this issue include White Nose Syndrome, preventing the spread of Chytrid Fungus, an update on the issue of banding migratory bats, WBWG's new web forums, and emerging details for the WBWG 2009 Conference in Austin, Texas. We hope you will find this issue informative and look forward to hearing about all of your great summer work in our fall issue. This issue and all back issues are accessible on the WBWG webpage ([www.wbwg.org](http://www.wbwg.org)) or from your state/provincial representative.

Cori Lausen and Kristi DuBois,  
Newsletter Editors.

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# IN MEMORY

## A Tribute to Chuck Harris

Submitted by Lyle Lewis and Rita Dixon



Biologists lost a friend and wildlife lost an incredible advocate with the death of Chuck Harris, co-founder of the Western Bat Working Group. No words describe him better than "quiet selflessness." Chuck had the rare ability and gift of using his vast knowledge of wildlife and hard work to make biologists he worked with more effective. He enabled those he worked with to accomplish more for wildlife than could have ever been done on their own. Chuck had a particularly strong background in carnivore research and conservation. Beginning in 1993, however, he worked tirelessly on conservation efforts

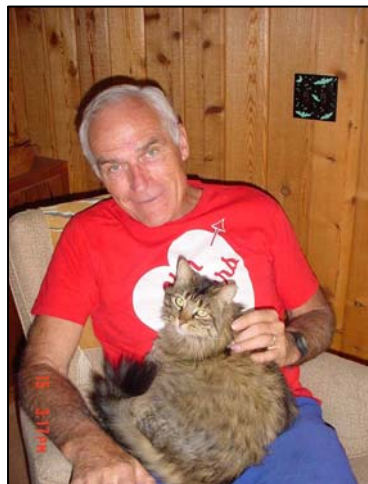
for Townsend's big-eared bat, and in 1996 with the formation of the Western Bat Working Group, broadened his efforts to bats in general. He had a key role in acquiring funds that allowed the then fledgling group to organize and meet. He continued those funding acquisition efforts until his untimely death. He was one of the visionaries that provided direction in the development of the species priority matrix, Townsend's big-eared bat conservation strategy, adoption of the strategy by the Western Association of Fish and Wildlife Agencies, species monitoring matrix, and bat monitoring protocol. These efforts have helped both biologists and land managers take steps to document and conserve bats in western North America. In 1997, Chuck was one of a team of biologists that documented a population of spotted bats in the West Fork of the Bruneau River in southwest Idaho. In 1998, he combined his love of whitewater rafting and bats, and along with four other biologists conducted the first comprehensive bat survey along the Middle Fork of the Salmon River in the River of No Return Wilderness in Idaho. A spotted bat capture during that trip extended the known range of that animal over 200 miles. While known for his technical expertise and wildlife advocacy, Chuck had a wonderful sense of humor and could get along with a wide array of people. He was always easy-going, patient, helpful and a pleasure to be around. Chuck was first diagnosed with cancer in 1997 and successfully fought the disease for over a decade with a quiet tenacity. He never complained and was always upbeat. Chuck died like he lived, with grace and dignity.

Bat survey on the Middle Fork of the Salmon River where Chuck, Lyle Lewis, Dick and Jo Wenger, and a volunteer documented the first spotted bat in central Idaho.



## A Tribute to Bob Berry

Submitted by Pat Brown



Dr. Robert David "Bob" Berry died peacefully in his sleep in Ridgecrest, CA on February 17, 2008. A superb athlete and competitor even at 68, Bob battled against a rare form of prostate cancer since June 2007. For more details on his medical history, please visit [www.caringbridge.org/visit/robertberry](http://www.caringbridge.org/visit/robertberry). You will need to register your e-mail address and use Bobpatbat as a site password.

Throughout his illness, Bob maintained his sense of humor and ready smile. Bob was universally loved and admired for his gentle, caring spirit, and voracious appetite. His passing leaves a void in the lives of many friends around the world.

There will be a celebration of Bob's life at the North American Symposium on Bat Research October 22<sup>nd</sup> -25<sup>th</sup> in Scranton, PA. People are encouraged to share stories and remembrances of Bob.

Bob was born May 11, 1939, in Albany, Calif., and was raised in Berkeley. He graduated from the University of California at Berkeley in Mechanical Engineering. While at Berkeley, he rowed with Cal Crew Varsity for four years, was an IRA Champion in 1960 and 1961 and missed competing in the 1960 Rome Olympics by half a shell length. He entered the co-op program and began his professional life-time association with China Lake Naval Air Weapons Station (then NOTS). He briefly left "the Lake" to obtain a Master's at Stanford University and a Doctorate at Cal Berkeley with the support of DOD fellowships. Bob's specialty was control systems, and at the time of his retirement from China Lake in December 1993 he was working on the AV/8B bombing algorithms. He continued working part-time on this project for several contractors until 2003.

Bob was a Renaissance man who gave generously of his time and talents. He supported the Maturango Museum in Ridgecrest, serving two terms on the Board of Trustees, including as President of the Board from 1979-82. Pat was Museum Director from 1982-92. In 1994, Bob and Pat moved to Bishop from Ridgecrest, where he served as a volunteer fireman. He joined Rotary International while in Bishop, participating in local projects and making up at Rotary meetings around the world. Since 1962, Bob was a general aviation pilot and instrument flight instructor. He loved the view from the air, and particularly enjoyed flying into remote dirt strips, especially near hot springs. His athletic prowess extended into basketball, volleyball, bicycling, river rafting, handball, cross country skiing and any other sport that he tackled. He excelled in eating, and was the original "cookie monster" although he always maintained a trim, healthy body.

After his marriage on Valentine's Day 1981 to Dr. Patricia Brown, he shared her research on bats. He and Pat traveled around the U.S. and the world for research and conferences. Bob's professional background in computer systems enabled him to become an expert in the analysis of bat echolocation signals. He perfected techniques to locate and track radio-telemetered bats at night from an airplane. He also specialized in mine and cave bat surveys, rappelling into many holes, and developed a down-the-hole camera to investigate deep mine shafts. When not in Bishop or Ridgecrest, Bob and Pat spent at least half the year in a fifth-wheel trailer conducting bat surveys throughout the Southwestern U.S.



Bob loved to share his technical knowledge with colleagues and students. As a permanent memorial to Bob, Pat wants to establish a Western Bat Working Group Bob Berry student scholarship to support equipment purchase for students. Eventually this could evolve into a “library” for bat research equipment. Pat is pledging \$1,000 if matched (or exceeded) by WBWG member donations by the annual meeting in Austin next April. The details and the amount of the award will be decided by the Board.

Submitted by Heather Johnson

Bob embodied the very best qualities of a tremendously learned and experienced biologist; he loved to teach and he never lost his joy in learning. It was wonderful to share Bob’s delight in acquiring new monitoring gadgets and learning to use new software; to take part in his engaging wonderment of the natural world. Bob improved methods and techniques using his own creativity and massive intelligence, yet he was as thrilled with finding a long-lasting LED as he was with his new airplane telemetry ideas. He developed the knowledge of up and coming battos with amazing generosity and skill- a good question in an email to Bob would earn the most helpful long and detailed response one could hope for. He was loveable and easy-going-- that quiet drawl of his and ability to focus on snack foods or data sets or little bats, his love and respect for his wife and other people and animals— in sum, a fine and true human spirit.

## FEATURE SECTION: CHYTRID FUNGUS AND WNS

### CHYTRID FUNGUS

#### An Epizootic Whose Spread We Can Reduce

Submitted by Marylou Schnoes, Bureau of Land Management, 2164 NE Spalding, Grants Pass OR 97526  
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With help from Dr. Purnima Govindarajulu, Post-Doctoral Fellow, University of Victoria, British Columbia and Betsy Bolster, California Department of Wildlife

The chytrid (rhymes with fit-grid) aquatic fungus\* affects the keratin in amphibian mouthparts and skin. Its symptoms include: skin sloughing from arms, legs and belly; sluggishness and loss of appetite. It can cause 100% mortality, may be highly virulent and there are large numbers of potential emerging outbreaks. Some species carry it and can transmit it, but don’t suffer from the disease. It’s believed to have been spread worldwide by the commercial trade in pets. In 2006 100 species were affected. Die-offs have occurred in Africa, Australia, N. America, Central America, S. America and Europe with a mass mortality in Costa Rica. In the Sierras and the entire Western U.S., it’s affecting huge areas.



