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A Guide to the Natural History of the Central Platte Valley of Nebraska

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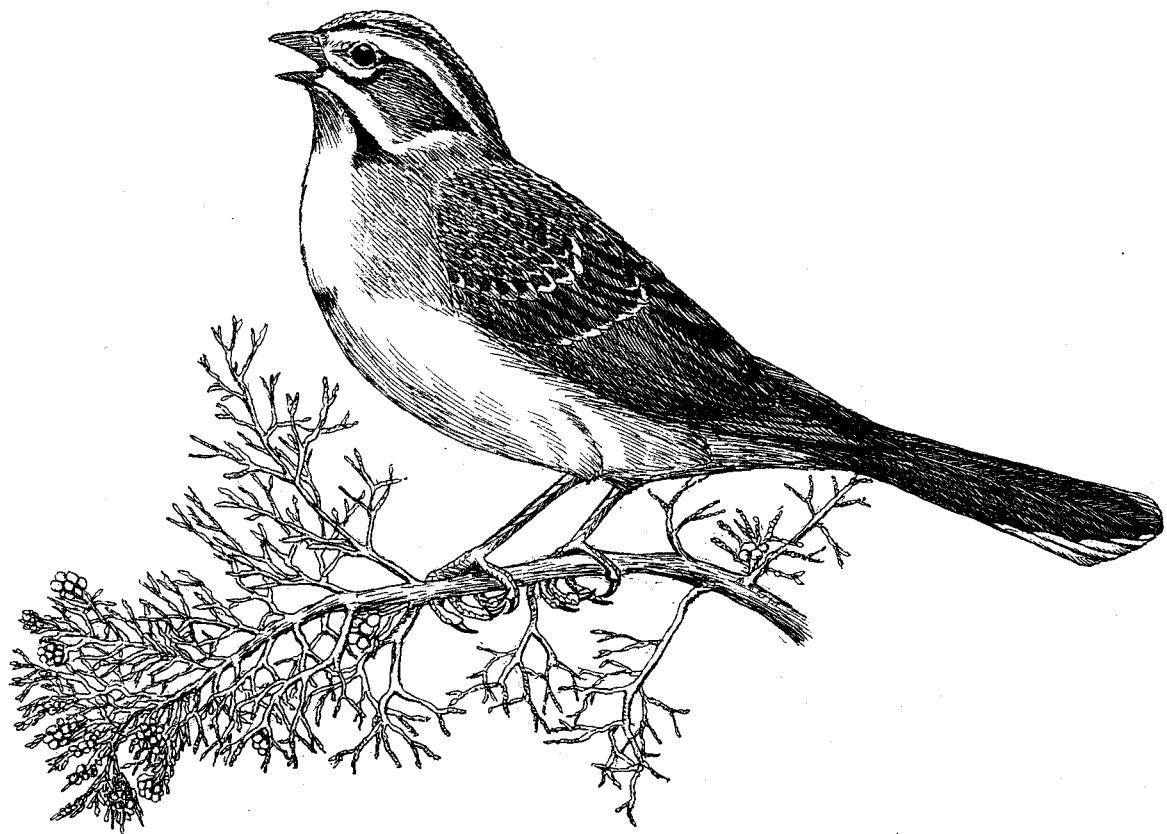
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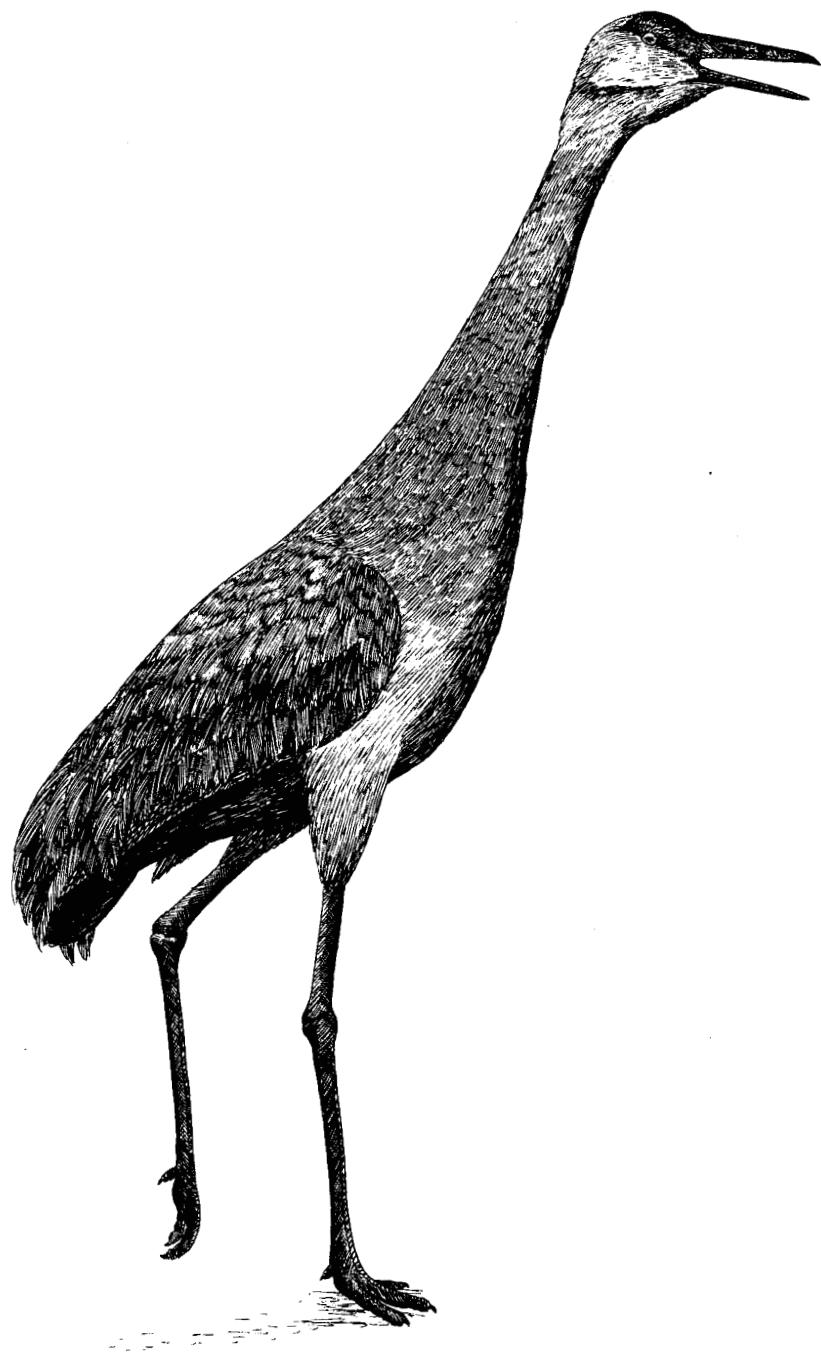
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A Guide to the Natural History of the Central Platte Valley of Nebraska



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The Platte River

In August of 2003, I drove out to Grand Island to see and photograph the then-dried Platte River. The sight of uncountable thousands of small dead minnows - their silvery bodies glistening in the sun, serried side-by-side in the dried channels like platoons of tin soldiers fallen in ranks - made a powerful impression on me, and drew home the fact that the Platte is a very fragile resource.

We know the Platte is the seasonal home to roughly a half-million sandhills cranes every spring, but sometimes we forget that in trying to save a few rare, beautiful and conspicuous animals such as cranes alive by keeping the river flowing, we are also preserving the multitude of other creatures that are the underpinnings of any river ecosystem. We are preserving, too, a central part of Nebraska's human history.

In 2004, the National Academies of Science, one of the nation's foremost scientific bodies, released a study substantiating what Platte River biologists have long been advocating - that the river is has a complex, interdependent ecology, unbounded by state borders. The Platte River ecosystem, according to the report, must be viewed as a whole, both geographically across states and biologically across species.

The Academies' report follows a 1997 three-state cooperative agreement with Colorado, Wyoming and the Department of Interior that set forth a framework for a habitat protection program for the whooping crane, piping plover and interior least tern. The agreement has brought diverse interests to the negotiating table, including state and local governments, farmers, and conservation groups like the National Wildlife Federation. In January, an environmental study by the Bureau of Reclamation and the Fish & Wildlife Service examined options for maintaining and improving habitat for these three bird species as well as an endangered fish, the pallid sturgeon.

These reports are replete with enough numbers, charts and tables to put any but the most dedicated statistician to sleep. They neither attempt to nor can take into account the immeasurable esthetic values of a living Platte River. After all, we can count the Platte's sandhill cranes, but it is harder to evaluate the unbounded joy and inner pleasure they give to the tens of thousands of people who annually travel to Nebraska to see them. We can, however, measure the vital economic benefits of these visitors bring to the increasingly distressed towns and villages of the central Platte Valley.

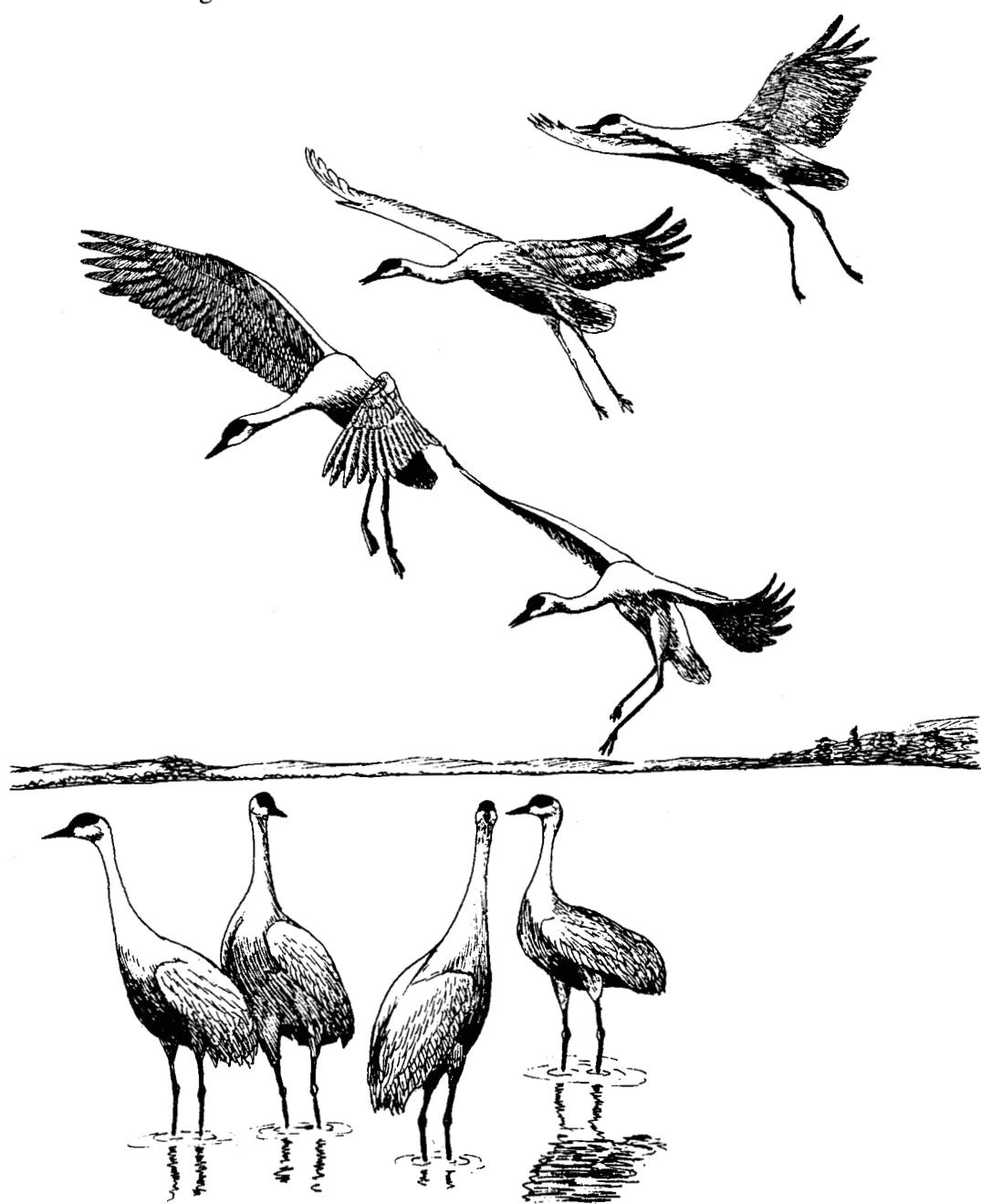
We know, too, that hundreds of piping plovers and least terns nest on the sandy shorelines and islands of the Platte — but we often forget that these same shorelines and nearby meadows were trodden by some 300,000 people on their way West between 1841 and 1866.

Their now vanished footprints and mostly obscured wagon ruts make the Platte Valley as much a spiritually significant national historic site as any highly manicured Civil War battlefield, or the now prairie-covered killing-grounds of Wounded Knee. As I wrote in an essay more than a decade ago, "There is a river in the heart of North America that annually gathers together the watery largess of melting Rocky Mountain snowfields and glaciers, and spills wildly down the eastern slopes of Colorado and Wyoming. Reaching the plains, it quickly loses its momentum and begins to spread out and flow slowly across Nebraska from west to east. As it does, it cuts a sinuous tracery through the native prairies that have been followed for millennia by both men and animals. The river is called the Platte."

That tracery is now increasingly being disrupted seasonally, replaced by dry sandy riverbeds. This wonderful river of life is becoming more often a river of death. If humans are to be distinguished at all from animals, it should be in our reputed sense of values and moral imperatives. These are times when one's faith in such human values and imperatives are being severely shaken, but we can at least try to save our most treasured state river.

If we can save the river, we will sustain my earlier description: "Migrating cranes still gather during spring in almost uncountable numbers to rest and sleep beside the peaceful sandbars of the Platte. Through the night the birds converse with the river, speaking in tongues that are both archaic and seemingly wise, and the river patiently listens. The voice of the river is even softer and possibly even older than that of the birds, and we would do well to try hear and understand its plaintive message while it is still able to speak."

This booklet has been written in the hope that visitors to the Platte Valley may gain a greater appreciation for it through learning some of its animals and plants in addition to the Platte Valley's star spring attraction, its sandhill cranes. Besides the cranes, we have a world-class migration of geese and ducks, a slightly later migration of shorebirds, including what is probably the buff-breasted sandpiper's most important spring staging area between its South American wintering grounds and its arctic breeding grounds. Nebraska also has what may be the largest surviving population of greater prairie-chickens of any state, and an even larger population of sharp-tailed grouse. It is also perhaps the easternmost portion of the Great Plains where one can reasonably expect to see such classic grassland animals as prairie dogs, pronghorns, burrowing owls, prairie falcons, golden eagles and ferruginous hawks. Just to the north of the Platte Valley is the Sandhills region, a near-wilderness of 19,000 square miles with large populations of such classic grassland birds as long-billed curlews, upland sandpipers, horned larks, and a half-dozen species of grassland sparrows. And, just to the south of the Platte Valley is a unique Rainwater Basin, with dozens of spring meltwater ponds and marshes that seasonally support a large diversity of wetland species. Few other places in North America can provide so much appeal to birders and other naturalists. I hope you will enjoy the Platte Valley as much as I have done for nearly 50 years—Paul A. Johnsgard



BIRDING NEBRASKA'S PLATTE VALLEY

General Information on Nebraska Birds and Birding

The 200-plus breeding species occurring in Nebraska were documented in my book *The Birds of the Great Plains: The Breeding Species and their Distribution*. A comprehensive book, by Roger Sharpe, W. Ross Silcock and Joel G. Jorgensen, is now available (*The Birds of Nebraska, Their Distribution and Temporal Occurrence*). A county-by-county historical summary of the breeding birds of the state may be found in James Ducey's *Nebraska Birds: Breeding Status and Distribution*.

There is now a Nebraska Birding Trails web site that lists over 400 public-access birding locations in the state, including essentially all of those listed here, plus some commercial sites as well : <http://www.nebraskabirdingtrails.com/home.asp>. It has site maps as well as local bird lists for many of these locations as well. The Nebraska Game and Parks Commission recently (2004) published a special 178-page issue of *NEBRASKAland* titled "Birding Nebraska," which details over 60 major birding sites in the state, and has a complete checklist of the state's birds. It earlier (1997) published a 96-page booklet by Joseph Krue, titled "*NEBRASKAland Magazine Wildlife Viewing Guide*, which includes descriptions of 68 wildlife viewing sites in the state. It is out of print but may sometimes be obtained from used bookstores. The Game & Parks website also has much useful information for birders; including a photo gallery of Nebraska birds: <http://www.ngpc.state.ne.us/homepage.html>. The Patuxent Wildlife Research Center has a valuable website, "Patuxent Bird Identification InfoCenter", with photos, songs, videos, maps and life history information on most North American birds: <http://www.mbr-pwrc.usgs.gov/Infocenter/infocenter.html>. A corresponding and equally useful identification guide is available through Cornell University's Laboratory of Ornithology website: <http://www.birds.cornell.edu/programs/AllAboutBirds/BirdGuide/>

Many states have raptor rehabilitation centers that try to heal and release wild hawks and owls that have met with accidents or been shot by thoughtless gun-owners. In Nebraska the Wachiska chapter of the National Audubon Society in Lincoln is the state headquarters of these important activities, and volunteers are always welcome (4547 Calvert St Suite 10, Lincoln 68506, ph. 402/486-4846). The Wachiska chapter also organizes birding outings, Christmas Bird Counts, rare bird alerts, bird-identification classes, prairie preservation and appreciation activities, and related conservation programs. In Omaha similar activities are performed by the Audubon Society of Omaha, (Center Mall, 1941 S. 42nd St #501, Omaha 68105, ph. 402/342-1345), and in Kearney the Big Bend chapter (P.O. Box 1575, Kearney 68848) helps organize the annual spring river conference each March. There is also a Wildcat Audubon chapter in Scottsbluff, a Loess Hills chapter in Sioux City (P.O. Box 5133, Sioux City 51102), and developing chapters in Grand Island and the Valentine/Ainsworth area. Phone numbers or contact people for these smaller groups can be obtained from the state office: Audubon Nebraska, P.O. Box 117, Denton, Ne (402/793-2301).

The Audubon Society also sponsors the annual Rivers & Wildlife Conference during mid-March in Kearney. Other popular spring bird-related activities occurring during the same month are the Wing Ding celebration at Clay Center in early March, celebrating the waterfowl migration in the Rainwater Basin, and the Wings over the Platte activities in Grand Island during the latter part of March. Establishing and patrolling bluebird nestbox trails has had a major effect on restoring the eastern bluebird as a breeding species in Nebraska, and has also similarly benefited tree swallows. The organization Bluebirds Across Nebraska is the sponsor of this program throughout the state, and in Lincoln it is coordinated through the local chapter of the Audubon Society (see address above).

Birding Information Sources in Nebraska

Sets of individual county road maps (scale 1" or 1/4" per mile) are available from the Nebraska Roads Department (1500 Highway N-2, Lincoln 68509; 402/471-4567) are also extremely useful when exploring back-country areas. An atlas of 79 topographic maps of the entire state (scale 1:200,000, or ca. 1/3" per mile) is available for \$16.95 in the *Nebraska Atlas and Gazetteer*, published by DeLorme, PO Box 298, Freeport, ME 04032 (207/865-4171). This atlas also shows state parks and recreation areas, national lands, campgrounds, wildlife viewing areas, fishing, hiking and other attractions. A similar atlas having maps (scale 1/4" per mile) of all of Nebraska's 93 counties, with descriptions of hunting, fishing, camping and related outdoor attractions is the *Nebraska Sportsman's Atlas*, available for \$18.75 from Sportsman's Atlas Company, PO Box 132, Lytton, Iowa 5056 (800/568-8334). The DeLorme atlas is especially good for information on elevations, river drainages and forested areas, as well as for latitudinal/longitudinal information; the Sportsman's maps (based on state Roads Department maps) are better for obtaining road and recreational site information. *Topozone.com* is also an excellent tool for on-line map searches.

Nebraska's rivers are publicly owned, but the adjoining shorelines are usually in private ownership. Birding from a canoe is possible on several rivers (Niobrara, Dismal, Calamus, Missouri, Platte, Republican), but access points are often limited. The longest stretch of river ideal for canoe-based birding is the 76-mile section of the Niobrara designated as a National Scenic River. The Dismal and Calamus also offer good canoeing but have limited access points. Some refuge lakes at Valentine National Wildlife Refuge also offer wonderful birding opportunities from a canoe. Those at Crescent Lake N.W.R. are closed to such activities.

The Nebraska Division of Travel and Tourism (301 Centennial Mall S., Lincoln, NE 68509) can provide free information on general tourist attractions (phone 402/471-3441 or 800/742-7595; from out of state call 800/228-4307. Their website is www.visitnebraska.org, and their email address is tourism@ded2.ded.state.ne.us. Tourism information and free state highway maps are also available at most Interstate rest areas. Road information can be obtained in-state by calling 800/906-9069; if out-of-state call 402/471-4533. Their materials list all tourist accommodations in the state; where tourist accommodations are mentioned in this summary as available, they refer to hotels or motels, not campgrounds. The emergency highway help line is 800/525-5555. State recreation areas usually offer more highly developed recreational facilities and modern camping. Annual park entry permits or more information can be obtained from the Parks Division, Game and Parks Commission , PO Box 30370, Lincoln, NE 68503, (800/826-PARK). District offices are also located in Alliance (308/762-5605), Bassett (402/684-2921), Norfolk (402/370-3374) and North Platte (308-535-8025). The Nebraska Game and Parks Commission's "Land Atlas" is a web-based map of areas owned or leased by the Commission in each Nebraska county and that are available for public access and recreational use. Their website also has some very useful information for birders and links to other websites; <http://www.ngpc.state.ne.us/homepage.html>. The Patuxent Wildlife Research Center has also a valuable website: <http://www.pwrc.usgs.gov.html>. The Patuxent Bird Identification InfoCenter has photos, songs, videos, maps and life history information on most North American birds: <http://www.mbr-pwrc.usgs.gov/id/framlst/infocenter.html>

Rare birds seen in Nebraska should be described and reported to the Nebraska Ornithologists' Union (NOU) for documentation in their quarterly journal *Nebraska Bird Review*.. The NOU also publishes periodic newsletters for members. It has spring and fall meetings, usually in September and May, at locations favorable for seasonal birding. The NOU website (address: <http://rip.physics.unk.edu/NOU/>) has a great deal of useful bird information. NEBIRDS is a list-serve for reporting recent Nebraska bird sightings and sharing bird information. It is accessible by free subscription by going to the following website: <http://groups.yahoo.com/group/NEBirds/>.

Click on the link labeled "Join This Group", and provide the requested information. You will have to become a Yahoo member before you can join any group. When you fill out the Yahoo membership information uncheck the boxes relating to receiving information from Yahoo if you want to avoid spam from Yahoo advertisers. Up-to-date information on the sightings of unusual

birds in Nebraska (and other states or regions) is also available on the Internet via the general birding website www.birdingonthe.net/.

Most federally-owned areas in Nebraska consist of national historic sites, national wildlife refuges and national monuments. Federally owned areas also include waterfowl production areas (WPAs). State owned sites include state parks, state recreation areas (SRAs), and wildlife management areas (WMAs). There are now about 240 wildlife management areas, totaling 147,000 acres, and eight state parks totaling 3,500 acres. There are also about 101,000 acres of water-based state recreation areas, nearly all reservoirs. Typically no permit is needed to enter WPAs or WMAs, but annual (or daily) state park entry permits are needed for SRAs and all state parks and state historical parks. One regional national wildlife refuge (DeSoto) also now charges a daily entry fee (\$3.00). All state wildlife management areas offer free, unrestricted birding or other nature study opportunities. They usually provide only primitive camping facilities, and most are open to seasonal hunting and fishing.

The Nebraska Tourism Department has divided the state into several regional tourism-based units (Panhandle, North-central or Sandhills Region, Northeast or Lewis & Clark Region, Southwest or Prairie Lakes Region, South-central or Frontier Trails Region, Southeast or Pioneer Country Region, and Metro Region).. Their web-based information (<http://www.visitnebraska.org/>) is useful for finding sleeping, eating facilities and recreational activities around the state.

Birdwatching Through the Year in Nebraska

Persons living in Nebraska often feel that they are living in a cultural wasteland. Yet many are unaware that they are actually residing in one of the prime locations in the entire world for observing and enjoying some of the most aesthetically appealing of all the world's biological attractions. The spring congregations of cranes and waterfowl along the Platte Valley have been ranked by Roger Pasquier (writing in *Forbes Magazine*, 1997) as the greatest bird spectacle on earth.

It has been estimated that bird-watching activities in the U.S.A. increased 155 percent during the 1990's, or at a more rapid rate than all other outdoor sports including walking, skiing and hiking, whereas fishing, hunting and tennis have all actually declined in popularity. Throughout America some 24.7 million people reported in 1991 that they had traveled to watch birds, spending an estimated 5.2 billion dollars annually in their activities. Only a decade later (2001), 46 million birdwatchers spent some \$32 billion. At least 63 million people in the U.S.A. feed or watch birds at home.

Nationally, nature-related tourism has been growing recently at a rate of 30% annually, with 76.5 million Americans now viewing wildlife of some type. By comparison, there are 35.6 million American anglers and 14.1 million hunters. In the early 2000's, nature tourism and recreation annually generated over \$20 billion in economic activity and resulted in 234,000 jobs. In Nebraska an estimated 23.1 million dollars per year were being spent in the late 1990's on non-consumptive bird-related activities, and about 800 people have related jobs (*Bird Conservation* , spring, 1997, pp. 6-8).

Every month of the year has its own bird-related attractions in Nebraska, as the following monthly breakdown will suggest.

January

January in Nebraska is our coldest and dreariest month, and a good time for feeding birds and enjoying them through the windows. White-throated and white-crowned sparrows are welcome visitors to feeders now, as are American goldfinches and other typical finches, such as purple finches (rarely) and (increasingly) house finches. Dark-eyed juncos and eastern or spotted towhees scratch industriously in the snow for food, and in the countryside species such as horned larks, American tree sparrows, Harris' sparrows, and sometimes Lapland longspurs gather in open fields to search for seeds. During some years red-breasted nuthatches appear at suet feeders to join wintering downy, hairy, and even less often red crossbills and evening grosbeaks make their appearances, especially in western parts of the state. In the panhandle and Pine Ridge other winter

visitors might include Steller's jays, Bohemian waxwings, Clark's nutcrackers, mountain chickadees, Cassin's finches and gray-crowned rosy finches.

Northern cardinals now begin to sense the lengthening days, and by mid-January a few males may begin to sing, to be joined later in the month by European starlings and sometimes a few precocial house finches.

For the adventurous birders, this month offers the temptation to drive to Kingsley Dam near Ogallala for the annual spectacle of several hundred bald eagles that annually gather there, and the chance to see some rare waterfowl, loons or gulls as well. This is the best time for seeing rough-legged hawks and other uncommon to rare northern visitors, such as snowy owls.

February

By February the days are perceptibly lengthening, and the end of winter seems almost in sight. Winter birds still gather at feeders, but American crows are on the move northward, as are vanguard individuals of American robins, red-winged blackbirds, and bluebirds.

By shortly after Valentine's day the first sandhill cranes can be expected to arrive on the Platte river, at least if it has become ice-free. They usually arrive on a south wind and with clearing skies, probably having flown from their wintering areas in Texas and New Mexico in a single day. Common mergansers begin to appear on the Platte too, as well as on larger reservoirs. Almost simultaneously common goldeneyes start to appear in these same locations.

As lakes and reservoirs slowly become ice-free bald eagles appear throughout the state's waterways. They feast on winter-killed fish that become available, often perching on ice blocks or on trees along the shoreline. Harlan County reservoir and Sutherland reservoir in south-central Nebraska. are good places to look for eagles, as well as Lake McConaughy in Keith County and larger eastern reservoirs, such as Lewis and Clark Lake, Branched Oak Lake, and Cunningham Lake. DeSoto National Wildlife Refuge often has good numbers of bald eagles in February, and its visitor center allows for easy and comfortable eagle-watching, as does the J-2 powerplant near Lexington.

Great horned owls begin nesting in February, and should not be disturbed by playback of owl calls from this point onward through their nesting period.

March

March is perhaps the most exciting month of the year for Nebraska's birders. By the first week or two hundreds of thousands if not millions of geese (snow, Ross', cackling, Canada, and greater white-fronted) will have arrived in the eastern Rainwater Basin of southeastern Nebraska (centering on Clay County), and on a few basins farther west, such as Funk Lagoon. Unbelievable hordes of geese, as well as early duck migrants such as northern pintails and mallards crowd these marshes and the skies above, performing dizzying courtship flights and endless feeding flights to nearby fields for foraging. These great flocks of waterfowl usually peak by the middle of March.

During March the sandhill cranes begin to build up to a peak of about a half million birds in the central Platte Valley, spending the daylight hours feeding in cornfields and wet meadows, and roosting in shallow water around sandbars and islands in the wider portions of the river. Flights to and from their roosts occur at about sunset and sunrise, although cloudy skies may cause earlier evening flights and later morning departures, just as clear skies and a full moon may allow the birds to remain in fields for a longer period.

Mid-March is the target date for the Audubon Society's annual Rivers and Wildlife Conference at Kearney, and the similar Wings over the Platte celebration at Grand Island, drawing birders from around the country and the world. Finding space in one of the several crane observing blinds is difficult then, but crane viewing from the road or from viewing platforms near Alda and Gibbon, and a hike-bike bridge near Fort Kearney are all options for the less lucky individuals. All of these experiences are memorable, but watching cranes land nearby at a blind near an evening roost, or seeing them depart at sunrise, provides a thrill unmatched anywhere in the world.

As March draws toward a close the second wave of duck migrants arrive, including American wigeon, gadwall, wood ducks, green-winged teal, redhead, canvasback, ring-necked duck, bufflehead, and hooded merganser. The final wave, with blue-winged teals, northern shovanders, ruddy duck, and perhaps cinnamon teal, complete the roster. Other water birds also arrive in March,

including American coot, pied-billed and eared grebes, and western grebes, plus American white pelicans and double-crested cormorants.

The resident red-tailed hawk population is now supplemented by migrant red-tails as the rough-legged hawks begin to head north, and northern harriers (males first) begin to appear in the state. This is a good time to watch male harriers perform their circular territorial display flights (from which their generic name *Circus* derives), and to start looking for nest-building behavior in red-tails. Ospreys begin to funnel through the state in locations where bald eagles have been prevalent, and prairie grouse (sharp-tailed grouse and greater prairie-chickens) begin to assemble at their traditional display grounds, or leks.

April

The first half of April marks the mass departure of sandhill cranes from the Platte Valley, the arrival of whooping cranes, and the peak of mating activities by the prairie grouse. Seeing the great flocks of sandhill cranes rise up from the river one clear morning, circling while calling excitedly, gradually gaining altitude, and finally disappearing from view even though their great trumpeting voices still drift down like a vast but unseen angelic chorus, is an experience of a lifetime.

Whooping cranes drift into the state in small family groups or flocks of up to about ten in size, stopping in the Platte Valley or in other wetland areas such as rivers in the Nebraska Sandhills or the Niobrara Valley. Rarely they may feed in the company of sandhill cranes, or roost among them at night.

The second week of April (often the third week in northern portions of Nebraska) is the best period for seeing prairie grouse display, for during this rather short time the majority of females visit the leks for mating. This sets off a frenzy of display activity and fighting among the males, to determine which will gain the opportunity to fertilize the suddenly available females. Somehow the females can determine the identity of the most virile and dominant male of each lek, and seek out this individual for their mating. Their leks are usually in areas of native grassland that are well away from tall trees, and often on shortgrass-covered hilltops. Locations of some of these leks, such as at Halsey National Forest, Crescent Lake National Wildlife Refuge, and Burchard Lake State Recreation area, are excellent sites for watching these activities.

The second half of April usually coincides with the peak of shorebird migration in Nebraska, as well as the arrival of the first insectivorous songbirds, such as the swallows, vireos, and warblers. This is an exciting period, as waves of plovers and sandpipers arrive at wetlands, and the skies overhead become clotted with Franklin's gulls, swallows of several species, and the blooming wild plums begin to reverberate with the songs of house wrens, rose-breasted grosbeaks, brown thrashers, and early-arriving warblers such as yellow-rumps.

May

May is simply magical in Nebraska. During the first two weeks of this month the peak of songbird migration occurs, with gorgeously plumaged warblers and plainer sparrows of infinite variety frustrating the observer by quickly scurrying about among tree canopies or skulking in the grass. Often one beautiful species will be present in a wooded habitats or prairie on one day, only to be replaced on the next day with a new and equally interesting one. Butterflies and early spring flowers begin to appear, and persons tending their bluebird nestboxes can expect to peer in one day and see the female huddled down on a brood of squirming youngsters. Broods of Canada geese start to materialize on farm ponds and in city park lagoons, and in city backyards house wrens are simultaneously singing and feeding new broods.

Early May marks the International Migratory Bird Day and the time of the annual Audubon Birdathon in Nebraska. Then participating birders may compete to try produce the largest single-day bird list possible, with donors providing challenges by donating moneys to the local Audubon chapters. These funds aid prairie preservation and the purchase of instructional materials dealing with nature for distribution to grade schools.

June

June is the perfect time to be in the field in Nebraska; the long days allow for after-work birding, and this too is the month when Breeding Bird Surveys need to be carried out. People

monitoring bluebird trails are busy then too; first or even second broods of bluebirds and tree swallows are likely to be out, and boxes need to be patrolled to try prevent depredations by raccoons or invading house wrens or house sparrows.

By the first of June the most tardy of the spring migrants, the common nighthawk and the black-billed and yellow-billed cuckoos, will have arrived in Nebraska, and the last arctic-breeding shorebirds should have departed. (By the end of June the appearance of any such arctic shorebirds in the state may actually represent early fall migrants, namely those individuals that were unsuccessful breeders and are already heading back south.) Summer evenings will be enriched by the distinctive territorial calls of nighthawks, chuck-will-widows, whip-poor-wills, and (in western Nebraska) poor-wills. The cuckoos (often called "rain crows" in Nebraska) may call from their hidden locations as evening twilight or afternoon thunderstorms approach. Generally, however, singing by birds diminishes in June, as the birds become preoccupied with nesting, and only such multiple-nesting species as house wrens, or those males that lost their initial mates and must quickly acquire new ones, are likely to be singing at full strength.

July

July is too hot for most outside activities in Nebraska, and birding activities are best confined to early morning walks, when a few die-hard songsters such as house finches may still be active. Second broods of many species will now be appearing, and early fall migrants such as long-billed curlews and cliff swallows will be starting to gather for migration. It amazing that the young of birds such as these can be ready to undertake flights of up to several thousand miles only a few weeks after hatching in the case of the swallows. Some multiple-brooding birds such as mourning doves and barn swallows will still be industriously fledgling early broods and starting new ones soon thereafter, producing four or perhaps even five broods in a single season before running out of time. On the other hand trumpeter swan cygnets being reared in Sandhills marshes will only be about half-grown by July, and the approximate 100-day fledging period will require most of the summer before the cygnets are able to take their first flights.

By early July the brown-headed cowbird females, who may have already laid 40 or more eggs in the nests of unlucky hosts, will finally have become too exhausted for further laying. Thus, late-nesting sparrows and warblers may be spared the fate of having to raise a cowbird chick with their own young, which often results in the starvation of the host's chicks as a result of the cowbird's gluttonous appetite.

August

With the arrival of August the first sense that summer is almost over begins to take hold; the cooler mornings and the gathering flocks of swallows along telephone lines provides an early warning system that the good times are nearly over. This is a period when arctic-nesting shorebirds begin to filter into wetlands having muddy and sandy shorelines, and a chance for the birder to test his or her skills at identifying the maddeningly similar immature and fall-plumaged "peep" sandpipers, or the equally frustrating "confusing fall warblers." This is a perfect time for 10-power binoculars or spotting scopes and tripods, with their magnifications set at maximum power, and all the available field guides close at hand.

September

The blue skies of September bring not only occasional cumulus clouds to Nebraska, but also clouds of early fall migrant "blackbirds" (red-winged blackbirds ad well as grackles, cowbirds, and starlings). As the trees begin to turn color the first frosts send insect-eaters such as warblers and vireos scurrying southward, and set the stage for the great migrations of the larger birds. Migratory hawk species, such as Swainson's hawks, some non-residential red-tailed hawks, as well as Mississippi kites and turkey vultures begin to assemble and ghost southwardly. A keen observer may scan the sky with binoculars for skeins of geese or ducks, or perhaps may train a spotting scope on the face of a full moon some evening, and see fleeting silhouettes of distant birds crossing in front of it.

This is a good time to wander aimlessly through the woods; mosquitoes and chiggers are no longer a problem, and the dying leaves begin to allow a better look into the upper levels of the forest

canopy. Escaping into the country also permits one to avoid the screaming hordes of football fans that are attracted to stadiums like ants to honey, mostly wholly unaware that the greatest visual spectacle on earth is passing by overhead.

October

October is the most colorful month of the year in Nebraska; the peak of fall color occurs about the middle of the month, and many wonderful birds are moving through the state's wooded habitats at the same time. Not long ago the peak of the arctic goose migration occurred in October, as several million snow geese would funnel down the Missouri Valley, and Canada and greater white-fronted geese would appear in the central and western parts of the state. Recently, however, the fall migrations of these geese have peaked later, often during the first week of November, perhaps as a reflection of global warming trends.

Nevertheless, October brings with it a major movement of larger migrants, from hawks to the early duck migrants such as blue-winged teal and shovellers, and many of the more tardy shorebirds. Sandhill cranes begin to appear in marshes of the Nebraska Sandhills. Few of them use the Platte Valley, since intensive waterfowl hunting activities there make the area unsafe for cranes.

November

During November the birding season comes almost to a close; a few northern shrikes and rough-legged hawks are now arriving, and migratory sparrows such as American tree sparrows and Harris' sparrows start to materialize in shrubbery and thickets. Eagles start to invade the state in good numbers, tagging along with the flocks of ducks and geese, and occasionally snagging a sick or wounded one. On clear and calm evenings great flocks of geese can be heard overhead bound for unknown destinations using clues that we can only try to imagine.

Owls begin to set up their breeding territories now. Hardy birders will find that this is a good time for playing recordings of various owls after dark, then listening for responses. Barred owls respond especially well, often flying into a tree directly above the tape recorder.

December

December is in many ways the cruellest month; the days are so short that there is little time after work to go afield, and few birds to see when one does so. Yet it is a month for planning a Christmas Bird Count with close friends, and perhaps making out a Christmas list of bird-related gifts to present to friends and family, or perhaps hope to receive from them. The Christmas Bird Count, sponsored by the National Audubon Society, is the last organized birding activity of the year in Nebraska. Counts typically occur at about 10-12 sites, usually including Beaver Valley, Branched Oak-Seward, Calamus-Loup, Crawford, DeSoto N.W.R., Grand Island, Lake McConaughy, Lincoln, Norfolk, Omaha, and Scottsbluff.

December is also the time to make out summaries of yearly bird lists, at least for people who keep such lists, and a time to start planning bird-watching trips for the following year. It is also not a bad time to consider a trip to Florida, southern Texas or even the tropics of Costa Rica, for a chance to get a flavor of how rich the bird life can be in places such as these. It is a time to look back on all the wonderful experiences of the previous year, such as that stunning scarlet tanager singing in the treetops, the spine-chilling sounds of sandhill cranes approaching their roosts, or a ruby-throated hummingbird that danced momentarily in the sunlight like a tiny sprite before it disappeared in the twinkling of an eye.

Spring Birding in the Platte Valley

The Platte Valley and nearby Rainwater Basin (here defined as including 11 counties, from Keith County on the west to Clay and Hamilton counties on the east) provides some of the best spring birding opportunities in all of North America. For most of March about seven million waterfowl and nearly half a million sandhill cranes pour into the region, remaining until late March in the case of the waterfowl and about the second week of April in the case of the sandhill cranes.

As the last sandhill cranes are leaving, whooping cranes begin to arrive, as do the earlier shorebirds, continuing the amazing spring spectacle until about the end of April.

Birding in the central Platte Valley during March is a chancy affair in terms of weather; late winter snowstorms may blanket the entire area in a foot of snow, which when melting leaves country roads slippery at best, and thus driving requires a good deal of care. This is especially true in the Rainwater Basin, an area of clay soils that prevent water from percolating down, and thus is rich in temporary wetlands (locally called "lagoons") just at the peak of spring waterfowl populations. This is only true during years when winter snowfalls or spring rains allow the basins to fill; in drier years only the deepest lagoons or those that are kept wet by pumping (Harvard, Massie's, Smith, etc.) can accommodate the hordes of ducks and geese passing through. During such years the stresses caused by bad weather and overcrowding can set off outbreaks of fowl cholera, and kill tens of thousands of birds in only a short time. Some of these birds are consumed by wintering bald eagles, hundreds of which occur along ice-free areas of the Platte from late fall until early spring. A good viewing area for these birds is at the J-2 Hydro Plant near Lexington. This area is open to the public on Saturdays and Sundays from 8 a.m. to 2 p.m. with weekday reservations possible for groups (call 308/995-8601 for information).

The best way to watch cranes during the day is observing them field-feeding from a parked car, with observers remaining quiet and inside the car. Opening a door and leaving the car will guarantee a rapid departure of the birds. Gravel roads on the south side of the Platte River are usually better than those on the north side of Interstate 80. The most rewarding way to watch cranes is from riverside blinds near roosting locations (see accompanying maps). Such blinds are maintained by the Whooping Crane Trust on Mormon Island (reservations required; cost \$20 per person, contact the Trust headquarters for current information on reservation procedures, or at the Audubon Society's Lillian Rowe Sanctuary near Gibbon (cost \$20 per person, for reservations phone 303/468-5282), and possibly the Fort Kearny State Historical Park near Kearney (reservations required, 308/865-5305). If it is not possible to arrange a blind viewing, several bridges such as the hike-bike trail bridge near Fort Kearney or the bridge over the middle Platte channel two miles south of Alda (see maps 26 & 27) provide a less thrilling but still exciting view, both at sunset and sunrise. Information on crane viewing and accommodations can be obtained from the Kearney Visitors Center (308/652-9435 in state; 800/227-8340 out-of-state), the Grand Island Visitors Bureau (800/658-3178 or 308/382-4400), or the Adams County Visitors Bureau in Hastings (800/967-2189 or 402/461-2370). The Hastings Museum (14th St. & Burlington Highway, 402/461-4629) and the Stuhr Museum at the southern edge of Grand Island along US Route 34 (308/385-5316) both provide tourist information and sell informative books or pamphlets on local tourist attractions.

An excellent source of both general and specific information on birding in the Platte Valley is available in Gary Lingle's book *Birding Crane River: Nebraska's Platte*, which is available in many stores and the just-mentioned museums. It also includes complete county maps and detailed bird-finding advice for seven Platte Valley counties. Other ecological and historical information on the river and its natural history exists in the University of Nebraska Press book *The Platte: Channels in Time* by P. A. Johnsgard. Also of possible interest is the Smithsonian Institution Press book *Crane Music: The Natural History of American Cranes*, and the more popular *Those of the Gray Wind: The Sandhill Cranes*, University of Nebraska Press reprint, by P.A. Johnsgard. The Nebraska Game & Parks Commission (308/865-5308 in Kearney, 402/471-0641 in Lincoln, or PO Box 30370, Lincoln 68503) can provide free informative materials, including an excellent 8-page "Spring Migration Guide" that centers on Platte Valley birding. Accompanying maps showing wildlife viewing areas and information centers in the Platte Valley are based on that guide and are reproduced here by permission. The Game and Parks Commission has also (1997) published a 96-page booklet by Joseph Krue, titled "NEBRASKAland Magazine Wildlife Viewing Guide", which includes descriptions of 68 sites in the state. More recently (2004), Jon Farrar produced Birding Nebraska, as a special issue of *NEBRASKAland*. As mentioned earlier, sets of county maps of varied scale are also available from the Nebraska Dept. of Roads in Lincoln (402/471-4567), and bound sets of maps covering the entire state can be found in the *Nebraska Sportsman's Atlas* and the *Nebraska Atlas and Gazetteer*. Both describe and list local tourist

attractions, offer camping information, and provide other similar information; the latter book being of contour maps and the former emphasizing hunting and fishing sites.

The Rainwater Basin area is just as attractive as the Platte Valley during early spring, when snow meltwaters accumulate in the clay-rich lowlands and an estimated 7-9 million ducks and 2-3 million geese pass through. These flocks include 90 percent of the mid-continental greater white-fronted goose population, 50 percent of the mid-continental mallard population, and 30 percent of the entire continent's northern pintail population. Increasing numbers of snow geese also use the more easterly parts of the area each spring, the numbers recently exceeding a million birds.

Some of the shallower wetlands are also of great importance to migrant shorebirds. A recent (2004) monograph by Joel Jorgensen analyzed shorebird migration patterns in the eastern Rainwater Basin. He reported that, in decreasing order, the most numerous shorebirds (out of 38 total species) seen there over a several-year period were white-rumped sandpiper, Wilson's phalarope, semipalmated sandpiper, long-billed dowitcher, lesser yellowlegs, least sandpiper and Baird's sandpiper during spring, and pectoral sandpiper, long-billed dowitcher, lesser yellowlegs, least sandpiper and stilt sandpiper were progressively less numerous during fall. The region may be of hemispheric migratory importance to the very localized buff-breasted sandpiper, which stages in various mixed-grass sites around the eastern Rainwater Basin.

A suggested loop tour of the Fish and Wildlife Service, covering about a. 135 miles, starts from I-80 exits at either York or Aurora, and returns to the opposite exit. This route over generally improved roads includes the most important wetlands of the eastern Rainwater Basin. The Rainwater Basin Wetland Management District comprises about 84 wetlands occupying 28,600 acres (including 21,742 acres federally owned, and about 6,900 acres state-owned). Sites such as Harvard, Massie and Smith's Lagoons, and Mallard Haven, are of special value to these birds and are prime birding locations in the eastern basin while Funk Lagoon is of special attraction in the western basin. Sites of special shorebird significance include Harvard, Mallard Haven, Massie, and Sinninger. A bird checklist, with nearly 200 species including over 100 breeding species, is available from the Kearney (Rainwater Basin) office of the USFWS, 2610 Ave. Q, Kearney 68848 (308/236-5015). The Kearney office of the Game & Parks Commission is 1617 First Ave., Kearney (308/865-5310).

1. KEITH COUNTY (Map 1)

Keith County is notable in having over 37,000 acres of surface water, nearly 6,000 acres of wooded habitats, and over 420,000 acres of mainly Sandhills grasslands or farmlands. There are tourist accommodations at Keystone, Lemoyne, Ogallala and Paxton.

A. Federal Areas: None

B. State Areas

1. Clear Creek Wildlife Management Area. (Map location 1). Area 5,709 ac. Partly developed as Clear Creek Refuge (2,500-acres, west half), and also as a controlled hunting area. The latter includes the west end of Lake McConaughy and the Platte River inflow area. The low meadows support nesting bobolinks and probably breeding Wilson's snipes, and the tall tree groves hold many breeding passerines. White pelicans are common, and least bitterns have been sighted. One of the state's best birding areas, but mosquitoes can be a problem during summer. Barn-owl nest cavities usually can be seen in the cutbanks at the turnoff from the main highway; nests in this part of the state are usually in such excavated sites rather than in old buildings. Rosche (1994) has described this area and its birds very well, which is the state's only known nesting area for Clark's grebe.
2. Lake McConaughy State Recreation Area (Map location 2). Area 6,492 ac. Occupies much of the north side of this reservoir, the largest body of water in Nebraska. A small area on the south side is also included (Map location 6). This area has the largest bird list of any location in the state, including about 340 species, with 104 known breeders, 17 additional possible breeders, and about 200 transients (Brown & Brown, 2000). The large water area attracts vast numbers of migrant waterfowl, grebes (especially western grebes), gulls (including many rarities) and shorebirds. A good spotting scope is needed to cover this vast reservoir, but many

of the waterfowl congregate near the spillway during winter, or (in the summer) toward the western end of the lake (see Clear Creek Wildlife Management Area account). Large numbers of bald eagles also build up in winter, attracted by dead fish and the wintering duck and goose populations. Well over 100 miles of shoreline are present along the lake, with the southern shoreline rocky and steep, and the northern shore sandy, and support nesting piping plovers and least terns. Classified as a Nebraska Important Bird Area. For information phone 866/386-2862. <http://www.lakemcconnaughy.com/ngp.html>

3. Kingsley Dam and Lake Ogallala State Recreation Area (Map location 3). Area 339 ac. Kingsley Dam offers a good vantage point for birds both on the deeper end of Lake McConaughy and on the shallower and much smaller Lake Ogallala located at the base of the dam. Lake Ogallala (and its eastern end, often called Lake Keystone) receives the spillway water from Lake McConaughy, and its level fluctuates greatly. However, it is very attractive to migrant ducks, ospreys, Caspian terns, cliff swallows, gulls American white pelicans, double-crested cormorants and other summering species, and is used by Canada geese and by numerous bald eagles in winter. An eagle-watching blind is available during peak periods, when 200-300 eagles are sometimes present. It is available from late December through early March. Thursdays & Fridays, 8 am to noon, Saturdays and Sundays, 8 am to 4 p.m. The northern shorelines of Lake Ogallala has deciduous wooded habitats with a rich array of nesting passerines, but lake fluctuations limit nesting for aquatic species. Lake Ogallala State Recreation Area is classified as a Nebraska Important Bird Area.
For eagle-viewing information phone 308/284-2332.
4. Cedar Point Biological Station (Map location 4). Although an extension of the University of Nebraska and a summer field station, and thus not open to the public, ornithological research here has made its avifauna the best-known of any area in the state (Brown & Brown, 2000). Ornithology courses have been taught here on a regular basis since 1977, and studies on species such as the cliff swallow and orchard oriole have been of national significance. Classified as a Nebraska Important Bird Area.
5. Ogallala Strip Wildlife Management Area (Map location 5). Area 453 ac., includes 2.5 miles of river frontage. This stretch of riparian wooded habitats supports many of the same species found around Lake Ogallala, such as house wren, yellow warbler, common yellowthroat, eastern and western kingbirds, killdeer, and others. Mississippi kites now breed in nearby Ogallala.
6. Lakeview campground (Map location 6). The road leading down the canyon to Lakeview, and a similar road leading to Eagle Canyon six miles farther west, may offer views of rock wrens, turkey vultures, rough-winged swallows and, with luck, occasional prairie falcons or ferruginous hawks. Turkey vultures nest along the south side of the reservoir, usually in eroded crevices or recesses well out of view. These roads are often in poor condition, and caution must be exercised when driving over them. For information phone 866/386-2862.

2. LINCOLN COUNTY (Map 2)

Lincoln County straddles the Platte Valley with nearly 10,000 acres of surface water, about 36,000 acres of wooded habitats, and about 1.2 million acres of grasslands or farmlands. There are tourist accommodations at North Platte and Sutherland.

- A. Federal Areas: None
- B. State Areas
 1. Sutherland Reservoir State Recreation Area. (Map location 1). Area 3,020 ac. reservoir, 37 ac. upland. Rosche (1994) refers to this site as "the gull capitol of western Nebraska," with ten species having been observed. These include such rarities as Thayer's, glaucous, great and lesser black-backed, and even Ross' gull. There are often large flocks of wintering grebes, diving ducks, double-crested cormorants, and American white pelicans during mild winters. During spring large flocks of snow, greater white-fronted and occasional Ross' geese stop here. http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=171

1. Malony Reservoir State Recreation Area (Map location 2). Area 1,600 ac. reservoir, 1,732 ac. upland. This lake is used during spring by American white pelicans and double-crested cormorants, and many shorebirds when the water levels subside (Pettingill, 1981).
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=112
2. Jeffrey Canyon Wildlife Management Area and Reservoir. (Map location 3). Area 900-ac. reservoir, 35 ac. upland. This area consists of canyon-and-upland topography, with grasses and scattered deciduous trees and cedars. Very limited public access (at the dam and boat ramp).
3. North River Wildlife Management Area (Map location 4). Area 681 ac., 2 mi. river frontage. There are woods along the river, and grassland beyond that is used by sandhill cranes. This is one of the westernmost crane roosting sites; the birds use the southeastern part of the area, in less-than-ideal roosting habitat. However, recent habitat improvements might make the conditions more suitable for cranes.
4. Muskrat Run Wildlife Management Area. (Map location 5), Area 224 ac. Mostly riparian wooded habitats and marshy areas.
5. East Sutherland Wildlife Management Area (Map location 6). Area 27 ac. upland, 8 ac. lake.
6. Hershey Wildlife Management Area (Map location 7). Area 53 ac. upland, 80 ac. lake.
7. East Hershey Wildlife Management Area (Map location 8). Area 20 ac. upland, 20 ac. lake.
8. Birdwood Lake Wildlife Management Area. (Map location 9). Area 20 ac. upland, 13 ac. lake.
9. Fremont Slough Wildlife Management Area.(Map location 10). Area 30 ac. upland, 11 ac. lake.
10. Platte Wildlife Management Area (Map location 11). Area 242 ac upland, 0.5 mi. river frontage. Mostly riparian wooded habitats.
11. Ft. McPherson Cemetery (Map location 12). Area 30 ac., with pond.
12. West Brady Wildlife Management Area (Map location 13). Area 10 ac upland, 6 ac. lake.
13. Chester Island Wildlife Management Area (Map location 14). Area 69 ac., ponds. Includes 0.3 mile of river frontage.
14. Box Elder Canyon Wildlife Management Area. Not shown, located three miles south and 2.5 miles west of Maxwell. This 20-ac. site consists of native grasslands and deciduous wooded habitats along the Tri-County Supply Canal.
15. Wellfleet Wildlife Management Area. Not shown, this area is just west of the village of Wellfleet, or 20 miles south of North Platte. Comprising only 65 acres along Medicine Creek, it provides a diversity of habitats that usually attracts a wide variety of small passerines and water birds (Rosche, 1994).
16. Wapiti Wildlife Management Area 1,280 acres. Loess hills mixed grass prairie, trees and shrubs, and about 40-50% cedar woodlands. Species include rock wrens, Say's phoebe, black-headed grosbeaks and some eastern species such as great crested flycatchers. From I-80 interchange at Maxwell drive south about 2 miles, turn right on Cottonwood Road 7 miles, stay at right at Y in road to Effenbeck Road, then after 1.5 miles right on minimum maintenance road about one more mile. Road is hazardous when wet.

C. Other Areas

1. North Platte sewage lagoons (Map location 15). These sites are reached by leaving I-80 at exit 179, and going north on spur road L56G. Cross the South Platte River and turn east on a dead-end gravel road that will take you to the lagoons. These lagoons attract many water birds during migration. Pettingill (1981) described several wetlands to the north of North Platte (Whitehorse Marsh, Jackson Lake, and Ambler Lake) that support typical Sandhills marsh birds and waterfowl.

3. DAWSON COUNTY (Map 3)

Dawson County is another Platte Valley county with about 8,000 acres of surface water, over 17,000 acres of wooded habitats, and over 250,000 acres of grasslands.

- A. Federal Areas: None
- B. State Areas

1. Willow Island Wildlife Management Area (Map location 1). Area 45 ac. upland, 35-ac. lake, & riparian wooded habitats.
2. East Willow Island Wildlife Management Area (Map location 2). Area 16 ac. upland, 21 ac. wetland. Includes 0.3 mile river frontage; mostly riparian wooded habitats.
3. West Cozad Wildlife Management Area (Map location 3). Area 19 ac. upland, 29-ac. lake.
4. Cozad Wildlife Management Area (Map location 4). Area 182 ac. upland, 16 ac. wetland, 0.5 mile of river frontage.
5. East Cozad Wildlife Management Area (Map location 5). Area 18 ac.; all upland.
6. Darr Strip Wildlife Management Area (Map location 6). Area 976 ac.; 767 ac. land, 2.5 miles of river frontage.
7. Dogwood Wildlife Management Area (Map location 7). Area 402 a., 10 ac. lake, 1.5 miles of river frontage.
8. Midway Lake Wildlife Management Area (Map location 8). A reservoir near the Tri-County Canal; at its upper (southern) end is Midway Canyon, an eroded area of loess hills.
9. Gallagher Canyon. (Map location 9). Area 400 ac. reservoir, 424 ac. upland. Another canyon in the loess hills and associated reservoir.
10. Plum Creek Wildlife Management Area (Map location 10). Area 152 ac., 320 ac. reservoir.
11. Johnson Lake State Recreation Area (Map location 11). Area 2,061 ac. reservoir, 81 ac. upland. This lake is rather highly developed, which might reduce its attractiveness to birds somewhat, but it should hold bald eagles during winter. Elwood Reservoir (1,330 acres) is nearby.
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=94
12. Bittern's Call Wildlife Management Area. Located about 10 miles north of Lexington on Highway 21. Consists of 80 ac. of mixed upland and wetland habitat.

4. GOSPER COUNTY (Map 4)

Gosper County is a mostly high plains county with less than 4,000 acres of surface water, nearly 1,700 acres of wooded habitats, and nearly 140,000 acres of grassland. The only tourist accommodations are at Elwood.

A. Federal Areas

1. Victor Lake Waterfowl Production Area (Map location 2). Area 174 ac. wetland, 64 ac. upland.
2. Elley Lagoon Waterfowl Production Area (Map location 6). Area 33 ac. wetland, 29 ac. upland.
3. Peterson Basin Waterfowl Production Area (Map location 7). Area 527 ac. wetland, 627 ac. upland.

B. State Areas

1. Johnson Lake State Recreation Area (Map location 1, main lake not shown). Area 2,061 ac reservoir, 81 ac. upland. See also Dawson County.
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=94
2. Elwood Reservoir Wildlife Management Area. Located two miles north of Elwood. Consists of a 1,330-acre reservoir and 900 adjacent acres of grassland and some wooded sites. No camping facilities.

5. PHELPS COUNTY (Map 4)

Phelps County is a Platte Valley county at the western edge of the Rainwater Basin, with under 200 acres of permanent surface water (plus temporary wetlands), 3,800 acres of wooded habitats, and over 72,000 acres of grasslands or farmlands. The only tourist accommodations are at Holdrege.

A. Federal Areas

1. Cottonwood Basin Waterfowl Production Area (Map location 3). Area 79 ac. wetland, 161 ac. upland. Located 1 mile north and 2 miles east of Bertrand. Habitat includes 201 acres of wetland and 359 acres of upland. Recent Management: The eastern half of this Waterfowl Production Area has been publicly owned for many years while the other half has been in private ownership. In 2000, the private portion of the wetland was sold to the U.S. Fish and Wildlife Service. Restoration plans include removal of the fence line/dike between the two

halves, and reseeding the cultivated area back to native grasses. Portions of the upland will be farmed for a couple of years until reseeding can be accomplished. In 2001, 26 acres of cropland (northern portion) was reseeded with high diversity seed mix. Another 48 acres was seeded in winter of 2002-2003. The final cropland area was seeded during winter of 2003-2004. Approval was received from Phelps County to remove a dirt road that was impassable and dissected the wetland. Two pits were also filled. Some silt was also removed from the wetland. Scattered volunteer trees were removed from the eastern portion of the property. An underground pipeline was buried extending from a well on the west portion of the property to the wetland. The pipeline will allow the well to be used to deliver water directly to the wetland. (Courtesy Eric Volden)

2. Linder Waterfowl Production Area (Map location 4). Area 2 ac. wetland, 79 ac. upland.
3. Johnson Lagoon Waterfowl Production Area (Map location 5), Area 252 ac. wetland, 326 ac. upland. Habitat includes 252 acres of wetlands and 326 acres of upland. The view is best from the east side looking west. The mudflats on the west side are excellent for shorebirds. Whooping cranes and peregrine falcons have been seen here in recent years during spring migration. Waterfowl and waterbirds are abundant. (Courtesy Eric Volden)
4. Funk Lagoon Waterfowl Production Area (Map location 8). Area 1,163 ac. wetland, 826 ac. upland.
Located 1 mile east and 3 miles north of Funk. This is the largest RWB marsh at 1989 acres (1163 wetland marsh acres and 826 upland acres) and perhaps the best. It is one of the few basins with permanent water and has some of the best marsh vegetation. During spring it hosts hundreds of thousands of geese (especially greater white-fronted), and some 20 species of ducks. Thousands of shorebirds use this site from March through May and again in early fall. In April and October, whooping cranes have used this area. From May through September you might see cattle egrets, black-crowned night herons, great blue herons and great egrets. White-faced ibis and cinnamon teal are regularly seen here. Pelicans, double-crested cormorants, and eared grebes are common in the deeper water areas. Birds that nest here include great-tailed grackles, yellow-headed blackbirds, eared and pied-billed grebes, least bitterns, Virginia rails, northern harriers and common yellowthroats. Playing birdsong tapes of sora and Virginia rails should illicit a response. The amount of surface water present each spring greatly affects waterfowl usage and natural runoff may be supplemented by groundwater pumping when needed. Funk lagoon includes large areas of open water, moist soil wetlands and restored native grasslands. Hiking trails along dikes offer excellent opportunities to view wildlife any time of the year. A three-mile loop trail begins and ends at the main parking lot which has an information kiosk with maps and a nearby handicap-accessible observation blind that looks out over the marsh. The wetland is the collecting area for runoff from a large watershed. It can quickly go from nearly dry to flooded, after a heavy summer rain. Recent management has included prescribed burning, grazing, silt removal, disking, and reseeding of native grasslands. Dry conditions have allowed aggressive management of the areas choked with cattail and reed canarygrass. (Courtesy Erick Volden). The main parking area has an information kiosk and a nearby observation blind looking out over the marsh. A variety of herons, egrets, and white-faced ibis visit the area in spring and fall.
5. Atlanta Waterfowl Production Area (Map location 9). Area 453 ac. wetland, 659 ac. upland.
Prairie dog town present.
Located 6 miles west and 3 miles south of Holdrege. Habitat includes 659 upland acres and 453 wetland acres, seasonally open to public hunting for pheasant, waterfowl and doves. Atlanta Waterfowl Production Area contains a large wetland basin that requires a large runoff event to provide adequate water for migratory waterfowl. For this reason, the basin is dry in many low snowfall years. The property contains one well, which is unable to provide enough water (in relation to cost) to create suitable open water. In recent years, a couple of management practices have been attempted to improve the basins use by waterfowl. In the mid-1990's, a low-level dike with a water control structure was built to separate the northern portion from the rest of the wetland. The wetland receives most of its runoff from the north. The diked area allows at least a portion of the basin to fill in low or marginal precipitation years. Intense grazing has also been done on the wetland reduce the amount of vegetation, primarily reed

canarygrass. The grazing allows even a couple of inches of water to become accessible to waterfowl. 68 acres of low diversity grassland (northeast corner) were inter-seeded with a high diversity seed mix. The upland has numerous volunteer trees scattered throughout the property. In 2002, trees were removed on approximately 85 acres. (Courtesy Eric Volden)

6. Jones Marsh Waterfowl Production Area (Map location 10). Area 90 ac. wetland, 76 ac. upland.

Located 3 miles west and 3 miles south of Holdrege. Habitat includes 76 acres of upland and 89 acres of wetland. Hunting is allowed. The wetland has been left idle for more than 10 years with little or no use by waterfowl. During that time, trees have established themselves along the wetland boundary. The amount of water held in the basin diminished and trees began growing in the center portion of the wetland. In December 2000, trees greater than three inches in diameter were removed. In the spring of 2002, a prescribed burn was done on the whole unit to burn up the tree piles and reduce the organic layer on the wetland bottom. Prescribed fire is expected to remove the smaller trees left standing. Waterfowl are expected to respond quickly to the change. In February, 2003 an existing well was replaced and a new engine installed.

