

neighborhood naturalist

Nature you can find in town and the nearby countryside

Corvallis, Oregon

Fall 2007

Killdeer

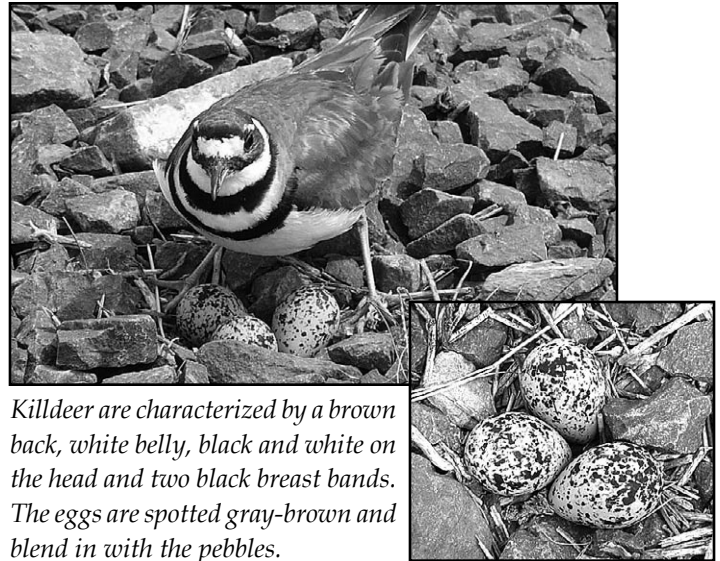
by Don Boucher

Both urban and country folks regard Killdeer as everyday birds. Indeed, they are numerous year-round residents throughout much of North America. Familiarity may lead to disinterest but it is my goal to point out that this disinterest is shortsighted. It is unfortunate that we often miss some of the most fascinating spectacles in nature simply because we have a prejudice against the familiar and expect the exotic to be more captivating. There are some interesting things about this common bird that most people don't know. In addition, some of the reasons Killdeer are common makes them stand out among other familiar birds.

Killdeer are in the family Charadriidae, commonly known as *plovers*. Plovers share general characteristics with other closely related families under the collective term *shorebirds*, or birds in the suborder Charadrii. These are small to medium-sized birds with a wide range of bill and leg lengths, but all are adapted to probing for animal food in shallow water, sand, mud or from the surface. Many shorebirds are associated with water. There are two other species of plover in the Willamette Valley: the Black-bellied Plover and the Semipalmated Plover (not to be confused with the Semipalmated Sandpiper). These two species are uncommon migrants, which pass through our area in the spring and fall.

Killdeer and other plovers are short-billed and have a characteristic running and stopping foraging method in which their prey is spotted and captured from the surface. Most shorebirds are gregarious and form large roosting or flying flocks, but not Killdeer. In the winter, I have seen fields with as many as 600 scattered individuals but this has more to do with their attraction to a food source than a desire for one another's company. Breeding pairs are territorial and readily squabble with neighboring Killdeer. After the young have fledged, the family group will stay together through part of the summer.

A Killdeer is just as likely to be found in a pristine estuary with endangered plants and animals as in the middle of an industrial wasteland deep in the interior of the con-




Killdeer are characterized by a brown back, white belly, black and white on the head and two black breast bands. The eggs are spotted gray-brown and blend in with the pebbles.

Photos by Lisa Millbank

continent. They are successful in a world where many birds are threatened. Killdeer are unique in their adaptability to habitat and in their population size. In the Willamette Valley, they are common all year and appear in high numbers in the winter. The Corvallis Christmas Bird Count covers an area within a 7.5-mile radius around the Corvallis Airport. Birders count a few thousand Killdeer each year, with 10,728 being the record. Killdeer numbers in Willamette Valley Christmas Bird Counts are some of the highest in the continent. Killdeer are by far the most common North American shorebird.

