



Otter Tracks

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Monarch Butterflies Decline

Monarch butterflies, adorned in orange and black, are favorites across North America. They summer in northern areas, including Vermont, and move south in autumn on an extraordinary odyssey that carries them, with luck, all the way to one of twelve clusters of high altitude oyamel fir trees on mountain tops west of Mexico City. There, the cool moist climate permits them to overwinter by slowing their metabolism.

Leaving their mountain refuge in early spring, monarchs head north, going through three or four generation cycles—butterfly to egg to larva (caterpillar) to pupa (chrysalis) and back to butterfly—before arriving in Vermont. The striking yellow, black and white caterpillars eat nothing but milkweed leaves, which contain bitter poisonous mustard oil glycosides. The butterflies that pupate in our northern summer fields somehow make the entire trip back to the mountains of Mexico, where each oyamel fir tree becomes covered with an orange and black garment of thousands of monarchs. Their genes carry the roadmap that leads them on their migration.

But all is not well for monarchs. Forest clearing in Mexico's mountains has reduced the acreage of oyamel firs significantly. The last few years' drought in the Southwest, a likely consequence of climate change, has sharply reduced the availability of milkweed, the monarch's sole food source. And now from the Midwest comes word of a new threat to milkweed—Roundup in agricultural fields.

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This issue of *Otter Tracks* offers three articles that provide a positive view of conservation work in protecting or restoring bird populations. Two describe recoveries of birds from the brink of extinction; the third illustrates the benefit of citizen scientists' contributions to eBird, providing an unprecedentedly broad data base in dealing with mitigation of climate change. These articles contrast sharply with the pessimistic outlook encountered so often in today's media. Committed work can make a difference, whether by conservation biologists or citizen scientists.

Our lead article describes a program that OCAS is offering that will permit volunteer citizen scientists to turn around a decline, partly of our own making, in monarch butterflies, a familiar species whose status we can no longer take for granted in our swiftly changing world. We hope you'll lend a hand.

—The Editor



OCAS Mission:

To protect birds, other wildlife and their habitats by encouraging a culture of conservation within Addison County.

OTTER CREEK AUDUBON SOCIETY

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left: Monarch caterpillar foraging on milkweed Photo by Ron Payne



middle: Monarch chrysalis about to pupate Photo by Warren King



right: Monarch butterfly just emerged from chrysalis Photo by Warren King

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To help you with membership renewal we have highlighted the due date on your label.

It's handy to renew over the phone at the National Audubon membership center:

800/274-4201

Please check the "Join Us" tab on our webpage:

ottercreekaudubon.org

We've prepared a membership FAQ, listing questions we often hear from OCAS members. If your label doesn't have an expiration date, it means we are sending it as a gift. Please check the FAQ.

The Night of the Condor

Editorial by
Warren King



VIEWPOINT

It was 1983. The two-way radio sounded in the Ventura County, CA home of Helen and Noel Snyder, whom Barry and I were visiting. Noel was the US Fish and Wildlife Service biologist in charge of restoration of the California Condor. The woman calling on the radio was an intern observing and protecting a pair of wild condors near the Forest Service's Sespe Condor Sanctuary. The condor pair, it seemed, was dysfunctional. They spent most of their day squabbling either in their nest cave on a cliff face or in the air over the cliff. This year looked to be a repeat of the previous year, when their antics dislodged the egg and it rolled out of the cave.

Condors were critically endangered and declining fast. The main threat was lead poisoning from eating carcasses with lead in them, but collisions with power lines and poaching took a toll, too. Only nine birds remained in the wild. Noel was convinced that the only hope for the condors' survival was to bring them all into captivity, where they, and another dozen already in captivity, could eat meat that was lead-free. Full captivity would also mean maximizing the size of the condor gene pool, which was already reduced to what geneticists might dismiss as no longer viable long-term. The captives' offspring could be returned to the wild in places that were relatively lead-free, places like Grand Canyon National Park, where condors had occurred as recently as 1800.