Later in the year, a pump house, covering the engine, will be constructed. The well will be running for the spring, 2003 migration.(Courtesy Eric Volden)

B. State Areas

1. West Sacramento Wildlife Management Area (Map location 11). Area 200 ac. wetland, 188 ac. upland. A prairie dog town of 4-5 acres is present. Very good for migrating shorebirds and waterfowl.
2. Sacramento-Wilcox Wildlife Management Area (Map location 12). Area 1,050 ac. wetland, 1263 ac. upland. Located about 2.5 miles west of Wilcox. Sac offers a nice variety of habitat types, including freshwater marsh, prairie, creek and woodlands. Several controlled water impoundments insure some water is always available. A wide variety of birds can be seen here. Sacramento-Wilcox Wildlife Management Area was acquired by the Nebraska Game and Parks Commission in 1948. "Sac" serves as a waterfowl refuge and as a public hunting area. Approximately 500 of its 2,313 acres are designated as refuge and there is a recently constructed viewing blind, which overlooks a good waterfowl and shorebird area when water is present. Many ducks visit the area each fall, and good duck hunting is available from 19 established blinds as well as pheasant hunting. Intensive habitat development, including planting and managing trees, shrubs and grasses, has provided a wealth of cover diversity. Camping is available in a designated area. The headquarters is located on the east end of the property. Winter roosts of long-eared owl occur here. (Courtesy Eric Volden)
3. High Basin Wildlife Management Area. Located in Phelps County 2 miles north of Bertrand. This site includes 44 acres of wetland and 74 acres of pastureland. Good shorebird viewing, especially in April, May, July and August. The county roads nearest the Platte River are worth driving any time of the year. (Courtesy Eric Volden)

6. BUFFALO COUNTY (Map 5)

Buffalo County is a Platte and Loup Valley county with 4,400 acres of surface water, 9,600 acres of wooded habitats, and nearly 225,000 acres of grasslands or farmlands. There are tourist accommodations at Elm Creek, Gibbon and Kearney.

A. Federal Areas: None

B. State Areas

1. Ravenna Lake State Recreation Area (Map location 1). Area 53 ac. Situated along the South Loup River, with a small reservoir. State park entry permit required.
2. Blue Hole Wildlife Management Area (Map location 2). Area 530 ac., plus 30-ac. pond and two miles of river frontage. Mostly riparian wooded habitats
3. Sandy Channel State Recreation Area (Map location 3). Area 133 ac; 11 small lakes and ponds, totaling 47 ac. State park entry permit required.
4. Union Pacific State Recreation Area (Map location 4). Area 26 ac., plus a 15-ac. pond. State park permit required.

5. East Odessa WRA (Map location 5). Area 71 ac., and a seven-ac. pond. State park permit required.
6. Cottonmill Lake Public Use Area.(Map location 6). A hike-bike trail extends six miles from this area to the outskirts of Kearney.
7. Bassway Strip Wildlife Management Area (Map location 10). 636 ac., 4 ponds and 7 miles of river frontage. Includes 90 acres of lakes and sandpits; mostly wooded. In spite of the river frontage, this area is not used by sandhill cranes to any great extent.
8. War Axe State Recreation Area (Map location 8). Area nine ac. plus a 12-ac. pond. State park permit required.
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=183
9. Windmill State Recreation Area (Map location 9). Area 168 ac., 5 ponds. State park entry permit required.
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=196

C. Other Areas

1. Lillian Annette Rowe Sanctuary & Iain Nicolson Audubon Center (Map location 7). Area ca. 2,000 ac. This area, the largest Audubon refuge in the state, protects prime sandhill and whooping crane habitats near Kearney, and includes nearly six miles of river frontage, plus about 260 acres of native prairie. Several riverside blinds are located on the property, and spring sunrise (5 a.m.) or sunset (5.p.m) excursions to the blinds can be arranged between early March and mid-April (\$20.00 per person, reservations are needed). There is also a self-guided hiking/birding trail. The sanctuary headquarters provides information and sells books and other bird-related materials. Summer breeding birds include dickcissel, upland sandpiper and bobolink, as well as riparian wooded habitats species such as rose-breasted grosbeak and willow flycatcher. Least terns and piping plovers often nest on barren sandbars that are also used by roosting cranes (Lingle, 1994). The bird list shown for the Platte Valley in the supplement should suffice for this site. Classified as a Nebraska Important Bird Area. The Iain Nicolson Center is of modern hay-bale construction; its north side is lined with windows for easy bird-watching. The sanctuary's address is 44450 Elm Island Rd., Gibbon, NE. 68840 (308/468-5282),email address rowe@ntic.net. Office hours are 9-5 from Monday through Friday, Sunday 1-5 p.m., open 7 days/week during crane season). No admission charge, but \$2.00 donation requested. <http://www.rowesanctuary.org/about%20us.htm>
2. Prairie-chickens have a lek visible from the road near Kearney. Drive west 6.5 miles from town center, turn right (north) on Evergreen Road, go to "56" road and turn left (east), At 3.2 miles you will be at the top of a hill with two windmills visible. The lek is on the north side of the road, about 300 yards away. so a spotting scope is needed.
4. Richard Plautz Viewing Site (Map location 11). This bridge,1.5 miles south of I-80 exit 285 in Buffalo County, provides a parking area and viewing platform (Central Platte Natural Resource District, Richard Plautz Viewing Site) for watching crane roosting flights. The Central Platte Natural Resources District (CPNRD) has led a task force in providing a series of crane viewing decks for use by visitors. The decks provide a safe area to view cranes and other wildlife on the Platte River. Best times for viewing are sunset and sunrise. Cranes, herons, egrets, pelicans, waterfowl, song sparrows and a host of other birds can be seen comfortably from this wooden observation deck. Be careful to avoid standing on the bridge itself, where traffic can be quite fast. (Courtesy Eric Volden)

7. KEARNEY COUNTY (Map 6)

Kearney County is a Platte Valley county with about 200 acres of permanent surface water, 300 acres of wooded habitats, and over 70,000 acres of grasslands or farmlands. Tourist accommodations are at Minden.

- A. Federal Areas (all the following sites are temporary wetlands of fairly small size, but might be attractive to migrant water birds during wet springs).
 1. Bluestem Basin Waterfowl Production Area (Map location 4). Area 44 wetland ac., 32 upland ac.

2. Gleason Lagoon Waterfowl Production Area (Map location 5). Area 197 wetland ac., 372 upland ac. Located 4 miles south and 4 miles west of Minden. Good waterfowl and shorebird viewing during spring migration depending upon water conditions. Habitat includes 195 acres of wetland and 372 acres of upland. Recent Management has attempted to control the invasive vegetation growth. Water can be pumped during dry migratory seasons. It offers a good variety of waterfowl, waders, and shorebirds. White-faced ibis, pectoral sandpipers, American bittern, black-crowned night herons, and whooping cranes have been reported here in recent years. (Courtesy Erick Volden)
3. Prairie Dog Marsh Waterfowl Production Area (Map location 6). Area 430 ac. wetland, 382 ac. upland. Located 5.5 miles south of Axtel. Habitat includes 471 acres of wetland and 421 acres of upland. A small black-tailed prairie dog colony exists on the higher ground near the southeast end of the Waterfowl Production Area and is consistently used by burrowing owls. Historically known for its waterfowl concentrations. Dry years, land-leveling, irrigation reuse pits and invasive vegetation have reduced its attractiveness. Extensive work was done on this site in 2002 including rebuilding a dike going through the wetland so at least half of the wetland would have water during pumping, and filling of two small pits on the eastern section which were allowing water to seep out of this wetland rapidly. Fall use by ducks, especially blue-winged teal and pintails, was tremendous in 2002. Whooping cranes have been observed here in April and it is a great place for waders and shorebirds in late spring and late summer. Best viewing from the south parking area and may require some walking to get a good view of the birds. (Courtesy Eric Volden)
4. Lindau Lagoon Waterfowl Production Area (Map location 7). Area 105 ac. wetland, 47 ac. upland.
5. Clark Lagoon Waterfowl Production Area (Map location 12). Area 227 wetland ac., 222 ac. upland.
6. Youngson Lagoon Waterfowl Production Area (Map location 8). Area 113 ac. wetland, 70 ac. upland. Located 6 miles south and .5 miles east of Norman. Habitat includes 113 acres of wetland and 70 acres of upland. At times good to excellent for shorebirds and waterfowl. These two areas are only a couple miles apart and are surrounded by areas with gullies and outpost sandhills. (Courtesy Eric Volden).
7. Frerichs Lagoon Waterfowl Production Area (Map location 10). Area 33 ac. wetland, 10 ac. upland.
8. Killdeer Basin Waterfowl Production Area (Map location 11). Area 36 ac. wetland, 2 ac. upland.
9. Jensen Lagoon Waterfowl Production Area (Map location 9). Area 187 ac. wetland, 278 ac. upland.

B. State Areas

1. Hike-Bike bridge (Map location 1). This is a very good area for watching sandhill cranes at sunset and sunrise. Sometimes American woodcocks can be seen displaying near the north end of the bridge at sunset. Stop at the Fort Kearney State Historical Park for information and a park permit. The four-mile trail leads to Bassway Strip Wildlife Management Area along the two northernmost channels of the Platte (see Buffalo County).
2. Fort Kearny State Recreation Area. (Map location 2). Area 163 ac. This area has primitive camping facilities and provides nearby parking for the hike-bike bridge.
3. Fort Kearny State Historical Park. Located 3 miles south and 4 miles west of I-80 exit 272 at Kearney. The park has a restored version of Fort Kearny including a stockade, parade grounds, blacksmith shop, pony express stage station. The Fort was originally built to protect Overland Trail travelers. It is also a place from which one can watch field-feeding sandhill cranes in the spring. This area has an interpretive center and concessions area and offers primitive camping. There is a nice bird-feeding station located by the rangers quarters north of the interpretive center. The historical park blends the history of the Platte river Valley with its ecology and natural history. The Visitor Center opens in early March for the crane migration and provides information about crane and waterfowl viewing. There is a gift shop and a variety of displays. The Hike/Bike Trail is a mile east of the Fort and is a well maintained, handicapped-accessible trail across the Platte River on a former railroad bridge. It provides an excellent view of the river and the woods along its banks and islands. Birds that can be seen

along the trail include bald eagles, geese and ducks in January and February; Sandhill cranes and American woodcock in March; warblers and other passerines in April, May and June. This is one of the few public state areas where hunting is not allowed so there are birds there in the fall. his park has a restored version of Fort Kearney, and is also a place from which one can watch field-feeding sandhill cranes. Arrangements for blind visits can be made here (see introduction to region). Park entry permit required. Phone 308/865-5305 for information. (Courtesy Eric Volden)

http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=97

4. Northeast Sacramento Wildlife Management Area (Map location 7). Area 30 wetland ac., ten ac. upland.

8. HALL COUNTY (Map 7)

Hall County is a Platte Valley county with nearly 2,000 acres of surface water, 3,900 acres of wooded habitats, and almost 120,000 acres of grasslands or farmlands. There are tourist accommodations at Alda, Grand Island and Wood River.

A. Federal Areas

1. Hannon Waterfowl Production Area. 659 acres. Located 1 mile east and 2 miles north of the I-80 Shelton Exit 292. Habitat includes wet meadows and surrounding grassy uplands with 105 acres of water. Common summer residents include marsh and sedge wrens, upland sandpipers, bobolinks, dickcissels and a variety of native sparrows. This site has had good use by waterfowl when water is present and excellent use by sandhill cranes after a prescribed burn. There are several small ponds and a slough that runs through it on wet years which is attractive to shorebirds such as snipe. Some years this area has seen heavy use by migrating sandhill cranes in March. (Courtesy Eric Volden)

B. State Areas

1. Cornhusker Wildlife Management Area (Map location 2). Area 840 ac. All upland habitats with various planted cover types. The birds include such brush-loving winter species as Harris' sparrows and American tree sparrows.
2. Mormon Island State Recreation Area (Map location 10). Area 152 ac., 61 ac. lake. Located .25 miles north of I-80 at the Grand Island Exit 312. Habitat includes 3 lakes and their surrounding riparian woodlands. Camping, restrooms, swimming, shelters and an office on site. This area is a popular fishing, camping, and swimming spot just off I-80 which occasionally attracts large concentrations of waterfowl in the spring despite the potential for heavy disturbance. Used as a winter stopover by Mormon emigrants heading westward, Mormon Island State Recreation Area is part of Nebraska's unique "Chain of Lakes." Development of I-80 in the early 1960s created a series of "borrow pit" lakes when sand and gravel were removed for road construction. The first of these areas developed was Mormon Island State Recreation Area. A good variety of waterfowl and shorebirds come to the area before heading farther north. Ask park personnel for more information about the best times and locations to view these impressive wildlife displays. Because of its depth, the main lake sometimes hosts loons, pelicans mergansers and a variety of grebes. The slough running through the State Recreation Area is a good place to search for snipe. Cedar waxwings, woodpeckers and brown creepers are common as are owls. (Courtesy Eric Volden) This area is a popular fishing spot just off I-80, and rarely attracts many waterfowl because of the high disturbance level.
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=123
3. Martin's Reach Wildlife Management Area. Located one mile south and three miles west of Wood River Exchange. Includes 89 acres, with about 0.7 mile of river frontage of the middle channel of the Platte River. A slough running through the center provides nesting habitat for shorebirds and ducks. As many as 88 species have been seen here in a single day.
4. Loch Linda Wildlife Management Area. 38 ac. Located 3 miles east of the Alda I-80 exit 300, then a mile south over the interstate and 2 miles east. This is a 29 acre wet cattail marsh surrounded by 9 acres of pastureland and mature riparian forest adjoining the Platte River. Ducks, wild turkey, yellow-headed blackbirds, common yellowthroats and herons are common in the marsh and shorebirds should be visible along the Platte. (Courtesy Eric Volden).

C. Other Areas

1. Taylor Ranch road (Map location 1). Located 4 miles west and 3 miles north of Grand Island. Taylor Ranch is a privately owned 7000 acre ranch with extensive Sandhills prairie and numerous small wetlands that are attractive to migrating ducks and shorebirds during wet years. County roads along the perimeter of this ranch provide an opportunity to watch displaying greater prairie-chickens from a parked car. Active prairie-chicken leks can be located by driving this area around sunrise and stopping every few hundred yards or so to listen for their "booming" from mid-March into May. A few sharp-tailed grouse are also present and a good variety of raptors can be found too. Around 90 species have been observed here. Blue grosbeaks have nested in the plum thickets and burrowing owls nested here in 2004. (Courtesy Eric Volden). The arrowhead on the map shows one such location where a lek usually is located. Farther north in the Sandhills sharp-tailed grouse outnumber the greater prairie-chickens.
<http://www.whoopingcrane.org/index2.html>
2. Platte River Whooping Crane Trust. (Map location 3). This preserve of about 2,500 acres was the first Platte Valley crane sanctuary to be established, and along with the Rowe Sanctuary farther west is the most important. More than 70,000 cranes have been seen on its pristine wet meadows, and up to 80,000 birds roost along its river shorelines. Nearly 220 bird species have been reported here; the Platte Valley bird list in the supplement is largely based on these records. The native prairie provides nesting sites for prairie species such as dickcissels, upland sandpipers, bobolinks, grasshopper sparrows and Bell's vireos. Riparian areas provide habitat for a variety of passerines including black-headed grosbeaks, orchard orioles, willow flycatchers, and black-billed magpie while supporting a thriving wild turkey population. This region of the Platte River is used by migrating sandhill crane, shorebirds, egrets, least sandpipers and piping plover. At least 205 species of birds have been recorded in the immediate area. This facility is generally not open to the public. For information on the Whooping Crane Trust call 308/384-4633. A large crane-observation blind is located on Trust land and operated from early March to early April.).
<http://www.whoopingcrane.org/index2.html>
3. Shoemaker Island road. (Map location 4).. Located 2 miles south of the I-80 Alda Exit 305, running west to 1 mile south of the Wood River I-80 Exit 300. This gravel road traverses the length of Shoemaker Island, where many wet meadows attract foraging flocks of cranes. There are also large stands of riparian forest where rose-breasted and black-headed grosbeaks can be observed along with eastern wood-pewees, wild turkey and red-headed woodpeckers. The entire area is privately owned, so birding away from the road requires landowner permission. Cattle egrets, black-billed magpies and eastern bluebirds are common here. Road ditches often contain some water and wood duck, sora rails and American bitterns sometimes make use of them. Greater prairie-chickens have been infrequently observed booming on this island in the past. American Woodcock perform their courtship skydance along the wooded river drainage in April and May. (courtesy Eric Volden).
3. Nebraska Bird Observatory & Crane Meadows Nature Center (Map location 5). NO LONGER IN OPERATION..
4. Alda Road Bridge (Map location 6). This bridge over the middle Platte (2 miles south of 1-80 exit 305) channel provides a place (CPNRD Alda Site) where people can watch the sunrise and sunset roosting flights of cranes. It is very near a sandpit lake that may attract up to 40,000 geese, but this lake is on private property and can only be viewed from the highway. Located in Hall County, 2 miles south of I-80 exit 305 on the Alda Road. The handicap-accessible viewing platform provides an excellent view of cranes and waterfowl roosting on both sides of the Platte's Alda Bridge at sunrise and sunset. This site has a small lake and a paved hiking trail. It is adjacent to a private sandpit lake that may attract over 100,000 geese. The Central Platte Natural Resources District (CPNRD) led a task force that built several free crane viewing decks that provide a safe area to view cranes and other wildlife on the Platte River. Parking is available and best times for viewing are sunset and sunrise. Besides cranes, herons, egrets, pelicans, waterfowl, song sparrows and a host of other birds can be seen comfortably from this wooden deck. (Courtesy Eric Volden)

5. Platte River Road. (Map location 7) . This paved road going west from Doniphan is a good route for observing field-feeding cranes during the daytime. It continues west to the Kearney area, but the density of crane use varies with location and disturbance. Generally the cranes are best seen from the road nearest the south shore of the Platte River, especially in early morning and late afternoon, among cornfields or the occasional wet meadows that still exist.
6. Amick Acres road. (Map location 8). This small subdivision has several sandpit lakes that attract large flocks of Canada geese in early March. Do not stray from the road, as the area is entirely private property.
7. Nine-mile Bridge. (Map location 9). This narrow bridge north of Doniphan provides views of a small crane flock on the downstream side. However, no parking is allowed near the bridge, and so some walking is necessary.
8. Hall County Park & Stuhr Museum (Map location 12). Located in Hall County, South of Grand Island near the Stuhr Museum, 1 mile south of Hwy 34 on U.S. HWY 281 and .5 mile east on Shimmer Drive. This county park allows free entry and offers wooded trails for birding along with camping facilities. Warblers, thrushes, woodpeckers and kinglets are seen here. Occasionally a Carolina wren, American redstart, or long-eared owl can be found here too. This heavily wooded 38 acre park is the remnant of dried-up Shimmer Lake. The Wood River forms its northern boundary. The county park allows free entry, and offers wooded trails for birding. It is just south of the Stuhr Museum, whose gift shop sells books of interest to naturalists, and has a good exhibit of pioneer artifacts. The surrounding moat sometimes attracts wild ducks. The museum has an admission charge, but there is free access to the museum shop. For information call 308/385-5316. (Courtesy Eric Volden)
4. Cameron Cemetery. Located in Hall County, 2 miles west of Wood River then 5 miles north and 1/3 mile west. This country cemetery is surrounded by large evergreens and mature hardwoods. Prairie Creek adjoins the cemetery on its north side. Tremendous variety of sparrows and very good woodland songbirds, especially on the north side including orioles, grosbeaks and vireos. (Courtesy Eric Volden)
5. Eagle Scout Park, 90 ac. Located 3 miles north of Grand Island on Highway 281. Eagle Scout Park has an 80 acre lake surrounded by a 1.2 mile paved hiking trail. Trees, shrubs, and mowed grassy areas border the lake. Playground and restroom facilities are available along with parking lots on the south, east and north sides. A well used haven for waterfowl, shorebirds and waders including egrets, avocets, mergansers and pelicans. Look for sparrows and warblers in the surrounding trees and brush including song sparrows, Nelson's sharp-tailed sparrow (migration) and yellow warblers. (Courtesy Eric Volden)
6. Mormon Island Crane Meadows. 2,500 c. Located 1 mile south of I-80 exit 312 on U.S. HWY 281 then west on Elm Island Road. This is the largest remaining wet meadow left along the Platte River and is owned and managed by the Whooping Crane Trust. This 2,500 acre preserve contains an extensive area of sedge meadows along with native tall grass prairie surrounded by channels of the Platte River. This was the first Platte Valley crane sanctuary to be established. More than 70,000 cranes have been seen foraging together on its pristine wet meadows and as many as 80,000 sandhill cranes roost along its river shorelines during peak usage. 223 bird species have been reported here. Good numbers of upland sandpipers, bobolinks, sedge wrens, dickcissels and grasshopper sparrows nest here from May till August. Prairie falcons, short-eared owls and northern harriers are seasonally common here. A large crane-observation blind (known as the Bunker) is operated here from the first week of March into April with an admission fee of \$20. Reservations can be obtained by calling the Platte River Whooping Crane Trust (see above). Access is by permission only. For information call 308/384-4633. (courtesy Eric Volden).

9. ADAMS COUNTY (Map 8)

Adams County is a Rainwater Basin county with about 900 acres of permanent surface water, 1,200 acres of wooded habitats, and over 83,000 acres of grasslands or farmlands. Tourist accommodations are available at Hastings.

A. Federal Areas

1. Weseman Waterfowl Production Area. 160 ac. Located 9 miles west and 4 miles south of Hastings. Habitat includes 80 acres of wetland and 80 acres of upland. In the mid-1990's this property was purchased by The Nature Conservancy through a cooperative effort with the U.S. Fish and Wildlife Service and the Rainwater Basin Joint Venture. Restoration work included filling a large pit along the property's south boundary and reseeding the uplands to native grasses. A parking lot was installed on the east side. This wetland generally has standing water only after heavy precipitation events or snow melts. (Courtesy Eric Volden)

B. State Areas

1. Prairie Lake Public Use Area (Map location 3). Area 125 ac., 30-ac. lake. Located approximately 2 miles south and 5 miles west of Hastings. Prairie Lake has a 36 acre lake with 124 acres of surrounding upland habitat. Mainly a fishing lake, with limited attractiveness to birds including waterfowl and waders. Restrooms, drinking water, parking, primitive camping lake. (Courtesy Eric Volden)
2. Crystal Lake State Recreation Area (Map location 4). Area 33 ac. Located in Adams County, 1.5 miles north of Ayr. Free Camping and primitive facilities. Picnic shelters and electrical hookups are available. A Nebraska State Park entry permit is required. Surrounding mature woodlands are good for warblers, thrushes, sparrows and flycatchers. (Courtesy Eric Volden) The lake is attractive to a variety of waders and waterfowl. Mostly developed for fishing; state park entry permit required.
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=97
3. DLD State Recreation Area (Map location 6). Area 7 ac. Primitive camping facilities; state park entry permit required.
http://www.ngpc.state.ne.us/parks/guides/parksearch/showpark.asp?Area_No=61

C. Other Areas (see also Lingle, 1994)

1. Kenesaw Lagoon (Map location 1). 231 ac. Located 1 mile east and 1/2 mile south of Kenesaw. This recently restored Federal Wildlife Production Area contains 161 acres of wetland and 70 acres of upland. It attracts a large variety of water birds during spring. Birds are best observed from county roads on the south or west side of the lagoon. A small great blue heron colony once existed on the east side of the lagoon. The mudflat area on the southwest side attracts shorebirds, waterfowl, and waders in spring. Eight whooping cranes visited this site for a few days in April of 1994 and there were unconfirmed reports of whooping cranes using this WPA again in the fall of 1999. The property had been left idle for about 20 years before being purchased by the U.S. Fish and Wildlife Service in 1997. It underwent a restoration in 1999 which included removal of trees, filling pits, removing dikes, filling in ditches, building parking lots, and fencing the property so the area could be grazed in future years. Waterfowl use has been high since completing the restoration.(Courtesy Eric Volden)
2. Little Blue River (Map location 2). . The Little Blue River passes through the southern third of Adams County. The wooded riparian zone of this river contains cottonwoods and hackberries with a thick understory that should be searched for passerines during migration periods. It is the dominant drainage feature of southern Adams County. The area attracts migrating passerines in the spring and fall. Early May and September are the best times for viewing birdlife (Courtesy Eric Volden)
3. Hastings Museum and Lake Hastings (Map location 7). The Hastings Museum has a notable exhibit area for a small-town museum, including a diorama with ten whooping cranes. It sells materials of interest to naturalists, has an IMAX theater and planetarium, and provides advice on local attractions. Phone 402/461-4629 for information. Lake Hastings is a city-owned lake that might seasonally attract some birds, and is a short distance north of the Museum on routes 281 and 34. The Adams County Visitors Bureau (402/461-2370) might also be of assistance.
4. Ayr Lake (Map location 5). This is a large, privately owned seasonal basin that is often good for viewing large numbers of migrating water birds. Access is limited to the peripheral road. Most noted for shorebirds and wading birds and to a lesser extent, waterfowl. April and May are the best times to find American golden-plovers, American avocets, and many other species. (Courtesy Eric Volden)
5. Holstein Hills. Located 2 miles west of Holstein and 20 miles east of Minden. This hilly, mixed grass prairie region is home to several leks of displaying prairie chickens from March

- into May each spring. Also common are grasshopper sparrows, dickcissels, horned larks and a variety of raptors. Drive the side roads but be aware that many roads in this area are non-maintained dirt roads that are impassable when wet. All land in this area is privately owned so stay in your car on the county roads for viewing.
6. Lake Hastings. 80 ac. Located at the north end of Hastings, just west of Highway 281. Lake Hastings is a city-owned lake and park that seasonally attracts birds such as warblers, sparrows, and occasionally water birds. It is located a short distance northwest of the Hastings Museum. (Courtesy Eric Volden)
 7. Thirty Two Mile Creek. Located 2 miles west of Kenesaw. This wetland hosts large numbers of waterfowl in early spring with a few sticking around to nest. At times, avian cholera outbreaks affect this basin. March is best for geese. The mudflats often attract very good numbers of shorebirds like avocets, phalaropes and plovers in later spring. The county roads on the west and north sides of the lake provide the best access for viewing. (Courtesy Eric Volden)
 8. Hastings Parkview Cemetery. Located on the northeast side of Hastings with 12th street access. Many mature deciduous and coniferous trees as well as flowering shrubs. A small stream bordered with cottonwoods meanders through it. Late April and early May can be very productive for warblers, vireos, indigo buntings, a variety of sparrows, and rose-breasted grosbeaks. (Courtesy Eric Volden)

10. HAMILTON COUNTY (MAP 9)

Hamilton County is a Platte Valley and Rainwater Basin county with less than 1,000 acres of permanent surface water, 2,400 acres of wooded habitats, and almost 50,000 acres of grasslands or farmlands. There are tourist accommodations at Aurora.

A. Federal Areas:

1. Springer Waterfowl Production Area.(Map location 3). Area 266 wetland ac., 134 ac. upland. Located 6 miles west and 1 mile south of Aurora. Habitat includes 397 acres of wetland and 243 acres of upland. The Fish and Wildlife Service purchased the first tract in 1991, with the last purchase occurring in 1995. This basin was completely farmed prior to acquisition and represents the first major restoration project in the rainwater basin. Beginning in 1997, the south 160 acres was reseeded with a high diversity mix of grasses, forbs, sedges and rushes. Livestock grazing is used to control the invasion of reed canary grass. The large, flat wetland provides excellent habitat for waterfowl and other water birds. A well and pump are located on the property which is routinely pumped with water in the spring and fall. (Courtesy Eric Volden)
2. Troesler Basin Waterfowl Production Area (Map location 4 right). Area 123 wetland ac., 37 upland ac.
3. Nelson Waterfowl Production Area (Map location 5).Area 143 wetland ac., 17 ac. upland.

B. State Areas

1. Pintail Wildlife Management Area (Map location 4 left). Area 190 wetland ac., 94 upland ac. Located 2.5 miles south and 2 miles east of the Aurora I-80 exit 332. Habitat includes 268 acres of marsh, 185 acres of cropland and 25 acres of pastureland. A large basin southeast of Aurora that includes a shallow seasonal pond and mixed upland and lowland habitats. In wet springs this shallow marsh may attract up to 100,000 geese, primarily white-fronted, and is a favorite stopover for pintails and white-fronted geese. In the mornings, a new parking lot on the east side provides the best viewing access to the marsh. During afternoon the west side is better and the road is closer to the marsh. Some people use the old duck hunting dugouts on the southwest corner as viewing blinds. Look for pheasants, northern harriers and migrating peregrines in the uplands. Shorebirds, waders, American white pelicans, black terns, and a variety of waterfowl rest here during spring migration. (Courtesy Eric Volden)
2. Gadwall Wildlife Management Area (Map location 1). Area 90 ac., with 70 ac. wetlands (two "dugout" wetlands and narrow slough).
3. Deep Well Wildlife Management Area (Map location 2). Area 78 ac., with 35 ac. of semi-permanent wetlands and 25 ac. of permanent wetlands. Located 3 miles south of Phillips.

Habitat includes 35 acres of semi-permanent wetlands and 25 acres of permanent wetlands. 70 acres of marsh, 43 acres of pasture and 125 acres of cropland. Known locally as the Phillips basin. Mudflats and emergent vegetation harbor semipalmated plover, marbled godwit, willet, black tern, and a host of other waterbirds in May. Waterfowl concentrations peak in mid-March. Yellow-headed blackbirds and pied-billed grebes occasionally nest here. A king rail was seen here in 1992. The best viewing is from the road on the south side of the wetland. Common yellowthroats, yellow warblers and yellow-rumped warblers can be seen as well. Extensive renovation was completed in early 2004 followed by heavy shorebird usage in the spring and great waterfowl use in the fall. (Courtesy Eric Volden)

11. CLAY COUNTY (Map 9)

Clay County is a Rainwater Basin county with over 4,000 acres of permanent surface water, 900 acres of wooded habitats, and nearly 76,000 acres of grasslands or farmlands. There are tourist accommodations at Clay Center and Sutton.

- A. Federal Areas (All of these are Waterfowl Production Areas that vary greatly in size and in relative wetland permanence).
 - 1. Sandpiper Waterfowl Production Area (Map location 6). Area 226 ac. wetland, 214 ac. upland. One of the best sites for seeing migrating shorebirds in the region, especially during late March and April.
 - 2. Hultine Waterfowl Production Area (Map location 7). Area 164 ac. wetland, 74 ac. upland.
 - 3. Harvard Marsh Waterfowl Production Area (Map location 8). Area 760 ac. wetland, 724 ac. upland. A deep, permanent marsh that attracts tens of thousands of snow, Canada and greater white-fronted geese each March. Access from the east is via a narrow, often slippery road, but is better from the south, at least to the railroad tracks. Driving beyond is not recommended after rains. There is also a parking area on the north side, but it is located quite far from the nearest water or marshy areas. Later on in spring this area is used by many shorebirds, including several sandpipers and piping plovers, and breeders include northern harriers and short-eared owls. Occasional flocks of sandhill cranes stop, and eagles are regular in early spring. Altogether one of the best birding wetlands in the entire region; up to 500,000 waterfowl have been seen here at the peak of spring migration. Later on as water levels drop, the main basin and several smaller wetlands to the south offer excellent shorebird watching. One of the better fall migration wetlands. In late spring the area is used by many shorebirds, including several sandpipers and piping plovers. Breeders include northern harriers and short-eared owls. Occasional flocks of sandhill cranes stop and bald eagles are regular in early spring. Up to 500,000 waterfowl have been seen here at the peak of spring migration. Harvard Waterfowl Production Area is one of the Rainwater Basin playa lakes. (Courtesy Eric Volden)
 - 4. Lange Lagoon Waterfowl Production Area (Map location 10). Area 56 ac. wetland, 104 ac. upland. Located .25 mile east and 2 miles south of Sutton. Habitat includes 59 acres of wetland and 101 acres of upland. It is a migrant trap worth checking during migration. The grove of elm trees takes a few minutes to check and can be a good indicator of fallout. A nice area of permanent water exists but often cannot be viewed because of the immense stand of cattails. View the wetland from the east side and check out the trees on the north side. (Courtesy Eric Volden)
 - . 5. Theesen Lagoon Waterfowl Production Area. (Map location 11). Area 46 ac. wetland, 34 ac. upland. Located in Clay County, 1.5 miles northwest of Glenville. Habitat includes 46 acres of wetlands and 34 acres of uplands. Very consistent and productive during the mid-1990s, has been disappointing in recent dry years. Private property across the road to the west of Theesen Waterfowl Production Area usually has good mudflats for shorebirds in spring and late summer. (Courtesy Eric Volden)
 - 6. Massie Lagoon Waterfowl Production Area. (Map location 12). Area 494 ac. wetland, 359 ac. upland. Located in Clay County, 2.5 miles south of Clay Center. Habitat includes 494 acres of wetland and 359 acres of upland. Massie is an excellent basin to see shoreline, edge and grassland bird species and is one of the best Rainwater Basin lagoons for waterfowl and shorebirds. It is part of a large elliptical basin that once occupied almost 2 sections. Between

- 1997 and 2001 this marsh supported over 7,000 spring shorebirds. Waterfowl species include snow geese, greater white-fronted geese, Canada geese, pintails, and mallards. An observation blind is located close to the parking lot on the south side of the lagoon. One of the best of the Clay County lagoons for waterfowl and shorebirds. An observation blind is located close to the parking lot on the south side of the lagoon; this access point is recommended over the others. Water levels in spring are maintained by pumping. (Courtesy Eric Volden)
- 7. Glenvil Basin Waterfowl Production Area. (Map location 13). Area 83 ac. wetland, 37 ac. upland.
 - 8. Kissinger Basin Waterfowl Production Area. (Map location 14). Area 342 ac.
 - 9. Meadowlark Waterfowl Production Area. (Map location 15). Area 45 wetland ac., 35 upland ac.
 - 10. Harms Waterfowl Production Area. (Map location 16). Area 34 wetland ac., 25 upland ac.
 - 11. Moger Waterfowl Production Area. (Map location 17). Area 72 wetland ac., 125 upland ac.
Located 3 miles east and 2 miles south of Clay Center. Habitat includes 72 acres of wetland and 123 acres of upland. Spring burning and grazing have opened it up. A new well and pipeline allow adding water beyond spring runoff levels. Heavy cattails, no trees and an abundance of prairie grasses are found at Moger Waterfowl Production Area. (Courtesy Eric Volden)
 - 12. Shuck Waterfowl Production Area. (Map location 18). Area 56 ac. wetland, 24 upland ac. A permanent wetland toward the southwest part of the property is accessible via a dirt road on the southeast side.
 - 13. Green Acres Waterfowl Production Area. (Map location 19). Area 24 ac. wetland, 9 ac. upland.
Located 6 miles east and 4 miles south of Clay Center. Habitat includes 48 acres of wetland and 15 acres of upland. In 1999 about 44 acres of wetland was disked in late September. A monotypic stand of river bulrush existed. The wetland remained dry through the fall and winter. In late April, 2000, a prescribed burn was conducted. Most of the organic matter and exposed tubers were burned. By October, about 50 percent of the wetland was again covered with bulrush. The remaining area contained smartweed. (Courtesy Eric Volden)
 - 14. Eckhardt Lagoon Waterfowl Production Area. (Map location 20). Area 66 ac. wetland, 108 ac. upland. Located 8 miles east and 4 miles south of Clay Center. Eckhardt Waterfowl Production Area recently underwent a prescribed burn followed by disk the wetland and then grazing to reduce the dense stand of river bulrush and to keep vegetation short and in isolated pockets of the wetland. The wetland was pumped in the spring of 2000 and received tremendous use by pintails, mallards, white-fronted geese, and Canada geese in February and March. Near the end of March, snow geese began using the wetland as well. Located near Green Acres Waterfowl Production Area. (Courtesy Eric Volden)
 - 15. Smith Lagoon Waterfowl Production Area. (Map location 21). Area 226 ac. wetland, 224 ac. upland. Located 6 miles south and 3.5 miles east of Clay Center. Habitat includes 226 acres of wetland and 254 acres of upland. In 1998, a new boat ramp was built in the southwest corner of the property. The west half was burned in the spring of 1999. Disking and grazing were done to open small pockets of water for pintail and mallard use. The small open-water pockets are not attractive to snow geese which use the larger, more open wetlands. During the spring of 2000 migration, the wetland was heavily used by pintail and mallard. Snow geese begin using the wetland towards the end of their migration. One of the reasons for their using the wetland may have been hunting pressure on larger open wetlands. The dry conditions of 2002 and 2003 allowed for disk the most of the bulrush in the wetland. An excellent waterfowl area during spring migration. (Courtesy Eric Volden)
 - 16. Greenhead Waterfowl Production Area. (Map location 22). Area 60 ac. Includes a dugout pond and mainly marshy habitats. .
 - 17. Hansen Lagoon Waterfowl Production Area. (Map location 23). Area 205 wetland ac., 115 upland ac. Located in Clay County, 0.25 mile west and 3.5 miles north of Ong. Habitat includes 147 acres of wetland and 173 acres of upland. Excellent basin for bird-watching, the east portion has been best in recent years. Overgrown with cattail, one may need to walk from parking area west to large lagoon for best viewing. (Courtesy Eric Volden)
 - 18. Greenwing Waterfowl Production Area. (Map location 24). Area 80 ac. Includes marsh, uplands, and scattered thickets. Located .5 miles east and 3 miles north of Ong. Habitat

includes 53 acres of marsh and 27 acres of uplands with scattered thickets and cropland. It was purchased by the Nebraska Game and Park Commission in 1982 and had a restoration project completed in 2000, which included filling concentration pits and removing trees. (Courtesy Eric Volden)

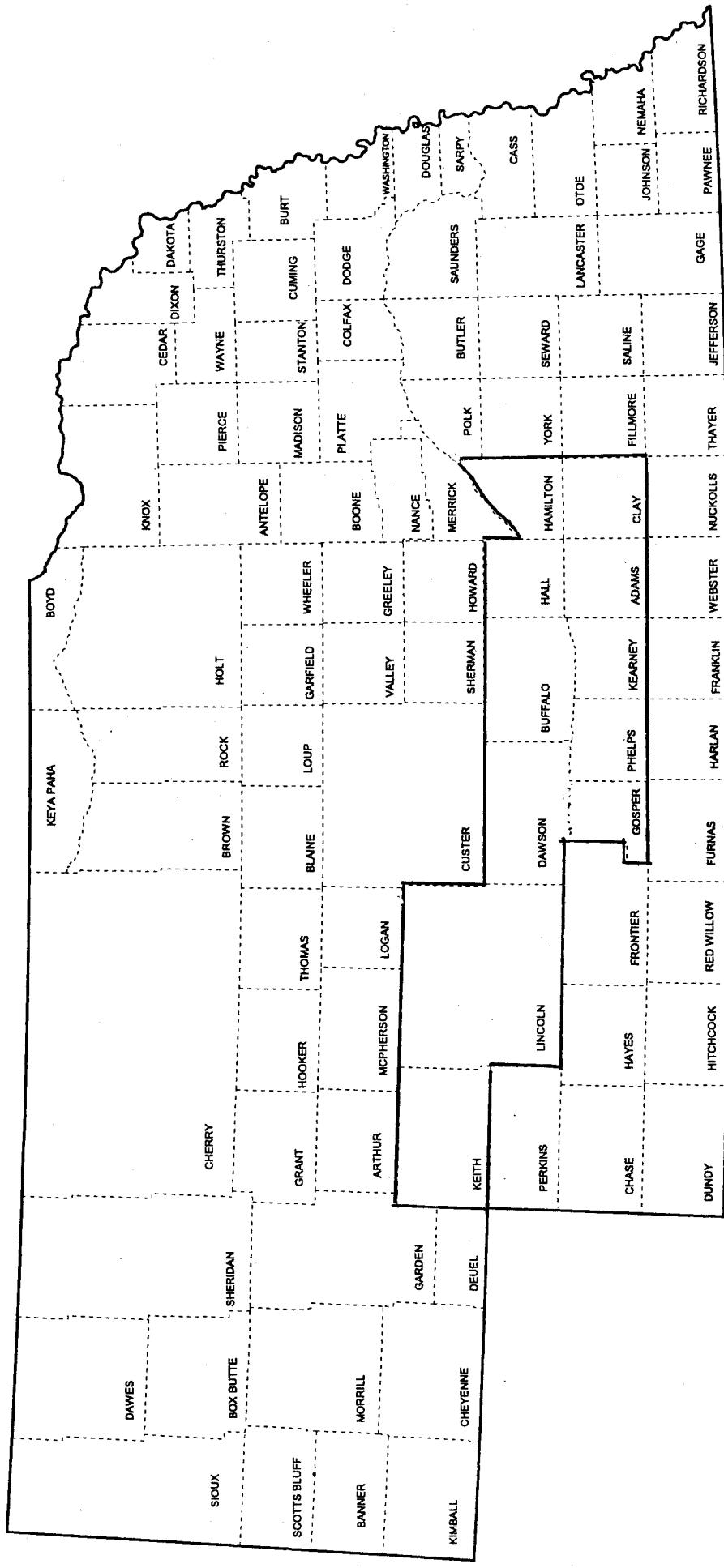
19. Verona Waterfowl Production Area. 160 ac. Located near the village of Verona which is 5 miles east and 2 miles north of Clay Center. Habitat includes 38 acres of wetland and 122 acres of upland. Verona Waterfowl Production Area is part of a cluster of adjoining rainwater basin wetlands known as the Verona Complex. This complex reconnected an entire upland and wetland community of adjoining wetlands including a 20 acre state WRP and over 400 acres of Ducks Unlimited property. (Courtesy Eric Volden)

B. State Areas

1. McMurtry Refuge (Map location 9). Area 1,071 ac. No public access, and closed to hunting.
2. Bluewing Wildlife Management Area. Located four miles west, 0.5 mile south of Edgar. Includes 160 acres of lowland and seasonal wetland habitat.
3. Bullrush Wildlife Management Area. Located three miles west of Edgar. Includes 160 ac. of upland and marshes
4. Whitefront Wildlife Management Area. Located 1.5 miles west and 1.5 miles north of Clay Center. Includes 7 acres of permanent wetland, 158 acres of cropland and 10 acres of pasture.
7. Anderson Basin. 120 ac. Located 1.5 mi. south of Eckhardt Waterfowl Production Area. Privately owned wetlands on the east and west side of the road. 24 great blue herons were seen here at one time during the fall of 2004. (Courtesy Eric Volden)
8. Brinkerhoff Wetland. 60 ac. Located .5 miles east and 5.5 miles north of Ong at the corner of County Road "Z" and County road 308. Beautiful little wetland with wrens, rails and raptors. Pristine-looking wetland that is grazed by horses. (Courtesy Eric Volden)
9. Dejung Basin. 30 ac. Located .5 miles north of Green Acres Waterfowl Production Area. A small private basin where the owner continues to try to grow crops. It often floods, however, and can be good for shorebirds. Permanent wet marsh is very attractive to fall migrating egrets and bitterns with good variety of ducks and shorebirds. Best viewed from the southeast side by parking along county road "T". A separate pond surrounded by cottonwoods in the northeast corner should be checked as well. (Courtesy Eric Volden)
10. Great Little Basin. 40 ac. Located 2 miles north and 1 mile east of Hansen Waterfowl Production Area. This small private basin has earned the name "Great Little Basin" in the past. Heavily grazed and consistent. Good fall egrets, ducks and shorebirds.
11. North Harvard Basin. 40 ac. Located .5 miles west and 2.5 miles north of Harvard Waterfowl Production Area. Small, heavily grazed and dynamic private basin. Black-bellied whistling ducks were seen here on August 2-3, 1999. (Courtesy Eric Volden)
12. Sheridan Basin. 120 ac. Located 1 mile east and 8 miles south of Sutton. This basin was restored in 2003 and has been very attractive to a variety of water birds ever since. Egrets, bitterns, white-faced ibis, herons and waterfowl have been seen here regularly. Ruddy ducks nested here the summer after renovation. Surrounding meadow is hayed in late fall allowing for good visibility from the surrounding county road. Courtesy Eric Volden)
11. East Harvard Basin. 20 ac. Located 3 miles west of North Hultine Basin (Sandpiper Waterfowl Production Area). Very good in the fall with large numbers of shorebirds including avocets, ducks and waders. Grazed heavily. (Courtesy Eric Volden)

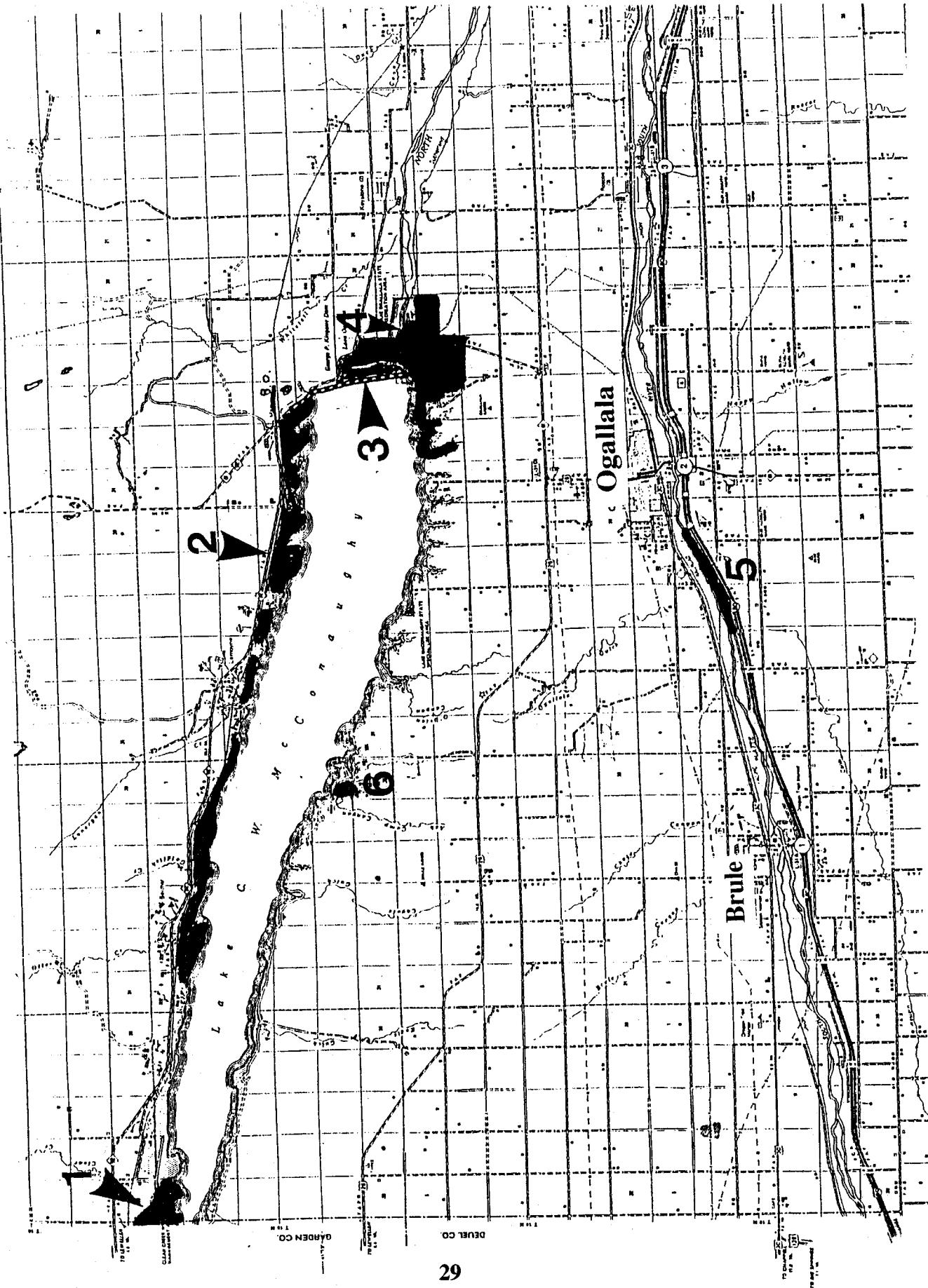
Mapped Counties of the Central Platte Valley

(Not all parts of every county are shown on the following maps)

