



Our mission is to conserve birds and their habitats.

A Letter from the field in Janos, Chihuahua

7 March, 2010

From Andrew Tillinghast,
RMBO field technician

The best days in the field are the clearest, the calmest, the days when the air is so cold it numbs your fingertips, but you know it will warm up by 9 or 10 a.m.

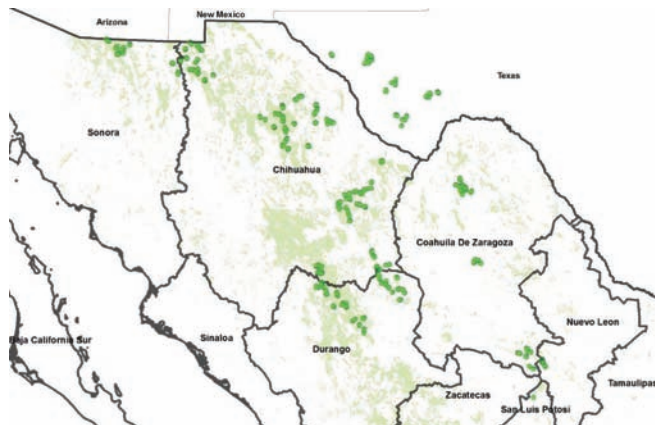
On this day we arrive, at dawn as usual, at our survey area. Randy Siebert's donated Toyota pickup is parked on the shoulder of the road. Greg Levandoski, RMBO Chihuahuan Desert project manager, and I wish each other good transects, climb over the top fence wire and walk away from each other, slowly, into the grass.

The grasses might be graceful three-awns and Panicum, bluestem and Bouteloua, or a dense mass of halophytic tobosa as far as you can see. There might be yucca and cholla, mesquite and, well, more mesquite. Or we might walk among ancient oaks with manzanita interspersed. There are many different aspects, differing arrays of species, all part of the grasslands of the Chihuahuan desert in northern Mexico, which serve as crucial wintering grounds for dozens of grassland-associated bird species that breed in North America.

We are in this region to carry out our fourth field season in an ongoing



Andrew Tillinghast walks a transect in Janos, Chihuahua, just across the border from Antelope Wells, New Mexico. Photo by Greg Levandoski.



The extent of the 2009/2010 grassland surveys; the dots represent transect locations.

project, "Wintering Bird Inventory and Monitoring in Priority Conservation Areas in Chihuahuan Desert Grasslands in Mexico." The project focuses on species that depend on grassland habitat to survive and aims to improve the

understanding of distribution and abundance of those species on their wintering grounds. Our partners for the project are the Universidad Autónoma de Nuevo León; Universidad Juárez del Estado de Durango; Sul Ross State University; Profaua Coahuila; Biodiversidad y Desarrollo Armónico, A.C.; and The Nature Conservancy - Chihuahua. This is the first study that attempts to obtain this information on a region-wide scale using a single protocol.

This season, 15 of us have formed seven teams. Our group includes biologists from various Mexican universities and nonprofit organizations. After two weeks of training in January, the teams split up to go to our respective areas. In a 1,000-by-600-kilometer region of the Chihuahuan Desert grasslands, the teams will survey nearly 700 transects. That means that each day, as weather allows, each member of each team will survey three 1-kilometer transects. Typically, we are in the field six days out of seven.

Each team member is equipped with a GPS unit, range-finder, binoculars, compass and datasheet. But our most important tools are our eyes and ears.

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From the director...

Tammy VerCauteren, executive director

Many of us have been itching to get outside, and looking for birds is always a good reason to get out there. The weather hasn't cooperated as we much as we would like, but we have had some nice days to explore and some fun rarities to see, including the Red-shouldered Hawk and Snowy Owl that were spotted this winter along the Front Range of Colorado. I had the pleasure in January of visiting with a founding member of RMBO, Tom Parchman, which gave me a great excuse to see the Red-shouldered Hawk in Weld County. Thanks, Tom, for getting me out there.



I also just returned from a family vacation to the Gulf Coast of Texas. I got to test my shorebird identification skills as well as see a lot of wonderful waterfowl and water birds. One of the great sights was two pair of Whooping Cranes near the Big Tree, a 1,000-year-old Southern Live Oak in Goose Island State Park. More fantastic was getting my four-and-a-half-year-old daughter to see the birds and understand how to use her binoculars. She saw my enthusiasm for the birds, and it was contagious. She proudly spouts off all the different species we saw.

As you will see in this edition of our newsletter, field work is gearing up and the staff at RMBO is heading out to observe, identify and record species across the western United States. The data from 2009 are in and have been analyzed. Our design is showing great promise for detecting trends and guiding future management decisions. In addition, we have been busy on the wintering grounds in Mexico, tracking Vesper Sparrows and conducting grassland bird surveys with local biologists and partners. These data are helping identify the remaining strongholds for wintering birds, which will be important for outreach, education and directing dollars for on-the-ground conservation efforts to enhance habitat.