Concerned about the safety of the egg, Noel set in motion a rescue effort. We packed our gear in no time and, at 8 PM, met representatives of the Forest Service, California Fish and Game, and other interested parties at the "trailhead", a clear rocky stream.

After walking upstream (literally) at least an hour, we came to a 15-foot wide defile the stream had cut through solid rock. Noel led the way in the dark along the steep hillside away from the stream, feeling with his hands until we heard "ah ha." He had encountered the string that marked the next part of our route. After much slipping and backsliding on the loose, uphill surface, we reached the lookout post at 11 PM, where the intern was sensibly asleep.

We dumped our gear except for pruners, clippers and axes and continued to climb until we reached a ridge top, where we cut and removed every bit of brush in a square about 100 by 100 feet. The square had to be clear enough for a helicopter pilot to spot and land the next day.

Satisfied with our handiwork, and by now exhausted, the others, Barry and I unrolled our sleeping bags on a narrow ridge and very briefly enjoyed the stars and three vociferous Great Horned Owls echoing below us.

We arose with the first hint of dawn and immediately entered a nearby blind with a Forest Service biologist. The blind had a capacity of one, so parts of us hung out the back. We were a quarter-mile from the condor cave, with a good view of the action. Noel was in another blind considerably closer. At 5:30 the male condor appeared, circled overhead as big and steady in the sky as a Cessna, then dipped down and entered the cave. A minute later he exited. The female was right behind him, snapping at his tail feathers. They chased each other through the sky, returned to the cave, exited, chased, and repeated this over and over.

Eventually, Noel was convinced the egg would not get enough incubation to develop properly. He radioed the San Diego Zoo and the pilot. He then built a small fire to heat water, filled two hot water bottles and put them into a special attaché case. Waiting until the condors exited the cave, he scrambled up to it, entered, put the egg into the case, and was on his way to the newly cleared ridge top before the condors returned. The helicopter landed on the "heli-pad" as Noel came out of the bushes with his attaché case. He boarded and the chopper lifted off.

Within an hour the egg was in an incubator in the San Diego Zoo's California Condor Captive Breeding Program. It hatched successfully a month later. The chick grew up in captivity and fathered condors that have now been released in the Grand Canyon and elsewhere.

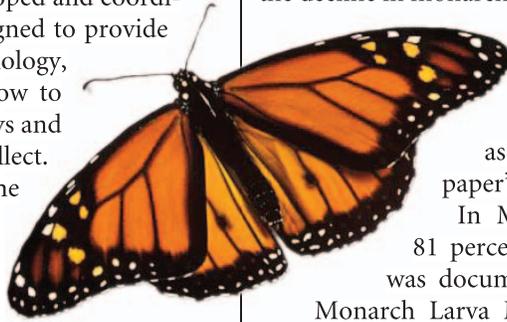
Although lead poisoning persists as a serious problem, the California Condor population now seems likely to survive. From 22 condors, all in captivity in 1987, the population has risen to its current 180 in captivity and 210 in the wild. 🐾

Monitoring Monarchs

O CAS is sponsoring a workshop to help Addison County residents monitor monarch butterfly caterpillars. Part of the Monarch Larva Monitoring Project (MLMP), it will be led by Wendy Macziewski, a MLMP staff member. The session will be Saturday, May 19th from 10-3, starting inside at the Ilsley Library and then moving outside to a local site.

MLMP is a citizen science program developed and coordinated by the University of Minnesota. Designed to provide baseline data about monarch population biology, the training program teaches volunteers how to conduct monarch larva and milkweed surveys and how to electronically enter the data they collect. Surveys happen throughout the summer; the data becomes part of the MLMP database and is available to scientists, educators and the general public.