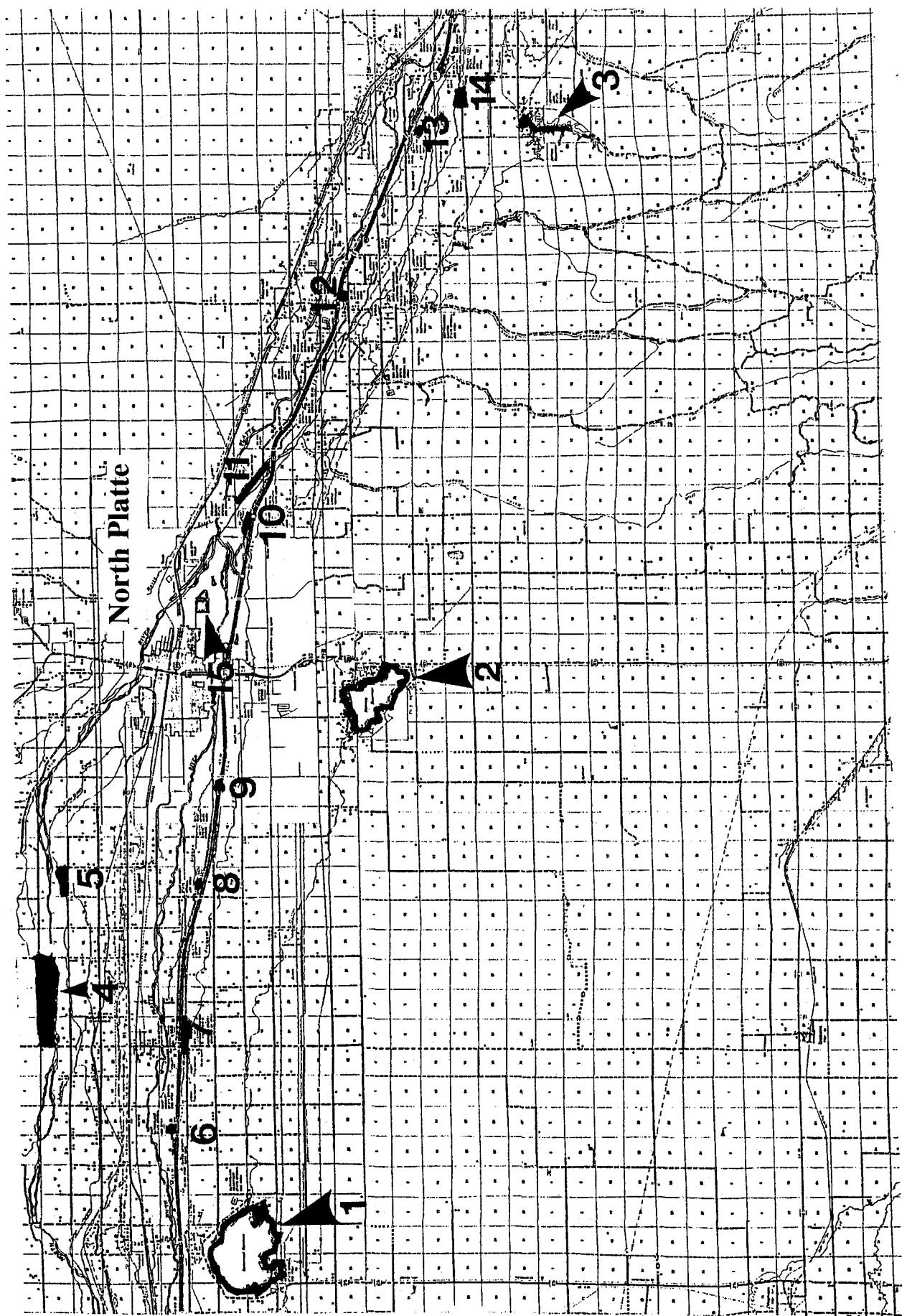


County Map 1

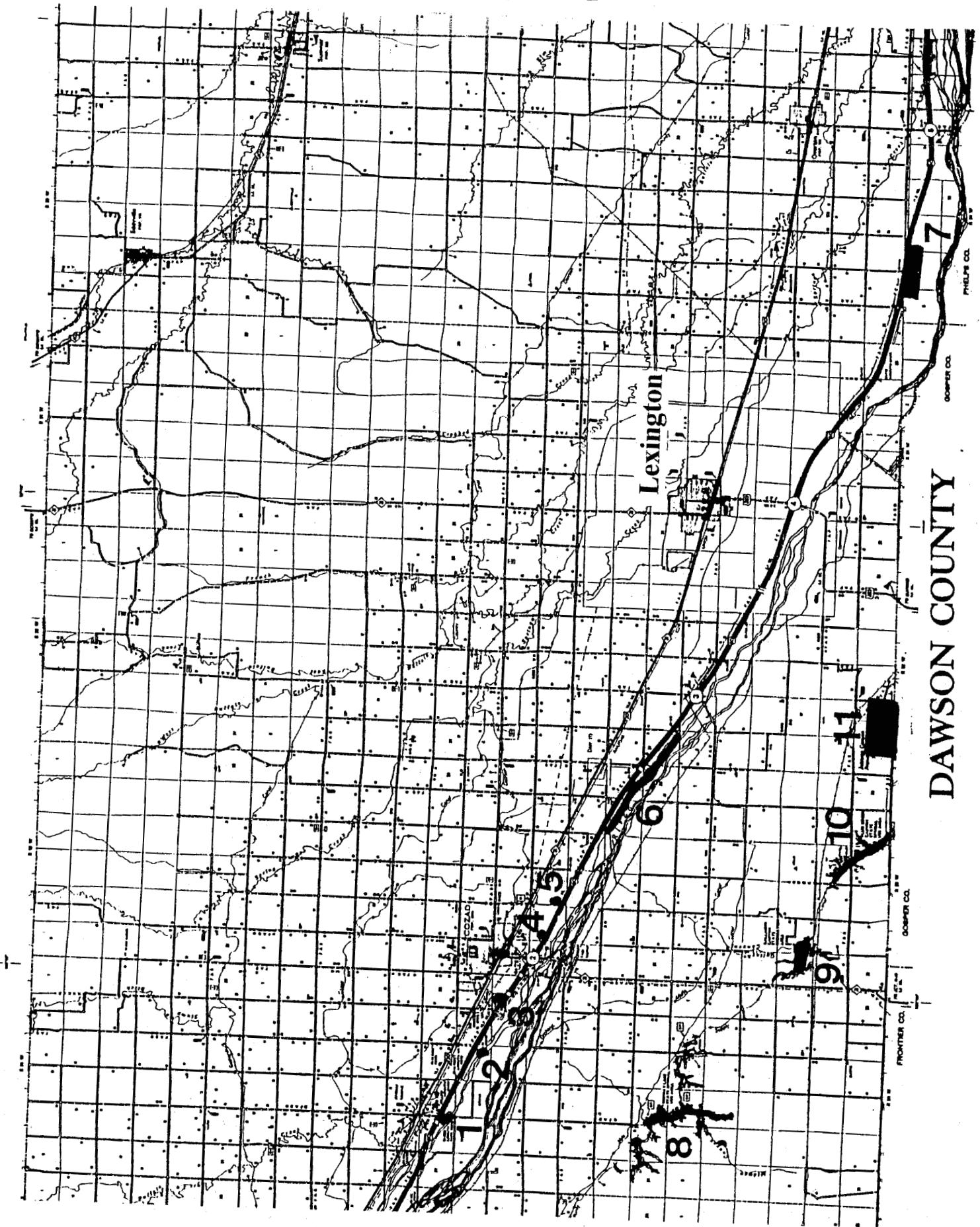
KEITH COUNTY



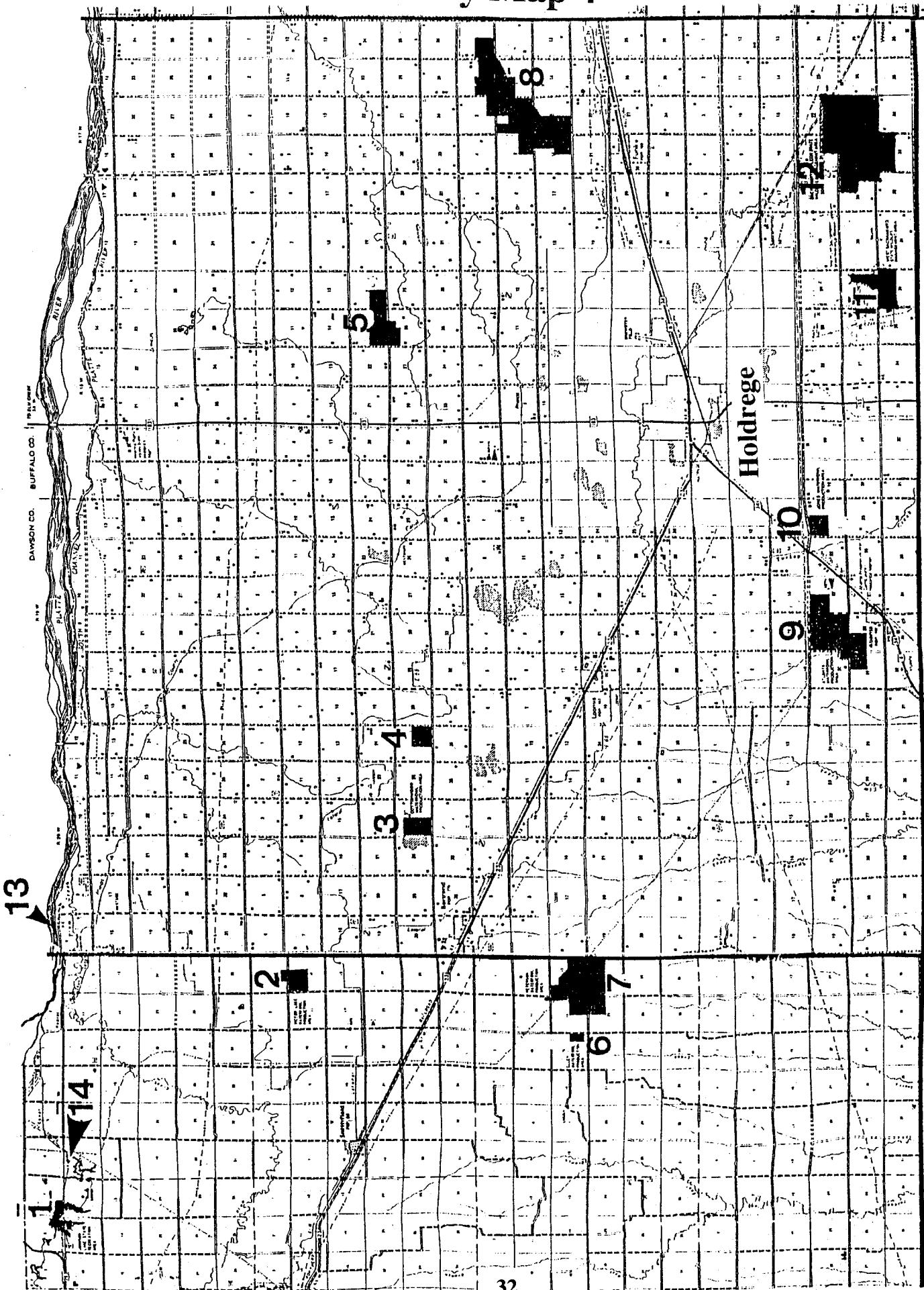
County Map 2



County Map 3



County Map 4

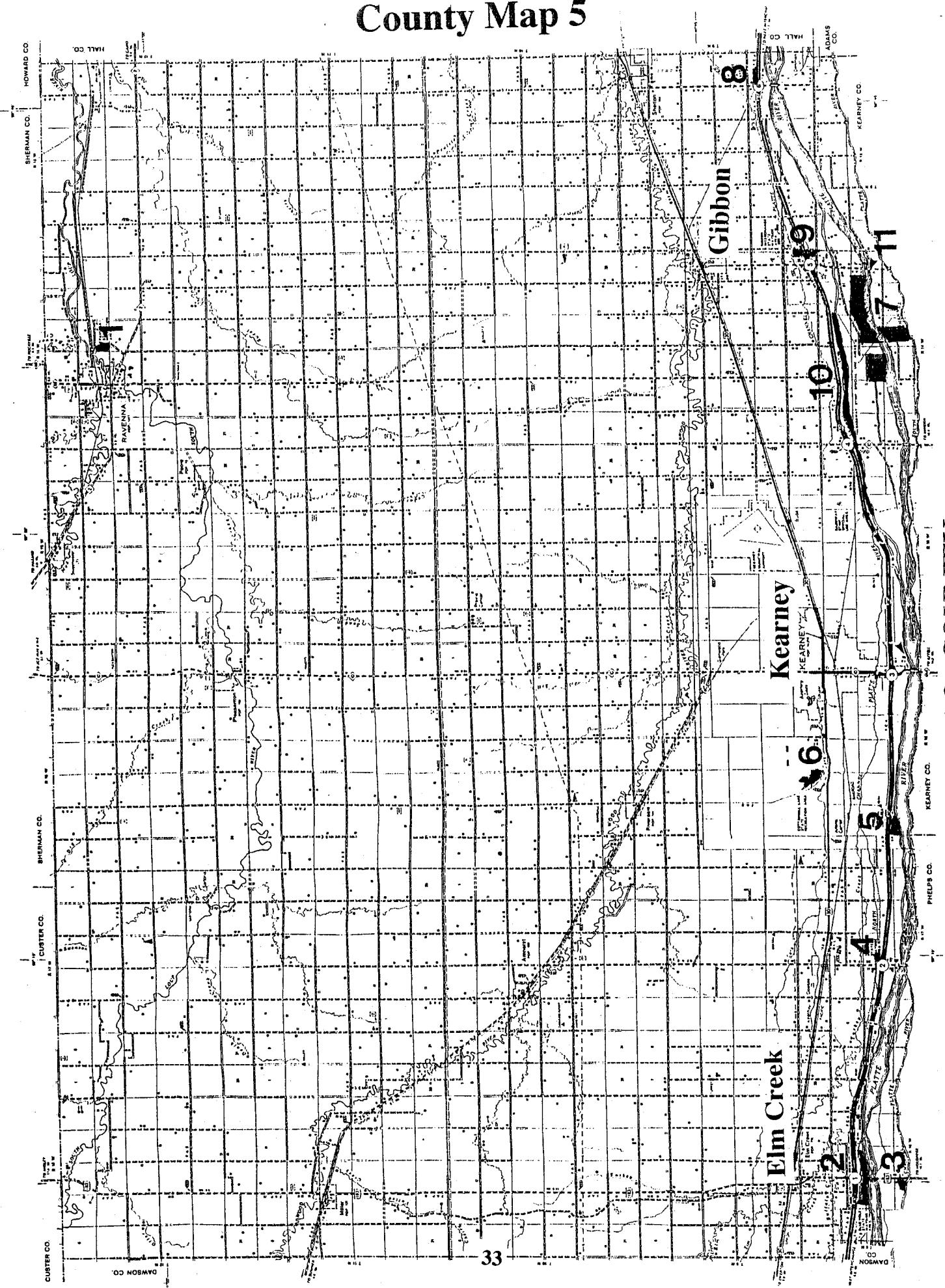


PHELPS COUNTY

GOSPER COUNTY

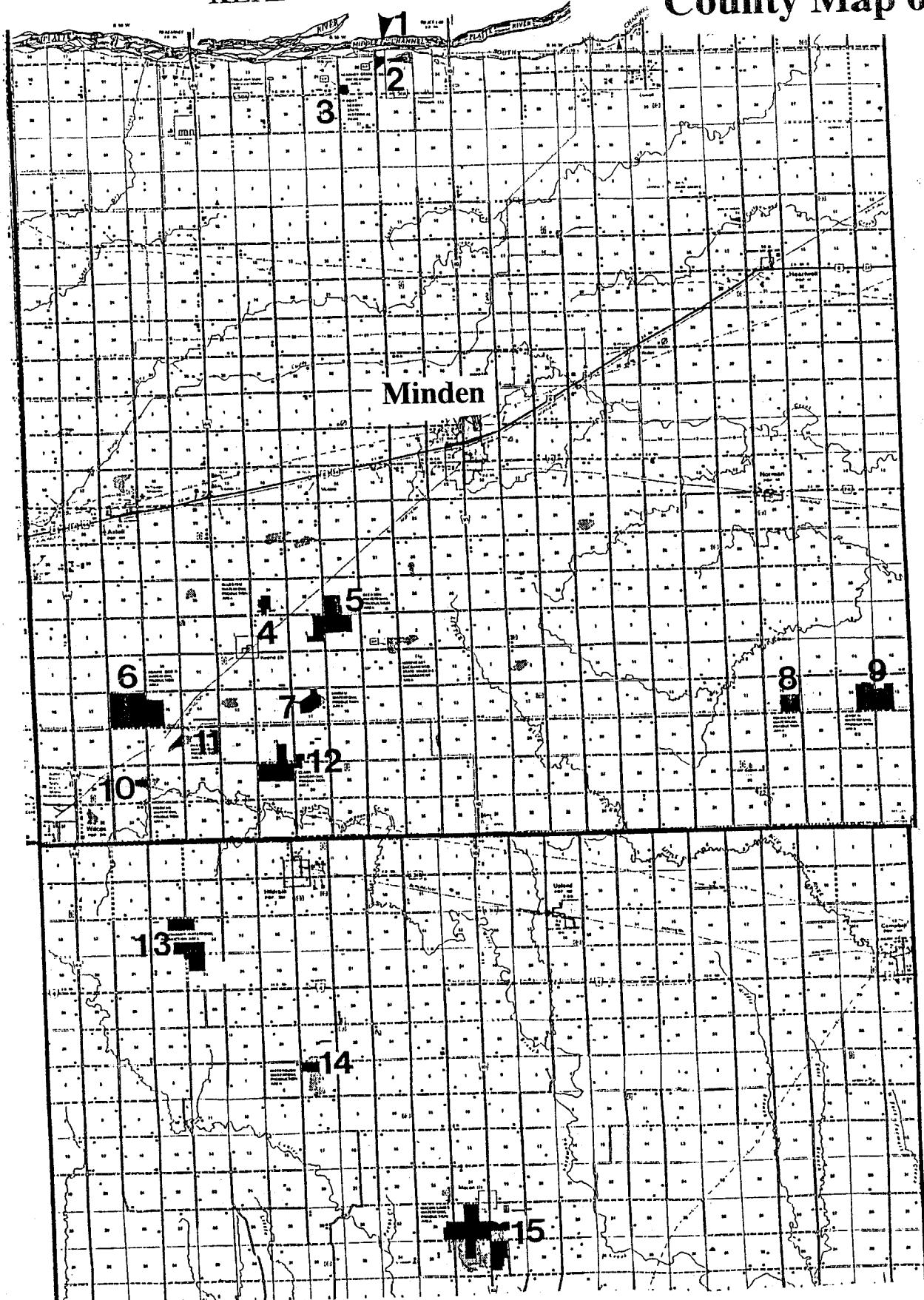
County Map 5

BUFFALO COUNTY



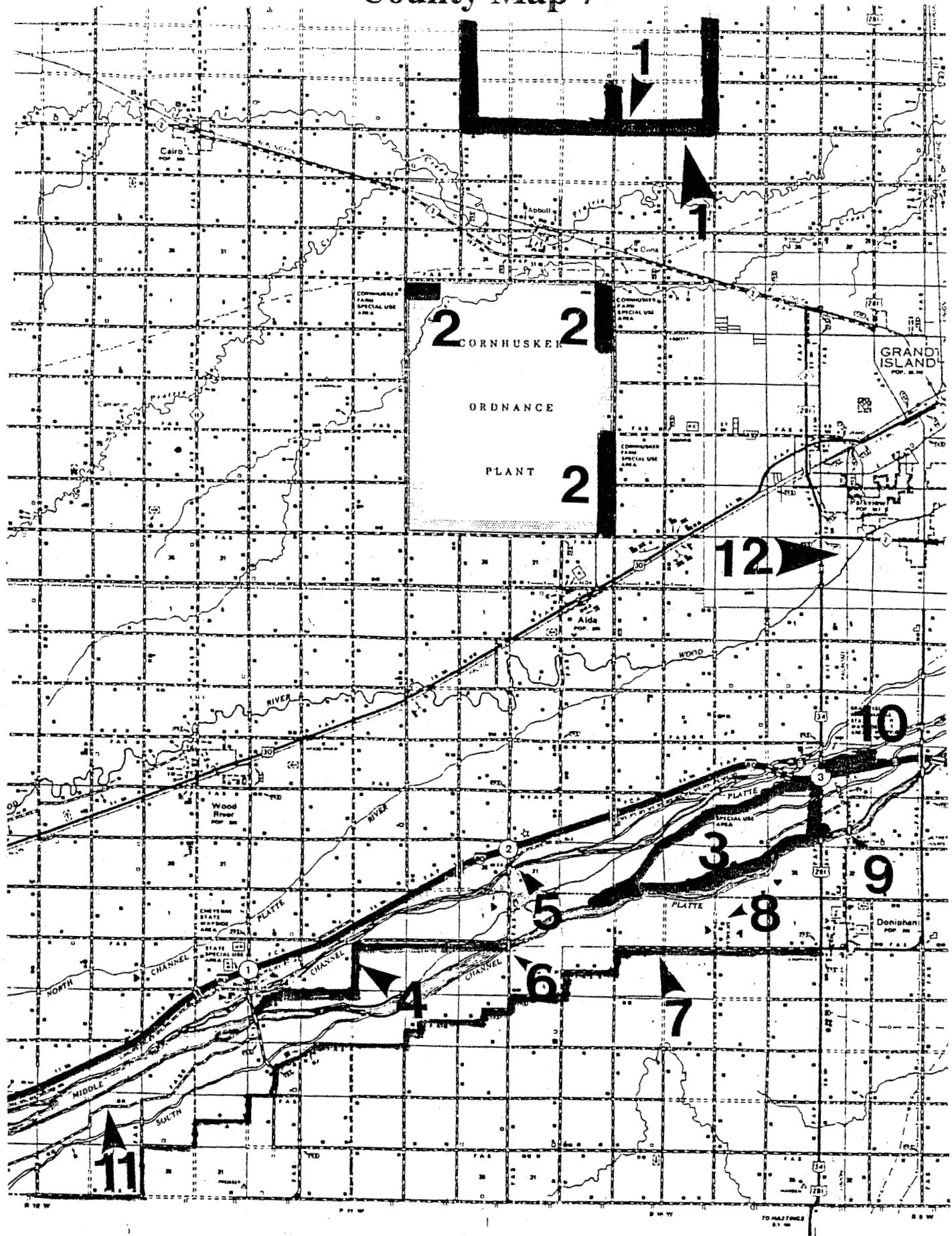
KEARNEY COUNTY

County Map 6



FRANKLIN COUNTY

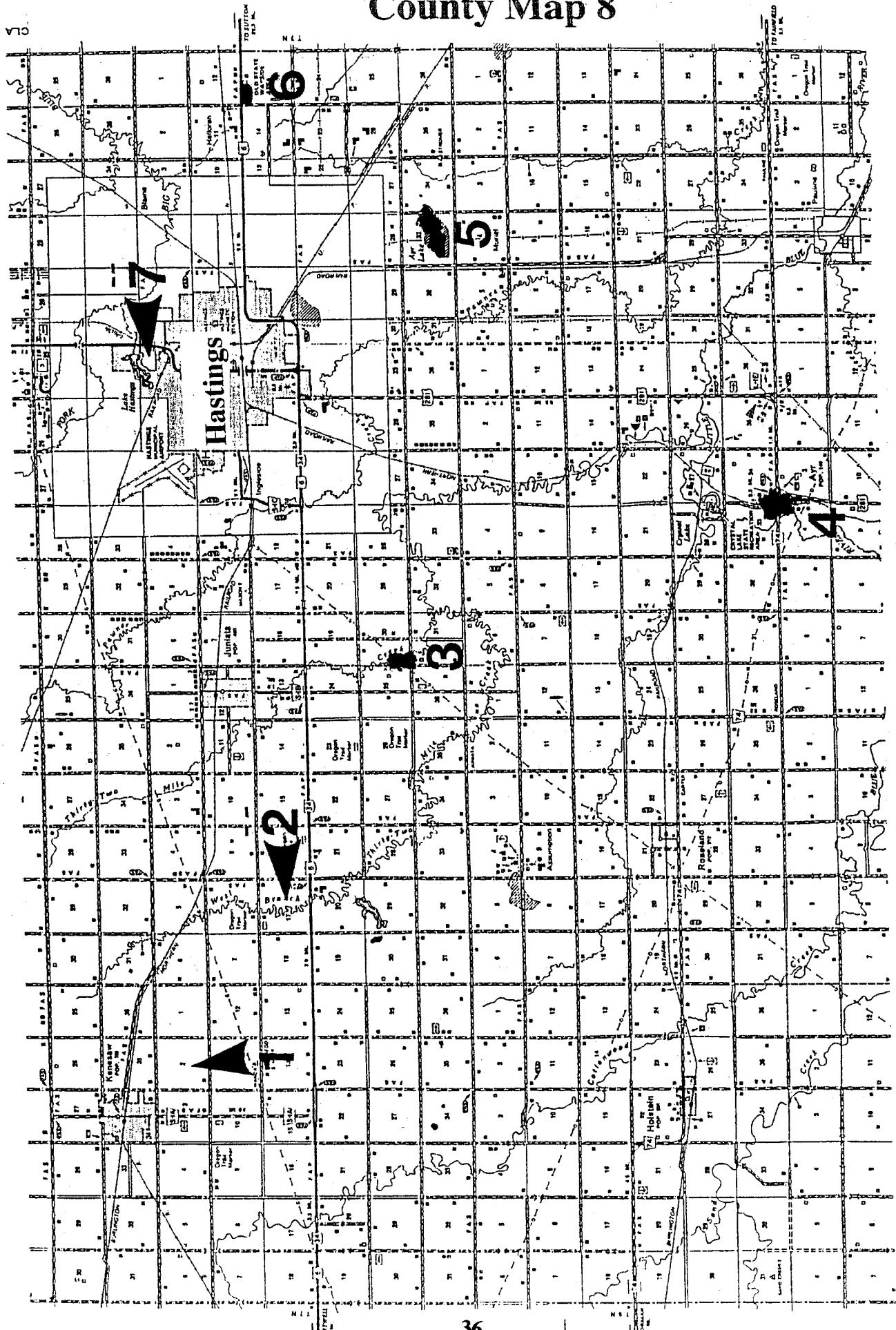
County Map 7



HALL COUNTY

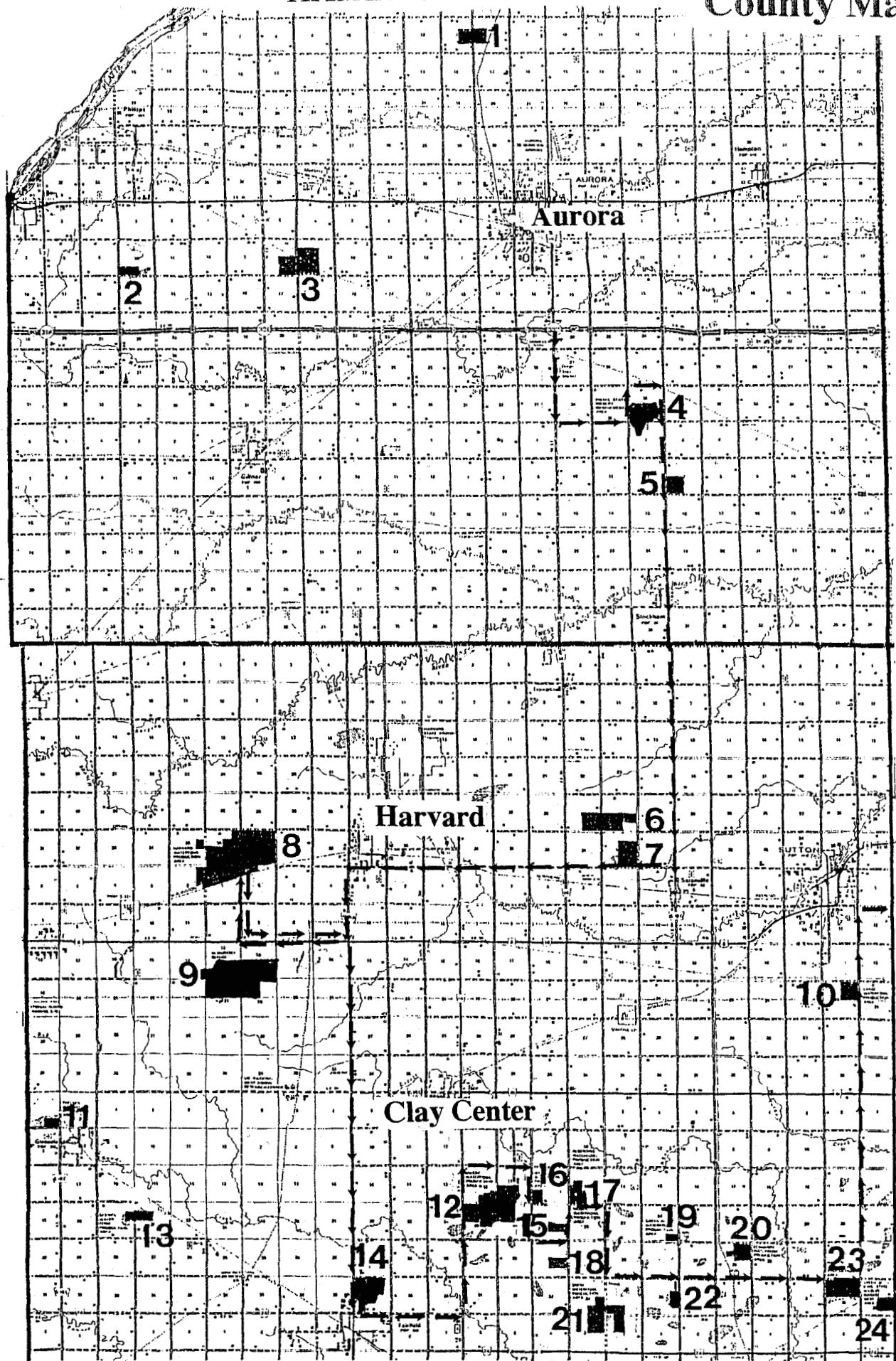
County Map 8

ADAMS COUNTY

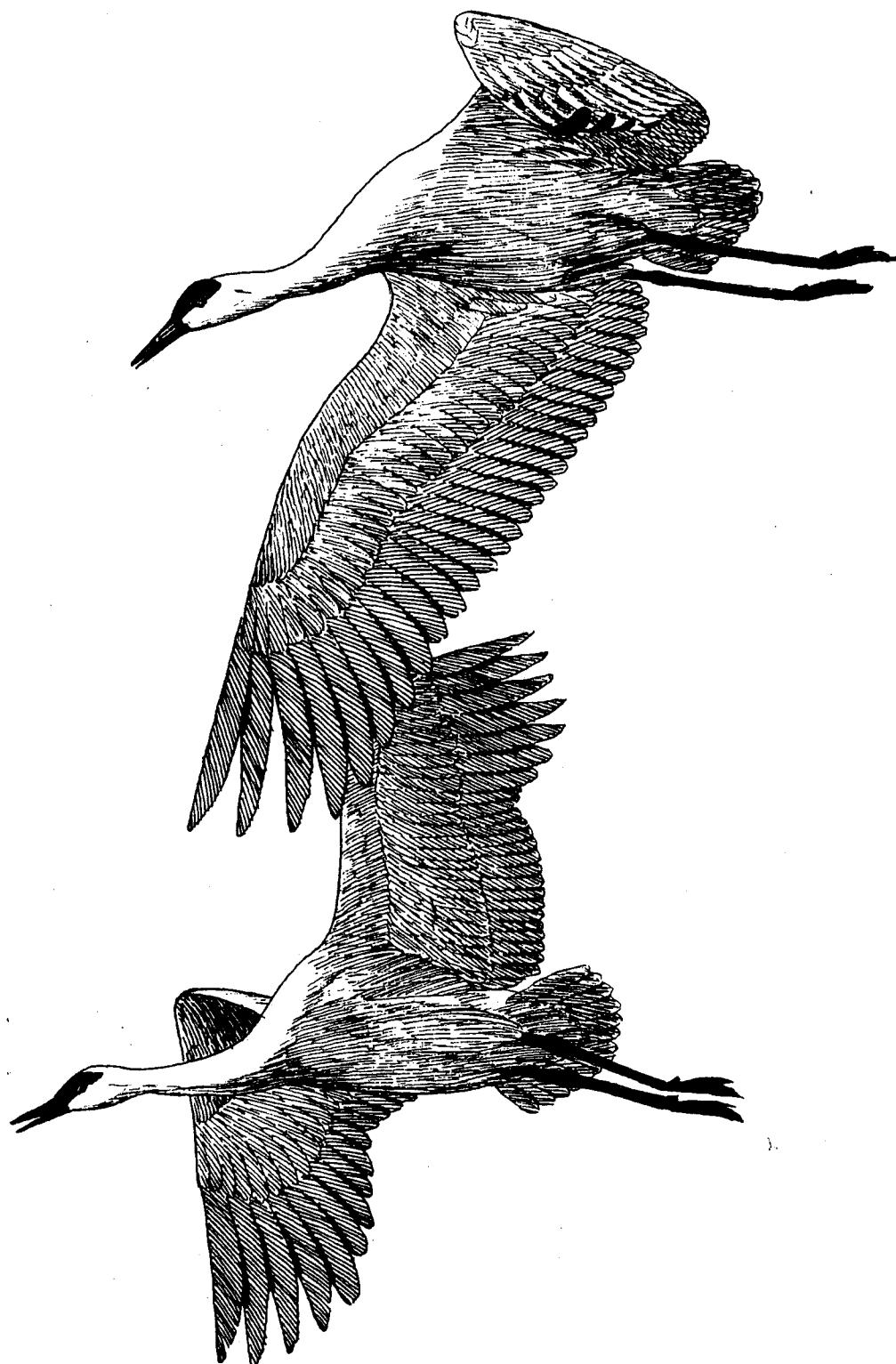


HAMILTON COUNTY

County Map 9



Sandhill and Whooping Cranes of the Platte Valley



The What, Where, When, Why and How of Crane-watching on the Platte

What to Look For:

Sandhill Crane. Mostly gray, adults with bare red crowns, juveniles with crowns still partly feathered. Calls are loud, rattling notes in adults, high peeping notes in juveniles.

Greater Sandhill Crane. About 4 ft. tall, make up about 5 percent of spring flocks. On their way to Minnesota and southern Canada. Lower-pitched voice than in smaller cranes.

Lesser Sandhill Crane. About 3 1/2 ft. tall, higher-pitched voice, make up about 95 percent of spring flocks. On their way to tundra breeding grounds in northern Canada, Alaska and Siberia. (A few intermediate--sized birds may also occur along the Platte—they are often called Canadian sandhill cranes and breed in central Canada.)

Whooping Crane. White with black wingtips and head markings. About 5 ft. tall. Calls of adults a loud, resonant trumpeting. Very rare. Headed to nesting grounds in northern Canada.

What Other Species Need the Platte

Well over 100 species of birds are fairly common in the Platte Valley in spring. They include enormous flocks of snow geese (over a million at peak), and similar numbers of Canada geese and white-fronted geese. Millions of ducks, especially mallards and pintails, also stop in the Platte Valley. Two nationally threatened or endangered species, the least tern and the piping plover, have major nesting grounds in the Platte Valley as well. The bald eagle, recently removed from federal listing, occurs in the hundreds along the Platte during the winter months.

Where to Look for Cranes.

During the day, look for cranes in cornfields, where they spend most of their time, and in wet meadows near the river, where they rest and look for invertebrates such as worms and snails. From about sunset until sunrise, the cranes will be using river roosts, generally on and beside sandy islands and bars well away from shorelines, the nearest road or easy human access.

When to Look for Cranes

Sandhill cranes typically start to arrive in the Platte Valley in mid-February, or as soon as the river is ice-free. They usually peak in late March, at nearly a half-million birds, and begin to leave during early April. They are mostly gone by mid-April, but some stragglers may stay late. Whooping cranes typically arrive in early April, but sometimes one will follow the flocks of sandhill cranes and arrive in March. They come as pairs and families, never in large flocks.

Why the Cranes use the Platte Valley

Sandhill cranes need to stop here to rest and to eat enough to gain body fat sufficient to get them to their breeding grounds in prime breeding condition. They gain much weight here, mostly by eating corn, and get some proteins from small animal life. They also use the Platte River as a safe place to spend the night. Of all the Central Plains rivers, only the Platte River is wide enough and shallow enough for the birds to stand all night in shallow water, safe from coyotes and other dangers. Nevertheless, some birds are always awake, in case danger threatens.

How You Can Help

If you are a student, you can learn to identify birds, and read about their behavior and ecology. Through groups like 4-H and Boy Scouts or Girl Scouts you can perform conservation activities, and make your feelings about conservation known. You might also be able to join a local Audubon chapter, or by joining Audubon or other groups support them directly.

Sources of Additional Information on Cranes and Other Nebraska Birds.

Persons wishing to learn how to identify wild birds should have a field guide and binoculars if possible. There are many good field guides; perhaps the best one for beginners (and one of the least expensive) is one published by Golden Press and written by C. Robbins and others, titled *Birds of North America*. The classic, time-proven field guide is R. T. Peterson's *A Field Guide to the Birds East of the Rockies*, with fewer species, but has larger and better paintings than the Golden Guide. Other guides (the National Geographic's *Field Guide to the Birds of North America*, and the Sibley *Guide to Birds*) are probably better for more experienced observers; one based on digital photos (the Ken Kaufman guide) has yet to prove as useful as paintings.

There are over 400 species of birds known to occur in Nebraska; the one-page checklist included in this packet lists nearly all of them, but many of these are rare or hard to find. Those on the list with black circles to the left of their names are notably rare, and those with open squares have few nesting records. The approximately 80 species with check-marks at the right of their names are most likely to be seen in the Platte Valley during the peak spring sandhill crane migration period of March. Bird watchers should keep daily records of what they see; over time these become valuable to science, and provide wonderful memories as well. Photocopying this sheet makes a handy way to keep such records. These notes should include the date, location, weather, and numbers (sometimes estimates) of each species seen. Describing behavior that you observed, or making notes on species seen but not identified in the field, can be very useful.

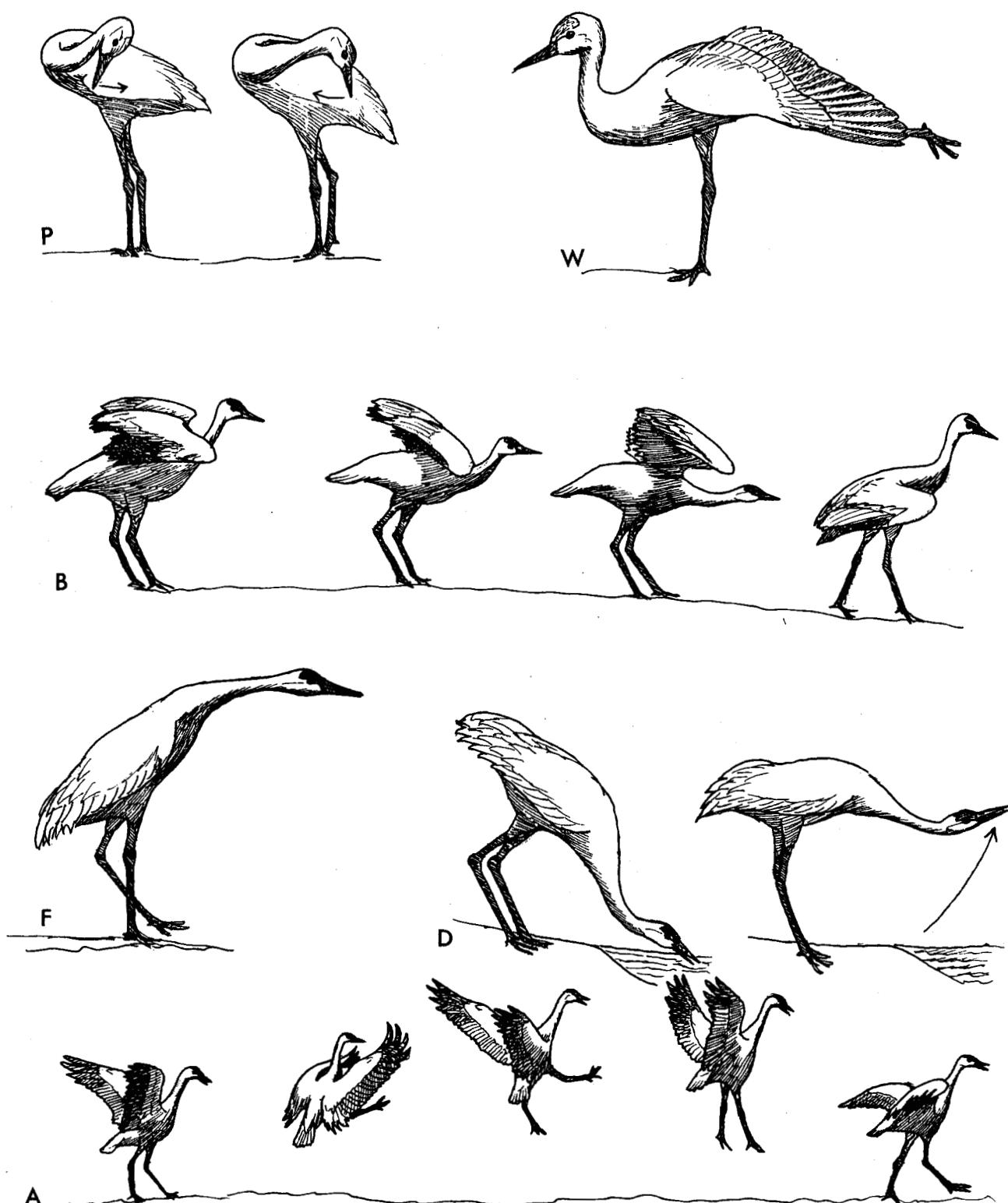
Both North American cranes are described in P. Johnsgard's *Crane Music: A Natural History of the North American Cranes* (Smithsonian Inst. Press, 1991, reprinted as a Bison Books softback by the Univ. of Nebraska Press, Lincoln). The sandhill crane's life history is told in Johnsgard's *Those of the Grey Wind: A Story of the Sandhill Crane* (St. Martin's Press, 1981. Bison Book softback reprint, Univ. of Nebraska Press, 1990). All the cranes of the world are thoroughly described in P. Johnsgard's *The Cranes of the World*, Indiana Univ. Press, Bloomington, Indiana (1983, out of print). The accompanying drawings all came from one or another of these books. They may be Xeroxed for educational use by teachers.

Recent accounts of cranes can be found in the *Birds of North America* species monograph series, published by the Academy of Natural Sciences of Philadelphia. The sandhill crane account is by T. Tacha and others, (No. 31, 1992); the whooping crane account is by J. Lewis (No., 153, 1995). The *Birds of Nebraska*, by R. Sharpe and others (2001, U. of Nebraska press), provides a complete survey of Nebraska birds. The 200-plus species of birds breeding in the Great Plains were discussed in Johnsgard's *Birds of the Great Plains; The Breeding Species and their Distribution* (Univ. of Nebraska Press, 1979, out of print).

The natural history of Nebraska is summarized in P. Johnsgard's *The Nature of Nebraska* (Univ. of Nebraska Press, 2001). The ecology and history the Platte River were discussed in Johnsgard's *The Platte: Channels in Time* (Univ. of Nebraska Press, 1984). All of the grassland birds of the Great Plains are thoroughly described *Prairie Birds: Fragile Splendor in the Great Plains*, by P. Johnsgard (Univ. Press of Kansas, 2001). About 100 of the more conspicuous or otherwise important terrestrial vertebrate species (birds, mammals, reptiles and amphibians) of the Great Plains are discussed in Johnsgard's *Great Wildlife of the Great Plains* (Univ. Press of Kansas, Lawrence, 2003).

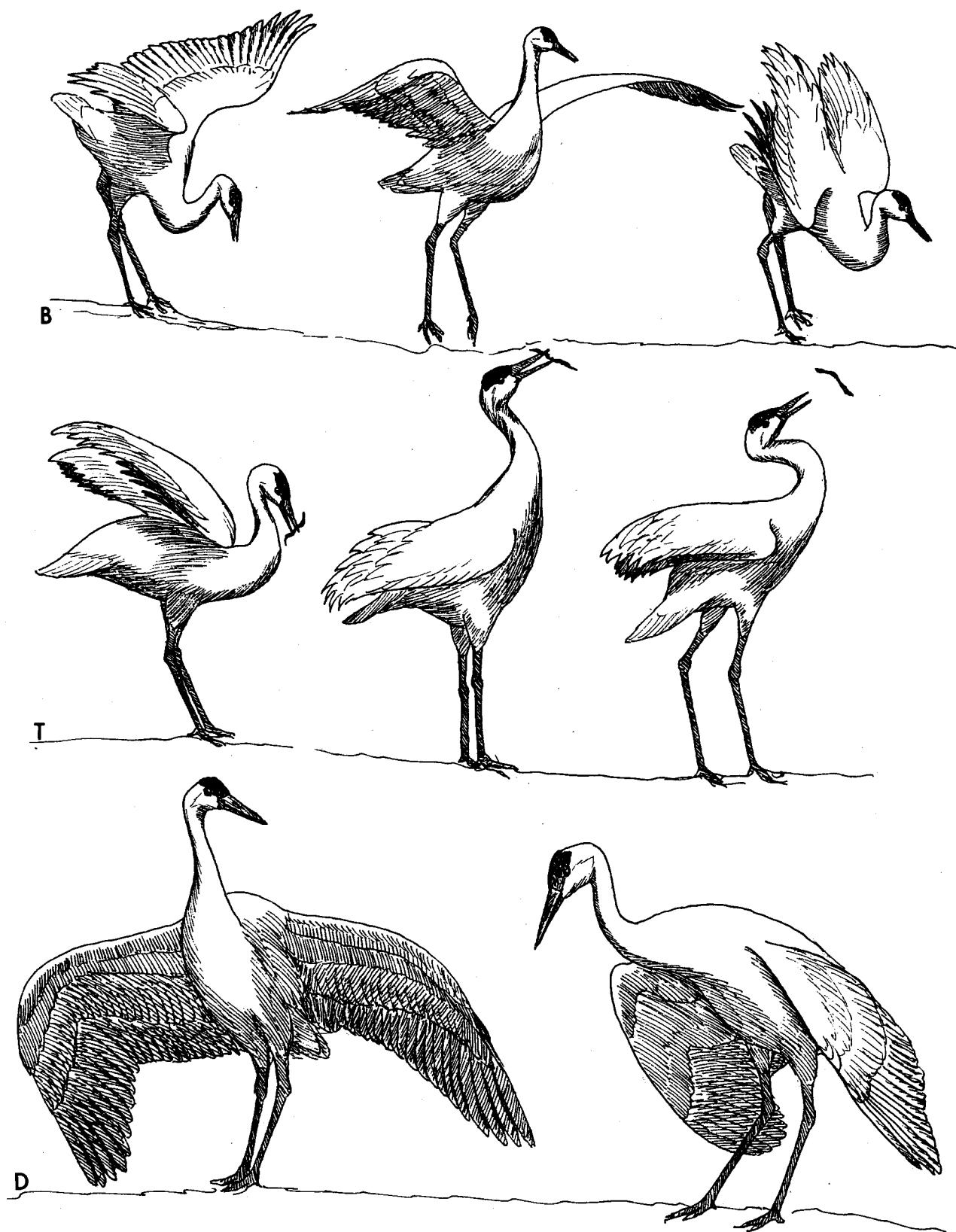
Rowe Sanctuary has a website with crane information: <http://www.rowesanctuary.org/> It has links to other sites, such as Nebraska Game & Parks Commission's, which has information on many Nebraska's birds: (<http://www.ngpc.state.ne.us/wildlife/wildlife.html>).

INDIVIDUALISTIC AND SOCIAL BEHAVIOR



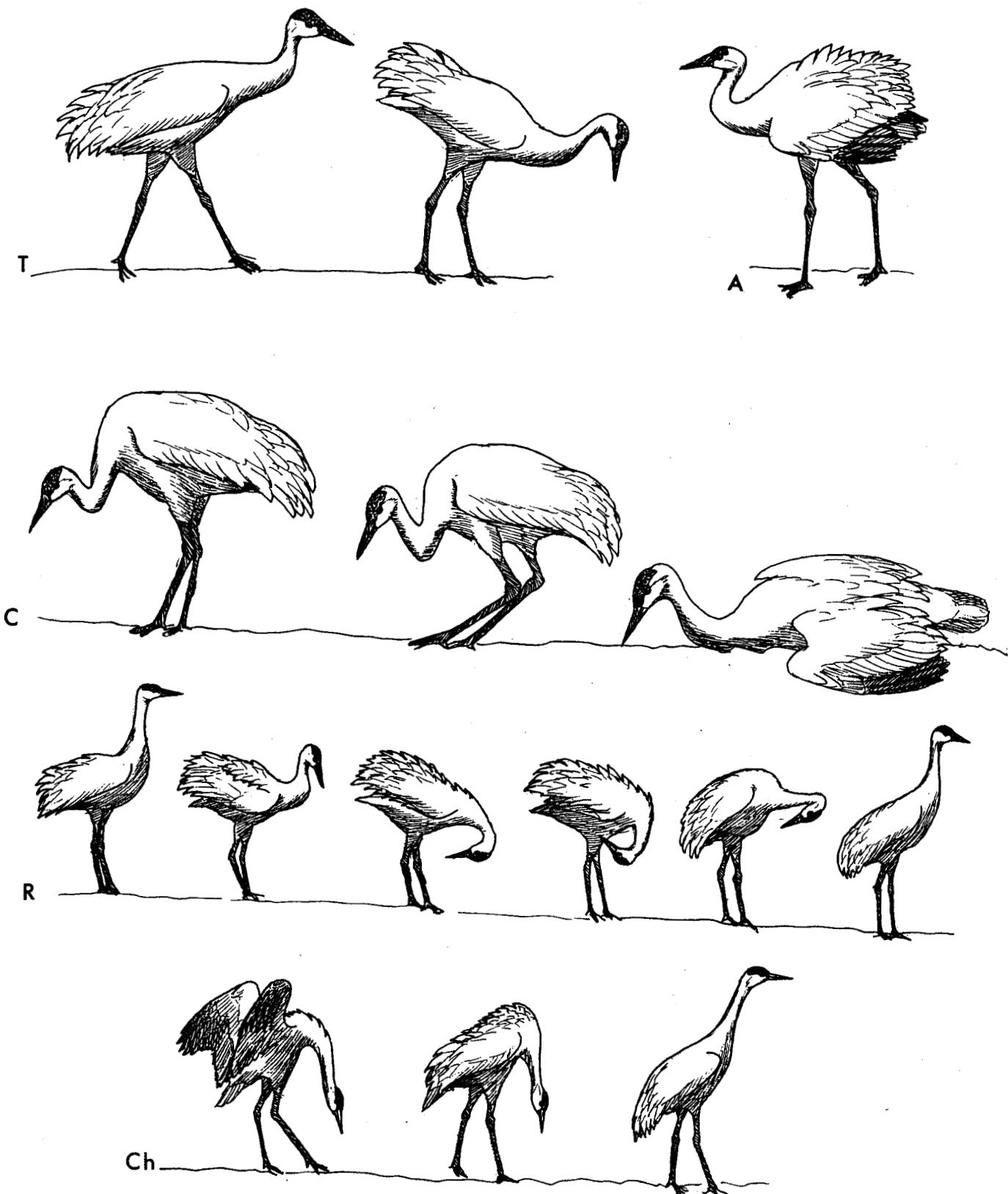
Behavior patterns in cranes, as illustrated by the sandhill crane, and including preening or back-slicking (P), wing-stretching (W), bow-stretching (B), flight-intention (F), drinking (D), and attack (A). After Voss (1976).

INDIVIDUALISTIC AND SOCIAL BEHAVIOR



Behavior patterns in cranes, as illustrated by the sandhill crane (in part after Voss, 1976) and including bowing (B), tossing (T), and distraction (D) behavior.

INDIVIDUALISTIC AND SOCIAL BEHAVIOR



Behavior patterns in cranes, as illustrated by the sandhill crane, and including tertial-raising (T), appeasement (A), crouch-threat (C), ruffle-preen (R), and charge (Ch). After Voss (1976).

Drawings (of Hooded Crane) by H. Masatomi
From *Journal of Ethology* 22:69-83 (2004)

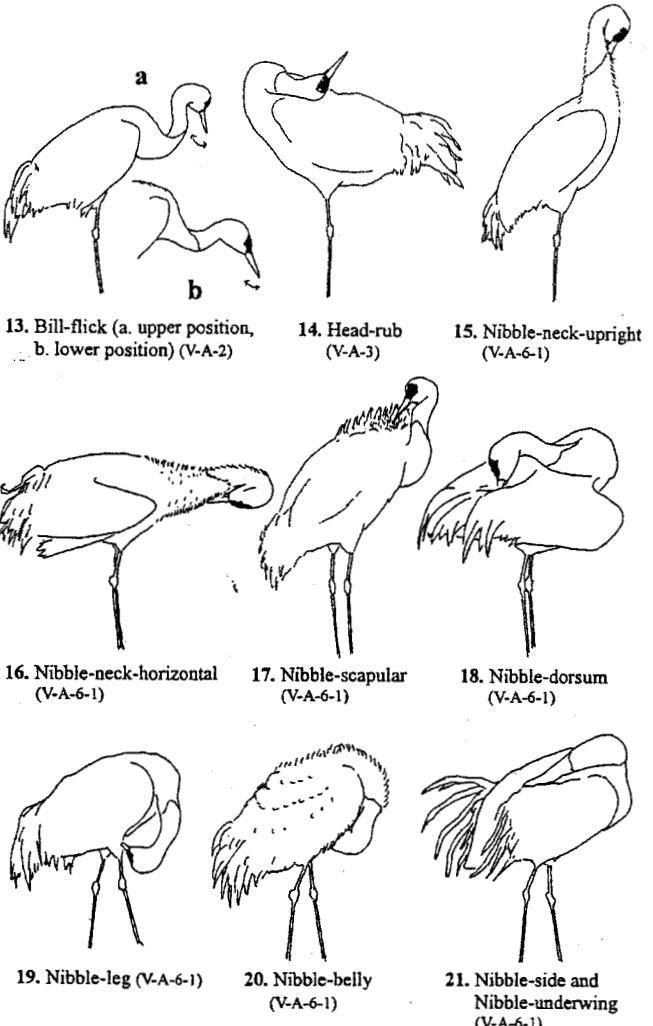
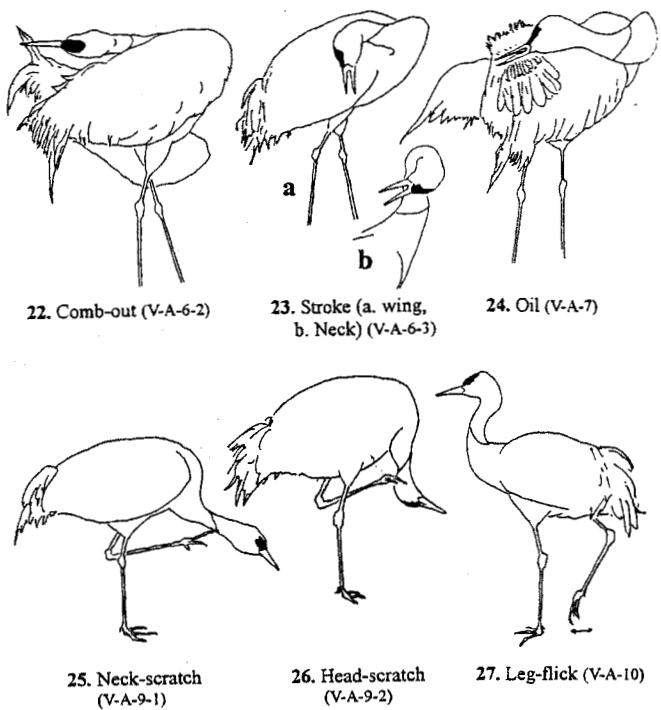
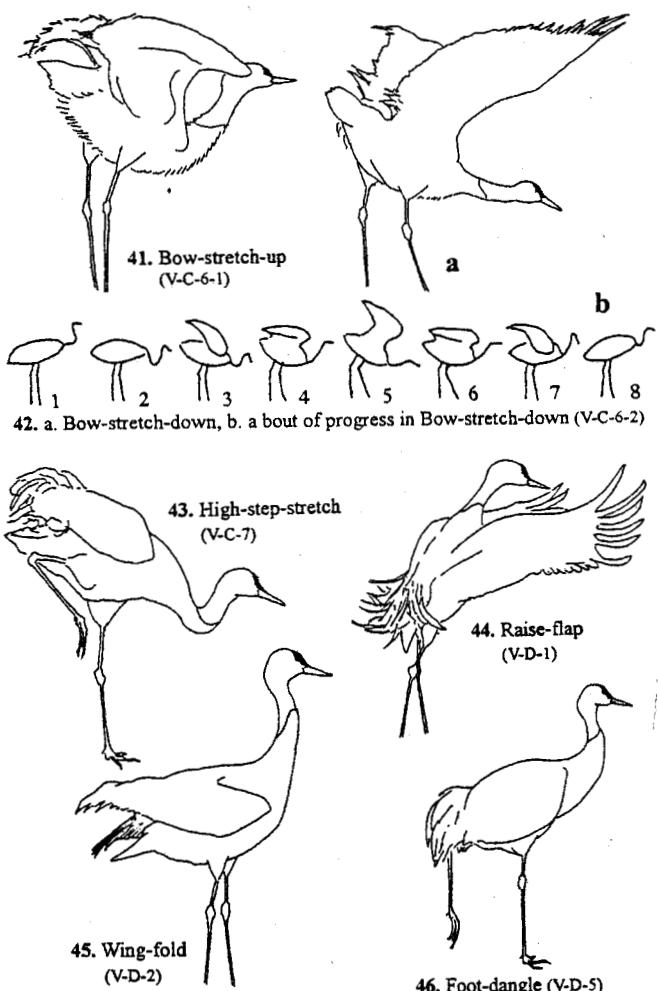


Fig. 4. Maintenance behavior (Care of the body surface): Preen



44

Fig. 7. Maintenance behavior (Comfort movements): Stretch

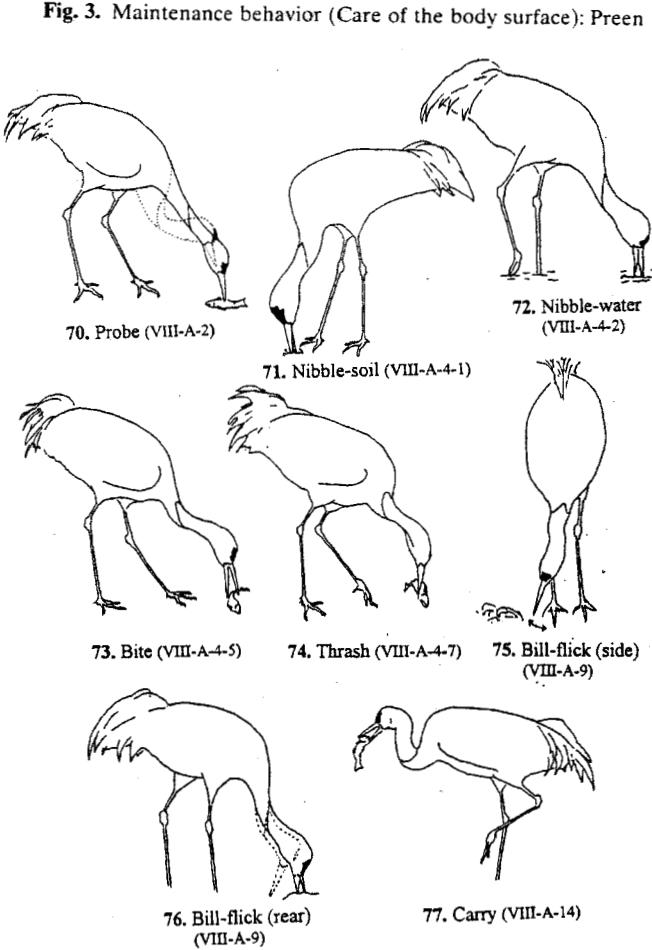
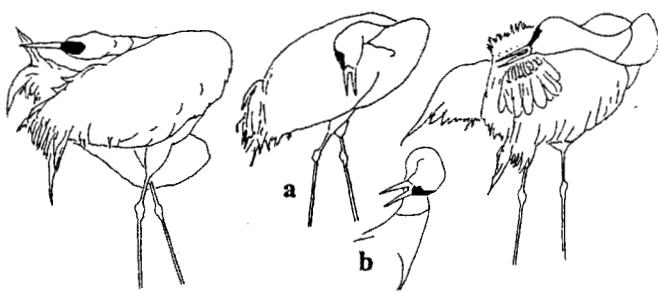
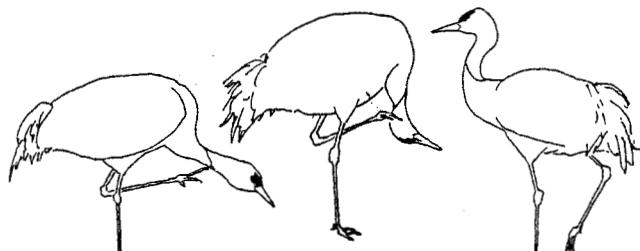


Fig. 12. Ingestion

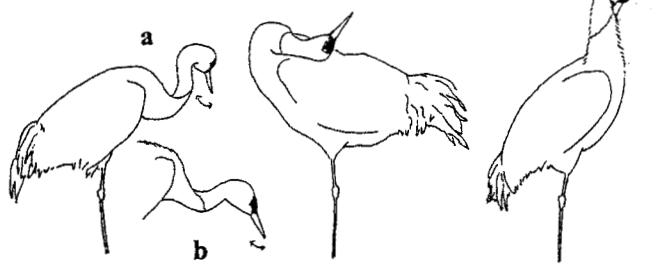


22. Comb-out (V-A-6-2)
23. Stroke (a. wing,
b. Neck) (V-A-6-3)
24. Oil (V-A-7)



25. Neck-scratch
(V-A-9-1)
26. Head-scratch
(V-A-9-2)
27. Leg-flick (V-A-10)

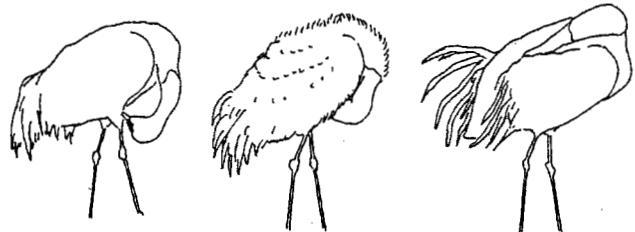
Fig. 4. Maintenance behavior (Care of the body surface): Preen



13. Bill-flick (a. upper position,
b. lower position) (V-A-2)
14. Head-rub
(V-A-3)
15. Nibble-neck-upright
(V-A-6-1)

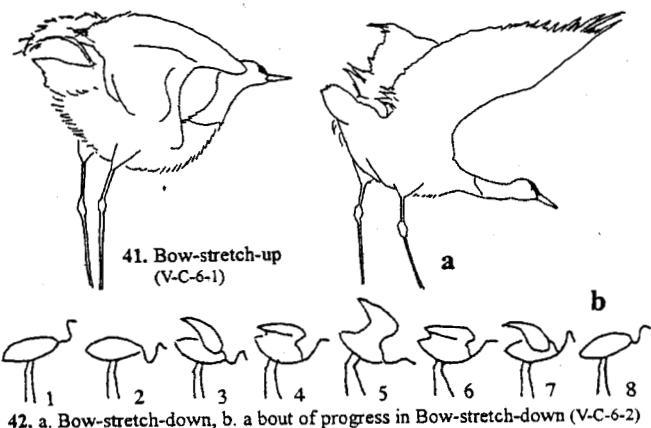


16. Nibble-neck-horizontal
(V-A-6-1)
17. Nibble-scapular
(V-A-6-1)
18. Nibble-dorsum
(V-A-6-1)

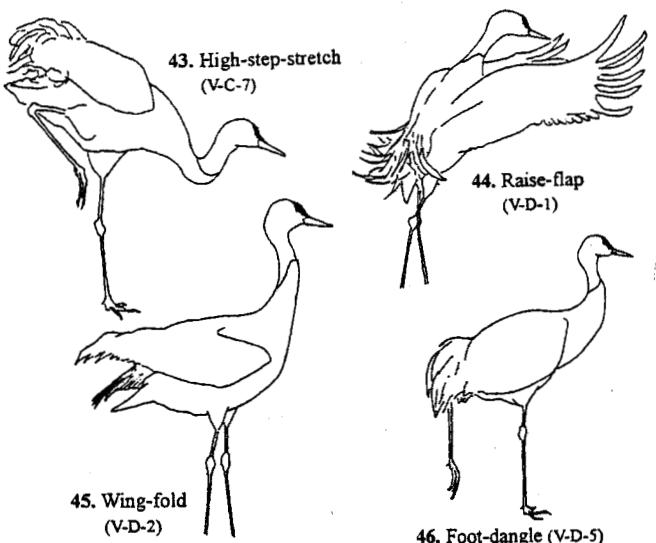


19. Nibble-leg (V-A-6-1)
20. Nibble-belly
(V-A-6-1)
21. Nibble-side and
Nibble-underwing
(V-A-6-1)

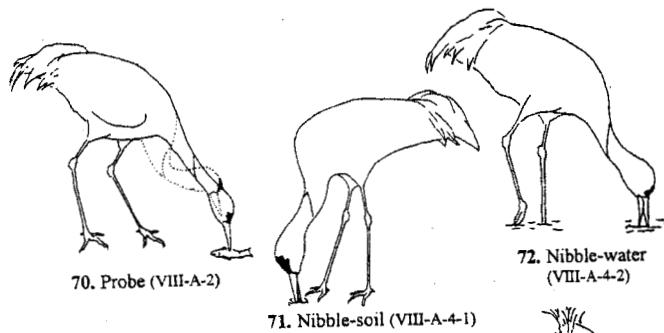
Fig. 3. Maintenance behavior (Care of the body surface): Preen



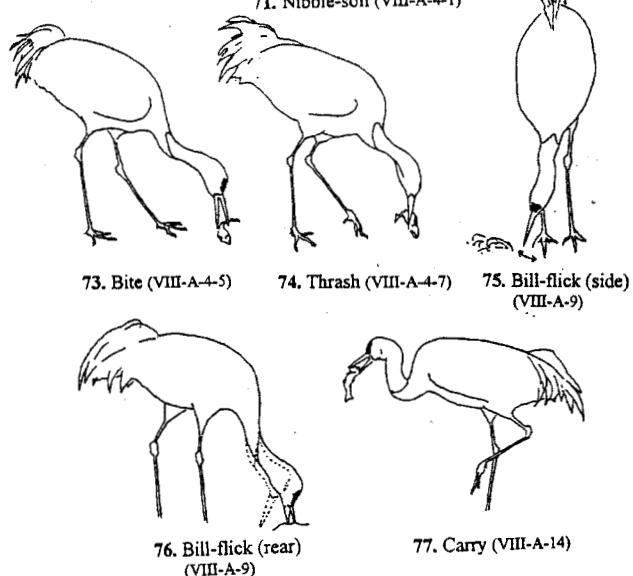
41. Bow-stretch-up
(V-C-6-1)
42. a. Bow-stretch-down, b. a bout of progress in Bow-stretch-down (V-C-6-2)



43. High-step-stretch
(V-C-7)
44. Raise-flap
(V-D-1)
45. Wing-fold
(V-D-2)
46. Foot-dangle (V-D-5)



70. Probe (VIII-A-2)
71. Nibble-soil (VIII-A-4-1)
72. Nibble-water
(VIII-A-4-2)



73. Bite (VIII-A-4-5)
74. Thrash (VIII-A-4-7)
75. Bill-flick (side)
(VIII-A-9)

76. Bill-flick (rear)
(VIII-A-9)
77. Carry (VIII-A-14)

Fig. 7. Maintenance behavior (Comfort movements): Stretch

Fig. 12. Ingestion

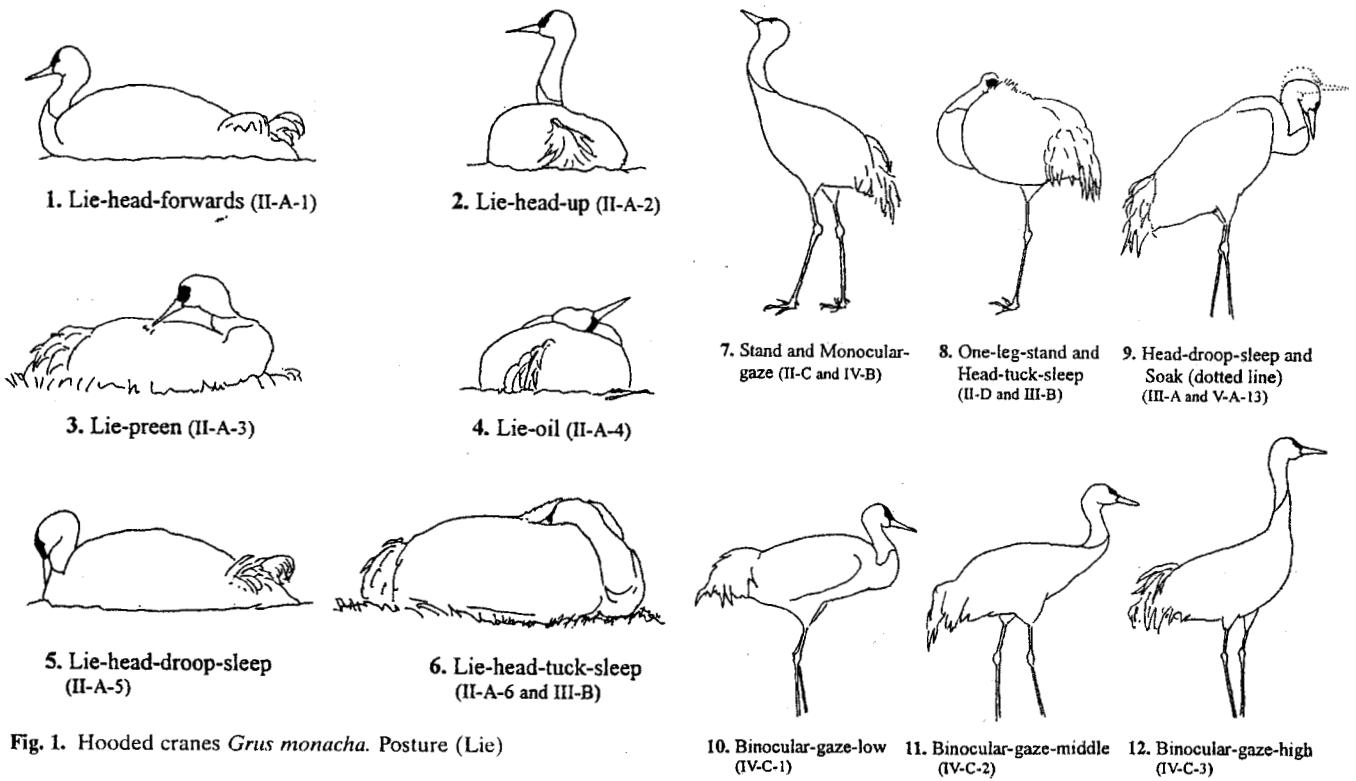


Fig. 1. Hooded cranes *Grus monacha*. Posture (Lie)

Fig. 2. Posture (Stand): Sleep and Gaze

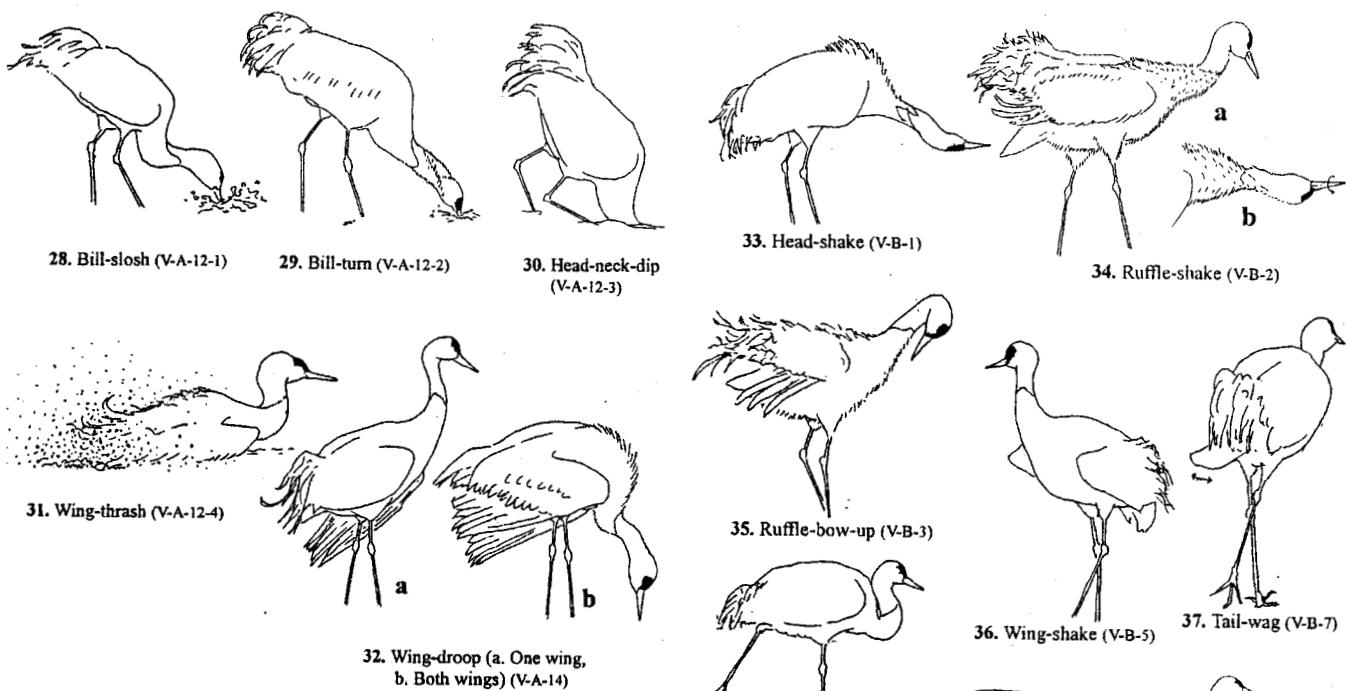
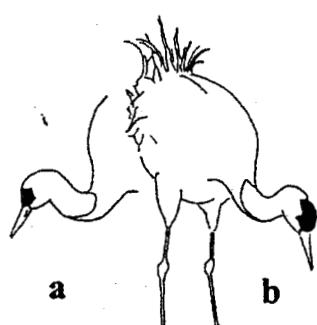
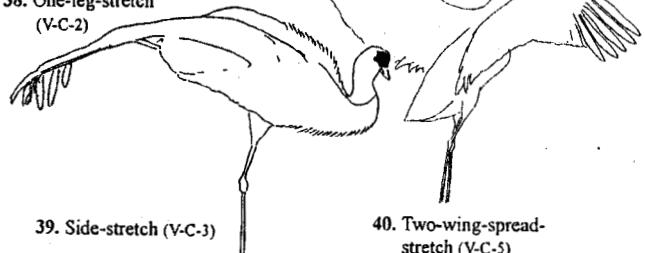


Fig. 2. Posture (Stand): Sleep and Gaze



47. a. Crown-contraction,
b. Crown-expansion (VI-H)

Fig. 5. Maintenance behavior (Care of the body surface): Bathe



40. Two-wing-spread-stretch (V-C-5)

Fig. 6. Maintenance behavior (Comfort movements): Shake and Stretch

Notes and Suggestions for Students

Student: Note that the birds are standing and landing in pairs. Why are long pair and family bonds typical of all cranes but not, for example, in sparrows? Most cranes roost in water, to help protect them from nighttime attacks by mammalian predators.