For more info, see

<http://webmail.uslogin.net/parse.php?redirect=http%3A%2F%2Fwww.issg.org%2Fdatabase%2Fspecies%2Fecology.asp%3Fsi%3D123%26fr%3D1%26sts>

The zoospore is infective. Carriers don’t always manifest the disease. It can be transmitted through water, algae, mud and other debris, and persists in the environment.

To prevent the spread of the chytrid fungus and Rana virus (another disease of frogs and salamanders), the following should be routine when moving from one body of water to another. For a long stream system, consider sites >1 km apart to be different bodies of water.

1. Clean all visible mud, algae & other debris from all surfaces, using clear water from the potentially contaminated site. A brush may be needed. Field workers using hollow poles should remove all mud packed inside the poles. (Old gun cleaning brushes may be useful.)
2. Thoroughly wet every square centimeter of all surfaces by dipping in a bucket of **disinfectant** (see below) or by rinsing with a wash bottle stream. (A wash bottle is a flexible, plastic bottle with an external spout connected to a tube that extends to the bottom of the bottle. Squeezing produces a stream of liquid without tipping and which may be efficiently directed at a target. Online sources are given below.) Care should be taken to saturate fabrics such as canvas wader shoes. Felt soles may be penetrated by stepping a few times in a dishpan of disinfectant.

**Disinfectant:** A solution of freshly prepared, 4% household bleach or 0.5% Quat has been recommended. Quat may be less likely to cause deterioration of equipment. Per liter, 4% = 40 ml or cc. Per gallon, 4% = 2/3 cup or 6 fluid ounces. Per liter, 0.5% = 5 ml or cc. Per gallon, 0.5% = 1 Tablespoon + 1 teaspoon or slightly less than 1 fluid ounce.

Remember that because Quat is diluted to 0.5% or 1/200; for every gallon of concentrate you order, you'll get 200 gallons of solution. Quat is available by the product name "HDQ Neutral 128" at <http://www.spartanchemical.com/web/webhome.nsf>

3. Allow objects to remain soaking or wetted for 15 min. (which will also kill Rana virus, another amphibian epizootic). Objects may then be rinsed using clean, uncontaminated water. The disinfectant and the water rinse should be disposed of at least 100 m from open water onto a site such as a road surface. Remember to disinfect brushes.

Please avoid driving through water, as your tires could be a vector, too.

Some online sources for 1-liter wash bottles & their prices are:

<http://www.usplastic.com/catalog/product.asp?catalog%5Fname=USPlastic&category%5Fname=6252&product%5Fid=14767> \$8.22 each

[http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=5313](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=5313) \$7.85 each

<http://vwrlabshop.com/unitary-wash-bottles-low-density-polyethylene-wide-mouth-nalgene/p/0006915/> \$84.36 for a case of 12

Folding buckets are available at [www.Campmor.com](http://www.Campmor.com) (2 gal. \$7.99)

[http://www.nrsweb.com/shop/product.asp?pfid=2052&src=nextag&refer=NRS\\_Bail\\_Pail\\_Water\\_Container-2052](http://www.nrsweb.com/shop/product.asp?pfid=2052&src=nextag&refer=NRS_Bail_Pail_Water_Container-2052) (2.75 gal \$15)

<http://www.nextag.com/NRS-Big-Basin-65770985/prices-html> (9 gal. \$25)

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\* *Batrachochytrium dendrobatidis* or "Bd". The disease called Bactridiomycosis.



## WHITE-NOSE SYNDROME



Al Hicks; New York Dept. of Environ. Conserv.

Al Hicks (New York Dept. of Environmental Conservation) attended two WBWG conference calls this past winter to disseminate knowledge about the White Nose Syndrome (WNS) in bats. The following summary and recommendation was recently released by the WBWG. WBWG received input from Al Hicks and this document was reviewed and accepted by the WBWG Officers, the Board of Directors, and the Scientific Advisory Committee. These steps were taken to ensure scientific rigor and accuracy of our reporting and recommendations. Even so, we do acknowledge the conservative nature of our recommendations and ask that this be taken into account for those issuing permits; this is advisory only

and the nature of spread of WNS is not understood. Currently WNS is not known outside of the states of New York, Vermont, Connecticut, and Massachusetts.

### **Recommendations from the Western Bat Working Group for addressing White Nose Syndrome (WNS) in western North America 4-29-08**

In 2007, some 8,000 to 11,000 bats died in several cave hibernacula in the vicinity of Albany, NY— more than half the wintering bat population in those caves. Many of the dead or dying bats had a white fungus on their nose, thus the mysterious disease was dubbed White Nose Syndrome (WNS). In 2008, biologists have documented symptoms associated with WNS in hibernating bats in New York, southwest Vermont, northwest Connecticut, and western Massachusetts.

At least one of the affected species, the Indiana bat, is protected by the US Endangered Species Act. Little brown bats have sustained the largest number of deaths, although northern long-eared, eastern pipistrelle, small-footed myotis and big brown bat have been affected.

Bats with WNS often have a white ring of fungus around their muzzle and their wings or tail membrane. It is not known whether the fungus is causing the deaths or whether it is symptomatic of disease. There is no evidence that people are affected by WNS, but they may transmit the fungus between caves or mines.

To date, there is no documentation of WNS in the West. However, until we have a better understanding of WNS, we ask that anyone entering roost sites, including caves, mines, buildings, bridges, and other structures, take precautions to prevent the possible spread of WNS and be attuned to evidence of WNS. To this end, we provide the following recommendations for the western US, Canada, and Mexico:

- Individuals (such as those from grottos, minerals personnel, bridge engineers, or facilities personnel), who frequent bat-roosting habitat need to be aware of the symptoms (see links at the bottom of this advisory).
- Avoid unnecessary entry to known bat roosts until there is a better understanding of WNS and how it is transmitted.
- Do not enter a western roost site with equipment or clothing that has been exposed to eastern (east of the Mississippi River) roost sites without following a decontamination protocol (see USFWS website:  
<http://www.fws.gov/northeast/whitenosemessage.html#containment>).

- If you travel from the west to visit eastern roost sites, particularly caves and mines, take disposable clothing, footwear, and gear that you can discard in the east before returning west to avoid potential transportation of contaminants. Also, avoid contamination of your vehicle by changing out of clothes used in eastern sites and disposing of or sealing them prior to getting in your vehicle.
- Post information on WNS at popular cave sites and include decontamination requirements for clothing and equipment previously exposed to eastern sites as part of entry permits.
- If WNS is suspected at a roost site, contact your state or provincial wildlife agency or local USFWS office immediately, as well as inform your WBWG State or Provincial Representative (see [www.wbwg.org](http://www.wbwg.org) for representative contact information).
- Cavers are critical partners for identifying and monitoring bat roosts associated with caves. Partner with local grottos to collaboratively identify and monitor cave roosts and encourage cavers to keep detailed cave logs.
- Work with your federal, state, and provincial wildlife agency personnel to establish a centralized baseline for roost-site location information. Inclusion of sites that are most likely to be entered by people who also have been exposed to eastern roost sites is especially important so that they can be monitored.
- Engage your federal, state, and provincial wildlife agency personnel to establish a legitimate and credible monitoring strategy for roost sites, especially those sites with the highest risk of potential contamination such as popular caving sites that serve as hibernacula. It is important that any monitoring effort is conducted by qualified, trained personnel to avoid inappropriate intrusions on bats that also can cause bat fatalities.

For specific information and current status of WNS, please see the following links:

Western Bat Working Group [www.wbwg.org](http://www.wbwg.org)

US Fish and Wildlife Service WNS [http://www.fws.gov/northeast/white\\_nose.html](http://www.fws.gov/northeast/white_nose.html)

Bat Conservation International  
[http://www.batcon.org/news/news\\_item.asp?NewsID=346](http://www.batcon.org/news/news_item.asp?NewsID=346)

Bat Conservation and Management <http://www.batmanagement.com/cgi-bin/yabb2/YaBB.pl?num=1199773599/0>

National Speleological Society <http://www.caves.org/committee/conservation/WNS/WNS%20Info.htm>

There is an electronic caving log being monitored by FWS because of WNS. It is very helpful for cavers to enter their caving information and could serve as an important repository of information for understanding human interface with the spread (or lack there of) for WNS. <http://necaveconservancy.org> You'll see a special White Nose box and the link to the entry form. The actual data is managed by the USFWS once it's entered.

