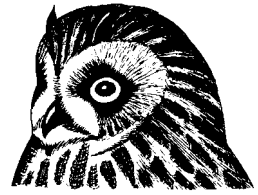


THE PRAIRIE OWL



PALOUSE AUDUBON SOCIETY

Volume 33, Issue 3, January 2005

A PIGEON IN ST. MARK'S SQUARE

I was fortunate recently to spend two weeks in Italy. Although this wasn't the first time I had visited that country it was the first time I had been to Venice. It would not be an overstatement to describe Venice as the world's most beautiful city. It is even more remarkable because it really shouldn't exist. Maybe in a few generations it will be nothing more than a legend. It is presently sinking at almost 3 inches a decade, and that combined with the damp climate, mold, and pollution are all contributing to the city's decay. Venice is, of course, a major tourist destination and in the height of summer can be cramped, hot and smelly. But in November there were more pigeons in St. Mark's Square than tourists.

The feral pigeon is widespread throughout Europe and is a familiar site in innumerable cities and towns. The immaculate rock dove is the ancestor of all feral pigeons. Rock doves nest in sheltered crannies on sea cliffs, instead of in the open like most pigeons. The relationship between pigeons and humans can be dated back to when we began to build permanent dwellings, which provided convenient nesting sites for this colorful bird. Domestication of the rock dove has been traced back to the Bronze Age in the Middle East, over six thousand years ago. During the heyday of Rome, pigeons were used as winged messengers carrying news of chariot races and battles. The Roman emperor Julius Caesar used carrier pigeons—the original airmail—to carry his dispatches from the field while conquering Gaul. The range of a carrier pigeon can be up to 1000 miles at speeds of over 60 mph with a tail wind. In the Middle Ages dovecote pigeons (an ancestor of the Eurasian rock dove) were kept throughout Europe as sources of food. Escaped homing pigeons and dovecote pigeons established themselves in the wild living on scraps of food and nesting on buildings.

The pigeons in St. Mark's Square survive on an abundant supply of seeds that they are fed (at about \$2 a bag) by tourists who happily pose for photographs with pigeons feeding from their hands or sitting on their heads. In our corner of the United States where we are fortunate to have contact with many wonderful birds and animals it is easy to forget how many people have only limited contact with

nonhuman animals and the pleasure that can be found in watching and feeding pigeons.

The other abundant bird species that I saw in Venice was the black-headed gull. This medium-sized gull winters in the coastal regions of southern Europe. In the winter a small brown smudge just behind the eye replaces the characteristic chocolate hood of the adult. The black-headed gull is easily differentiated from the somewhat similar little gull by its blood red bill and legs. Watching a flock of black-headed gulls wheeling over the Grand Canal their pale silver grey wings burnished bronze by the setting sun is a lovely way to end the day in Venice.

The Editor

Many thanks to Sarah Walker for writing the "Bird of the Month" feature on rough-legged hawks and to Kelly Cassidy for her article on the varied thrush. I thought that latent heat stuff would come in useful!

If you would like to write an article for inclusion in the *Prairie Owl*, or if you have an interesting bird story, or a field trip report please send it to me at norton@mme.wsu.edu.

Thanks!



**Pigeons and Pigeon Feeders in St. Marks
Square, Venice, Italy**

JANUARY

4 – **BOARD MEETING.** Open to all interested. Contact Charles Swift 208-883-0553 for information.

19 – **PROGRAM.** *Protection Island Experience* - Ashley Martens and Noel Palmer 7:30 PM Moscow

22 – **FIELD TRIP:** Palouse area with Charles Swift. We'll explore the Palouse north of Moscow and Pullman. Expect lots of raptors and a variety of other wintering birds. Meet at Rosauers, N. Main in Moscow at 8:00 AM. Contact Charles Swift at 208-883-0553 or charless@moscow.com for more information.

FEBRUARY

1 – **BOARD MEETING.** Open to all interested. Contact Charles Swift 208-883-0553 for information.

16 – **PROGRAM.** *Alpine Lakes Ecology* - Fred Rabe 7:30 PM Moscow

18-21 – 8th Annual Great Backyard Bird Count (details below)

19 – **FIELD TRIP:** Lewiston Valley with Terry Gray. An always popular winter trip with waterfowl, raptors and owls, wintering landbirds, and usually a few goodies. Meet at Rosauers, N. Main in Moscow at 8:00 AM. Contact Terry Gray at (208) 285-1639 for more information.