Student: The foreheads of most adult cranes are bare reddish skin; both the extent and intensity of the red color varies with the bird's age and its "internal state" (anger, fear, etc.). This tells other cranes of its likely behavior. The long, unwebbed front toes are designed for walking and wading, not swimming. The hind toes are too short for tree-perching.

Student: Note the long, broad wings, which aid in gliding and soaring, both low-energy ways of flying from point to point. The black wingtips may strengthen and reduce wear on the outer wing feathers (the primary feathers), and probably also provide for social "signaling" within the species. Cranes use visual and vocal signals for communicating.

Student: Both parents care for baby cranes ("colts") until they are able to fly ("fledge"), and the you crane stays with its parents for a year or two, until it is old enough to breed. Then it learns migration routes, stopping points, and how to survive in nature. Its voice also changes from a high-pitched "baby voice" to loud trumpeting, as its windpipe (trachea) becomes long enough to serve as an amplifier and resonator.

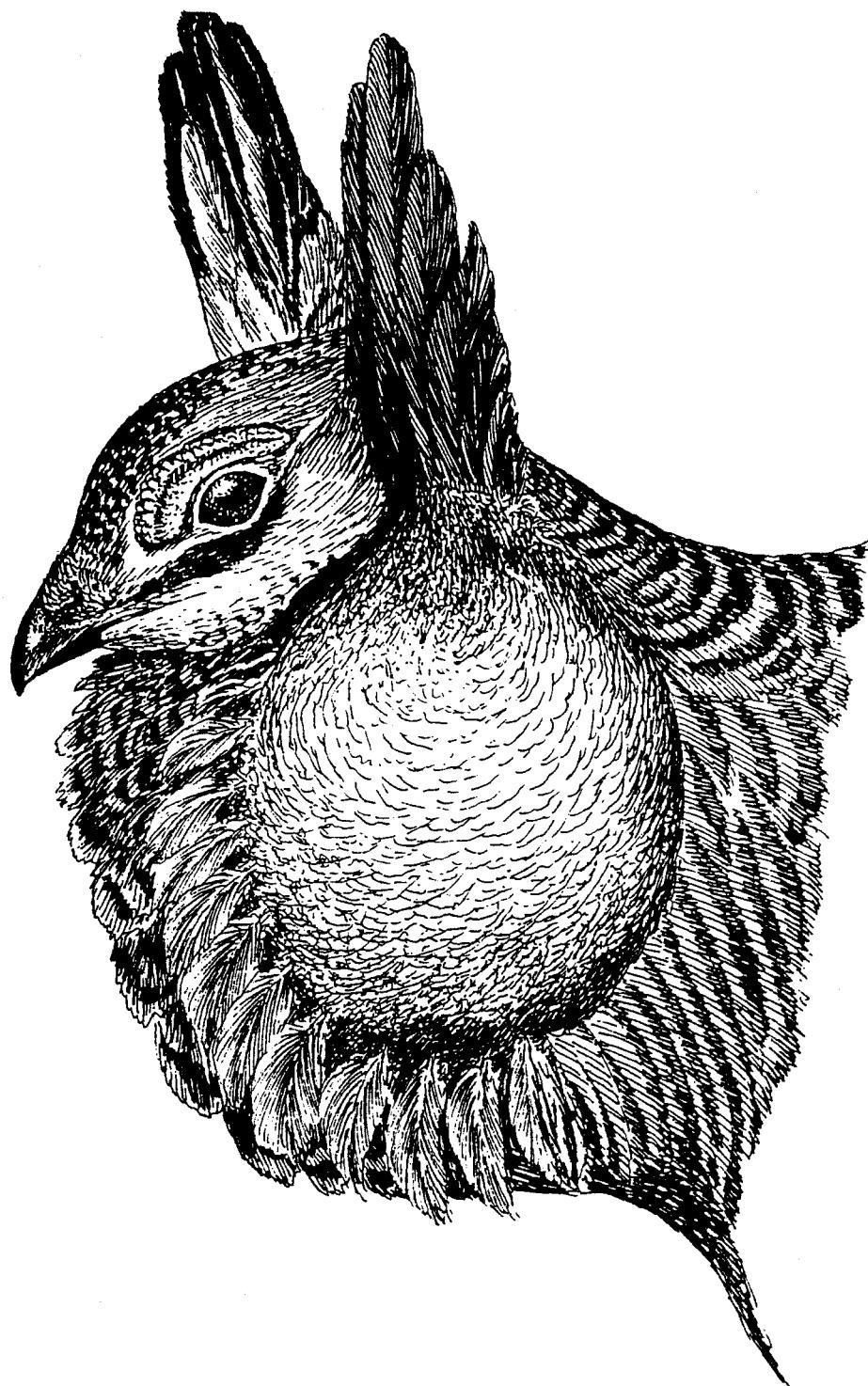
Student: All cranes have social signals that are directed toward other cranes ("displays"), and that often involve crown exposure, bill-pointing, preening, wing-spreading, wing-raising, and the like. These examples are all silent or nearly so. But many others are vocal.

Student: Pair-bonding ("courtship") displays in cranes involve dance-like movements, that may also occur in other situations, such as mild alarm. Pair-bonding is also achieved through mutual calling between the pair members. When defending young or nests, cranes may perform wing-drooping behavior ("broken-wing acts").

Student: Some crane behaviors (shaking, stretching, non-display preening) are called "comfort movements." Flight-intention movements alert other nearby cranes of an impending takeoff. During attacks, stabbing, kicking and scratching behaviors are used.

The introduced western population of whooping cranes is now extinct, but a resident population in Florida is growing slowly through releases of young birds. Releases have also been made at Necedah National Wildlife Refuge, in central Wisconsin, to begin a second migratory population that will winter at Chassahowitzka National Wildlife Refuge, Florida.

Greater Prairie-chickens and Sharp-tailed Grouse



Greater Prairie-chickens and Native Prairies

The greater prairie-chicken has an English vernacular name that sadly understates both its beauty and its aesthetic values. Granted this name makes clear that the bird's presence provides a reliable indication of native prairies, and it is somewhat "greater" in size than the lesser prairie-chicken, which was eliminated from western Nebraska more than 70 years ago. But the prairie-chickens are no more chickens than is a turkey from Turkey. Perhaps the prairie-chicken should have been called something like "soul-of-the-prairie," or possibly "spirit-of-the-grasslands," forcing anybody who wants to kill it to think twice about his motives. Those who have spent a spring sunrise with prairie-chickens will know exactly what is meant by these semantic intimations of the holy; there is a sense of the sublime when one is in the presence of displaying prairie-chickens. They are acting out the identical courtship routines that they inherited from distant ancestors, on grassland sites made sacred through their annual use by uncountable generations past. Additionally they are determining, by both battle and bluff, which individual males are most fit to transmit their genes to the next generation through differentially being able to attract the females that visit the lek when ready to lay their eggs. Darwin's concept of survival and reproduction of the fittest is played out on a daily basis on these grassy hilltops every spring. Being able to witness these performances is an auspicious act in the original Latin sense; the actions of the birds provide an reliable augury relative to the future fortunes of the species.

We have far too few sacred natural sites in eastern Nebraska; most of the Pawnee, Omaha and Otoe holy sites have since been cleared and "developed," or their exact locations have been long forgotten. But we must not forget the locations of prairie-chicken leks; they whisper to us of secret places where grama-grasses and bluestems grow thick on the ground, and where flint arrowheads are likely to lie buried beneath the thatch and loess. They tell us of meadowlark and dickcissel song-perches, and of traditional coyote hunting grounds. They are as much a connection to our past as are the ruts left in the Nebraska soil by Conestoga wagons, or the preserved costumes of Native Americans Plains cultures carefully stored in museums. But such eroding wagon trails and fading costumes are essentially static and retrospective icons; prairie-chickens are the vital essence of life itself, clinging to their brief moments in the sun with all the energies they can muster. They risk attack by both early-rising hawks and late-flying owls, simply to have a chance to reproduce before they are all too quickly cut down by predators, disease or a hunter's gun. The feathers that they wear, and that are sometimes strewn over the ground when a predator has been successful, are the camouflage colors of dead grass, and their soft hypnotic voices are both exciting and yet at the same time soothing, like the mantras emanating from a Hindu temple. They comprise a New World symphony all by themselves, a harmony of sound, color and movement.

It is easy enough to save these wonderful sights and sounds for following generations. We only need recognize that both prairies and prairie-chickens need to be preserved, if for no other reason then to help us understand what Nebraskans such as Willa Cather meant when she wrote lovingly of our "shaggy grass land" or what John Weaver meant when he said that "civilized man is destroying a masterpiece of nature

without recording for posterity that which he has destroyed.” We may well sometimes destroy the things we love out of ignorance; we should never do it purposefully.

To provide some sense of what is at stake, the eastern race of the greater prairie-chicken (the Pilgrim’s famous “heath hen”) is now extinct in all seven Atlantic Coast states where it once occurred. The Attwater’s race of the Gulf Coast has been extirpated from Louisiana and is critically endangered in Texas. The species’ interior race has been extirpated from 11 states and provinces, and is marginally surviving in eight others. Only three states (Nebraska, Kansas and South Dakota) still allow for regular, virtually uncontrolled, prairie-chicken hunting, although in none of these states are agency biologists willing to even hazard a guess as to how many birds still exist there. The annual hunter kill in Kansas has dropped from a peak of 109,000 in the early ‘80s to about 12,000 in 1999, paralleling a comparable 70-90 percent decline in Missouri’s population over the same time span. Although as recently as 1980 there may have been as many as a million greater prairie-chickens present in North America, by the late 1990s no more than 200,000-300,000 were believed to be present. Of the 55,000 birds estimated to have been shot legally by hunters in 1997, some 35,000 were killed in Nebraska.

Rather than permitting the killing of prairie-chickens, state game and parks agencies around the Midwest could better spend their efforts in preserving every last shred of prairie they can locate, thereby conserving not only prairie-chickens but also more than 200 species of native prairie plants, some 30-odd grassland-adapted birds that like the prairie-chicken are nearly all declining nationally, and countless other living things. They would also thus be preserving special places of spiritual renewal for human visitors who prefer seeing, enjoying and remembering the natural world, rather than providing hunters with opportunities for collecting a few soon-forgotten feathered trophies.

By comparison, a spring sunrise spent in the company of prairie-chickens can be as meaningful as witnessing a miraculous rebirth, for that is what is actually occurring. The odor of freshly greening grass is infinitely more memorable than the stringent smell of burnt gunpowder, and the harmonic cooing notes of a dozen male grouse calling simultaneously on a prairie hilltop in the half-light of dawn is as compellingly beautiful as a string ensemble playing a late Beethoven quartet. For those who know the current perilous status of prairie-chickens, the soft sounds might also bring to mind the ineffable sadness of the ending of Tchaikovsky’s last (*Pathétique*) Symphony, with its intimations of despair and forebodings of death. Perhaps it is not too late to alter this ending, or at least to add a final triumphant coda. We only need to save the prairies to accomplish this small miracle ourselves.

Courtship Behavior of the Greater Prairie-chicken

Within each male's greater prairie-chicken's territory, which is within the collective area used by all the males, called the lek,, he spends his time performing a variety of postures, movements and calls that both serve to ward off potential competitors and tend to attract females. Much of the early display period is actually spent in establishing an adequate amount of space where he can posture and call without constant attacks from other males. Older, more experienced males are able to establish larger and more desirable territories than younger ones, namely those locations situated near the middle of the overall lekking area, which are the sites that females seek out when soliciting mating. Somehow females can rapidly recognize and are attracted to these most dominant males, or "alpha cocks," perhaps by their interior position and probably also by their relative vigor and frequency of displays.

Much the most characteristic display of all greater prairie-chickens is the booming posture and call. In assuming the preliminary forward posture, the tail is cocked to at least the vertical, the ear-like feathers call pinnae are variably raised, and the primaries of both wings are lowered while still held within the flank feathers, rather than being spread laterally as in sharp-tailed grouse. The display sequence begins with a rapid foot-stamping that lasts up to two seconds, while the feet are alternately stamped at a rate of about 20 times per second, producing a sound audible up to 100 feet away. The tail is then quickly opened and shut twice, producing a seemingly single click audible only at close range, and the first of the three booming or tooting notes are uttered as the yellow air sacs rapidly inflate. The three-noted call varies little in loudness, or in fundamental sound frequency, but the third and longest note (lasting about a second) has better developed harmonics, making its average pitch seem somewhat higher. The head is jerked down slightly during the first note, but nearly so conspicuously as in the lesser prairie-chicken. The air sacs also slightly vary in degree of inflation during the three notes, being most highly expanded during the final note. The call's typical transcription, "Old-Mul-dooon," describes the sound well, a noise much like that which is produced by blowing over the opening of a large bottle. The tail is progressively spread and again closed toward the end of the vocalization, and the beak finally opens as the air sacs deflate. The tail is progressively spread and again closed toward the end of the vocalization, and the beak finally opens as the air sacs deflate. No special direction is maintained during booming, over time the male is likely to face all directions. Booming occurs by each male at a usual rate of several times per minute, but is especially frequent and intense when females make their appearance on the lek.

Under favorable conditions this call can be heard well over a mile away, and rarely it may carry for several miles, normally making it well within the home ranges of many other prairie-chickens. In favorable habitats, leks are often spaced little more than a mile apart, so under such conditions female prairie-chicken are probably never out of the hearing range of males from at least the nearest lek, and perhaps they can hear several. The low frequency notes are especially well adapted for long-distance transmission over open habitats, in contrast to high-pitched sounds that tend to be easily absorbed by surrounding vegetation and wind.

The other most common call is a cackling note, sometimes called the "staccato cackle", and usually uttered from an upright posture. This or a very similar cackle is

sometime also uttered immediately after short, jumping flights, called "flutter-jumps," which are usually initiated when a new bird arrives on the lek, regardless of its sex.

Although the cackles are largely oriented toward other males, one call is uttered only in the visual presence of females. It is a strange, whooping call, sometimes described as a "poik" note, lasting about a half-second. It has a fundamental frequency about twice that of the booming call but otherwise is somewhat similar to it acoustically. There is no associated obvious neck inflation, but at times sharp tail-clicks may precede it, as is the case with booming. It also carries relatively long distances, and can be more easily localized aurally as to the sound source than can booming.

Males also use one specific postural display directed only toward females, and only when the male is close to a specific female and in a precopulatory situation. This is a "bowing" or "prostrate" posture, with the breast lowered to the ground, the wings outstretched to the side, and the pinnae and tail fully cocked. The posture is silent, and may be held only for a few seconds. Often copulation immediately follows. This occurs in the usual manner of all gallinaceous birds such as chickens, pheasants and turkeys, with the female lying with her breast flat on the ground, and with her wings spread sufficiently far as to provide a stable platform for the male. Copulation is very brief, and if successful, the female shakes herself, preens for a time, and then leaves the lek rather promptly. A moderate percentage of the total copulation attempts are unsuccessful, often because of harassment and direct physical interference by nearby males or even by other females.

Aggressive encounters between males involve several different postures, such as confrontational crouching while facing one another and uttering cackling or whining notes. The birds may also walk parallel to a rival in an upright stance, often simultaneously booming. Fights are most common early in the lekking season, while territorial boundaries are still being actively contested. They involve alternate or simultaneous jumping into the air, attempting to strike the opponent with the feet or the wings, or pecking the other bird's throat or breast. Often feathers are pulled out during these contests, and I have seen some bleeding scratches on the bare air sacs, but fatalities have never been reported.

Prairie-chicken Courtship Behavior

Paul A. Johnsgard

Grouse-watching etiquette

1. Arrive while it is still dark (at least 1/2 hour before sunrise, even earlier when there is a full moon).
2. Avoid making loud, sudden noises— even a camera shutter sound can alarm the birds, and any movements of long camera lenses must be very slow.
3. Stay until nearly all activity is over, and only a few males at most are still on the lek and have stopped displays.

Grouse Social Organization:

Prairie grouse have a complex reproductive behavior, organized around traditional “leks,” sites where all the males in the local population meet each spring (March to May) to establish territories and determine dominance ranks. The most active, virile males are able to establish interior territories by fights and threats, and when the females visit the lek (early to late April), they can easily identify the most dominant (alpha) male by his behavior and position. Nearly fall females are fertilized by this single male. They also need mate only

a single time to complete an entire clutch of eggs; renesting birds will revisit the lek for a second mating. By late May the lek disintegrates until fall. Some territorial activity may resume for a short time, but no females visit.

Grouse Lek Behavior

Most courtship occurs between shortly before sunrise and an hour or so after it; the most prolonged displays occur when females are visiting the lek. Males organize themselves within their territories, which are 20-50 feet in diameter, with rather sharp boundaries.

Males about to display cock their tails, lower their folded wings, erect their long, pointed neck feathers, and thereby expose orange bare skin areas on the sides of their neck, called “air sacs.” Bare orange “combs” above the eyes are also engorged and enlarged.

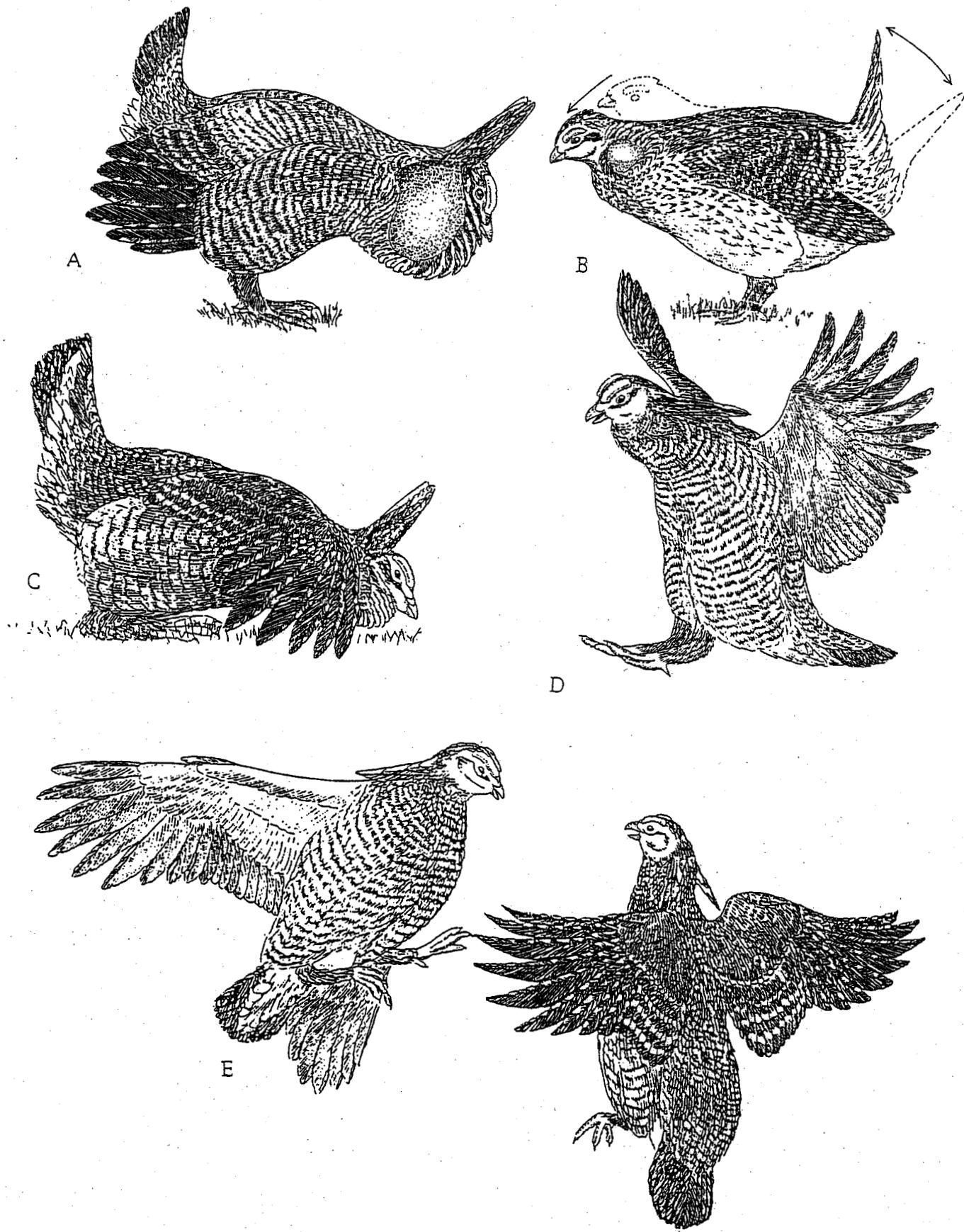
The main male courtship call is “booming,” a soft, low-frequency call something like that of a dove’s, which may carry a mile or more. Its three notes sound like, “Old-mul-doooon.” Males also cackle aggressively, especially when they perform short, vertical leaps (“flutter-jumps”) that make their positions more conspicuous. Cackles also occur during face-to-face

aggressive encounters at the edges of territories; they may grade into a brief fight, with clawing, pecking, and leaping into the air. Whining calls are also frequent during these encounters.

A call resembling a loud “Who-oo-oo” is uttered by males when a female visits the lek, probably to attract their attention. If a female approaches closely he may lower his body into a “nuptial bow,” his wings extended sideways on the ground, and may remain motionless a short time. This posture immediately precedes copulation.

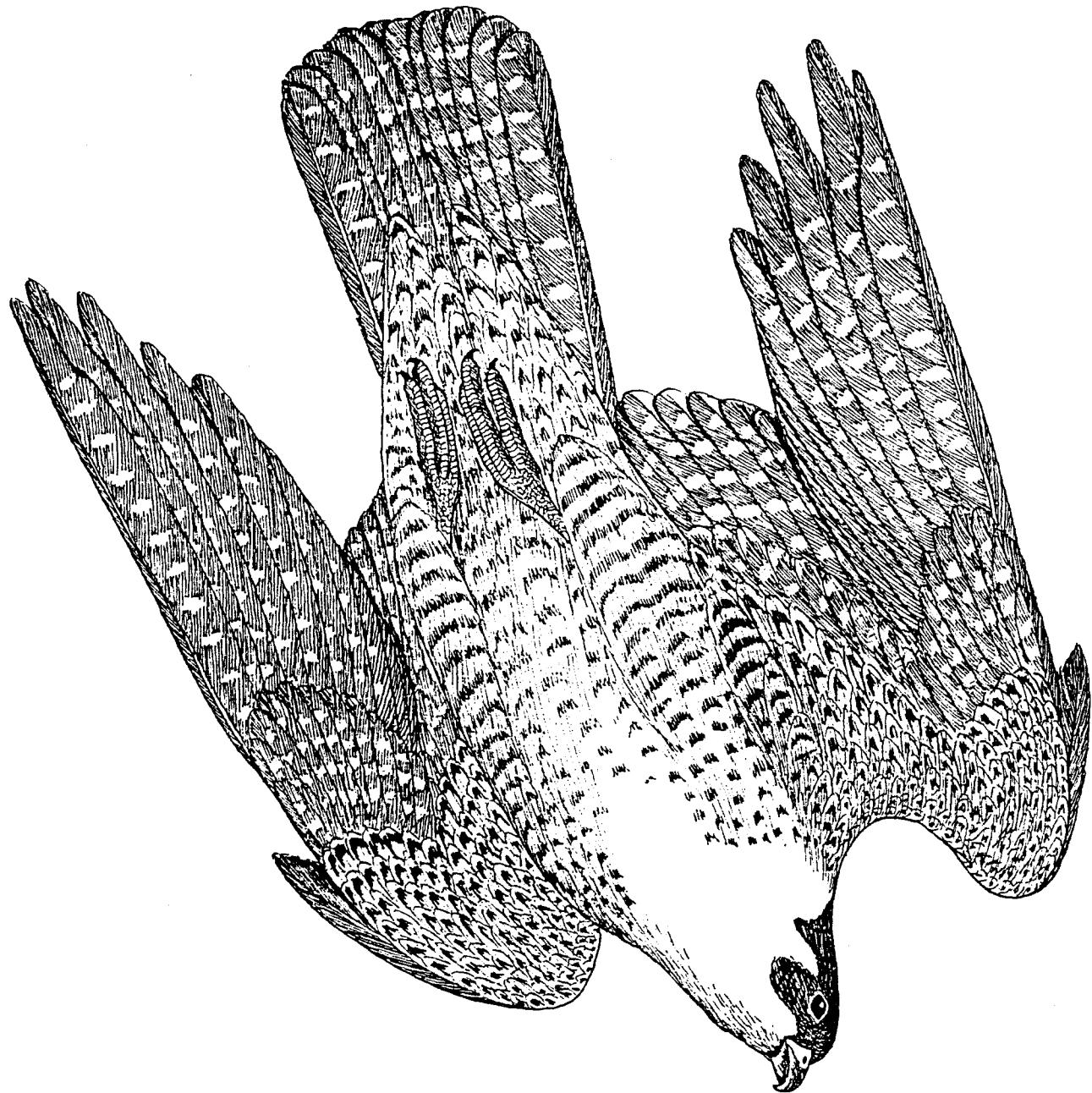
Females can be easily recognized by their more slimmed appearance, nervous, quiet demeanor, and absence of tail-cocking or lifting. Their relatively shorter neck feathers are longer than those of males. Females solicit copulation by suddenly lowering their bodies and slightly spreading their wings, which provides a stable platform for the males.

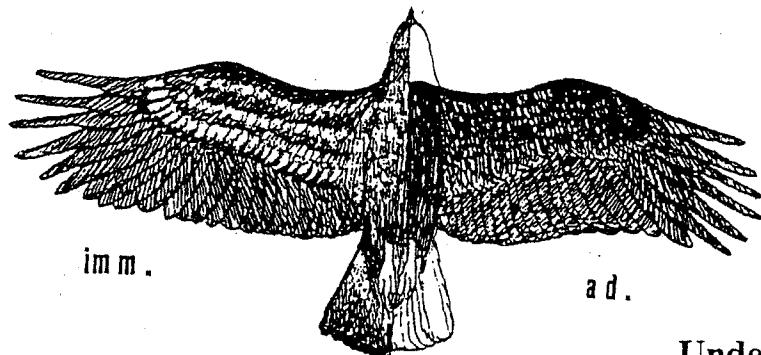
Copulations last only a few seconds. The female then leaves the lek and starts egg-laying within two days. There is no further involvement by the male in reproduction. Females may nest a mile or more from the lek, and join other males to form flocks during the fall.



A. Male Prairie-chicken in "booming" posture. B. Corresponding "cooing" posture of male Sharp-tailed Grouse. C. Male Prairie-chicken in "nuptial bow" posture. D. Male Prairie-chicken landing after flutter-jump. E. Two male Prairie-chickens fighting.

Raptors (Hawks, Eagles and Owls) of the Platte Valley





Underside View

EAGLES

America's two eagle species are both represented in Nebraska, the golden eagle present year-around, and the bald eagle mainly occurring in winter, but with increasing numbers now nesting again in the state. Both are federally protected, and not even eagle feathers may be owned without special government permission.

Bald Eagle

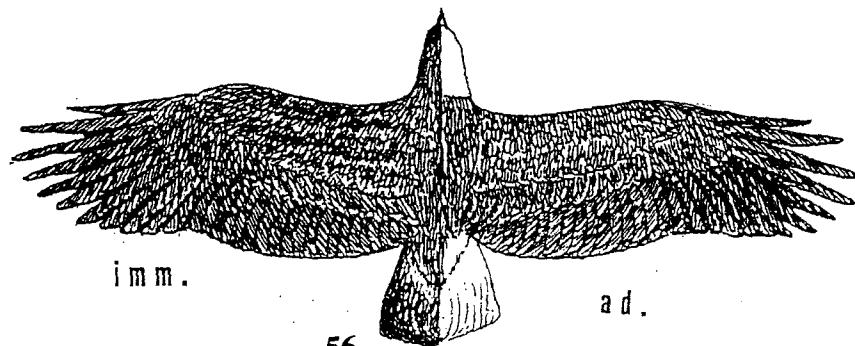
Haliaeetus leucocephalus

An uncommon spring and fall migrant and locally common winter resident in Nebraska, especially along the major rivers and reservoirs. Although it once bred regularly in eastern Nebraska, the first known modern-era nesting attempt was in 1973. In more recent years nesting efforts have occurred every year, often along the Platte River or other larger bodies of water. By 2000 about 20 nesting sites were known.

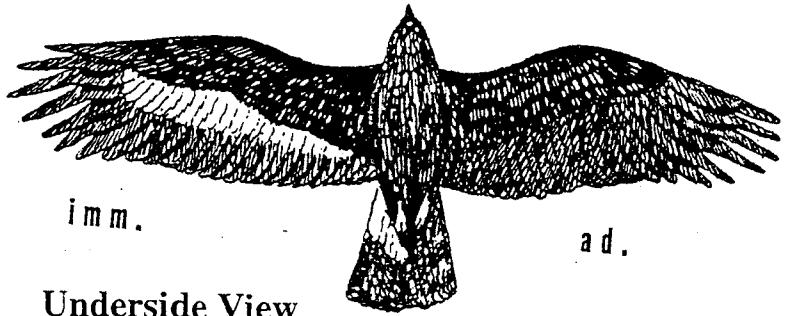
Migration. Sixty-five initial fall sightings range from September 16 to December 31, with a median of November 29. Half of the records fall within the period November 16 to December 16. Eighty-eight final spring sightings are from January 8 to May 12, with a median of March 19. Half of the records fall within the period March 17 to April 2. In winter, the bald eagle is about four times more common than the golden eagle, judging from Nebraska Christmas counts

Habitats. Bald eagles in Nebraska utilize ice-free areas of larger tree-lined rivers and reservoirs during winter periods. Perching is usually done in tall cottonwoods near water, and nesting is also often done in very tall cottonwoods.

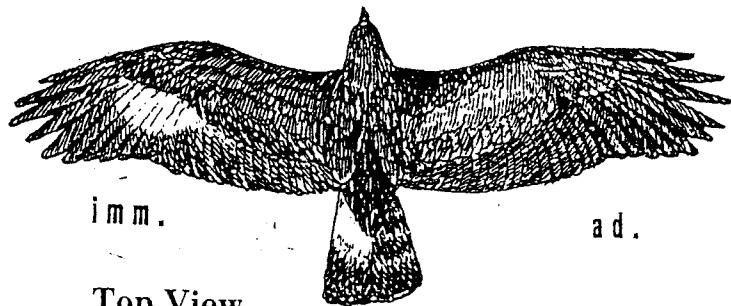
Comments. Bald eagle winter populations have greatly increased in recent years; now an average of nearly 750 birds winter within the state. Lake McConaughy is especially favored, but Johnson and Harlan County reservoirs, the J-2 hydroplant near Lexington, the central Platte River, and the Republican and Missouri Rivers are also important areas. Usually about 25-30 percent of these birds are immatures, suggesting that favorable reproduction is occurring. Young bald eagles sometimes closely resemble golden eagles, but have whitish under wing-coverts. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (7.7%) during that period. The recent Nebraska Breeding Bird Atlas Project had 2 probable or certain breeding records for this species.



Top View



Underside View



Top View

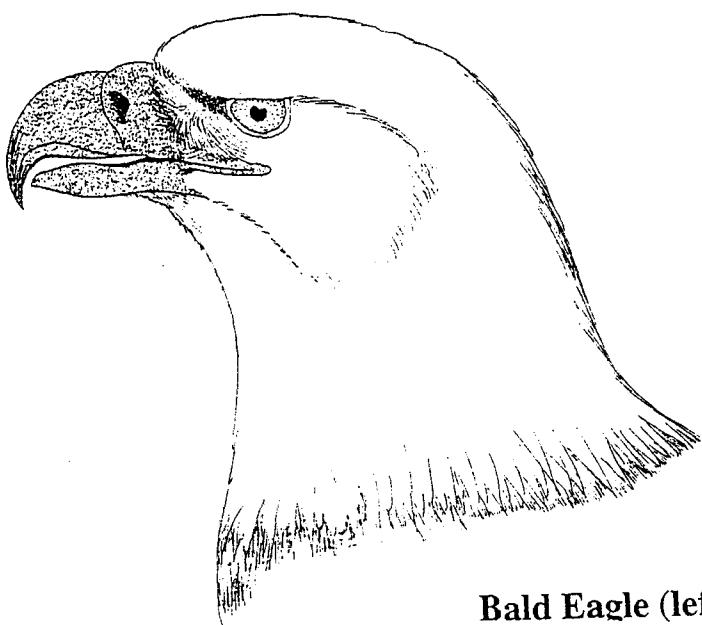
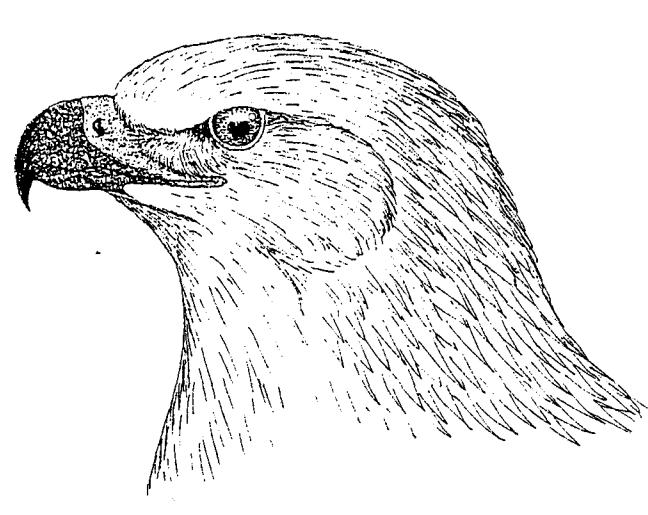
Golden Eagle

An uncommon migrant and winter resident throughout Nebraska, becoming more common westwardly, and a permanent resident in western Nebraska, especially the Pine Ridge area. There are recent breeding observations from Sioux, Dawes, Sheridan, Box Butte, Scotts Bluff, Banner, Morrill, Garden, Cheyenne and Lincoln counties. It also breeds in the western portions of the Dakotas and from Colorado southward, and during winter appears farther eastwardly.

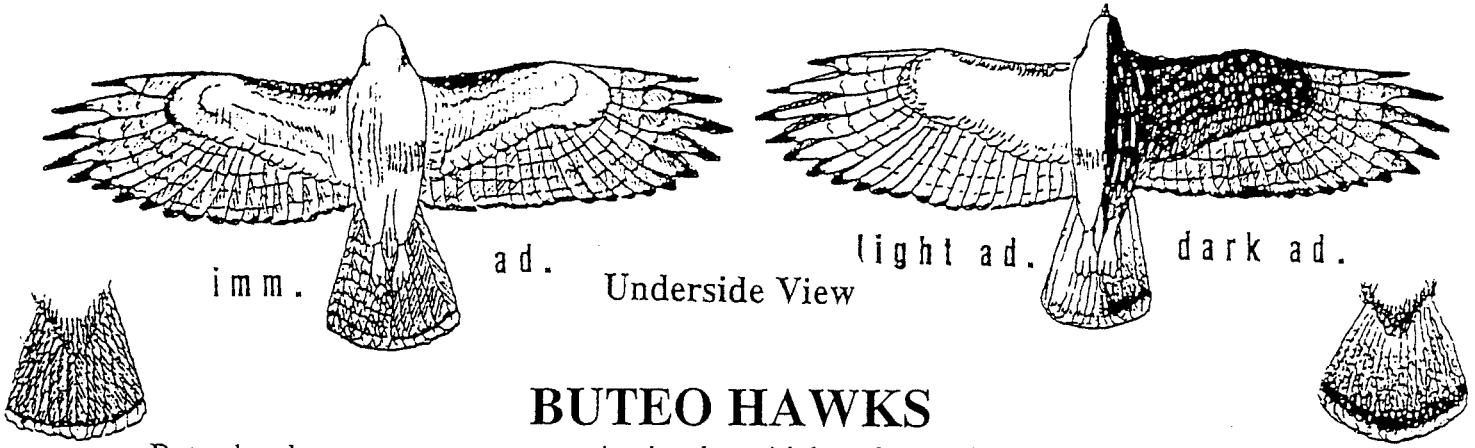
Migration. This species is evidently a resident in western Nebraska and a winter visitor elsewhere, and thus the records are not susceptible to ready statewide analysis. Late winter sightings seem to follow closely the seasonal pattern of the bald eagle.

Habitats. Throughout most of the year this species is associated with arid, open country, often with buttes, mountains or canyons that offer remote nesting sites and large areas of grassland vegetation for foraging. In winter it is sometimes found near rivers or reservoirs, but not nearly to the extent that is true of the bald eagle.

Comments. Breeding Bird surveys of golden eagles in Nebraska suggest that they are widely distributed in western counties, with no special areas of concentration. This is not surprising, since jackrabbits and cottontails are probably important parts of the diet, but there is no attraction to localized sources of fish. Good places to look for nesting birds include Jailhouse Rock near Bridgport, and the vicinity of Chimney Rock. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (1.6%) during that period. The recent Nebraska Breeding Bird Atlas Project had 18 probable or certain breeding records for this species.



Bald Eagle (left) and Golden Eagle (right)



BUTEO HAWKS

Buteo hawks are our common soaring hawks, with broad, rounded wings, wide tails, and are mainly adapted for capturing rodents and other smaller mammals.

Red-tailed Hawk

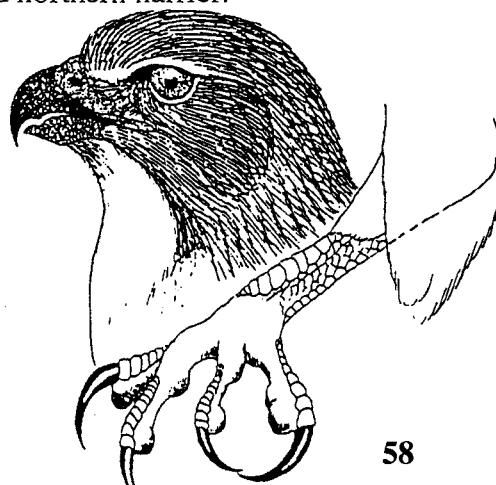
Buteo jamaicensis

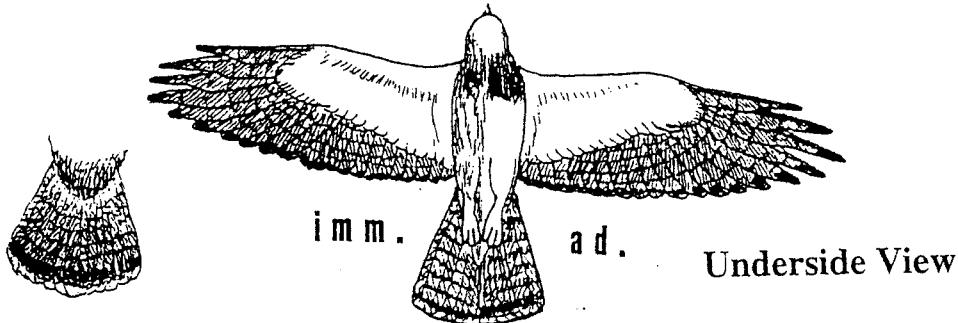
An uncommon summer or permanent resident statewide, but more common eastwardly, and a common spring and fall migrant. It is a breeder and migrant throughout the Plains States.

Migration. Thirty-two initial spring sightings range from January 1 to May 21, with a median of March 22 and a nearly random seasonal distribution, suggesting that the species is essentially a permanent resident. Twenty-three final fall sightings are from September 29 to December 31, with a median of November 26.

Habitats. A combination of extensive open habitat for visual hunting and scattered clumps or groves of tall trees for nesting provide the year-round needs for this species.

Comments. The red-tailed hawk is the most familiar of Nebraska's buteo hawks. It is present all year, but migrants also move through the state during September-October and again in March and April. Nesting is done in tall hardwoods near the edges of woodlands, and the birds are highly effective predators of rodents, rabbits, and snakes such as bullsnakes. Not all red-tailed hawks have rusty tails; first-year birds have barred brown tails, and the Harlan's race often has grayish tails with little or no rufous tinting. The best in-flight identification mark is a blackish stripe along the front edge of the underside of each wing. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (3.3%) during that period. The recent Nebraska Breeding Bird Atlas Project had 249 probable or certain breeding records for this species, the most of any hawk. In a recent Christmas Count, the red-tailed hawk was the most frequently seen hawk in Nebraska, followed in turn by the American kestrel, rough-legged hawk, bald eagle, northern harrier, golden eagle, sharp-shinned hawk, Cooper's hawk, and ferruginous hawk. Raptor Recovery data also indicate it is most common, followed by American kestrel, Swainson's hawk, rough-legged hawk, bald eagle and northern harrier.





Swainson's Hawk

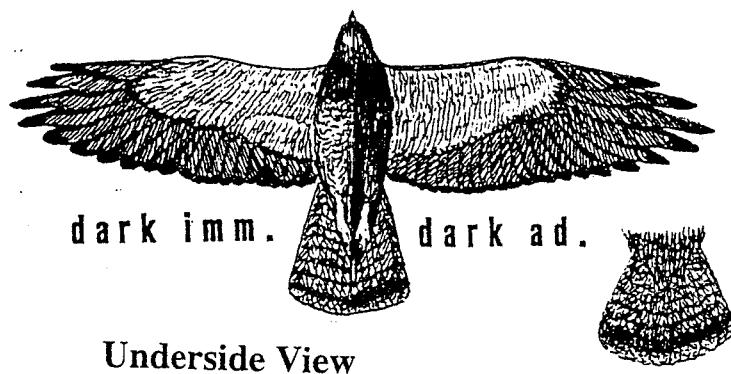
Buteo swainsoni

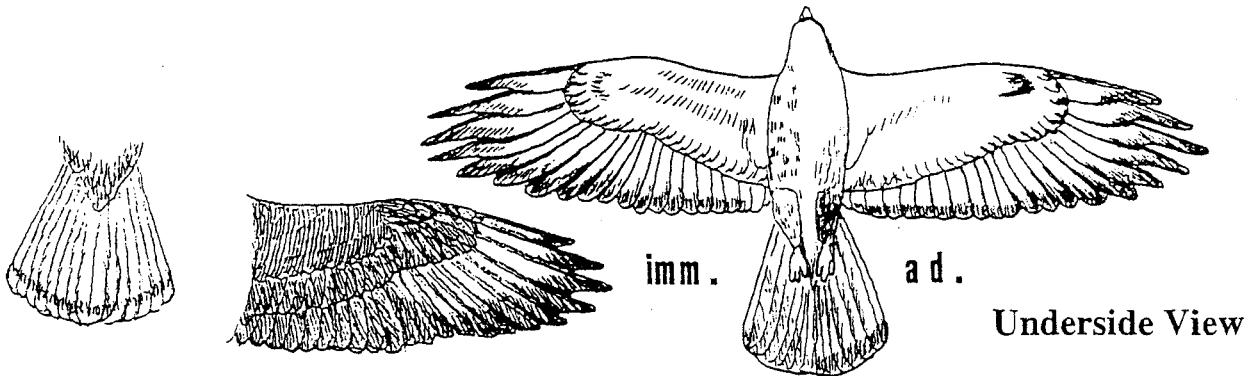
A common to uncommon spring and fall migrant and summer resident almost statewide, becoming less common eastwardly, and with the eastern limits of regular breeding probably west of a line from Gage to Burt counties. Largest numbers occur during the fall migration period in late September, but none overwinter. It also breeds elsewhere in the Plains States excepting the easternmost areas, and migrates throughout the region.

Migration. Ninety-three initial spring sightings are from January 1 to June 8, with a median of April 18. Half of the records fall within the period April 3 to May 3. Sixty-five final fall sightings are from August 4 to December 27, with a median of September 26. Half of the records fall within the period September 14 to October 1.

Habitats. While this species occurs in Nebraska it is associated with open country, especially high plains and sandhills with only scattered trees for nesting sites.

Comments. This a plains-adapted, largely insect-eating hawk that is still quite common in western Nebraska, although in recent years mass poisoning by pesticides on wintering areas of South America has done great damage to populations. West of about Kearney most of the buteos seen from roadsides are likely to be Swainson's hawks, whereas east of Grand Island red-tailed hawks comprise the majority. Swainson's hawks are easily told from red-tails in flight because their long flight feathers are always darker below than their under wing-coverts. The recent Nebraska Breeding Bird Atlas Project had 140 probable or certain breeding records for this species. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population decrease (0.5%) during that period





Ferruginous Hawk

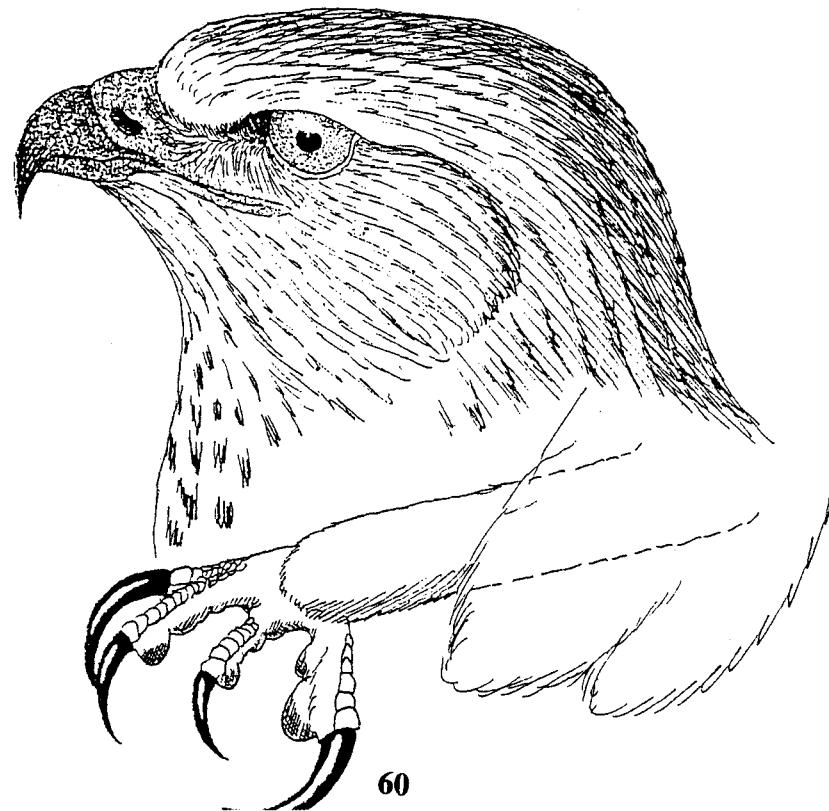
Buteo regalis

An uncommon to occasional permanent resident in western Nebraska. It is apparently migratory and a summer visitant only in northwestern Nebraska, but is a permanent resident or winter visitor elsewhere. Regular breeding occurs west of a line from Dundee to Keya Paha counties, and there are recent records of breeding from Banner, Cherry, Chase, Furnas and Lincoln counties. Elsewhere in the Plains States it nests widely in the drier and short-grass plains areas, and may be seen on migration somewhat farther east.

Migration. Seventy initial spring sightings range from January 1 to May 25, with a median of March 1. The wide spread of the records (half falling between January 17 and April 12) suggest that the species is essentially residential in Nebraska. Twenty final fall records are likewise widely spread between August 26 and December 31.

Habitats. While in Nebraska, this species is normally found in grassland habitats having scattered trees or clay buttes or bluffs for nesting sites.

Comments. This majestic buteo is almost eagle-sized, and like the golden eagle is able to prey on prairie dogs and rabbits very effectively. It has a very broad gape, causing it to have a somewhat froglike appearance when its beak is opened. At times its pale rusty tail may cause confusion with pale-morph red-tailed hawks, but the rusty thighs and white "panels" in its outer wing feathers help with identification. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (4.0%) during that period. The recent Nebraska Breeding Bird Atlas Project had 10 probable or certain breeding records for this species.





Rough-legged Hawk

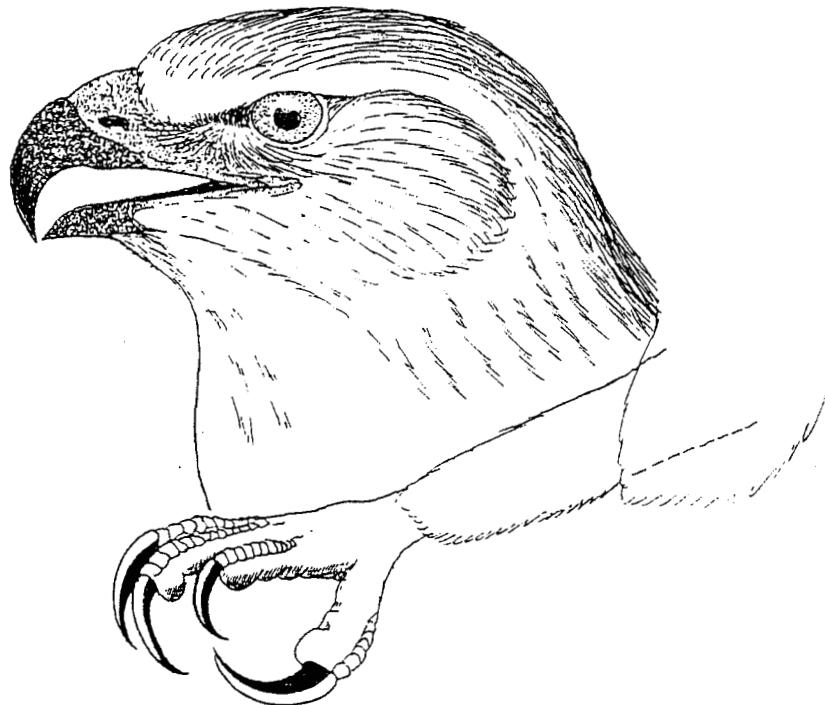
Buteo lagopus

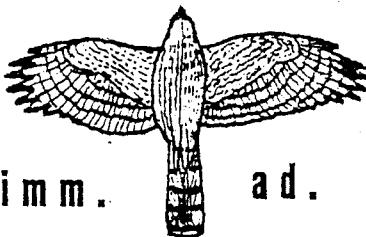
An uncommon migrant and winter visitor statewide, becoming more common westwardly. It also occurs throughout the entire plains region.

Migration. Eighty-five initial fall records range from September 30 to December 30, with a median of November 2. Half of the records fall within the period October 9 to November 22. A total of 73 final spring sightings range from January 8 to May 20, with a median of March 26. Half of the records fall within the period March 10 to April 12.

Habitats. Open prairies, plains and other grassland habitats are used while on migration and during wintering in the Plains States.

Comments. This is one of Nebraska's winter buteos, for only then does it move south from arctic breeding grounds and share the plains with red-tailed and ferruginous hawks. Like the ferruginous hawk its lower legs are fully feathered (hence the name "rough-legged"), but is a somewhat smaller and is adapted to preying on lemming-sized rodents. In flight, it shows blackish "fingerprints" at the bend of each wing when seen from below, a trait otherwise found only in ospreys, and shows white at the base of the tail and at the bases of the wing's long flight feathers.





Underside View

ACCIPITER HAWKS

Accipiter hawks are bird-catching hawks, with long tails, short, rounded wings, flapping-glide behavior, and a diet composed mainly of birds, captured in flight or on the ground. All are swift fliers, and are mostly associated with woods rather than grasslands, in contrast to the mostly grassland-adapted buteo hawks.

Sharp-shinned Hawk

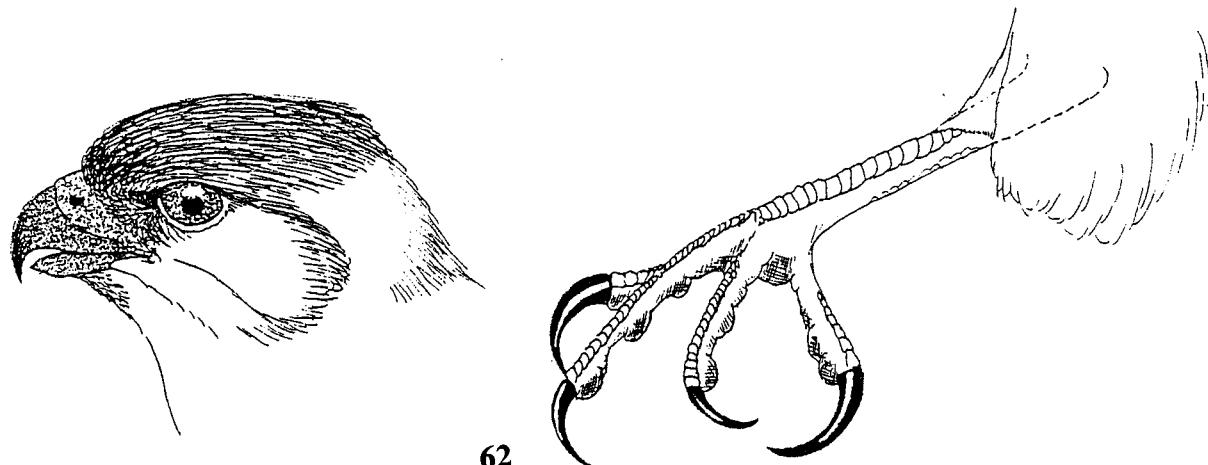
Accipiter striatus

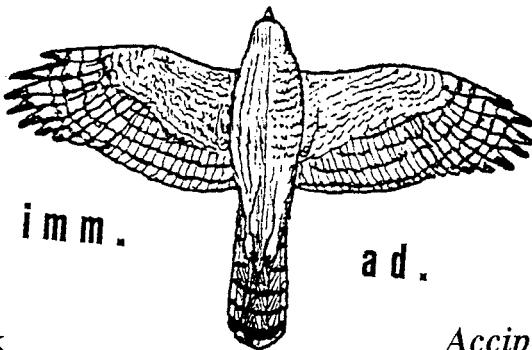
An uncommon to occasional winter visitor and spring migrant throughout Nebraska. Although the only recent breeding records are for the northwest (Sioux county and the Niobrara Valley, Brown County), the species may also nest in the Missouri River's forested valley. It probably nests locally in the Dakotas and Minnesota, and has nested in Kansas and Oklahoma, and migrates throughout the Plains States.

Migration. A total of 142 initial spring records range from January 1 to June 1, with a median of March 29. Half the records fall within the two periods January 1 - 9 and March 17 - April 27, indicating that this species is probably a winter visitor and early spring migrant. Forty-one initial fall records are from July 26 to December 30, with a median of September 16. Half of the records fall within the period September 3 - 19. Thirty-five final fall sightings are from August 20 to December 31, with a median of November 10.

Habitats. Throughout the year this species is associated with fairly dense forests, especially mixed woods with some coniferous trees. During winter it often enters wooded yards and hides near feeders to wait for possible prey.

Comments. This is the smallest (almost jay-sized) and most common of the accipiter hawks, noted for their rounded wings, long tails, and swift flight abilities. Sharpshins specialize on catching small birds, often around bird feeders, and they can cause the rapid evacuation of the area by their sudden appearance. The recent Nebraska Breeding Bird Atlas Project had 7 probable or certain breeding records for this species. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (3.4%) during that period.





Underside View

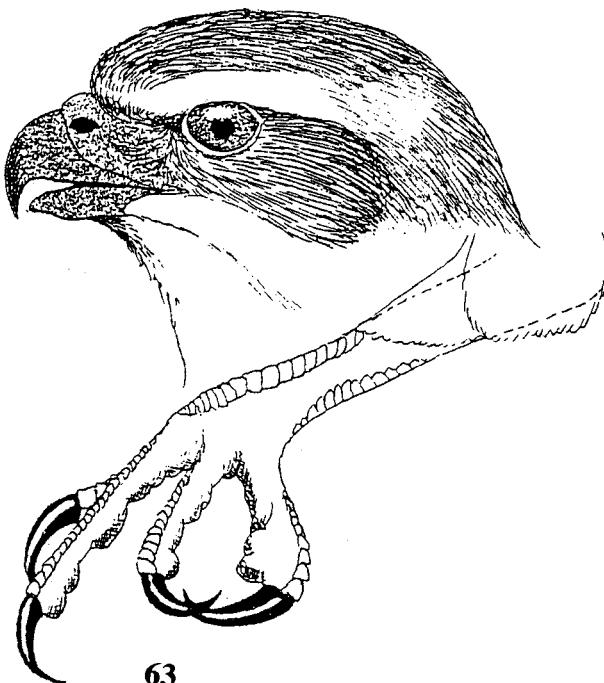
Cooper's Hawk

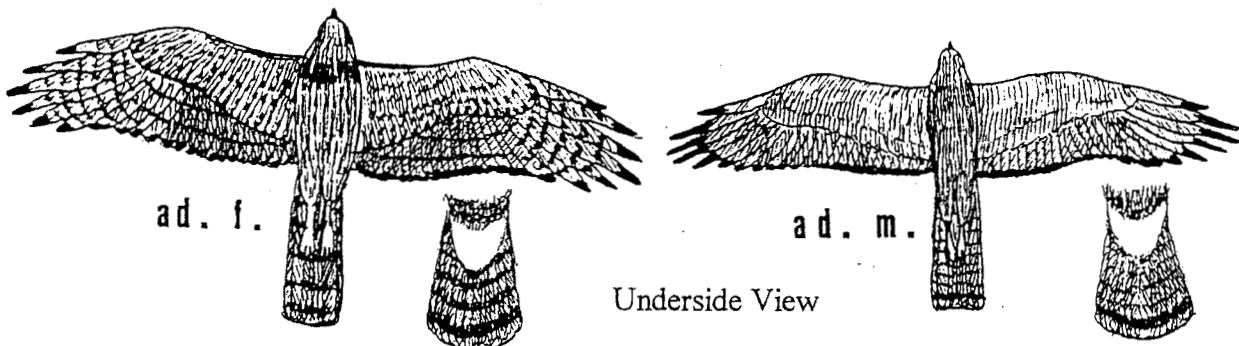
An uncommon winter visitor and spring migrant throughout Nebraska, and probably a local permanent resident. It is perhaps a rare nester in the Missouri River forests of eastern Nebraska, and there are some recent summer records for the Pine Ridge area, as well confirmed nestings in Hitchcock and Frontier counties during the breeding bird atlasing period of 1984-1989. It even nested in a Lincoln city park during 2000. It is a local but probably regular breeder in suitable habitats throughout the Plains States, especially in eastern and southeastern areas.

Migration. A total of 164 initial spring sightings range from January 1 to June 10, with a median of March 16. Half of the records fall within the two periods Jan. 1-9 and March 13-April 26, suggesting that the species is a winter visitor and early spring migrant. Thirty-four initial fall records are from August 7 to December 27, with a median of September 16. Half of the records fall within the period September 4 to October 1. Thirty-five final fall sightings are from September 8 to December 31, with a median of October 30.

Habitats. Throughout the year this species is associated with mature forests, especially hardwood forests.

Comments. A larger version of the sharp-shinned hawk, the Cooper's preys on larger birds, but is even more fearless in its attacks. These two similar species are best distinguished by size, the Cooper's nearly crow-sized. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (5.3%) during that period. The recent Nebraska Breeding Bird Atlas Project had 18 probable or certain breeding records for this species.





HARRIER HAWKS

Harrier hawks have long narrow wings held in a slight V-shape while in flight, allowing them to course low about ground, and drop on unsuspecting small rodents. They are named for this "harrying" behavior. Harriers have acute hearing, with owl-like facial disks and large ear openings, as may be seen on the head drawing below. There is only one species in North America. In it the sexes are quite different in color as adults; young birds resemble adult females.

Northern Harrier

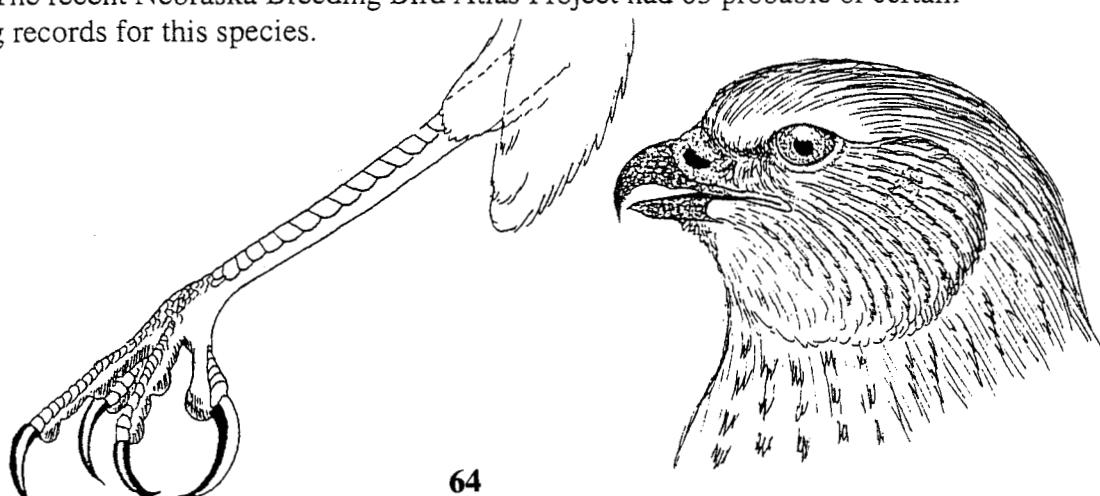
Circus cyaneus

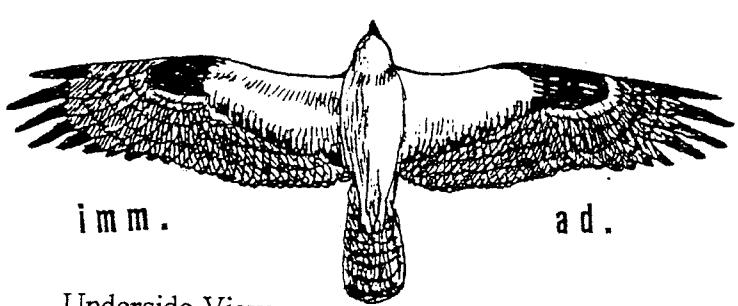
A common migrant and permanent resident throughout Nebraska. Although in cold winters most birds may leave the state, in most areas and years the species can be regarded as a resident. It is probably most common as a breeder in the Sandhills and the Rainwater Basin. It breeds locally almost throughout the Plains States, and is a regular throughout during migration.