# STATE/PROVINCIAL UPDATES

## CALIFORNIA

Compiled by Betsy Bolster

### Death Valley Area - Conservation and Monitoring

Mike Rauschkolb ([amargosabat@yahoo.com](mailto:amargosabat@yahoo.com)) and Linda Manning ([linda\\_manning@nps.gov](mailto:linda_manning@nps.gov))

Death Valley Mine Closure Alliance (DVMCA): Rio Tinto Minerals (RTM), the California Department of Conservation (CADOC), Death Valley National Park (DVNP), and Bat Conservation International (BCI) are continuing a bats and mines partnership to protect important bat roosts in mines. The group has inventoried and evaluated over two hundred mine openings along the Furnace Creek drainage within lands owned or managed by RTM or DVNP. Each mine opening is described using the following parameters: GPS location, orientation of the location, the size of the opening at the portal, and the length and dimensions of the underground workings. We describe the rock types at the portal and inside. Internal temperatures are measured in several locations (on the back and rib of the face, above large guano piles, and five feet inside the portal). We also estimate the amount of tourist visitation, the visibility of the site from tourist areas, and the ease of access to the site. The location of each guano pile, the species responsible, and the geologic condition of each roost site is also noted. The depth to the first occurrence of guano is recorded. We note the occurrence and location of Say's phoebe nests and bird guano.

We have several initial observations to report. 1) Adits showing evidence of tourist traffic do not contain as much guano as a geologically-similar remote adit. Adits that are hidden from visitor's views show more bat guano and fresher guano. 2) Adits in basalt are used less than adits in other rock types. The basalt does not fracture cleanly and so there are few roosting sites. Also we don't commonly see blast hole "cups" in basalt. The cups are remnants of drill holes used to blast the rock. 3) Pallid bats prefer to roost in cups and through-going natural fractures. 4) Townsend's big-eared bats generally roost in either cupola shaped ceilings or zones of open fractures. The pallid bats appear to want to cluster in a tight space. The Townsend's will use a single through-going fracture, but they seem to prefer hanging in a cupola or even a ledge if there are sufficient gripping places. 5) The pallid bat guano is more common than Townsend's guano below the elevation of Twenty Mule Team Canyon road (TMT). In TMT canyon and higher, we see a mix of Townsend's and pallid guano; and probably less pallid guano overall.

Corkscrew Mine: Several dataloggers are running at this mine that was gated last year.

Lower Biddy mine: Dataloggers are continuing to record microclimatic conditions and airflow patterns in this gated mine near Ryan, California.

Eureka mine: Nine Hobo dataloggers were retrieved from this Townsend's big-eared bat hibernation site in Death Valley National Park. A programmable camera was placed in the mine facing the favorite roost site. Photos taken during the winter months did not show any bats at this location.

### From the Bioacoustics Lab and Humboldt State University

Joe Szewczak ([joe@humboldt.edu](mailto:joe@humboldt.edu)) and Aaron Corcoran ([ajc47@humboldt.edu](mailto:ajc47@humboldt.edu))

We have spent our winter and spring integrating results of our ongoing work on bat acoustic species identification. Automated signal recognition and parameterization routines developed in our lab have facilitated processing the thousands of files in our reference collection of known species recorded across the United States during the past several seasons. We have focused our recent attention on quantitatively describing species' echolocation call repertoires with statistical rigor, and mapping out unique data space for discriminating species acoustically.

We currently have identification routines for 14 western and 12 eastern North American species, with most exceeding a correct classification rate of 90%. Because of overlapping data space in species' repertoires, not every recording from the field can be identified confidently, but we have found that, depending on the species, 35–100% of call sequences contain diagnostic features enabling identification.

As part of our testing and development, we have also been conducting analyses for statewide acoustic surveys in OR, MT, ID, and WA. We analyzed more than 10,000 recordings during this spring as part of that initiative. In the coming months we will continue development of automated acoustic identification software and submit our work on bat acoustic identification for publication.

Aaron's related Master's thesis is at

[http://dscholar.humboldt.edu:8080/dspace/bitstream/2148/169/1/Corcoran\\_2007.pdf](http://dscholar.humboldt.edu:8080/dspace/bitstream/2148/169/1/Corcoran_2007.pdf)

## CANADA

### Newly Released Wind Turbine Pre-construction Protocol The Alberta Bat Action Team

ABAT has just released the second version of their Bats and Wind Turbines Protocol document:

Lausen, C., E. Baerwald, J. Gruver, and R. Barclay. 2008. APPENDIX 5: Bats and Wind Turbines, Pre-siting and pre-construction survey protocols, 2<sup>nd</sup> Edn. Alberta Bat Action Team, University of Calgary, Alberta Fish and Wildlife.

This document has been updated from the original May 2006 document. This latest version (May 2008) is available as a pdf on the ABAT website:



<http://www.srd.gov.ab.ca/fishwildlife/wildlifeinalberta/batsalberta/abat.aspx>.

There is also a link to it from the WBWG website in the wind resources section.

For full details about bat work being conducted in Canada, see the Western Canada Bat Working Group newsletter. The spring 2008 issue will be posted at

<http://www.srd.gov.ab.ca/fishwildlife/wildlifeinalberta/batsalberta/abat.aspx>

## COLORADO

### Colorado Bat Working Group Update

Kristen Philbrook, Dolores Public Lands Office (Bureau of Land Management and Forest Service),  
Dolores Colorado [kphilbrook@fs.fed.us](mailto:kphilbrook@fs.fed.us)

The Colorado Bat Working Group will hold its 2008 annual meeting on April 25<sup>th</sup>, 2008. Some of the topics include wind energy, increased uranium mining in Colorado and an update on the completion of an addendum to the Colorado Bat Conservation Plan. We will also be planning our annual summer camping bat blitz. Kirk Navo is working with federal land managers to strategize for the protection of Townsend's big-eared bats and other bat species given the increase in uranium mining. As a result, the BLM is completing an Environmental Assessment to withdraw mineral leasing at three Townsend's maternity sites in the state. If approved, this EA will ensure that these significant maternity sites will be protected from future mining impacts. This process would serve as a precedence for other states to utilize. Kirk Navo and Kristen Philbrook are serving on the Abandoned Mines Land committee of the Western Bat Working Group.

**Bat research at the USGS Fort Collins Science Center**  
Paul Cryan, United States Geological Survey (paul\_cryan@usgs.gov)

It has been a busy year for bat researchers at the USGS Fort Collins Science Center. The two-year study of bats at Mesa Verde National Park came to a close and several new projects began. Tom O'Shea, Paul Cryan, Laura Ellison, and Ernie Valdez are wrapping up old projects and getting ready for the new. New bat projects this year include: investigating the potential roles of feeding and mating behaviors in the susceptibility of migratory tree bats to wind turbines; studying the nighttime dispersal of long-nosed bats (*Leptonycteris yerbabuenae* and *L. nivalis*) from a recently discovered roost in southwestern New Mexico; testing a major assumption of stable-isotope migration studies by characterizing variation of stable isotope ratios among a large sample of sedentary animals living in the same "isoscape" and under similar conditions (big brown bats living in buildings in Fort Collins); and continuing to monitor the echolocation calls of hoary bats as they migrate past the lighthouse on Southeast Farallon Island, California. Paul and Tom have also been involved in helping to coordinate the investigation into the causes of White Nose Syndrome that is associated with the unprecedented mortality of hibernating bats in the northeastern U.S.

**NEVADA**

**Winter 2007/2008 Bat Activities in Nevada**

Submitted by Jennifer Newmark

There will be an interagency/public workshop dealing with water trough and wildlife issues, sponsored by The Humboldt-Toiyabe National Forest in partnership with Dan Taylor at BCI. In addition, the Forest Service committed \$2000 to a collective ramp building effort in which agencies and special interest groups pool resources to get 1000 ramps built and distributed to land owners/permittees to install in troughs on both private lands and federal allotments. The Forest Service received approximately 300 of escape ramps and is attempting to put 50 to 60 out a year through their own budgets. The goal is to have escape ramps in every trough on Forest Service land. It will likely take a few years because The Forest Service has an enormous number of troughs spread across the four northern districts, but they are committed to getting it done.

Mines are continuing to be surveyed throughout the state, with particular attention to the Mt. Sterling (southern NV) and Ruby Hill mines. Summer work will continue throughout the state. Surveys have resulted in many mines being scheduled for gating later this year.

The Nevada Bat Working Group is initiating efforts to develop protocols for wind energy development. This is in the very early stages, but we hope to make progress over the next few months. The group continues to meet twice a year, with subcommittees meeting more often. Coordination of resources and survey effort continue to be a priority.