PROGRAMS

JANUARY

Protection Island National Wildlife Refuge: by Ashley Martens and Noel Palmer.

1912 Building, 3rd and Adams, Moscow, 7:30 p.m.

Join Ashley Martens and Noel Palmer on a musical and visual journey through their residency as caretakers on Protection Island National Wildlife Refuge. The refuge is located in the Strait of Juan de Fuca, off the Washington Coast, and serves as breeding grounds for over 92% of Puget Sound seabirds. Peregrine falcons, merlins, and bald eagles hunted the island regularly. Protection Island is also a seasonal home to thousands of marine mammals including harbor and elephant seals. Life on a "deserted" island was never lonely!

The program is free and open to the public.

FEBRUARY

Alpine Lakes Ecology by Fred Rabe.

1912 Building, 3rd and Adams, Moscow, 7.30PM

Dr. Fred Rabe, retired Professor of Biology from the University of Idaho, studied the ecology of high elevation alpine lakes throughout his career. Alpine lakes are complex and dynamic and an important part of the northwest's mountain ecosystems. Dr. Rabe will share his knowledge on this subject at our February meeting.

The program is free and open to the public.

8th ANNUAL GREAT BACKYARD BIRD COUNT

During the weekend of February 18 through 21, people across the North American continent are encouraged to count the birds in their backyards and report them over the Internet, as part of the Great Backyard Bird Count (GBBC), one of the world's largest volunteer efforts of its kind. In addition to its value as a research study, the GBBC allows people of all ages and backgrounds to celebrate birds and provide vital information about North America's birds.

This is the eighth year of the popular event, developed and managed by the Cornell Lab of Ornithology and the National Audubon Society, with sponsorship from Wild Birds Unlimited store owners. This year's theme, "North America's Great Backyard," was chosen as a way to celebrate the beauty of birds found across the continent. People are encouraged to enjoy the birds around them by going out into the "Great Backyard" during any or all of the count days and keeping track of the highest numbers of each bird species they see. People then report their sightings over the Internet at www.birdsource.org/gbbc

Instructions for participating can be found at www.birdsource.org/gbbc or contact the Cornell Lab of Ornithology at 800/ 843-2473 (outside the U.S., call 607/254-2473), 159 Sapsucker Woods Road, Ithaca, New York 14850, or the National Audubon Society at citizenscience@audubon.org or (215) 355-9588, Ext 16, Audubon Science Office, 545 Almshouse Road, Ivyland, PA 18974.

FROM THE PRESIDENTS

Happy New Year! We hope you had an enjoyable and restful holiday - hopefully with lots of bird at your feeders, yards, or during holiday travels!

Palouse Audubon enjoyed a successful year in 2004 and we are looking forward to more of the same in 2005. We are grateful for the support received through local memberships and generous donations as we changed to a local membership structure. This support will ensure Palouse Audubon's future success regardless of possible changes to our relationship with National Audubon.

At our November meeting we had an excellent and well-attended program on Polar Bears by Dan Poleschook and Ginger Gumm and a successful fundraiser. Thanks to all those who donated items for the silent auction including Dan and Ginger, all PAS board members, Doyle McClure and Sarah Weems, Sharon and Clare Weiser, Friends of the UI Herbarium, and First Step Internet.

First Step Internet and Bill Moore have been very supportive the past few years by hosting our web site and providing technical support. This has been an invaluable service to get our message out through this vital medium.

Thanks also go to Lindsay Oaks for a very interesting but sobering program in December on the drastic declines of some vulture species in the Asian sub-continent.

Over the past few weeks, the presidents were busy counting birds along with many other area birders. Both local Christmas Bird Counts, Moscow-Pullman on December 18 and Lewiston-Clarkston on January 2, were highly successful. Excellent count day weather combined with a mild fall, irruptions of montane species, and a dedicated corps of bird counters produced record species totals for each. Look for complete count results at www.palouseaudubon.org in the next few weeks.

We thank Idaho Fish and Game for covering count fees for our L-C Valley count. In exchange, count data will be used for their annual winter waterfow count. Thanks also to Dave Holick who has been compiling the Moscow-Pullman Count for almost 30 years!