Like most shorebirds, Killdeer nest on the ground. Killdeer are monogamous and both parents look after the eggs and raise the young. Males do most of the nest brooding. The nest is nothing more than a scraped hollow, preferably in a barren gravelly area or at least sparse vegetation. The Killdeer's breeding strategy is based on cryptic eggs and that a barren gravel bed will have very little traffic from large animals (including humans) which might accidentally step on the nest. During the summer, eggs are kept from overheating by the parent brooding with moistened belly feathers. Killdeer are famous for their predator distraction display while nesting. They fake a broken wing, fan their


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Go to the website www.neighborhood-naturalist.com and listen to the sounds of Killdeer 

tail and run away from the nesting area. An astute observer might notice that they may switch the “broken” wing in mid-display but it is nevertheless effective in distracting or confusing anybody who might threaten their nest. Other plover species have similar displays. Chicks are precocial (up and running around soon after hatching) and are unspeakably cute cotton balls with oversized legs.

Killdeer are noisy and the Latin name for the species, *vociferus*, is rather apt. The English name *Killdeer* is representative of its main call. In the field guide *Birds of the Willamette Valley Region*, its voice is described: “Varied strident calls include *kill deeah*, *deee* and *dee aby*. Gives high, rapid trill when nervous”. Killdeer are internationally characterized by their voice. The Spanish name is *tildio* and in French, it’s *kildir*. The “killdeer” call is most often associated with social activity, while other calls are associated with alarm or distress. It takes little to alarm a Killdeer. They are sentinels in their own ecological communities and are often the first species to sound the alarm when a predator or threat is identified.

Killdeer are well-studied but it is interesting what is not known about them. It is not exactly known why Killdeer are often as active at night as during the day. Most terrestrial bird species are predominantly active during the day while others, such as owls or nighthawks, are active at night. Shorebirds are primarily adapted to foraging at low tide. Many shorebirds with long bills feed by touch, but plovers have large eyes to see their prey on the surface of tidal flats at night. Inland Killdeer do not follow tidal cycles but I suspect that Killdeer, being shorebirds, have an innate tendency and ability to be active either day or night.

Find the nearest field, empty lot or wetland—you probably have Killdeer in your neighborhood. Get your binoculars and spend some time watching them. They have many quirky, stylized behaviors. In the spring they are particularly active and entertaining. In winter look for them in fields with foraging blackbirds, starlings and robins. On mud flats from mid-April through mid-May or from mid-August through September, do a double take on Killdeer and you may find the occasional, similar-looking Semipalmated Plover. They are smaller with only one black breast band. 



Neighborhood Naturalist promotes interest about nature in mid-Willamette Valley backyards, neighborhoods, and countryside.

Submissions: This is a newsletter that caters to nature enthusiasts. Any article suggestion, story, poem or artwork which celebrates nature in the Willamette Valley will be considered for publication. The newsletter publishes 4 times a year around the Solstices and Equinoxes. Send your submissions two weeks in advance.

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Subscribe

4 issues per year, from \$5 to \$12 per year, sliding scale (based on income—honor system) or HOUR notes. Order on-line or make checks payable to Don Boucher.

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Suggested Field Guides

1. *Shorebirds of North America, The Photographic Guide.* By Dennis Paulson. 2005 Princeton University Press
2. *Birds of the Willamette Valley Region.* By Harry Nehls, Tom Aversa and Hal Opperman. 2004 R.W. Morse Company.

Nature on a Human Scale

Friday, October 19 at 6:15pm, First Alternative Co-op South Store Meeting Room, 1007 SE 3rd St., Corvallis

You are invited to a showing of our film, *Nature on a Human Scale*. It celebrates the surprising diversity of life found in and near Corvallis, as part of First Alternative Co-op’s Local Fest. This film features a dazzling and colorful array of more than 170 local species in a journey through the seasons.



