



# The Stilt

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Newsletter of the Bridgerland Audubon Society

## Searching for Native Freshwater Mussels

**As** you know, water is a resource in high demand here in the west, and we have lost a tremendous number of native aquatic species because of changes in water quality, quantity, and distribution. Among the most threatened of the aquatic taxa are freshwater mussels,

ship can be quite specific, and as native host fish are extirpated, mussels may be unable to complete their life cycles.

Jayne Brim-Box, Karen Mock, and Marianne Crawford, in the Department of Fisheries & Wildlife at Utah State

The work is funded by the Utah Division of Wildlife Resources. Unfortunately, the initial field efforts indicate that these mussels have disappeared from most of their historically recorded locations.

### Attention Great Basin water enthusiasts

**Th**ere are two major types of freshwater mussels in the west: the genera *Anodonta* and *Margertifera*. Both are about 2-3

### We need your eyes!

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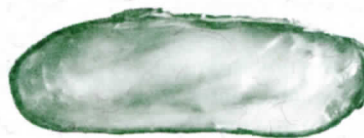
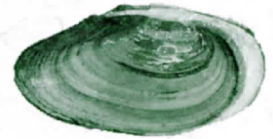
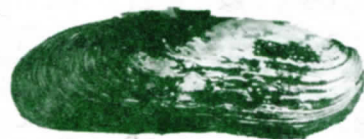
with 7% of the native North American mussel fauna already extinct and 72% described as endangered, threatened, or of special concern. Very little is known about the occurrence, habitat requirements, and taxonomic status of freshwater mussels in the west.

Mussels have a remarkable life cycle, requiring a period of encystation of glochidia" (immature mussels) on the gills or fins of specific host fish. Many of these mussels package these glochidia as elaborate "lures" resembling fish larvae in order to attract these host fish. This host fish relation-

University, are conducting a Great Basin-wide study on freshwater mussels, using genetic tools to assess taxonomic status, gene flow, and host fish relationships.

inches across, dark, and found in permanent water attached to the substrate along the bottom or channel sides. Muskrats or other animals may deposit their

(Continued on page 7)



**Margertifera**

**Anodonta**





# EarthMatters.org Harpy Eagle Conservation Program

**O**ctober's general meeting featured Peter Kung, President and Field Manager of Bio-Survey of EarthMatters.org (EM), whose efforts with the Harpy Eagle Conservation Program (HECP) have helped to monitor and protect the Harpy Eagle in South America. EM's efforts are a little different from most conservation organizations. We've all read about the dangers of habitat destruction and the efforts to halt it to protect the biodiversity of the rainforest. While these are important programs that offer much to the protection of wildlife, EM's program views the threats to Harpy Eagles to be more complex than simple habitat destruction and has responded by developing programs that integrate communities living in and near the rainforest.

Kung states that habitat destruction is not the primary endangerment of Harpy Eagles, but rather the multiple use of the rainforest that is facilitated by the roads that logging companies create. As areas are logged, locals move in to homestead, complete with burning, planting, building, and introducing domestic livestock. People make their livings in various ways, each of which take some toll on the environment: mining gold (which creates toxic byproducts), fishing, making charcoal, logging, and even making crafts depletes resources,

especially when the population rises. Tourism, eco- and otherwise, also can affect the environment. Tourists flowing in (20 thousand last year) often buy items that include feathers or fur of endangered animals, promoting their continued destruction. Establishments oriented toward ecotourism often don't provide jobs for the locals or give funds to help conserve natural areas.