I hope you are getting out and enjoying the birds and all the amenities our great outdoors has to offer. Keep an eye on our Web site, www.rmbo.org, for upcoming talks, trips and activities. Also, take the time to share your passion and knowledge with a friend, co-worker or family member. It's easy to say we are too busy, but I challenge you to find the time. We all can – and need – to make a difference for conservation. You can do it by helping get others outside. Help create moments that will change a person's perspective for a lifetime. Be a guide to the outdoors.

The meaning of The Primary Source:

The feather in the logo designed for The Primary Source by Granby artist David Utterback is a primary feather from a pelican. A bird's primary feathers give power to its flight. RMBO depends on its many members, friends and volunteers to strengthen our organization. You are our primaries!

News from South Dakota. . .

“Toot route” surveys shed light on Black Hills

By Nancy Drilling, South Dakota projects coordinator

In spring 2009, 17 intrepid volunteers spread out across the Black Hills to conduct the first-ever comprehensive owl surveys in the region. Working in pairs, the surveyors recorded all the owls they heard while playing recordings of owl vocalizations at established survey points located at .8-kilometer intervals along forest service roads, known as “toot routes.” These surveys were not for those with tropical blood or those who go to bed early! Surveying at relatively high elevations in March, April and May, surveyors had to stand absolutely still for 10 minutes per point count, straining to hear owls in temperatures as low as 5 degrees. Begun after sunset, some surveys lasted until 2 a.m. Despite the rigors, every person enthusiastically participated and enjoyed this unique experience. Just as important, the data they collected revealed some surprising results about this little-known group of birds.

Since 2002, RMBO field crews have spent thousands of hours conducting bird surveys in the Black Hills for different projects, and this region is a popular birding destination. So why did we know so little about owls here? The answer simply is that most surveys and birding happens during summer days, while owls are most vocal and detectable at night during their breeding season in early

spring. Surveys specifically targeting owls are the best way to truly understand their status and distribution, but before 2009, no special survey had targeted all owl species.

Previously-published Black Hills Bird Lists state that the Great Horned Owl is a common species in the area, while the Northern Saw-whet Owl, Long-eared Owl, and Eastern Screech-Owl are “uncommon to rare.” In contrast, this study found that the Northern Saw-whet Owl is by far the most common and widespread species, detected at 15 percent of all survey points and 93 percent of all routes, and at all elevations and in all months. The Great Horned Owl was relatively uncommon but widespread, detected at 7 percent of all points and 47 percent of all routes. We found a small group of Long-eared Owls in March in the Pringle-Custer area but did not relocate this species in April or May. We detected only four Eastern Screech-Owls, all in lower-elevation riparian zones, as expected.

A major logistical problem was poor weather on survey nights. Blizzards, heavy rain and high winds occurred in all three months, reducing the number of surveys to about half of the original schedule. A second problem was lack of access to



Northern Saw-whet Owl. Photo by Jeff Birek.

high-elevation sites because of deep snow and unplowed roads. As a result, we could not survey one entire route and another 103 points were surveyed only once. These will be surveyed again this spring to ensure that no species goes undetected. We also recommend establishing a high-elevation spruce habitat survey route to target Boreal Owls, conducting targeted Flammulated Owl surveys in June, and working to gain access to high-elevation survey points in March and April.

Data collected during this survey contributed greatly to our knowledge of Black Hills owls and will be used as part of the second South Dakota Breeding Bird Atlas. We plan to continue these surveys in upcoming years. If you would like to participate in this spring's surveys, please contact Nancy Drilling at 970-482-1707, ext. 14, or nancy.drilling@rmbo.org

South Dakota Breeding Bird Atlas takes off in its second year

By Nancy Drilling, South Dakota projects coordinator

The second field season of the second South Dakota Breeding Bird Atlas saw a record number of participants and data collected. Compared to 2008, three times as many people volunteered in 2009, quadrupling the number of visits to atlas blocks and burying the atlas staff with 6,500 bird records!

Highlights for the summer included the second confirmed breeding by Prothonotary Warblers in South Dakota and discovery of Blue-Gray Gnatcatcher nests in three corners of the state (previously only known to breed in the southeast). Atlasers continued to document the expansion of Northern

Cardinals, Blue Grosbeaks, Red-bellied Woodpeckers, Great-tailed Grackles and Eurasian Collared-Doves.

New projects in 2009 included special owl surveys in the Black Hills (see article above) and special surveys to estimate species detection probabilities. RMBO's partner for the second atlas is South Dakota Game, Fish, and Parks.

The second South Dakota Breeding Bird Atlas aims to document the current distribution of all breeding birds in the state and compare these to distributions mapped

20 years ago during the first atlas. So far, in this five-year project, we have documented 223 bird species, the same number documented during the entire five years of field work during the first atlas.

We still have a ways to go. We have confirmed breeding by only 181 species and need to collect more data on about 375 blocks. If you would like to contribute to our knowledge of South Dakota birds and help with this project, contact Nancy Drilling at 970-482-1707, ext. 14, or nancy.drilling@rmbo.org Check out the atlas web site at www.rmbo.org/sdbba2.