Pre-registration for the training is helpful but not required. Call the Ilsley Library at 388-4095. Please dress appropriately for the outdoors and bring water and a bag lunch. Ticks may be present. The 5-hour workshop is free. Families welcome. The program is co-sponsored by the Ilsley Library and the Middlebury Area Land Trust. 🐾



Monarch Decline

continued from page 1

In Iowa, where 94 percent of soybean farmers and 72 percent of corn farmers grow Roundup-ready soybeans and corn, milkweed on farm fields has nearly disappeared as the result of extensive Roundup use. In the Corn Belt milkweed has declined 58 percent, mostly on agricultural lands. A 2012 paper in the peer-reviewed publication *Insect Conservation and Diversity* ties the decline in monarch numbers to the decline in milkweed habitat across the country. Loss of milkweed in farm fields is particularly significant because monarchs “lay nearly four times as many eggs on farm field plants as on those in pastures or on roadsides,” the paper’s authors said.

In Minnesota, monarch butterflies declined 81 percent between 1999 and 2010. This decline was documented by the University of Minnesota’s Monarch Larva Monitoring Project, which mobilizes an army of volunteer citizen scientists to make weekly counts of monarch eggs and pupae on plots that contain milkweed plants. This study reinforces the need for data on milkweed abundance throughout North America. On May 19th, Otter Creek Audubon is co-sponsoring a workshop that will let you join this effort. See related article at left. 🐾

eBird Data Shows Effects of Climate Change on Bird Migration

by Ron Payne

Researchers at the University of North Carolina at Chapel Hill recently released a study that used eBird data to illustrate changes in bird migration patterns in relation to climate change. By matching the geographic data from eBird on 18 eastern North American songbird species with temperature data, they were able to show that these species arrived an average of 0.8 days earlier per degree Celsius of temperature increase. And that some of these species arrived as many as six days earlier per degree.

They found that slow moving, short distance migrants like the Red-eyed Vireo were most able to adapt to rising temperatures and move in reaction to them while fast moving long distance migrants like Eastern Wood Pewee were least able to adapt to these changes. Though this ability of the slow movers to react to temperature increase may seem like a plus, their inherent heavier habitat and food requirements

make them more vulnerable to climate change induced habitat loss.

Studies like this done in the past using data from bird observatories and banding projects have had data sets much longer than the 10 years’ worth found in eBird. But by using eBird these researchers were able to greatly expand the geographic scope of their study allowing them to identify trends that would not otherwise have been apparent. For example, they found that birds that nest in the Southeast are more sensitive to temperature change than birds that nest in the Northeast. This certainly shows the real value to science of submitting your bird sightings to eBird! 🐾

The study, titled *Spatiotemporal Variation in Avian Migration Phenology*, was published in the online journal *PLoS ONE* and can be read in its entirety at www.plosone.org.

The screenshot shows the eBird website interface. At the top, there's a navigation bar with 'Home', 'About eBird', 'Submit Observations', 'View and Explore Data', and 'My eBird'. Below that is a 'Welcome to eBird' message. The main content area is titled 'eBird News and Features' and includes several news items with small images of birds. One prominent article is 'eBird Migration Forecast: 27 Apr - 3 May' with a date of 'April 23, 2012'. Another article is 'eBird Migration Report: 20 - 26 April' with a date of 'April 23, 2012'. There are also sections for 'Most Checklists Submitted for Current Month' and 'Join Us On' with social media icons for Facebook and Twitter.

The Return of the Eagle

by Mike Winslow

Bald Eagles were once nearly unheard of in the skies of our region. Now, they are following in the path of osprey populations as their numbers steadily increase. Eagle sightings in our area are most common during the winter and early spring. At that time birds from areas where the lakes and rivers have frozen congregate around open water where they can still fish. Later in the winter, birds from farther south begin their journey to northern breeding grounds and may spend some time on Lake Champlain. By the end of March, most Bald Eagles have returned to the territory they will occupy until fall migration, although unmated birds roam widely during the summer in search of food.

Bald Eagle populations reached their nadir in the 1970s. An estimated 100,000 Bald Eagles resided in the continental United States when Europeans first arrived. Though the population decreased as a result of hunting and habitat loss, the decline was most dramatic between the 1950s and the 1970s when the use of the pesticide DDT was at its highest. DDT worked its way up the food chain. In large birds it slowed calcium metabolism leading to egg shell thinning and nest failures. By the early '60s fewer than 100 Bald Eagles were nesting in the northeastern United States, and they were placed on the federal endangered species list.