EarthMatters and the Harpy Eagle Conservation Program's approach to conservation includes building ties with local communities rather than imposing programs from the outside. Locals often express their own concern for the lost of the rainforest; may see the natural environment as their own precious resource that they want to save from outside exploitation. However, just like people in Utah, they also need to provide food and shelter for their families; and just like many people in Utah, some of the people who love wild places have grown to mistrust the efforts of environmentalists. EM works with the local people, creating ties by building schools, helping to promote local industries, teaching skills, etc. Even simple things like leaving a field guide in a community or giving small gifts to the children can make a big difference in the relationships between EM workers and the locals. Trust has grown and attitudes have changed. As Peter Kung says, the

people who used to be shooters of the Harpy Eagle are now its protectors. Local residents now participate in the conservation efforts. They have helped to find Harpy Eagle nests and EM has trained them to use the internet for communication.

**EM** has used a number of creative ways fund their efforts, including providing responsible ecotourism itself, working with nature television programs which want images of the eagles, and trading GPS receivers for photographs of the receiver with an eagle. It's also managed to get some things for free, such as radio transmitters from NASA. For more information, check their website <http://EarthMatters.org>, or contact: Dr. Eduardo Alvarez, EM.Org Trustee, P.O. Box 15251, Gainesville FL 32604 USA Fax: 352/378-5318, [harpia@attglobal.net](mailto:harpia@attglobal.net). EarthMatters.Org is a 501 (c) (3) non-profit Organization.

-georgen



# green calendar

## of Cache Valley



## November

**1 Feedback on the Wasatch-Cache National Forest Plan due.** See the plan: <http://www.fs.fed.us/wcnf/> DEADLINE: November 1, 2001 Send your comments to: Wasatch-Cache Planning Team 8226 Federal Building 125 South State Street Salt Lake City, UT 84138.

**3 Stokes Annual Auction "A Howlin' Good Time" Allen and Alice Stokes Nature Center 4th Annual Dinner and Auction.** The Copper Mill Restaurant in Logan Social Hour and Silent Auction at 6 pm, dinner at 7 pm followed by the Live Auction Tickets are \$25 (\$20 for students). Tickets are available from October 8th-30th at Chapter Two Books, Fuhrman's Framing and Fine Art and the Stokes Nature Center. Call 435-755-3239 for more information.

**7 USU ECOS & College Democrats protest against the Bush Energy Plan.** November 7th at 10 am, USU Campus outside the TSC. Stop the Bush Administration from liquidating our public lands to feed the fossil fuel companies! Protest our dependence on imported oil!

### **8 Bridgerland Audubon Meeting: Solo in the Arctic: A Slide Show and Presentation by Glen Gantz.**

A slide show and presentation on Glen's two week solo trip in the Canadian Arctic the summer of 2000. The adventure centers around a whitewater raft trip on a pristine arctic river, but the majority of Glen's time was spent hiking and photographing the arctic landscape. The fishing was great and it was a joy to observe wildlife in the midnight sun. Learn about the logistics of putting together a trip where you depend on bush pilots, are at the mercy of the weather, and are a tempting hors d'oeuvre for the local mega fauna. This trip was not what Glen was expecting. Join us for an entertaining evening and find out why.

**8 USU Natural Resource & Environmental Policy Program. Film: "Skull Valley: Radioactive Waste and the American West"** Produced by KUED-University of Utah Film. Science and Technology Library, Room 120, 7 pm.

**10 Stokes Nature Center Open House.** Field trip (9 am), nature games, orienteering for kids, stories, education, crafts, etc. etc. (11-4) Complete schedule available at <http://www.logannature.org/newsflash/index.html>

**13 USU ECOS: Staples Protest!** - October 25, late afternoon to evening. Tell Staples that devouring our forests to sell unrecycled paper products is not acceptable! Speak loud and be heard! Contact [jimsteitz@ususierraclub.org](mailto:jimsteitz@ususierraclub.org) for more info.

**17 Bridgerland Audubon Outing: Pre-winter Birding for Hawks and Things.** Meet at 9 a.m. at the parking lot north of Straw Ibis (150 North 50 East in Logan). We'll head out in the valley searching for late migrating waterfowl on the reservoirs and hawks hunting the fields. We might find a short trail along the Bear River to search for those elusive "dickey birds." We may see Ferruginous as well as the incoming Rough-legged Hawks, and, who knows, we could see loons and an Oldsquaw or scoter is not impossible! Beginning birders welcome - a great way to start your Cache Valley Bird List. We'll return around lunchtime - unless we find Gyrfalcons that is. For more information, call Bryan Dixon at 752-6830.