Roosevelt Elk

by Lisa Millbank

It was mid-September at W.L. Finley National Wildlife Refuge. Don and I and our friend Stephanie spotted a distant Roosevelt Elk hurrying westward across the dry mudflats of Cabell Marsh. The huge bull turned southward and started toward us. He limped painfully, with his tongue lolling out and his nostrils flared. We wondered if he had been injured in combat with another bull, and soon the question was answered as another big bull, with a high-stepping trot and proud bearing, appeared in the distance. The first bull looked anxiously behind him and hastened on, trying to evade his rival. He was getting too close for our comfort when he finally noticed us and stopped – panting, conflicted, and hurt. He eventually turned away from us and limped away to meet his fate.

A bull Elk spends his life preparing for the dramatic events of the breeding season from September to early November. If he can dominate other bulls and attract cows, his reward is great: he may father many calves. But the stakes are high and an injured bull like this one may lose his chance to breed for another year. And although a cow's experience of the breeding season is not one of physical contests, her role is no less important. She evaluates the fitness of as many bulls as she can to choose the best mate. The breeding displays and impressive antlers of bulls are largely characteristics that evolved through thousands of generations of female sexual selection. In the Willamette Valley, we are fortunate to have Roosevelt Elk herds living nearby. It's exciting to watch the Elk during their breeding season and to get a little insight into the seasonal patterns of their lives.

To better understand the way Elk live, it's helpful to know where they've come from. The Elk of North America and eastern Asia were once thought to be a variation of the European Red Deer, *Cervus elaphus*. But DNA evidence



This magnificent bull has six tines on each of his impressive antlers, indicating he is in general good health, at least 5 years old, and eligible to breed. However, he suffered an injury in combat with another bull and may be unable to defend a harem for the rest of the breeding season.



photo by Don Boucher

suggests that the Elk, *Cervus canadensis*, is a distinct species from the Red Deer. In the Pleistocene Era, Siberian Elk crossed the Bering land bridge into North America, eventually spreading across the continent as six subspecies. Elk are survivors of the “megafauna” extinctions of North America. They were contemporaries of the mammoths, the American Lion, the giant ground sloths, and the Short-faced Bear. Like the Moose, they are a living reminder of the Ice Age; giant deer that have adapted to climatic changes and thrived.

Media images of North American Elk are almost always of the Rocky Mountain subspecies. They are the most numerous subspecies and are easy to photograph in Yellowstone and other national parks and preserves. But our subspecies, the Roosevelt Elk (*Cervus canadensis roosevelti*), is the largest of all subspecies. A mature Roosevelt bull can weigh well over half a ton. His antlers are heavier than his Rocky Mountain cousin's, though not as long, with a tendency to form a “crown” or “basket” of clustered tines at the ends. The Roosevelt Elk is also darker with a thicker mane than the Rocky Mountain Elk. Nature documentaries usually feature the Rocky Mountain Elk in subalpine forests or on snowy rangeland, but our Roosevelt Elk neighbors at Finley wade through bottomland marshes and endure endless winter rains.

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photo by Don Boucher

This cow was worried about something, and as she entered the forest she mewed loudly in distress. She didn't notice Don and me standing still until she was about 15 feet from us.

Roosevelt Elk *continued from previous page*

Roosevelt Elk prefer areas that have forest adjacent to meadows and year-round water available. In hot or cold weather they can move into the forest for protection from the weather. And the grasses that they need grow best in forest openings. An area with a cycle of natural or human disturbance may create ideal habitat for Elk. Although clearcutting forests is very detrimental to many other species, it can favor Elk by creating artificial openings in forests. At Finley NWR the mix of woodlands and grasses cultivated for migratory geese also supports Elk.



Cow patty-like droppings result from soft, juicy foods such as fruit or young grass.



Dry pellets form from tougher, fibrous food.

