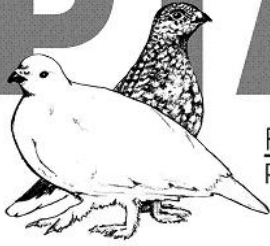


PTARMIGAN



FORT COLLINS AUDUBON SOCIETY
P.O. Box 271968 • Fort Collins, CO 80527-1968 • www.fortnet.org/Audubon

Promoting the appreciation, conservation, and restoration of ecosystems,
focusing on birds and other wildlife, through education, participation, stewardship, and advocacy.

December 2008

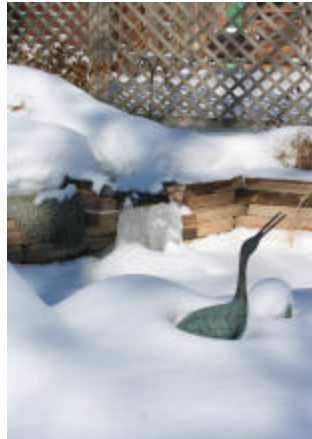
Volume 40, Issue 4

DECEMBER POTLUCK AND SLIDE SHOW

December 11 - 6:00-9:30 p.m.

City's Streets Facility Building-Community Room

The traditional December Potluck and Slide Show is scheduled for Thursday, Dec. 11th, 2008. Set-up begins at 6:00 p.m., at which time you deliver your potluck dishes for arrangements on the serving line. The potluck will start at 6:30 p.m. **YOUR** slide show begins at 7:00 p.m. We are planning to be out of the facility by 9:30 p.m.



Due to scheduling difficulties we will be meeting at a different location this year. That location will be in the **Community Room at the City's Streets Facility Building**, located south of Vine Drive and west of Lemay Ave. ***Directions below**

The room includes a large roll down projector screen and digital projector in the ceiling with a computer. If you are planning to bring slides, please keep your slides brief and to a suggested **limit of 10**. We will **NOT** have a 35mm slide projector unless someone requests it in advance (Bill Miller – 970-493- 7693).

The room is **FREE**, and has a kitchen. The room includes all the tables and chairs we need. Everyone should plan on bringing your own set ups (plate and utensils), and to bring your dirty dishes home for washing. We will provide hot water for instant coffee and tea, as at our meetings at the Lincoln Center. There is a soft drink dispensing machine in the room (takes dollar bills). The machine also has water in bottles.

***Directions:** Access into the parking lot is off of Lemay Ave, and is an unnamed driveway which appears to be the first street south of Vine drive / Railroad tracks. Coming from the north (Vine Drive) it will be the first right hand turn south of the railroad tracks. Coming from the south it will be the second left north of the traffic light at Lemay and E. Lincoln Ave. San Cristo Street, in Andersonville, goes to the east, opposite the driveway into the Streets facility. For those of you familiar with the facility, it is the large brick building that used to be the Great Western Sugar Mill. There is large parking lot on the east side of the building, and the entrance door is also on the east end of the building. If you have further questions about location, please contact Bill Miller at 493-7693. [Google Maps link](#)

You are welcome to bring a friend !
We look forward to seeing you December 11th!

FORT COLLINS AUDUBON SOCIETY PROGRAMS AND FIELD TRIPS ARE FREE AND OPEN TO THE PUBLIC

Visit our website at www.fortnet.org/Audubon or call 970-490-BIRD.

Printed on recycled paper



Field Trips, Programs, Classes, and Events



December 2008

12/6/08, Saturday. Fall Raptors. 8:00 a.m. - lunchtime. Leader: Eric DeFonso (yoericd@yahoo.com or 970-472-1761). Join us as we look for the hawks, eagles, falcons, and owls that grace our area, even in the fall. We'll meet at the Environmental Learning Center (ELC) in Fort Collins, and carpool from there to places of interest for raptors of any kind. To find the ELC, go to <http://www.rmrp.org/content/view/27/83/> and click on the link for a map to the center, or contact me directly for specific info.

12/13/08, Saturday. Second Saturday Natural Area Tour. 8:00 - 10:00 a.m. Nix/Kingfisher/Cattail Chorus Natural Areas. Exploring nature continues with a new schedule of 2nd Saturday adventures. This year we will explore twelve of Fort Collins' natural areas. Each tour will be led by a master naturalist who will explain "What's special about this place?" All tours are from 8:00 a.m. to 10:00 a.m. For further information, contact Joann Thomas at 970/482-7125 or email at jthomas91@aol.com.