We are planning a few field trips for the winter season and have an excellent lineup of program speakers upcoming. Look for details in the calendar above and watch for information on spring events in March - April issue of the Prairie Owl.

Good Birding! Charles Swift and Terry Grey

BIRD OF THE MONTH

Rough-legged Hawk—Visitors from the Arctic



Adult Rough-legged Hawk. - Photograph by Chris Young, Illinois Raptor Center. Used with permission.

Raptors on power poles are a common sight along Palouse roads. Most of them are usually red-tailed hawks, but during winter, some of them may be rough-legged hawks. These can be hard to identify because they're similar to red-taileds in size and color. But when they raise their wings to fly, they show prominent dark wrist patches that stand out against the silvery white area under the primaries. As a rough-legged flies away you may be able to see a pale rump patch. Both these features confirm a rough-legged. But, both red-taileds and rough-leggeds have light, and dark, morphs, and of course the (smaller) harrier has its signature white rump patch.

The head of a rough-legged hawk often will appear paler in contrast to its dark feathers. By contrast red-tailed hawks have dark heads.

Rough-legged hawks breed in the high Arctic, where they live almost exclusively on lemmings. Their name comes from their feathered legs and feet, an adaptation to life in cold climates. The rough-legged hawk has been featured in recent books published to familiarize Americans with the remote Arctic National Wildlife Refuge, which is also the summer home to gyrfalcons, golden eagles and peregrine falcons—and a disputed source of petroleum.

At summer's end, rough-leggeds leave the Arctic to fly thousands of miles south in search of a wintering area with shallow snow and plenty of mice and voles, their winter diet. They arrive on the Palouse in fall and stay until spring, when another long-distance migrant, the Swainson's hawk, migrates here from Argentina. Erik Stauber (Professor WSU College of Veterinary Medicine) has observed that almost to the day, rough-leggeds and Swainson's trade places: October 15 and April 15.

During the long nights of winter, rough-legged hawks seek the protective cover of forested areas to avoid nocturnal predators like great-horned owls. Local birder Dave Holick has observed rough-leggeds making dusk flights to, and dawn flights from, Moscow Mountain.

For a large hawk rough-leggeds have small feet. Compared to the larger-footed red-tailed, rough-leggeds are specialized to take smaller prey. The diet of red-tailed hawks isn't limited to small rodents but includes larger prey like rabbits.

Getting a look at a rough-legged hawk may not be easy this year. The recent Pullman-Moscow Christmas Bird Count recorded only eleven. In comparison, the numbers from recent years are given in the table below:

Pullman-Moscow Christmas Bird Count	# of rough-legged hawks recorded
2004	11
2003	22
2002	16
2001	59
2000	95

Why so few this year? Are there fewer mice? Did the migrating rough-leggeds find enough snow-free area to our north? No one has offered an answer yet.

Let's hope that the future holds plenty of nesting and rearing habitat for the rough-legged hawk on its summer grounds in the Arctic National Wildlife Refuge.

Sarah Walker

THE VARIED THRUSH—A PHYSICS LESSON ON SURVIVAL

A Varied Thrush has been hanging around the yard for the last week or two, and possibly has been here for at least 3 weeks. It appears to be a male. I check for him every morning and spend a few minutes watching him if I have time before I go to work. Watching birds in winter always gets me thinking about the physics of winter survival.

The Varied Thrush is almost always hanging around a small cluster of trees and tall shrubs. The cluster includes a Ponderosa Pine, several junipers, a tall, dense Mock Orange bush, a dying crabapple, several Chinese (or Siberian?) elms, and a healthy Macintosh-type apple tree. This last year was a good one for apples. The Macintosh produced a heavy crop and most of its apples are now on the ground. I've tossed branches and other debris in a few places under the trees to create brush piles.

The thrush appears to have a regular routine. When I see him, he is usually under the shadows of the trees and shrubs. He pecks away at a selected apple for five or ten minutes, spends a few minutes kicking leaves around, presumably looking for bugs, then perhaps pecks at the apple a little longer than disappears for a few minutes, presumably to digest food. If I wait, he shows up again to eat more apple, kick around a few more leaves, etc. Today, after one of his eating episodes, I saw him sitting motionless on the ground among the fallen leaves under a low-hanging juniper branch. When he's not moving, he is difficult to see in the shadows among the mix of gray, brown, and orangey leaves and red and yellow apples.