The population has since rebounded. DDT was banned and captive breeding programs re-introduced eagles to many areas where populations had crashed. Today there are approximately 10,000 breeding pairs of eagles in the lower 48 states. Vermont was the last state in the contiguous 48 states to successfully produce young eagles. The first confirmed Vermont fledging occurred in 2008 in the Northeast Kingdom. Last year, ten active nests in Vermont produced 13 eaglets; four of those nests were in the Champlain Valley. On July 9, 2007 the Bald Eagle was removed from the federal endangered species list.

Bald Eagle prefer remote areas but will use habitat with an adequate supply of moderate-sized to large fish, large trees for nesting preferably less than 1/3 mile from the water and freedom from disturbance. The Vermont Bald Eagle Recovery Plan (a Department of Fish and Wildlife report, from which much of this information was gathered) has identified ten areas along Lake Champlain's Vermont shoreline that could offer suitable nesting habitat for them.

Pairs of eagles unsuccessful in nesting one year often return in subsequent years until they get it right. They usually produce two eggs per clutch, sometimes three, rarely four. The eggs are incubated for a little over a month. Young fledge in 10 to 12 weeks. Adults continue to feed

the young for quite a while after they have left the nest.

Young eagles do not sport the iconic white head and white tail of adults. Juvenile birds appear almost entirely black when perched. In flight, there is some mottled white on the wings and tail. In the second year, the birds have much more white in the body and wings and a white triangle develops between the shoulders in back. Juveniles actually have broader wings and longer tails than adults. The pure white head and tail appear in the fourth or fifth year when the birds are ready to nest. As in many raptors, females are larger than males. Northern birds also tend to be larger than birds from the south. Larger animals retain heat better than smaller animals, a fact which may explain both size discrepancies.

Recovery of the Bald Eagle offers a bright contrast with the frequent story of the destruction of ecosystems. If we address the causes of environmental decline, biological organisms and systems can sometimes recover from the devastation wreaked upon them. Nature truly is resilient. 🐾

A version of this article first appeared as part of the Lake Champlain Committee's Lake Look series. Visit lakechamplain-committee.org/learn/lake-look/ for more columns.



OCAS Calendar of Events May – July 2012

SUNDAY, MAY 13, 2012 **WARBLER WARM-UP.** Ron Payne and Warren King will lead a search for newly arrived spring migrants. Hone your birding identification skills before leaf-out. Co-sponsored with the Watershed Center. Meet at the Bristol Waterworks, Plank Road east of North Street, Bristol. Call Warren at 388-4082 if in doubt about the weather.

FRIDAY, MAY 18 THROUGH **OCAS BIRDATHON.** Our main fundraiser of the year. OCAS teams identify as many species as they can under self-imposed rules in a 24-hour period. Supporters provide contributions per species or a lump-sum amount. See insert, this issue.

SATURDAY, MAY 19 **MONARCH LARVA MONITORING PROGRAM TRAINING.** Conducted by Wendy Macziewski, MLMP, University of Minnesota. Bring a bag lunch. Co-sponsored by the Ilsley Library and MALT. Meet downstairs at Ilsley Library, 75 Main Street, Middlebury, followed by outdoor field component. Preregistration helpful – 388-4095. See article, page 3.

SATURDAY, JUNE 2 **HERP TRIP TO DRESDEN NARROWS WILDLIFE MANAGEMENT AREA,** Benson, with Jim Andrews. Meet at Middlebury Beef Convenience Store on Route 7 between Routes 116 and 125 in East Middlebury at 9 AM to arrange carpools. Return by 3 PM. Bring day pack with bag lunch, water, rain gear. Expect ticks. We'll walk three miles, mostly trailless but not dense cover or steep. If in doubt about the weather call Warren at 388-4082. See article, page 6.