Field techs (from Page 1)

Line transects are a great way to survey for grassland birds because you can detect the more vocally and visually apparent species from afar (a Short-eared Owl cruising a ways off, or a Lillian's Eastern Meadowlark singing from the post), but you are also able to surprise some of the more reclusive birds as you amble through their cover. I was lucky enough to come upon several Baird's Sparrows and Sprague's Pipits on transects, both of which are among the most precipitously declining birds in the grassland suite.

The trick to getting good looks at these birds in the winter is to complement their own predator-avoidance strategy by stealthily approaching and patiently waiting for them to emerge onto bare ground. But you have to be careful not to flush them into flight and thus out of sight. In other words, you have to think like a pipit to see one.

From dawn until as late as midday, we walk. And as we walk, we record bird detections, estimate distances between the birds we see and the transect line, and take down habitat data. When we've finished the day's surveying, it's often a long, rough road back to The Nature Conservancy's Ecological Reserve "El Uno." On the way, we usually have someone – the mayor of an *ejido* (a collective community), or a ranch owner or manager – to visit. This project is possible because of the collaboration of ranchers and cowboys, the mayors of ejidos and members of Mennonite colonies, the people who give us permission to go onto the land. Greg, as a part of RMBO's International Division, has spent four years developing relationships with the people of the Janos region. I was repeatedly struck by the depth of their hospitality and their willingness to grant permissions, give directions and offer expertise. It is clear that the life and livelihood of the people here depend upon the health of these grasslands as much as its avifauna does.



RMBO Biologist Chris White at his transect for the day in Wyoming.
Photo by Jeff Birek.

Finally, there is data to be entered in the computer, either at the end of the day or on days when weather keeps us from the field. As Greg returns to the states after the field season, he will compile and analyze all the data, then write up the season report. Next year, we will do it again, hoping for those clear, calm days.

Technicians' work isn't glamorous, but it is essential to RMBO research

Field techs provide the life blood of RMBO's research projects. Last year, we hired nearly 80 techs who worked long hours in remote places and collected critical data. This year, we'll have at least that many, and about half will be involved in point-count surveys.

RMBO Biologist Jeff Birek hires many of the technicians who will conduct the point-count surveys in 13 states from Idaho to Texas. He looks for people who have a love for birds and wildlife, along with an interest in spending time in the wilderness. He also looks for individuals who adapt easily to different situations and changing weather conditions.

"Sometimes we get into places that are not comfortable or we get adverse weather conditions," Jeff says. "And, of course, there are biting bugs and other hazards. But we also get to go to places, picked at random by a computer program, that turn out to be utterly beautiful."

Another quality Jeff looks for is a sense of humor. "If they can't laugh at things, they'll never make it through the summer."

Most of his field techs are recent college graduates, some are still college students or even high school seniors, and others are teachers and retirees. They all have one thing in common: a profound connection to the environment.

These field techs will start their season in early May with a week of training. They then will spend the next two months on their own, camping at night and rising before dawn to be at the day's starting point count 15 minutes before the sun comes up. They will survey the transect for all birds detected by sight and sound. Each transect covers a square kilometer and includes 16 points in a 4x4 grid. Before noon, the surveying is completed, and each tech is on his or her way to the next transect, typically driving between 80 and 150 kilometers a day. They start at lower elevations and work their way upward, which means they get to enjoy each location at its peak breeding season.

Each tech will spend 10 days working, then have four days off. Jeff says most use their time off to go backpacking and to visit birding hot spots. "After all, they're doing this work because they love birds."



Field techs in training in Rabbit Valley, western Colorado.
Photo by Chris White.

What's happening in the Science Division

A tale of false absences

By David Pavlacky, spatial biologist

If a bird is in a forest, but doesn't sing, is it really there? This question illustrates the problem of false absences in wildlife surveys. Zip, zilch, nil, naught; from a philosophical point of view, absence of evidence is not evidence of absence. Most wildlife surveys are samples rather than complete censuses, making it difficult to know if a species is truly absent. Modern analyses for the presence or absence of wildlife account for false absences by estimating the probability of detecting a species. That probability is influenced by species characteristics such as singing frequency, song amplitude and secretive behavior, but can also be affected by vegetation, weather and time of day. Clearly, a weak-singing bird skulking in thickets is more likely to be overlooked than a strong-singing species perching in the treetops.

RMBO's monitoring programs are successfully using detection probabilities to estimate the population size and density of many bird species. However, several species occur in too few numbers to estimate abundance. Many of these low-density birds are species of conservation concern for which monitoring is sorely needed. This is where presence-absence data comes in. We can use

the fraction of occupied sites to monitor the populations of low-density species over time. In order to achieve reliable information, we need a statistical model that adjusts the fraction of occupied sites to account for false absences. As it turns out, the standard occupancy model is not compatible with our sampling design, consistently overestimating the fraction of occupied sites. Overestimation bias is like looking at the world through rose-colored glasses, giving an overly optimistic



The Clark's Nutcracker is a species of conservation concern in the Badlands and Prairies Bird Conservation Region (BCR 17). In 2009, this species occupied only 0.3% of the sample grids. Photo by Nancy Bell.

view of the status of a population. If we use the biased estimator, occupancy is too big. If we ignore false absences, occupancy is too

small. How do we estimate occupancy just right?