The second annual Nevada Bat Blitz will be held in August in eastern Nevada and will be a radio-tracking study of a large colony of cave-roosting *Tadarida brasiliensis*. Look for more information and how you can get involved later in the summer.

**NEW MEXICO**

Submitted by Ernie Valdez

The Pajarito Grotto conducted counts of bats in hibernacula occurring in southeastern New Mexico as part of an inventory of hibernacula on lands managed by BLM.

Bats were counted and compared to counts from previous years with estimates of over 1000 Townsend's big-eared bats and 2000 cave myotis for some of the larger hibernacula in caves that were observed in 2008.

Marikay Ramsey, US Forest Service Southwestern Region Bat Conservation Coordinator, initiated white nose syndrome (WNS) awareness for cave enthusiasts in New Mexico and Arizona by creating a flyer with information about WNS and state Game and Fish Department contact information if discovered.

## OREGON

Compiled by Steve Langenstein & Marylou Schnoes

### Oregon Bat Grid workshops

Pat Ormsbee

Again this year Pat Ormsbee and Aimee Hart are organizing the training and refresher courses for the Oregon Bat Grid monitoring. Everyone attending these workshops needs to have either a current good titer check or have recently taken the rabies pre-exposure shot series.

Cells monitored in past years will again be surveyed throughout Oregon and Washington. "Department of Defense funding was received this year for the Bat Grid, so we're excited to engage our Military and Army Corp of Engineer folks in bat surveys in the Pacific Northwest" said Pat.

The USFS is selling many of their excess real estate parcels and as part of the sale preparation process, bat surveys are conducted, mitigation measures are taken if bats are present, and educational materials on the benefits of bats are being provided to buyers.

## SOUTH DAKOTA

### South Dakota Bat Working Bat Books for Schools Fund Established

Submitted by Brad Phillips

The South Dakota Bat Working Group recently began a project to provide all elementary school libraries in South Dakota with a 12-volume series of books on different species of bats around the world. This 12-book series is published by ABDO Publishing, MN, and is fully bound for library use. Through individual or business sponsorship these books will be provided at no cost to schools.

By providing factually-based, age-appropriate information about bats to children, the project will foster an interest in these amazing animals and their important contributions to a healthy environment. The information will also help dispel many of the myths and misconceptions surrounding bats.

All donations to the project are tax deductible thanks to Western Bat Working Group tax-exempt (501 3c) status. If other state bat working groups are interested in this program contact SDBWG.



To date, the project has provided 8 complete sets to 8 elementary schools in South Dakota. Based upon school enrollment, these books are now available to over 3,300 children. A list of the recipient schools and donors can be seen on the South Dakota Bat Working Group's web site: <http://nathist.sdstate.edu/SDBWG/frame216953.html>

For more information about the program, the books, sponsorship (including a list of recipient schools and their sponsors), visit the web site of the SD Bat Working Group.

Or Contact: Joel Tigner, Bat Book Fund Coordinator

Telephone: 605-390-2061 or Email: [batworks@rushmore.com](mailto:batworks@rushmore.com)

Brad Phillips WBWG Treasurer

Telephone: 605-673-4853 or E-mail: [bphillips@rushmore.com](mailto:bphillips@rushmore.com)

## WASHINGTON

Compiled by Gerald Hayes

### **Bat Encounter Report Card for Washington State Caving Community**

Chris Anderson, Washington Department of Fish and Wildlife, Region 4 Office, 16018 Mill Creek Blvd., Mill Creek, WA 98012 (425) 775-1311, ext. 111, [andercda@dfw.wa.gov](mailto:andercda@dfw.wa.gov);

Greg Falxa, Cascadia Research Collective, 218½ W. 4th Ave., Olympia, WA 98501; and Lori Salzer, Washington Department of Fish and Wildlife, Headquarters Office, 600 Capitol Way N., Olympia, WA 98501.

Chris Anderson and Lori Salzer (Washington Department of Fish and Wildlife) have been working with Ron Zuber and the Cascade Grotto to create a mail-in bat observation card for northwest cavers, as well as any other similar interest groups. The card allows for easy reporting of the presence or absence of bats in caves or any other potential roost site. The card and related collaborative efforts came about due to ongoing discussions between WDFW Headquarter and Region 4 biologists, Cascade Grotto, and Bats Northwest. Recently, the card was introduced at the Cascade Grotto March meeting for discussion and comment. Barb Ogaard, of Bats Northwest, presented a slide show on western Washington bats, general bat ecology, as well as local and international bat conservation. Greg Falxa, of Cascadia Research Collective, discussed research findings and current knowledge of bats in western Washington, as well as techniques to minimize disturbance in situations where cavers and similar groups might encounter an unknown bat roost. Chris Anderson discussed ongoing collaborative efforts of the Cascade Grotto, Bats Northwest, and WDFW regarding sharing of presence or absence type observations of bats at potential roost sites. Field-ready forms are currently in production for the upcoming spring season and into the future.

### **Fort Lewis Bat House Project**

Greg Falxa, Cascadia Research Collective, 218½ W. 4th Ave., Olympia, WA 98501  
[gregf@efn.org](mailto:gregf@efn.org)

I am assisting The Nature Conservancy (TNC) with their Fort Lewis and wildlife habitat enhancement project to install an array of 50 bat boxes, using 5 different designs, at the fort. Fort Lewis has the majority of the oak prairie habitat remaining in Washington State. TNC, the Washington Native Plant Society and others have expended considerable effort assisting the fort restoring these prairies through invasive species control and other conservation work. A number of native species, including threatened and endangered plants, butterflies, and the listed Western Gray Squirrel are benefiting from this work. Hopefully the bats are as well! Overall, there are over 80,000 acres of protected land at Fort Lewis, providing a reserve of undeveloped habitat surrounded by rapidly increasing urbanization.

We are monitoring bat house use with guano collection trays and acoustics, and will analyze the occupancy data to compare designs across habitat types. The project includes acoustic and capture work to update bat inventory data last collected in the early 1990s. Since then, considerable development has occurred on the base and in the surrounding landscape. We will be collecting additional data not collected during the earlier surveys (biopsy and full-spectrum calls), compatible with current inventorying efforts such as the northwest Bat Grid survey.

<http://www.southsoundchapterwnps.org/news/news-fortlewis.htm>

### **Woodard Bay Myotis Colony**

Greg Falxa, Cascadia Research Collective, 218½ W. 4th Ave., Olympia, WA 98501  
gregf@efn.org

The largest known bat colony in Washington State is at the state-owned Woodard Bay Natural Resources Area, 12 km northeast of downtown Olympia, Washington. Since it is practically in my backyard, I've helped with monitoring this maternity group comprised of Yuma Myotis and Little Brown Bats, which roosts in beams under an abandoned railroad pier, over a saltwater inlet of Puget Sound. The colony had over 2,600 adults last summer, and radio-tracking observations of these bats challenge some of the assumptions we make about Yuma Myotis in particular. Although the roost is over salt water, they don't appear to forage anywhere near there. Most of the individuals tracked from this roost routinely forage at Capitol Lake, an urban lake 12 km away from the maternity roost, even when lactating. This roost, and a second Yuma Myotis roost located in a building, does not show elevated temperatures from solar heating. The building roost is located in the siding of a north-facing wall. This second roost is not located near water, and is 8 km from Capitol Lake, where many of them also feed. As well, we are finding the Yumas in a few large colonies, but the Little Browns day roosting in large and small groups.

While the population at Woodard Bay has been steady (and actually increased in 2007), the lake where they forage has been under recent review for returning to tidal mudflats, by removing a small dam constructed in 1952. The impetus for recreating the intertidal area is for salmon habitat enhancement. The 1950s project that created Capitol Lake included the installation of a fish ladder at a previously impassible falls, and a salmon hatchery at the top of the falls. Prior to this fish ladder and hatchery there were no salmon in this river, so a number of issues are on the table, including salmon vs. bats, native vs. hatchery salmon (funding priorities), other issues. In 2004 the committee promised bats would be considered "later." Later has arrived, and a small review has been initiated for wildlife currently using the lake. Although I provided some input, our observations have created more questions about the impact of losing this foraging area rather than answers.

My solution to what felt like a politicized process was to offer more bat walks at the lake, and over the past couple summers we had attendance of 75 to 100 people at the monthly events. This may be paying off, as the study committee has recently been receiving questions from the public about the impacts to bats. Thousands of bats at a 260 acre lake can put on a pretty good show!