12/14/08, Sunday. Bobcat Ridge Natural Area Bird Survey. Leader: Denise Bretting (dbretting@swloveland.com, work: 669-1185, or home: 669-8095). Meet at 7:00 am. FCAS performs a monthly bird census for the city of Fort Collins. All levels welcomed.

12/19/08, Friday. North Park Christmas Bird Count. Contact: Deborah McLachlan (deb.mclachlan@state.co.us) North Park is beautiful in winter, and provides a great opportunity to see Pine Grosbeak, rosy finches and Greater Sage Grouse. Open to all Participants. Please pre-register.

12/20/08, Saturday. Fort Collins Christmas Bird Count. Contact: Sue Riffe at sheflew2@comcast.net or 970-232-4539. Visit our Fort Collins CBC page for more information.

January 2009

1/1/09, Thursday. Loveland Christmas Bird Count. Contact: Connie Kogler at 970-622-9710 or zblueheron@gmail.com.

1/10/09, Saturday. Second Saturday Natural Area Tour. 8:00 - 10:00 a.m. Primrose Studio, near Reservoir Ridge Natural Area. Exploring nature continues with a new schedule of 2nd Saturday adventures. This year we will explore twelve of Fort Collins' natural areas. Each tour will be led by a master naturalist who will explain "What's special about this place?" All tours are from 8:00 a.m. to 10:00 a.m. For further information, contact Joann Thomas at 970/482-7125 or email at jthomas91@aol.com.

1/11/09, Sunday. Bobcat Ridge Natural Area Bird Survey. Leader: Denise Bretting (dbretting@swloveland.com, work: 669-1185, or home: 669-8095). Meet at 7:00 am. FCAS performs a monthly bird census for the city of Fort Collins. All levels welcomed.

February 2009

TBA, February 2009. Small Nocturnal Montane Winter Owls. Leader: Nick Komar. Co-leaders: Eric DeFonso and Sue Riffe. More information will be forthcoming in the next newsletter, but we will be repeating our attempt to find Northern Saw-whet Owls in Rist Canyon and Boreal Owls up at Cameron Pass. Like last year, we will meet in the early evening, and return to Fort Collins around 2am. Carpooling will be required, to reduce potential impacts on the owls as they enter their breeding season as well as simply ease transportation. Stay tuned for more details!

2/17/09, Tuesday. Photographing Denver Zoo Birds, Wild and Captive. Leader: David Leatherman (daleatherman@msn.com). Head down to the Denver Zoo for an all-day trip to look for wild birds on the grounds, captive birds in the exhibits, practice photography, and just discuss what a person can learn from viewing a "bird in the hand". Admission is \$9 for adults under 65, \$7 for adults 65 and over. If the weather is good enough to get down there but too cold to be outside for long stretches, we can always retreat to Tropical Discovery or the Bird House when needed. Dress appropriately in any case! Intriguing species like White-throated Sparrow, Greater Scaup, and Common Grackle have been seen there in winter, along with waxwings, yellow-rumped warblers, creepers, etc. Among the North American species on exhibit are Pileated Woodpecker, Smew, Barrow's Goldeneye, Black Brant, Snow Geese, Hooded Merganser, Trumpeter Swan, White Pelican, Scarlet Ibis, Steller's Sea-Eagle, American Flamingo, and Bald Eagle. Leave Fort Collins from the Transportation Center on the north side of Harmony just west of I-25 at 8:30a, returning to the Transportation Center at 4:30p. Bring a lunch or purchase one at the Zoo. Bring binoculars and handheld camera gear (digiscoping would probably be too cumbersome, at least for indoor exhibits).

2/21/09, Saturday. Earth and Sky Walk, 9:00 a.m. - noon, Reservoir Ridge Natural Area, Fort Collins. Leader: Eric DeFonso (yoericd@yahoo.com or 970-472-1761). This will be a variation on my usual quarterly weather walks. We will add a new component to the walk, and discuss the geologic history of Fort Collins and Colorado, and its influence on the weather and climate that we experience in the modern day. We will be interpreting the rocks and the clouds all on the same walk! Note: this is a somewhat more strenuous hike than my past walks at Nix, but not as strenuous as the hike at Coyote Ridge. If you've never been to this place, now's a great time - we will have wonderful views from the high point on the trail. Meet at the parking area at the trailhead, off Michaud Road near Overland Trail. Contact me if you need additional assistance finding this area.