Jennifer Blakesley, RMBO's biometrician, and I are collaborating on this problem with researchers from the Colorado Division of Wildlife and Colorado State University. We hit on the idea of using a recently developed multi-scale occupancy model in a brand new way. This model allows us to estimate the fraction of sites occupied while accounting for two sources of false absences. First, we estimate detection probabilities by applying a removal estimator to the minute intervals at each point. This part of the model accounts for false absences that arise when a species is present but doesn't sing. Second, we estimate availability probabilities using the fraction of occupied points. This part of the model accounts for false absences that arise when a species' territory only partially overlaps the study site. This year our monitoring programs include estimates of site occupancy for low-density species that are not too small, not too big, but just right. We anticipate that multi-scale occupancy estimation will play an important role in monitoring annual population trends for species of conservation concern.

New sampling design applied to entire BCR

For the first time, the Rocky Mountain Bird Observatory and its partners have conducted a field season of landbird monitoring across an entire Bird Conservation Region (BCR). BCRs were designed by the North American Bird Conservation Initiative and are ecologically distinct regions with similar bird communities, habitats and resource management issues. They provide a framework for bird conservation in North America. For the monitoring in the Badlands and Prairie BCR (see map), RMBO employed this recently developed sampling design, which uses spatially balanced survey locations based on BCR/state boundaries rather than sites stratified by habitat type. The design uses permanent point-count locations, which will allow us to document how bird populations are responding to habitat change. RMBO partnered with the United States Forest Service, Colorado Division of Wildlife, Montana Fish and Game and Bureau of Land Management to develop the design.

In BCR 17, RMBO conducted 2,675 point counts, more than 95 percent of the planned surveys, and detected 28,821 birds of 184 species. Among the results was the recording of 58 species of concern in the conservation region. Eleven of those species were recorded

in sufficient numbers to calculate density estimates. We generated occupancy estimates for the remaining species that occur in low densities (see article above).



One of the major benefits of the new design is that it can be applied to areas that vary tremendously in size, allowing comparisons at multiple spatial scales of bird distribution, density and population trends. RMBO Science Division Director David Hanni said his staff is working with organizations across North America to coordinate bird monitoring on several spatial levels and to share the information collected through our Avian Data Center.

David says the spatially balanced sampling design serves as a model for other long-term monitoring efforts because it can address the conservation and management needs of a wide range of stakeholders, landowners and government agencies. The design has now been adopted in Colorado, Wyoming and Montana, and in 2010 RMBO will work with the Montana Natural Heritage Program, the Wyoming Natural Diversity Database and the Idaho Bird Observatory to expand the use of the sampling design.

Grants and awards

Grant funding is critical to the work of RMBO. The following grants and awards have been received since December:

- Nebraska Environmental Trust: \$300,056 to support a full-time wildlife education coordinator who will design and deliver educational programs and outreach activities in Nebraska Panhandle communities, focusing on wildlife habitat and water conservation needs critical for long-term viability of Panhandle communities and at-risk species. Matching funds are coming from the Nebraska Game and Parks Commission, a partner for the project; Nebraska Educational Service Unit 13; and the US Forest Service.
- Nebraska Environmental Trust: \$300,000 for RMBO's Mountain Plover habitat conservation project. With matching funds from the Nebraska Game and Parks Commission, a partner for the project, RMBO will promote the recovery of Mountain Plover in Nebraska, working on habitat conservation, land stewardship, and landowner education and outreach in the Kimball Grasslands region.
- Nebraska Game and Parks Commission: \$65,000 to continue assessment of Mountain Plover chick survival and habitat use in agricultural fields in the Kimball Grasslands.
- Playa Lakes Joint Venture: \$10,421 to expand efforts to restore or enhance native wet meadow, riparian woodland and mixed-grass prairie on 350 acres in the Upper Niobrara River region in Nebraska. Partnering with RMBO for the project is the Nebraska Game and Parks Commission.

Upcoming events

Birding 101

April 22: RMBO biologists will present a primer on bird identification in a fun and interactive session that, through sight and sound, will cover the appearance, song and behavior of birds commonly found along the Front Range. You can test your new knowledge with an audience quiz at the end. American Mountaineering Center, 710 10th St., Golden, CO, 7 p.m. Admission, \$3 for members of RMBO or the Colorado Mountain Club, \$10 for non-members.

Birding 101 for families

April 24: Hundreds of species make Colorado home, and it can be difficult to tell vireos from gnatcatchers from warblers. This exciting, interactive presentation will help people recognize the birds they see through appearance, behavior and song. Programs will take place at 10 a.m. and 12 noon at the Wildlife Experience, 10035 S. Peoria, Parker, CO. Fee is \$1 in addition to the general admission fee of \$6 for kids (3-12 years old), \$10 for adults (13-64), \$9 for senior citizens.

