



Echoes From SOUTH DAKOTA

SOUTH DAKOTA BAT WORKING GROUP



Volume 5 Issue 1 Published intermittently at random intervals since 2009

SPRING



TENANTS WANTED!



Sarah Lewis, a graduate student at SDSU, submitted the following information about artificial roosting boxes for bats in SD.

This past summer marked the first field season in a study looking at the occupancy success of three different bat house designs across South Dakota. The project is the first of its kind in the state and compares the Eurobox, Bat Conservation International's maternity box, and the Rocketbox [see photo at left].

Placing a box of each design at 26 different locations across South Dakota, the project is designed to see if bats have a preference for a particular design and whether species and habitat type plays a role in selection.

While research has shown bat houses can take several years to become inhabited, 21 of the 30 houses put up west of the Missouri River were occupied in the first summer following installation! Three sites showed evidence of housing maternity colonies in one or more boxes. Of the remaining houses, 48 Missouri River and those to the east, 9 Rocketboxes were occupied in the first season. This initial occupancy of 38% indicates a bright future in the use of bat houses for insect control and wildlife observation for South Dakotans in years to come!

The project, entering its second season, is a collaborative effort with South Dakota Dept. of Game Fish and Parks and Batworks, LLC, with financial assistance from State Wildlife Grant funds.



Photo by Sarah Lewis

ROCKET BOX BAT HOUSE DESIGN - on the shoreline of Angostura Reservoir

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**2012 BAT FESTIVAL-
AUGUST 18TH!**

BAT NEWS

from South Dakota...

Last issue (FALL-2011), we mentioned a new design in stock tanks that enabled smaller wildlife species (bats included) to escape if they should fall in while drinking. But what of existing stock tanks that pose an “attractive hazard” to unsuspecting thirsty wildlife? In partnership with the Custer County Resource Advisory Committee (RAC), the Hell Canyon Ranger District of the Black Hills National Forest recently completed a project to help remedy the situation.

With funding from the RAC, the project completed installation of escape ramps at 37 stock tank locations. Creative engineering was required at some locations that utilize less traditional containers for watering livestock (see tire photo below). All site locations were mapped with GPS for continued monitoring and maintenance.

The *Water For Wildlife* project not only serves to improve water availability for wildlife (small game, birds and bats), but improves water quality for larger animals including livestock.

We applaud both the RAC and the USFS for this stewardship and encourage others to adopt the practice of retro-fitting older tanks with escapeways. Not sure where to start? Check out our website for resources and get in touch with us if you still have questions. Our web address is www.sdbwg.org.

**ESCAPE RAMPS
IN PLACE**



Photos
courtesy of
Brad Phillips

...More SD **BAT NEWS**

The first meeting of the SDBWG in almost five years (yikes!) was held in Pierre on March 24th. Attending the meeting were:

Brad Phillips, USFS, Custer;
Silka Kempema, SDGFP, Pierre;
Paul Schipke, Two-Bit Consulting, Deadwood;
Frank Amundson, Friends of Maga Ta-Hohpi, Huron;
Sarah Lewis, SDSU, Brookings;
Shubham Datta, SDSU, Brookings;
Joel Tigner, Batworks, Rapid City.

A conference call line was provided but there were no callers.

Much of what was provided by way of updates for ongoing projects are included in the current newsletter. (See cover story about bat house project and update for WNS.) In addition, Shubham Datta provided a presentation on a theoretical model he is developing for predicting migratory pathways of bats through the Dakotas.

Some of the other highlights:

Frank Amundson suggested the SDBWG might wish to develop a presentation/booth for the annual Huron Outdoor Expo (held this year at the State Fairgrounds on June 9-10, 2012). Time and schedules may not permit participation this year but all agreed it was an excellent venue for public education and will be a scheduled activity for us in 2013.

A discussion was also held on developing a more regular schedule for meetings. Owing to busy schedules and distances involved, it was felt piggy-backing on another event (e.g., The Wildlife Society's annual mtg.) might help enable participation. Watch the newsletter or the listserv** for future announcements on this.

Brad Phillips and Dr. Scott Pedersen have agreed to continue their service as co-chairs for the SDBWG (Thanks very much, guys!) Dr. Pedersen also will continue to serve as the group's webmaster (Did we forget to mention this, Scott?) He does a GREAT job and is always looking for new updates/information for the web site...drop him a note!

A complete collection of the meeting's minutes recorded by Brad Phillips (from which this was gleaned) will be posted on the web site.

** Did you know there is a listserv for the SDBWG? It is a way of posting announcements or questions that go out to all subscribers via email. There is no charge to join, simply visit the following link and select "join or leave the list" and you're all set. Here is the link: <http://listserv.state.sd.us/archives/sdbwg.html>
The listserv is provided and administered by SDGFP.