Apples seem to be the "bread" in his diet and the bugs the "butter." He bulks up on apples, searches for a few bugs for dessert, then naps. Then repeats. He conducts all these activities within an area of a few square feet. He forages mostly on the ground, but scurries under the brush piles or flies up into the junipers when something startles him.

His cozy little thrush haven has one big drawback: It's on the Palouse. So far this winter, temperatures have climbed above freezing on most days and lately, they've even been above freezing or barely below freezing at night. So, the apples next the ground, especially those with an insulating blanket of leaves around them, are unfrozen for at least part of the day.

Water has an unusually high latent heat of melting. (Remember that phrase from that high school physics class you napped through?) It takes 80 calories to convert one gram of ice at 0 °C (32 °F) to liquid water at 0 °C. It takes 1 cal/gram to raise the temperature of liquid water 1 °C. To raise the temperature of liquid water at 0 °C to thrush body temperature of approximately 40 °C thus takes about 40 calories. To raise the temperature of ice at 0 °C to thrush body temperature takes 80 cal (to melt the ice) plus 40 calories (to heat the water to body temperature), or a total of about 120 calories/gram. So, it takes about 3 times as much energy to warm ice to body temperature as cold liquid water.

I got to wondering whether the caloric value of apple tissue would be enough to pay the cost of heating the

water in the apple if the apple were frozen. I didn't do a real experiment with a real apple and a bomb calorimeter. I did a little lazy web research and a few back of the envelope calculations. According to my brief web search, a typical apple has about 116 g of water and about 8100 calories. (Note to those gasping in disbelief. The "calories" on a typical human diet chart are really kilocalories, or calories times 100. Apples are usually listed as having 80 or so "calories" which means they have about 8000 "real" calories.)

Anyway, that means that, for every piece of apple that contains a gram of water there is about 67 calories. If the apple is very, but not yet frozen, the bird will spend about 40 of the calories in the apple warming the apple bite to body temperature. He will still have a net caloric gain. In contrast, if the bird eats a bite of frozen apple, it would take 120 calories to melt the water in the apple and heat it to body temperature. That's a losing proposition; it would take nearly twice as many calories to process a frozen apple bite as the bird gets from the apple.

Now, of course, things aren't so simple. The sugar in the apple lowers the freezing temperature, so the apple will not freeze until the temperature drops a few degrees below 0 °C. Also, as the cells rupture in the apple from freezing and thawing, water leaks out. Dry conditions may also cause sublimation of water from the apple. The apples lying on the ground for a while likely have higher sugar content and lower water content than my imaginary fresh apple. Still, there has to come a temperature when the

caloric economics of eating apples, or any fruit with a substantial amount of frozen water, don't "pencil out" for the thrush.

On average, the coldest temperatures on the Palouse come during the last week of January and the first week of February. So, my thrush still has six weeks to go before temperatures turn around and begin rising again. There will be times on the Palouse when the apples on the ground will likely be frozen for days on end or the ground will be covered by too much snow for the thrush to easily clear away. The thrush will have to try to find enough seeds (which usually have little water and a high fat content) or bugs, or it might try to huddle in the junipers and tough it out on stored fat. Birds can't store much fat because of the rigid weight restrictions of flight, so my thrush probably can't live very many days without food. His last option is to move down into the warmer canyons or into the warmer part of the Basin, where he will face more competition and more predators.

What prompts him, I wonder, to pack up and move? Does he leave at the first deep snow? Does he wait until he has suffered several days without much food, at which point he will be in a poor condition to travel? There's a lot about birds we don't know.

Kel Iy Cassidy

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Palouse Audubon Society, PO Box 3606 University Station, Moscow ID 83843, is a chapter of the National Audubon Society. The mission of Audubon is to conserve and restore natural ecosystems, focusing on birds, other wildlife and their habitats for the benefit of humanity and the earth's biological diversity.

General membership meetings are held at the 1912 Building, 3rd and Adams St, Moscow ID, at 7:30 p.m. on the third Wednesday of each month, September through May. The board of directors meet at member homes at 7:30 p.m. in the first week of each month.

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