Migration. Thirty-nine initial spring sightings range from January 1 to June 2, with a median of March 13. The wide spread of the records suggest it is a resident over much of the state. Thirty-six final fall records are from September 14 to December 31, with a median of December 9.

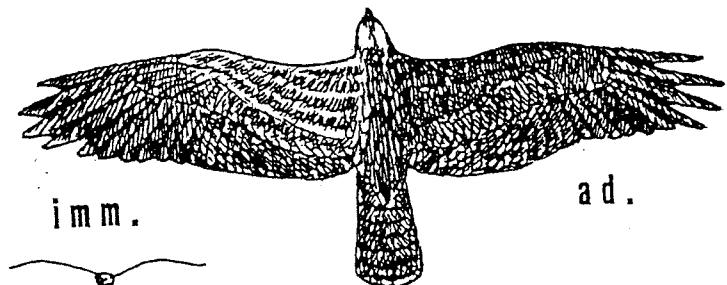
Habitats. This species occurs in open habitats such as native grasslands, prairie marshes and wet meadows. Nesting is done in grassy or woody vegetation ranging from upland grasses and shrubs to emergent vegetation in water more than two feet deep.

Comments. Northern harriers are graceful predators, that are usually seen sweeping low over marshes and fields, showing their long wings and tails, and white rump patches in both sexes. Adult males are otherwise silvery gray with black wingtips, whereas females and young males are mostly chocolate brown. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population decrease (0.8%) during that period. Breeding Bird surveys between 1984 and 1993 indicate that the species had undergone a significant population increase during that period. The recent Nebraska Breeding Bird Atlas Project had 65 probable or certain breeding records for this species.





Underside View



Top View

OSPREY (FISH HAWK)

There is only one species of osprey in the world, and it is found on nearly every continent. Of all hawks, it is the best adapted for capturing fish, using steep dives. The black facial mask is unique to ospreys wherever they are found.

Osprey

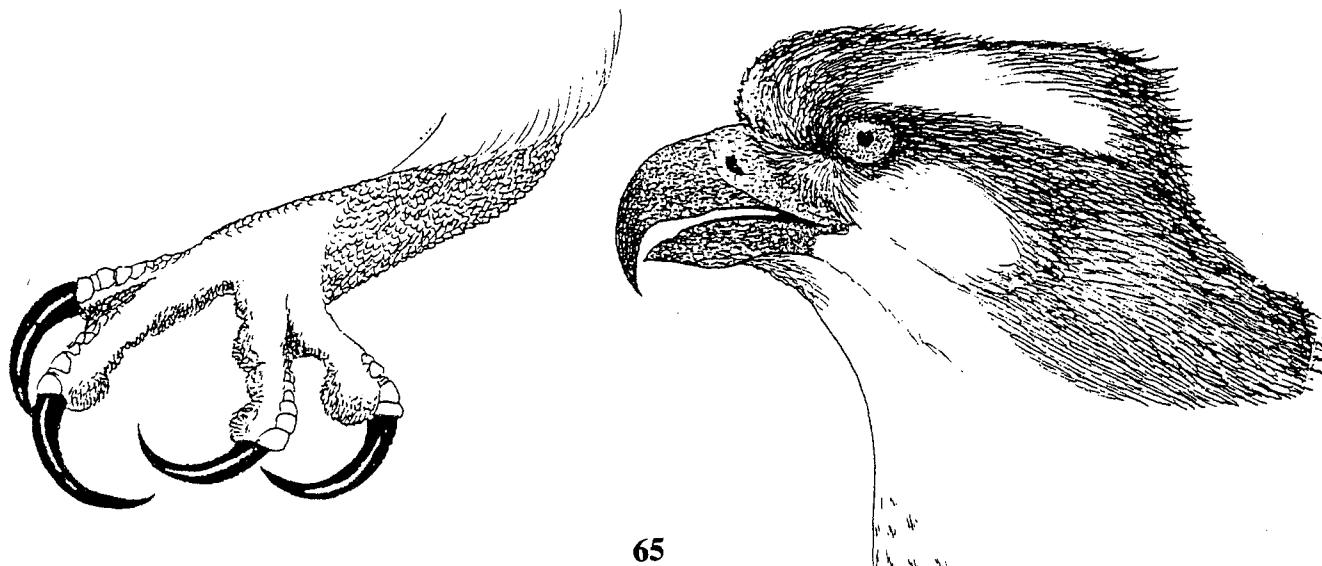
Pandion haliaetus

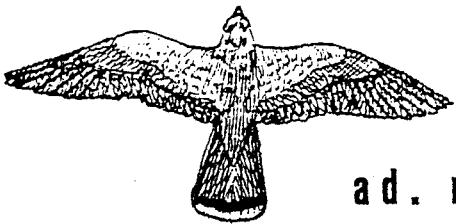
An uncommon to occasional spring and fall migrant statewide, probably most common eastwardly, where more large rivers and reservoirs exist. There is a single old breeding record for Rockport, a defunct town near the Douglas-Washington county line. The closest area of breeding in the Plains States is Minnesota, but during migration the species may appear anywhere in the region.

Migration. The range of 102 initial spring sightings is from January 1 to May 25, with a median of April 21. Half of the records fall within the period April 12 to May 1. Twenty-one final spring sightings are from April 7 to May 27, with a median of May 5. Twenty-two initial fall sightings are from August 28 to November 30, with a median of September 15. Half of the records fall within the period September 14-24. Seventeen final fall sightings are from September 17 to December 26, with a median of October 9.

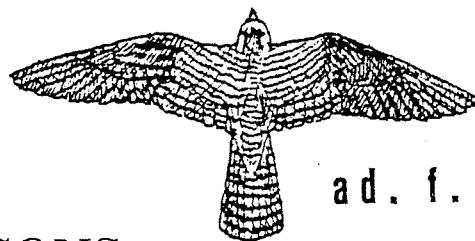
Habitats. While on migration this species occurs along rivers, lakes and reservoirs that support fishes and have fairly clear water for foraging.

Comments. It is more than likely that ospreys will begin nesting in Nebraska again, considering the many new reservoirs that have been formed in recent decades. The birds are now regular spring and fall migrants at Lake McConaughy and other larger reservoirs in the state, and watching them dive into water to capture prey is an exciting event. The birds are mostly white below, except for black "fingerprints" marks at their wrists. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (6.7%) during that period.





Top View



a d . f .

FALCONS

Top View

Falcons have long tails and sharply pointed wings; giving them a streamlined look and great speed; indeed the peregrine falcons is usually considered to be the fastest bird in the world, at least during its steep dives toward prey, called "stoops." They feed on birds, mammals and sometimes even insects in the case of the smallest species.

American Kestrel

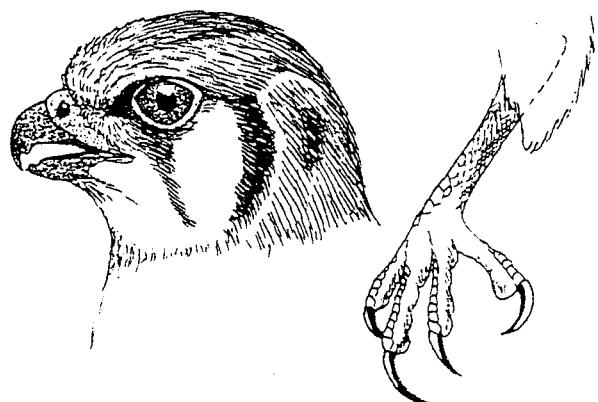
Falco sparverius

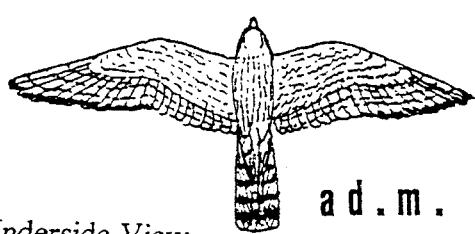
Common permanent resident statewide. Less common in winter, and more abundant during spring and fall, so substantial migration must occur. The species occurs throughout the Plains states as a migrant or breeder.

Migration. Twenty-nine spring records and 22 fall records are widely scattered, suggesting that the species is largely residential in Nebraska.

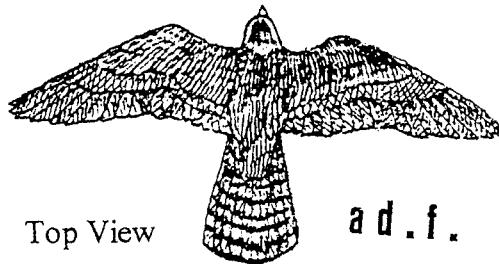
Habitats. Open country with elevated perching sites such as telephone lines or scattered trees are used throughout the year, and nesting is usually done in tree hollows (nest boxes are also often used) near large areas of grasslands or croplands.

Comments. The American kestrel, once called the "sparrow hawk," is one of the most attractive of all our raptors. They are only slightly larger than jays, and are the largest birds that regularly perch on telephone wires; larger hawks perch on poles. The smaller males are bright rufous with bluish gray wings and a rusty tail, whereas the female is nearly all barred or striped with rufous and brown. They are hole-nesters, often choosing old woodpecker cavities, but also nest in artificial cavities or nest boxes. During summer they feed largely on grasshoppers and other large insects, but turn to small mammals and other prey in cold weather. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone no population change during that period. The recent Nebraska Breeding Bird Atlas Project had 255 probable or certain breeding records for this species.





Underside View



Top View

a d . f .

Merlin

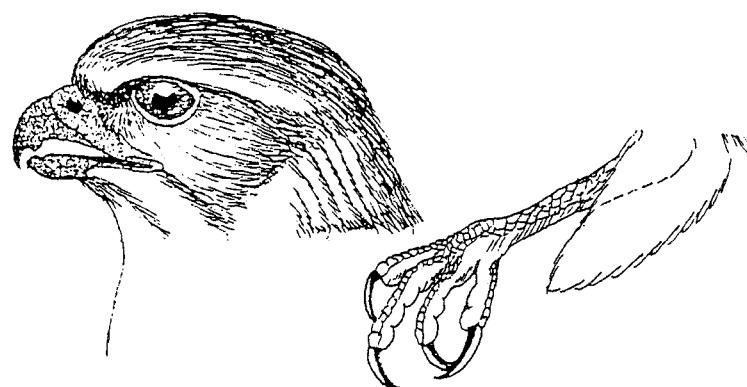
Falco columbarius

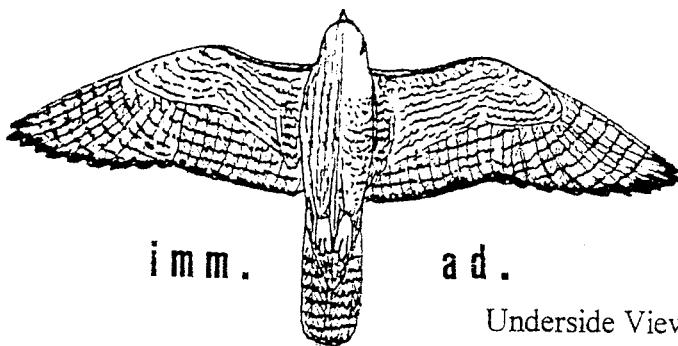
An uncommon migrant and winter visitor statewide, and an extremely rare summer resident in the Pine Ridge area. There are nesting records for Sioux County in 1975 and 1978, and one in the 1980's. Nesting occurs in western South Dakota, Minnesota and rarely in North Dakota, and migrants may appear anywhere in the Plains States.

Migration. Ninety-nine initial spring sightings range from January 1 to June 6, with a median of March 19. Half of the records fall within the two periods January 1-20 and March 30-April 24, suggesting that the species is primarily a winter visitor and spring migrant. Forty-eight fall records extend from August 16 to December 31, with a median of October 23. The largest number (21) of fall records are for December, followed by September (15) and October (7).

Habitats. Open country with elevated perches such as telephone lines or scattered trees are used throughout the year, and nesting is typically in scattered trees or groves near large areas of grasslands, croplands or badlands.

Comments. This little falcon is slightly larger than the American kestrel, and is largely a hunter of small birds. The males are mostly bluish gray above, whereas females are various tones of brown and buffy. It is likely that nesting occurs more frequently in Nebraska than the few available records suggest. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a significant population increase (15.4%) during that period. The recent Nebraska Breeding Bird Atlas Project had 3 probable or certain breeding records for this species.





Underside View

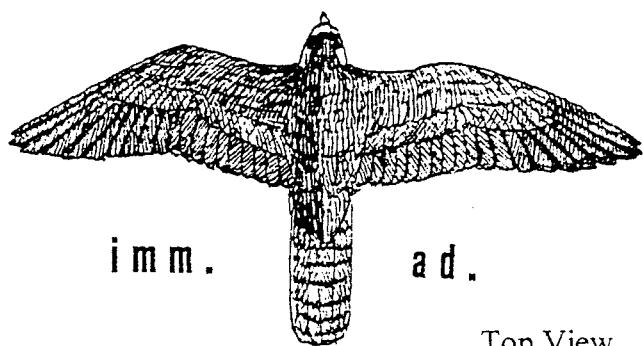
Peregrine Falcon

A rare to occasional migrant and winter visitor statewide. It apparently once bred in the Panhandle, and a release program in Omaha has produced several successful nestings there in recent years. The species occurs elsewhere in the Plains States as a migrant and may have bred in the Black Hills in recent years.

Migration. A total of 97 initial spring sightings range from January 1 to May 17, with a median of March 20. Half of the records fall within the two periods January 1-20 and April 21-May 11, suggesting that the species is a winter visitor and spring migrant. Twenty total fall records extend from July 26 to December 26, with a median of September 22. The largest number of fall records (8) is for September, but the sample is too small to suggest a peak period.

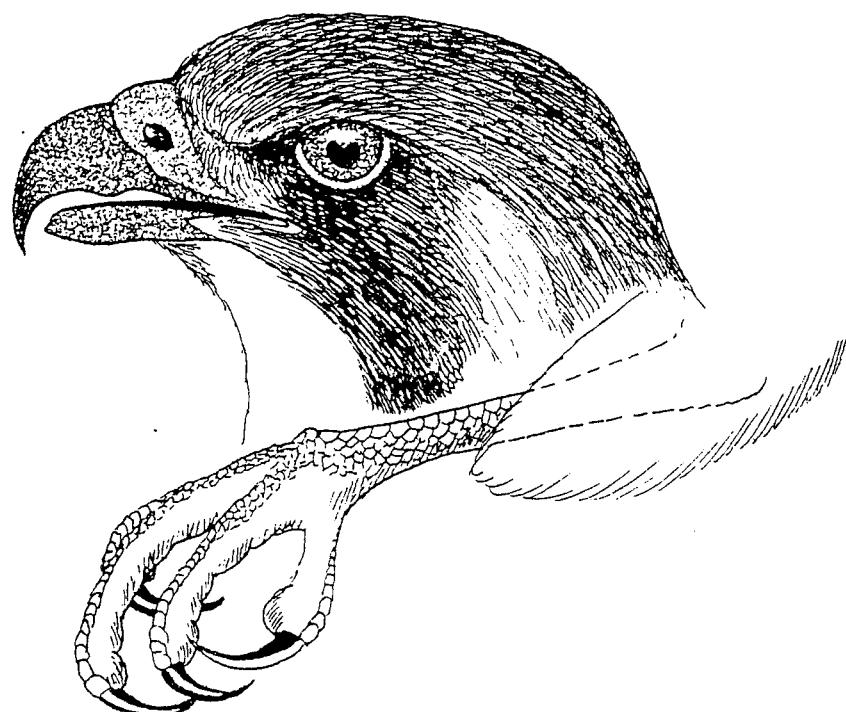
Habitats. During migration this species is most likely to be found in open, grassland habitats, but sometimes enters cities while hunting pigeons.

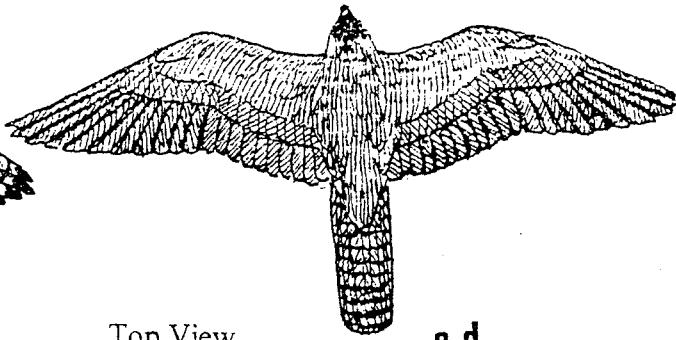
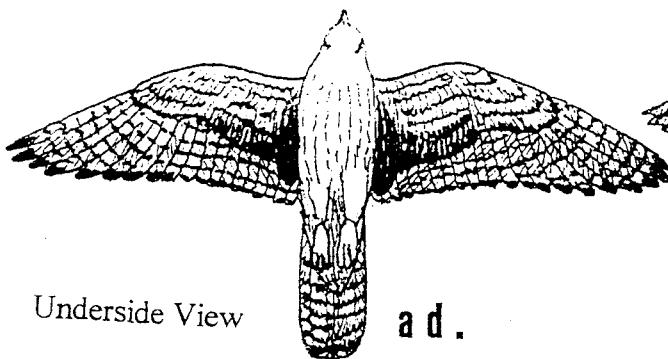
Comments. Until the successful release program by Raptor Recovery Nebraska and Nebraska Game & Parks that was undertaken in Omaha, peregrines were believed to have been extirpated from the state as breeders. However, thanks to this and other similar programs, the sight of peregrines is no longer a rarity, and a few unsuccessful attempts at nesting have occurred near the dome of the state capitol building. These city-adapted birds have even learned to hunt by night, using the lights that illuminate the capitol to capture night-flying prey such as nighthawks. Peregrines are the same size as prairie falcons, but are darker above, especially on the head and back. Breeding Bird surveys between 1984 and 1999 indicate that the species had undergone a significant population increase (12.5%) during that period.



Top View

Falco peregrinus





Prairie Falcon

An occasional to rare permanent resident in western Nebraska, and a rare migrant and winter visitor in eastern Nebraska. It is a rare and local breeder in the western Panhandle, with nesting records for Dawes, Sheridan, Sioux counties, Scotts Bluff and Banner counties, mainly in the Pine Ridge and also the Wildcat Hills. It also breeds in the western parts of the Dakotas, eastern Colorado, northeastern New Mexico and adjacent Oklahoma.

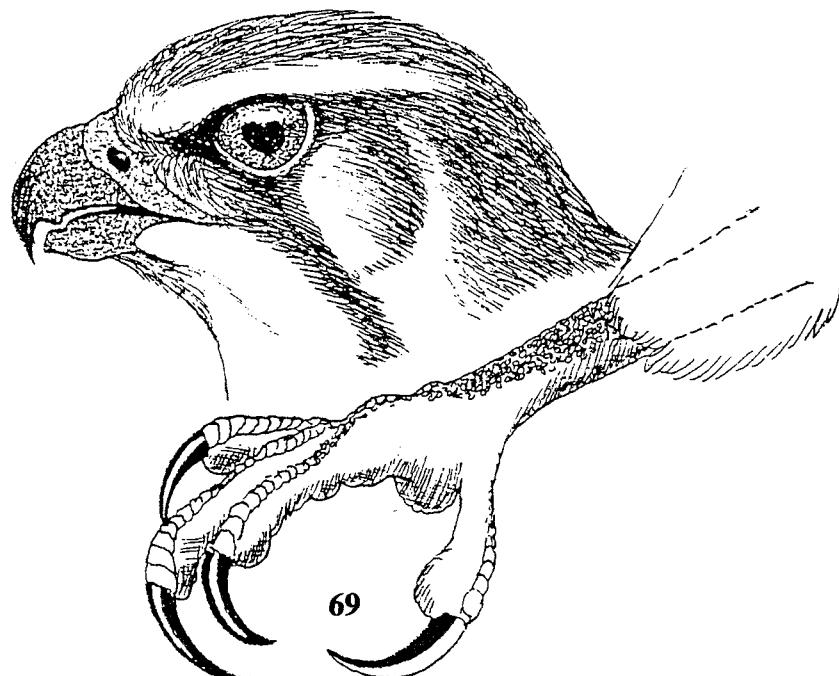
Migration. A total of 135 initial spring sightings range from January 1 to May 22, with a median of January 30. Half of the records fall within the period January 1-30, suggesting that the species is primarily a resident and winter visitor, with no obvious secondary peak of spring migration. Forty-five fall records extend from July 21 to December 31, with a median of November 13 and no obvious fall peak in records. There is a progressively smaller number of monthly records from December backwards to July.

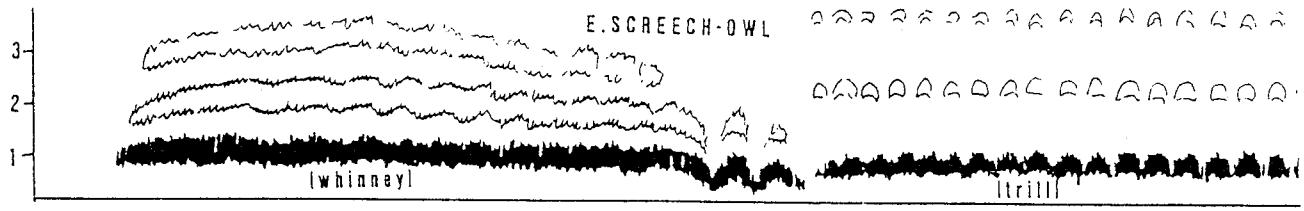
Habitats. This species is associated with large expanses of open grasslands or sagebrush scrub, with nearby cliffs, bluffs or rocky outcrops for nesting.

Comments. The prairie falcon is a paler version of the peregrine, and a species more likely to specialize on prairie-dogs and ground squirrels than on birds. It attacks such prey at high speed and in nearly ground-level altitudes, rather than from high-altitude stooping dives, but is equally deadly. Like the peregrine it prefers to nest on steep cliffs, and seeing a female diving on birds that stray too close to the nest is a lesson in high-speed acrobatics. The birds are browner above than peregrines, and have blackish patches where the undersides of the wings join the body. The recent Nebraska Breeding Bird Atlas Project had 14 probable or certain breeding records for this species. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (2.0%) during that period.

Top View

Falco mexicanus





OWLS

Owls are usually more often heard than seen, as most of them are active only at night, and all are camouflaged with the colors of dead vegetation. They fly silently, relying on surprise to capture their prey, and the most nocturnal species can capture prey in total darkness, using only sound for clues as to its location. The best way to identify owls is by learning their distinctive calls. All owls have large external ear openings in association with their acute hearing, which are shown in some of the head diagrams. In nearly all the feathering on their legs extends to the base of their toes, and sometimes beyond.

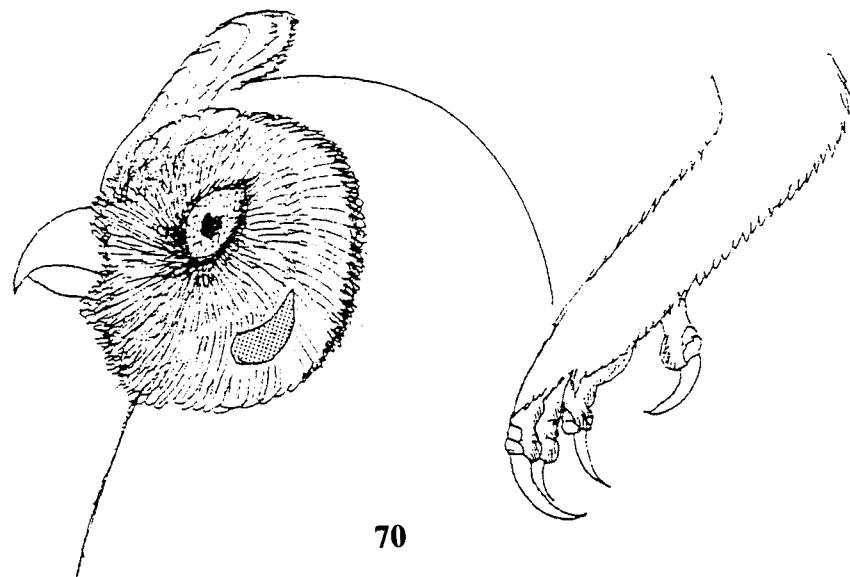
Eastern Screech-Owl

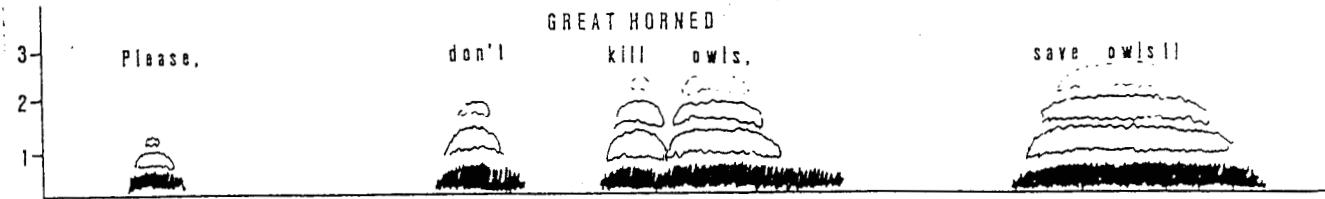
Otus asio

A common permanent resident in wooded areas throughout the state, but rare or absent from the treeless areas. There are no Nebraska records of the western screech-owl.

Habitats. This widespread species occurs in a variety of wooded habitats, including farmyards, cities, orchards, and other human-made habitats, as well as in forests and woodlands. It is more common in cities and suburbs than in heavy woodlands, where it is preyed upon by larger owls.

Comments. Screech-owls often go unnoticed in places where they are common, , as they hide during daylight hours in tree cavities. The whinny-like call they utter is not very owl-like, and their other typical call is a rapidly trilled series of soft *tu* notes that gradually increases in volume before suddenly ending. They are probably Nebraska's most common owl. In eastern Nebraska about 90 percent of the birds are gray-colored above, with the rest variably rufous; farther west the rufous plumage type is even rarer. The recent Nebraska Breeding Bird Atlas Project had 118 probable or certain breeding records for this species. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population increase (2.8%) during that period





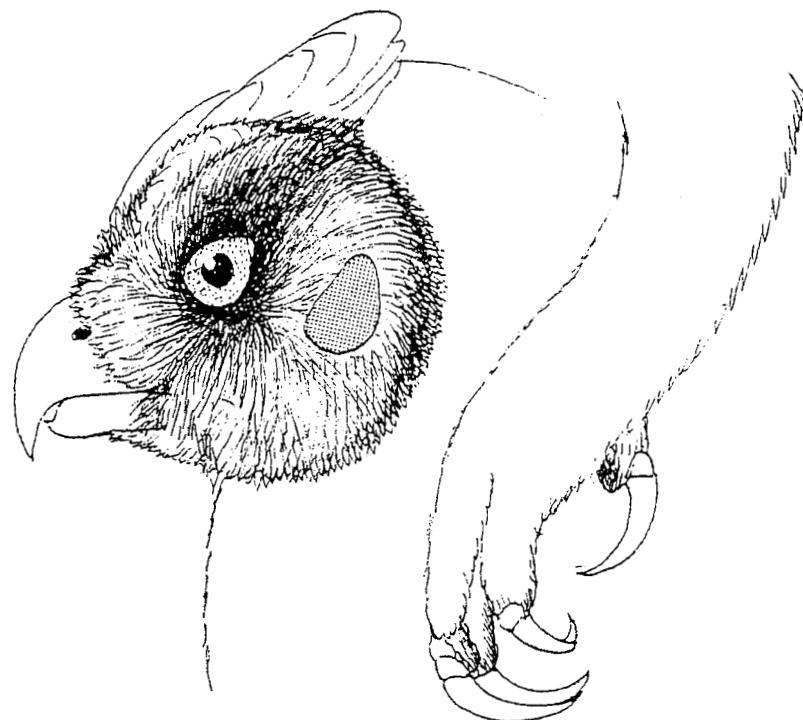
Great Horned Owl

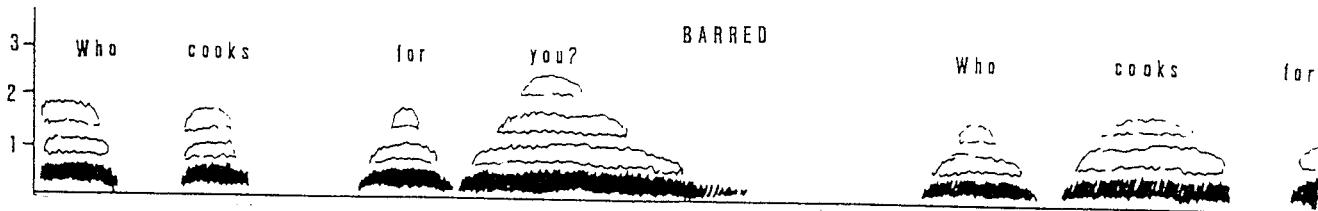
Bubo virginianus

An uncommon permanent resident statewide, but probably most common in the heavily wooded major river valleys and the Pine Ridge area. Also breeds and migrates throughout the entire Plains States region.

Habitats. This highly adaptable species occurs in a variety of habitat types ranging from dense forests to city parks and farm woodlands, and extends into non-wooded environments in rocky canyons and gullies.

Comments. This is Nebraska's largest and most powerful owl, and it is able and willing to attack skunks, feral cats, and sometimes even very small dogs. It is not safe to climb up to the nest of these birds without protective headgear; their talons are long and the birds have a vise-like grip that can apply more than 30 pounds of pressure. The recent Nebraska Breeding Bird Atlas Project had 222 probable or certain breeding records for this species, the most of any owl. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone no survey-wide population change during that period. Its distinctive mating call usually sounds like "Don't kill owls....Save owls!" sometimes a preliminary "Please" note is present.





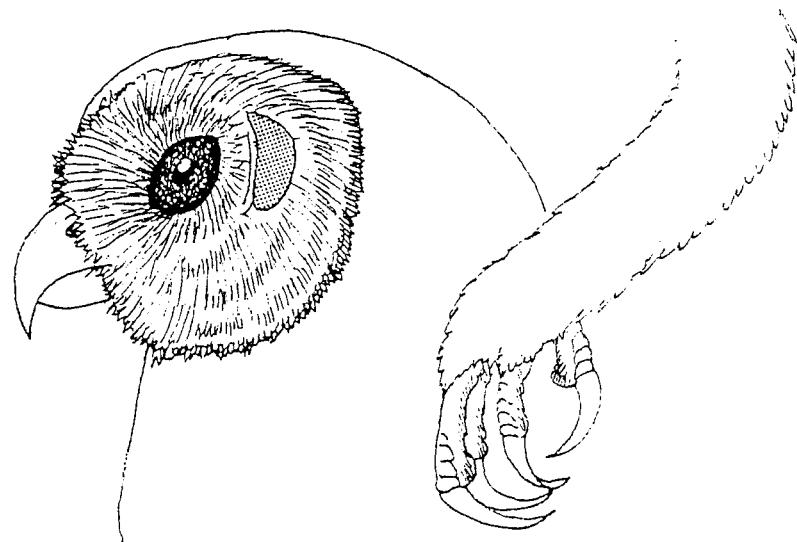
Barred Owl

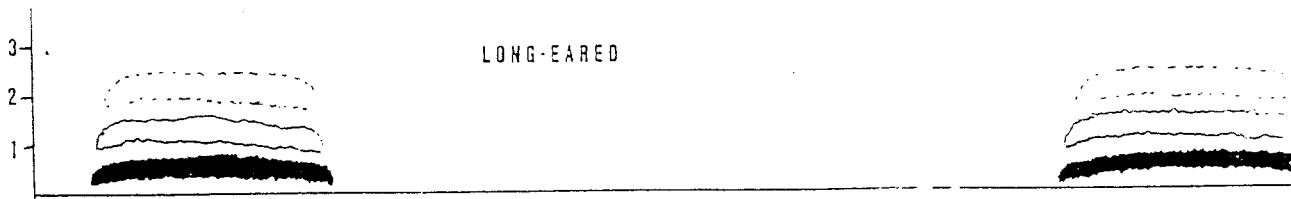
Strix varia

An uncommon permanent resident in southeastern Nebraska, becoming rarer westwardly, and absent from the western half of the state. The western breeding limits of this species are not known, but it is a rare straggler to eastern Colorado. Also breeds widely through the eastern portions of the Plains States.

Habitats. Throughout the year this species is found in dense river-bottom woods, which in Nebraska are typically of hardwoods. However, coniferous forests are also used when available, and seem to be preferred.

Comments. The dark brown eyes of the barred owl mark it as a highly nocturnal species; those that hunt during the day and in twilight have yellow eyes. It is also one of the most vocal of owls, and can be easily called up by imitation or playback of its calls. These have a distinctive cadence, sounding like "Who cooks for you? Who cooks for you-all?" Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight population increase (2.9%) during that period. The recent Nebraska Breeding Bird Atlas Project had 19 probable or certain breeding records for this species.





Long-eared Owl

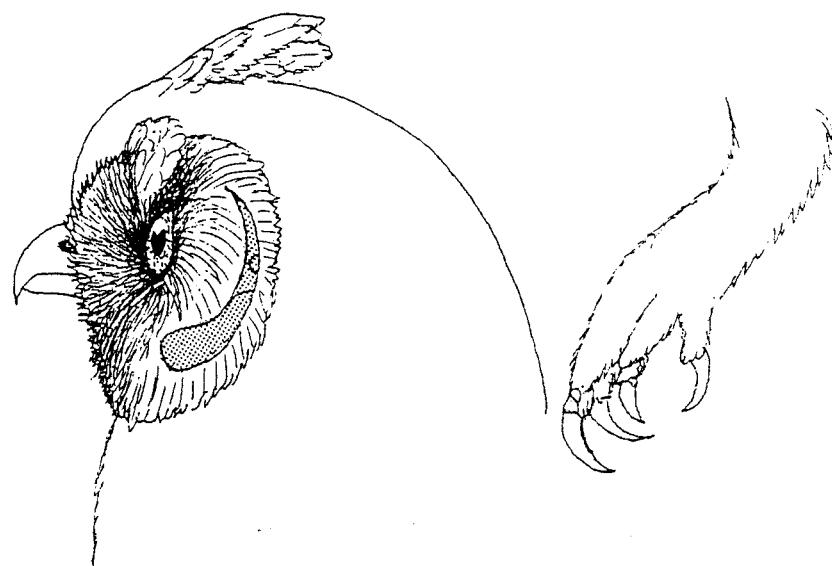
Asio otus

A permanent resident in wooded areas such as major river valleys throughout the state, uncommon in the east and becoming rarer westwardly. The population is probably supplemented from migrants from farther north during winter. Also breeds and migrates throughout the other Plains States.

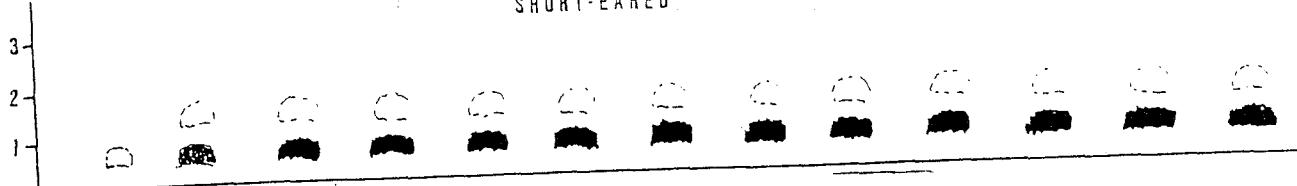
Migration. Twenty-four spring sightings range from January 2 to May 14, with a median of March 9th. Nineteen fall sightings are from July 21 to December 31, with a median of November 24. These limited data suggest that the species is a summer resident and a late fall and early spring migrant, with frequent overwintering.

Habitats. Throughout the year this species is associated with wooded areas, including riverbottom forests, parks, orchards and woodlots. Both coniferous and hardwood forests are utilized, with the former apparently preferred.

Comments. This attractive owl is mainly a bird of rather dense forests in the east, but two newly fledged young were found perched in low junipers at Cedar Point Biological Station, Keith County, in 1995. Like the barred owl it is quite a vocal bird, but it is hard to find during daytime hours as it hides quietly in dense wood vegetation. The recent Nebraska Breeding Bird Atlas Project had 7 probable or certain breeding records for this species. Its call consists of a series of well-spaced and low-pitched hoots, with no special cadence.



SHORT-EARED

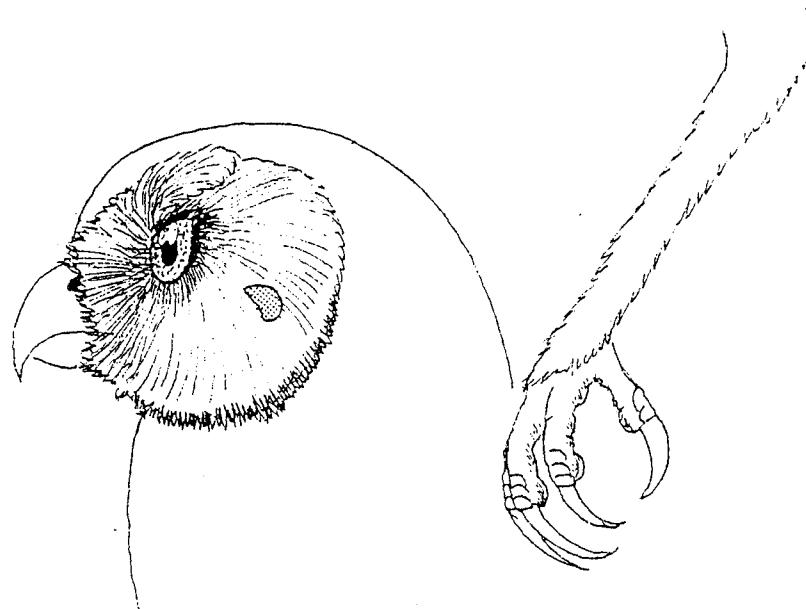
**Short-eared Owl***Asio flammeus*

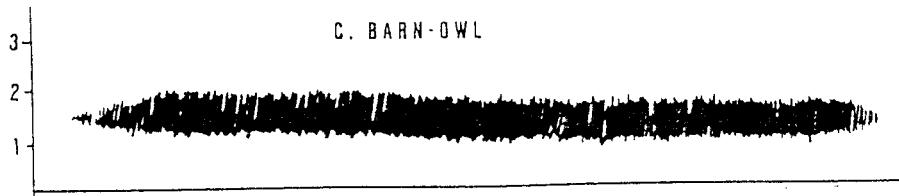
A permanent resident throughout Nebraska, being more common in the summer in the Sandhills and other natural grasslands. During winter the population is apparently supplemented by migrants from farther north. Probably least common in the Pine Ridge area. Also breeds in the other Plains States south to about Kansas, and occurs farther south during migration.

Migration. Thirty-five spring sightings range from January 8 to June 6, with a median of March 12. Twenty-nine fall sightings are from July 20 to December 31, with a median of November 30. The data are very similar to those of the long-eared owl, suggesting that the species is a summer resident and a late fall and early spring migrant, with frequent overwintering.

Habitats. Throughout the year this species is found in open, grass-dominated environments, and in Nebraska the Sandhills prairie and other natural grasslands are favored habitats. Nesting usually occurs in grassy cover, with several pairs often nesting fairly close to one another in a loose colonial situation.

Comments. Like the northern harrier this is a prairie raptor, and is probably gradually declining as native grasslands disappear. Sometimes it hunts during daylight, when it resembles a gigantic moth coursing over marshes and grasslands. Its call closely resembles that of the long-eared owl. The recent Nebraska Breeding Bird Atlas Project had 16 probable or certain breeding records for this species. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population decrease (4.7%) during that period





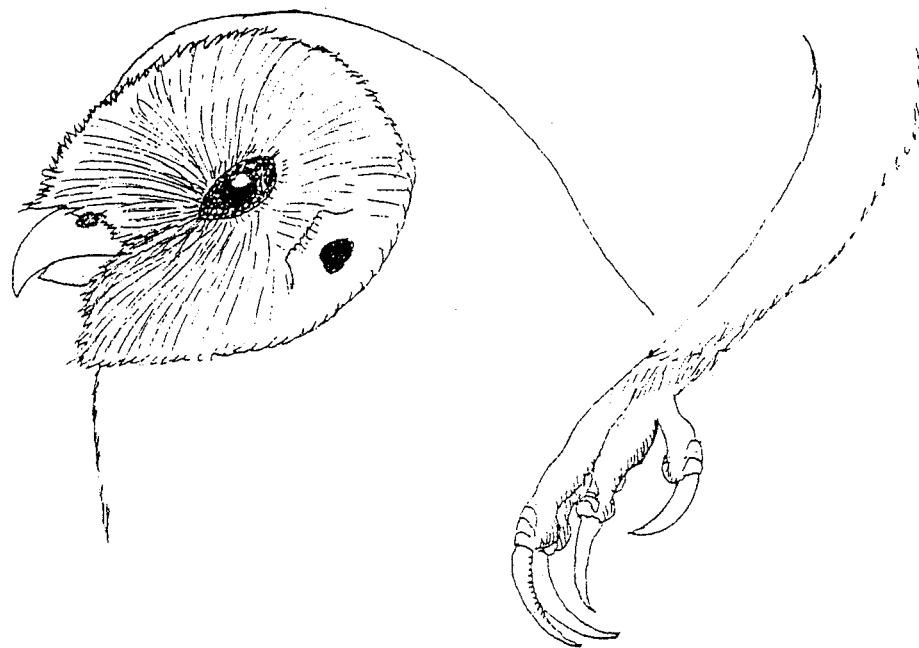
Barn Owl

Tyto alba

An uncommon permanent resident statewide, but probably more common in the southern counties. Also breeds throughout the Plains States north to South Dakota.

Habitats. Open to semi-open habitats, where small rodents are abundant and where hollow trees, old buildings, or caves are available to provide roosting and nesting sites are favored by this species. Rats, including kangaroo rats, are particularly favored as prey species, but many other rodents are also consumed.

Comments. Barn owls are rodent-catchers without peer, and the presence of a pair at a farm may account for the disappearance of several thousand mice or rats per year. They are thus highly valuable birds, although farmers often seem unaware of their presence or, if so, may actually try to kill them. Near Cedar Point Biological Station in Keith County the nesting birds concentrate on pocket mice and kangaroo rats for prey, but in turn are preyed upon by great horned owls. One of their many calls is a high-pitched piercing scream, sounding like that of a terrified person. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight population decline (2.0%) during that period. The recent Nebraska Breeding Bird Atlas Project had 26 probable or certain breeding records for this species.



Burrowing Owl

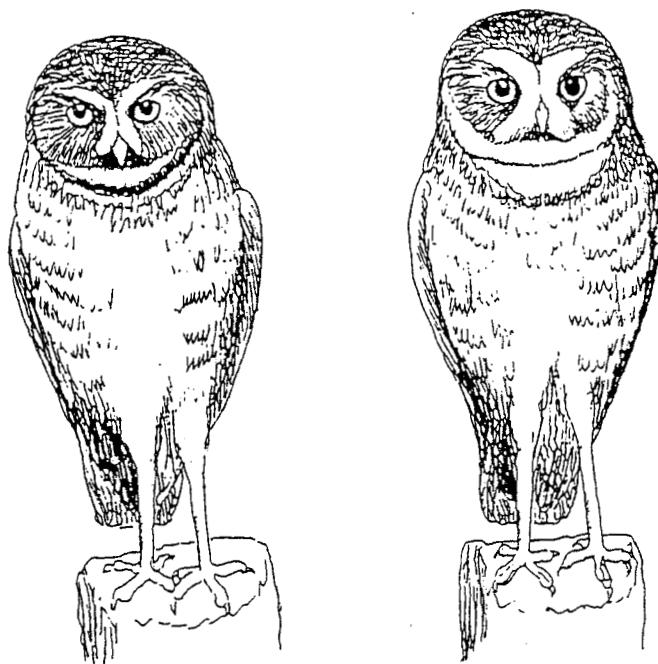
Athene cunicularia

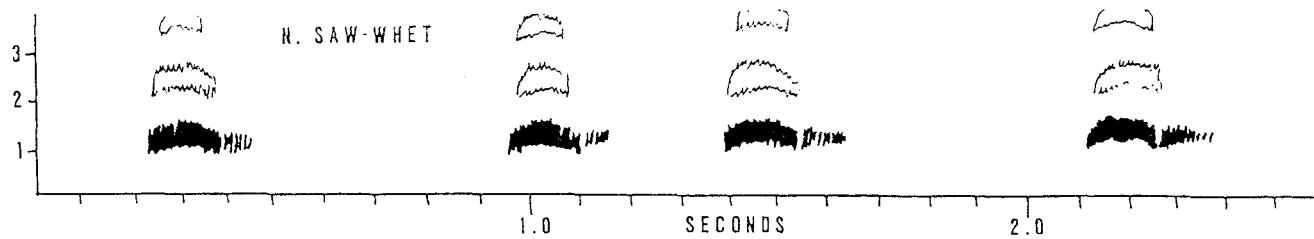
A common to uncommon spring and fall migrant and summer resident in western and central Nebraska, becoming rare eastwardly, and not known to breed east of Lancaster County. Also breeds widely elsewhere in the Plains States, excepting the more easterly portions.

Migration. The range of 119 initial spring sightings is from March 10 to June 10, with a median of April 24. Half of the records fall within the period April 13-May 9. Forty-three final fall sightings are from July 21 to November 9, with a median of September 16. Half of the records fall within the period August 30-September 30.

Habitats. This species is normally associated with heavily grazed grasslands, especially those supporting colonies of large rodents such as prairie dogs. Normally colonial, scattered nestings may also occur by individual pairs where suitable excavations are available.

Comments. Partly because of state laws requiring the control of prairie dogs on private lands, the numbers of both prairie dogs and burrowing owls have plummeted in recent decades, and there are few places left where these fascinating little owls can be readily observed. Unlike most owls the birds are daytime-feeders, and they also are mostly insect-eaters, at least while they are in Nebraska. They do call at night, producing a series of dove-like "coo-cooo" notes. The recent Nebraska Breeding Bird Atlas Project had 70 probable or certain breeding records for this species. Breeding Bird surveys between 1966 and 1999 indicate that the species had undergone a slight survey-wide population decrease (0.6%) during that period





Northern Saw-whet Owl

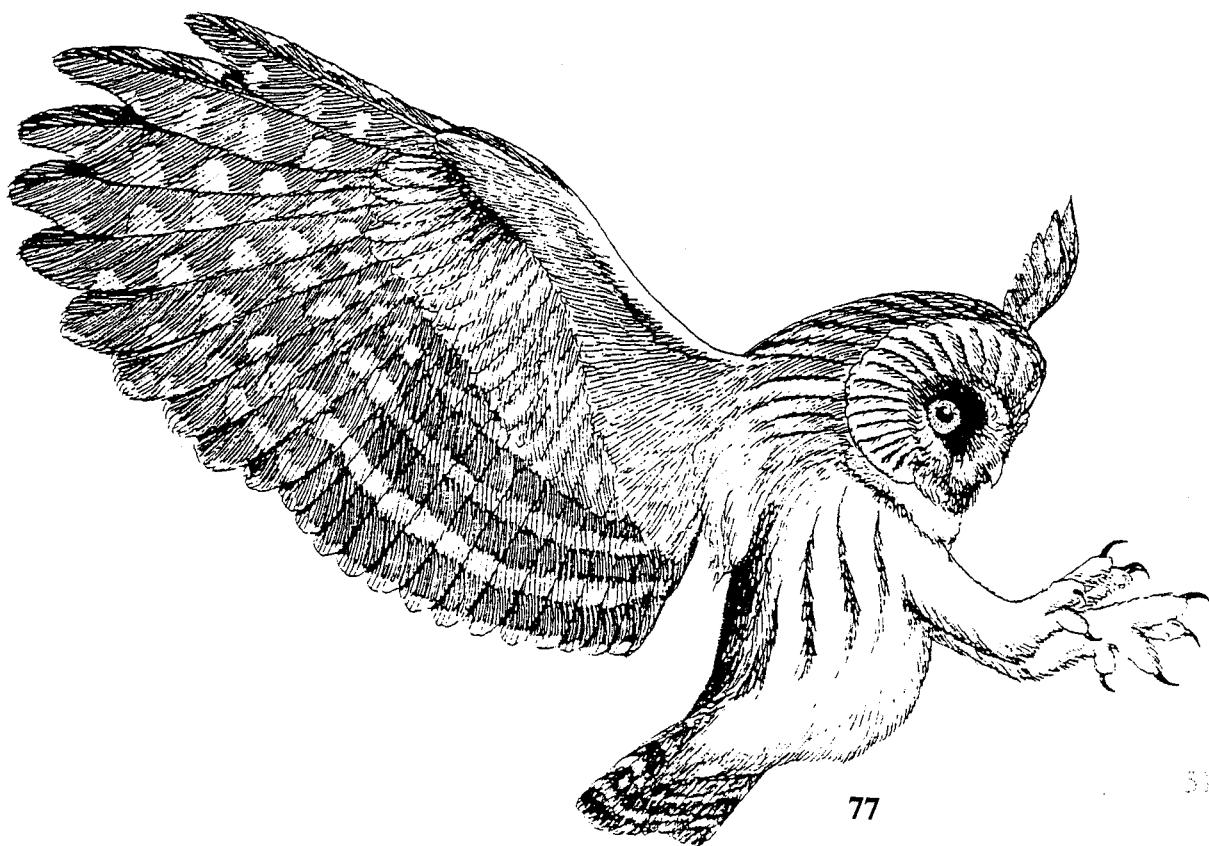
Aegolius acadicus

An uncommon to rare winter visitor at least in eastern Nebraska, and perhaps statewide. There are no definite breeding records, but calling by a territorial male was heard yearly at Fort Robinson for many years during the 1980s, and again in 1997 near Ash Creek Canyon, northeastern Dawes County. The species is known to nest in the nearby Black Hills of South Dakota, and also breeds in Minnesota, but otherwise is a migrant or winter visitor in the Plains States.

Migration. Ten fall records are from July 29 to December 22, with a median of November 8. Seven spring records are from January 1 to May 16, with a median of February 20. These limited data suggest that the species is primarily a winter visitor. In northwestern Nebraska it is reportedly a rare summer resident, arriving as early as April 18 (Rosche, 1982).

Habitats. Although normally associated with rather dense woods, especially cedar groves in Nebraska, this species sometimes appears in unexpected locations during migration. In the Black Hills of South Dakota it breeds in pine and spruce forests, and probably the same is true in the Pine Ridge area.

Comments. Most saw-whet owls in Nebraska are obviously migrants, but there is always the chance that a breeding pair will turn up someday in the Pine Ridge or Niobrara Valley. We are unlikely to hear their mating call, which was once described as sounding like the noise of a saw being sharpened (hence the bird's name), but it is closer to the sound of dripping water.



How You Can Help

If you have a raptor emergency, please contact 308-233-2OWL (toll-free call for callers west of Highway 14). If no response, call your nearest Nebraska Game and Parks Commission office.

For other transporters, check Raptor Recovery Nebraska website
www.raptorrecoveryne.org.

How to Handle an Injured Raptor

1. Approach the bird from behind, if possible. A raptor's feet and talons are its means of defense. They are extremely powerful weapons. Protect yourself with leather gloves.
2. Cover the bird completely with a towel, blanket, jacket or any lightweight item. Anticipate that the bird will struggle when first covered.
3. Quickly restrain the bird under the covering. Usually you end up with a covering full or talons, but at least you know where they are!
4. As the bird calms down, gather the covering together, being careful to keep the bird covered completely. Be sure the bird's wings are folded against its body. To protect against talon injury, secure the legs first. Plan to hold the bird with its back next to your body and its feet positioned away from you.
5. EXTREME CARE must be taken when a bird is transported in this manner. Wrapped in material the bird can overheat rapidly. For this reason it is important to transfer the bird to a well-ventilated cardboard box as soon as possible. The box should be just large enough to allow the bird some movement, but not so large as to allow the bird to thrash around inside. Put ventilation holes near the base of the box so the bird cannot see out. If the bird is going to be transported in this box it is good to put some indoor-outdoor carpeting in the box for non-slip footing.
6. Avoid wire cages to protect wing and tail feathers from injury. It is a shame to have to keep a bird until it molts because its feathers were damaged in transport. Plastic dog kennels that open at the front necessitate a dangerous frontal approach for the rehabilitator. Cardboard pet carriers that open from the top are great!
7. Provide the bird with a calm, quiet environment, but DO NOT keep the bird any longer than is necessary to get it to a veterinary professional trained to treat birds of prey. DO NOT FEED OR WATER the bird. The bird should be placed in a warm, dark, quiet place. Darkness has a calming effect on the birds and quiet is particularly important because of the birds extremely sensitive hearing. Extra care should be taken to keep the bird away from children and pets.

Nebraska's Raptors and their Rehabilitation

by: Raptor Recovery Nebraska

Who Raptors Are and Why We Need Them

Raptors are birds of prey; they include eagles, owls, hawks, and falcons. They are among some of the most majestic creatures to be found in nature. But in addition to their beauty, they also provide a useful service. They are valuable links in an intricate food web and help to maintain a necessary and desirable balance in natural systems. Many of them feed on pests that destroy crops and invade homes. They are also good indicators of the condition of our environment, as pollutants that pass through the food chain eventually show up in concentrated levels in raptors.

Why They Need Us

But our raptors are in trouble—because many people persist in destroying them. Despite full protection by federal and state laws, many raptors are still being shot or poisoned. Habitats are being destroyed. Eggs and young that are assumed orphaned are being taken from nests and some are being kept illegally as pets. Many raptors are injured and maimed by steel traps. Numerous others are victims or collisions—with vehicles, buildings, fences and power lines. *The biggest threat to raptors is thoughtless human activity.*

Who We Are

Begun in 1976 as a project of the Wachiska Audubon Society of Lincoln, Nebraska, Raptor Recovery Nebraska was organized to raise and rehabilitate injured or orphaned raptors for release back to the wild; to educate the public about birds of prey and their value to humans; to assist the State of Nebraska in management of raptor populations; and to provide assistance for raptor research.

What We Do

At the Raptor Recovery Nebraska, injured and orphaned raptors receive medical treatment and care, and are restored to health, banded and released. Some birds have been so severely damaged that they cannot be fully rehabilitated. Non-releasable birds are channeled into breeding programs, recruited as “foster parents” for young orphans, utilized in research and featured in Raptor Recovery Nebraska’s educational programs.

Treatment and care of injured raptors is provided by more than 40 dedicated and skilled volunteers, assisted by several area veterinarians. Audubon groups and individuals across the state make up a relay system that enables injured raptors to be transported to Raptor Recovery Nebraska as quickly as possible and also provides transportation to veterinarians at a distance from Raptor Recovery Nebraska.

Raptor Recovery Nebraska has been involved in the management process to aid several species of raptors in Nebraska; the barn owl, listed as a declining species; the endangered peregrine falcon; and the American kestrel. Crippled adult barn owls produced more than 300 young owls which were released to the wild. Young peregrine falcons were introduced into the urban environment of downtown Omaha; these efforts have resulted in establishing a nesting pair of peregrines in Omaha. And the American kestrel, North America's smallest falcon, is being helped to maintain its populations by providing nest boxes along I-80 for them to utilize.

Since its beginning in 1976, Raptor Recovery Nebraska has treated more than 4,000 birds of prey, and better than 50% of those have been released back to the wild. This compares with a national average release rate of 45% for rehabilitation programs.

Through lectures, tours and slide and video programs, Raptor Recovery Nebraska volunteers strive to increase public awareness of these unique birds, and to build public awareness of the problems raptors face today. Center volunteers are available to present educational programs to groups ranging from grade schools to corporations to civic organizations.

Where You Fit In

A nonprofit, tax-exempt public corporation licensed by the U.S. Fish and Wildlife Service and working in cooperation with the Nebraska Game and Parks Commission, Raptor Recovery Nebraska needs your **SUPPORT**.

In addition to its rehabilitation, breeding and educational activities, Raptor Recovery Nebraska also sponsors an Adopt-a-Bird program designed to encourage individuals and groups to develop a personal commitment to preserving Nebraska's raptors. For an annual fee you can "adopt" one of the Center's injured birds of prey and help defray the operating costs of Raptor Recovery Nebraska. We need your **PARTICIPATION**.

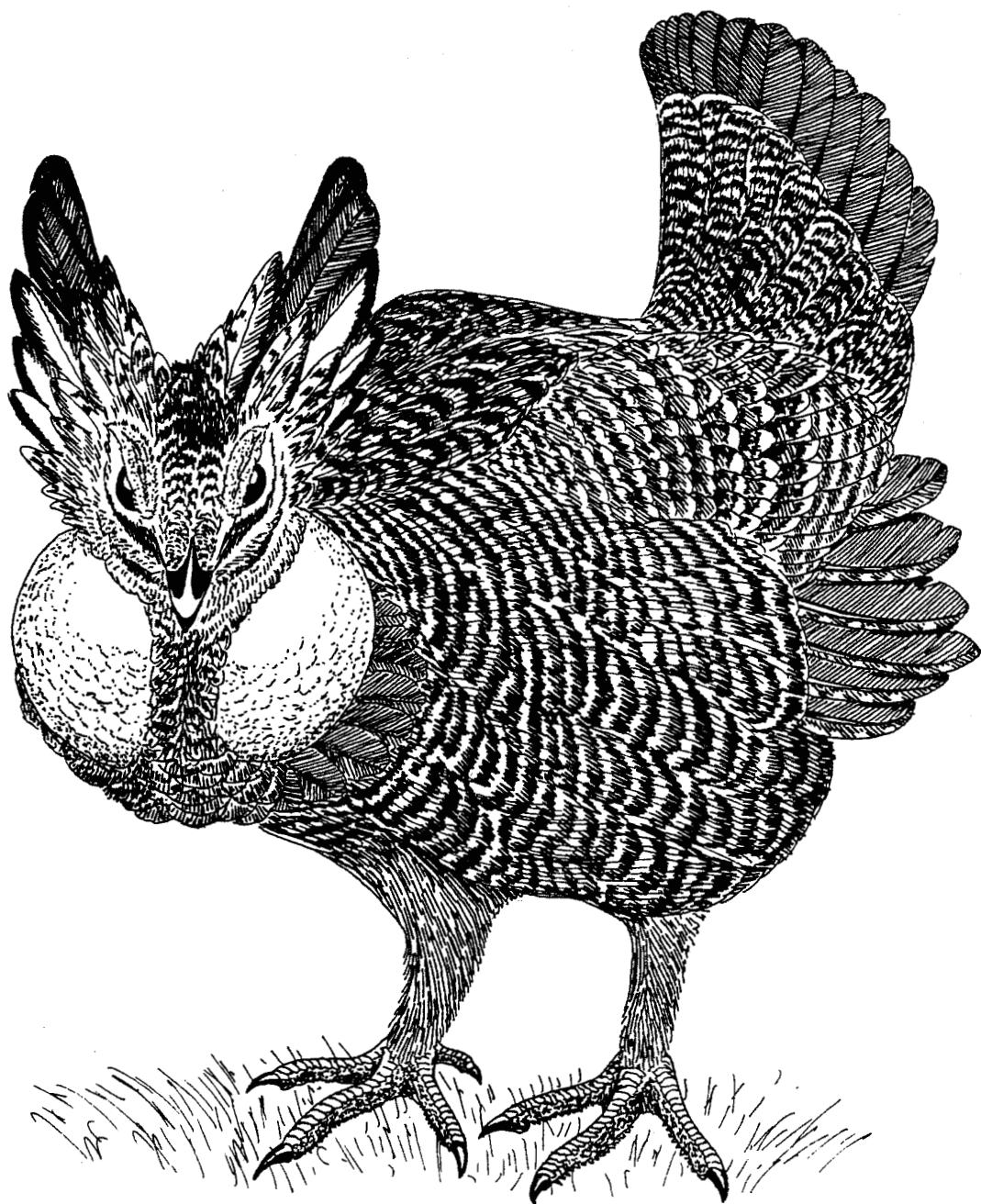
If you find an injured raptor, remember these facts:

- Under state and federal laws, it is **ILLEGAL** for any person to kill, injure or possess a bird of prey.

- An injured raptor requires immediate specialized care. Any delay reduces the bird's chances for recovery.
- Many veterinarians have neither the special facilities nor the practical experience to properly handle an injured raptor.

We need your **COOPERATION**. Together, we can make a difference for Nebraska's birds of prey. Won't you join us? Our website is [www.http://www.raptorecoveryne.org](http://www.raptorecoveryne.org)

Grassland Birds and Mammals of the Platte Valley



Grassland Birds and Mammals of the Platte Valley

Considering that the land surface of Nebraska was almost entirely covered by natural grasslands prior to settlement, and that at least in the Sandhills region vast areas of native grasslands still persist in a nearly unaltered state, it should not be surprising that some of the state's most widespread and abundant species of breeding birds should be grassland-adapted. A short list of the species that are both widespread in Nebraska and are largely confined to native grasslands might include the following: Greater prairie-chicken, sharp-tailed grouse, long-billed curlew, upland sandpiper, horned lark, dickcissel (eastern Nebraska only), lark bunting (western Nebraska only), grasshopper sparrow, eastern meadowlark and western meadowlark. One could also add the sandhill crane to these Nebraska prairie species, since several recent nestings in the Rainwater Basin have restored the species as a Nebraska breeding bird. Previously it had been more than a century since sandhill cranes last nested in the state.

Based on data summarized in *The Summer Atlas of North American Birds* (Price et al., 1995), maximum densities of more than 50 birds per survey route per year were found in Nebraska annually between 1966 and 1993 for the horned lark, dickcissel, lark bunting, grasshopper sparrow, and western meadowlark; these five species thus represent Nebraska's most abundant prairie-adapted birds. The upland sandpiper and long-billed curlew had average maximum abundance levels of 20-50 birds per route, while the greater prairie-chicken averaged 5-20 birds per route, and the sharp-tailed grouse up to five birds per route. Generally these larger species, having much higher food and space requirements than far smaller ones, will never be likely to attain population densities comparable to them.