Do you have any bat-related news? Have you put up a bat house? Done an exclusion of bats from a building? Done any bat-watching?

We would love to hear about any of your bat-related experiences.. and photos are welcome!

Send us a newsletter contribution and, if selected for inclusion, receive a free SD bat-theme t-shirt for your trouble! This offer lasts only as long as the t-shirts...
so hurry!



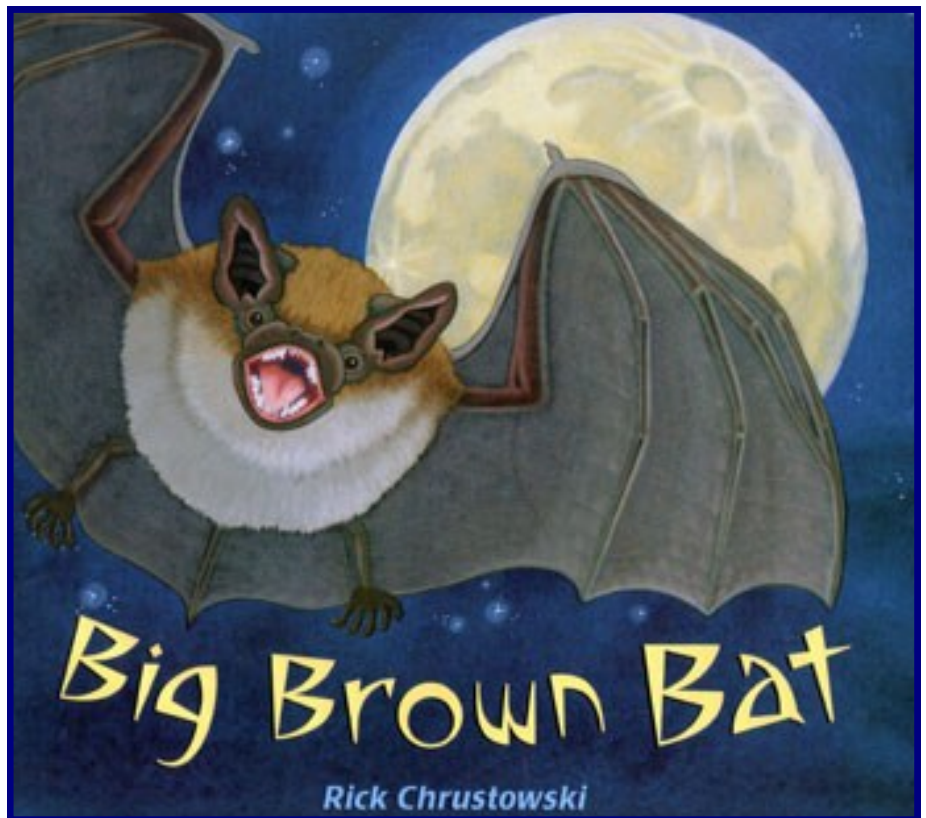
Bat Book Review...

Big Brown Bat

by

Rick Chrustowski

Whoosh! Big brown bats rush off on their nightly hunt, but one stays behind to have a baby. As summer turns to fall, the baby bat grows bigger. He learns to fly, then to hunt. Soon he has fattened himself up for the long winter ahead, when he'll hibernate until the spring sun returns once more.



Continued on next page...



Bat Book Review...cont'd

We recently ran across this book and after sharing copies with several elementary teachers here in Rapid City (all of whom provided glowing reviews), decided we would feature it for other readers of our newsletter. The book is geared to younger readers and although based soundly in science, it would not be properly termed just a "science" book. It's more a factual telling of a year in the life of a bat. One plus for readers is that it features a bat species commonly found across South Dakota. No less important to the telling of the story are Rick's wonderful illustrations. Illustrator as well as author, his portrayal of bats are based upon photographic studies and observations of real big browns which serves to translate his sense of appreciation and wonder for these animals. If you are looking for a book to help a young reader learn and understand about bats and their place in the natural world, you would be hard-pressed to find one that does a better job.

Big Brown Bat is published by
Henry Holt & Company, 2008
ISBN 978-0-805-07499-4



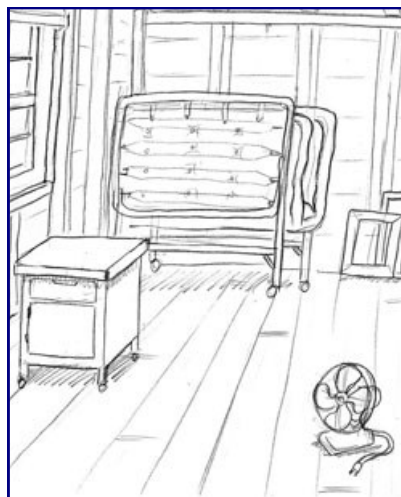
Visit the author's web site to see a slide show of how he made the book!
The slide show includes some of his drawings that became the final artwork for his book (see below).
There's also an activity on how to draw your own bat!