All field trips are free of charge (unless otherwise noted) and open to the public. All experience levels are welcome. Participants should dress appropriately for the weather. Bring snacks or lunch, water, binoculars, and spotting scopes. Carpooling is encouraged. A \$3.00 (unless otherwise specified) contribution per passenger to the driver is suggested. Visit www.fortnet.org/Audubon for more information. For all field trips and surveys, please contact the trip leader for sign up and trip details. Field Trip Coordinator: Eric DeFonso, yoericd@yahoo.com or 970-472-1761.



The Slate for 2009

Officers and Directors

Acting President - Karl Krahnke (new)
 VP - Ruth Grant
 Sec - Scott Cobble
 Treasurer - John Waddell
 Directors:
 Liz Pruessner (new)
 Kathleen Kelly (new)
 Eric De Fonso
 Lynne Hull
 Ron Harden
 Heman Adams

Committee Chairs - Voting Board Members

Conservation - Bill Miller
 Education - Joann Thomas
 Field Trips Coordinator - Eric DeFonso
 Finance - Heman Adams
 Public Relations - Diann Johnston
 Membership - Shelagh Tupper
 Programs - Jessie Meschievitz
 Publications - Joe Martin
 Hospitality - Pat Adams

Special Committee Chairs and others

Birdathon - Heman Adams
 Scholarships - Lisa Evans
 Web Site - Joel Hurmence
 Voice Mail - Shelagh Tupper
 Audubon Delegate - Bill Miller
 E-Mail Server - Debbie Holman
 Garden Tour - Lynne Hull

NEEDED: Volunteer Coordinator - Please let any Board member know if you would like to help with this important function or if you can recommend anyone else. The Board feels that we will be able to engage in many more activities if we can fill this position.

We would also welcome **new Board of Directors members** as we encourage new energy and points of view, as well as someone to become **President** - think about it and be in touch! Thank you.

Ruth Grant, Nominating Committee Chair

The Last Polar Bear



A few months ago, Daniel Glick spoke to FCAS about his experiences traveling around the world, focusing on his book Monkey Dancing and discussing endangered animals and climate change. He also gave us a sneak preview of his new book, **The Last Polar Bear**, showing us pictures of the project photographed by Steven Kazlowski. This beautiful and poignant book subtitled "Facing the Truth of a Warming World" has now been published by Braided River, Seattle. It can be ordered on Amazon and at the Reader's Cove bookstore, among others. You will be thrilled by the gorgeous photos and challenging essays - a great holiday gift or addition to your own library. Dan also has the lead article in the November 10 High Country News, "Still Howling Wolf," and the cover story in the Sept/Oct Audubon magazine, "Energy - Running on Empty." We are proud to have had him speak to us!

Fort Collins Audubon River Trips for 2009

Fort Collins Audubon is offering two river trips for 2009: A canoe trip in May and sea kayak trip in August. These fundraising trips have been very popular with FCAS members. Details are available at www.fortnet.org/audubon and www.centennialcanoe.com. The January issue of the Ptarmigan will also have more details.

The White River by Canoe

Date: May 29-31 (Fri-Sun), 2009
Cost: \$320 adult, \$280 child (age 6-16)
Level: Beginner / Intermediate

The Colorado River by Sea Kayak

Date: August 7-9 (Fri-Sun), 2009
Cost: \$335 adult, \$280 child (ages 6-16)
Level: Beginner





Conservation Corner

By Bill Miller - Conservation Chair

TICK, TICK, TICK, ...



Last June, while attending a quarterly board meeting at the Hershey Ranch north of Pagosa Springs, the members of the Audubon Colorado board of directors were given a brief presentation on global warming by Audubon Colorado's Executive Director, Gary Graham. I felt the message, while presented only

briefly at that time, was so powerful that I asked Gary if he would provide the same information to FCAS at one of our program meetings.

