

Net Results

SPECIAL IMBD
ISSUE

MAY 2002

What is the Rouge River Bird Observatory?

The Rouge River Bird Observatory, the donor-funded research and education project of the Environmental Interpretive Center at the University of Michigan-Dearborn, started operations in 1992. It was established to explore an understudied yet increasingly important area of research: the significance of urban natural areas to migrant, breeding, and resident birds. Being located at the University of Michigan-Dearborn, an isolated remnant of natural habitat in a region so closely associated with industrialization in North America, offers a unique opportunity to study the importance of urban natural areas to birds.



A handsome Golden-winged Warbler banded by RRBO.

area. The book *Birds of Southeast Michigan: Dearborn* by RRBO's Julie Craves describes the status and abundance of these species. It's available for purchase at the Environmental Interpretive Center.

RRBO's primary research focus is to better understand the importance of urban natural areas as migratory stop-over sites. Many bird species travel thousands of miles between wintering and breeding areas. Each day during migration they need to find safe habitats with abundant resources so they can stop and "refuel." For more on this aspect of our research, please see the story on page 2.

Activities of RRBO include bird banding (see below), regular bird surveys, public education, and cooperative research. Read more about these activities in the rest of the newsletter!

RRBO Marks Ten Years of Banding Birds

RRBO's bird banding program is the cornerstone of our program and our most important research tool. Birds are captured in soft mesh nets, measurements and other data are collected, a small aluminum band is placed on one leg, and the bird is released. (To see how birds are banded, please visit the interactive kiosk in the lobby of the Environmental Interpretive

Center, and play the bird banding video.)

Through fall 2001, over 17,000 birds of 117 species have been banded.

Banding teaches us many things, such as which species are found

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More about our logo on page 4

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Bird bands come in all sizes to fit different species of birds. Photo courtesy of the Bird Banding Lab.

Ten years of banding at RRBO

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in the area, when they are found, and their abundance; which species use UM-D as a stopover site, how long they stay to rest and refuel, and how much weight they gain; data that helps assess population trends, range expansions, and the timing of the annual cycle; and information on migration routes, site fidelity, and longevity.

The most commonly banded species here on campus are Gray Catbird (2149 banded), American Robin (1566), American Goldfinch (1146), White-throated Sparrow (1109), and Swainson's Thrush (1061). On the right is complete list of all the birds banded on campus through Fall 2001.



A Yellow-rumped Warbler in a mist net calmly awaits removal.

Migratory Stopover Sites: Critical Links

By Julie Craves

Bird migration is one of the most fantastic events in the natural world. Birds have developed incredible adaptations that have enabled them to adopt this unique lifestyle. Migration is also perhaps the most dangerous period during a bird's annual cycle. Each journey is perilous.

Places for birds to rest and refuel along their migration routes -- known as stopover sites -- are crucial to a successful migration. What makes birds stop at one site but fly past another? What determines how long they stay? What characteristics constitute a high-quality stopover site?

For any given site, many factors influence whether or not it is valuable as a stopover, such as habitat structure, risk of predation, or whether the site is near an ecological barrier, such as a large body of water.

How crucial is it to the survival of migrant birds to find stopover sites at particular geographical regions?

These questions are critical conservation issues. Many bird populations, particularly those of birds that migrate to the tropics, have been declining at an alarming pace.

An important stopover site will have high quality habitat that is rich in resources. In order to assess whether a site is being used as a stopover, and to determine the quality of the habitat, we can look at the variety and number of migrants using the site, how long they stay before resuming migration, and how much weight they gain during their stay.

Bird banding is perhaps the only way for us to answer these questions.