**28 USU Natural Resource & Environmental Policy Program: David McCool, University of Utah, "Indian Water Settlements: The Second Treaty Era"** Eccles 303 7 pm.

Bridgerland Audubon Society meets the second Thursday of each month, September through June, in the Logan City meeting room, 255 N. Main St., Logan. Meetings start at 7 p.m. The BAS Planning Committee meets at 7 p.m. on the first Thursday of each month, September through June. Locations change monthly. Everyone is welcome.

**Be sure to call about non-Audubon events—we can't be responsible for these descriptions!**  
**More community events are available at: <http://www.bridgerlandaudubon.org/greencalendar/index.html>**



## educational corner

# The Lore of the Pinyon Pine

*pinus edulis or monophylla*

*Sunup or Tepasanna* (Paiute)  
*Tepa waappin* (Shoshoni) Spykerman  
*Monophylla, ti-ba-wa-ra* (Gosiute)  
*Edulis, ai-go-u-pi* (Gosiute)

In the Great Basin the conditions required to support life are seldom generous. Summers are characteristically dry. Winters are harsh. The combination of sufficient water, sunlight, and good soil is erratic at best. The blessing of an abundant pine nut year to primal peoples inhabiting this country, where life is always "on the edge," cannot be overestimated. Bumper crops of pine nuts in a particular grove or region are seldom followed by another good crop. Crop production seems to roughly follow patterns spaced several years apart. The season for gathering pine nuts usually begins in early September and lasts until the first frost.

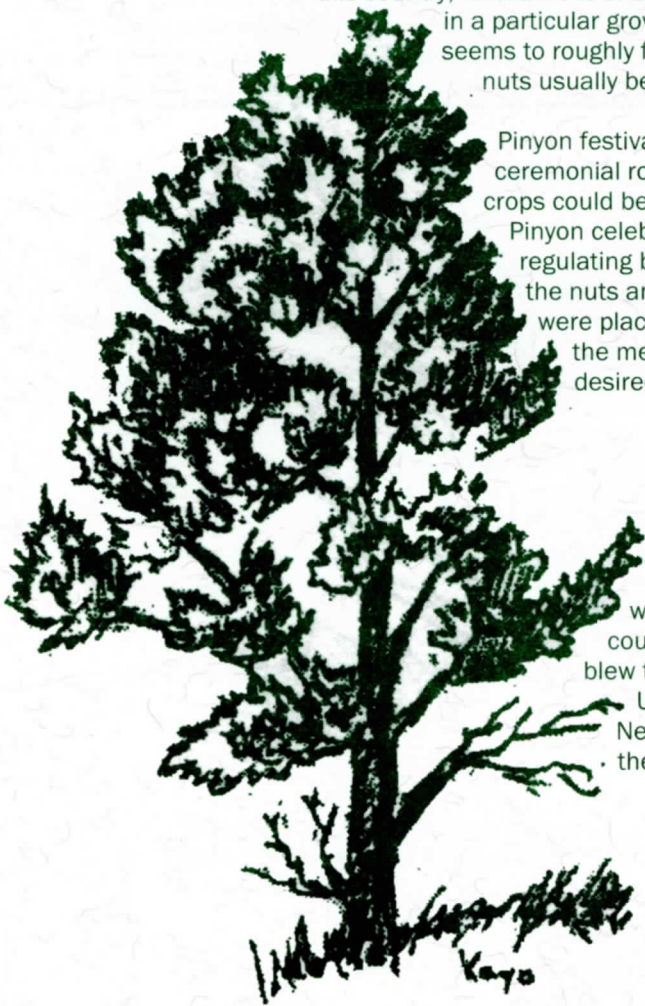
Pinyon festivals of Gumsaba (The Big Time), were major social events in the yearly ceremonial rounds of Indian people dependent upon the pinyon. Failure of Pinyon crops could be determined a year in advance if there are no developing cones. These Pinyon celebrations provided the information needed to prevent starvation by regulating births in the upcoming year. The Paiute and Shoshone peoples roasted the nuts and then crushed them with a mano and metate. The crushed pine nuts were placed in a basket and winnowed to remove the shells and then returned to the metate and ground into flour. The flour was made into a soup or gravy of desired consistency by the addition of boiling water.