International Migratory Bird Day

May 23: Join us for educational games and crafts to celebrate IMBD. The day will start with a bird hike at 8 a.m., and activities will take place from 9 a.m. until noon, at Chautauqua Community House, 900 Baseline Rd., Boulder. Tickets are \$5 per person and will be available through the Chautauqua Box Office or online at www.chautauqua.com when summer ticket sales begin later this spring or at the door.

Colorado Mountain Club lecture/hike class series

This year, RMBO and CMC are working in tandem to offer

a series of classes that will examine the plants and birds of three different life zones in Colorado. For each life zone, we'll present two lectures at the American Mountaineering Center, 710 10th St., Golden, CO, at 7 p.m., each complemented by a hike the following Saturday morning. For specific details and to register, go to www.rmbo.org and follow the "News and Events" link to the "Wild Plants and Birds" information. The fee for each class is \$35 for members, \$45 for non-members, with a discount for registering for multiple classes. Fee includes a pocket guide to birds and other resource materials.

May 6: Foothills Wildflowers, Trees and Shrubs lecture

May 8: Hike, Mt. Falcon Park, Morrison, CO

May 13: Foothills Birds lecture

May 15: Hike, Mt. Falcon Park, Morrison, CO

June 10: Montane Wildflowers, Trees and Shrubs lecture

June 12: Hike, Reynolds Park, Conifer, CO

June 17: Montane Birds lecture

June 19: Hike, Reynolds Park, Conifer, CO

July 8: Alpine Wildflowers, Trees and Shrubs lecture

July 10: Hike, Summit Lake

July 15: Alpine Birds lecture

July 17: Hike, Summit Lake

Drawing Workshop

May 22: Join author/illustrator Susie Mottashed at the Stone House, RMBO's headquarters at Barr Lake, for a class in field sketching, with a focus on drawing birds. Susie's workshops at our annual picnics have been hugely popular. The class will be from 9 a.m. until 3 p.m.. Class size is limited to 12 adults, so register soon by calling or e-mailing Cassy Bohnet, education assistant, at 303-659-4348, ext. 15, or cassy.bohnet@rmbo.org

RMBO Naturalist Program volunteers are eager to take wing

By Amy Rotter, education and outreach volunteer coordinator/ Americorps VISTA

The Rocky Mountain Bird Observatory Naturalist Program launched on Feb. 16 with 13 eager and enthusiastic participants taking part in the first of 13 training sessions. These sessions are designed to transform RMBO volunteers into naturalists, equipped with the knowledge, skills and experience to help lead many of our education programs.

During the six-week training, these fledgling naturalists are studying ecological concepts and effective ways to present these concepts to audiences of different ages and backgrounds. Starting at the ground level, the first few weeks of the training focused on environmental education and interpretation. The naturalists studied teaching techniques, helping them understand how to transform ecological concepts into a learning experience.

“I didn’t know I needed this stuff, but it is very helpful,” one naturalist said after the first few sessions. “Before, I thought I just needed to learn bird identification.” As the naturalists

learned about and practiced various teaching techniques, and took part in lively discussions and educational games, they got a taste of the various skills needed to lead an RMBO education program.



Naturalists in training Terry Hunter (left) and Amber Tyler work on a bird-building exercise designed to explore adaptations. Photo by Kacie Ehrenberger.

So far, the naturalists are finding the sessions both educational and entertaining. As one naturalist explained, “I really feel that, even after just a few classes, I am becoming more and more prepared to be a naturalist with RMBO. It’s great!”

The volunteer naturalists will study ornithology, habitats and communities during the remaining sessions. The naturalists will then be ready to apply the educational concepts they have learned and practice leading education programs. With this new group of trained volunteers,

RMBO will be able to reach a wider audience with educational programs that are designed to hatch an appreciation for the environment and instill a conservation ethic in both children and adults.

Simple gifts make a big difference

At RMBO, we appreciate every dollar contributed by every member, every friend, every partner and every granting agency. Your support makes our efforts to conserve birds and their habitats possible. To show our appreciation and to illustrate the difference that both small and large gifts can make, we will highlight special gifts in each issue of *The Primary Source*. In this issue, we want to share what two gifts are allowing us to do.

The first came from ECOS Communications, a Boulder company that designs interpretive and conservation exhibits and videos for museums, zoos, state parks and other clients across the country. Ecoc is guided by the mission to

raise appreciation for the natural world and to stimulate conservation action. In December, ECOS gave RMBO \$250 toward our research in the Soapstone Prairie Natural Area, just north of Fort Collins, on grassland bird reproductive success. ECOS worked on interpretive signage for Soapstone, which opened to the public in June 2009. “In the spirit of conservation,” the ECOS staff wrote, “ECOS salutes your efforts and thanks you for all the amazing work RMBO does.”