The National Audubon Society (NAS) has recognized that **Global Warming** (oldest terminology) now represents the greatest threat to birds on a world-wide basis. But the term, "Global Warming" is a politically loaded term in that there have been numerous nay-sayers who pointed out that some places on the globe have experienced colder-than-usual temperatures, so how could this be global "warming?" The term, **Climate Change**, then came into use as less politically loaded terminology. Even more recently, the terminology being used is **Climate Disruption**, which is probably a more accurate term to describe what is happening on Planet Earth in recent history. NAS has now elevated the challenges of Climate Disruption and the efforts necessary to counter it to the top of their list of projects. To that end I will later provide some information about NAS' programs.

On Friday, Oct. 17th, Audubon Colorado offered a one-day chapter leader training workshop on "Global Warming" at which time Gary Graham presented to the sixteen workshop participants the information that he had presented to the State board in June. The message that I heard loudly and clearly at that time was that it was no longer sufficient for Audubon members to pay their dues and sit back and wait for the organization to "take care of things." Instead, it is paramount that each and every one of us must become involved, both from the aspect of taking steps to minimize our individual "carbon footprint" as well as applying pressure on our elected leaders to take steps to curb climate disruption and the disastrous effects it will have on ALL life on earth.

Gary Graham was our program presenter on Thursday, Nov. 13th. He had updated his presentation to include a lot of additional data to show that the "clean" or

"renewable" energy solutions currently being touted are not without negative consequences. More on this in a later issue of the Ptarmigan. However, those consequences are much preferred to the consequences if we let climate disruption proceed on its current course. The chilling statement that Gary included in his presentation is that we, **the human population, may have as little as seven years to reverse the course of global climate disruption** before the process becomes a juggernaut which we can no longer gain control over.

Some Implications of Climate disruption

A. Degradation of the world's oceans:

What is not being adequately publicized is the fact that much of the carbon dioxide being emitted into the air by the burning of fossil fuels is being absorbed by the oceans. The result is that the oceanic waters are becoming acidic. Now, go back to your lessons on how caves in limestone are created. Rain falls on the ground where it absorbs very slight amounts of carbonaceous materials from the vegetation, producing a very weak solution of carbonic acid. These acidic waters leach into the ground and down into the rock strata where they dissolve the limestone rocks made up of calcium carbonate, the source material for making cement. Over long-enough periods of time large caverns, such as Carlsbad Caverns in New Mexico and Mammoth Cave in Kentucky, are produced from the dissolving of the limestone.

It is estimated that life forms in the oceans that depend upon using calcium in their protective shells and structures (shellfish, coral, etc.) can tolerate dissolved carbon dioxide up to about 350 parts per million (ppm) in sea water. Most oceanic waters are already at 385 ppm. That level of dissolved carbon dioxide poses grave implications for the various oceanic food chains, upon which humans are very dependent. When you add in the unsustainable over-fishing that has occurred over the past three decades, humans are at risk of losing a major food resource – the oceans.

B. Human Environmental Refugees:

Hundreds of millions of people may have to relocate for environmental reasons. A rise of even one or two feet in the world's oceans will make certain island nations uninhabitable, such as the Maldives in the Indian Ocean,

Continued on next page

"We're finally going to get the bill for the Industrial Age. If the projections are right, it's going to be a big one: the ecological collapse of the planet."

-- Jeremy Rifkin, World Press Review, 30 December 1989



Continued from previous page

Tuvalu and Kiribati in the southwestern Pacific, the Carteret Islands of Papua New Guinea, and Bangladesh, where some 20 million people could be forced to relocate by 2030. The Italian city of Venice, already sinking because of the pumping of ground water for domestic water supplies, will undoubtedly be inundated unless some very expensive sea walls are constructed. The Netherlands would be at risk, as would all coastal areas around the world.

Desertification is already proceeding at unprecedented rates around the world as rainfall patterns are changing. What water remains is also being severely polluted. Famines of increased severity and frequency are predicted, as are the incidences of tropical diseases.

Does anyone want to guess where the hundreds of millions (billions?) of people are going to move to?