## COTTONTAIL PUNISHES NATURE

Down by Littlefield, Arizona, two Mourning Dove brothers were traveling with Cottontail. The two brothers were hungry and Tawvoots (Cottontail) told them to go get food. They tried to gather pinyon nuts but the trees would bend down and spring back up and again before the brothers could collect the cones. Then Tawvoots hit them from his hiding place and blew them all over. The larger pinenuts (Toov) landed in Nevada and western Utah. The smaller ones (Paduh) landed on the rest of Utah, Arizona, and New Mexico. That how the two sizes originated. (This story likely refers to the two species of nut, *edulis* and *monophyllum*.)

Folktale relayed by Martineau to Dr. Wes Larson

-Kayo Robertson  
 School of Natural Learning





# DDT and Birds

*The capabilities and accomplishments of individuals in our Audubon chapter membership continue to amaze me. Below is a personal account provided by Nick Strickland. He was in the vanguard of those who ultimately prevailed in the elimination of DDT and other chlorohydrocarbons from insecticide use in the U.S. This class of insecticides, when broadcast in the environment, persists in soils and food chains and proved very toxic to birds. When you next watch a bluebird, a falcon or pelican, realize that one of our membership helped to reverse their population declines.*

—Jim Cane

**I**n the early 1960's when John Kennedy was President, DDT was heavily used in an attempt to control the insects (bark beetles) that caused the spread of Dutch Elm Disease. DDT belongs to a class of insecticides known as chlorinated hydrocarbons and the breakdown products, particularly DDE, are also toxic. Besides causing the death of birds directly, DDT and its breakdown products caused the thinning of fragile egg shells of predatory birds, such as bald eagles, peregrines, brown pelicans and bluebirds. These thin eggshells were easily crushed on the nest, resulting in dramatic decreases in the numbers of the

above species.

In 1962 a group of birdwatchers in Hanover, New Hampshire noticed a large number of dead and dying birds after the city sprayed with DDT. In the following year the group decided to collect the dead birds in Hanover that were found after the annual DDT spraying. Dead birds were also collected from across the Connecticut river in Norwich, Vermont where DDT was not used. In Hanover, 223 birds (40 with tremors) were recovered, but only 19 (none with tremors) in Norwich. These figures do not represent total numbers of dead birds because small birds like sparrows are very hard to find. The robin population in Hanover fell 70% after spraying but did not change in Norwich. Similar changes occurred in the numbers of bark feeders, such as chickadees, nuthatches, creepers and woodpeckers, in Hanover, with no changes in Norwich.

Previous studies had shown that a lethal level of DDT and its derivatives was 50 parts per million in the brains of birds. All the birds from Hanover and Norwich were analyzed for DDT and derivatives content. Lethal doses were found in 66% of the Hanover birds and 0% of the Norwich birds. Some of the Hanover birds containing lethal doses were myrtle warblers and tree swallows

which did not arrive until several weeks after the spraying. This presents a paradox that insects survived the DDT spraying but insect eating birds did not survive.

The best result of this DDT study was that the town of Hanover decided not to spray with DDT in the following years. They used Methoxychlor instead. This insecticide also has bad effects, but mortality was greatly reduced in the years after the use of DDT was stopped in the United States. A number of other studies also showed (in particular *Silent Spring* by Rachel Carson) the deadly effects of DDT and as a result the use of DDT was banned in the United States. The use of all chlorinated hydrocarbons is now banned in the United States, but some U.S. companies still manufacture chlorinated hydrocarbons for sale in other countries, including some of the countries to which our songbirds and shorebirds migrate.