<http://www.rickchrustowski.com>

Are YOU an elementary school librarian in SD?

If so,
see the last page for a
SPECIAL OFFER!

Thanks to the author for his permission to include photos of some of the pictures from the book.





BatsLIVE: A Distance Learning Adventure

is an exciting, free education program for children in the 4-8th grades and their educators, that will bring bat conservation to life in your classroom or community.

Examples of upcoming events:

Participate in a LIVE WEBCAST for students on May 17 from 11 a.m. to 12 p.m. Mountain Time.

Participate in WEB SEMINARS for teachers, non-formal educators, and others on April 18, May 3, and October 11, 2012.

Visit their website to learn about all the resources available online

<http://batslive.pwnet.org/>

- Submitted by Valerie Carlson, USFS



White Nose Syndrome has NOT been identified in this part of the U.S., however we get a lot of questions because of its recent media coverage. We include the following update to address some of these questions and provide direction on where to seek additional information—ED.

White-Nose Syndrome Update

Submitted by Brad Phillips, USFS

White-Nose Syndrome (WNS) is the name given to a condition associated with mass mortalities of hibernating cave bats at a growing number of hibernacula sites in the eastern U.S. The most obvious symptom of the disease is the presence of white fungus on the muzzle, ears, or wings of affected animals. The fungus that has been identified as a likely cause of WNS is *Geomyces destructans*. This appears to be a highly contagious fungus that is primarily spread bat-to-bat.

Current estimates are that between 5 and 6 million (insect-eating) bats have died of this disease since 2006.

This winter (2011-2012), an effort was made to begin monitoring caves and abandoned mines in the Black Hills that were known to be bat hibernation sites for any indication that WNS has found its way here. Bat surveys at these caves/mines and at Jewel Cave National Monument did not detect any evidence of the presence of WNS.

Recreational caving on National Forest system land in this Region (Region 2 includes CO, WY, and parts of SD) has been prohibited since June, 2010 in an effort to minimize the possibility of WNS coming in on the boots and clothing of cavers from other areas, especially those from WNS infected areas in the eastern U.S.

For now, this is what we are asking people to do:

- **Avoid entry into caves- WNS aside, just your presence in bat hibernation sites while bats are there does harm by causing them to rouse from hibernation and use energy (stored body fat) they need to survive through winter.**
- **Absolutely no equipment or clothes used in eastern bat roosts (east of Mississippi River) should be used in this area.**

For more information about WNS and its effect on our nation's bat population, visit:

www.batcon.org

www.fws.gov/whitenosesyndrome



The following article was featured in the United Nations Environment Programme's News Centre and appears here by their very kind permission.

On the Wings of Rio+20: How Brazilian Bats are Boosting the US Cotton Industry

Wed, Apr 11, 2012

Bats can be More Effective and Less Costly than Traditional Pesticides, says Study



Brazilian free-tailed bat

Nairobi, 5 April 2012 - In just over two months, representatives from world governments will be winging their way to the Rio+20 conference in Brazil to map out the future path of sustainable development.

Supporting ecosystem services (the benefits people gain from healthy ecosystems) is a key part of the transition to a low-carbon, resource efficient Green Economy, which in the context of sustainable development, is one of Rio+20's major themes.

One winged, nocturnal resident of Mexico with strong Brazilian roots is demonstrating just that - and boosting the US cotton industry by hundreds of thousands of dollars in the process.

In summer months, the Brazilian free-tailed bat migrates from its habitat in central Mexico to breeding grounds in the north of the country and south western areas of the United States, where it feeds on moths and other agricultural pests. A study published in the journal *Frontiers in Ecology and the Environment* estimates that this natural pest control has an economic value of US\$740,000.

The study takes into account the value of cotton crops that would have been lost in the absence of bats and cost savings made through the reduced use of pesticides.

During the UN-backed Year of the Bat 2011-12, the UNEP Convention on the Conservation of Migratory Species of Wild Animals (CMS), emphasizes the value of ecological services bats provide to human economies and the health of ecosystems.

"Bats perform an essential role as an agent of natural pest control by generating economic, social and environmental benefits in a Green Economy," said CMS Acting Executive Secretary Elizabeth Maruma Mrema.

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Migratory species including bats can provide biological solutions to increase economic gains while reducing harm to the environment.

Rio+20 provides the opportunity for countries to enhance efforts towards restoring and boosting the health of ecosystems globally in order to deliver growth, generate employment and maintain services such as water supplies to the health of agricultural systems.