C. Impacts on Biological Diversity:

A prominent indication of climate disruption is the

"We've poisoned the air, the water, and the land. In our passion to control nature, things have gone out of control. Progress from now on has to mean something different. We're running out of resources and we are running out of time"
-- Robert Redford

"There is but one ocean though its coves have many names; a single sea of atmosphere with no coves at all; the miracle of soil, alive and giving life, lying thin on the only earth, for which there is no spare."
-- David R. Brower (1912-2000)

shrinking of the earth's ice sheets and glaciers. We are already witnessing the difficulties that polar bears are having in their fight for survival as the arctic ice melts earlier and faster each year resulting in starvation or drowning because the bears are dependent upon the ice to hunt their principle prey, seals.

Some recent estimates are that we might lose one-third of all species in the next several decades or so. We have already had 70 frog species go extinct, thought to be attributable to global warming. With warming conditions we are observing that tree lines are moving up on mountains, and northward in the arctic. The question is whether species (Siberian Cranes, Ptarmigan, Pika) that are dependent upon alpine or tundra habitats will be able to adapt quickly enough when their homes become forested. 72% of the species in northeastern Australia may disappear, as well as about 38% of species in Europe.

And the list goes on – increased frequency and severity of forest fires, and so forth.

ACTIONS NEEDED:

The actions needed are federal legislation, state initiatives, county and city laws, and individual actions. Most of us are already consciously doing things at a personal level, such as replacing incandescent light bulbs with compact fluorescent bulbs, lowering our thermostats, and reducing our driving, encouraged in no small part by the fuel costs of the past three years or so.

National Audubon is very supportive of, and promotes participation in the Alliance for Climate Protection's "We" Campaign. "The We Campaign is a project of [The Alliance for Climate Protection](http://www.wecansolveit.org) -- a nonprofit, nonpartisan effort founded by Nobel laureate and former Vice President Al Gore. The goal of the Alliance is to **build a movement that creates the political will to solve the climate crisis** -- in part through repowering America with 100 percent of its electricity from clean energy sources within 10 years. Our economy, national security, and climate can't afford to wait."
<http://www.wecansolveit.org/content/about>

To become part of the "WE" program please consider taking the global warming pledge, found at: <http://audubonaction.org/campaign/climateactionpledge>. At this site there is a list of ways that you can become involved at the federal, state and local levels as well as ways you can reduce your own carbon footprint.

Additional information can be found at RepoWER America: <http://www.repoweramerica.org/>

You can also urge Congress to take action on global warming at: <http://audubonaction.org/campaign/GWNov08>

WHAT HAS BEEN MISSING IS A SENSE OF URGENCY!

PLEASE BECOME INVOLVED – IT IS OUR FUTURE AT STAKE.

TIME IS RUNNING OUT!



Education Corner

By Joann Thomas - Education Chair

The No-show



The call came...a rare bird sighting. An Anna's Hummingbird—an immature male. Only three sightings in 18 years at this particular site. Did I want to come see it? You bet!

Two years ago I fell in love with hummingbirds while attending a day long seminar in Estes Park. There, a male Broadtail Hummingbird sat on my hand as it rested after being banded. How tiny, how light, yet how powerful! This tiniest of creatures migrates over 1,500 miles each year. A lifelong love affair had begun.

So did I want to see the Anna's?...You bet! The Anna's Hummingbird is one of only three species that are permanent residents of the United States. It nests mainly in California and the young males wander a bit before heading south for the winter.

A friend and I arrived at the house high on a foothill overlooking Horsetooth Reservoir. One lonely hummingbird feeder hung from a board on the deck along with two other seed feeders and a bird bath. Our hosts were not home, but had invited us to sit, enjoy the view, and wait for the Anna's to return.

It was a unique experience for a grey, chilly day. Sitting comfortably on the deck with an unparalleled view of the reservoir, we were eye level with the tree tops and the birds. Waiting for the Anna's, we sat quietly and watched the bird activity around the feeders and the bath. Rather comfortable birding, and quite exciting. Without any trouble, I was able to compare our two resident chickadees—the Mountain and the Black-capped. We spotted a dove, hunkered down on a branch of a pine tree. Two Downy Woodpeckers worked their way up and around one of the three trees right in front of us.



Joining the ever increasing crowd were a male and female White-breasted Nuthatch. Working their way down and around the tree, they were close enough for me to note the difference in coloration on top of the head. The female has a dark gray cap while the male has a black cap. A Pine Siskin jumped onto the seed feeder along with several House Finches, both male and female. Several Juncos joined the party. Two Magpies arrived with flourish, followed by a Steller's Jay that glistened iridescently in a brief flash of sunlight on this predominantly grey day. I'd never noticed how graceful the flight of a Steller's Jay is, nor had I ever followed it so closely.