# COMMITTEE REPORTS AND OTHER NEWS

## 2009 WBWG BIENNIAL CONFERENCE

Submitted by Michelle Caviness

The 2009 WBWG Biennial Conference will be April 15-18<sup>th</sup> in Austin, TX. The conference is being hosted by BCI and the Texas State Working Group. We have a very informative and fun packed meeting planned including a field trip to Bracken Cave. In addition, the conference hotel is within walking distance to the Congress Avenue Bridge and you can even see part of the fly-out from the patio!

Our auction and raffle event was such a great success at the 2007 meeting in Tucson that we plan on repeating it next year in Austin. Start thinking about what you might want to donate to the auction. Creative entries are welcome.

We are *looking for volunteers* to help in planning and assisting in a few areas during the conference. Below is a list of tasks we need help with:

- Printing the program
- Running the registration desk
- AV personnel and equipment
- Conference souvenirs-tote bags, T-shirts, etc. *We need someone to work on a design and work with a vendor to order the items.*

If you are interested in helping with the conference or are willing to take on any of the above mentioned tasks please contact Nyta Hensley at Nyta.Hensley@tpwd.state.tx.us

The Conference 2009 Committee is working hard to organize a great conference. Look for more details and information in our fall newsletter. We look forward to seeing you there!

## WIND

### WBWG Wind Energy Committee

#### Workshop Announcement for April 2009

The Wind Energy Committee (Bronwyn Hogan, Cori Lausen, Paul Cryan, Mike Herder, Jason Williams, Angie McIntire) has teamed up with BCI's Ed Arnett to plan a workshop. This 2 day workshop takes place in Austin, Texas just prior to the WBWG Biennial Conference. The workshop content has only tentatively been planned, starting with a general information session about bats and wind energy from various perspectives, an update on technologies and research, and a details-oriented focus on protocols and associated equipment and procedures. Details of the workshop, including cost, will follow in the fall.

#### New Addition to WBWG Website: Wind Energy and Bats Resources

The WBWG Wind Energy Committee compiled a collection of bat-related resources as they relate to wind energy. These resources with associated web-links can be found on the WBWG website. This site is updated as new wind resources become available, and is meant to provide a library of resources for our members seeking information on the bats and wind energy issue.

### Bats and Wind Energy Cooperative

Submitted by Dan Taylor, BCI

BWEC has just launched a website: <http://www.batsandwind.org/>. Visit the site for various resources and to sign up for their newsletter.

Current Progress and Status of Collaboration--The second Bats and Wind Energy Cooperative technical experts workshop was held January 8-10, 2008 at the Radisson Town Lake in Austin, TX. Forty-eight colleagues representing four countries and comprising research scientists, wind industry professionals, and state and federal government agency representatives were in attendance. The workshop provided the opportunity for all of the committees (Oversight, Science, and Technical Advisory) of the BWEC to meet with key stakeholders and discuss key findings from research. Progress was made detailing new research priorities and next steps for BWEC. A revised and more comprehensive charter and workshop proceedings have been produced and disseminated to partners.

The Project is currently analyzing 3 years of pre-construction acoustic monitoring data and a final report is expected in June. Ed Arnett is working on standard protocols for post-construction fatality monitoring that will be reviewed and approved by the BWEC Science Committee and disseminated to colleagues worldwide in May. We will begin our first year of post-construction fatality monitoring at the Casselman Windpower Project in Pennsylvania.

Public and Scientific Education -- In January 2008, Ed attended the National Council for Science and the Environment (NCSE) conference on "Climate Change: Science and Solutions" where he co-sponsored and led a break-out session on wind energy and wildlife impacts with Tom Kunz of Boston University and Michael Frye of the American Bird Conservancy. He also delivered invited presentations at the North East Bat Working Group/South East Bat Diversity Network joint meeting held in February and at the USFS Region II Conference for Natural Resource Professionals. Ed also attended the North American Wildlife and Natural Resources Conference in Phoenix, AZ where he participated in wind energy and energy subcommittee meetings and attended partnership meetings with BLM, USFS, NRCS.

Planning, public policy-- Ed Arnett assisted with development of position statements on wind energy and wildlife for professional organizations. Two of these statements were passed and executed for The Wildlife Society and the Association of Fish and Wildlife Agencies. The third statement is currently under review by the North American Symposium for Bat Research executive board and is expected to be approved by summer of 2008. Ed has also contributed comments to a resolution currently under development by the American Society of Mammalogists. Ed also was nominated to serve on a Federal Advisory Committee Act (FACA) committee to advise the U.S. Fish and Wildlife Service with evaluating and revising their guidelines for wind energy development and will work with this committee through fall 2009.

### **US Fish and Wildlife Service**

Ed Arnett with BCI/BWEC is a member of the newly created Wind Turbine Guidelines Advisory Committee. If you have not already done so, you may wish to check out their website and sign up to receive updates from this committee:

[http://www.fws.gov/habitatconservation/windpower/wind turbine advisory committee.html](http://www.fws.gov/habitatconservation/windpower/wind_turbine_advisory_committee.html)

### **WBWG BIENNIAL ELECTIONS**

**Because We Just Don't Hear Enough About Elections In The News These Days....**

Submitted by Derek Hall

The WBWG Elections Committee (Toni Piaggio, Pat Brown, Michelle Caviness, Brad Phillips) would like to notify WBWG members that elections for WBWG Officers including President, Vice President, Secretary, Treasurer, and two at-large representatives will be held this coming November. The ballot must be completed by October 31. This may seem like a long time from now, but we all know how fast time flies. Please consider running for one of these positions or nominating someone to run for these positions. An official call for nominees will be sent out around August or September.

This is just to remind you to start thinking about signing up to run for a position, and to think about who you might want as your new WBWG Officers. The current President and Vice will not be re-running, having already served 2 terms, so we need folks to step up and help lead this group through 2009 and 2010. If you have questions about what the duties of each officer are, you can find them in the bylaws on the WBWG website ([www.wbwg.org](http://www.wbwg.org)). Thanks, and remember that a working group like ours depends on people like you!

## MEMBERSHIP SURVEY RESULTS

Submitted by Toni Piaggio

The following is a summary from the WBWG Membership Committee (Toni Piaggio, Pat Brown, Michelle Caviness and Brad Phillips).

Dear Members,

You hopefully received a survey from the website [www.surveymonkey.com](http://www.surveymonkey.com) recently about WBWG membership fees. Our goal was to survey all members to determine whether or not our members would be willing to pay a membership fee. The objective of having fees for members of WBWG was described in the survey and is as follows:

The WBWG is committed to providing valuable services and products to our membership and furthering bat conservation across western North America. In meeting that purpose, we are investigating ways to raise funds for current and expanded operational expenses including (the following were selected based on what the membership has requested the Board of Directors to pursue):

- a. Establishing a conference call line for state working groups and committees to use for meetings and work sessions. We have outgrown our current donated provider and will need to incur the cost of these phone services and fees.
- b. Conducting workshops such as the wind energy workshop we are currently planning.
- c. Funding a representative to attend and facilitate a bat conservation session at the National Science Teachers Association in Portland, OR in fall of 2008.
- d. Funding electronic forums to facilitate interactive exchanges on relevant issues such as wind energy and abandoned mine closures
- e. Continuing to cover business costs such as the newsletter, conference fees, website fees, Post Office Box fees, other mailing fees, and supplies.

The results of the survey were:

32% of 391 members surveyed responded

77.5% responded "yes" in support of membership fees

47.2% would pay \$20.00 (highest percentage of other options, including the lowest option of \$15.00)

55.35% respondents wanted online credit card paying capability

77.18% would pay \$150.00 for conf. registration

These results were presented to the Board of Directors and that group then voted on whether or not to pursue developing a strategy to charge membership fees.

Vote: Is anyone opposed to developing a strategy to charge a membership fee to our WBWG members.

No opposition, all on call are in favor.

Therefore the membership committee will begin work to develop this strategy. Once the strategy is developed the committee will present it to the Board of Officers and Board of Directors for input and ultimately for a vote to initiate the process of implementing membership fees. If you would like to participate in this process or have input for the membership committee on this issue please contact one of the members. Please remember you can follow these important issues by viewing Board meeting minutes on our website: <http://wbwg.org/business/conferencecalls/conferencecalls.html>

## **BANDING MIGRATORY BATS**

### **WBWG Bat Banding Committee Update, April 2008**

Submitted by Rob Schorr, Colorado Natural Heritage Program, 254 General Services Building, Colorado State University, Fort Collins, Colorado 80523-8002 (970) 491-4273, [robert.schorr@colostate.edu](mailto:robert.schorr@colostate.edu)

During the 2007 WBWG Meeting, the Board was asked to review a proposal to use broad-scale bat banding to answer several bat ecology questions. In particular, the authors of the proposal were interested in banding migratory red bats, hoary bats, and silver-haired bats to help clarify the impact of wind energy development, understand migratory pathways, and possibly estimate population parameters, such as abundance. To help the Board evaluate this proposal, a committee (loosely termed the Bat Banding Committee) discussed ways of assisting the Board.