Brazilian free-tailed bats (*Tadaridabrasiliensis*) can form huge summer breeding colonies, which can reach 10 million animals. The total population of the colonies in the region can surpass 100 million bats in each season.

By consuming the adult moths of highly destructive agricultural pests such as the corn earworm, cotton bollworm, fall armyworm and tobacco bud worm, these bats provide a previously unaccounted pest control service in cotton production.

As predators, bats are very efficient at eliminating the pests over a wide area. Once bollworm moths start emerging in the cotton fields, bats increase their foraging activities at night.

A single female Brazilian free-tailed bat consumes eight grams of adult insects every night, which is about two thirds of her body weight. Up to 20 adult bollworm moths are eaten by a single bat each night.

A single bat that consumes 1.5 adult female moths per night prevents five larvae from damaging crop plants. On the other hand, a larva destroys up to three bolls (the protective capsule in which cotton grows) during its lifetime. During the peak growing season in June, when cotton plants are highly susceptible to external damage, a single bat could even prevent a damage of up to 10 bolls at night. To produce a pound of seed cotton 120 bolls are required.

In the study area, the Winter Garden region of South Texas, farmers apply pesticides throughout the month of July, the time when the maximum density of bollworm larvae is reached. Although pesticides kill close to 100 per cent of the eggs and almost 90 of the larvae, the pest becomes resistant to chemicals after only a couple of days and around 80 per cent of the eggs will survive. By contrast, a population of 1 million bats will prevent 5 million larvae from hatching per night.

The cost of a single pesticide application across an area of 4,000 hectares can reach US\$ 100,000.

As well as the financial costs, there are environmental risks to applying pesticides. Pesticides can contaminate groundwater and cause the loss of natural enemies of bollworms, such as ants, beetles and parasites, as well pollination services by birds and bats. These potential losses further increase the importance of bats as a means of insect pest control.

Rodrigo Medellín, co-author of the study and Ambassador of the Year of the Bat said: "We must strive to conserve bat habitats worldwide for the sake of economic benefits alone. In addition to their role as a pest control, bats provide key services such as seed dispersal and pollination of economically and ecologically important plants. The educational initiative of the Convention on the Conservation of Migratory Species of Wild Animals is an essential tool to convey this crucial message."

**From: <http://www.unep.org/newscentre/Default.aspx?DocumentID=2678&ArticleID=9097&I=en>
Used here by permission.**



BAT HOUSE BUILDING A SUCCESS!



SD Game, Fish, and Parks new **Outdoor Campus West** recently held their first bat house building class at the new facility in Rapid City. Eleven families participated in the project, each constructing their own bat house to take home. Coordinator of the project, Tyler Toyne, reported that “people had fun learning about bats, the bat houses, and making them as well.” With 27 people participating, not everyone expressing interest could be accommodated by this first class. With more families signed up to participate in the project, another class is planned very soon. Toyne stated that it has been one of the most popular programs offered at the new facility.

Photos Courtesy of Outdoor Campus West



Participants learned about bats and honed their carpentry skills as well!



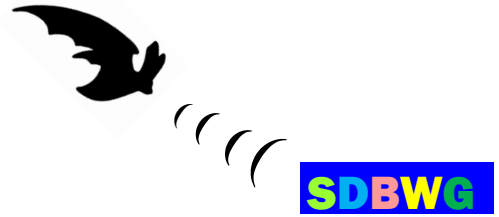
And all the hard work...



...pays off!



Visit us on the web!
www.sdbwg.org



Attention: SD Elementary School Librarians!

(or Principal if your school does not have a Librarian)

We have 25 new, hard-bound copies of *Big Brown Bat* by Rick Chrustowski available to the first 25 school librarians who request a copy (limit one copy per school).

Open only to SD schools and FREE upon request.

(Yep, that's *free* with no catches.)

To participate, School Librarians (or Principals) should send an email with a subject line of

"Big Brown Bat"

(including the school's name, mailing address, and contact person in the body of the message) to

joeltigner@gmail.com

Email receipt time will determine the first 25 schools.

(Email addresses will be used for no other purpose and deleted upon completion of this giveaway.)



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The purpose of the SD Bat Working Group is to work to protect bats and bat habitat through action, education, and cooperation with Federal, State, Tribal, and private landowners.

Our objectives are two-fold: to raise awareness about the role bats play in maintaining healthy ecosystems; and to work with public land managers and private landowners and provide alternatives that will reduce possible adverse affects to bats or bat habitat.

Everyone is welcome to become a member of the SD Bat Working Group!

The only requirement is an interest in bats and their conservation.

There are no membership dues, so it's priced right for everyone!

Get involved.....because bats need friends.