Watching birds this close, most of the time without using a binocular, provides insight into bird behavior. At one point I became conscious that all twittering and rustling had ceased. The birds, fed and full, had flown off to rest, digest their meal, and expel their waste. After 15 minutes or so, they returned, noisily eating and chattering. I began to feel the rhythmic ebb and flow of their lives. Truthfully, I could have stayed there all day, but food and warmth had developed great appeal after sitting for three hours in the damp, chilled air.

And the Anna's...well, I'm sure you guessed by the title of this piece—he never came back. But, I loved the intimate view I had of the birds who shared my day. I'll see an Anna's another day...you bet!

FREE *Homeschooler's Guide to Project FeederWatch.*

For more than 20 years, Project FeederWatch has been an easy, fun way for children to learn about birds and strengthen their skills in observation, identification, research, computation, writing, creativity, and more. FeederWatchers keep track of the numbers and kinds of birds at their feeders through the winter and report what they see to the Cornell Lab of Ornithology.

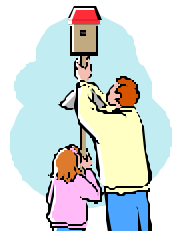
The *Homeschooler's Guide to Project FeederWatch* will guide you through bird-related activities that promote learning across many disciplines, including science, math, history, and the arts. Examples of these activities include:

- **Natural history:** Observe and research a bird's behavior and life cycle
- **Math:** Calculate average seed consumption rate and graph data
- **Writing:** Keep a nature journal to write stories and poetry
- **Geography:** Research the geographic ranges of birds
- **Art:** Keep a feeder-bird sketch book or create a papier mache mask

To download the *Homeschooler's Guide to Project FeederWatch*, visit www.FeederWatch.org and click on the "Education/Home School" button. You'll be able to download the PDF in low (2.2MB) or high (6.7MB) resolutions.

You may choose to use the free guide as a stand-alone resource, or sign up for Project FeederWatch to submit the data you gather. If you would like to be a project participant, the signup fee is \$12 for members of the Cornell Lab of Ornithology, \$15 for non-members. There are discounts for group participation.

If you have any questions, please let us know how we can help by emailing feederwatch@cornell.edu.





BAD NEWS FOR THE GLADE RESERVOIR PROJECT



The **Save The Poudre Coalition** released a stunning press release by email late Monday afternoon, Nov. 17th, to the effect that the U.S. Environmental Protection Agency (EPA) "Objects" to the NISP/Glade project. This news was repeated in Tuesday's Fort Collins Coloradoan where it was prominently displayed as the lead article on p. A1.

The EPA had issued a 24-page "stinging rebuke" of the Northern Integrated Supply Project's Glade Reservoir Draft Environmental Impact Statement (DEIS). The EPA graded the project as having "Environmental Objections -- Insufficient Information." This grade is one of the worst the EPA can give.

The comment letter says this: "EPA believes that the DEIS does not support the Proposed Action [NISP/Glade] as the least environmentally damaging practicable alternative. EPA is concerned that alternatives exist that would have less adverse impacts to the aquatic environment, specifically alternatives which include agricultural-municipal leases and long-term transfers, and conservation." (page 10-11)

EPA has final "veto" authority over NISP/Glade as it also had over the proposed Two Forks project in the a990's on the South Platte River southwest of Denver. At that time EPA vetoed Two Forks because Denver Water (the project's proponent) did not adequately address other alternatives -- including conservation -- to meet its water supply needs. After EPA vetoed Two Forks, Denver Water began implementing water conservation programs.

The NISP/Glade DEIS has now generated extremely critical comments from the City of Fort Collins, City of Greeley, Larimer County, State of Colorado, and the U.S. Environmental Protection Agency, in addition to those provided by many private citizens and organizations such as Fort Collins Audubon Society.

In its comment letter on NISP/Glade, EPA wrote, "Given the arid nature of the west, conservation will play an increasingly critical role in allowing for a sustainable water future...Other water utilities such as Denver Water have supported this perspective by identifying conservation as one area of focus for securing their future water supply." (page 11) One can only hope that this could mean that EPA might veto NISP/Glade as well.