The Banding Committee (Rob Schorr, Dixie Pierson, Dave Johnston, Robert Barclay, Pat Brown, and Sandy Wolf) realized the best way to evaluate this proposal was to collect as much information regarding successful and unsuccessful bat banding efforts. Once collected, this information will then be summarized and provided to the WBWG so that the Board might make an informed decision on whether to support such a broad-scale bat banding effort in the West. Thus far a database with over 100 records from approximately 50 banding studies has been compiled. The database houses information on types of bands used in studies, species of bats banded, numbers of bats banded, numbers of bats resighted or recaptured, any injuries observed, and other relevant information. Once this database is completed the Committee believes it will be posted on the WBWG website and will be available to members.

#### **What now on banding?**

We expect input not only from The Banding Committee, but also Laura Ellison of USGS, who is finalizing a 15 year assessment of bat banding in the U.S. that is due out as a report this summer. Both of these resources will be used by WBWG to develop guidance on banding bats. Preliminary discussions with Rob Schorr (Banding Committee Chair) and Laura indicate that both The Banding Committee input and the USGS Report will reflect legitimate concerns and potential detrimental risks associated with banding bats that will need to be addressed prior to initiating bat banding projects. Until these concerns and risks are fully formulated, formally released, and can be assessed and translated into thoughtful guidance, the WBWG Board encourages individuals to forgo banding bats unless the information sought has the potential for obtaining unbiased estimates as part of a credible study design, anticipated band returns are high, quantifiable data are collected to better assess effects of bands, bands are applied by personnel with banding training and experience, and the study outcomes outweigh the potential harm inflicted on bats.

#### **WBWG LAUNCHES NEW FORUM!**

Submitted by Erinn Shirley, WBWG Webmaster

The WBWG online forums are here! The forum site can be found at <http://www.wbwg.org/forum> . We have incorporated this tool onto our website to create an easier way to communicate amongst ourselves, the bat community, and the public. The forum site will allow us to electronically meet together to have focused exchanges on specific topics of interest, such as wind energy or WNS. We're optimistic that the forum approach will improve our ability to share information, perform public outreach, and hopefully reduce email overload. Along with our "normal" bat discussions, we will have bat news, job announcements, gear swapping, and a reporting mechanism for bands. To join us on the forum you will need to register and create a user name. To register you will need to click on the "Register" link on the top right hand side of the forum homepage. We aim to maintain a professional environment for our forum and expect to hit some bumps along the road in our pursuit of forumdom. Please be patient with the moderators and administrator as we wade through anticipated and unexpected issues. We hope you will join us at the forum!

## BATS AND MINES

### WBWG Bats and Mines Committee

Submitted by Jason Williams

The Bats and Mines Committee (Angela McIntire, Greg Visconty, Jason Corbett, Jason Williams, Jennifer Newmark, Kirk Navo, Kristen Philbrook, Linda Angerer, Michael Herder, Michelle Caviness, Pat Brown) recently formed and has identified a few initial goals: 1) to send out a WBWG letter to the relevant state and federal agencies in each of the Western states identifying that bats need to be addressed during AML reclamation plans; 2) improving coordination of AML closure efforts within states; 3) assisting the WBWG Board to finish the mine survey protocol; 4) standardizing bat exclusion protocols regarding AML closures; and, 5) compile and distribute a list of training requirements and class offerings for underground survey work which meets current Federal guidelines. The committee meets monthly.

### Southwest Subterranean Program

Submitted by Dan Taylor, BCI

Protection of Critical Roosts— BCI assisted with gating the Buckeye Mine, AZ, home to over 600 California leaf-nosed bats and the Welton Hills Mine, AZ, occupied by 62 California leaf-nosed bats. From 11/07-12/07, BCI and Rio Tinto Minerals, as part of the Death Valley Mine Closure Alliance completed construction of two bat-compatible gates at the Corkscrew Mine, a critical regional roost for Townsend's big-eared bats, and in March and April 2008, the Riverview, Blue Cloud and Blackwater mines in southern CA were gated to protect Townsend's big-eared bats. BCI participated in a meeting with the NPS, USFWS, AZGFD, the U of Arizona, and private consultants to develop a plan for re-gating the State of Texas Mine, a seasonal roost for 30,000 lesser long-nosed bats. We also are developing protection plans for the Sunrise Relief Mine, a historic roost of over 400 California leaf-nosed within the greater Phoenix metropolitan area. Other accomplishments include:

- Rapid Assessments of Potential Roosts: In Dec. 2007 and Feb. 2008, BCI worked with the Death Valley Mine Closure Alliance to assess and prioritize 71 abandoned mines for bat conservation. In March 2008, assessments were completed for four mines in the Coronado NM. In April 2008, BCI in partnership with Coronado NF, AZGFD, the USFWS and others assessed 16 mines in the Chiricahua Mountains and the Kofa NWR in southern AZ. A roost with over 150 *Macrotus* was discovered during our assessments of 15 priority mines in the Kofa NWR.
- In January 2008, BCI initiated a partnership with the Sky Island Alliance on upcoming mine assessment and closure work throughout the sky island region of the Southwest.

Bats and Mines Handbook— BCI is in the final stages of editing *The Handbook for Effective Management of Bats and Mines*, authored by Drs. Rick Sherwin and Scott Altenbach. The handbook has undergone extensive review by BCI staff, mine resource managers and bat experts throughout the U.S. and will be distributed across U.S. and internationally through the U.S. Department of the Army and Rio Tinto Minerals.

## WILDLIFE FOR WATER

Submitted by Brad Phillips, South Dakota

The Wildlife for Water program was initiated by Dan Taylor and Merlin Tuttle, of Bat Conservation International (BCI) in response to the need to have functioning, effective wildlife escape ramps in all livestock watering troughs. Years of monitoring wildlife deaths at these stock tanks found that bats also fall victim to tanks without an escape ramp.

BCI recently published *Water for Wildlife- A Handbook for Ranchers and Range Managers*. The .pdf version of this publication is available at BCI's website: batcon.org.

This handbook gives very useful information about the problem, good reasons to care (*including improved water quality*), and it provides easy solutions and instructions on how to build and properly place escape ramps so they reduce wildlife deaths and keep the livestock water cleaner.

In a continuing effort to help with this project, biologists contacted a company that manufactures fiberglass stock tanks. Working with the company rep. a new design was drafted that molded an 'escape ramp' right into the tank. This simple solution means that every one of these new tanks will have an escape ramp automatically. The company is Fiberglass Structures, Inc. (Laurel, MT) and they are to be commended for their pro-active stance on this issue. These new tanks are on the market now. Company contact is Jay Story at (406) 628-1043. Call for more information.



While this will not fix the thousands of stock tanks that are currently out on our public and private rangelands it will hopefully provide an option when land managers go to purchase new tanks.

Submitted by Dan Taylor, BCI

Planning & Administration --The Water for Wildlife Project was awarded a \$2,500 cost-share grant from the Arizona Game & Fish Department to support two regional Livestock Water Developments & Wildlife workshops and a wildlife escape structure building event in Arizona. The Project was also awarded a \$5,000 grant from the USDA-Forest Service's Northern Region for the implementation of similar workshops in Idaho and Montana.

Education, Training & Outreach --With assistance from the WBWG, the Project distributed more than 500 copies of the *Water for Wildlife* handbook to state and provincial wildlife and range departments in AZ, Alberta, British Columbia, CA, CO, MT, NM, SD, and UT. Discussions continue with our federal and state partners for a second printing of the handbook for 2008.

The Project recently held a Livestock, Wildlife & Water Workshop in Carrizozo, NM with the USDA-NRCS and the local Natural Resource Conservation Districts, and will be holding workshops in June in Payson and Elgin, AZ with the Audubon Research Ranch, AZGFD, Forest Service, BLM, NRCS, USFWS Habitat Partners, and the Natural Resources Conservation Districts. Additional workshops are planned for 2008 in CA, ID, and MT.

The Project Director gave presentations on the Water for Wildlife Project attended by more than 150 wildlife managers at the AZ/NM Chapter and Colorado Chapter meetings of TWS in Prescott, Arizona and Denver, Colorado in January and February of 2008.