The second gift we want to highlight is \$200 from the Wings Over Carbon County Bird Club. The club is based in Saratoga, WY, on the North Platte River

just southeast of Rawlins. Saratoga is a neat area whose biodiversity makes it a good birding spot. The club made the gift in October after Seth Gallagher, director of RMBO’s Stewardship Division, made a presentation there about bird conservation on private lands. The club’s gift to the Stewardship Division is unrestricted, and can be used where it is most needed.

Make a note on your calendars that Wings Over Carbon County will host the 8th annual Platte Valley Festival of the Birds the second weekend of June, offering a variety of opportunities to see and learn about birds in riparian, woodland and wetland habitats.

RMBO's summer education programs will be better than ever

By Linda Detroy Alexander, communications specialist

In January, day campers returned to the Old Stone House with their families for a reunion. In addition to getting the kids and their parents together for a day of fun activities, we wanted feedback from the kids about what they remembered six months after their camp experience, and an evaluation from parents.

The day was a great success, with kids and parents interacting outdoors during a scavenger hunt and making bird feeders. Inside, the kids decorated their favorite bird and wrote about their favorite camp memory. This was a unique way for the education staff to get an honest appraisal of how effectively we present information and what the kids retain.

Based on this appraisal, we've improved this spring and summer's education programs. Beginning April 10, RMBO will implement monthly family programs aimed at getting children and their parents outdoors. We are working to get families better acquainted and comfortable in the outdoors, and encouraging exploration that will lead to appreciation and a sense of environmental responsibility.

Brief descriptions of spring and summer programs are provided below. For more details or to register for any of the programs, go to www.rmbo.org and choose the link for Colorado educational programs, or contact Cassy Bohnet, RMBO education assistant, at 303-659-4348, ext. 15, or cassy.bohnet@rmbo.org. Registration for family programs is required two weeks in advance. RMBO members who register their children for camp receive a 10 percent discount, and those who register for multiple family or camp programs receive a 25 percent discount. In addition to the program fee, participants must pay the park entry fee or have a state parks vehicle pass.

Family Programs:

- April 10 – HawkWatch at Dinosaur Ridge near Morrison, 9:30-11:30 a.m., \$5 per family
- May 23 – International Migratory Bird Day at Chautauqua in Boulder, family bird hike at 8 a.m., crafts and games starting at 9 a.m., \$5 per family
- June 19 – Bald Eagle Fledge Festival, Old Stone House, 9 a.m. to noon. Come celebrate Father's Day with the eagles before the eaglets take flight. \$15 per family.
- June 30 – Night Hike, Old Stone House, 7-9 p.m. We hope you'll hear our Great Horned Owls! \$6 per family
- July 10 – Celebrate Urban Birds, Old Stone House, 8 a.m.-2:30 p.m. We'll combine bird monitoring and the arts. \$15 per family.
- Aug. 11 – Night Hike, Old Stone House, 7-9 p.m. \$6 per family.
- Aug. 28 – RMBO BBQ With the Birds, 7 a.m.-2 p.m. Bird hikes and banding, crafts, games and the best barbecue around are all part of our annual picnic. Cost: TBD



Top: Testing the waters at Adams County Regional Park lets campers look for and collect bugs. The type of bugs found are a good indicator of water quality.

Middle: Barr Lake State Park's canals offer campers an opportunity to scan for waterfowl and other birds. Great Blue Herons, which nest in the trees along the canals, are frequently seen.

Bottom: Games are an important part of fun and learning at RMBO day camps. In this game, Protect the Nest, campers try to protect their nests and eggs from predators.

Summer camps:

•**Young Ecologists**, 10- to 13-year-olds, June 21-25, 8 a.m. to 3 p.m. Early drop-off and late pick-up are available. This camp explores what an ecologist does. Campers will monitor birds; hike through different habitats, including aquatic, ranch, forests and grasslands; observe wildlife and reflect on nature. \$250 per camper; scholarships available.

•**Young Naturalists**, 4- and 5-year-olds, Tuesdays, July 6-27, 9-11:30 a.m. Campers will explore nature and learn about the outdoor world around them through hikes, games, scavenger hunts, crafts and nature stories. \$8 per camper per day. Weekly topics include:

- What Lives In Your Backyard
- Colors and Textures of Nature
- Wacky Water Life
- Wild Things at Barr Lake.

Nature Investigators, 6- and 7-year-olds, Wednesdays, July 7-28, 9 a.m. to noon. In this camp, participants will have opportunities to explore the natural world around them. \$10 per camper per day.

Weekly topics include:

- Animal Clues
- Backyard Friends
- Pretty Prairie Plants
- Wild About Water

•**Habitat Explorers**, 8- to 10-year-olds, Thursdays, July 8-29, 8:30 a.m. to 3:30 p.m., early drop-off and late pick-up available. Campers will explore bugs, plants, mammals and fish. While visiting a local ranch, Barr Lake, the forest and a backyard for birds, campers can earn a full set of Taking Flight badges. \$30 per camper per day.