All bird populations are dynamic, depending on annual weather and habitat variations. Like the prairies themselves, prairie birds have generally been declining in recent decades. Between 1969 and 2004 most Nebraska grassland species have shown significant average annual declines in breeding bird survey figures: Henslow's sparrow, -6.2%, grasshopper sparrow -3.7%, greater prairie-chicken, -3.4%, field sparrow, 3.0%, eastern meadowlark -2.9%, chestnut-collared longspur -2.6%, lark sparrow -2.5%, horned lark -2.1%, long-billed curlew -1.5%, lark bunting -1.3%, brown-headed cowbird -12.%, clay-colored sparrow -1.2%, vesper sparrow -1.1%, dickcissel -0.9%, western meadowlark -0.9% and Savannah sparrow, -0.8.. Only two grassland species have shown average increases in estimated abundance, namely the ferruginous hawk +2.0%, and the upland sandpiper +0.7%. Some of these estimated changes may be statistical anomalies, but the general downward trends are inescapable.

Where to See Grassland Plants and Animals

Persons wanting to observe tallgrass prairie birds and native plants should consider visiting some of the following tallgrass and mixed-grass prairies of the central Platte Valley. Location information on some sites that not described here may be found in the earlier bird-finding section.

Buffalo County

Pearl Harbor Survivors Preserve. 150 acres. Located north of Riverdale, owned by Prairie Plains Resource Institute. Loess Hills prairie, partly restored. A field research laboratory of the University of Nebraska-Kearney. For information call Prairie Plains Resource Institute, 302/694-5535

Lillian Annette Rowe Sanctuary. 1,150 acres. Owner: National Audubon Society. Riverine floodplain, with some remnant tallgrass prairies surviving. Outside the crane migration periods permission to visit these areas may be granted. Ph. 308/468-5282.

Hall County

Platte River Whooping Crane Trust. Extensive wet meadow habitat occurs on the western approach road. Lands owed by the Trust also exist west of Alda Road on Shoemaker Island. During the crane season no visits are permitted, but one might ask permission at other times. Ph. 308/384-4633.

Platte River Bird Observatory at Crane Meadows. Almost five miles of hiking trails through restored tallgrass prairies, meadows and woodlands .Admission charge. Ph. 308/382-1820.

Hamilton County

Marie Ratzlaff Prairie Preserve. 40 acres (30 acres virgin, 10 acres of restored) tallgrass prairie. Located in southeast Hamilton County, 6 miles south of the Hampton Interstate 80 exit. Owned and managed by Prairie Plains Resource Institute, Aurora (call 402/694-6635 or see www.prairieplains.org), but visitors are welcome anytime without permission.

Griffith Prairie and Farm. 390 acres. Owner: Prairie Plains Resource Institute. Four miles west of Highway 14 from Marquette corner. Platte River bluff prairie plus some farmland and river frontage. For information call 402/694-5535, or see Prairie Plains Resource Institute's website: www.prairieplains.org.

Lincoln Creek Prairie and Hiking Trail. 16 acres. Located at Aurora. Tallgrass prairie and prairie restorations planted in the 1980's. Includes the Lincoln Creek Hiking Trail, which is always open for public use. The restorations are high diversity and the trail also goes through a restoration on The Leadership Center land north of PPRI land. For information call 402/694-5535, or see Prairie Plains Resource Institute website: www.prairieplains.org

Kearney County

Speidell Island Preserve. 596 acres. A Nature Conservancy floodplain prairie on Dover Island, Platte River, southeast of Kearney. For information call the Nature Conservancy, 402/343-0282.

Merrick County

Bader Memorial Park. Located just north of the Chapman Bridge in Merrick County. Consists of Platte River prairie plus 3/4 mile of Wood River frontage and 1/2 mile of Platte River frontage. The grassland consists of about 120 acres, some under restorative management after a major cedar removal project. There is also extensive riparian forest and shrub. Bader is open to the public and has a day or season pass use-fee per vehicle (\$3.00/day; \$18/season).

Notes on Some Characteristic Grassland Birds

Greater Prairie-chicken

This is a hallmark tallgrass prairie bird, which once extended east to Michigan and, as the coastal-prairie version called the “heath hen,” to the Atlantic tideline. The last heath hen died in the early 1930s, and another coastal prairie race, the Attwater’s prairie-chicken, is now barely surviving in eastern Texas. The only population that has managed to maintain itself and avoid listing as an endangered species is the interior population, with Nebraska and Kansas representing the heart of its present-day range. Small remnant populations still extend north to North Dakota and south to Oklahoma, but only the eastern Sandhills of Nebraska and the Flint Hills of Kansas provide the mixture of tall grasses for nesting and escape cover, and access to small grains for winter survival that the greater prairie-chicken now depends upon. In both states the populations are still large enough to support limited sport hunting, but the greatest sport imaginable comes from arising before dawn and watching the spring courtship displays of prairie-chickens from a blind on a prairie hilltop in late March or early April.

Sharp-tailed Grouse

The sharp-tailed grouse has adapted to the impact of humans much better than has the prairie-chicken, largely because it is better adapted to the shorter and more arid grasslands of the western Great Plains, which have not been so much affected by modern agricultural technology as have the tallgrass prairies. As a result, sharp-tailed grouse still occur over much of Nebraska, especially throughout the Sandhills region, and their range continues west over many of the western states and provinces all the way to British Columbia and Alaska. Like the prairie-chicken, the sharp-tailed grouse is a permanent resident in Nebraska; all the other prairie species described here are variably migratory. During the winter period sharp-tailed grouse are able to survive on naturally available foods such as rose hips and tree buds, and their feet are not only well feathered but they also grow long scales on both sides of each toe that serve as little snowshoes in spreading their weight when walking over soft snow. As the snows disappear in early spring all the males gravitate to traditional display areas, or “leks”, where they fight and display aggressively to establish individual dominance, which in turn determines which males will gain the opportunity to display toward and fertilize females when they later visit the lek. The dawn displays of sharp-tailed grouse differ in sounds and postures enough from those of the closely related prairie-chicken to allow the females of each species to make proper mating choices in most cases, although mistakes sometimes do occur, and hybrids may thus result.

Long-billed Curlew

This large shorebird, with its long and distinctively decurved bill is the largest of North America’s 50-odd shorebird species. It is still a common summer sight in the Sandhills, but in most other states has vanished or nearly so as a breeding bird species. The bill of adult males often exceeds six inches in length, and that of females is about nine inches long. Its length and curved shape would seem a hindrance for catching insects on the prairie, but on its coastal wintering grounds serves well as a digging tool in shoreline sand for thus locating and catching invertebrates. Like most prairie birds curlews are

concealingly colored, but in flight they exhibit beautiful cinnamon underwing coloration, and their loud “curleee” calls carry great distances.

Upland Sandpiper

Few birds capture the essence of a perfect summer day on the Nebraska prairie as does the upland sandpiper, whether it is flying overhead on vibrating wings while surveying its territory and singing for all to hear, perched delicately on a low fencepost, its wings held momentarily above its back like a perfectly balanced ballerina, or industriously searching about in low meadow grasses for insects. It has the long, pointed wings of a long-distant migrant, and indeed flies back and forth between the Argentine Pampas and the North American Great Plains twice a year. Like the long-billed curlew, it usually arrive in Nebraska in late April, and wastes little time in establishing a nesting territory. Also like the curlew it lays four eggs in a well-hidden nest, incubates for three weeks, and the young hatch in a downy and highly precocial state. They are able to fly in about a month, and begin to leave Nebraska in late August for their long trip south.

Horned Lark

It will surprise many to learn that the horned lark is one of Nebraska's most common breeding birds. When driving along dusty Sandhills roads the average person might well assume that the small sandy-brown birds repeatedly flushed along the roadside are simply “sparrows,” but a close look at their white-edged black tails will immediately identify them as horned larks. Horned larks range as breeding birds from the arctic tundra to desert grasslands, but they are especially common in short grasslands habitats. Although described as being “horned,” it requires a close look to see the small tufts of black feathers that rise up behind each eye in adults of both sexes. Like many prairie birds, horned larks have wonderful flight songs, uttered high above their territories, a behavior wonderfully immortalized in Shelly's poem “Ode to a Skylark.” But their nests and eggs are very well concealed; I have never managed to find one. Horned larks of one or more of the several races are usually present in the state throughout the year; as the breeding birds migrate south they are replaced by more northerly breeding birds.

Dickcissel

Perhaps the commonest breeding bird species seen along the roadsides of eastern Nebraska from late May to August is the dickcissel; males persist in singing loudly from fencelines, bushes or low trees with amazing endurance, their black-decorated yellow throat and chest fairly bulging from their efforts, and their bills held widely open. An average of about 170 birds per route have been reported annually in Wayne County, Nebraska, one of the densest populations recorded in the country.. Perhaps because of their conspicuous behavior and often ill-concealed nests they are favorite targets of brown-headed cowbirds; it is a rare dickcissel nest that lacks at least one cowbird egg. Dickcissels are long-distance migrants, possibly their late spring arrival in Nebraska reflects the fact that they must travel all the way from wintering areas in northern South America. Their recent population declines probably reflect not only this arduous route, but also the fact that they are exposed to heavy exposure to agricultural pesticides in South America, where chemicals whose use has long been outlawed (but nevertheless can still be manufactured) in the U.S.A. are in common use there.

Lark Bunting

Although rarely seen in eastern Nebraska, the grasslands of the Panhandle and west-central Nebraska are host to great numbers of this beautiful little bunting, whose males resemble miniature red-winged blackbirds, but with white where the red wing patch should be. They are highly social birds, flocks of a hundred or more are common during spring and fall, and even during the nesting season the birds seem to aggregate in loose colonies. Maximum average counts of more than 400 birds per survey route have been reported in North Dakota. In such places one can see males suddenly emerging from the grass like small skyrockets, reaching about 50 feet, then briefly singing and hovering, before dropping back down to earth and disappearing again..

Grasshopper Sparrow

Like the horned lark, this inconspicuous sparrow is far more common in Nebraska than most people would imagine; various survey routes between Kansas and North Dakota sometimes report an average of over 100 birds annually per route. But males are not only small and concealingly colored, they utter their low, grasshopper-like songs from inconspicuous sites, and many people either fail to hear the songs or assume they are only insect noises. Grasshopper sparrows not only sound like grasshoppers, they specialize on eating them, and thus are valuable allies to farmers, who in spraying insecticides to control grasshoppers are often killing one of the major natural controllers of their numbers!

Brown-headed Cowbird.

This species, which should have been called the “bison-bird” rather than cowbird, once was largely confined to the areas of the Great Plains occupied by bison herds. The birds followed in the footsteps of bison, catching grasshoppers and other insects stirred up by their movements. Now cattle perform the same unknowing favors for the birds as bison once did, and cowbirds have gradually spread from coast to coast. The most unfortunate aspect of this range expansion lies in the fact that cowbirds are total “brood parasites,” laying their eggs in the nests of more than 100 different “host” species, and duping such species into both incubating their eggs and rearing their young. This might not be so bad, were it not for the fact that cowbird babies are adept at clamoring for most of the available food and parental attention, so that the parents’ actual young often are neglected and starve to death. The result has been disastrous for many bird species, especially those that have only recently been impacted by cowbirds, and have not had time to evolve defensive behaviors, such as removing the alien eggs.

Eastern Meadowlark

Most Nebraskans are probably unaware that two kinds of meadowlarks breed in the state; only by listening to their marked song differences are the two readily separated. The eastern meadowlark, which is mostly found in the eastern counties, has a fluty, short and slurred song that might resemble notes made by a slide trombone. The western meadowlark has a more extended and coronet-like series of cheerful-sounding notes that are almost too rapid for humans to reproduce by whistling. It is this song that farmers and ranchers often listen for and associate with the first signs of spring, for the meadowlarks

are among the earliest spring migrants to the prairie, and waste little time in establishing territories. Besides occurring along the eastern counties, eastern meadowlarks extend west along Nebraska's Platte Valley, and occur locally in the Sandhills. As they move west they are increasingly limited to low, moist meadow habitats, whereas the western meadowlark increasingly occupies the higher and drier sites.

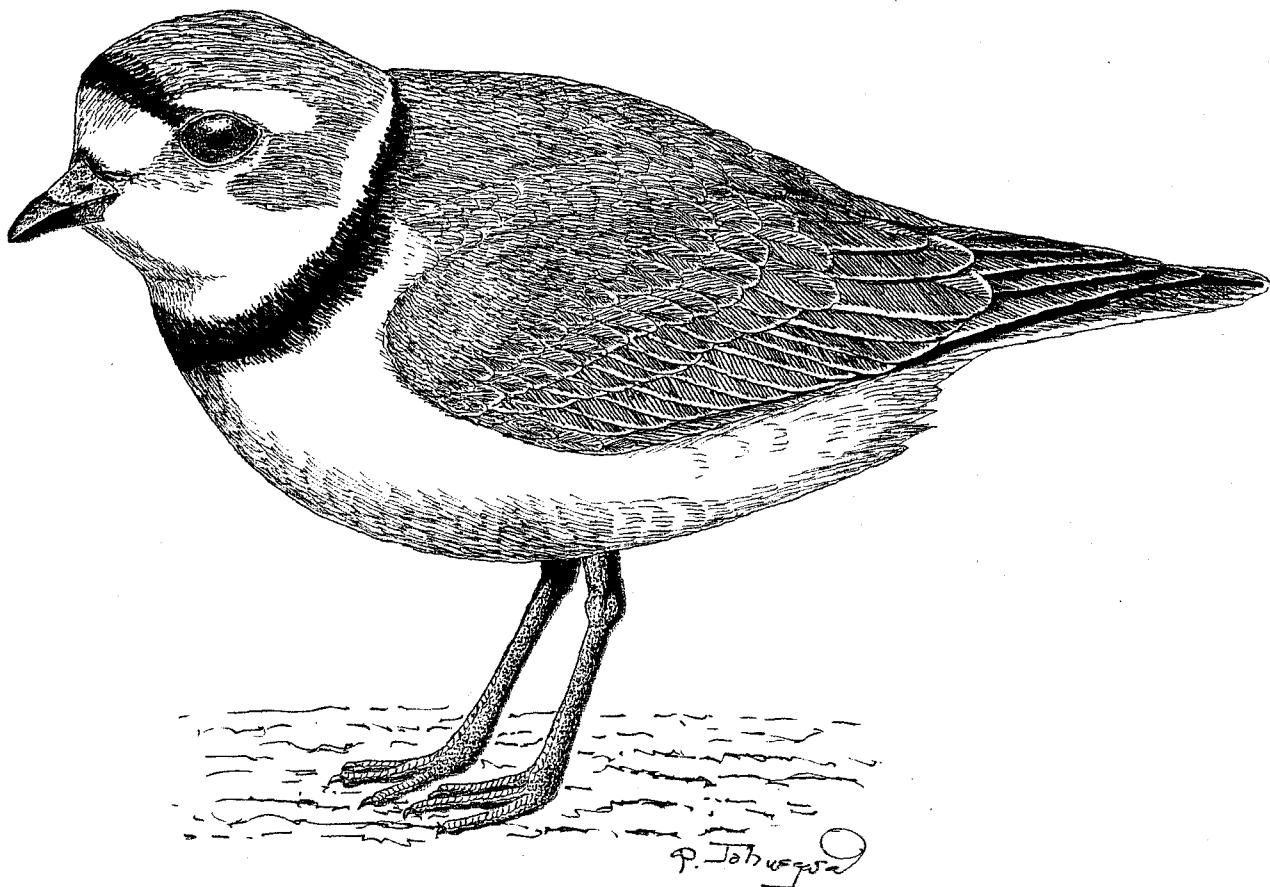
Western Meadowlark

This species is Nebraska's official state bird, as indeed it is for several other states, which is an indication of the high level of affection we humans have for it. Few other birds can be so easily identified by sight or sound as the western meadowlark, are few others are so characteristic of our native prairies. One is rarely out of hearing of meadowlarks while on the prairie during spring and summer; up to about 700 birds per 25-mile survey route (nearly 30 per survey mile) have been reported in eastern Wyoming, not far from Nebraska's western border. In spite of their great abundance meadowlark nests are not easily found, for the birds typically arch grasses above their nests so as to form a complete roof, under which the incubating or brooding birds is fully hidden. Meadowlarks use their long, sharp bills to probe for insects just below the soil surface, and are great allies to farmers as a result. Their bright yellow and black chests seem just the right combination for brightening up the prairie, and their songs seem to convey an air of optimism in the face of hardship, providing a powerful and appropriate symbol for our early settler ancestors on the High Plains.

Piping Plover

The piping plover is probably the “small killdee” observed by Lewis & Clark, as no other species of small plover would have been likely on the river at that time of year. Like the least tern, the piping plover is now rare along the Missouri River, because of river management practices that destroy breeding sites. In Nebraska, it and the least tern also nest along the Platte and Niobrara rivers, and those populations have done fairly well in recent years owing to special protection and habitat management.

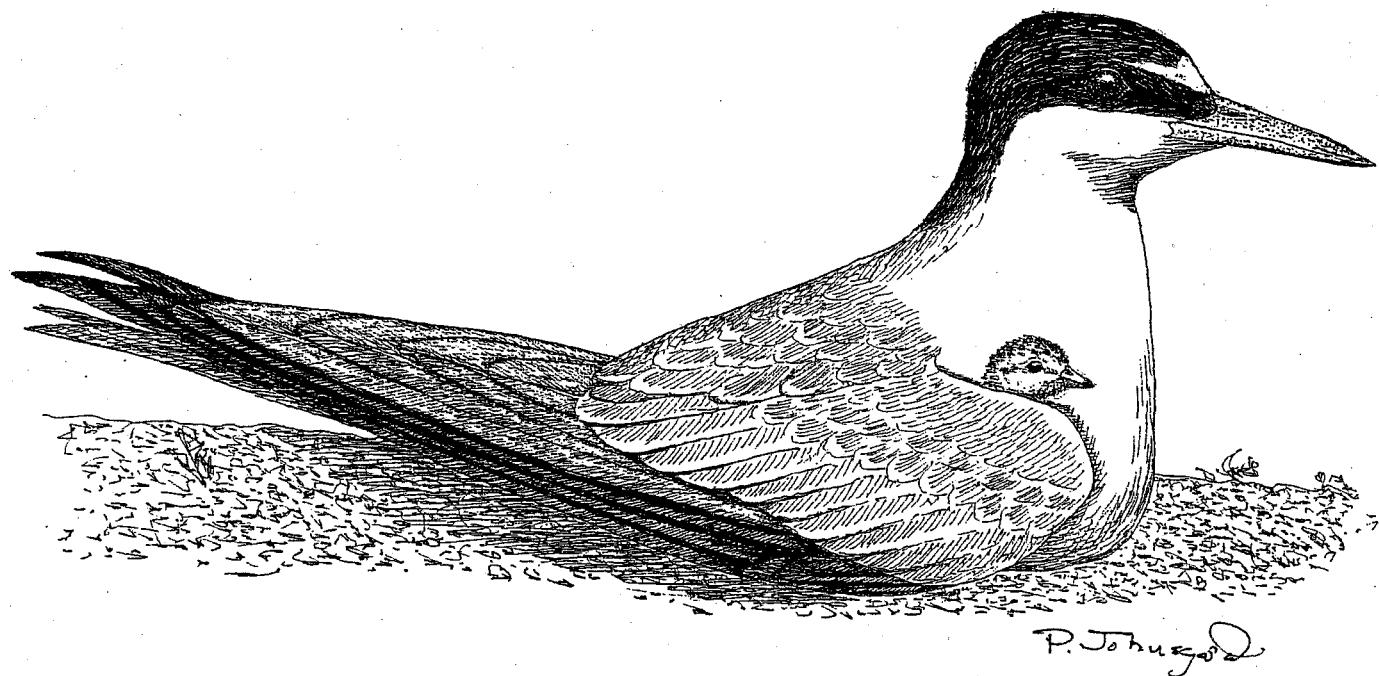
Like killdeer, piping plovers find their food along sandy shorelines, picking up small insects and other invertebrates as they walk or run along. They use their vision to find their prey, rather than probing for invisible food in sand or mud. Also like killdeers, piping plovers have strongly banded breast patterns, which are thought to help disrupt their plumage pattern in such a way that they are less obviously recognized as birds.



Least Tern

The least tern was probably fairly common nesting bird on the many islands and sandy bars of the Missouri River at the time of Lewis & Clark, but changes in river flows brought about by large dams in the mid-1900s destroyed most of these sites. The interior subspecies of the least tern had nearly disappeared by the time the Endangered Species Act was passed in the 1969. In recent years its population has stabilized, and perhaps has even slightly increased in Nebraska, owing to protection and special management efforts.

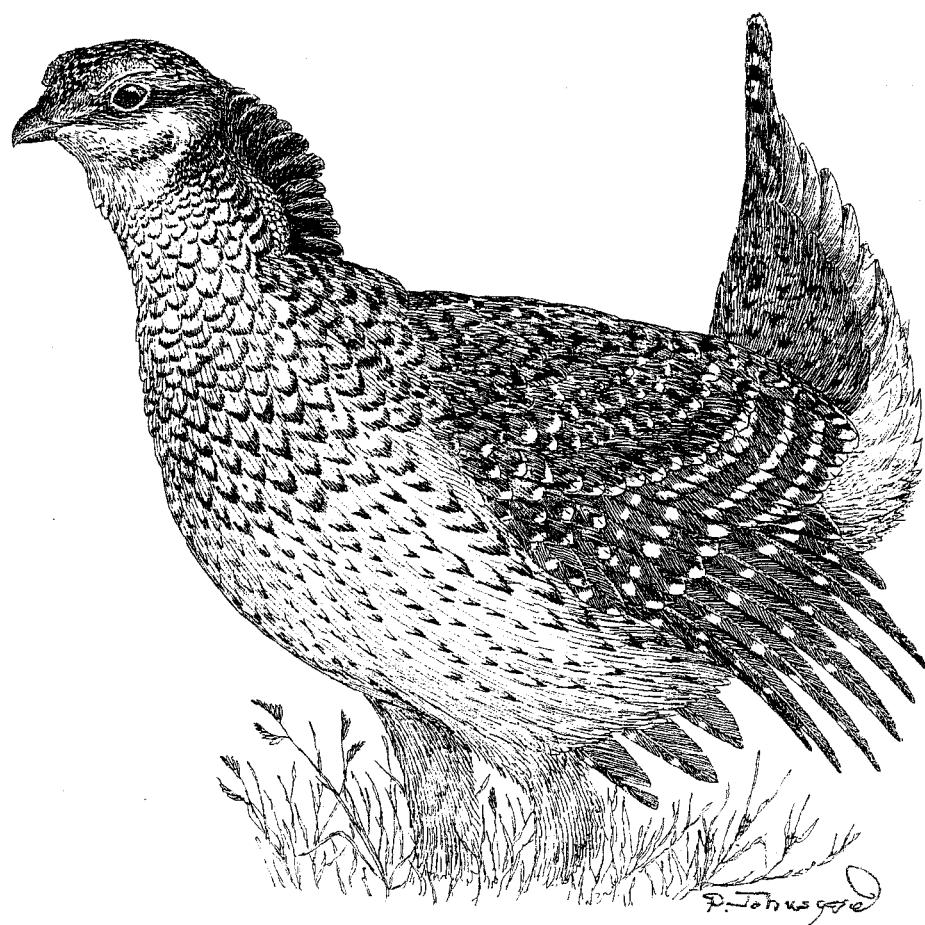
The least tern is smaller than most other Great Plains terns (except for the black tern), and it has a rather short, forked tail. Its black-capped head has a distinctive white forehead blaze, and its bill is bright orange-yellow during the breeding season. Like the other white terns it lives largely on minnow-sized fish, which it catches by diving vertically into the water after hovering overhead for a few moments. It is monogamous, nesting in colonies on gravelly beaches. Besides the endangered interior race, there are also breeding populations on the Atlantic, Gulf and Pacific coasts.



Sharp-tailed Grouse

Sharp-tailed grouse are named for their tapered tail, which forms a "sharp" profile in flight, rather than the more rounded profile of the greater prairie-chicken. The sharp-tailed grouse is better adapted to mixed-grass and shortgrass prairies than is the prairie-chicken, which is closely tied to tallgrass prairies and, at least nowadays, the grainfields that have tended to replace the native prairies.

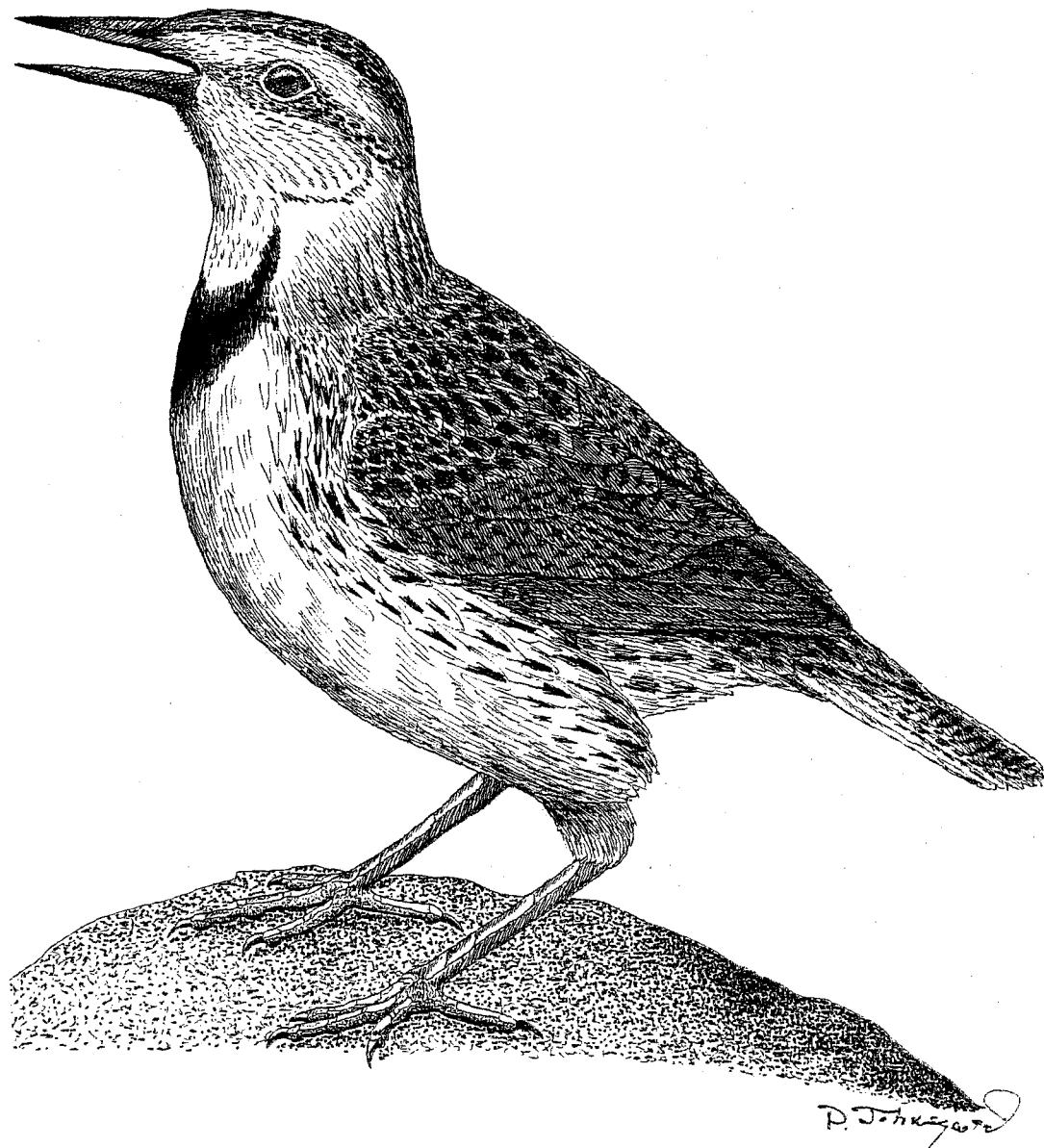
Unlike the prairie-chickens, sharp-tailed grouse have only short feathers covering the bare neck skin, or "air sacs," that are present in adult males of both species. During spring courtship these areas of skin are expanded by forcing air into the esophagus and preventing its escape, so that the purplish neck skin is exposed on each side. Dove-like cooing sounds are made during this neck inflation, and during another display the males quickly run over the ground with their wings held out and their tail feathers vibrating from side to side in synchrony with their rapid footsteps. A mechanical sound resembling the noise made by rattlesnake's tail is thus produced.



Western Meadowlark

The western meadowlark is the state bird of a half-dozen states, including Nebraska. It differs from its close relative the eastern meadowlark most obviously by its song, a rich, melodic outpouring of many flute-like notes, quite different from the shorter, slurred whistle of the eastern meadowlark. This vocal difference was detected by Lewis & Clark, although it wasn't until several decades later that John J. Audubon recognized that the eastern and western meadowlark constitute two distinct species. In eastern Nebraska both of these meadowlarks are quite common, the eastern usually being found in tallgrass meadows near water, and the western more often found well away from water, in shorter grasslands.

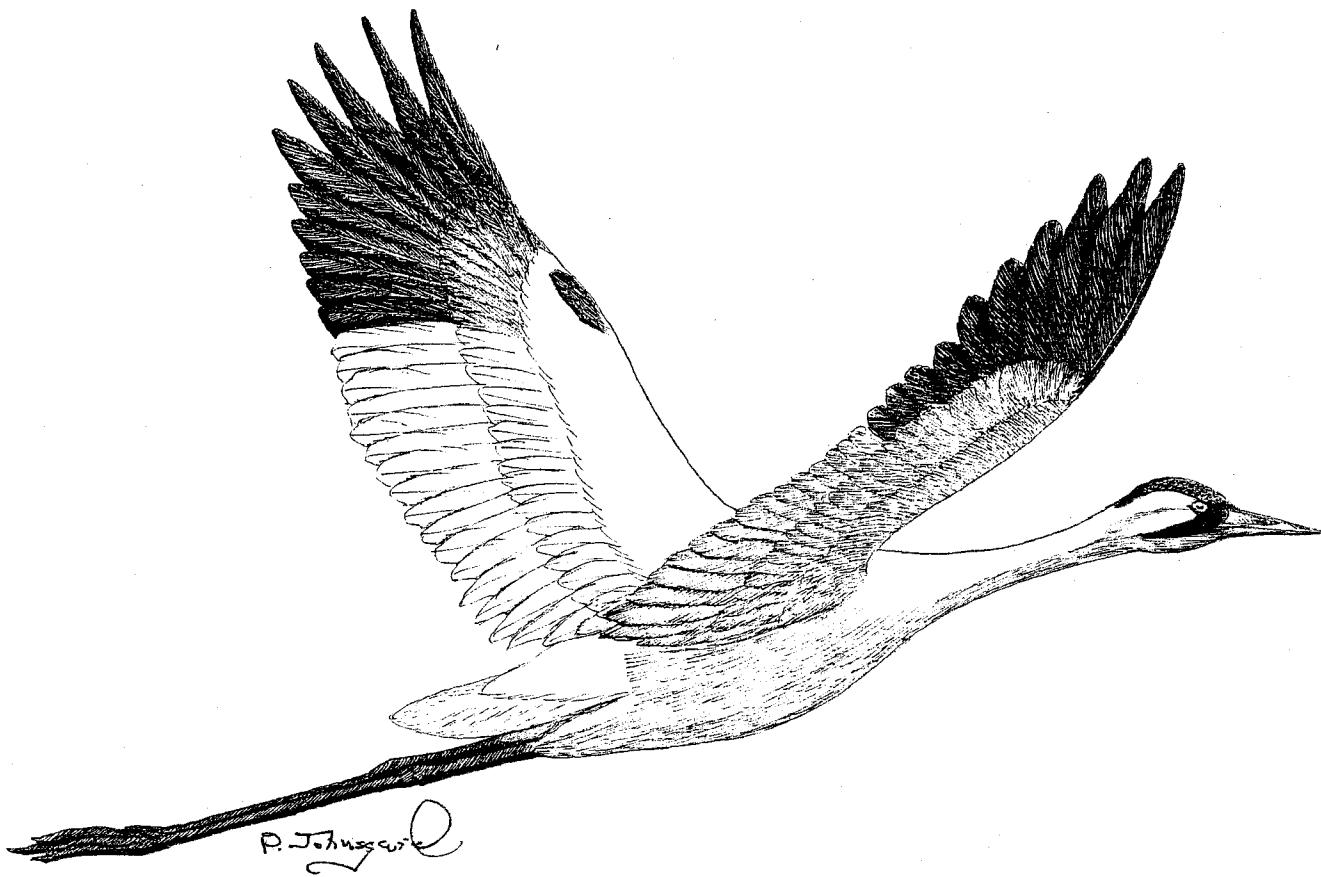
Apart from their songs, meadowlarks of both sexes can sometimes be distinguished by the fact that in westerns the yellow throat extends farther up into the lower cheeks than is the case in the eastern. The black barring and spotting on the flanks is also less intense and widespread in the western than in the eastern. However, these are not easy fieldmarks, so hearing the song is the easiest way to tell the two apart. The western also has a rattling alarm note that is absent in the eastern.



Whooping Crane

The whooping crane is one of the rarest birds of North America. The wild flock that migrates through the Great Plains numbered under 200 birds in 2004. There is no way of knowing what its numbers were at the time of Lewis & Clark, but it is believed that it never was extremely common, in contrast to the smaller sandhill crane. In the 1800s whooping cranes nested across the northern plains, from the present-day Dakotas east to about Illinois, but like many of the larger species of wildlife were persecuted almost to extinction before they were finally provided with adequate protection.

Whooping cranes stand nearly five feet tall, and adults weigh about 14 (females) to 16 (males) pounds. Their calls are among the loudest of any North American bird, which in part is the result of an unusually long windpipe (trachea), that penetrates the bird's breastbone. They are very long-lived birds, and mate for life. Typically, two eggs are laid, but normally only a single chick survives long enough to follow its parents back to the species' traditional wintering grounds along the coast of Texas.



Notes on Some Characteristic Grassland Mammals

Prairie Vole

Prairie voles are among our most common native rodents, and yet most people might claim to have never seen one. Often a rustling of leaves in a dense grassy meadow, or the presence of small runways resembling tiny subways at ground level or slightly below it may be the only obvious signs of these inconspicuous creatures. Such surface runways are often marked by bare and packed soil, or they may be somewhat cushioned by grass clippings produced in the process of constructing the passageways. The animals live almost entirely on green stems and leaves of grasses, sedges and forbs, supplementing these at times with roots, seeds, bark and tubers. Overhead cover is important to their survival, but simple invisibility from above doesn't protect them from such sharp-eared or keen-nosed enemies as northern harriers, owls, coyotes, foxes, shrews, and a host of other predators. The mortality rate of these animals is so high that even producing as many as seven young per litter, and several litters per year may barely keep pace with mortality. Yet, some years are much better for breeding than others, and at such times vole "plagues" may attract predators into a local area. Other years of vole scarcity may have the opposite effect, and force dispersal or starvation of predator populations.

Meadow Vole

Meadow voles seem to have simple social lives, but apparently do form monogamous pair bonds. In the southern parts of their range breeding occurs during both spring and autumn, and during summer in the north. Breeding throughout the year has also been reported in some areas or under very favorable conditions associated with unusually moist soils and luxuriant plant growth. Copulation induces ovulation, and gestation lasts about three weeks. Another three weeks or so is needed to wean the young, which average about four, after which another estrus cycle may be initiated. The young are fully grown within two months. During years of maximum vole populations their numbers might reach as many as several hundred animals per acre. Such population peaks often seem to fluctuate regularly, their numbers usually peaking at intervals of about every three years.

Plains and Western Harvest Mice

Among the many species of prairie-dwelling mice, harvest mice are distinctive in at least two ways. First, their upper incisors are distinctively grooved along their anterior surface. The other feature that makes harvest mice so interesting is that they construct globular nests, somewhat like those of marsh or sedge wrens, usually quite close to the ground or even on it. The nest is typically about three inches in diameter and, like a wren's, have a small round opening located somewhere below the midpoint, often at the bottom. The inside of the nest is also somewhat bird-like, but is lined with plant down rather than with feathers. In rocky ground they may also nest underneath rocks. However, upland grasslands seem to be preferred habitats. The primary foods of harvest mice are seeds, including grains from cultivated crops, but probably more often weed seeds. A rather wide variety of larval and adult insects are also eaten. Harvest mice are strictly nocturnal and thus are rarely if ever seen by people afield during daylight hours. They are active year around, and because they are very small they are quite sensitive to cold temperatures. As a result, they may huddle together to keep warm in their nests, even if

the individuals involved are not closely related. During the night they remain quite active, perhaps in part to keep warm, and may move as far as several hundred feet during bouts of foraging. The maximum home range has been estimated at about a half-acre.

Northern Grasshopper Mouse

Grasshopper mice are certainly among the most attractive of our native mice; in addition to the cinnamon pelage morph just mentioned, they also have gray version, thus being the only Great Plains mouse occurring in two quite distinct color types. It is also unusual among Great Plains mice in having a quite short tail and a distinctly "stocky" body, powerful jaw muscles and long fingers and claws that are used in grasping their prey, mainly large grasshoppers. Although small mammals may at times also be attacked, invertebrates evidently comprise their primary diet. As active predators, grasshopper mice have evolved traits parallel with those of some larger predators including large, defended and scent-marked territories up to an acre or more in size, complex social behavior and courtship, and long-distance communication. Like coyotes or wolves, this consists of a prolonged howl, uttered with the head stretched upwards and while standing on their two hind legs. Males primarily call, especially when seeking females, but females may rarely also utter the same or a similar call. Larger animals have deeper voices than smaller ones, and so age and body-size information easily might be transmitted. Like coyote or wolf howls, it probably conveys detailed information as to the caller's species, sex and individual identity, as well as its location..

Plains Pocket Mouse

The favorite habitats of pocket mice are sandy ones in dry habitats, where they can easily dig, and where seeds can be collected and kept for long periods without danger of becoming wet and moldy. They make nightly excursions out of their burrows to find small seeds, which they stuff into their fur-lined external cheek "pockets" as rapidly as possible, then high-tail it back to their burrows to deposit their treasures in seed caches. Their hind legs are relatively long, so their common mode of locomotion is by hopping, at least when they are in a hurry. The long tail probably provides a useful counter-balance for such locomotion. The burrows made by plains pocket mice are inconspicuous, their openings are only about an inch in diameter, and are kept plugged with sandy soil whenever the occupant is within. Each burrow may be up to about 7–8 feet in length, with periodic widening for seed storage. They typically have only a single opening. The seed caches probably allow the animals to remain underground for prolonged periods when necessary, and little or no surface activities occurs during the coldest months of the year. Like other pocket mice, the animals don't need to locate free-standing water; instead metabolic water is produced through digestion.

Hispid Pocket Mouse

The hispid pocket mouse is named for the rather bristly appearance of its longer black guard hairs that contrast with an otherwise more generally yellowish pelage. Hispid pocket mice are the largest of Nebraska's pocket mice, ranging up to nearly two ounces as adults, or as much as four times heavier than the smallest species. Over most of the year the animals live exclusively on seeds, but in spring insects may constitute up to about 15 percent of the total diet. The seeds gathered are selectively chosen, and over the long winter months the animals rarely if ever venture out. Then their burrows are kept plugged with earth most of the time, keeping out at least some potential predators. They

may also become dormant and estivate in hot, dry weather, although they are not believed to require free-standing water at any time. For most of the year these animals live solitary lives, becoming social only for breeding.

Deer Mouse and White-footed Mouse

There are two very similar species of mice with white feet and deer-brown upperparts that are widely distributed in the Great Plains woods and nearby grasslands, the deer mouse and the white-footed mouse. Their large ears and bulging ears provide evidence of their nocturnality, and in their diets they are about as generalized as any small mammal. As a result they are usually abundant, the populations often ranging up to about 16 animals per acre. Both are the most common of all native mice in North America, and are very similar to one another. The white-footed mouse is more likely to occur in wooded areas, especially hardwood and mixed forests of the eastern states, but follows the Platte Valley's gallery forests westward all the way to the Rocky Mountains. The deer mouse is even more widespread and more diverse ecologically, with nearly 60 described subspecies. The open country races of deer mice, widely distributed and abundant in the Great Plains, tend to be somewhat smaller than white-footed mice, and have shorter, but more distinctly bicolored tails. Both species are largely nocturnal, communicating by scent signals (pheromones) and vocalizations that are partly ultrasonic, above the range of human hearing. However, they do utter squeaking, chittering and shrill buzzing sounds that may be heard by humans from as far away as 50 feet. They will also stamp their feet rapidly when excited. During daytime the animals may doze, and in the coldest parts of their range they may become torpid when food is scarce, adopting a state of semi-hibernation. During torpor their rate of breathing may drop to about 60 per minute, and their body temperature to about 60° F.

Meadow Jumping Mouse

There is only one species of jumping mice in the Platte Valley, the meadow. The western replaces the meadows westwardly, is slightly larger and its tail is not so strongly bicolored. However, both species have very long tails and distinctly enlarged hind legs, which accounts for their jumping abilities. Both species are fond of rather moist habitats, such as low meadows and riparian woodlands with well developed understories of grasses and forbs. They usually move about by making short hops in a zigzag direction; usually covering only a few inches under normal conditions. However, when frightened the distance covered by single leaps may be several feet, and rarely up to 10 or 12 feet. In very good habitat their densities may reach nearly 20 animals per acre, with individual home ranges of up to about four acres.. The animals are solitary, with variable and overlapping home ranges. One of their favorite food types is fungi, which they often find by digging. They also eat insects, green vegetation, fruits and seeds. Like harvest mice, each of their upper incisors has a deep groove on its front surface. Besides their jumping and digging, they are also proficient climbers and swimmers. They can even dive under water to some depth, and remain there for as long as a minute. Their unusually long tail probably not only serves as useful counterbalance with jumping, but also provides a sound signal by tail-drumming. However, it is not used for propulsion during swimming, in the manner of a muskrat.

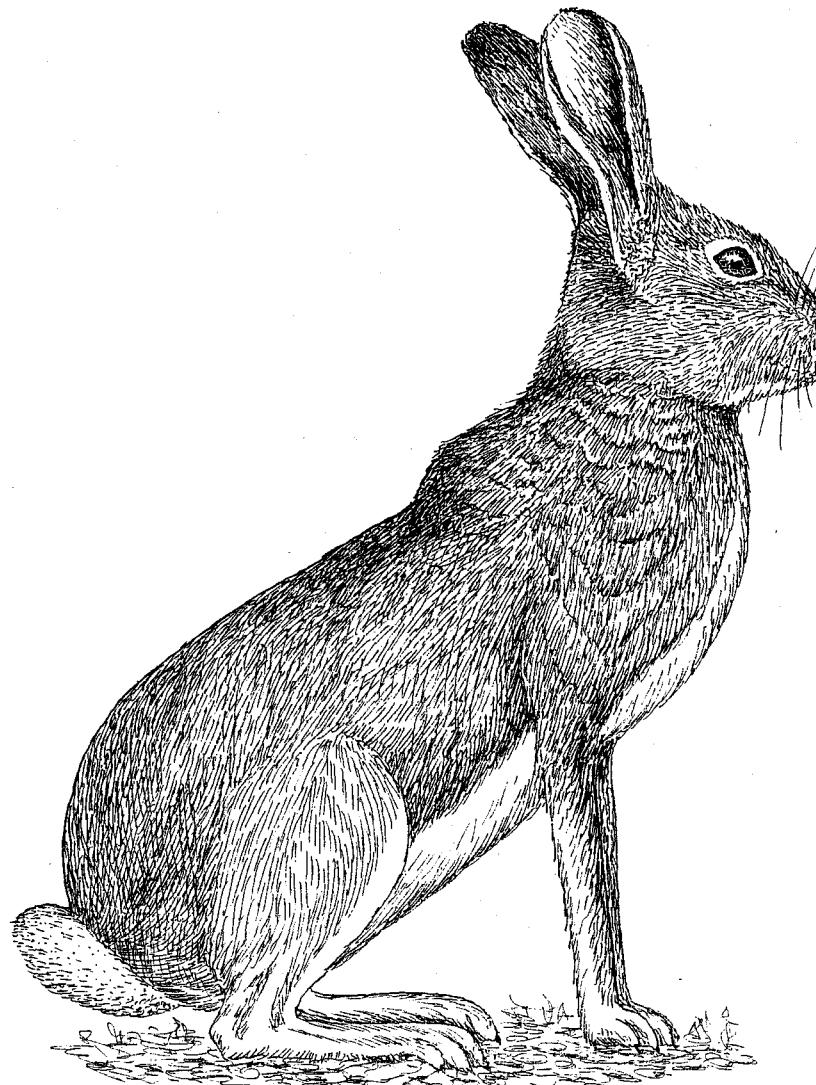
Plains Pocket Gopher

The plains pocket gopher extends across the entire Platte Valley. A second species, the northern, also occurs in the western Panhandle, and differing in being smaller and in having its upper incisors smooth rather than vertically grooved. Both have external furred cheek pouches that, like those of kangaroo rats and pocket mice, are used for carrying food. The upper incisors pierce the lips, producing a distinctive "buck-toothed" appearance, and allowing the animal to dig its way through earth without allowing soil into its mouth. In the course of their prodigious digging behavior, pocket gophers mix and aerate soils, and generate distinctive mounds of soils that is pushed to the surface. Such mounds often extend as linear paths for many yards, and their associated tunnels may be only 6-10 inches below the surface. These tunnels are not the major tunnel leading to the nest chamber. The latter is considerably deeper and thus better protected from excavation. In addition to this central nesting chamber there are also food-storage tunnels and areas for waste deposition. As many as two and a half tons of earth may be moved in a single year by an adult pocket gopher.

White-tailed Jackrabbit

The white-tailed jackrabbit is the largest of our native jackrabbits, weighing up to ten pounds, the females averaging larger than males. Besides their larger size than the black-tailed jackrabbit, both sexes have distinctive white tails. White-tailed jackrabbits also acquire an all-white winter pelage, at least in the northern parts of its range. These animals prefer open country, and have home ranges of up to about eight acres. They do not form long pair bonds, the sexes remaining together only long enough to breed. Breeding occurs in spring and early summer, and a single female may have up to four litters per year. As a result, populations can increase rapidly if conditions are favorable.

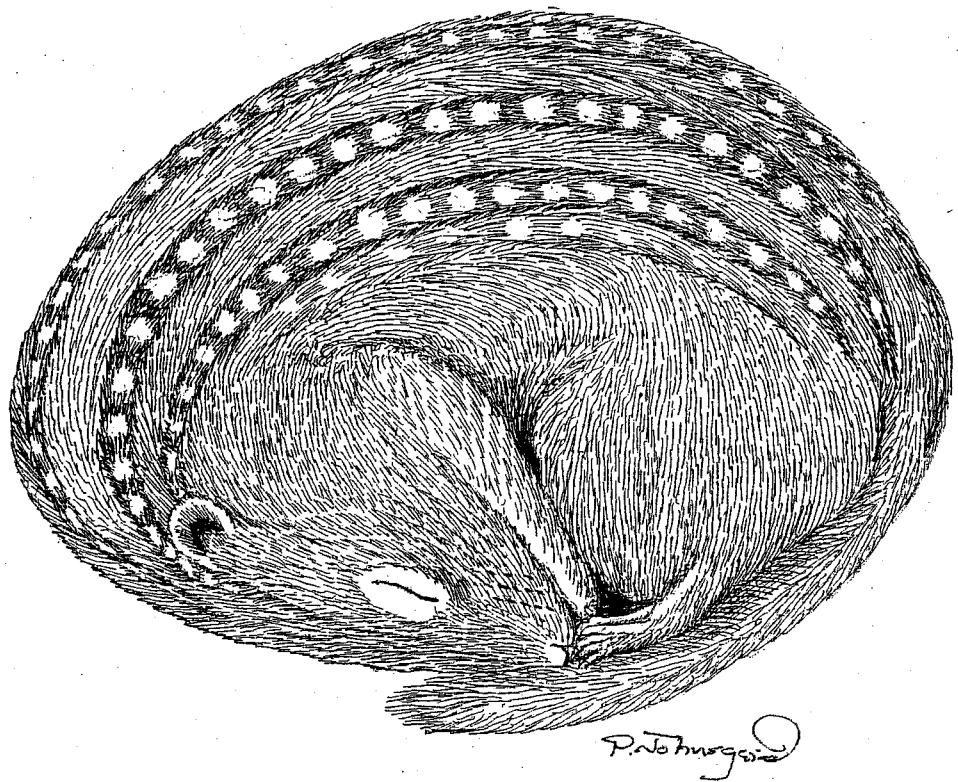
Jackrabbits are mostly active at night, but also might be seen in early morning and evening. They are active throughout the year, and are important prey for hawks, golden eagles, great horned owls, coyotes and other predators. They are now quite rare over most of their former range.



P. Johnson

Thirteen-lined Ground Squirrel

This small and abundant resident of the Great Plains is one of the more conspicuous rodents of the region, as it is diurnally active and often found near humans, such as in parks and suburbs. The combination of thirteen alternating pale lines and repeated whitish spots on its tawny back makes for easy identification. Adult males weigh about 5-9 ounces, the males usually larger than females. It is active from early spring (April or May) until middle to late summer (July to October), so may spend more than half of its entire life underground in a state of dormancy. During the brief period of activity it mates, and females bear their litters only four weeks later. Their litters range from 6-9 young, which are nearly weaned when only a month old. During their remaining summer time both young and adults put on as much weight as possible so that they have enough fat stores to see them through the approaching winter. Most of their spring and summer foods are of plant materials, but they also will eat bird eggs, or even kill and eat nestling birds or young mammals.



Black-tailed Prairie Dog

The black-tailed prairie dog was once one of the most abundant mammals in North America, with estimates of its total population in the several billions. After more than a century of poisoning, shooting, and habitat losses, it probably now is less than one percent of its original numbers, but in the view of many ranchers this is still too many, and the prairie dog has little or no protection in most states, even though it has been petitioned for Threatened Species status by two conservation groups.

Prairie dogs weigh two to three pounds, being heaviest in the fall, when both sexes put on fat to carry them through winter. Unlike some other rodents such as ground squirrels, they do not hibernate, but do become quite inactive in cold weather.

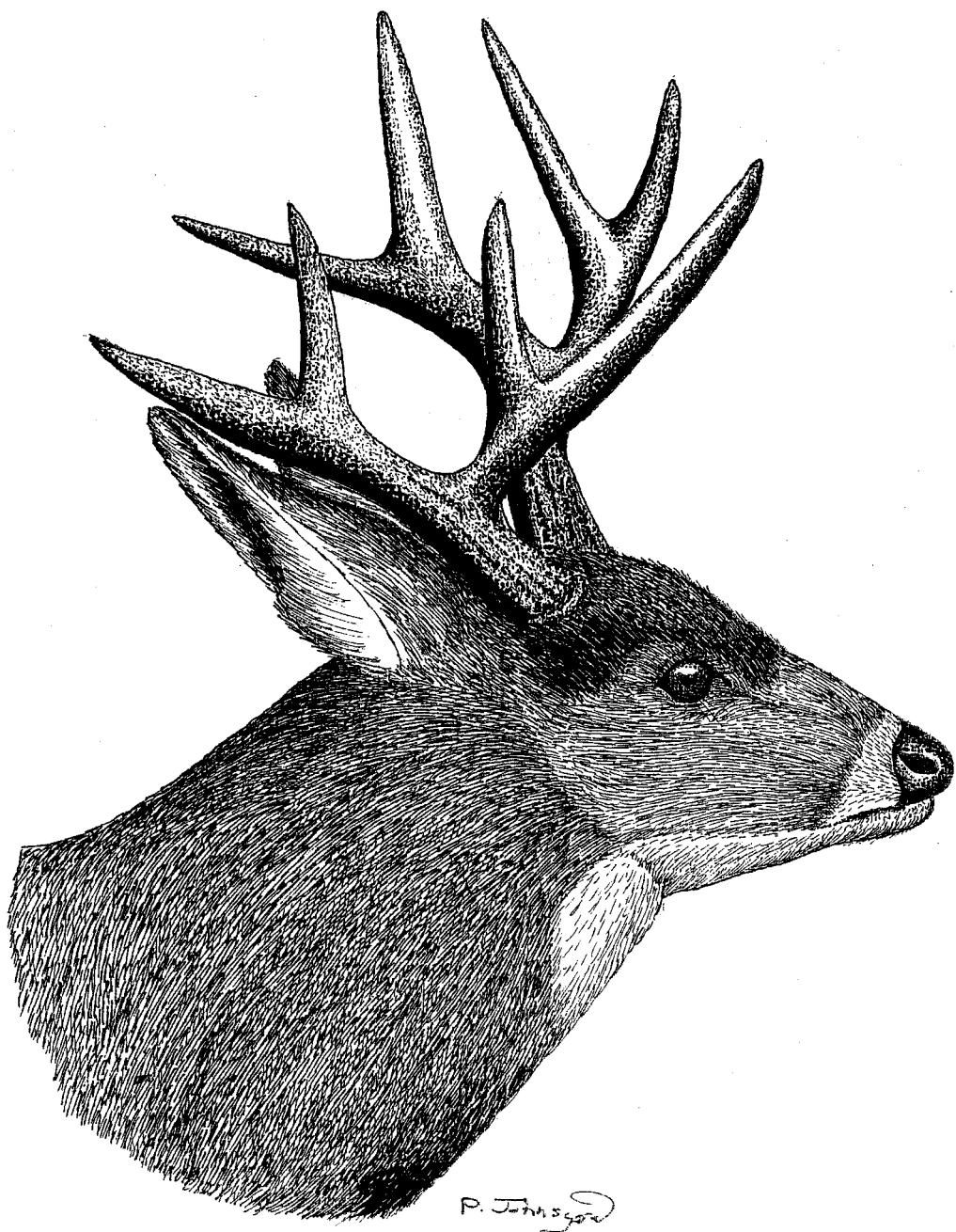
Prairie dogs have some of the most complex social systems of all rodents, living in large communities, or "towns," and with these units subdivided into smaller groups called wards, and still smaller ones called coteries. A coterie usually consists of an adult male, two or more adult females, and immatures less than two years old. They are vegetarians and only active during the day, when they spend much of their time above ground, foraging or watching for predators. If any individuals detects a source of danger an alarm call is uttered, sending everyone quickly back to their burrows. There is also a "jump-yip" or "all-clear" call, and many other vocalizations or postures that help to maintain social coherence in the community.



Mule Deer

The mule deer of the western plains is easily recognized by its large ears and short, black-tipped tail, as well as the repeated symmetrical Y-shaped forking of the tines on the antlers of males. Adult males usually have four tines on each antler, and weigh up to 400 pounds, but usually average about 150 pounds. Females range from 100 to 150 pounds, and lack antlers. When running, mule deer have a characteristic bounding motion well adapted for getting over rough terrain, that is quite different from the fluid running movements of white-tailed deer. Mule deer are more often found in open, rimrock or hilly country, rather than near the edges of deciduous forests and river valley bottomlands usually used by white-tailed deer..

Mule deer are herbivorous, eating a variety of herbaceous and woody species, the latter including leaves and twigs of juniper, ponderosa pine, ash and boxelder. Sagebrush and rabbitbrush are important winter foods that usually can be found above snow level. Mule deer mate in late fall during a period of mating, with the females being in estrus for a rather short time. After mating, there is a six-month gestation period, and fawns are usually born in May or June. Females usually bear twin fawns if they are in good health and fully adult. They become mature at about 1 1/2 years of age.



Elk

The elk is the largest of the plains-adapted North American deer, only the moose is heavier. Adult males weigh over 600 pounds on average, and females average about 450 pounds. Only males carry antlers, which are replaced yearly, as in other deer. Typically, adult males develop up to six tines on each side, and antlers may be up to 48 inches in length. The y are shed each March or April, and begin growing again in May.

Unlike other North American deer, elk of both sexes have small canine teeth. Males develop heavy neck and shoulder muscles each fall, perhaps in part to support the massive antlers, but also to help in the antler-to-antler jousting and fighting that occur in dominance battles to acquire females. Mature males may accumulate harems of up to 20 females, or "cows," and spend much time between September and November in "bugling," a high-pitched call that carries great distances and probably serves an attraction to females and a challenge to other males.



Pronghorn

The pronghorn is the only surviving member of an antelope-like family that evolved in North America independently of the true antelopes of the Old World. It differs from them in several ways, including its unique branched horns. These horns are composed of fibrous outer sheath and a bony core. The sheath, which consists of fused hairs, is shed and replaced each year. Only males have large horns, most females have small horns. Males are larger than females (up 130 pounds, versus less than 100 in females), and have blackish areas along the muzzle and under the cheeks. In both sexes the hooves have shock-absorbing cushions, and dewclaws are lacking. Pronghorns are the fastest mammals on the plains, with maximum speed estimates of up to 60 miles per hour, and can outrun a racehorse. However, they are not adapted for high-jumping, and will try to squeeze under a fence rather than jump over it. If they cannot get under, they will make long detours to get around it. Because of their blinding speed, excellent hearing and fine eyesight, adults have few predators, and even young pronghorns stand a good chance of outrunning a coyote.

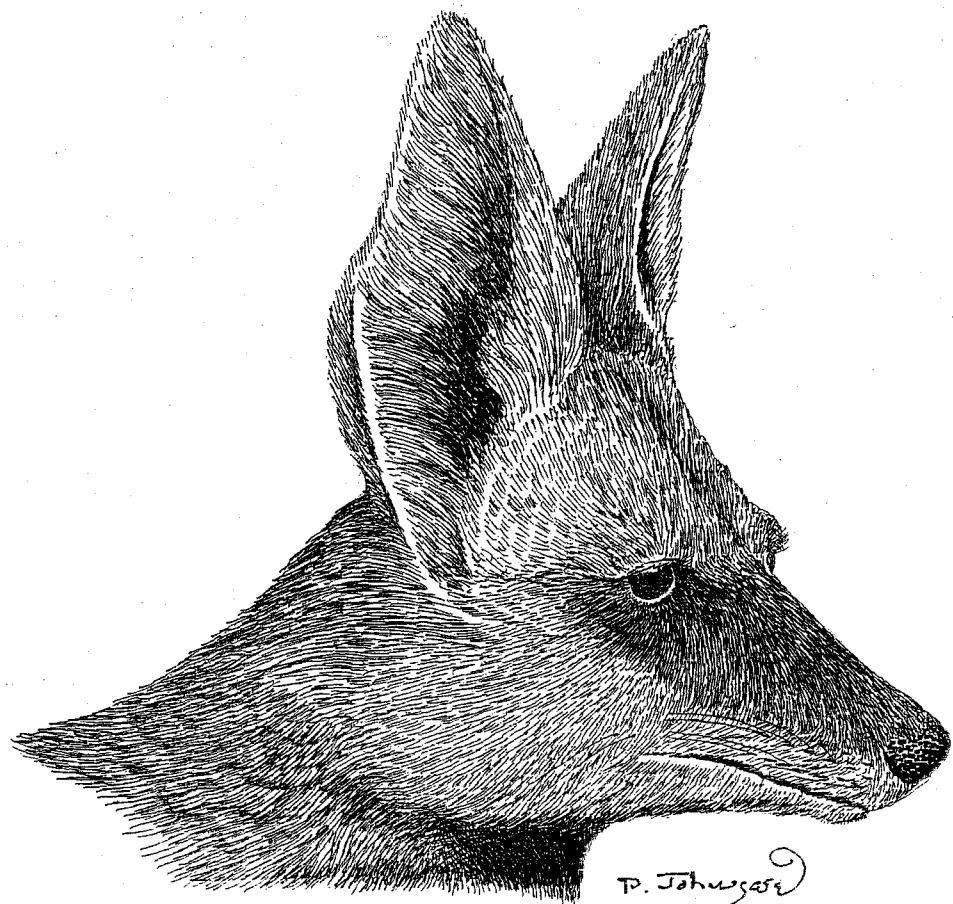
Mating occurs in fall, with bucks establishing territories and trying to attract females, in part by marking vegetation with scent from special cheek glands. Most mating occurs in September and October, with even yearling females breeding, although most males need to be older to attract females and ward off other males. Especially during winter fairly large herds are typical, but during summer mature males are usually solitary and young "bachelor" males form single-sex groups.



Coyote

One of the few animals that may be more common now than it was at the time of Lewis & Clark is the coyote. It has spread its range from the Great Plains to the east and west coasts, and has benefited from the disappearance of the gray wolf. It also has learned to live in many environments, even in the outskirts of some large cities. This increase has occurred in the face of relentless poisoning and shooting efforts by humans. Adult coyotes weigh 20-35 pounds, or a third the weight of an adult gray wolf. Compared with the wolf, it has longer and more pointed ears, and a narrower muzzle as well as much smaller footpads. Lewis & Clark called these animals prairie wolves, a name that is sometimes still used.

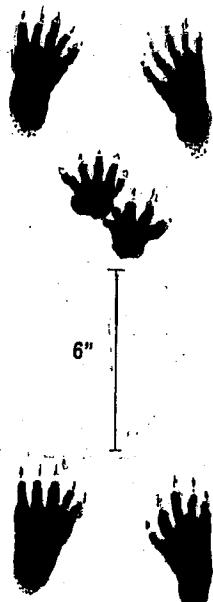
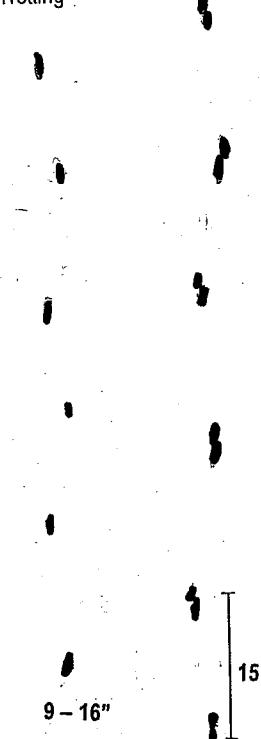
Among the many foods of coyotes are mice, other rodents, cottontails and jackrabbits, birds, fruit, insects, and deer, the latter especially in winter, when coyotes might hunt in packs. Coyotes are mostly nocturnal in their foraging, and tend to remain inactive during the day. Only rarely is livestock taken. Coyotes have monogamous mating bonds, and often remain paired for more than one year, but not always for life. The same den may also be used for more than one year. Mating occurs from January through March, and the pups are born in late spring, after two months of gestation.