"It's great to see sound scientific analysis of the DEIS," said Mark Easter, Chair of the **Save The Poudre Coalition**. "The NISP DEIS is so fatally flawed that it needs to be completely thrown out. They wasted 4 years and \$4 million -- they need to start all over again."

The **Save The Poudre Coalition** has offered an alternative to NISP/Glade that directly agrees with EPA's conclusion. Called the "Healthy Rivers Alternative" (HRA), the Coalition is requesting that the Army Corps of Engineers insert the Healthy Rivers Alternative into its future analysis of this project. The HRA is cheaper than NISP, will better protect agriculture, will protect the Poudre River, and will allow cities to get the water they need through win-win solutions on a pay-as-you-go basis rather than a 30-year debt-ridden scheme.

More information can be found at the **Save The Poudre Coalition's** web site as well as the Army Corps of Engineers' web sit. It is safe to explore this last web site, despite the warning that first appears.

http://savethepoudre.org/eis_documents.html

<https://www.nwo.usace.army.mil/html/od-tl/eis/nisp.deis-comments.619-676.pdf>

<https://www.nwo.usace.army.mil/html/od-tl/eis/nisp.deis-comments.index.pdf>

The **Save The Poudre Coalition** is made up of 13 national, state, and regional groups including Clean Water Action, Defenders of Wildlife, American Rivers, Western Resource Advocates, Colorado Environmental Coalition, Environment Colorado, Sierra Club – Rocky Mountain Chapter, Fort Collins Audubon Society, Citizen Planners, Wolverine Farm Publishing, Poudre Paddlers, Friends of the Poudre, Cache la Poudre River Foundation. Membership in these groups totals over 2 million American citizens.



The Finches That Changed the World

by Ananda Garcia

The discoveries of Charles Darwin may be the most controversial and important theories in modern science. Though society has developed further support for the theory of natural selection (particularly in the realm of genetics that was discovered after Darwin's findings), a key source of support is still the case of the Galapagos Finches, Commonly referred to as Darwin's Finches.

Currently, there are 14 species of Darwin's Finches recognized in the Galapagos Islands. These species share a variety of characteristics such as size and basic coloration. The main difference that separates these birds into different species is the size, shape and use of their beaks.

The highly variable morphology (or physical appearance) of the finches' beaks is what makes the finches ideal specimens for the study and understanding of adaptive radiation.

Adaptive radiation is a form of natural selection in which species derive from the same common ancestor and have adapted to different environments or niches over time.

The ancestor of the Darwin's Finches is believed to have been a small finch from the South American mainland, which somehow found its way

across the sea and onto the relatively uninhabited Galapagos Islands, 600 miles off the western coast of Ecuador.

At that time there was little competition for the abundant resources on the islands; thus, the ancestral finch's population was able to rapidly expand. However, as the population grew there became increasing competition between members of that species for a single food type. To reduce competition and provide greater chance of survival, the Finch ancestor began to evolve. Since food was the limiting factor on the islands the first form of

natural selection occurred in beak morphology. Rather than have a massive population of seed eaters, all competing for decreasing supplies of seeds, natural selection favored individuals with beaks capable of collecting and eating other types of food. After several thousand years these adaptations lead to a wide variability in beak morphologies and preferred food types. As there became a greater difference between beak types the finches began to branch into separate species.

If variations useful to any organic being ever do occur, assuredly individuals thus characterized will have the best chance of being preserved in the struggle for life; and from the strong principle of inheritance, these will tend to produce offspring similarly characterized.

-- Charles Darwin, *On the Origin of Species*

By developing different beak types through evolution, the finches were able to reduce competition by opening up new ecological niches. Before natural selection began to separate the finches, they all ate seeds and lived in

areas with a high abundance of seeds. After evolving into different morphs (physical types) the finches were able to exploit a variety of areas and foods. The 14 current Darwin's Finches can eat seeds, flowers, fruits, cactus, nuts, leaves, grubs, insects and can even utilize rudimentary tools to obtain food. This variability in resources and home range locations allowed more finches to survive and pass on their genes.