We look forward to a summer full of exciting experiences that campers will remember and talk about when we have our next reunion!



The Barn Owl that swooped over the heads of a group of campers last summer was one of the most-told favorite camp memories.

The Family Corner

Spring is here, so get outside and become part of the “No Child Left Inside” movement.

Now is the time for families to renew a commitment or make a new promise to get outside together often. The Rocky Mountain Bird Observatory has ongoing goals of helping get kids and adults outside and awakening an interest in nature and conservation. To give you ideas on how you can get your family outdoors, each issue of The Primary Source will now include the Family Corner, featuring ideas for activities, information about birds and birding for families, and other fun and interesting articles and stories.



After you have your materials, it's time to use your imagination! Fill half of the egg carton with the six random things from around your house and give each child his or her own egg carton. Go outside and have the children explore your yard, a park or other natural area. They should collect six more items that somehow match one or more of the random things from indoors. It's up to the kids to decide how the items match.

After providing ample time for exploring, have the kids show you what they found and ask them to explain how and why each item matches what was in the egg carton. Ask questions about what they found and about their ideas, but be sure to ask questions that don't require a simple “yes” or “no” answer.

This issue presents an easy, inexpensive exploration activity that will tap into kids' imaginations. No special tools or equipment are needed, simply collect the following from around your house:

- 1 egg carton per child
- 6 things small enough to fit in the egg carton sections (cotton balls, marbles, noodles, buttons, ribbon, dryer lint, etc.)

Have fun exploring, and be sure to take pictures! Post a note about your experience on our Facebook page, and we may feature you in one of our newsletters.

Simply go to www.rmbo.org and click on the Facebook link. We look forward to hearing what you and your children, grandchildren or young friends are doing outside.

Levad Fund fuels RMBO research

By Karen Levad, wife of Rich Levad and RMBO member

“The Coolest Bird,” a manuscript written by Rich Levad on the history of the Black Swift, contains this observation:

We see what we have learned to see, and often an image is in the mind before it is in the eye. Nestled into a dark cranny and blending with the wet rock, immobile young swifts rest silently on soft mossy cushions, unseen by predators and onlookers. Few observers have learned to identify the two small, faint, whitish ovals at the back of a shaded niche as the baby-seal face of a Black Swift nestling or to interpret a line of tiny white chevrons on a dark ledge as its wing. Only a few have figured out exactly where a Black Swift nest will be and why, so only a few see them.

In February 2008, just after Rich died from a struggle with Lou Gehrig’s disease (ALS), his memorial fund was established. Since then, I’ve been approached by a whole raft of folks eager to tell me their stories about Rich and how he had helped them to see. Perhaps it was their first encounter with a screech owl hidden in the bark of a cottonwood tree. Or a Golden Eagle perched in the distance on a parched desert hillside. Or, as shown at right, a Black Swift nesting in the dark cavern of Box Canyon near Ouray. Rich was able to anticipate, to see and then to share the marvelous world that he so enjoyed. What a gift!



As our family made plans for the memorial fund, Rich was so excited about its potential to move forward the work of RMBO, an organization that he loved being a part of. Specific projects the fund has supported are the DNA analysis of Purple Martin blood samples collected in 2006; banding Purple Martins in Colorado and Utah; monitoring data loggers in Black Swift nesting sites; the establishment, maintenance and monitoring of Long-eared Owl nest baskets on Brewster Ridge in western Colorado; and the establishment of estimates of Black Rail populations and distributions in Colorado.

Rich had an incredible compulsion to “know.” He wanted to name things. He was committed to understanding what wasn’t known about a species and then to identify methods that might provide the answers. He was not easily discouraged, saying “Negative information is information.” And he’d develop new strategies to gain new insights. Because of the Rich Levad Memorial fund, new strategies continue to be implemented, primarily in research on the Black Swift. Some of Rich’s birding co-conspirators – Kim Potter, wildlife biologist with the U.S. Forest Service; Jason Beason, RMBO’s special monitoring projects coordinator; and Carolyn Gunn, a veterinarian who volunteers many hours for Black Swift research – continue valuable research, including a geolocator project that might well lead to knowing where the Black Swifts migrate to in South America.

We need to grow the Rich Levad Memorial Fund so that his vision on behalf of ornithological research can continue at RMBO. I’m grateful for the ongoing support of RMBO Executive Director Tammy VerCauteren and the staff. Your contribution will help ensure that Rich’s vision and investigative spirit continue. He would be so pleased.

To make a gift to the Rich Levad Memorial Fund, send your check, made out to RMBO and with “Levad Fund” written on the memo line, to **RMBO, Attn: Rich Levad Memorial Fund, P.O. Box 1232, Brighton, CO 80601-1232**

Call for Levad Award nominations

The Rocky Mountain Bird Observatory is seeking nominations for its annual Rich Levad Award. The award is made in memory of Rich, who passed away in February 2008. It honors his outstanding contributions to Colorado ornithology throughout his career as a teacher and as an RMBO staff member.