Conservation Action -- The Project and the NDOW recently facilitated an effort with the Humboldt-Toiyabe NF; BLM, USFWS Habitat Partners, USDA-NRCS, and the Northern Nevada Stewardship Group to construct and place more than 1,000 wildlife escape structures in livestock water troughs across Northern NV. A special wildlife escape structure building event is being planned for July 1 in Elko with these and other partners from the ranching community to showcase this effort. Another wildlife escape structure building event is currently being planned for June 17 with the V-V Ranch, Prescott NF, and AZGFD in Camp Verde, AZ.

## **ADDITIONAL UPDATES FROM BAT CONSERVATION INTERNATIONAL**

Submitted by Dan Taylor, BCI

### **Integrated Pest Management**

In August, BCI biologist Mylea Bayless traveled to California to conduct a pilot study with collaborators from UC Davis, CA Department of Fish and Game, and the Department of Agriculture to investigate the benefits of Mexican Free-tailed bats to Walnut farmers in California's Central Valley.

In February, Mylea Bayless met with Dr. Brinkley Benson, a research specialist with the Department of Horticulture at Virginia Polytechnic Institute and State University to discuss the establishment of an experimental farm that will incorporate bats as part of a multi-faceted integrated pest management program. The experimental farm will go into production summer 2008.

### **Conserving the Bats of Northern Mexico**

#### Establishing Critical Conservation Networks

- Dr. Christa Weise is working with the Sonoran Institute to incorporate bats into their multi-year across-border monitoring project of the Santa Cruz River.
- In April 2008, Weise accompanied representatives of ASDM to Alamos, Sonora, to discuss collaborating in conservation and education. Initial contact was made with the local offices of Comision Nacional de Areas Naturales Protegidas (CONANP), Pronatura Noroeste and the Cattlemen's Association. All three organizations expressed interest in collaborating on educational efforts in Alamos.
- In July, Weise will participate in an initial collaboration meeting with Guadalupe Morales, (The Nature Conservancy, Sonora) and representatives of Pronatura Noroeste and CONANP in Sonora; assessments of three potential bat caves are planned.

#### Community Conservation at Priority Sites—

Cueva La Boca, Nuevo León, is one of Mexico's most important historic sites for Mexican free-tailed bats and continues to be a very important maternity colony for this and several other bat species. Due to human disturbance and a recent human-caused fire in the cave, a protective fence was constructed at the cave entrance by Pronatura Noreste, with funding from BCI's trustee, Eugenio Clariond and Virgilio Garza, one of our key education partners. Unfortunately, during a site visit by Waldien, Weise and Moreno in December 2007, we discovered that the gate had been breached. Pronatura Noreste was immediately informed and corrective actions are planned.

El Infierno (Cave) in Nuevo León, houses one of the largest maternity colonies for endangered Mexican long-nosed bats (about 20,000). The cave entrance was overgrown and was limiting access by bats. BCI's Cave Resources Specialist Jim Kennedy conducted vegetation control at the sinkhole entrance in December 2007. We are working with the Laguna de Sanchez ejido to advance conservation through working closely with a family living near the cave and are initiating collaborations with biologist Alan Lopez and the director Fernando Seriniá at the Cumbres de Monterrey National Park in developing ecotourism and environmental education at the site and in controlling recreational rappelling at the cave.

In 2007, a trail and an area for a planned viewing platform were cleared and will be constructed in the future for viewing of the nightly emergence of the large colony of Mexican free-tailed bats at Grutas de Consuelo in Candela, Coahuila. BCI helped the Presidente of the Municipality of Candela, Sr. Roberto Tijerina, to design conservation signs that will be placed at the viewing platform when construction is completed.

Education and Outreach— During education and outreach activities this year we distributed about 350 Spanish and bilingual educational books and four lectures on bat conservation were organized. In October 2007 Moreno gave a conservation seminar for 585 teachers from Nuevo Leon at the Bioparque Estrella to facilitate the dissemination of information through their schools, and a similar event is being planned for 2008. Moreno and Jesus Franco (Borderlands Coordinator, Texas Parks and Wildlife) conducted training

for 20 camp leaders at the summer camp Sierra Linda in Nuevo León to provide the camp children with an appreciation of bats and their importance to humans and ecosystems. Camp leaders were expected to mentor an estimated 200 grade school children from the Monterrey in the summer. In February 2008 Moreno gave a lecture on bat conservation to 120 students in Ciudad Victoria and a training lecture on bat ecology and conservation to 70 guides and students at the Desert Museum in Saltillo, Coahuila.

Vampire Bats and Rabies Control— The death of over 800 cows due to rabies and a person recently being bitten by a rabid bat has created a crisis situation in southern Tamaulipas and neighboring states. The governors of at least three Mexican states (Tamaulipas, Veracruz and San Luis Potosi) are planning and implementing a targeted vampire bat control effort, including training, education and the vaccination of cows against rabies, the study of vampire bat movements and rabies in the species, as well as the production of a video on all existing preventive efforts for rabies. Moreno is an invited advisor and is participating in a working group for vampire bat and rabies control in Tamaulipas. He has given one presentation and has been advising the working group on the planning of control efforts. Moreno has met with Dr. Danilo Santos-Acevedo, Director of Zoonosis at Nuevo León's Health Department to plan for a presentation on bats and rabies to the State Health Department.

Dr. Shahroukh Mistry and Moreno used a simulation to model the expected change in range of vampire bats in the next 65 years with global warming. Vampire bats are predicted to expand their range north and to higher elevations, increasing distribution in Mexico by up to one third of the current range. Data loggers were installed into eight vampire bat roosts at the northern end of their distribution to refine our understanding of lower temperature tolerances for vampire bats.

## **BCI Education, Workshops and Grants**

### **Workshops**

Five workshops are scheduled for North America in 2008. Four Bat Conservation and Management Workshops will be held in Arizona, California, and Pennsylvania, and an Acoustic Monitoring Workshop is planned for California. (see Upcoming Events)

**North American Bat Conservation Fund**-- The NABCF supports bat research and conservation in the U.S., Canada and Mexico. Since 1998, we have supported 112 research proposals for a total of \$365,750. These grants have been matched at an average ratio of more than 9:1 for a total research value of some \$3.25 million. These grants are for conservation work in North America, and the matching funds typically come from federal and state agencies and other conservation organizations. Projects have been funded in 32 U.S. states, 8 Mexican states, 3 Canadian provinces and the U.S. Virgin Islands. Current NABCF grants are supporting projects in Chiapas (Mexico), Alberta, the Virgin Islands, Indiana and Arizona. We recently awarded 2008 grants for Hawaii, South Carolina, British Columbia (Canada), Coahuila (Mexico) and Chiapas (Mexico).



# BAT BULLETIN BOARD

## FIELD WORK PICTURES NEEDED!

The WBWG Education Committee is putting together a program on bats for the National Science Teachers Association conference that will be held in Portland, OR in fall of 2008. This is the first time we know of that an entire program on bats will be presented, so we're pretty excited about the opportunity to reach teachers nationwide. As part of our preparation, we need pictures of members conducting bat surveys to include in the program - also, please include any good close-up photos of bat species in your area - please limit the number of photos emailed - the photos need to be electronic and can be sent to my email [aimeehart@fs.fed.us](mailto:aimeehart@fs.fed.us) or mailed to the office Willamette NF 211 E 7th Ave Eugene, OR 97401. Please include information for photo credit if appropriate. Selected pictures will be put in an education presentation PowerPoint at the National Science Teacher Association Conference being held in Portland, OR - some photos will also be printed in a brochure about WBWG - if there are any questions call me at 541-225-8416. Thanks, Aimee Hart.

## SAMPLES NEEDED

**Blood Smears Sought:** Mary Mendonça, of Auburn University and Matthew Hohmann of the Army Corps of Engineers are seeking volunteers to collect bloods smears in support of a project examining inter-specific differences in immune function. Ideally, samples would be collected approximately six times over the entire summer season at each study location. *All equipment, protocols and shipping costs will be provided.*

Please contact Matt via phone at 800-872-2375, or via email at [matthew.g.hohmann@us.army.mil](mailto:matthew.g.hohmann@us.army.mil) if you have questions or are willing to assist.