Grasses form the foundation of their diet, but they frequently browse, snipping branch tips, tender leaves and fruits. Elk have ridges of enamel on the grinding surfaces of some of their teeth. In harsh winter conditions they can scrape off the cambium of trees, but mild Willamette Valley winters usually offer enough fresh greens that the lowland residents don't need to resort to such famine foods. They, like other ruminants, re-chew their food by regurgitating cud. As the seasons change, the microorganisms in the Elk's four-chambered stomach and gut adapt to their changing diet. Elk droppings vary in consistency from soft patties when they are enjoying succulent new grass or fruit, but become dry pellets when they switch to tougher forage.

In order to find enough high-quality food for antler growth and fat storage, a bull may travel far each year, following new growth upslope. As soon as the old antlers are shed each winter, the new ones begin to grow, driven by testosterone. This is also the time when a bull leaves the large winter herds of both sexes and seeks food on his own or with a few other bulls. During growth, the antlers can grow an inch per day, and are covered with velvet, a layer of fuzzy skin rich in blood vessels. The rapid growth places a great demand on the bull to find plenty of mineral-rich food. If the bull is not in good condition, the antlers will

An Elk's tooth has sharp ridges of enamel to grind tough vegetation



photo by Lisa Millbank

This cow skull has been cleaned by scavengers. Coyotes carried away the mandible.

be stunted. When growth stops in July or August, the bone and velvet tissue dies. Now the bull vigorously rubs his antlers against trees, peeling away bloody strips of velvet and polishing the tines. In the ash swales at Finley NWR, prominent trees are scarred and saplings lie broken, casualties of antler rubbing. A healthy, mature bull's antlers may be 4 feet long and weigh 40 pounds. Roosevelt Elk have particularly heavy antlers that have a narrower spread than the lighter, spreading antlers of the Rocky Mountain Elk. These back-swept, crowning antlers facilitate easier movement through the dense forest our Roosevelt Elk call home.



photo by Lisa Millbank

Antler scrape on a willow. In July and August the bulls peel the velvet from their fully-grown antlers by rubbing them against trees, and continue to thrash and rub vegetation throughout the breeding season.

In contrast to the more solitary bulls, cows live together in loose herds all year, except for a two-week period when each cow leaves the herd to give birth. An older, dominant cow uses her knowledge and judgment to guide the herd's daily and seasonal activities. The summertime cow and calf herd is a noisy place with continual high-pitched squeals between the playful calves and their watchful mothers. In July, Don and I visited the ash swales along Muddy Creek

and listened to the splashing and squealing of excited calves as they waded in the creek. Herd life offers protection to the calves, because it is difficult to approach all those observant eyes, ears and noses undetected. When something startles the herd, the Elk adopt an alert posture, but they don't always run as might be expected. Especially when they have young calves who may be unable to keep up, running may be a poor strategy. Instead, they evaluate the threat. The cows will drive away or even attack a smaller predator like a coyote. When it's a more serious threat, the lead cow utters a sharp alarm bark and everyone runs. The herd reassembles after they've reached safety with contact mews and squeals. The cougar scat we found in the nearby woods justified the cows' vigilance.

When late summer arrives the bulls and cows assemble for breeding, and each bull will advertise his fitness. He proudly paces around with his polished antlers held high. He might decorate his antlers with branches and debris to make them look larger and fancier. He sprays urine on his belly and neck mane, and creates urine-soaked wallows where he digs a pit and lies in the smelly mud. Urine-spraying and digging a wallow allows a bull to impregnate his fur with pheromones from his urine, giving him a strong odor that is presumably attractive to cows. Near his wallow he thrashes small trees and shreds tree bark with his antlers to create an additional visual signal of his presence.

To me, the most wonderful and strange thing about Elk is the bull's bugle. It is difficult to describe the sound, but it is a resonant bellow that rises several octaves to a reedy, clarinet-like cry, then drops to a series of guttural grunts. The bugle is a signal that indicates dominance to other bulls and attracts cows. The high part of the bugle carries well in open country, while the low part carries through woods. Our Roosevelt Elk seem to have a deeper bugle than their Rocky Mountain cousins, reflecting their more forest-oriented lives. To hear Elk bulls bugling as you shiver in the first light of a clear fall morning is an extraordinary experience.