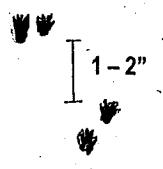
Coyote

Walking

Trotting

**Raccoon****White-tailed Deer**

Walking



Running



Hopping



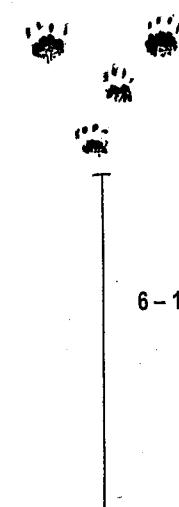
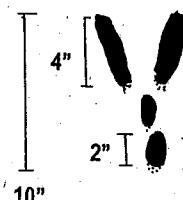
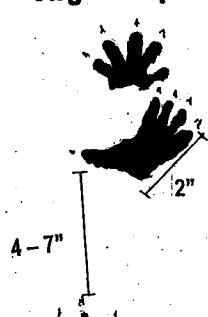
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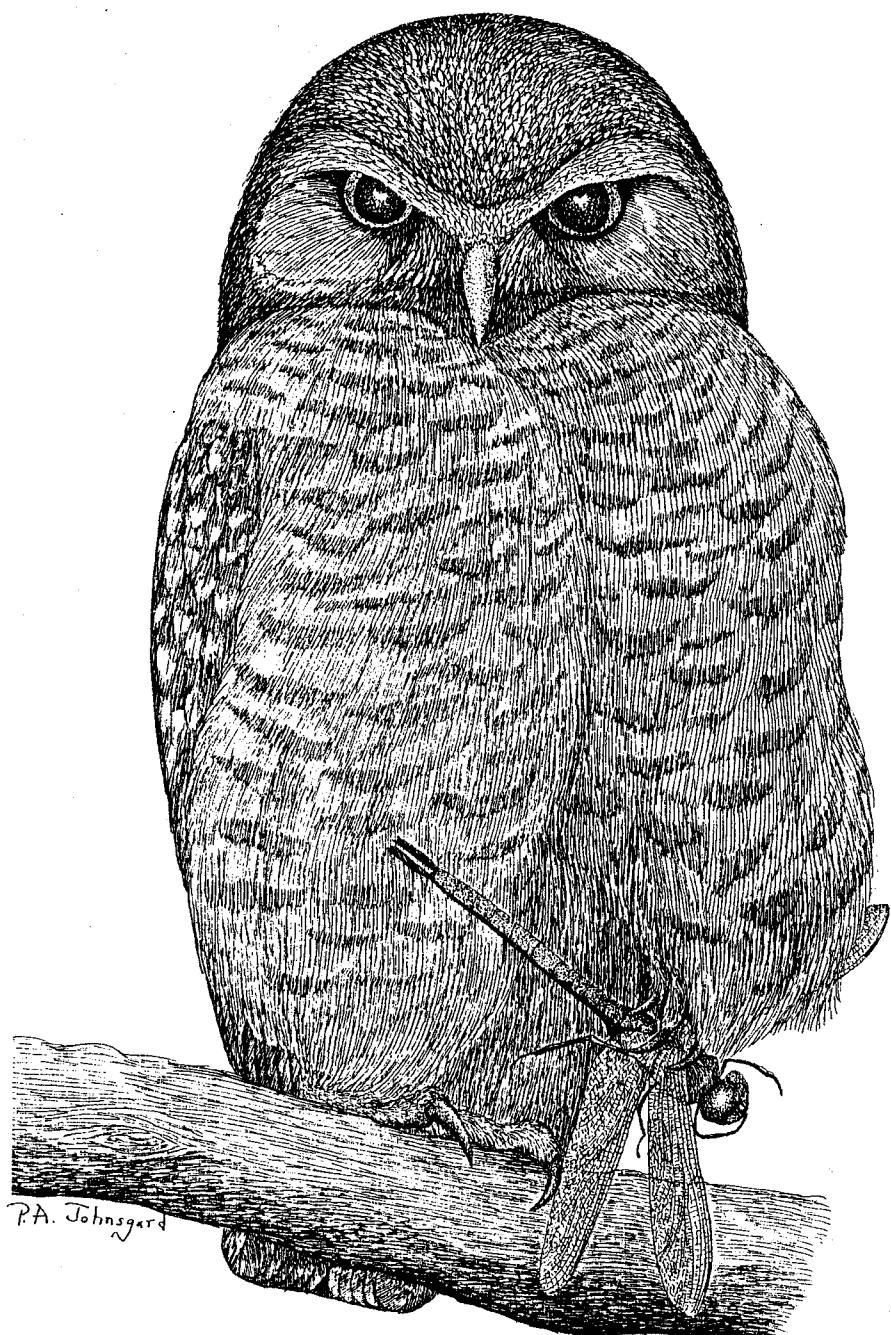
2 - 3"

**13-lined Ground Squirrel**

Hopping

**Virginia Opossum****Striped Skunk****Eastern Cottontail****White-footed Mouse**

Checklists of Platte Valley Animals and Plants



Birds of the Central Platte Valley

(Data from various sources, and excluding a few accidental species)

Family Anatidae – Swans, Geese and Ducks

- Greater white-fronted goose. *Anser albifrons*. Common spring (early Mar. to mid-April) and fall (mid-Oct. to mid-Nov.) migrant. Marshy wetlands.
- Snow goose. *Chen caerulescens*. Very common spring (early Mar. to mid-April) and fall (early Oct. to early Dec.) migrant. Marshy wetlands.
- Ross's goose. *Chen rossii*. Occasional migrant (early Mar. to mid-April) and fall (early Oct. to early Dec.). Marshy wetlands.
- Cackling goose. *Branta hutchinsii*. Common spring and fall migrant. Marshy wetlands.
- Canada goose. *Branta canadensis*. Common semi-permanent to permanent resident. Diverse wetlands.
- Trumpeter swan. *Cygnus buccinator*. Local semi-permanent to permanent resident, breeding in larger Sandhills marshes north of Platte Valley.
- Tundra swan. *Cygnus columbianus*. Rare migrant, Mar. and Nov. Marshy wetlands, lakes.
- Wood duck. *Aix sponsa*. Common summer resident, late Mar. to late Oct. Wooded wetlands.
- Gadwall. *Anas strepera*. Common summer resident, late Mar. to late Nov. Marshy wetlands.
- Eurasian wigeon. *Anas penelope*. Rare spring and fall migrant. Marshy wetlands.
- American wigeon. *Anas americana*. Common summer resident, mid-Mar. to late Sept. Marshy wetlands.
- American black duck. *Anas rubripes*. Rare migrant. Marshy wetlands.
- Mallard *Anas platyrhynchos*. Common semi-permanent resident, sometimes overwintering. Diverse wetlands.
- Blue-winged teal. *Anas discors*. Common summer resident, early April to mid-Oct. Marshy wetlands.
- Cinnamon teal. *Anas cyanoptera*. Local summer resident, April to Oct. (west). Marshy, often alkaline, wetlands.
- Northern shoveler. *Anas clypeata*. Common summer resident, Mar. to Nov. Marshy wetlands.
- Northern pintail. *Anas acuta*. Common summer resident, Mar. to Dec., sometimes overwintering. Marshy wetlands.
- Green-winged teal. *Anas crecca*. Common migrant and occasional summer resident, mid-Mar. to early Nov. Marshy wetlands.
- Canvasback. *Aythya valisineria*. Uncommon local summer resident on Sandhills marshes north of Platte Valley, mid-Mar. to mid-Nov. Deeper marshes and lakes.
- Redhead. *Aythya americana*. Common local summer resident on Sandhills marshes north of Platte Valley, mid-Mar. to mid-Nov. Deeper marshes and lakes.
- Ring-necked duck. *Aythya collaris*. Common migrant, late Mar. to mid-Oct. Deeper marshes and lakes.
- Greater scaup. *Aythya marila*. Uncommon to rare wintering migrant, late Oct. to April. Deeper marshes and lakes.

Lesser scaup. *Aythya affinis*. Common migrant, mid-Mar. to mid-Oct. Deeper marshes and lakes.

Surf scoter. *Melanitta perspicillata*. Uncommon migrant, late April to late May, and Oct. to Dec. Deeper marshes and lakes.

White-winged scoter. *Melanitta fusca*. Rare fall migrant, Oct. to Dec. Deeper marshes and lakes.

Black scoter. *Melanitta nigra*. Rare migrant, Mar. to May, and Sept. to Dec. Deeper marshes and lakes.

Long-tailed duck. *Clangula hyemalis*. Rare migrant, February to April and Oct. to Dec. Deeper marshes and lakes.

Bufflehead. *Bucephala albeola*. Common migrant, mid-Mar. to late April and mid-Oct. to late Nov. Marshes and lakes.

Common goldeneye. *Bucephala clangula*. Common migrant, early Mar. to early April and mid-Nov. to mid-Dec. Deeper marshes and lakes.

Barrow's goldeneye. *Bucephala islandica*. Rare migrant. Deeper marshes and lakes.

Hooded merganser. *Lophodytes cucullatus*. Uncommon migrant, late Mar. to late Nov. Clear rivers, marshes and lakes.

Red-breasted merganser. *Mergus serrator*. Uncommon migrant, late Mar. to late April and early to late Nov. Deeper marshes, clear rivers and lakes.

Common merganser. *Mergus merganser*. Common migrant, early Mar. to late April and mid-Nov. to mid-Dec., casual summer resident. Deeper marshes, clear rivers and lakes.

Ruddy duck. *Oxyura jamaicensis*. Common local summer resident Sandhills marshes north of Platte Valley, early April to mid-Nov.. Marshes and silt-bottom lakes.

Family Phasianidae - Partridges, Grouse and Turkeys

Ring-necked pheasant. *Phasianus colchicus*. Common (introduced) resident. Grasslands, croplands, prairies.

Greater prairie-chicken. *Tympanuchus cupido*. Uncommon resident, native prairies, croplands, eastern Valley.

Sharp-tailed grouse. *Tympanuchus phasianellus jamesi*. Common resident. Native grasslands, prairies.

Wild turkey. *Meleagris gallopavo*. Locally common (reintroduced) resident. Woodland edges.

Family Odontophoridae – New World Quail

Northern bobwhite. *Colinus virginianus*. Uncommon resident, mostly eastern Valley. Grasslands, brush, woodland edges.

Family Gaviidae - Loons

Pacific loon. *Gavia pacifica*. Rare migrant, April to May and Oct. to Nov. Rivers and lakes.

Common loon. *Gavia immer*. Common migrant, Mar. to May and late Oct. to early Nov. Rivers and lakes.

Family Podicipedidae - Grebes

Pied-billed grebe. *Podilymbus podiceps*. Common summer resident, early April to early Nov. Marshy wetlands.

Horned grebe. *Podiceps auritus*. Uncommon migrant, mid-April to early May and early Oct. to mid-Nov. Marshy wetlands.

- Red-necked grebe. *Podiceps grisegena*. Extremely rare migrant, April and Oct.–Nov.
Larger wetlands.
- Eared grebe. *Podiceps nigricollis*. Common local summer resident on Sandhills marshes north of Platte Valley, mid-April to mid-Oct. (west). Marshy wetlands.
- Western grebe. *Aechmophorus occidentalis*. Common local summer resident on Sandhills marshes north of Platte Valley, early May to early Oct. Larger marshy wetlands; lakes.
- Clark's grebe. *Aechmophorus clarkii*. Rare local summer resident on Sandhills marshes north of Platte Valley, early May to early Oct. Larger marshy wetlands; lakes.
- Family Pelecanidae – Pelicans**
- American white pelican. *Pelecanus erythrorhynchos*. Common non-breeding summer resident, late April to mid-Oct. Rivers and lakes.
- Family Phalacrocoracidae – Cormorants**
- Double-crested cormorant. *Phalacrocorax auritus*. Common but local summer resident, mid-April to late Sept. Rivers, marshes and lakes.
- Family Ardeidae – Bitterns and Herons**
- American bittern. *Botaurus lentiginosus*. Common summer resident, early May to early Oct. Marshy wetlands.
- Least bittern. *Ixobrychus exilis*. Rare summer resident, mid-May to mid-Aug. Marshy wetlands.
- Great blue heron. *Ardea herodias*. Common summer resident, early April to mid-Oct.
Diverse wetland edges.
- Great egret. *Ardea alba*. Occasional to rare non-breeding summer resident, late April to early Sept. Diverse wetland edges.
- Snowy egret. *Egretta thula*. Irregular summer resident, rare breeder, early May to mid-Aug. Wetland edges.
- Little blue heron. *Egretta caerulea*. Occasional to rare non-breeding summer resident, early May to mid-Aug. Wetland edges.
- Cattle egret. *Bubulcus ibis*. Rare summer resident, early May to late Aug. Pastures and wetlands. Self-introduced.
- Green heron. *Butorides virescens*. Common summer resident, late April to mid-Sept.
Wooded wetland edges.
- Black-crowned night-heron. *Nycticorax nycticorax*. Common summer resident on Sandhills marshes north of Platte Valley, late April to early Sept. Marshy wetlands.
- Yellow-crowned night-heron. *Nyctanassa violacea*. Rare summer visitor or possible breeder, early May to early Sept. Wetland edges.
- Family Threskiornithidae – Ibises and Spoonbills**
- White-faced ibis. *Plegadis chihi*. Rare and local summer resident, April to Oct. Marshy wetlands, meadows.
- Family Cathartidae – American Vultures**
- Turkey vulture. *Cathartes aura*. Common summer resident, mid-April to late Sept. Open country.
- Family Accipitridae – Kites, Hawks, Eagles and Allies**
- Osprey. *Pandion haliaetus*. Uncommon migrant, late April to early May and mid-Sept. to mid-Oct. Clear rivers and lakes.

Bald eagle. *Haliaeetus leucocephalus*. Common overwintering migrant, rare or local resident. Rivers, lakes, larger wetlands.

Northern harrier. *Circus cyaneus*. Uncommon summer resident mid-Mar. to early Dec. Prairies, meadows and marshes.

Sharp-shinned hawk. *Accipiter striatus*. Rare resident, common wintering migrant. Forests, suburbs in winter.

Cooper's hawk. *Accipiter cooperii*. Uncommon wintering migrant, mid-Sept. to late April, and local breeding resident. Mature forests.

Northern goshawk. *Accipiter gentilis*. Rare wintering migrant, Sept. to late April. Mature forests.

Red-shouldered hawk. *Buteo lineatus*. Rare vagrant. Deciduous forests.

Broad-winged hawk. *Buteo platypterus*. Rare migrant, late April to mid-May and mid-Sept. to early Oct. Deciduous forests.

Swainson's hawk. *Buteo swainsoni*. Common summer resident, mid-April to late Sept. Open plains.

Red-tailed hawk. *Buteo jamaicensis*. Common resident. Open plains and woodland edges.

Ferruginous hawk. *Buteo regalis*. Rare resident (west). Open plains.

Rough-legged hawk. *Buteo lagopus*. Common wintering migrant, early Nov. to late Mar. Open plains.

Golden eagle. *Aquila chrysaetos*. Rare or occasional wintering migrant and resident (west). Open plains, rimrock.

Family Falconidae – Falcons

American kestrel. *Falco sparverius*. Common summer resident, often overwintering. Open country, Woodland edges, suburbs.

Merlin. *Falco columbarius*. Uncommon wintering migrant, Sept.. to Mar. Open plains, woodland edges.

Prairie falcon. *Falco mexicanus*. Local resident (west). Open plains, rimrock, bluffs.

Peregrine falcon. *Falco peregrinus*. Occasional migrant, mid-Sept. to late Mar. Open plains, wetlands, cities.

Gyrfalcon. *Falco rusticolus*. Casual wintering migrant, Nov. to Mar. Open plains, sandhills.

Family Rallidae - Rails, Gallinules and Coots

Virginia rail. *Rallus limicola*. Uncommon summer resident on Sandhills marshes north of Platte Valley, early May to mid-Sept. Marshy wetlands.

Sora. *Porzana carolina*. Common summer resident on Sandhills marshes north of Platte Valley, early May to late Sept. Marshy wetlands.

Common moorhen. *Gallinula chloropus*. Possible rare summer resident, mid-May to late Aug. Marshy wetlands.

American coot. *Fulica americana*. Common summer resident, late Mar. to early Nov. Marshy wetlands.

Family Gruidae – Cranes

Sandhill crane. *Grus canadensis*. Common migrant, early Mar. to mid-April and early Oct. to early Nov. Wide, braided rivers, marshes, grainfields.

Whooping crane. *Grus americana*. Rare but regular migrant, late Mar. to early May and mid-Sept. to early Nov. Wide rivers, meadows, large marshes.

Family Charadriidae - Plovers

Black-bellied plover. *Pluvialis squatarola*. Common migrant, May and late Aug. to early Oct. Grasslands, open shorelines.

American golden-plover. *Pluvialis dominica*. Common migrant, May and late Sept. to mid-Oct. Grasslands, open shorelines.

Snowy plover. *Charadrius alexandrinus*. Rare migrant and possible summer resident, April to May and Aug. to Sept. Open sandy shorelines.

Semipalmated plover. *Charadrius semipalmatus*. Common migrant, May and mid-Aug. to mid-Sept. Open sandy shorelines.

Piping plover. *Charadrius melanotos*. Uncommon migrant and local summer resident, mid-May to mid-Sept. River sandbars, sandy shorelines.

Killdeer. *Charadrius vociferus*. Very common summer resident, mid-Mar. to mid-Oct. Gravelly shorelines, roadsides.

Family Recurvirostridae – Stilts and Avocets

American avocet. *Recurvirostra americana*. Local summer resident on Rainwater Basin to south and Sandhills marshes north of Platte Valley, late April to early Sept. Open shorelines, alkaline wetlands.

Family Scolopacidae – Sandpipers and Phalaropes

Greater yellowlegs. *Tringa melanoleuca*. Common migrant, mid-April to early May and mid-Aug. to early Oct. Muddy and grassy shorelines.

Lesser yellowlegs. *Tringa flavipes*. Common migrant, mid-April to mid-May and mid-Aug. to early Oct. Muddy and grassy shorelines.

Solitary sandpiper. *Tringa solitaria*. Common migrant, early to mid-May and early Aug. to early Sept. Muddy and grassy shorelines.

Willet. *Catoptrophorus semipalmatus*. Local summer resident, late April to late Aug. Meadows, grassy shorelines.

Spotted sandpiper. *Actitis macularius*. Common summer resident, early May to early Sept. Rocky shorelines.

Upland sandpiper. *Bartramia longicauda*. Common summer resident in wet meadows and in Sandhills north of Platte Valley, early May to late Aug. Meadows, prairies.

Whimbrel. *Numenius phaeopus*. Rare spring migrant, April to mid-May. Marshes, shorelines.

Long-billed curlew. *Numenius americanus*. Common summer resident in Sandhills meadows north of Platte Valley, mid-April to mid-Aug. Meadows, prairies, pastures.

Hudsonian godwit. *Limosa haemastica*. Rare spring migrant, late April to mid-May. Shorelines, marshy wetlands.

Marbled godwit. *Limosa fedoa*. Uncommon migrant, April to May and Set. Oct. Meadows, marshes, prairies.

Ruddy turnstone. *Arenaria interpres*. Rare spring migrant, April-May. Rocky shorelines.

Red knot. *Calidris canutus*. Rare migrant, May and Sept. Sandy shorelines, marshes.

Sanderling. *Calidris alba*. Occasional to rare migrant, early to mid-May and late Aug. to early Oct. Sandy shorelines.

Semipalmated sandpiper. *Calidris pusilla*. Common migrant, late April to mid-May and early Aug. to mid-Sept. Grassy and muddy shorelines.

Western sandpiper. *Calidris mauri*. Common migrant, early to mid-May and mid-Aug. to early Sept. Grassy and muddy shorelines.

Least sandpiper. *Calidris minutilla*. Common migrant, May and early Aug. to mid-Sept. Grassy and muddy shorelines.

White-rumped sandpiper. *Calidris fuscicollis*. Very common migrant, late April to mid-May and Aug., mainly in spring. Grassy and muddy shorelines.

Baird's sandpiper. *Calidris bairdii*. Very common migrant, mid-April to mid-May and mid-Aug. to early Oct. Grassy and muddy shorelines.

Pectoral sandpiper. *Calidris melanotos*. Common migrant, late April to mid-May and Sept.-Oct. Grassy and muddy shorelines.

Dunlin. *Calidris alpina*. Rare migrant, May and Sept. Grassy and muddy shorelines.

Stilt sandpiper. *Calidris himantopus*. Common migrant, early to mid-May and mid-Aug. to mid-Sept. Grassy and muddy shorelines.

Buff-breasted sandpiper. *Tryngites subruficollis*. Rare migrant in eastern Rainwater Basin, May and Sept. (east). Fields, pastures, meadows, shorelines.

Short-billed dowitcher. *Limnodromus griseus*. Casual migrant, May and Aug.-Sept. (east). Grassy and muddy shorelines.

Long-billed dowitcher. *Limnodromus scolopaceus*. Common migrant, early to mid-May and early Aug. to mid-Oct. Grassy and muddy shorelines.

Wilson's snipe. *Gallinago delicata*. Local summer resident in wetlands, mid-April to mid-Nov.

American woodcock. *Scolopax minor*. Local summer resident, mid-April to mid-Oct. (east). Moist forest edges.

Wilson's phalarope. *Phalaropus tricolor*. Local summer resident on Sandhills marshes north of Platte Valley, early May to early Sept. Marshy and alkaline wetlands.

Red-necked phalarope. *Phalaropus lobatus*. Uncommon migrant, May and mid-Aug. to late Sept. Marshy and alkaline wetlands.

Family Laridae – Gulls and Terns

Pomarine Jaeger, *Stercorarius pomarinus*. Rare at Lake McConaughy.

Parasitic Jaeger, *Stercorarius parasiticus*. Rare at Lake McConaughy.

Long-tailed Jaeger, *Stercorarius longicaudus*. Rare at Lake McConaughy.

Laughing Gull, *Larus atricilla*. Rare at Lake McConaughy.

Franklin's gull. *Larus pipixcan*. Common migrant, mid-April to mid-May) and early Sept. to mid-Oct. Cultivated fields, pastures, marshes.

Little Gull, *Larus minutus*. Rare at Lake McConaughy.

Bonaparte's gull. *Larus philadelphia*. Rare migrant, April-May and Sept.-Oct. Diverse wetlands.

Mew Gull, *Larus canus*. Rare at Lake McConaughy.

Ring-billed gull. *Larus delawarensis*. Common non-breeding resident. Diverse wetlands, fields, landfills.

California gull. *Larus californicus*. Rare vagrant (west). Wetlands, fields, landfills.

Herring gull. *Larus argentatus*. Uncommon non-breeding resident. Wetlands, fields, landfills.

Thayer's Gull, *Larus thayeri*. Rare at Lake McConaughy.

Iceland Gull, *Larus glaucopterus*. Rare at Lake McConaughy.

Lesser black-backed gull. *Larus fuscus*. Rare vagrant. Diverse wetlands.

Glaucous Gull, *Larus hyperboreus*. Rare at Lake McConaughy.

Great Black-backed Gull, *Larus marinus*. Rare at Lake McConaughy.

Sabine's Gull, *Xema sabini*. Rare at Lake McConaughy.

Caspian tern. *Sterna caspia*. Rare vagrant, early May to mid-Sept. Larger wetlands, clear rivers, lakes.

Common tern. *Sterna hirundo*. Uncommon migrant, May and Sept. (east). Lakes & clear rivers.

Forster's tern. *Sterna forsteri*. Local summer resident on Sandhills marshes north of Platte Valley, late April to mid-Sept. Larger marshes, creeks.

Least tern. *Sterna antillarum*. Local summer resident, late May to mid-Aug. River sandbars, sandy shorelines.

Black tern. *Chlidonias niger*. Local summer resident on Sandhills marshes north of Platte Valley, mid-May to early Sept. Marshy wetlands.

Family Columbidae – Pigeons and Doves

Rock pigeon. *Columba livia*. Common resident. Farms, cities. Introduced.

Mourning dove. *Zenaida macroura*. Common summer resident late Mar. to early Nov. Diverse open habitats.

Family Cuculidae – Cuckoos and Anis

Black-billed cuckoo. *Coccyzus erythrophthalmus*. Occasional summer resident, late May to late Aug. Woodland edges, forests.

Yellow-billed cuckoo. *Coccyzus americanus*. Common summer resident, late May to mid-Sept. Woodland edges, forests.

Family Tytonidae – Barn Owls

Barn owl. *Tyto alba*. Rare resident. Open country.

Family Strigidae – Typical Owls

Eastern screech-owl. *Megascops asio*. Common resident. Forests, parks, suburbs.

Great horned owl. *Bubo virginianus*. Common resident. Forests, woodland edges, open plains.

Snowy owl. *Bubo scandiaca*. Rare wintering migrant, Nov. to April. Open plains, sandhills.

Burrowing owl. *Athene cunicularia*. Uncommon to rare summer resident, late April to mid-Sept. (west). Prairie dog burrows, other mammalian burrows.

Barred owl. *Strix varia*. Rare resident (east). Forests.

Long-eared owl. *Asio otus*. Rare resident. Forests.

Short-eared owl. *Asio flammeus*. Uncommon resident, mainly in Sandhills grasslands.. Grasslands, marshes.

Northern saw-whet owl. *Aegolius acadicus*. Uncommon wintering migrant, Nov. to February. Juniper thickets.

Family Caprimulgidae – Nighthawks

Common nighthawk. *Chordeiles minor*. Common summer resident, late May to mid-Sept. Urban, open country.

Common poorwill. *Phalaenoptilus nuttallii*. Local summer resident (west), early May to early Sept. (west). Rocky canyons, scrub.

Whip-poor-will. *Caprimulgus vociferus*. Uncommon summer resident, early May to early Sept. (east). Deciduous riverine forests.

Family Apodidae - Swifts

Chimney swift. *Chaetura pelagica*. Uncommon summer resident, late April to early Oct. (east). Urban.

White-throated swift. *Aeronautes saxatalis*. Rare migrant, mid-May to late Aug. (west).
Steep cliffs, canyons.

Family Trochilidae – Hummingbirds

Ruby-throated hummingbird. *Archilochus colubris*. Uncommon migrant and possible but unproven rare summer resident, mid-May to mid-Sept. Floodplain forest, woodland edges.

Broad-tailed hummingbird. *Selasphorus platycercus*. Rare early fall migrant. Aug.-Sept. (west). Woodland edges.

Rufous hummingbird. *Selasphorus rufus*. Rare late summer migrant, Aug. (west). Woodland edges.

Family Alcedinidae - Kingfishers

Belted kingfisher. *Ceryle alcyon*. Uncommon summer resident, mid-Mar. to mid-Nov. Rivers, creeks.

Family Picidae – Woodpeckers

Lewis's woodpecker. *Melanerpes lewis*. Rare migrant, May, Sept. (west). Open woods (burned conifers, open hardwoods).

Red-headed woodpecker. *Melanerpes erythrocephalus*. Common summer resident, May to mid-Sept. Open woods.

Red-bellied woodpecker. *Melanerpes carolinus*. Uncommon resident (east). Open woods.

Downy woodpecker. *Picoides pubescens*. Common resident. Forests, wooded suburbs.

Hairy woodpecker. *Picoides villosus*. Common resident. Forests, wooded suburbs.

Northern flicker. *Colaptes auratus*. Common resident. Woodland edges, wooded suburbs.

Family Tyrannidae – Tyrant flycatchers

Olive-sided flycatcher. *Contopus cooperi*. Uncommon migrant, mid-May to late May and early to late Sept. Woodland edges.

Western wood-peewee. *Contopus sordidulus*. Local or rare summer resident (west), late May to early Sept. (west). Forests.

Eastern wood-peewee. *Contopus virens*. Local summer resident, mid-May to mid-Sept. (east). Forests.

Yellow-bellied flycatcher. *Empidonax flaviventris*. Occasional migrant, May and Sept. Brushy woodland edges.

Acadian flycatcher. *Empidonax virescens*. Rare migrant, May and Aug. (east). Deciduous woodland edges.

Alder flycatcher. *Empidonax alnorum*. Rare migrant. Woodland edges.

Willow flycatcher. *Empidonax traillii*. Common summer resident, mid-May to early Sept. (east). Woodland edges, willow thickets.

Least flycatcher. *Empidonax minimus*. Common migrant, early to mid-May and Sept. Forests, Woodland edges.

Eastern phoebe. *Sayornis phoebe*. Common summer resident, mid-April to late Sept. (east). Woodland edges.

Say's phoebe. *Sayornis saya*. Local summer resident, mid-April to mid-Sept. (west). Open country, near cliffs.

Great crested flycatcher. *Myiarchus crinitus*. Local summer resident, late April to early Sept. (east). Deciduous forest edges.

Cassin's kingbird. *Tyrannus vociferans*. Local or rare summer resident, early May to mid-Sept. (west). Woodland edges.

Western kingbird. *Tyrannus verticalis*. Common summer resident, early May to early Sept. Woodland edges, woodlands.

Eastern kingbird. *Tyrannus tyrannus*. Common summer resident, early May to early Sept. Woodland edges.

Scissor-tailed flycatcher. *Tyrannus forficatus*. Occasional migrant and rare summer resident, early May to mid-Sept. (east). Woodland-grassland edges.

Family Laniidae - Shrikes

Northern shrike. *Lanius excubitor*. Uncommon wintering migrant, early Nov. to mid-Mar. Open country.

Loggerhead shrike. *Lanius ludovicianus*. Common summer resident, mid-April to mid-Sept. Open country.

Family Vireonidae - Vireos

Bell's vireo. *Vireo bellii*. Common summer resident, mid-May to early Sept. Scrubby grasslands.

Blue-headed vireo. *Vireo solitarius*. Occasional migrant, early to mid-May and mid-Sept. to early Oct. (east). Forests.

Yellow-throated vireo. *Vireo flavifrons*. Occasional migrant, early May to early Sept. (east). Forests.

Warbling vireo. *Vireo gilvus*. Common summer resident, early May to early Sept. Mature forests.

Philadelphia vireo. *Vireo philadelphicus*. Rare migrant, mid-May to late May and late Aug. to late Sept. (east). Deciduous forests.

Red-eyed vireo. *Vireo olivaceus*. Local summer resident, mid-May to early Sept. (east). Deciduous forests.

Family Corvidae – Jays, Magpies and Crows

Blue jay. *Cyanocitta cristata*. Common resident. Eastern affinities. Woodland edges.

Black-billed magpie. *Pica pica*. Common resident (west). Woodland edges, open country.

American crow. *Corvus brachyrhynchos*. Common resident. Diverse habitats.

Family Alaudidae – Larks

Horned lark. *Eremophila alpestris*. Common resident. Open country.

Family Hirundinidae – Swallows

Purple martin. *Progne subis*. Rare summer resident, mid-April to late Aug. (east). Near humans.

Tree swallow. *Tachycineta bicolor*. Uncommon summer resident, late April to mid-Sept. Woodland edges.

Northern rough-winged swallow. *Stelgidopteryx serripennis*. Common summer resident, late April to early Sept. Near cliffs or steep banks.

Bank swallow. *Riparia riparia*. Common summer resident, early May to early Sept. Open country near steep banks.

Barn swallow. *Hirundo rustica*. Common summer resident, late April to late Sept. Open country near humans.

Cliff swallow. *Petrochelidon pyrrhonota*. Common summer resident, late April to early Sept. Open country near cliffs or vertical surfaces.

Family Paridae – Titmice

Black-capped chickadee. *Poecile atricapillus*. Common resident. Forests, wooded suburbs.

Tufted titmouse. *Baeolophus bicolor*. Probable rare summer resident (east). Forests.

Family Sittidae – Nuthatches

Red-breasted nuthatch. *Sitta canadensis*. Common migrant, early Oct. to early April; local resident. Coniferous forests.

White-breasted nuthatch. *Sitta carolinensis*. Common resident. Deciduous and pine forests.

Pygmy nuthatch. *Sitta pygmaea*. Local resident (west). Coniferous forests.

Family Certhiidae – Creepers

Brown creeper. *Certhia americana*. Uncommon resident. Forests.

Family Troglodytidae – Wrens

Rock wren. *Salpinctes obsoletus*. Local summer resident, early May to late Oct. (west). Rocky habitats.

Bewick's wren. *Thryomanes bewickii*. Rare vagrant. Scrub, Woodland edges.

House wren. *Troglodytes aedon*. Common summer resident, late April to late Sept. Forests, woodland edges, suburbs.

Winter wren. *Troglodytes troglodytes*. Rare winter migrant, mid-Oct. to mid-April. Forests.

Sedge wren. *Cistothorus platensis*. Local summer resident, early May to late Sept. Grassy wetlands.

Marsh wren. *Cistothorus palustris*. Local summer resident, early May to early Oct. Marshy wetlands.

Family Regulidae – Kinglets

Golden-crowned kinglet. *Regulus satrapa*. Common wintering migrant, mid-Oct. to mid-April. Conifer forests.

Ruby-crowned kinglet. *Regulus calendula*. Common migrant, April to mid-May and Sept. to Oct. City parks.

Family Turdidae – Thrushes and Allies

Eastern bluebird. *Sialia sialis*. Local summer resident, late Mar. to early Nov. (east). Woodland edges.

Mountain bluebird. *Sialia currucoides*. Local summer resident, April to Oct. (west). Coniferous woodland edges.

Townsend's solitaire. *Myadestes townsendi*. Common winter migrant, Sept. to Mar., (west). Coniferous forests (summer), juniper scrub (winter).

Veery. *Catharus fuscescens*. Uncommon migrant, May and Sept. Forests.

Gray-cheeked thrush. *Catharus minimus*. Common migrant, May and Sept. Forests.

Swainson's thrush. *Catharus ustulatus*. Common migrant, May and Sept. Forests.

Hermit thrush. *Catharus guttatus*. Uncommon migrant, May and Sept. Forests, brushy woodlands.

Wood thrush. *Hylocichla mustelina*. Common migrant, local summer resident, mid-May to mid-Sept. (east). Deciduous forests.

American robin. *Turdus migratorius*. Common summer resident, late February to mid-Dec., sometimes overwintering. Forests, Woodland edges, suburbs.

Family Mimidae – Mockingbirds and Thrashers

Gray catbird. *Dumetella carolinensis*. Rare to uncommon summer resident, mid-May to late Sept. Woodland edges.

Northern mockingbird. *Mimus polyglottos*. Rare summer resident, early May to mid-Sept. Woodland edges.

Brown thrasher. *Toxostoma rufum*. Common summer resident, late April to late Sept. Woodland edges.

Family Sturnidae – Starlings

European starling. *Sturnus vulgaris*. Common (introduced) resident. Diverse habitats, near humans.

Family Motacillidae – Pipits

American pipit. *Anthus rubescens*. Common migrant, April and Oct. Open country, shorelines.

Sprague's pipit. *Anthus spragueii*. Rare migrant, April and Sept. to Oct. Native grasslands, open country.

Family Bombycillidae – Waxwings

Bohemian waxwing. *Bombycilla garrulus*. Casual wintering migrant, late Nov. to late February. Open forest, Woodland edges.

Cedar waxwing. *Bombycilla cedrorum*. Uncommon summer resident, late February to early Oct., sometimes overwintering. Open forest, Woodland edges, parks.

Family Parulidae – Wood Warblers

Blue-winged warbler. *Vermivora pinus*. Rare migrant, May and Aug.-Sept. (east). Woodland edges, brushy woodlands.

Tennessee warbler. *Vermivora peregrina*. Common migrant, early to late May and early Sept. to early Oct. Forests, flowering trees.

Orange-crowned warbler. *Vermivora celata*. Common migrant, late April to mid-May and mid-Sept. to mid-Oct. Woodland edges, weedy sites.

Nashville warbler. *Vermivora ruficapilla*. Common migrant, early to mid-May and mid-Sept. to early Oct. Low forests, brushy woodlands.

Northern parula. *Parula americana*. Rare migrant, May and Sept. Mature forests.

Yellow warbler. *Dendroica petechia*. Common summer resident, early May to early Sept. Forests, Woodland edges.

Magnolia warbler. *Dendroica magnolia*. Common migrant, mid-May to late May and early Sept. to early Oct. (east). Forests.

Chestnut-sided warbler. *Dendroica pensylvanica*. Common migrant, mid- to late May and early to late Sept. (east). Woodland edges.

Black-throated blue warbler. *Dendroica caerulea*. Casual migrant, May and Sept. (east). Dense forests.

Yellow-rumped warbler. *Dendroica coronata auduboni*. Common summer resident, late April to late Oct. (west). Open forests, woodlands.

Townsend's warbler. *Dendroica townsendi*. Rare migrant, May and Sept. (west). Conifer forests.

Black-throated green-warbler. *Dendroica virens*. Rare migrant, early to mid-May and mid-Sept. to early Oct. Conifer forests.

Blackburnian warbler. *Dendroica fusca*. Uncommon migrant, May and early Sept. to early Oct. Mature forests.

Pine warbler. *Dendroica pinus*. Casual migrant, May and Sept. (east). Coniferous forests.

- Palm warbler. *Dendroica palmarum*. Uncommon migrant, May and Sept. (east).
 Woodlands, weedy sites.
- Bay-breasted warbler. *Dendroica castanea*. Uncommon migrant, May and Sept. Forests.
- Blackpoll warbler. *Dendroica striata*. Uncommon migrant, May and Sept. Forests.
- Cerulean warbler. *Dendroica cerulea*. Rare migrant, May and Sept. Deciduous forests.
- Black-and-white warbler. *Mniotilla varia*. Uncommon migrant. May and Sept. (east).
 Deciduous forests.
- American redstart. *Setophaga ruticilla*. Uncommon migrant. May and Sept. (east).
 Deciduous forests.
- Ovenbird. *Seiurus aurocapilla*. Local summer resident, mid-May to mid-Sept. (east).
 Deciduous forests.
- Northern waterthrush. *Seiurus noveboracensis*. Rare migrant, May and Sept. (east).
 Forest wetlands.
- Connecticut warbler. *Oporornis agilis*. Rare migrant, May and Sept. (east). Forests.
- Mourning warbler. *Oporornis philadelphica*. Uncommon migrant, mid-May to late May
 and early Sept. to early Oct. (east). Brushy forests.
- MacGillivray's warbler. *Oporornis tolmiei*. Uncommon migrant, May and Sept. (west).
 Brushy forests.
- Common yellowthroat. *Geothlypis trichas*. Common summer resident, early May to mid-
 Sept. Marshy wetlands.
- Hooded warbler. *Wilsonia citrina*. Rare migrant, May and Aug.–Sept. (east). Shady
 forests.
- Wilson's warbler. *Wilsonia pusilla*. Common migrant, May and Sept. Dense, moist
 forests.
- Canada warbler. *Wilsonia canadensis*. Uncommon migrant May and Sept. (east). Shady
 forests.
- Yellow-breasted chat. *Icteria virens*. Common summer resident (west), mid-May to early
 Sept. Brushy grasslands.
- Family Thraupidae – Tanagers**
- Scarlet tanager. *Piranga olivacea*. Local summer resident, mid-May to Sept. (east).
 Mature deciduous forests.
- Western tanager. *Piranga ludoviciana*. Local summer resident, mid-May to late Aug.
 (west). Forests.
- Family Emberizidae – Towhees, Sparrows and Longspurs**
- Eastern towhee. *Pipilo erythrophthalmus*. Local summer resident, late April to mid-Oct.
 (east). Woodland edges.
- Spotted towhee. *Pipilo maculatus*. Local summer resident, late April to mid-Oct. (west).
 Woodland edges.
- Cassin's sparrow. *Aimophila cassinii*. Rare and erratic summer resident (west). Sandsage
 scrub.
- American tree sparrow. *Spizella arborea*. Common wintering migrant, late Oct. to early
 April. Scrubby grasslands.
- Chipping sparrow. *Spizella passerina*. Common summer resident, late April to early Oct.
 Woodland edges.
- Clay-colored sparrow. *Spizella pallida*. Common migrant, early to mid-May and mid-
 Sept. to early Oct. Brushy grasslands.

- Field sparrow. *Spizella pusilla*. Common summer resident, mid-April to early Oct.
Scrubby grasslands.
- Vesper sparrow. *Pooecetes gramineus*. Uncommon summer resident, mid-April to early Oct. Mixed-grass prairies.
- Lark sparrow. *Chondestes grammacus*. Common summer resident, early May to early Sept. Grasslands. Great Plains affinities
- Lark bunting. *Calamospiza melanocorys*. Common summer resident, early May to late Aug. (west). Shortgrass and mixed-grass prairies.
- Savannah sparrow. *Passerculus sandwichensis*. Common migrant, late April to early May, and Sept. to early Oct. Mixed-grass prairies.
- Baird's sparrow. *Ammodramus bairdii*. Rare migrant, April-May and late Sept. to mid-Oct. (mainly in west). Grasslands.
- Grasshopper sparrow. *Ammodramus savannarum*. Common summer resident, early May to early Sept. Mixed and tallgrass prairies.
- Henslow's sparrow. *Ammodramus henslowii*. Rare summer resident, early May to late Sept. (east). Tall-grass prairies.
- Le Conte's sparrow. *Ammodramus leconteii*. Rare migrant, late April to early May and late Sept. to late Oct. Wet grasslands.
- Nelson's sharp-tailed sparrow. *Ammodramus nelsoni*. Rare migrant, May and Oct. Wet grasslands.
- Fox sparrow. *Passerella iliaca*. Uncommon migrant, late Mar. to mid-April and mid-Oct. to mid-Nov. Woodland edges.
- Song sparrow. *Melospiza melodia*. Common summer resident, early April to late Dec. Woodland edges, brushy wetlands.
- Lincoln's sparrow. *Melospiza lincolni*. Uncommon migrant, late April to mid-May and mid-Sept. to mid-Oct. Woodland edges.
- Swamp sparrow. *Melospiza georgiana*. Local summer resident in Sandhills marshes north of Platte Valley, late April to late Oct. Marshy wetlands.
- White-throated sparrow. *Zonotrichia albicollis*. Common wintering migrant, early Oct. to mid-May. Woodland edges.
- Harris's sparrow. *Zonotrichia querula*. Common wintering migrant, early Oct. to mid-May. Woodland edges.
- White-crowned sparrow. *Zonotrichia leucophrys*. Common wintering migrant, early Oct. to mid-May. Woodland edges.
- Dark-eyed junco. *Junco hyemalis*. Common wintering migrant, early Oct. to late Mar.. Woodland edges, conifer forests.
- McCown's longspur. *Calcarius mccownii*. Rare migrant, April and Oct. (west). Grasslands, especially shortgrass prairies.
- Lapland longspur. *Calcarius lapponicus*. Common wintering migrant, mid-Nov. to late February. Low grasslands, plowed fields.
- Chestnut-collared longspur. *Calcarius ornatus*. Rare migrant, mid-April and Oct. Grasslands, especially mixed-grass prairies.
- Snow bunting. *Plectrophenax nivalis*. Occasional wintering migrant, mid-Nov. to mid-February. Low grasslands, plowed fields.
- Family Cardinalidae – Cardinals, Grosbeaks and Allies**
- Northern cardinal *Cardinalis cardinalis*. Common resident. Forest edge, suburbs.

- Rose-breasted grosbeak. *Pheucticus ludovicianus*. Common summer resident, early May to mid-Sept. (east). Forests.
- Black-headed grosbeak. *Pheucticus melanocephalus*. Common summer resident, mid-May to late Aug. (west). Forests.
- Blue grosbeak. *Passerina caerulea*. Common summer resident, mid May to late Aug. Scrubby grasslands.
- Lazuli bunting. *Passerina amoena*. Local summer resident, mid-May to late Aug. (west). Scrubby grasslands.
- Indigo bunting. *Passerina cyanea*. Local summer resident, mid-May to late Aug. (east). Woodland edges.
- Dickcissel. *Spiza americana*. Common summer resident, mid-May to late Aug. (mainly east). Tallgrass prairies.
- Family Icteridae – Meadowlarks, Blackbirds, Orioles and Allies**
- Bobolink. *Dolichonyx oryzivorus*. Common summer resident, mid-May to mid-Aug. Meadows.
- Red-winged blackbird. *Agelaius phoeniceus*. Common summer resident, early Mar. to late Nov. Wetlands, ditches.
- Eastern meadowlark. *Sturnella magna*. Local summer resident, early April to mid-Oct. (east). Grasslands, especially tallgrass prairie.
- Western meadowlark. *Sturnella neglecta*. Common summer resident, early Mar. to late Oct. Grasslands, especially mixed-grass prairie.
- Yellow-headed blackbird. *Xanthocephalus xanthocephalus*. Common summer resident, mid-April to mid-Sept. Marshy wetlands.
- Rusty blackbird. *Euphagus carolinus*. Uncommon migrant, late Mar. to mid-April and early Nov. to late Dec.). Woodland edges.
- Brewer's blackbird. *Euphagus cyanocephalus*. Local; summer resident, mid-April to early Nov. (west). Dry grasslands, scrub.
- Common grackle. *Quiscalus quiscula*. Common summer resident, late Mar. to late Oct. Forest edge, suburbs.
- Brown-headed cowbird. *Molothrus ater*. Common summer resident, mid-April to early Oct. Grasslands, Woodland edges.
- Orchard oriole. *Icterus spurius*. Common summer resident, mid-May to late Aug. Forests. Eastern affinities.
- Baltimore oriole. *Icterus galbula*. Common summer resident, early May to early Sept.(east). Forests.
- Bullock's oriole. *Icterus bullockii*. Common summer resident, early May to early Sept. (west). Forests.
- Family Fringillidae – Finches**
- Gray-crowned rosy-finches. *Leucosticte tephrocotis*. Casual wintering migrant, Oct. to February. Open grasslands.
- Cassin's finch. *Carpodacus cassini*. Uncommon wintering migrant, Oct. to mid-April. Sage scrub.
- House finch. *Carpodacus mexicanus*. Local resident (mainly in west, but still expanding in range). Near humans.
- Red crossbill. *Loxia curvirostra*. Uncommon wintering migrant, mid-Nov. to early April, (west). Conifer forests.

Common redpoll. *Carduelis flammea*. Occasional wintering migrant, late Nov. to mid-Mar. Woodland edges.

Pine siskin. *Carduelis pinus*. Uncommon wintering migrant, mid-Oct. to mid-May; local resident (mostly in west). Woodland edges.

American goldfinch. *Carduelis tristis*. Common resident. Open country.

Evening grosbeak. *Coccothraustes vespertinus*. Local wintering migrant, early Nov. to late April (west). Woodland edges.

Pine grosbeak. *Pinicola enucleator*. Rare wintering migrant, late Nov. to mid-Mar. (west). Conifer forests.

Purple finch. *Carpodacus purpureus*. Uncommon wintering migrant, late Oct. to late April (west). Forests.

Family Passeridae – Old World Sparrows

House sparrow. *Passer domesticus*. Common widespread (introduced) resident. Near humans. Introduced.

Daily Checklist of Nebraska Birds

Species that are regularly found in the central Platte Valley are shown in **Bold**. List based on Johnsgard (1984), Brown & Brown (2001) and unpublished observations.

Swans, Geese and Ducks

- **G. White-fronted Goose**
- Snow Goose
- **Ross's Goose**
- **Cackling Goose**
- **Canada Goose**
- **Trumpeter Swan**
- Tundra Swan
- **Wood Duck**
- **Gadwall**
- Eurasian Wigeon
- **American Wigeon**
- American Black Duck
- **Mallard**
- **Blue-winged Teal**
- **Cinnamon Teal**
- Northern Shoveler
- **Northern Pintail**
- **Green-winged Teal**
- Canvasback
- Redhead
- Ring-necked Duck
- Greater Scaup
- **Lesser Scaup**
- Harlequin Duck
- Surf Scoter
- White-winged Scoter
- Black Scoter
- Long-tailed Duck
- **Bufflehead**
- **Common Goldeneye**
- Barrow's Goldeneye
- **Hooded Merganser**
- **Red-breasted Merganser**
- Common Merganser
- Ruddy Duck

Grouse, Pheasants & Turkeys

- Gray Partridge
- **Ring-necked Pheasant**
- Greater Prairie-Chicken
- Sharp-tailed Grouse

Wild Turkey

- **New World Quail**
- Northern Bobwhite

Loons

- Red-throated Loon
- Pacific Loon
- **Common Loon**

Grebes

- Pied-billed Grebe
- **Horned Grebe**
- Red-necked Grebe
- Eared Grebe
- Western Grebe
- Clark's Grebe

Pelicans

- **American White Pelican**

Cormorants

- Double-crested Cormorant
- Neotropic Cormorant

Bitterns and Herons

- American Bittern
- Least Bittern
- Great Blue Heron
- Great Egret
- Snowy Egret
- Little Blue Heron
- Tricolored Heron
- Cattle Egret
- **Green Heron**
- Black-crnd Night-Heron
- Yellow-crnd Night-Heron

Ibis & Spoonbills

- White-faced Ibis

American Vultures

- Turkey Vulture

Kites, Hawks & Eagles

- **Osprey**
- Mississippi Kite
- **Bald Eagle**
- **Northern Harrier**
- Sharp-shinned Hawk
- Cooper's Hawk
- Northern Goshawk
- Red-shouldered Hawk
- Swainson's Hawk
- Red-tailed Hawk
- Ferruginous Hawk
- Rough-legged Hawk
- Golden Eagle

Falcons

- American Kestrel
- Merlin
- Prairie Falcon
- Peregrine Falcon
- Gyrfalcon

Rails, Gallinules & Coots

- Yellow Rail
- Black Rail
- King Rail
- **Virginia Rail**
- Sora
- Purple Gallinule
- Common Moorhen
- **American Coot**

Cranes

- Sandhill Crane
- Common Crane
- Whooping Crane

Plovers

- Black-bellied Plover
- American Golden-Plover
- Snowy Plover
- Semipalmated Plover
- Piping Plover

- Killdeer
- Mountain Plover

- Stilts and Avocets**
- Black-necked Stilt
- American Avocet

- Sandpipers & Phalaropes**
- Greater Yellowlegs
- Lesser Yellowlegs
- Solitary Sandpiper
- Willet
- Spotted Sandpiper
- Upland Sandpiper
- Whimbrel
- Long-billed Curlew
- Hudsonian Godwit
- Marbled Godwit
- Ruddy Turnstone
- Red Knot
- Sanderling
- Semipalmated Sandpiper
- Western Sandpiper
- Least Sandpiper
- White-rumped Sandpiper
- Baird's Sandpiper
- Pectoral Sandpiper
- Dunlin
- Stilt Sandpiper I
- Buff-breasted Sandpiper
- Short-billed Dowitcher
- Long-billed Dowitcher
- Wilson's Snipe
- American Woodcock
- Wilson's Phalarope
- Red-necked Phalarope
- Red Phalarope

- Jaegers, Gulls and Terns**
- Pomarine Jaeger
- Parasitic Jaeger
- Long-tailed Jaeger
- Laughing Gull
- Franklin's Gull
- Little Gull
- Bonaparte's Gull
- Mew Gull

- Ring-billed Gull
- California Gull
- Herring Gull
- Thayer's Gull
- Iceland Gull
- Lesser Black-backed Gull
- Glaucous Gull
- Great Black-backed Gull
- Sabine's Gull
- Caspian Tern
- Common Tern
- Forster's Tern
- Least Tern
- Black Tern

- Pigeons and Doves**
- Rock Pigeon
- Band-tailed Pigeon
- Eurasian Collared-Dove
- Mourning Dove
- Cuckoos and Anis**
- Black-billed Cuckoo
- Yellow-billed Cuckoo

- Barn Owls**
- Barn Owl

- Typical Owls**
- Eastern Screech-Owl
- Great Horned Owl
- Snowy Owl
- Northern Hawk Owl
- Burrowing Owl
- Barred Owl
- Long-eared Owl
- Short-eared Owl
- Northern Saw-whet Owl

- Nighthawks**
- Common Nighthawk
- Common Poorwill
- Chuck-will's-widow
- Whip-poor-will

- Swifts**
- Chimney Swift
- White-throated Swift

- Hummingbirds**
- Ruby-throated Hummingbird
- Calliope Hummingbird
- Broad-tailed Hummingbird
- Rufous Hummingbird

- Kingfishers**
- Belted Kingfisher

- Woodpeckers**
- Lewis's Woodpecker
- Red-headed Woodpecker
- Red-bellied Woodpecker
- Yellow-bellied Sapsucker
- Red-naped Sapsucker
- Williamson's Sapsucker
- Downy Woodpecker
- Hairy Woodpecker
- Three-toed Woodpecker
- Northern Flicker
- Pileated Woodpecker

- Tyrant Flycatchers**
- Olive-sided Flycatcher
- Western Wood-Pewee
- Eastern Wood-Pewee
- Yellow-bellied Flycatcher
- Acadian Flycatcher
- Alder Flycatcher
- Willow Flycatcher
- Least Flycatcher
- Hammond's Flycatcher
- Gray Flycatcher
- Cordilleran Flycatcher
- Eastern Phoebe
- Say's Phoebe
- Vermilion Flycatcher
- Ash-throated Flycatcher
- Great Crested Flycatcher
- Cassin's Kingbird
- Western Kingbird
- Eastern Kingbird
- Scissor-tailed Flycatcher
- Shrikes**
- Northern Shrike

Loggerhead Shrike

Vireos

- **White-eyed Vireo**
- **Bell's Vireo**
- Blue-headed Vireo
- Cassin's Vireo
- Plumbeous Vireo
- **Yellow-throated Vireo**
- **Warbling Vireo**
- Philadelphia Vireo
- **Red-eyed Vireo**

Jays, Magpies and Crows

- Gray Jay
- Steller's Jay
- **Blue Jay**
- Pinyon Jay
- Clark's Nutcracker
- **Black-billed Magpie**
- **American Crow**
- Chihuahuan Raven
- Common Raven

Larks

- **Horned Lark**

Swallows

- **Purple Martin**
- **Tree Swallow**
- Violet-green Swallow
- **N Rough-winged Swallow**
- **Bank Swallow**
- **Barn Swallow**
- **Cliff Swallow**

Titmice

- **Black-capped Chickadee**
- Mountain Chickadee
- Tufted Titmouse

Nuthatches

- **Red-breasted Nuthatch**
- **White-breasted Nuthatch**
- Pygmy Nuthatch

Creepers

- **Brown Creeper**

Wrens

- **Rock Wren**
- Canyon Wren;
- Carolina Wren
- Bewick's Wren
- **House Wren**
- **Winter Wren**
- **Sedge Wren**
- **Marsh Wren**

Kinglets

- **Golden-crowned Kinglet**
- **Ruby-crowned Kinglet**

Gnatcatchers

- Blue-gray Gnatcatcher

Thrushes and Solitaires

- **Eastern Bluebird**
- **Mountain Bluebird**
- **Townsend's Solitaire**
- Veery
- **Gray-cheeked Thrush**
- **Swainson's Thrush**
- **Hermit Thrush**
- **Wood Thrush**
- **American Robin**
- Varied Thrush

Mockingbirds & Thrashers

- **Gray Catbird**
- **Northern Mockingbird**
- Sage Thrasher
- **Brown Thrasher**

Starlings

- **European Starling**

Pipits

- **American Pipit**
- **Sprague's Pipit**

Waxwings

- Bohemian Waxwing
- **Cedar Waxwing**

Wood Warblers

- **Blue-winged Warbler**
- **Golden-winged Warbler**
- **Tennessee Warbler**
- **Orange-crowned Warbler**
- **Nashville Warbler**
- Virginia's Warbler:
- Northern Parula
- **Yellow Warbler**
- **Chestnut-sided Warbler**
- Magnolia Warbler
- Cape May Warbler
- Black-throated Blue Warbler
- **Yellow-rumped Warbler**
- Townsend's Warbler
- Black-throated Green-Warbler
- Blackburnian Warbler
- Yellow-throated Warbler
- Pine Warbler
- Prairie Warbler
- Palm Warbler
- Bay-breasted Warbler
- **Blackpoll Warbler**
- Cerulean Warbler
- Black-and-white Warbler
- American Redstart
- Prothonotary Warbler
- Worm-eating Warbler
- Swainson's Warbler
- **Ovenbird**
- **Northern Waterthrush**
- Louisiana Waterthrush
- Kentucky Warbler
- Connecticut Warbler
- **Mourning Warbler**
- MacGillivray's Warbler
- **Common Yellowthroat**
- Hooded Warbler
- Wilson's Warbler
- Canada Warbler
- **Yellow-breasted Chat**

Tanagers

- Summer Tanager
- **Scarlet Tanager**
- **Western Tanager**

Towhees & Sparrows

- Green-tailed Towhee
- **Eastern Towhee**
- Spotted Towhee
- Cassin's Sparrow
- **American Tree Sparrow**
- Chipping Sparrow
- **Clay-colored Sparrow**
- Brewer's Sparrow
- **Field Sparrow**
- Vesper Sparrow
- Lark Sparrow
- Sage Sparrow
- **Lark Bunting**
- **Savannah Sparrow**
- Baird's Sparrow
- **Grasshopper Sparrow**
- **Henslow's Sparrow**
- Le Conte's Sparrow
- Nelson's Sharp-tailed Sparrow
- **Fox Sparrow**
- Song Sparrow
- Lincoln's Sparrow
- Swamp Sparrow
- White-throated Sparrow
- Harris's Sparrow
- White-crowned Sparrow
- **Dark-eyed Junco**
- McCown's Longspur
- **Lapland Longspur**
- Smith's Longspur
- Chestnut-collared Longspur
- **Snow Bunting**

Cardinals & Grosbeaks

- Northern Cardinal
- Rose-breasted Grosbeak
- Black-headed Grosbeak
- Blue Grosbeak
- Lazuli Bunting
- Indigo Bunting
- Painted Bunting
- Dickcissel

American Goldfinch

- Evening Grosbeak

Old World Sparrows

- House Sparrow

Blackbirds & Orioles

- Bobolink
- Red-winged Blackbird
- Eastern Meadowlark
- Western Meadowlark
- Yellow-headed Blackbird
- Rusty Blackbird
- Brewer's Blackbird
- Common Grackle
- Great-tailed Grackle
- Brown-headed Cowbird
- Orchard Oriole
- Baltimore Oriole
- Bullock's Oriole

Finches

- Gray-crowned
- Pine Grosbeak
- **Purple Finch**
- Cassin's Finch
- House Finch
- Red Crossbill
- Common Redpoll

Mammals of the Central Platte Valley

Species underlined have been reported from Hall County; This list is based mainly on Jones, 1964. A state-specific "Field Guide" to Nebraska mammals can be downloaded from: <http://www.mnh2.si.edu/education/mna>

Family Didelphidae—New World Opossums

Virginia Opossum, *Didelphis virginiana*. Common (mainly east)

Family Soricidae—Shrews

Masked Shrew, *Sorex cinereus*. Widespread

Northern Short-tailed Shrew, *Blarina brevicauda*. West to Lincoln County

Least Shrew, *Cryptotis parva*. Uncommon but widespread

Family Talpidae—Moles

Eastern Mole, *Scalopus aquaticus*: Common

Family Dasypodidae—Armadillos

Nine-banded Armadillo, *Dasyurus novemcinctus*. Rare

Family Vespertilionidae—Vespertilionid Bats

Western Small-footed Myotis, *Myotis ciliolabrum*. Possibly in western valley.

Little Brown Bat, *Myotis lucifugus*. Widespread.

Silver-haired Bat, *Lasionycteris noctivagans*. Widespread

Big Brown Bat, *Eptesicus fuscus*. Widespread

Eastern Red Bat, *Lasiurus borealis*. Widespread

Hoary Bat, *Lasiurus cinereus*. Widespread

Family Leporidae—Hares and Rabbits

Eastern cottontail, *Sylvilagus floridanus*. Widespread

Black-tailed Jackrabbit, *Lepus californicus*. Increasingly uncommon

White-tailed Jack Rabbit, *Lepus townsendii*. Now rare, mainly to north in Sandhills

Family Sciuridae—Squirrels

Woodchuck, *Marmota monax*. West to Buffalo County

Thirteen-lined Ground Squirrel, *Spermophilus tridecemlineatus*. Widespread

Black-tailed Prairie Dog, *Cynomys ludovicianus*. East to Hall County

Fox Squirrel, *Sciurus niger*. Widespread

Family Geomyidae—Pocket Gophers

Plains Pocket Gopher, *Geomys bursarius*. Widespread

Family Heteromyidae—Heteromysid Rodents

Plains Pocket Mouse, *Perognathus flavescens*. Widespread

Hispid Pocket Mouse, *Perognathus hispidus*. Widespread

Ord's Kangaroo Rat, *Dipodomys ordii*. Widespread

Family Castoridae—Beavers

Beaver, *Castor canadensis*. Widespread

Family Cricetidae—Native Rats and Mice

Western Harvest Mouse, *Reithrodontomys megalotis*. Widespread

Plains Harvest Mouse, *Reithrodontomys montanus*. Widespread

- White-footed Mouse, *Peromyscus leucopus*, West to Keith County
Deer Mouse, *Peromyscus maniculatus*. Widespread
Eastern Woodrat, *Neotoma floridana* Possibly in western Valley
Southern Bog Lemming, *Synaptomys cooperi*. West to Lincoln County
Northern Grasshopper Mouse, *Onychomys leucogaster*. Widespread
Hispid Cotton Rat, *Sigmodon hispidus*. Reported Kearney County
Prairie Vole, *Microtus ochrogaster*. Widespread
Meadow Vole, *Microtus pennsylvanicus*. Widespread
Muskrat, *Ondatra zibethicus*. Widespread

Famiy Muridae—Old World Rats and Mice

- House Mouse, *Mus musculus*. Introduced, statewide
Norway Rat, *Rattus norvegicus*. Introduced, statewide

Family Zapodidae—Jumping Mice

- Meadow Jumping Mouse, *Zapus hudsonicus*. Widespread

Family Erethizontidae—New World Porcupines

- Porcupine, *Erethizon dorsatum*, Western valley

Family Canidae—Coyotes and Foxes

- Coyote, *Canis latrans*. Widespread
Red Fox, *Vulpes vulpes*. Widespread
Gray Fox, *Urocyon cinereoargenteus*. Uncommon to rare, mostly in east

Family Procyonidae—Racoons and Allies

- Raccoon, *Procyon lotor*. Widespread

Family Mustelidae—Weasels, Skunks and Otters

- Long-tailed Weasel, *Mustela frenata*. Widespread
Least Weasel, *Mustela nivalis*. West to Keith County
Mink, *Mustela vision*. Widespread
Badger, *Taxidea taxus*. Widespread
Spotted Skunk, *Spilogale putorius*. Widespread but increasingly rare
Striped Skunk, *Mephitis mephitis*. Widespread
River Otter, *Lutra canadensis*. Reintroduced

Family Felidae —Cats

- Bobcat, *Lynx rufus*. Widespread
Mountain Lion, *Puma concolor*. Rare, mainly in west

Family Cervidae—Deer, Elk and Moose

- Mule Deer, *Odocoileus hemionus*. East to about Dawson County
White-tailed Deer, *Odocoileus virginianus*. Widespread
Elk, *Cervus elaphus*. Rare, Lincoln County (Wapiti Wildlif Management Area)

Family Bovidae—Cattle, Sheep and Goats

- Bison, *Bison bison*. Reintroduced in confined locations

Family Antilocapridae—Pronhorns

- Pronghorn, *Antilocapra americana*. Western valley (Keith County)

Reptiles and Amphibians of the Central Platte Valley

Species reported from Hall County are underlined. List is based primarily on Lynch (1985). A current species listing, with photos, natural history information, identification aids and range maps, can be found at <http://snrs.unl.edu/herpneb>.