—Nick Strickland

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*When you next watch a bluebird, a falcon or pelican, realize that one of our membership helped to reverse their population declines.*

# HawkWatch record set at Goshutes



I have to share with you the results of the raptor migration counts conducted on Sept. 27-28 by Jerry Liguori, Nathan McNett, Mark Vekasy, and Susie Michaelson at HawkWatch's Goshute Mountains Raptor Migration Project. On September 27, the greatest one-day total in the 19 years of counts in the Goshutes was recorded—2,198! It was followed by the third-greatest daily total for the site of 1,656 on September 28! This two-day site record of 3,854 raptors included 1,700 Sharp-shinned Hawks, 1,293 Cooper's Hawks, and 599 American Kestrels. Hourly species peaks included 157 sharpies, 153 coops, and 192 kestrels. Equally amazing is that only 12 of these raptors were not identified to species.

The season-to-date total as of 10-6-2001 was 16,617 raptors, with 2,495 banded. The first Rough-legged Hawk of the season was spotted on October 1.

- Howard Gross  
Executive Director  
HawkWatch International  
1800 S. West Temple #226  
SLC, UT 84115  
Ph: 801/484-6502  
Fax: 801/484-6810  
[www.hawkwatch.org](http://www.hawkwatch.org)



Species	9-27-2001	9-28-2001
Turkey Vulture	25	20
Osprey	6	5
Northern Harrier	5	5
Sharp-shinned Hawk	100	699
Cooper's Hawk	913	380
Northern Goshawk	2	0
Broad-winged Hawk	5	1
Swainson's Hawk	13	13
Redtail Hawk	69	58
Ferruginous Hawk	0	0
Golden Eagle	10	7
Bald Eagle	0	0
American Kestrel	143	456
Merlin	0	2
Peregrine Falcon	2	1
Prairie Falcon	1	0
Unidentified Accipiter	3	7
Unidentified Buteo	0	1
Unidentified Eagle	0	0
Unidentified Falcon	0	0
Unidentified Raptor	0	1
<b>TOTALS</b>	<b>2,198</b>	<b>1,656</b>

## Bridgerland Audubon Contacts

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Hotline	Nancy Williams, 753-6268, nanwill@cc.usu.edu



# Local Notes



## Needed (Desperately): BAS Outings Coordinator

We need an individual to coordinate outings for BAS. The job is really quite simple, and involves calling the tried and true list of trip leaders and snagging a few new ones each year, then sending emails to the papers, radio stations, the *Stilt* editor, and the webmaster announcing the upcoming trips. We have a stockpile of ideas for trips, so if you can volunteer a little time each month, you could help ensure that BAS's great outings program continues. Contact Val Grant if you're interested (753-5370 or biores@mtwest.net).

## Christmas Bird Count Alert! Saturday, December 22.

BAS's Annual Christmas Bird Count is conducted every year in the same 15 mile diameter circle with compilations sent to a central database for an annual report and analysis. This will be the 102nd CBC since it was started in 1900 by Frank Chapman as a substitute for the Christmas Side Hunt. Last year, over 1800 counts across the Western Hemisphere and the Pacific Islands involved over 52,000 participants and tallied over 78,000,000 birds. Here in Logan, we have the largest participation in Utah. We hope to find 90+ species (in December no less). This is

a fun and educational winter day spent in our own natural surroundings; a joy for birders of all levels of skill. After the count, we'll meet for a potluck supper and the annual compilation. If we're lucky, someone will have seen something really unusual which means you should leave a little time the next day to go see it for yourself! If you'd like to help out, contact Keith Archibald, 752-8258. Cost is \$5 per person to cover national compilation costs (under 18 free).