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Summary of Birds Banded by RRBO on campus 1992-2001

Sharp-shinned Hawk	10
Virginia Rail	1
Killdeer	1
American Woodcock	9
Mourning Dove	22
Black-billed Cuckoo	5
Eastern Screech-owl	5
Northern Saw-whet Owl	31
Common Nighthawk	1
Red-headed Woodpecker	1
Red-bellied Woodpecker	2
Yellow-bellied Sapsucker	2
Downy Woodpecker	120
Hairy Woodpecker	15
Yellow-shafted Flicker	75
Eastern Wood-Pewee	6
Yellow-bellied Flycatcher	32
Traill's Flycatcher	161
Least Flycatcher	107
Eastern Phoebe	11
Great Crested Flycatcher	14
Eastern Kingbird	15
White-eyed Vireo	6
Blue-headed Vireo	12
Yellow-throated Vireo	2
Warbling Vireo	59
Philadelphia Vireo	44
Red-eyed Vireo	178
Blue Jay	114
Barn Swallow	1
Black-capped Chickadee	310
Tufted Titmouse	51
Red-breasted Nuthatch	7
White-breasted Nuthatch	13
Brown Creeper	19
Carolina Wren	27
House Wren	205
Winter Wren	17
Marsh Wren	1
Golden-crowned Kinglet	153
Ruby-crowned Kinglet	228
Blue-gray Gnatcatcher	5
Veery	86
Gray-cheeked Thrush	174
Swainson's Thrush	1061
Hermit Thrush	569
Wood Thrush	128
American Robin	1568
Gray Catbird	2149
Brown Thrasher	25
Cedar Waxwing	229
European Starling	46
Blue-winged Warbler	9
Golden-winged Warbler	5
"Brewster's" Warbler	2
"Lawrence's" Warbler	1
Tennessee Warbler	150
Orange-crowned Warbler	58
Nashville Warbler	276

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Virginia's Warbler	1
Northern Parula	3
Yellow Warbler	192
Chestnut-sided Warbler	99
Magnolia Warbler	440
Cape May Warbler	12
Black-throated Blue Warbler	112
Yellow-rumped Warbler	903
Black-thr. Green Warbler	46
Blackburnian Warbler	13
Palm Warbler	166
Bay-breasted Warbler	50
Blackpoll Warbler	235
Black-and-white Warbler	91
American Redstart	287
Prothonotary Warbler	1
Ovenbird	250
Northern Waterthrush	114
Louisiana Waterthrush	1
Kentucky Warbler	1
Connecticut Warbler	21
Mourning Warbler	50
Common Yellowthroat	176
Hooded Warbler	1
Wilson's Warbler	119
Canada Warbler	75
Yellow-breasted Chat	7
Summer Tanager	1
Scarlet Tanager	13
Eastern Towhee	10
American Tree Sparrow	62
Chipping Sparrow	36
Clay-colored Sparrow	2
Field Sparrow	29
Savannah Sparrow	10
Fox Sparrow	74
Song Sparrow	748
Lincoln's Sparrow	138
Swamp Sparrow	223
White-throated Sparrow	1110
White-crowned Sparrow	289
Slate-colored Junco	417
Northern Cardinal	301
Rose-breasted Grosbeak	45
Indigo Bunting	93
Red-winged Blackbird	162
Rusty Blackbird	1
Common Grackle	105
Brown-headed Cowbird	65
Orchard Oriole	1
Baltimore Oriole	73
Purple Finch	19
House Finch	117
Common Redpoll	1
Pine Siskin	3
American Goldfinch	1181
House Sparrow	56

Total: 17,485

Stopover sites

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We can analyze birds that are recaptured one or more days after they were initially banded. We must consider many variables such as:

- ◆ How far does this species have left to travel on migration?
- ◆ How old is the bird? Young birds forage less and tend to stay longer and gain weight more slowly.
- ◆ How fat was the bird when it arrived? The leaner the bird, the more likely it is to stay.
- ◆ Is it spring or fall? Migrants utilize different resources so each season must be considered separately.

Researchers must consider each site, and often each species or age group, a bit differently. This makes research projects time-consuming and complex, and answers elusive to ferret out!

The role of RRBO

RRBO conducts its research on the campus of UM-Dearborn. As an inland location not near an ecological barrier, it may offer a less biased view of the quality of stopover habitat. For example, a fat depleted bird must take care of immediate energy requirements after a flight over the Gulf of Mexico upon first arrival on-shore, even if the habitat isn't ideal. When there is no ecological barrier, a migrant may "shop around" for the best available habitat.