SATURDAY, JULY 7 **WRIGHT PARK QUEST.** Bring the family to the Quest, a walking discovery event. Start any time between 10 and 11:15 AM. Cosponsored by MALT. In Middlebury turn onto Seymour Street Extension, north from Seymour Street just before Pulp Mill covered bridge, drive to end for park entrance and parking. Call MALT at 388-1007 for information. See article at right.

SUNDAY, SEPTEMBER 16 **HAWK WATCH AT BUCK MOUNTAIN, WALTHAM.** Hawks should be at peak numbers. Meet at 11 AM at Vergennes park and ride, junction of Routes 22A and 7, Vergennes. Joint outing with Green Mountain Audubon, led by Ron Payne, Warren King and Bruce MacPherson. Call Warren King, 388-4082, for more information or if in doubt about the weather.

MARSH, MEADOW AND GRASSLAND WILDLIFE WALKS

A monthly joint OCAS-MALT event. We invite community members to help us survey birds and other wildlife at Otter View Park and Hurd Grassland. Meet at Otter View Park parking area, Weybridge Street and Pulp Mill Bridge Road, Middlebury. Shorter and longer routes possible. For information call 388-1007 or 388-6829.

SATURDAY, MAY 12, 8 – 10 AM
Leader: Ron Payne

THURSDAY, JUNE 14, 8 – 10 AM
Leader to be announced

SATURDAY, JULY 14, 8 – 10 AM
Leader to be announced

THURSDAY, AUGUST 9, 8 – 10 AM
Leader to be announced

SATURDAY, SEPTEMBER 8, 8 – 10 AM
Leader to be announced

The Quest Walk is Back!!

By Carol Ramsayer

The Trail Around Middlebury, maintained by the Middlebury Area Land Trust (MALT), encircles the village, passing through samples of the area's forests and fields, streams and wetlands. One segment is in Wright Park, where an offshoot of the main trail can be explored by following the self-guided discovery poem known as the Quest. The Quest points out the sights and encourages exploration. At the end a surprise awaits, including a notebook to record the journey's highlights. Entries in the notebook hint at many past adventures: spotting a mink, admiring a feather, seeing the flight of an owl, enjoying the quiet. Once again, OCAS will hold a special event to spotlight the Quest walk. On Saturday, July 7th, OCAS members will be stationed along the trail, providing further insights into the park's natural treasures. Although the self-guided Quest can be followed any time during the year, this is a unique opportunity to experience the Quest with local naturalists.

Arrive any time between 10:00 and 11:15 AM. A MALT member will start you off with a copy of the Quest and a special "passport" to be stamped at each station. "Trail-appropriate snacks" will be served! Parking for Wright Park is at the end of Seymour St. Extension. Get there by going north on Seymour St. and taking the last right before the Pulp Mill Covered Bridge. The Quest is co-sponsored by OCAS and MALT. Family-friendly, but not appropriate for strollers. For more information, call 989-7115. 🐾



Bohemian Waxwings at Otter View Park Photo by Gary Starr

Herp Trip to Dresden Narrows

By Jim Andrews

On Saturday, June 2nd from 9 AM to 3 PM, OCAS is offering a trip to Dresden Narrows Wildlife Management Area in Benson. Jim Andrews, compiler of the Vermont Reptile and Amphibian Atlas, will lead the trip. The trip features possible looks at state-threatened Eastern ratsnakes and state-endangered five-lined skinks, Vermont's only lizard species, as well as a number of more frequently encountered snakes, turtles and amphibians. Dresden Narrows also has several rare plants and, of course, a variety of bird species.

We will meet at 9 AM at Middlebury Beef (the convenience store with the big Hereford on the roof) on Route 7 between Routes 125 and 116 in East Middlebury, carpooling to the site, (about 45 minutes drive south) and return by 3. The walk is fairly level and not difficult but it is off-road and is about 3 miles round-trip. Plan to bring a day pack with lunch, water, raingear, sunblock, hat and insect repellent. We can practically guarantee ticks. Be prepared to cover up, use repellent, and check yourself carefully upon return. If you have doubts about the weather, call Warren at 388-4082.



Eastern ratsnake in the southern Champlain Valley
Photo by David Fedor-Cunningham

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