Darwin's Finches allows us to see evolution happening right before our eyes. A sudden, intense change in environmental conditions will often change the selection for a certain beak type. For example if there is a drought and all of the plants produce less leaves or flowers (which attract less insects), then there will be a general trend towards preferential selection of seed eaters that can eat food unaffected by the drought. Hence the amount of seed eaters will increase and the amount of plant and insect eaters will decrease. Thus, Darwin's Finches not only give us an idea of how natural selection works over thousands of years, but also over a few generations.

The study of Darwin's Finches is still very popular today because of their contribution to the studies of evolution, conservation and climate change. These small, unobtrusive little birds remain one of the most fascinating case studies and one of the most important figures in modern science.





Welcome new and renewing members!

We hope to see you at our programs and field trips.

Scott Baily
Shelley Dahme
Parker E. Preble

Robert M. Schurman
Georgia Doyle



A Parting Note from Holly Carpenter

Global Warming Intern for Audubon Colorado

On November 5th, Audubon Colorado received the following statement from NAS President John Flicker; "Voters in this historic election cast their ballots not only for change, but for a new era of hope for our environment, and the people, birds, and other wildlife that depend on it. Washington has been ignoring critical environmental issues for too long. President-elect Barack Obama and a more environmentally aware Congress offer the promise of leadership and fundamental change that could usher in new protections for America's great natural heritage, and a new lease on life for species in decline." In the same statement, Flicker said "we welcome the opportunity to help him deliver his promised \$150 billion plan for clean energy technologies that would protect our environment and stimulate the economy, creating up 5 million new green jobs." Just to note, Barack Obama carried Colorado 52% - 45%.

Flicker continued, "despite real reason for optimism, we cannot take conservation gains for granted. Audubon is committed to helping the new Administration and Congress to live up to their great promise; and to make conservation, clean energy and green jobs part of America's path to a brighter tomorrow."

In Colorado, a "more environmentally aware Congress" has truly been ushered in. In many of the races for House and Senate seats, Colorado voters elected members with admirable and solid records on the environment, boding well for Colorado birds, other wildlife, and threatened habitats. Two of these were quoted on the InterWest Energy Alliance website, describing their energy and environmental stances:

Representative Mark Udall (D) was elected U.S. Senator, 52% to 43% over Bob Schaffer (R), saying, "Colorado is uniquely poised to become an international leader in renewable energy development, and our rural communities stand to gain economic benefits through the pursuit of renewable energy technology."

Betsy Markey (D) was elected U.S. Representative, 55% to 45% over Representative Marilyn Musgrave (R, incumbent) in Congressional District 4. In her words, "Energy independence and energy security are not Republican issues or Democratic issues. They are American issues.... The next Congress needs to sit down, put all the energy options on the table, and develop a comprehensive energy plan that decreases our dependence on foreign oil while pursuing the best long-term solutions."

Gary Graham, Executive Director of Audubon Colorado, commented on the elections; "I'm so inspired by the voters of Colorado and this country because they have chosen leaders who will take a "get it done" attitude toward solving problems from global warming to renewable energy and the economy. I think they will take advantage of and promote the clean/renewable energy technologies that are market-ready and are already producing new economic opportunities in the Rocky Mountain West."

FCAS CONTACTS

Audubon@fortnet.org

President

Joel Hurmence
970-481-2124

jhurmence@hotmail.com

Conservation Chair

Bill Miller
970-493-7693

5mcorp@comcast.net

Membership Chair

Shelagh Tupper
970-490-BIRD

Shelagh.tupper@gmail.com

Education Chair

Joann Thomas
970-482-7125

jthomas91@aol.com

Field Trip Coordinator

Eric DeFonso
970-472-1761

yoeric@yahoo.com

Birdathon Coordinator

Heman Adams
970-484-8634

hempurdy@aol.com

Newsletter Editor

Joe Martin
970-412-2481

joe3eagles@gmail.com

Address Changes

Shelagh Tupper
970-490-BIRD

Shelagh.tupper@gmail.com

For other FCAS contacts visit
www.fortnet.org/audubon/leadership.htm

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Join the Fort Collins Audubon Society (FCAS) directly, or automatically become a member by joining the National Audubon Society (NAS). *Choose one below:*

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- Renewing Member of NAS & Chapter** **\$35**
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Did you know? Less than \$1 of your NAS dues is left for FCAS funds. FCAS serves NAS members through its own fundraising efforts. We appreciate your financial support!

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