The award recognizes individuals who, like Rich in his incredibly productive lifetime, have provided distinguished service to the ornithological community, made scholarly contributions to the field of ornithology and/or have enthused others about conserving birds and their habitats through sharing their personal knowledge and experience.

Award nomination forms can be found at www.rmbo.org. The deadline for submission of all nominations is June 30. This year’s award will be presented at the RMBO annual membership picnic in Brighton on Aug. 28. Nominations can be made by anyone and should highlight a nominee’s contributions to ornithology or conservation, or their success in sharing their knowledge of birds with others. Forms can be sent to Jason Beason at 39405 Lund Road, Paonia, CO, 81428, or electronically to jason.beason@rmbo.org

Rich taught English for more than 30 years at Central High School in Grand Junction and started working for RMBO after he retired from that position. He was a key player in starting RMBO’s Monitoring Colorado’s Birds program, which helped identify new breeding sites for such species as the Black Swift and Purple Martin. He also started Project Colony Watch, a volunteer-driven effort to gather data on 15 of Colorado’s colonial waterbird species. His book on the Black Swift is due to be published in the near future. Rich was the first recipient of the Levad award, receiving it in 2006 after he had been diagnosed with Amyotrophic Lateral Sclerosis (ALS), known as Lou Gehrig’s disease.

Other recipients are Nelda Gamble, former RMBO staff member, in 2007; Kim Potter, U.S. Forest Service biologist, in 2008; and Mike Carter, founder of the Rocky Mountain Bird Observatory, in 2009.



Rich Levad taking notes on Black Swift nesting sites on the west fork of Parachute Creek near Parachute, Co, east of Grand Junction. Photo by Glenn Giroir.

Staff Migrations

In...

Caleb Canton, who hails from Fremont, NE, joined RMBO in December as a farm bill wildlife biologist, and is based in Imperial, NE. Caleb received a B.S. in ecology from the University of South Dakota in 2007, and an M.S. in riparian ecology in 2009. He looks forward to working with private landowners to develop programs for the restoration, enhancement and creation of habitat for wildlife in southwestern Nebraska. His position is a partnership with the Natural Resources Conservation Service and the Nebraska Game and Parks Commission. In his spare time, Caleb is usually hunting, fishing, kayaking, birding, gardening or training bird dogs. He is pictured here with his yellow Labrador retriever, Bella.



Marty Moses joins RMBO as the Durango private lands wildlife biologist, a joint position with the Natural Resources Conservation Service (NRCS) and the Colorado Division of Wildlife. He recently completed his Master of Science degree in wildlife ecology at New Mexico State University, where he studied the ecology of Banner-tailed Kangaroo Rats in Chihuahuan Desert grasslands. Marty also holds wildlife degrees from the University of Idaho and Hocking College in Ohio. Marty has worked on all kinds of critters – from black bears to bats to butterflies – all around the country and recently was a farm bill conservation technician with the NRCS in Longmont, CO, making him well qualified for his work with RMBO. Marty and his fiancé relocated to Durango and have plans to tie the knot in May.

In Memoriam...

The entire RMBO staff mourns the passing of **Kathy Herbener**, who lost a long battle with cancer in February. She had been with us full time for only a few months, coming back to the staff in July 2009 as a playa wetlands researcher, studying playa hydrology. Kathy first came to RMBO in 2004 as an intern for the wetlands program, working with Kelly Hutton on the Colorado Playa Project. Immediately, she stood out as an outstanding intern, someone you knew you had great good fortune to work with. Kathy did a great job of calling landowners to obtain permission to collect data on their properties, a task for which she seemed particularly well-suited. She had a terrific success rate and made people feel comfortable with the prospect of letting RMBO onto their property, no small feat. Kathy collected field data, but also maintained a good balance of time at home with her daughter.

Kathy also worked with the Colorado Division of Wildlife and other organizations, so we cannot claim sole inspiration for her decision to enroll in the graduate program in ecology at Colorado State University. Capitalizing on her electrical engineering background, Kathy was a student in NSF PRIMES (Program for Interdisciplinary Mathematics, Ecology, and Statistics). She approached RMBO again and said, “I’d like to do a dissertation project that is of interest to RMBO; do you have any ideas?” We needed a new leader for RMBO’s playa research, and Kathy was already involved with playa hydrological modeling with Susan Skagen at USGS, so she was a perfect fit.



Throughout all of this, Kathy had been battling cancer. She had such a bright sunny personality that few of her colleagues knew she was sick, no less undergoing treatment. She even used the time while she was at the hospital for her weekly chemo treatments to conduct phone conferences and carry out other work, regarding that time as a convenient way to get more done. She never complained about her treatment or her illness. Truly, she regarded it as a convenient time to talk!

Here at RMBO, we appreciate having had the opportunity to work with Kathy and to enjoy her zest for life. She set an example for pursuing your dreams, loving your family and living each day to the fullest. We miss her, and will carry a piece of Kathy and her cheerful spirit with us.



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