RRBO has gathered detailed information on 48 species of birds, which are true migrants (not known to breed regularly in the area) utilizing the campus. Based

on banding recaptures, 3.5% of spring migrants stay an average of 3.1 days and gain 0.8% of their original body weight. In the fall, 8.0% stay an average of 5.7 days and gain 3.8% of their original body weight. These numbers seem very small, but in studies of this type, they are always conservative because birds may not be captured on the first day they arrive, or recaptured on the last day they stay, and banding tends to only capture 10% of the birds present in an area. RRBO's recapture rates are actually quite good, and comparable even to areas with ecological barriers reported in other studies.

Weight gains shown here also appear low. However, due to the "fuel efficiency" of birds, a huge weight gain is not needed for them to continue with their migration, particularly in this region. For example, energetic studies have shown that a Swainson's Thrush requires about 1.6 grams of fat to enable it to fly 6 to 8 hours overnight for a distance of about 170 miles. This translates into around 5% of its body weight, nearly exactly what Swainson's Thrushes at RRBO gain during their stay here.

Relatively few studies have been directed toward the needs of birds on migration, fewer still in inland areas, and none in urban areas, making RRBO's research unique.

Clearly, unraveling the complexities of the needs of en route migrants requires a long-term commitment to research. Only then can intelligent, informed decisions



Rouge River Bird Observatory

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About our Logo

The University of Michigan-Dearborn is located on property that was once the home of Henry Ford. Ford was not only an industrial leader, but a great nature and bird lover -- he was instrumental in convincing Congress to pass the Migratory Bird Treaty in 1913.

Throughout Ford's estate, Fair Lane, there are carvings and other representations of birds. The bird in our logo is taken from the copper ventilator covers in the powerhouse at Fair Lane. Our logo reflects the historical nature of our location.

Select RRBO literature contributions

- Craves, J.A. 1994. First state record: Virginia's Warbler *Michigan Birds & Natural History* 1(1):16-19
- 1994. Passerines with deformed bills. *North American Bird Bander* 19(1): 14-18.
- Craves, J.A. and O.G. Gelderloos. 1996. Birds of the Rouge River flood plain: Importance of an urban natural area to birds. *Michigan Birds & Natural History* 3:3-12.
- Craves, J.A. 1996. *The Birds of Southeast Michigan: Dearborn, Wayne Co.* Bloomfield Hills, MI: Cranbrook Inst. of Science.
- 1997. 13-year-old Hairy Woodpecker in Wayne Co. *Michigan Birds & Natural History* 4:152.
- 1997. Extreme leucism in a Yellow-rumped Warbler (*Dendroica coronata coronata*). *Michigan Birds & Natural History* 4:199-200.
- 1998. Wood Thrush reuses nest. *Michigan Birds & Natural History* 5:60-61.
- 1998. Swainson's Thrush caught in Enchanter's Nightshade. *Wilson Bulletin* 110:569-570.
- Keith, R. and B. and J. A. Craves. 2000. Juvenile Gray Catbird undergoes complete prebasic molt. *North American Bird Bander* 24:143-144.
- Craves, J. A. and Jeff Schultz. 2000. Northern Saw-whet Owl banding at an inland urban site: University of Michigan-Dearborn, Wayne Co. *Michigan Birds & Natural History* 7:87-92.
- 2001. Bradshaw Swales: Early Detroit ornithologist, 1875-1928. *Michigan Birds & Natural History* 8:127-131.

We need your support

The Rouge River Bird Observatory is a unique endeavor, since intense study of such a wide variety of birds is rare in an urban area. Ecological research of this nature requires a long-term commitment to data-gathering.

RRBO is supported entirely by memberships and donations. The University of Michigan-Dearborn generously provides facilities and administrative services. But all of our operating expenses come from external sources. Only with continued outside funding will the data and information we are compiling make a valuable contribution to bird conservation and ornithological research.

Yes, I/we want to support the work of the Rouge River Bird Observatory		Enclosed is my/our gift of:		
Name _____		\$25	\$100	\$150
Address _____		\$200	\$500	\$1,000
City _____ State _____ Zip _____		Other \$ _____		
Charge gift to: Visa Discover MasterCard AmEx				
Account Number: _____	Expiration Date: _____/ _____			
Signature: _____				
Make checks payable to the University of Michigan-Dearborn. If you/your spouse work(s) for a matching gift company, please include your matching gift form. FOR OFFICE USE EID _____ 303732				