Violent fighting between bulls is not as common as many people assume, although fatal conflicts sometimes occur. Most of the time, bulls establish dominance by engaging in a calm, ritual sparring match where each participant can decide when he has had enough. One bull approaches another, nodding his antlers in an invitation to spar. If the other bull feels like sparring, the two carefully engage their antlers together, pushing and turning their heads. When one bull breaks eye contact and looks away, his sparring partner will stop and the contest is over.

The largest dominant bulls with the most impressive antlers can attract many cows, and are known as harem-



photo by Lisa Millbank

These shed "spikes" are from yearling bulls who are still with their mother's herd. They are from two different young bulls – one is smooth and polished, and the other is deeply ridged. Each is about 24" long.

herding bulls. A harem-herding bull eats and sleeps very little during the exhausting breeding season and may lose hundreds of pounds of the fat he stored during spring and summer. He must remain alert, chasing away rival bulls, bugling frequently, herding straying cows, and checking cows' readiness for mating. He must provide a positive social experience for the cows by keeping young bulls from harassing them, courting each one patiently, and moving with them as they find food. Despite a harem-herding bull's efforts to retain cows, there is nothing he can do to keep them if they prefer another bull. But if he is successful, he will father many of the calves born next summer.

For the Elk, it is the most dramatic time in their yearly cycle. There are a few reliable places to see them gathering for their breeding season around the Willamette Valley and beyond: William L. Finley NWR, the Walton Ranch Interpretive Trail east of Sweet Home, Jewell Meadows Wildlife Area in Tillamook State Forest, and Dean Creek Elk Viewing Area near Reedsport. Clear days and cold nights make it a wonderful time to be outside. As the golden colors of the Bigleaf Maple and Oregon Ash herald the onset of autumn, so does the bugle of the Roosevelt Elk. 🦌



photo by Don Boucher

Elk love apples and pears, and each autumn night they feast on fallen fruit. After years of picking everything within their reach, they have pruned this old apple tree into an interesting shape.

Events Calendar

Naturalist Adventure

Free (except October, \$10 fee), Monthly

Tracking - Wild Edibles - Native Plants - Birding

Each trip will focus on a seasonal topic of interest. Sometimes we may seek edible plants, find mushrooms, visit a tracking spot or watch birds. Trips will be conducted in a holistic, 'poke-around' fashion. If you want to learn about tracking, these field trips are for you. Children are welcome, but trips are not structured for small children (under 8 years, call or email with questions). Please leave dogs at home. Bring water, binoculars, rain gear, and shoes that can get muddy. Led by Don Boucher, 541-753-7689, bouchdon@peak.org

October 21 Mushroom Workshop 1-4 pm, \$10
(see opposite column)

November 18 9am-noon
Meet at Avery Park Rose Garden

December 16 9am-noon
Meet at Avery Park Rose Garden

Film: Nature on a Human Scale

At the First Alternative Co-op Local Fest

Friday, October 19 (see page 2)

It's Acorn Season

Join us for a workshop on processing acorns for food
Saturday, October 20, 1-4 pm

Avery House Nature Center, Avery Park

Acorns are edible, tasty and nutritious, and you can learn how to process this abundant food source. We'll learn how to gather and leach acorns as well as try some recipes which we will taste in class. Suitable for adults and children ages 10 and up. Please pre-register (see below).

Mushroom Workshop

Sunday, October 21, 1-4pm

Avery House Nature Center, Avery Park

Workshop at the Avery House will be followed with a trip to Woods Creek to hunt for mushrooms and observe other forest inhabitants. Please pre-register (see below).

Both workshops are \$10.

To register: Phone 541-753-9211, email ecenter@peak.org, or stop by 214 SW Monroe Avenue in downtown Corvallis www.corvallisenvironmentalcenter.org

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