## VOLUNTEER OPPORTUNITIES

WBWG Biennial Conference will be April 15-18<sup>th</sup> in Austin, TX. We are *looking for volunteers* to help in planning and assisting in a few areas during the conference. Below is a list of tasks we need help with:

- Printing the program
- Running the registration desk
- AV personnel and equipment
- Conference souvenirs-tote bags, T-shirts, etc. *We need someone to work on a design and work with a vendor to order the items.*

Similar volunteer opportunities also exist for the Wind Workshop taking place at this same venue April 13-14.

Contact Nyta Hensley at [Nyta.Hensley@tpwd.state.tx.us](mailto:Nyta.Hensley@tpwd.state.tx.us) if you are able to help out with any of these tasks.

## RESEARCH OPPORTUNITY

Opening at Dugway Proving Ground, Utah for an internship with the U.S Army Environmental Command in conjunction with the Utah Bat Conservation Cooperative. We are looking for a recent Master's degree or post-doctoral graduate that would be looking for a position in a government facility. Contact Lara Giordano at [lara.giordano@orau.org](mailto:lara.giordano@orau.org).

## UPCOMING EVENTS

### WBWG Biennial Conference

**April 15-18, 2009** in Austin, Texas. Hosted by BCI and the Texas State Working Group, at the Austin Radisson. Visit Bracken Cave, and watch the amazing Congress Avenue Bridge free-tail fly-out! Further details and registration forthcoming in the fall. Following with WBWG tradition, the last half day of the conference is a workshop during which time conference participants collaborate on an issue of concern to produce tangible results for the benefit of the membership and bat conservation and management. For example, in Portland, we updated the species accounts. Contact Pat Ormsbee (pormsbee@fs.fed.us) with any suggestions you have for the 2009 workshop.

### North American Symposium on Bat Research

**NASBR 38**, Scranton, Pennsylvania, 22-25 October 2008. For details visit: [www.nasbr.org](http://www.nasbr.org).

**NASBR 39**, Portland, Oregon, 4-7 November 2009.

### Wind Energy and Bats Workshop

Mark your calendars for the first WBWG Wind Energy and Bats Workshop being held **April 13-14, 2009** Austin, Texas. This is during two days before the WBWG Biennial Conference in the same location. Details will be forthcoming in the fall.

### Wind Energy Conferences

**7th Annual World Wind Energy Conference** "Community Power: Energy Autonomy for Local Economies". This unparalleled event will be hosted by St Lawrence College in Kingston, Ontario on **June 24 - 26 2008**. <http://www.wvec2008.com/>

**CanWEA | 2008 Conference & Trade Show** Vancouver, British Columbia October 19-22, 2008. [http://www.canwea.ca/events/conference\\_e.php](http://www.canwea.ca/events/conference_e.php)

**Wind Wildlife Research Meeting VII October 27-29, 2008** - Milwaukee, WI Meeting Purpose: Provide a forum for stakeholders and the general public to hear about and discuss the most recent research conducted related to wind power development and wildlife. Examine what has been learned, discuss methods for minimizing or mitigating wind energy's adverse/undesirable impacts on wildlife, identify questions about wind power development opportunities and impacts related to wildlife, and identify gaps in knowledge and research needs. [Abstracts due June 30, 2008](#).

More Information: <http://www.nationalwind.org/events/meetings/wildlifeVII.htm>

**WINDPOWER 2008**. American Wind Energy Association. Houston, TX. 1 – 4 June 2008. [http://www.windpowerexpo.org/conference\\_overview.cfm](http://www.windpowerexpo.org/conference_overview.cfm)

### Bat Grid Workshops

**June 9-13, 2008 Ephrata, WA and June 16-20, 2008 Hines, OR**

**Instructors:** **Dr. Joe Szewczak**, Humboldt State University, Sonobat software designer (<http://www.sonobat.com/>) and bat acoustics specialist; **Pat Ormsbee**, USFS, Region-6 Bat Specialist, specializing in inventory and monitoring techniques for bats; **Aimee Hart**, Field Technician and Data Manager for The Bat Grid.

**Contact:** Pat Ormsbee: 541-225-6442, [pormsbee@fs.fed.us](mailto:pormsbee@fs.fed.us)

## BCI Workshops

**Arizona workshop** in the Chiricahua Mountains emphasizes western bats. -species identification (including by echolocation calls), bat conservation, management, education, public health and nuisance issues, artificial habitats and much more. **Two sessions: May 20-25 and May 25-30, 2008. Each session limited to 16 people.** *Departure city: Tucson, AZ.*

**California workshop** focuses on the conservation and management of bats in the northwest. Set among the rugged backdrop of unique lava formations at Lava Beds National Monument. Species identification (including by echolocation calls), bat conservation, threats, management, education, public health and nuisance issues and much more. **One session: July 19-24, 2008. Limited to 20 people.** *Departure city: Medford, OR. \$1,395*

**Pennsylvania workshop** highlights eastern bats and their habitats. -all aspects of bat conservation, management, education and public health and nuisance issues. **One session: August 17-22, 2008. Limited to 20 people.** *Departure city: Harrisburg, PA. Cost: \$1,395*

**2008 ACOUSTIC MONITORING WORKSHOP** In response to many requests, BCI is offering an acoustic monitoring workshop session at Lava Beds National Monument in California. The workshop will cover hardware and software including Anabat, Pettersson and SonoBat and teach call identifications and how to develop a monitoring program. Joining BCI's Janet Tyburec will be acoustic software developers Chris Corben and Joe Szewczak, along with acoustic experts Sybill Amelon and Ted Weller. The format will be similar to BCI's Bat Conservation and Management workshops, combining discussions of current research with hands-on demonstrations and fieldwork. Each night, we will be capturing bats and developing call libraries so participants can return to their home study areas and begin their own projects armed with knowledge and experience. BCI will have equipment available, but participants are encouraged to bring **their** own systems. The Acoustic Monitoring Workshop is an advanced workshop designed for graduates of previous BCI workshops and/or experienced bat workers. One session: July 24-29, 2008. Limited to 20 people. *Departure city: Medford, OR. Cost: \$1,595*

For additional information, registration forms and scholarship applications, visit [www.batcon.org](http://www.batcon.org) 'Get Involved' or contact Kari Gaukler, BCI, PO Box 162603, Austin, TX 78716; 512-327-9721; [kgaukler@batcon.org](mailto:kgaukler@batcon.org)

## The Wildlife Society Conferences

The newly formed **Canadian Section of The Wildlife Society** invites submission of abstracts for oral and poster presentations for its first conference to be held at Gimli, Manitoba from **14-17 August 2008**. <http://joomla.wildlife.org/canada/?CFID=14408179&CFTOKEN=29014364>

15<sup>th</sup> Annual conference of **The Wildlife Society**. Miami, Florida **Nov 8 – 12, 2008**. <http://joomla.wildlife.org/miami08/>

## Bob Berry Memorial Fund

Although details about this fund have yet to be worked out, Pat Brown is pledging \$1,000 to start this fund which will support equipment purchases for students. This is to recognize Bob's interest in technical bat field equipment and his willingness to help students learn how to use this equipment. Pat is hoping that her donation of funds will be matched by WBWG members. Donations can be made by sending a check or money order to **WBWG, P.O. Box 2153, Rapid City, SD 57709**. Please indicate this is for the Bob Berry Memorial Fund.

## A FINAL WORD....

### **My Philosophy of Life**

(As written by Bob Berry, age 17, January 4, 1957, High School Senior Composition)

My philosophy of life is to follow the Golden Rule, "Do unto others as you want them to do unto you."

Be cheerful and act like I am having a good time to show others that I am happy and friendly.

I shall be honest at all times even though a little lie could pass without notice and be the easiest way out.

I shall get the best education that I possibly can in college, and will always be willing to learn more if I feel it will benefit me and my associates. I hope to find a well paying job in my chosen field. Is so, I will put a lot of effort into doing that job well enough to feel that I earn every penny that I make.

Nature has my appreciation, I do not needlessly kill the lower animals nor do I destruct vegetation or leave unsightly garbage in her realm.

I try to be trustworthy and dependable. If something is expected of me, I do it.

No matter how long my parents live or how eccentric they may grow, I will respect them till the day they die.

In war or in peace my country will always have my loyalty.

I believe in getting plenty of exercise and wholesome play. I shall keep a clean mind and body at all times.

I do not let the influence of others guide my thoughts. I am completely independent in thought, and I hope to be independent in life till the day I die.

I am not afraid to admit my mistakes.

I will always be helpful when people come to me for aid.

Live today as if tomorrow will never come.



**May 11, 1939 to February 17, 2008**

(Picture taken August 2006, Dorothy Lake, Sierra Nevada Mountains, by Gunnar Buescher, grandson)