## Common Ground Greeting Cards Available

Jerry Fuhriman, renowned local and international artist, has donated three distinctive Cache Valley winter paintings that will be printed as holiday cards. All proceeds benefit Common Ground Outdoor Adventures, a non-profit organization that provides life-enhancing recreational opportunities for youth and adults with disabilities in Cache Valley. Three other landscape scenes are also available in gift boxes for gifts or note cards. Please contact Common Ground at 435/713-0288 for more information or look for the cards at Chapter Two Books, Fuhriman's Framing, or Square One Printing. Personalized imprinting is available.

## Northern Bonneville Shoreline Trail

The Bear River Association of Governments (BRAG) is conducting a master planning process for the Northern Bonneville Shoreline Trail. This trail stretches 100 miles along the foothills of the Wasatch mountains along the eastern shore of ancient Lake Bonneville from North Ogden to the southern Idaho border near the town of Franklin. In 1999, the Bear River Association of Governments submitted an application to the Utah Department of Transportation (UDOT) to finance a process to masterplan the northern region of the BST, effectively extending it from Ogden to Idaho through Cache Valley. In September 2001, UDOT gave BRAG the green light to begin an intensive 6 month planning process. The first step is development of a website to provide ongoing monitoring and input into the planning process and scheduling of public meetings. To learn more about this process and to participate, visit the website at <http://www.bonneville-trail.org/north.htm> or Contact Steve Klass, Public Involvement Coordinator, 801/484-5322, [sklass2@home.com](mailto:sklass2@home.com).

(Mussels—Continued from page 1)

shells along the shore. Anodonta is fairly round, and Margertifera is more linear. Anodonta is found in muddier substrate, and Margertifera is found in coarser substrate along with small cobbles. They may occur along the edges or in deeper water. Both will orient themselves with their openings upward, slightly open, and partially buried in substrate.

**So** if you are out on a canoe or kayak trip, or just out fishing or birding, look at stream and reservoir banks for mussel shells, and report any findings to Marianne at 435/563-1537 or e-mail Karen ([karen@cnr.usu.edu](mailto:karen@cnr.usu.edu)). Please don't collect any live mussels; just report sighting locations and the field team will follow it up. If you collect any shells or shell fragments, you can bring them by USU for identification. Your assistance and vigilance is greatly appreciated!!

-Karen Mock  
USU Fisheries & Wildlife



# The Stilt

Newsletter of the Bridgerland Audubon Society

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Logan, Utah 84323-3501

Email: stiltnews@hotmail.com

Visit our website: <http://www.bridgerlandaudubon.org>

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Logan, Utah

Have you bought your tickets?

## The 4th Annual Allen & Alice Stokes Auction

## A Howlin' Good Time

Tickets are available from October 8th-30th at Chapter Two Books, Fuhriman's Framing and Fine Art and the Stokes Nature Center.

Membership in the Bridgerland Audubon Society includes a subscription to *The Stilt*, as well as *Audubon* magazine. The editor of *The Stilt* invites submissions of any kind, due on the 15<sup>th</sup> of each month. Send to stiltnews@hotmail.com

### National Audubon Society Chapter Membership Application

Yes, I'd like to contribute to Audubon and receive the Bridgerland Audubon newsletter *The Stilt* and the *National AUDUBON* magazine, as a:

- New member of the National Audubon Society and Bridgerland Audubon.
- Renewing member of the National Audubon Society and Bridgerland Audubon.
- Subscription only to the *Stilt*: \$20/year. Do not send *Audubon* magazine.

My check for \$ \_\_\_\_\_ is enclosed (\$20 membership dues)

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_



Please make all checks payable to National Audubon Society and send with this card to:  
Bridgerland Audubon Society  
PO Box 3501  
Logan, UT 84323-3501  
W-52 Local Chapter Code: 7XCHA

National Audubon occasionally makes its membership list available to selected organizations. To have your name omitted from this, please check this box.