Order Caudata—Salamanders

Tiger Salamander, *Ambystoma tigrinum*. Widespread

Order Anura—Frogs and Toads

Northern Cricket Frog, *Acris crepitans* West to Lincoln County; common

Great Plains Toad, *Bufo cognatus*. Widespread, fairly common

Rocky Mountain Toad, *Bufo woodhousei*. Widespread, common.

Western Gray Treefrog, *Hyla chrysocelis*. Reported from Hall County

Western Striped Chorus Frog, *Pseudacris triseriata* Widespread, common

Plains Leopard Frog, *Rana blairi*. West to Keith County

Bull Frog, *Rana catesbeiana* Widespread

Northern Leopard Frog, *Rana pipiens*. East to Lincoln County

Plains Spadefoot Toad, *Spea bombifrons*. Widespread

Order Chelonia—Turtles

Snapping Turtle, *Chelydra serpentina* Widespread

Painted Turtle, *Chrysemys picta*. Widespread

Ornate Box Turtle, *Terrapene ornata* Western valley

Blanding's Turtle, *Emydoidea blandingi*. Reported from Buffalo County

Yellow Mud Turtle, *Kinosternum flavescens*. Reported from Kearney County

Spiny Softshell, *Trionyx spiniferus*. Widespread

Order Lacertilia—Lizards

Six-lined Racerunner, *Cnemidophorus sexlineatus*. Widespread

Many-lined Skink, *Eumeces multivirgatus*. Reported from Keith County

Prairie Skink, *Eumeces septentrionalis* Eastern valley

Lesser Earless Lizard, *Holbrookia maculata* East to Kearney County

Northern Prairie Lizard, *Sceloporus undulatus*. East to Hall County

Order Serpentes—Snakes

Blue (Green) Racer, *Coluber constrictor*. Widespread.

Prairie Rattlesnake, *Crotalus viridis* East to Buffalo County

Ringneck Snake, *Diadophis punctatus* West to Buffalo County

Western Hognose Snake, *Heterodon nasicus* East to Hamilton County

Eastern Hognose Snake, *Heterodon platyrhinos*. Local in Platte Valley to Lincoln County

Milk Snake, *Lampropeltis triangulum* Widespread but local.

Coachwhip Snake, *Masticophis flagellum*. Reported Lincoln County.

Common (Northern) Watersnake, *Nerodia sipedon*. Widespread

Smooth Green Snake, *Opheodrys vernalis* Rare; reported from Lincoln County

Buillsnake, *Pituophis catenifer*. Statewide, common

Red-bellied Snake, *Stoereia occipitomaculatus* Very rare; reported from Buffalo County.

Black-headed Snake, *Tantilla nigriceps* Reported from Lincoln County.

Western Ribbon Snake, *Thamnophis proximus*. Eastern valley

Plains Gartersnake, *Thamnophis radix* Widespread, common.

Common (Red-sided) Gartersnake, *Thamnophis sirtalis* Widespread, common.

Lined Snake, *Tropicoclonion lineatum* Reported from Lincoln and Hall counties.

Native Fishes of the Central Platte Valley

Based mainly on Jones, 1963 and Johnson, 1942. Excludes introduced species
and some uncertain records. Underlined species have been reported from
Mormon Island or Shoemaker Island, Hall County

Family Lepisosteidae—Gars

Longnose Gar, *Lepidosteus osseus*. West to Kearney

Family Clupeidae—Herrings

Gizzard Shad, *Dorosoma cepedianum*. Widespread.

Family Hiodontidae—Mooneyes

Goldeye, *Hiodon alosoides*. West to Kearney

Family Esocidae—Pikes

Northern Pike, *Esox lucius*. Widespread

Family Cyprinidae—Minnows

Stoneroller, *Campostoma anomalum*. widespread

Brassy Minnow, *Hybognathus hankinsoni*. Widespread

Western Silvery Minnow, *Hybognathus argyritis*. West to North Platte

Plains Minnow, *Hybognathus placitus*. Widespread

Speckled Chub, *Hybopsis aestivalis*. West to Kearney

Sturgeon Chub, *Hybopsis gelida*. West to North Platte

Flathead Chub, *Hybopsis gracilis*. West to North Platte

Silver Chub, *Hybopsis storeriana*. West to Grand Island

Golden Shiner, *Notemigonus crysoleucus*. West to Grand Island

Emerald Shiner, *Notropis atherinoides*. West to Grand Island

River Shiner, *Notropis blennis*. West to Keith County

Bigmouth Shiner, *Notropis dorsalis*. Widespread

Red Shiner, *Notropis lutrensis*. Widespread

Sand Shiner, *Notropis stramineus*. Widespread

Suckermouth Shiner, *Phenacobius mirabilis*. Local

Creek Chub, *Semotilus atromaculatus*. Widespread

Family Catostomidae—Suckers

River Carpsucker, *Carpoides carpio*. Widespread

Quillback, *Carpoides cyprinus*. Widespread

Plains Carpsucker, *Carpoides forbesi*. Widespread

Longnose Sucker, *Catostomus catostomus*. Western Valley

White Sucker, *Catostomus commersoni*. Widespread

Bigmouth Buffalo, *Ictalurus cyprinellus*. West to Kearney

Northern (Shorthead) Redhorse, *Moxostoma macrolepidotum*. Widespread

Family Ictaluridae— Freshwater Catfish

Black Bullhead, *Ictalurus melas*. Widespread

Yellow Bullhead, *Ictalurus natalis*. West to North Platte

Channel Catfish, *Ictalurus punctatus*. Widespread

Flathead Catfish, *Pylodictus olivaria*. Local

Stonecat, *Noturus flavus*. Widespread

Family Cyprinodontidae—Killifish

Plains Topminnow, *Fundulus sciadicus*. Widespread

Plains Killifish, *Fundulus kansae*. Widespread

Family Gasterosteidae—Sticklebacks

Brook Stickleback, *Eucalais inconstans*. Local

Family Centrarchidae—Sunfishes

Green Sunfish, *Lepomis cyanellus*. Widespread

Orangespotted Sunfish, *Lepomis humilis*. Widespread

Bluegill, *Lepomis macrochirus*. Widespread

White Crappie, *Pomoxis annularis*. Widespread

Black Crappie, *Pomoxis nigromaculatus*. Widespread

Family Percidae—Perches

Iowa Darter, *Etheostoma exile*. Local.

Johnny Darter, *Etheostoma nigrum*. Local

Yellow Perch, *Perca flavescens*. Widespread

Walleye, *Stizostedion vitreum*. Widespread

Family Sciaenidae

Freshwater Drum, *Aplodinotus grunniens*. West to Keith County

Butterflies of the Central Platte Valley

Widespread and very common species are underlined. Species with asterisks were illustrated by Heitzman & Heitzman (1987); those with # symbols were illustrated by Marrone (2002). Plate ("Pl.") numbers refer to Opler & Wright, *A Field Guide to Western Butterflies* (1999). Page ("P.") numbers refer to *Butterflies of North America* (Brock & Kaufman, 2004), perhaps the best of the butterfly field guides for Nebraska. Total numbers of each major group reported for Nebraska are shown parenthetically. A complete Nebraska species list, with range maps and color photographs of the state's known butterflies can be found at:

<http://www.npwrc.usgs.gov/resource/distr/liped/bflyusa/ne/toc.htm>

Family Papilionidae-Swallowtails (extended "swallow" tips on hindwings) (15 spp.)

Eastern Black Swallowtail. *Papilio polyxenes asterius*. Probably throughout valley. *# Pl. 3; P. 38
Giant Swallowtail. *Heraclides cresphontes*. Scattered records through valley. *# Pl. 4; P. 38
Anise Swallowtail. *Papilio zelicaon*. Reported for Keith County. # Pl. 3; P. 30
Eastern Tiger Swallowtail. *Pterourus glaucus*. Widespread through valley. *# Pl. 5; P. 20
Two-tailed Swallowtail. *Pterourus multicaudatus*. Reported west from Buffalo Co. # Pl. 6; P. 22
Spicebush Swallowtail. *Pterourus troilus*. Reported for Adams County.* -; P. 26

Family Pieridae-Sulphurs, Orange Tips and Whites mostly yellow, white or orange, plus black patterning) (28 spp.)

Whites (mostly white, with black spotting)

Checkered White. *Pontia protodice*. Widespread throughout valley. *# Pl. 7; P. 48
Cabbage White. *Pieris rapae*. Widespread throughout valley. *# Pl. 8; P. 46
Olympia Marble. *Euchloe olympia*. Extends throughout valley. *# Pl. 9; P. 56

Sulfurs (mostly yellow to orange with black spotting)

Clouded Sulfur. *Colias philodice*. Widespread throughout valley. *# Pl. 10; P. 60
Orange Sulphur (Alfalfa Butterfly). *Colias eurytheme*. Widespread through valley. *# Pl. 10; P. 60
Southern Dogface *Zerena cesonia*. Probably extends throughout valley. *# Pl. 12; P. 68.
Cloudless Giant Sulfur. *Phoebis sennae*. Probably throughout valley. *# Pl. 12; P. 74
Mexican Yellow. *Eurema mexicanum*. Scattered records throughout valley. *# Pl. 13; P. 72
Little Yellow. *Eurema lisa*. Reported west to Gosper County. *# Pl. 13; P. 70
Sleepy Orange. *Eurema nicippe*. Scattered records throughout valley. *# Pl. 13; P. 68
Dwarf Yellow (Dainty Sulfur). *Nathalis iole*. Widespread through valley. *# Pl. 13; P. 70

Family Lycaenidae-Blues, Coppers and Hairstreaks (mostly coppery or clear blue) 35 spp.)

Coppers (mostly coppery-colored)

American Copper. *Lycaena phlaeas*. Extends throughout entire valley. * Pl. 14; P. 80
Bronze Copper. *Hyl洛lycaena hyllus*. Widespread throughout valley. *# Pl. 14; P. 88
Ruddy Copper. *Chalceria rubida*. Records for Lincoln and Keith counties. # Pl. 14; P. 86
Purplish Copper. *Epidemia heliooides*. Recorded Lincoln & Keith counties. *# Pl. 15; P. 84

Hairstreaks (mostly with fine hair-like tails on hindwings, brown to blue)

Coral Hairstreak. *Harkenclenus titus*. Records for Dawson and Buffalo counties. *# Pl. 16; P. 98
Acadian Hairstreak. *Satyrium acadicum*. Extends throughout valley. *# Pl. 16; P. 98
Banded Hairstreak. *Satyrium calanus*. Reported for Buffalo County. *# Pl. 16; P. 94.
Striped Hairstreak *Satyrium liparops*. Records for central and upper valley. *# Pl. 16; P. 94
Juniper Hairstreak. *Mitoura siva*. Reported for entire valley. # Pl. 17; P. 110
Gray Hairstreak. *Strymon melinus*. Widespread throughout valley. *# Pl. 18; P. 92

Blues (small, males mostly sky-blue, females brown)

Western Tailed-blue. *Brephidium exilis*. Recorded Adams County.* Pl. 19; P. 126
Marine Blue. *Leptotes marina*. Reported throughout valley. *# Pl. 19; P. 126
Reakirt's Blue. *Hemiargus isola*. Widespread throughout valley. *# Pl. 19; P. 128
Eastern Tailed-blue. *Everes comyntas*. Widespread throughout valley. *# Pl. 19; P. 124
Spring Azure. *Celastrina argiolus*. Widespread throughout valley. *# Pl. 19; P. 130

Summer Azure. *Celeastrin ladon a neglecta*. Reported throughout valley. # Pl. 19; P. 130
Silvery Blue. *Glaucopsyche lygdamus*. Reported Lincoln & Dawson counties.* Pl. 20; P. 124
Melissa Blue. *Lycaeides melissa*. Extends throughout valley.# Pl. 20; P. 134
Lupine Blue. *Plebeius lupini*. Reported for Keith, Lincoln & Dawson counties. Pl. 21; P. 132

Family Libytheidae-Snout Butterflies (mouthparts extended into a long “snout”)(1 sp.)
American Snout Butterfly. *Lybytheana bachmanii*. Scattered records.*# Pl. 22; P. 222

Family Nymphalidae-Brush-footed Butterflies (forelegs reduced & non-functional) 53 spp)

Heliconians and Fritillaries (mostly orange-brown,, often silvery below)
Zebra Butterfly. *Heliconius charitonius*. Reported Keith & Phelps counties.* Pl. 23; P. 154
Gulf Fritillary. *Agraulis vanillae*. Reported for Buffalo & Phelps counties.*# Pl. 23; P. 156
Variegated Fritillary. *Euptoieta claudia*. Widespread throughout valley.*# Pl. 23; P. 156
Great Spangled Fritillary. *Speyaria cybele*. Widespread throughout valley.*# Pl. 23; P. 158
Aphrodite Fritillary. *Speyaria aphrodite*. Reported for Buffalo & Keith counties. Pl. 23; P. 166
Regal Fritillary. *Speyaria idalia*. Widespread throughout valley.*# Pl. 23; P. 158
Silver-bordered Fritillary. *Clossinia selene*. Scattered records throughout valley.* Pl. 25; P. 170

True Brush-foots (Crescents, Angle-wings & Relatives)

Bordered Patch. *Chlosyne assinia*. Reported for Dawson and Phelps counties. Pl. 26; P. 188
Gorgone Checkerspot. *Chlorosyne gorgone*. Widespread through valley. # Pl. 127; P. 184
Silvery Checkerspot. *Chlorosyne nycteis*. Reported for Buffalo & Hamilton counties.# Pl. 27; P. 184
Fulvia Checkerspot. *Thessalia fulvia*. Scattered records. Pl. 26; P. 190
Texan Crescent. *Phycoides texana*, Reported for Lincoln and Buffalo counties.# Pl. 27; P. 182
Pearl Crescent. *Phycoides tharos*. Widespread throughout valley.*# Pl. 28; P. 176
Painted Crescent. *Phycoides pictus*. Reported for Lincoln County. Pl. 28; P. 180
Phaon Crescent. *Phycoides phaon*. Reported for Dawson County.* Pl. 28; P. 180
Mylitta Crescent. *Phycoides mylitta*. Reported for Buffalo County. Pl. 28; P. 178
Question Mark. *Polygonia interrogationis*. Widespread throughout valley.*# Pl. 29; P. 196
Eastern Comma (Hop Merchant). *Polygonia comma*. Reported throughout valley.*# Pl. 28; P. 196
Gray Comma. *Polygonia progne*. Reported for Hall and Clay counties.*# Pl. 28; P. 198.
Compton Tortoiseshell. *Nymphalis vau-albrum*. Reported for Adams County.*# Pl. 29; P.
Mourning Cloak. *Nymphalis antiopa*. Widespread throughout valley.*# Pl. 29; P. 202
Milbert's Tortoiseshell. *Aglais milberti*. Reported for Keith County.*# Pl. 29; P. 200
American Lady *Vanessa virginiensis*. Widespread throughout valley.*# Pl. 29; P. 204
Painted Lady. *Vanessa cardui*. Widespread throughout valley.*# Pl. 29; P. 204
West Coast Lady. *Vanessa annabella*. Reported for Keith and Lincoln counties.# Pl. 29; P. 204
Red Admiral. *Vanessa atalanta*. Widespread throughout valley.*# Pl. 29; P. 202
Common Buckeye. *Junonia coenia*. Widespread throughout valley.*# Pl. 30; P. 206

Admirals, Viceroy and Relatives

Red-spotted Purple. *Basilarchia arthemis astyanax*. Reported throughout valley.*# Pl. 30; P. 210
Viceroy. *Basilarchia archippus*. Widespread throughout valley.*# Pl. 30; P. 210
Weidemeyer's Admiral. *Basilarchia weidemeyerii*. Recorded for Keith County.# Pl. 30; P. 212
Common Mestra. *Mestra amymone*. Reported for Buffalo County.* Pl. 31; P. 214

Family Apaturidae—Leafwings & Emperors (usually with leaf-like underwings) (4 spp.)

Leafwings
Goatweed Leafwing. *Anaea andria*. Recorded for Buffalo, Hall & Adams counties.*# Pl. 31; P. 220
Emperors
Hackberry Emperor. *Asterocampa celtis*. Reported throughout valley*# Pl. 31; P. 222
Tawny Emperor. *Asterocampa clyton*. Reported for Buffalo County.* Pl. 31; P. 222

Family Satyridae –Browns, Satyrs and Wood Nymphs (most brown, with large eyespots)(9 spp.)
Northern Pearly Eye. *Enodia anthedon*. Reported Buffalo, Hall & Adams counties.*# Pl. 32; P. 238
Eyed Brown. *Satyrodes eurydice*. Scattered records throughout valley.*# Pl. 32; P.238

Little Wood-satyr. *Megisto cymela*. Widespread throughout valley.*# Pl. 32; P. 230
Large (Common) Wood-nymph. *Cercyonis pegala*. Widespread through valley.*# Pl. 32; P. 236

Family Danaidae –Queens and Monarchs (large, colorful, often poisonous) (2 spp.)

Monarch. *Danaus plexippis*. Widespread throughout valley.*# Pl. 34; P. 226

Queen. *Danaus gilippis*. Reported for Keith, Buffalo and Clay counties.* Pl. 34; P. 228

Family Hesperiidae-Skippers (recurved antenna tips; rapid “skipping” flight) (58 spp.)

Spread-wing Skippers (larvae feed on herbs, adults 1-2.5” long)

Silver-spotted Skipper. *Epargyreus clarus*. Widespread throughout valley.*# Pl. 35; P. 256

Northern Cloudywing. *Thorybes pylades*. Scattered records throughout valley.*# Pl. 36; P. 260

Hayhurst’s Scallopwing. *Staphylus hayhurstii*. Reported Dawson County.* Pl. 36; P. 296

Horace’s Duskywing. *Erynnis horatius*. Reported for Buffalo County.*# Pl. 38; P. 280

Wild Indigo Duskywing *Erynnis baptisiae*. Scattered records across valley.* Pl. 38; P. 286

Common Checkered-skipper. *Pyrgus communis*. Widespread throughout valley.*# Pl. 39; P. 288.

Common Sootywing. *Pholisora catulls*. Widespread throughout valley.*# Pl. 39; P. 298

Grass Skippers (larvae feed on grass, adults 0.7-1.2” long)

Least Skipper. *Ancyloxypha numitor*. Extends throughout valley.*# -; P. 304

Fiery Skipper *Hylephila phyleus*. Reported Buffalo, Kearney, Hall & Clay counties.*# Pl. 40; P. 302

Juba Skipper. *Hesperia juba*. Reported for Lincoln County.# Pl. 40; P. 312

Uncas Skipper. *Hesperia uncas*. Reported for Keith and Dawson counties.# Pl. 40; P. 320

Ottoe Skipper. *Hesperia ottoe*. Scattered records throughout valley.# Pl. 41; P. 318

Leonard’s (Pawnee) Skipper. *Hesperia leonardus pawnee*. Scattered records.* Pl. 41; P. 316

Peck’s (Yellowpatch)Skipper. *Polites peckius*. Scattered records throughout valley. Pl. 41; P. 322

Tawny-edged Skipper. *Polites themistocles*. Widespread throughout valley.# Pl. 41; P. 324

Crossline Skipper. *Polites origenes*. Scattered records throughout valley.# Pl. 41; P. 324

Long Dash. *Polites mystic*. Recorded for Keith, Lincoln and Buffalo counties.# Pl. 41; P. 322

Northern Broken-dash. *Wallengrenia egeremeti*. Recorded Dawson & Hall counties*# Pl. 41; P. 326

Sachem. *Atalopedes campestris*. Widespread throughout valley.* Pl. 42; P. 302

Arogos (Beard-grass) Skipper. *Atrytone arogos*. Scattered records throughvalley.*# Pl. 42; P. 326

Delaware Skipper. *Atrytone logan*. Widespread throughout valley.*# Pl. 42; P. 336

Hobomok Skipper. *Poanes hobomok*. Scattered records throughout valley.*# Pl. 42; P. 330

Broad-winged Skipper. *Poanes viator*. Reported for Lincoln and Buffalo counties.*# -; P.336

Zabulon Skipper. *Poanes zabula*. Reported for Buffalo County.*# Pl. 42; P.330

Two-spotted Skipper. *Euphyes bimacula*. Reported Lincoln, Buffalo & Hall counties.# Pl. 42; P. 332

Dun Skipper. *Euphyes vestris*. Extends throughout valley.# Pl. 42; P. 326

Dion Skipper. *Euphyes dion*. Reported for Buffalo County.*# -; P. 334

Dusted Skipper. *Artytonopsis hianna*. Reported for Keith & Dawson counties.*# Pl. 42; P. 338

Oslar’s Roadside-skipper. *Amblyscirtes oslari*. Reported Lincoln & Dawson counties.# Pl. 43; P. 346

Common Roadside-skipper. *Amblyscrites vialis*. Reported Buffalo, Dawson, Phelps & Kearney counties.*# Pl. 43; P. 341

Eufala Skipper. *Lerodea eufala*. Reported Dawson, Buffalo, Hall & Kearney counties.*# Pl. 43; P. 352

Giant Skippers (2.5” long, larvae feed on yuccas)

Strecker’s Giant-skipper. *Megathymus streckeri*. Reported Keith & Dawson counties.# Pl. 44; P. 358

Common Dragonflies (Odonata) of the Platte Valley

Regional species status is based in part on C.F. Keech, "The Odonata of Nebraska." M.S. thesis, Univ. of Nebraska, Lincoln (1934), on helpful comments by Janis Paseka, and on Dunkle (2000), who has illustrated all these species. A checklist of all Nebraska's Odonata species, prepared by R. J. Beckemeyer, can be found at: <http://www.windsofkansas.com/Bodonata/odonata.html>. Another useful dragonfly web site is: <http://www2.ups.edu/biology/museum/NAdragons.html>

Family Aeshnidae — Darners (large, to 4" long, strong fliers)

Green Darners

Common Green Darner. *Anax junius*. Widely distributed on ponds, sometimes streams.

Blue Darners

Blue-eyed Darner. *Aeshna multicolor*. Throughout valley, slow streams.

Lance-tipped Darner. *Aeshna constricta*. Marshy ponds and slow streams.

Shadow Darner. *Aeshna umbrosa*. Throughout valley, wooded streams.

Variable Darner. *Aeshna interrupta lineata*. Throughout valley,, marshy ponds & slow streams.

Family Gomphidae — Clubtails (tip of abdomen enlarged, eyes well separated)

Brimstone Clubtail. *Stylurus intricatus*. Throughout valley, slow rivers in open country.

Common Sanddragon. *Progomphus obscurus*. Throughout valley, sandy streams.

Jade Clubtail. *Arigomphus submedianus*. Fairly common on permanent ponds, sloughs and lakes.

Plains Clubtail. *Gomphus externus*. Throughout valley, especially east, rivers and streams.

Family Cordulidae (Cordulinae) — Emeralds & Baskettails (emerald-green eyes, dark bodies)

Common Baskettail. *Epitheca cynosura*. Mainly eastern valley, diverse wetlands.

Prince Baskettail. *Epitheca princeps*. Mainly eastern valley, slow streams.

Stripe-winged Baskettail. *Epitheca costalis*.Throughout valley, pools, ponds & lakes.

Family Libellulidae — Skimmers (wings often patterned, skim low over water)

Typical Skimmers (Whitetails, White-faces, Pondhawks & Gliders)

Blue Dasher. *Pachidiplax longipennis*. Throughout valley, still-water wetlands.

Common Whitetail. *Platemis lydia*. Very common throughout valley, diverse wetlands

Dot-tailed White-face. *Leucorhinia intacta*. Throughout valley, ponds, lakes, slow streams.

Eastern Amberwing. *Perithemis tenera*. Mainly eastern valley, permanent wetlands.

Eastern Pondhawk. *Erythemis simplicicollis*. Very common throughout valley, quiet waters.

Four-spotted Skimmer. *Libellula quadrimaculata*. Reported Lincoln County, marshy wetlands .

Halloween Pennant. *Celithemis eponina*. Widespread throughout valley, diverse wetlands.

Spot-winged Glider. *Pantala hymenaea*. Throughout valley temporary wetlands.

Twelve-spotted Skimmer. *Libellula pulchella*. Common throughout entire valley, diverse wetlands.

Wandering Glider. *Pantala flavescens*. Throughout valley, temporary wetlands.

Widow Skimmer *Libellula luctuosa*. Abundant throughout valley, diverse wetlands.

Meadowhawks (red-bodied dragonflies; present only in autumn)

Autumn (Yellow-legged) Meadowhawk. *Sympetrum vicinum*. Throughout valley, diverse wetlands.

Cherry-faced Meadowhawk. *Sympetrum internum*. Probably throughout valley, still waters.

Ruby Meadowhawk. *Sympetrum rubicundulum*. More common eastwardly, temporary wetlands.
shallow wetlands.

Saffron-winged Meadowhawk. *Sympetrum costiferum*. Throughout Nebraska, temporary wetlands.

Variegated Meadowhawk. *Sympetrum corruptum*. Common throughout valley, still waters..

Western (Band-winged) Meadowhawk. *Sympetrum (occidentalis) semicinctum*. Throughout valley,
White-faced Meadowhawk. *Sympetrum obtrusum*. Widespread; diverse wetlands.

Yellow-legged (Autumn) Meadowhawk, *Sympetrum vicinum*. Throughout valley, diverse wetlands.

Saddlebags or Raggedy Skimmers

Black Saddlebags. *Tramea lacerata*. Common throughout entire valley, diverse wetlands.

Red Saddlebags *Tramea onusta*. Uncommon throughout valley, diverse wetlands.

COMMON DAMSELFLIES OF CENTRAL NEBRASKA

Page references refer to Nikula, Sones, Stokes & Stokes, 2002

Broad-winged Damselflies: Broad wings, often black, iridescent bodies

Calopteryx – Black-wings: wings black or partly black, body green

Calopteryx maculata. Black-winged damselfly. Wings wholly black. Common throughout, in streams.

Hetaerina – Ruby-spots: Wings red at base, otherwise clear or smoky gray

Hetaerina americana. American ruby spot. Common throughout; wings clear except for red base; streams. P. 44

Spread-winged Damselflies: Clear wings, held partly spread when perched

Lestes - Spread-wings: Wings clear with black stigma

Lestes congener. Spotted spread-wing Thorax black. Throughout state, abundant in ponds. P. 49

Lestes disjunctus. Common spread-wing. Thorax gray to black, white below, Abundant & widespread. P. 46

Lestes unguiculatus. Lyre-tipped spread-wing. Widespread in state, small ponds and sloughs.

Narrow-winged Damselflies: Clear wings, often blue, green, red or orange, very common

Red damselflies: Body bright red

Amphiagrion abbreviatum. Western red damsel. Thorax & abdomen bright red, eyes black above, brown below. Western Nebraska; marshes & sloughs. P. 76

Amphiagrion saucium. Eastern red damsel. Eastern Nebraska, ponds & bogs. P. 76

Dancer damselflies: Have distinctive bouncy flight, colors very varied; females usually brownish or blue

Argia alberta. Piute dancer. Reported from central Nebraska; creeks and springs.

Argia apicallis. Blue-fronted dancer. Thorax blue, with black shoulder stripes. Central Nebraska; rivers & small streams. P. 68

Argia emma. Emma's dancer. Male violet colored. Central Nebraska, slow and rapid streams. P. 66

Argia fumipennis. Variable dancer. Reported from state; lakes and ponds.

Argia moesta. Powdered dancer. Central Nebraska, rocky streams and lakes. Male mostly chalky white; female brown or blue. P. 69

Argia plana. Springwater dancer. Male blue with black triangles on abdomen. Reported from state. Spring-fed seeps. P. 66

Argia sedula. Blue-ringed dancer. Male blue & black, the abdomen with narrow blue rings. Central Nebraska; lakes and gentle streams. P. 67

Argia tibialis. Blue-tipped dancer. Reported from south-central Nebraska, mainly cold streams.

Argia vivida. Vivid dancer. Very similar to Springwater dancer. Spring-fed streams. P. 66

Bluets: Males mostly blue and black, sometimes with red, orange, yellow or lavender

Coenagrion resolutum. Tiaga bluet. Thorax blue-green, abdomen banded blue & black. P. 61

Enallagma antennatum. Rainbow bluet. Central Nebraska; slow streams and lakes.

Enallagma basidens. Double-striped bluet. Central Nebraska; ponds.

Enallagma exsulans. Stream bluet. Like last with abdomen mostly black. Rivers and larger streams. P. 59

Enallagma hageni. Hagen's bluet. Blue & black thorax & abdomen. Widespread; ponds, marshes and bogs. P. 57

Enallagma signatum. Orange bluet. Orange and black. Reported from state; slow streams and lakes. P. 62

Other species reported from Nebraska are: River bluet (*Enallagma anna*), Azure bluet (*Enallagma aspersum*), Double-striped bluet (*Enallagma basidens*), Tule bluet (*Enallagma carunculatum*), Familiar bluet (*Enallagma civile*), Alkali bluet (*Enallagma clausum*), Northern bluet (*Enallagma cyathigerum*), Skimming bluet (*Enallagma geminatum*) & Arroyo bluet (*Enallagma praeveratum*).

Forktails: Highly variable in color

Ishnura damula. Plains forktail. Abdomen almost entirely black, thorax with 4 blue spots; ponds. P. 73

Ishnura perparva. Western forktail. Nearly identical to next sp.; ponds and slow streams. P. 70

Ischnura verticalis. Eastern forktail. Male blue & black; female powdery gray; ponds & slow streams. P. 70

Sedge sprite. *Nehalennia irene*. Reported from state; in grassy marshes and fens. P. 78

Common Grasshoppers, Katydids & Crickets of East-central Nebraska

This list is based mainly on Hagen & Rabe (1991), and excludes rarer species.

= Species illustrated and described by Otte (1981) or (1984)##

* = Species illustrated and described by Phadt (1994)

@ = Species described and illustrated by Capinera *et al* (2004).

GRASSHOPPERS (Family Acrididae). Grasshoppers have short antennae, hind legs adapted for jumping, and sound-stridulation by males is common.

Slant-faced Grasshoppers (face slants back from the vertical, short wings, most species stridulate)
Big-headed Grasshopper. *Aulocara eliotti*. West and central Nebraska, shortgrass prairies, common. *#@
Handsome Grasshopper. *Syrbula admirabilis*. Mainly eastern Nebraska, dry uplands. #@
Lively Mermiria Grasshopper. *Mermiria picta*. Widespread, in tall grasses.*@
Meadow Grasshopper. *Chorthippus curtipennis*. Widespread; in tall, moist grasses.*#@
Obscure Grasshopper. *Opeia obscura*. Widespread across state, in shortgrass prairies.*#@
Pasture Grasshopper. *Orphulella speciosa*. Widespread, short to medium grassy areas. #@
Short-winged Green Grasshopper. *Dicromorpha viridis*. Widespread, in varied grassy areas. #@
Short-winged Toothpick Grasshopper. *Pseudopomela brachyptera*. Widespread, in taller prairies. #@
Spotted-wing Grasshopper. *Orphulella pelidna*. Widespread across state, many habitats. #@
Two-striped Slant-faced Grasshopper. *Mermiria bivittata* Widespread, in taller grasses. *#@
Velvet-striped Grasshopper. *Eritetrix amplex*. Widespread, in all grassy areas.*@

Band-winged Grasshoppers (hind wings are barred and often colorful; wings produce noise in flight)
Autumn Yellow-winged Grasshopper. *Arphia xanthoptera*. Eastern, grassy fields, woodland edges.##@
Blue-legged Grasshopper. *Metator pardulinus*. Widespread, in many grassy habitats. @ *##
Dusky Grasshopper. *Encoptolophus costalis*. Widespread, in prairies and open grassland. *##@
Haldeman's Grasshopper *Paradalophora haldemani*. Mainly western, weedy or sandy prairie.##
Kiowa Grasshopper. *Trachyrhachys kiowa*. Widespread, on bare gravelly ground. *##@
Northern Green-striped Grasshopper. *Chortophaga viridifasciata*. Widespread, in shorter grasses. *##@
Northwestern Red-winged Grasshopper. *Arphia pseudonietana*. Widespread; prairies, tall grasses.##@
Roadside Grasshopper. *Dissosteira carolina*. Widespread and common, on open roadsides.##*@
Sprinkled Broad-winged Grasshopper, *Chloealtis conspersa*. Widespread, dry upland woods.##@
Wrinkled Grasshopper. *Hippiscus oceolote*. Widespread, in pastures and weedy prairies.##@

Spur-throated Grasshoppers (a spur is present between the front legs, no stridulation or noisy flight)
Cudweed Grasshopper. *Hypochlora alba*. Widespread; mainly west and central, on cudweed sage. *@
Dawson's Spur-throated Grasshopper. *Melanoplus dawsoni*. Widespread, many habitats.*@
Differential Grasshopper. *Melanoplus differentialis*. Widespread and common, in lush vegetation*@
Keeler's Grasshopper. *Melanoplus keeleri*. Widespread, dry pastures & open woods.*@
Large-headed Grasshopper. *Phoetaliotes nebrascensis*. Widespread throughout state, taller grasses. * @
Meadow Purple-striped Grasshopper. *Hesperotettix viridis*. West and central, grasslands.*@
Migratory Grasshopper. *Melanoplus sanguinipes*. Widespread throughout entire state, irruptive.*@
Narrow-winged Spur-throated Grasshopper. *Melanoplus augustipennis*. Widespread, sandy areas.*@
Little Pasture Spur-throated Grasshopper *Melanoplus confusus*. Widespread, many habitats. * @
Red-legged Grasshopper. *Melanoplus femur-rubrum*. Widespread and very common, thick vegetation.* @
Two-striped Grasshopper. *Melanoplus bivittatus*. Widespread and very common, in tall grasses. * @
Western Green-grass Grasshopper. *Hesperotettix speciosus*. Common throughout state, weedy areas. @

Lubber Grasshoppers (heavy-bodied grasshoppers with short wings; flightless, males may stridulate)
Plains Lubber. *Brachystola magna*. Mainly west and central Nebraska, drier grasslands.*@

KATYDIDS (Family Tettigidae)

Katydid have very long antennae, the female's ovipositor is long & blade-like, and song-stridulation is highly developed. Species list based on Capinera *et al.* (2004), and excludes a few marginal Nebraska species. Species illustrated by him are indicated by @ symbol.

True Katydids (forewings broad, ballooned out & leaf-like, antennae stiff)
Common True Katydid. *Pterophylla camellifolia*. Eastern Nebraska; arboreal, in tree crowns. @

False Katydids (hindwings longer than forewings, wings variably leaf-like)
Fork-tailed Bush Katydid. *Scudderia furcata*. Throughout state, old field & roadsides.
Oblong-winged Katydid. *Amblycorypha oblongifolia*. East & central Nebraska, forest understory. @
Texas Bush Katydid. *Scudderia texensis*. Throughout state, old field & roadsides. @

Cone-headed Katydids (head lengthened into a cone shape, usually very long wings and antennae)
Nebraska Conehead. *Neoconocephalus nebrascensis*. Eastern Nebraska, wet grassy areas. @
Robust Conehead. *Neoconocephalus robustus*. Throughout state, moist upland prairies. @
Round-tipped Conehead. *Neoconocephalus retusus*. Southeastern Nebraska, grassy or weedy areas. @
Sword-bearing Conehead. *Neoconocephalus ensiger*. Throughout state, wet grassy areas. @

Meadow Katydids (forewings narrow, not ballooned out as in true katydids, very long antennae)
Common Meadow Katydid. *Orchelimum vulgare*. Throughout, abundant in pastures & fields. @
Gladiator Meadow Katydid. *Orchelimum gladiator*. Throughout state, in meadows.
Long-spurred Meadow Katydid. *Orchelimum silvaticum*. Throughout, in deciduous trees. @
Slender Meadow Katydid. *Conocephalus fasciatus*. Throughout, common in many habitats. @
Straight-lanced Meadow Katydid. *Conocephalus strictus*. Throughout, in dry grasslands. @

Predaceous Katydids (forewings reduced and hidden by dorsal shield, rather short antennae)
Haldeman's Shieldback. *Pediocetes haldemanni*. Throughout state, in many habitats. @
Mormon Cricket. *Anabrus simplex*. Throughout state, in scanty vegetation. @

CRICKETS (Family Gryllidae)

Crickets have long antennae, the female's ovipositor is usually needle-like, and song-stridulation is highly developed. Species list based on Capinera *et al.* (2004), and excludes a few marginal Nebraska species. Species illustrated by him are indicated by @ symbol.

Field Crickets (typical crickets, including house crickets)
Fall Field Cricket. *Gryllus pennsylvanicus*. Throughout state, in grassy fields.
House Cricket. *Acheta domesticus*. Throughout state, around humans.
Spring Field Cricket. *Gryllus veletes*. Eastern Nebraska, grassy fields.

Ground Crickets (small species closely resembling field crickets, but less than 13 mm. long)
Allard's Ground Cricket. *Allonemobius allardi*. Throughout state, in grassy areas.
Striped Ground Cricket. *Allonemobius fasciatus*. Throughout state, in grassy areas.

Tree Crickets (pale green & delicate-bodied crickets, semiarboreal or arboreal)
Broad-winged Tree Cricket. *Oecanthus latipennis*. Eastern Nebraska, forest edges and shrubs. @
Four-spotted Tree Cricket. *Oecanthus quadripunctatus*. Throughout, on herbaceous plants. @
Narrow-winged Tree Cricket. *Oecanthus niveus*. Eastern Nebraska, in forest edges and shrubs.
Snowy Tree Cricket. *Oecanthus fultoni*. Throughout state, in forest edges and shrubs. @

Mole Crickets (forelegs modified for digging, heavy dorsal shield present)
Northern Mole Cricket. *Neocurtilla hexadactyla*. East and central, edges of wetlands. @

Native Trees, Shrubs and Woody Vines of the Central Platte Valley

Nebraska trees were described by Pool (1951) and by Kuhns & Mooter (1992). The shrubs were described by Stubbendieck *et al.* (1989). Species reported by Nagel and Kolstad (1987) from Crane Meadows (Hall County) or Rowe Sanctuary (Buffalo County) are shown with asterisks. Species reported for Keith County by Sutherland and Rolfsmeier (1989) are indicated by # symbols. Listed alphabetically by families, genera and species.

Trees

Aceraceae-Maple Family

Box elder. *Acer negundo*. Entire valley; floodplains.*#

Silver maple. *Acer saccharinum*. Eastern valley; floodplains.*, #(planted)

Caesalpiniaceae-Senna Family

Honey locust. *Gleditsia triacanthos*. Eastern valley; floodplains.*,#(planted)

Cupressaceae- Cedar Family

Creeping juniper. *Juniperus horizontalis*. Rare in western valley (Keith County); dry uplands.#

Western red cedar (Rocky mountain juniper). *Juniperus scopulorum*. Hybrids with *virginiana* have been reported for Keith County; uplands.#

Eastern red cedar (Red juniper). *Juniperus virginiana*. Entire valley; uplands.*#

Fagaceae-Oak Family

Bur oak. *Quercus macrocarpa*. Eastern valley; uplands.

Juglandaceae-Walnut Family

Black walnut. *Juglans nigra*. Eastern valley; floodplains.#(planted)

Moraceae-Mulberry Family

Red mulberry. *Morus rubra*. Eastern valley.*

Oleaceae-Ash Family

Green ash. *Fraxinus pennsylvanica*. Entire valley; floodplains.*#

Rosaceae-Plum Family

Hawthorn. *Crataegus* spp. Eastern valley; uplands.

Wild plum. *Prunus americana*. Entire valley; uplands.*#

Sand cherry. *Prunus pumila*. Western valley, sandy prairie.#

Eastern chokecherry. *Prunus virginiana*. Entire valley; floodplains.#

Prairie apple. *Pyrus iowensis*. Eastern valley; floodplains.

Salicaceae-Willow Family

Cottonwood. *Populus deltoides*. Entire valley; floodplains.*#

Peach-leaved willow. *Salix amygdaloides*. Entire valley; riparian.#

Sand-bar willow. *Salix interior*. Entire valley, riparian sites.#

Black willow. *Salix nigra*. Entire valley; riparian.

Ulmaceae-Elm Family

Hackberry. *Celtis occidentalis*. Entire valley; floodplains.*#

White (American) elm. *Ulmus americana*. Entire valley, floodplains*#

Red (Slippery) elm. *Ulmus rubra*. Eastern valley; floodplains.

Shrubs and Woody Vines

Anacardiaceae-Cashew Family

Aromatic sumac *Rhus aromatica*. Central and western valley; uplands.#

Smooth sumac. *Rhus glabra*. Eastern valley; uplands.*

Poison ivy. *Toxicodendron radicans*. & *T. rydbergii*. Widespread; woods, woodland edge.*#

Caprifoliaceae-Honeysuckle Family

Elderberry. *Sambucus canadensis*. Entire valley; woods.*#

Western snowberry. *Symphoricarpos occidentalis*. Central and western valley; uplands.*#

Celastraceae-Staff-tree Family

Climbing bittersweet. *Celastrus scandens*. Entire valley; woods.*#

Wahoo. *Euonymus atropurpureus*. Eastern valley; uplands.

Cornaceae-Dogwood Family

Pale (Silky) dogwood. *Cornus amomum*. Eastern valley; floodplains.

Rough-leaved dogwood. *Cornus drummondii*. Eastern valley; floodplains.*

Red osier dogwood. *Cornus stolonifera*. Entire valley, riparian.*

Elaeagnaceae-Russian Olive Family

Buffaloberry. *Shepherdia argentea*. Central and western valley.*#.

Fabaceae-Bean Family

Leadplant. *Amorpha canescens*. Entire valley, native prairies, uplands.#

False indigo. *Amorpha fruticosa*. Entire valley; uplands.#

Shrubby (Bushy) cinquefoil. *Potentilla paradoxa*. Local, uplands.

Liliaceae-Lily Family

Bristly greenbrier. *Smilax hispida*. Eastern valley; woods.

Rhamnaceae-Buckthorn Family

Lance-leaved buckthorn. *Rhamnus lanceolata*. Eastern valley; uplands.

Rosaceae-Rose Family

Prairie wild rose. *Rosa arkansana*. Eastern valley, woodland edges.#

Western wild rose. *Rosa woodsi*. Western valley; uplands.#

Black raspberry. *Rubus occidentalis*. Eastern valley, riparian.*

Rutaceae-Rue Family

Prickly ash. *Zanthoxylum americanum*. Eastern valley; woods.*

Salicaceae-Willow Family

Coyote willow. *Salix exigua*. Entire valley, riparian areas.*#

Shining willow.. *Salix lutea*. Local in western valley.#

Diamond willow. *Salix rigida*. Entire valley, riparian areas.*#

Saxfraginaceae-Saxifrage Family

Missouri gooseberry. *Ribes missouriensis*. Eastern valley, moist woods.

Buffalo current. *Ribes odoratum*. Western valley; woodlands.

Vitaceae-Grape Family

Woodbine. *Parthenocissus vitacea*. Eastern valley; woods.*, #

River-bank grape *Vitis riparia*. Entire valley; riparian.#

Forbs (Broad-leaved Herbs) of the Central Platte Valley

From various sources, including Stubbendieck *et. al.* (1995; 1999). Field identification guides covering many forb species include those of Johnson & Larson (1999, with 289 species), Larson & Johnson (1999, with 600 species) and Haddock (2005, with 323 species). These guides include some common grasses and sedges as well as forbs, and the Johnson/Larson guides additionally include shrubs and trees. Over 250 species of Nebraska weeds were described and illustrated by Stubbendieck *et. al.* (1995). In the following list the plants are organized alphabetically by families, then by generic and specific names. A comparison of the vegetation of Crane Meadows (Hall County) and Lydia Rowe Sanctuary (Buffalo County) was provided by Nagel & Kolstad (1987), totaling 367 species. Species on the following list that were reported by them are shown with asterisks. Those on the list of 599 taxa reported for Keith County by Sutherland & Rolfsmeier (1989) are indicated by # symbols.

Amaranthaceae – Pigweed Family (17 species in Nebraska)

Redroot (Rough) pigweed. *Amaranthus retroflexus*. Disturbed soils, weedy.*#
Field snakecotton. *Froelichia floridana*. Sand dunes, rocky open woods.#

Anacardiaceae – Cashew Family (5 species in Nebraska)

Poison ivy. *Toxicodendron (Rhus) spp.* Entire valley, in prairies, open woods.*#

Apiaceae – Parsley Family (= Umbelliferae) (31 species in Nebraska)

Spotted waterhemlock. *Cicuta maculata*. Entire valley, near streams.*#

Queen Ann's lace. *Daucus carota*. Weedy, near water.*

Apocynaceae – Dogbane Family (4 species in Nebraska)

Hemp (Prairie) dogbane. *Apocynum cannabinum*. Prairies, open woods, weedy.*#

Asclepiadaceae – Milkweed Family (17 species in Nebraska)

Sand milkweed. *Asclepias arenaria*. Sandy upland prairies.#

Swamp milkweed. *Asclepias incarnata*. Wet prairies, moist banks.*#

Plains milkweed. *Asclepias pumila*. Mixed prairies.#

Narrow-leaved milkweed. *Asclepias stenophylla*. Sandy or rocky prairies.#

Common milkweed. *Asclepias syriaca*. Banks, floodplains, waste areas.*

Whorled milkweed. *Asclepias verticillata*. Sandy or rocky prairies.*#

Green milkweed. *Asclepias viridiflora*. Sandy or rocky prairies.#

Asteraceae – Sunflower Family (= Compositae) (243 species in Nebraska)

Common yarrow. *Achillea millefolium*. Grasslands, open woods, weedy.*#

Western ragweed. *Ambrosia psilostachya*. Open prairie, waste sites.*#

Pussy-toes. *Antennaria neglecta*. Prairies, open woodlands, pastures.*

Rocky Mountain pussy-toes. *Antennaria parviflora*. Western valley, prairies, roadsides.#

Western sagewort. *Artemisia campestris*. Western valley, upland grasslands.#

Cudweed sagewort. *Artemisia ludoviciana*. Entire valley, dry plains.*#

White (Heath) aster. *Aster ericoides*. Entire valley, open, upland prairies.*#

White prairie aster. *Aster falcatus*. Western valley, dry places.

Aromatic aster. *Aster oblongifolius*. Rocky or sandy open sites.#

Nodding beggarticks. *Bidens cernua*. Entire valley, muddy, disturbed sites, weedy.*#

Tickseed sunflower. *Bidens coronata*. Entire valley, damp, drying sandy sites.*#

Devils beggarticks. *Bidens frondosa*. Entire valley, moist wooded sites.*#

Musk thistle. *Carduus nutans*. Entire valley, pastures, prairies, noxious weed.*#

Chicory. *Cichorium intybus*. Entire valley, eedy, introduced species. #
Tall thistle. *Cirsium altissimum*. Entire valley, waste sites, weedy. #
Canada thistle. *Cirsium arvense*. Entire valley, waste sites, weedy. #
Platte thistle. *Cirsium canescens*. Sandy upland prairies. #
Flodman's thistle. *Cirsium flodmanii*. Moist, open pastures, weedy.*#
Wavyleaf thistle. *Cirsium undulatum*. Dry prairies, weedy. #
Bull thistle. *Cirsium vulgare*. Waste sites, weedy, introduced species. #
Horseweed. *Conyza canadensis*. Disturbed sites, weedy.*#
Plains coreopsis. *Coreopsis tinctoria*. Sandy ground, disturbed sites.*#
Fetid marigold. *Dysosmia papposa*. Open fields, disturbed sites. #
Purple coneflower. *Echinacea angustifolia*. Open, rocky prairies.
Western fleabane. *Erigeron bellidiasterum*. Western valley, open, damp, sandy sites. #
Daisy (Rough) fleabane. *Erigeron strigosus*. Moist, damp prairies.*#
Spotted Joe-pye weed. *Eupatorium maculatum*. Moist, wooded sites. #
Boneset. *Eupatorium perfoliatum*. Damp, low ground. #
Curly-top gumweed. *Grindelia squarrosa*. Waste places, weedy.*#
Broom snakeweed. *Gutierrezia sarothrae*. Dry, open plains. #
Cutleaf ironplant. *Haplopappus spinulosus*. Open prairies. #
Common sneezeweed. *Helenium autumnale*. Moist, open sites.*#
Common sunflower. *Helianthus annuus*. Open sites.*#
Sawtooth sunflower. *Helianthus grosseserratus*. Eastern valley, damp prairies, open bottomlands.*
Maximilian sunflower. *Helianthus maximiliani*. Dry or damp prairies, sandy areas.*
Plains sunflower. *Helianthus petiolaris*. Open sandy sites.*#
Jerusalem artichoke. *Helianthus tuberosus*. Eastern valley, open or shaded, moist sites.
False sunflower. *Heliopsis helianthoides*, Waste areas,*
Marshelder. *Iva xanthifolia*. Borders of streams and local drying sites.*#
Falseboneset. *Kuhnia eupatorioides* Open prairies. #
Blue lettuce. *Lactuca oblongifolia*. Low, moist meadows.*#
Prickly lettuce. *Lactuca serriola*. Disturbed sites, weedy.*#
Dotted gayfeather. *Liatris punctata*. Dry, sandy upland prairies.*#
Tall blazing star. *Liatris pycnostachya*. Native prairies.*
Skeletonweed. *Lygodesmia juncea*. Open high prairies. #
False dandelion. *Microseris cuspidata*. Dry or drying open prairie. #
Prairie coneflower. *Ratibida columnifera*. Prairies, woodland openings.*#
Black-eyed susan. *Rudbeckia hirta*. Disturbed prairies, waste sites.*#
Prairie ragwort. *Senecio plattensis*. Open prairies.*#
Threetooth ragwort. *Senecio tridenticulatus*. Sandy plains.
Canada goldenrod. *Solidago canadensis*. Dry or drying open sites.*#
Giant (Late) goldenrod. *Solidago gigantea*. Damp soils.*#
Prairie goldenrod. *Solidago missouriensis*. Open prairies, sparse woods.*#
Soft goldenrod. *Solidago mollis*. Dry plains. #
Rigid goldenrod. *Solidago rigida*. Sandy or rocky prairies, drying sites.*#
Common dandelion. *Taraxacum officinale*. Introduced weed.*#
Greenthread. *Thelesperma filifolium*. Open, weedy sites. #
Goat's beard (Western salsify). *Tragopogon dubius*. Disturbed sites, introduced weed.* #
Common cocklebur. *Xanthium strumarium*. Waste sites, weedy.*#

Boraginaceae – Borage Family (29 species in Nebraska)

- Western sticktight. *Lappula redowskii*. Open, often sandy, waste sites.#
Hairy puccoon. *Lithospermum carolinense*. Sandy prairies, open woods.#
Narrow-leaved puccoon. *Lithospermum incisum*. Dry prairies, open woods.*#
False gromwell. *Onosmodium molle*. Eastern valley, prairies, meadows, open woods.*

Brassicaceae – Mustard Family (74 species in Nebraska)

- Hoary cress. *Cardaria draba*. Introduced weed.
Tansy-mustard. *Descurainia pinnata*. Dry prairie, open woods.*#
Western wallflower. *Erysimum aspersum*. Prairies, open woods.3
Dame's rocket. *Hesperis matronalis*. Roadsides, Waste sites, introduced weed.#
Greenflower pepperweed. *Lepidium densiflorum*. Waste places, weedy.*#
Silvery bladderpod. *Lesquerella ludoviciana*. Sandy and gravelly soils.#
Tall hedge mustard. *Sisymbrium loeselii*. Waste sites, introduced weed.*
Pennycress. *Thlaspi arvense*. Waste sites, weedy.*#

Cactaceae – Cactus Family (6 species in Nebraska)

- Pincushion cactus. *Corypantha vivipara*. Western valley, dry sandy or rocky prairie.#
Brittle prickly-pear, *Opuntia fragilis*. Western valley, dry places.*#

Campanulaceae – Bellflower Family (12 species in Nebraska)

- Cardinal flower. *Lobelia cardinalis*. Streambanks, moist woods.*
Blue cardinal flower. *Lobelia siphilitica*. Reported central and western valley.*#
Pale-spike lobelia. *Lobelia spicata*. Prairies, meadows, open woods.*#
Venus' looking glass. *Triodanis perfoliata*. Sandy to gravelly prairies, disturbed sites.*

Capparaceae – Caper Family (4 species in Nebraska)

- Rocky Mountain beeplant. *Cleome serrulata*. Prairies, open woods.*#

Caryophyllaceae – Pink Family (35 species in Nebraska)

- Grove sandwort *Arenaria lateriflora*. Moist or dry woods.
Bouncing bet. *Saponaria officinalis*. Disturbed sites. Introduced, weedy.#
Catchfly. *Silene noctiflora*. Disturbed sites. Introduced weed.#
Chickweed. *Stellaria media*. Disturbed sites. Introduced weed.*

Chenopodiaceae – Goosefoot Family (42 species in Nebraska)

- Pale goosefoot. *Chenopodium dessicatum*, Weedy annual.*
Oak-leaved goosefoot. *Chenopodium glaucum*. Weedy annual.*#
Mapleleaf goosefoot. *Chenopodium hybridum*. Disturbed sites.
Goosefoot. *Chenopodium standleyanum*. Weedy annual.*

Winged pigweed. *Cycloloma atriplicifolium*. Sandy sites, weedy.*#

Kochia. *Kochia scoparia*. Introduced weed.*#

Nuttall povertyweed. *Monolepis nuttalliana*. Disturbed sites, weedy.

Clusiaceae – St. John's Wort Family (=Hypericaceae) (4 species in Nebraska)

Common St. John's wort. *Hypericum perforatum*. Open sites, introduced.

Commelinaceae – Spiderwort Family (5 species in Nebraska)

- Long-bracted spiderwort. *Tradescantia bracteata*. Prairies, disturbed sites.*
Prairie spiderwort. *Tradescantia occidentalis*. Prairies, disturbed sites.*#

Convolvulaceae – Morning-glory Family (19 species in Nebraska)

- Field bindweed. *Convolvulus arvensis*. Introduced weed.*#
Bush morning-glory. *Ipomoea leptophylla*. Western valley, plains and prairies.#

Crassulaceae – Stonecrop Family (2 species in Nebraska)

Virginia stonecrop. *Penthorum sedoides*. Eastern valley, ditches, streambanks.*#

Cucurbitaceae – Cucumber Family (4 species in Nebraska)

Wild cucumber. *Echinocystis lobata*. Moist and open woods.*#

Equisetaceae – Horsetail Family (6 species in Nebraska)

Field horsetail. *Equisetum arvense*. Disturbed sites.*#

Euphorbiaceae – Spurge Family (22 species in Nebraska)

Toothed spurge. *Euphorbia dentata*. Prairies, waste sites.*#

Leafy spurge. *Euphorbia esula*. Introduced noxious weed.

Spotted spurge. *Euphorbia maculata*. Eastern valley, prairies, waste sites.*#

Snow-on-the-mountain. *Euphorbia marginata*. Prairies, waste sites.*#

Fabaceae – Bean Family (= Leguminaceae) (c. 100 species in Nebraska)

Standing milk-vetch. *Astragalus adsurgens*. Western valley, dry prairie, open woods.#

Canada milk-vetch. *Astragalus canadensis*. Eastern valley, moist prairies, open woods.*#

Painted milk-vetch. *Astragalus ceramicus*. Western valley, sandy prairies.#

Ground-plum. *Astragalus crassicarpus*. Prairies, rocky soils.

Lotus milk vetch, *Astragalus lotiflorus*. Upland mixed prairies.

Missouri milk-vetch. *Astragalus missouriensis*. Prairies, bluffs, ravines.#

Golden prairie clover. *Dalea aurea*. Loamy prairies.#

Slender (Nineanther) dalea. *Dalea enneandra*. Mixed prairies.#

Canada tickclover. *Desmodium canadense*. Rocky or sandy prairies.#

Wild licorice. *Glycyrrhiza lepidota*. Prairie ravines, moist areas.*#

Hoary vetchling. *Lathyrus polymorphus*. Dry, sandy to rocky prairies, woods.#

American deervetch. *Lotus purshianus*. Disturbed habitats.*#

Black medick, *Medicago lupulinus*. Introduced, common.*#

Alfalfa. *Medicago sativa*. Introduced forage crop, weedy.*#

Sweet-clover. *Melilotis officinalis* & *M. albas*. Waste places, introduced weed & forage crop.*#

Purple (Lambert) locoweed. *Oxytropis lambertii*. Dry prairie.#

White prairie-clover. *Petalostemon (Dalea) candida*. Waste sites, weedy.*#

Purple prairie-clover. *Petalostemon (Dalea) purpurea*. Rocky prairies, open woods.*#

Silky prairie-clover. *Petalostemon (Dalea) villosa*. Sandy prairies, open woods.#

Silver-leaf scurf-pea. *Psoralea argophylla*. Prairies, open woods.

Tall breadroot scurfpea. *Psoralea cuspidata*. Prairies.#

Broad-leaf scurf-pea (Prairie-turnip). *Psorales esculenta*. Prairies, open woods.#

Clovers. *Trifolium* spp. Mostly occurs as introduced and cultivated forage crop.*#

American vetch. *Vicia americana*. Mostly sandy soils.#

Gentianaceae – Gentian Family (6 species in Nebraska)

Prairie gentian. *Eustoma grandiflorum*. Prairie meadows.*#

Closed gentian. *Gentiana andrewsii*. Eastern valley, wet meadows, prairies or woods.

Hydrophyllaceae – Waterleaf Family (4 species in Nebraska)

Waterpod. *Ellisia nyctelea*. Sandy prairies, open woods.*#

Iridaceae – Iris Family (7 species in Nebraska)

Blue-eyed grass. *Sisyrinchium angustifolium*. Prairies, open woods.*

White-eyed grass. *Sisyrinchium campestre*. Prairies, open woods.*

Juncaginaceae – Arrowgrass Family (2 species in Nebraska)

Arrowgrass. *Triglochin maritimum*. Moist, alkaline sites.*#

Laminaceae – Mint Family (= Labitae) (49 species in Nebraska)

Rough false pennyroyal. *Hedeoma hispida*. Waste sites, open ground.* #
American bugleweed. *Lycopus americanus*. Moist, exposed sites.*#
Field mint. *Mentha arvensis*. Moist sites.*#
Wild bergamot. *Monarda fistulosa*. Prairies, open woods.*
Catnip. *Nepeta cataria*. Waste sites, introduced weed.*#
Healall. *Prunella vulgaris*. Waste sites, streambanks.*#
Lanceleaf sage. *Salvia reflexa*. Disturbed sites.#
Marsh scullcap. *Scutellaria galericulata*. Wet sites.*#
Marsh hedge-nettle. *Stachys palustris*. Dry to wet prairies.*
American germander. *Teucrium canadense*. Streambanks, pastures.*#

Liliaceae – Lily Family (32 species in Nebraska)

Wild onion. *Allium canadense*. Eastern valley, prairies, open woods.*
Solomon's seal. *Polygonatum biflorum*. Moist deciduous woods.*
False Solomon's seal. *Smilacina stellata*. Moist to dry woods.*#

Linaceae – Flax Family (8 species in Nebraska)

Stiffstem flax. *Linum rigidum*. Sandy prairies and hillsides.#

Lythraceae Loosestrife Family (7 species in Nebraska)

Winged loosestrife. *Lythrum decotanum*. Wet soils.

Purple loosestrife. *Lythrum salicaria*. Moist sites, introduced weed.*

Malvaceae Mallow Family (15 species in Nebraska)

Running mallow. *Malva rotundifolia*. Waste sites, introduced weed.#

Red false (Scarlet globe) mallow. *Sphaeralcea coccinea*. Dry prairies, hillsides. #

Mimosaceae – Mimosa Family (2 species in Nebraska)

Illinois bundleflower. *Desmanthus illinoensis*. Moist habitats.*#

Nyctaginaceae – Four-O'Clock Family (9 species in Nebraska)

Hairy four-o'clock. *Mirabilis hirsuta*. Prairies, open woods.*#

Wild four-o'clock. *Mirabilis nyctaginea*. Waste places, weedy.*#

Onagraceae – Evening Primrose Family (28 species in Nebraska)

Plains yellow evening primrose. *Calylophus serrulatus*. Dry prairies, open woods.*#

Fireweed. *Epilobium* spp. Disturbed sites, often appearing following fire.#

Scarlet gaura. *Gaura coccinea*. Dry prairies, open woods. #

Common evening primrose. *Oenothera biennis*. Streambanks, open woods.*

Cutleaf evening primrose. *Oenothera laciniata*. Reported central Platte Valley.*#

White-stemmed evening primrose. *Oenothera nuttallii*. Western valley, dry prairies, open woods.#

Fourpoint evening primrose. *Oenothera rhombipetala*. Sand dunes, sandy prairies.#

Orchidaceae – Orchid Family (19 species in Nebraska)

Prairie fringed orchid. *Habenaria leucophaea*. Prairie meadows, rare.*

Ladies-tresses. *Spiranthes cernea*. Prairies.*

Orobranchaceae – Broom-rape Family (3 species in Nebraska)

Cancer-root. *Orobanche fasciculata*. Local, dry prairies, sandy soils.#

Oxalidaceae – Woodsorrel Family (3 species in Nebraska)

Gray-green wood sorrel. *Oxalis dillenii*. Eastern valley, open woods, waste sites, weedy.*#

Yellow wood sorrel. *Oxalis stricta*. Eastern valley, open woods, waste sites, weedy.

Papaveraceae – Poppy Family (6 species in Nebraska)

Annual pricklypoppy. *Argemone polyanthemos*. Sandy soils, waste sites.#

Plantaginaceae – Plantain Family (10 species in Nebraska)

Woolly plantain (Indianwheat). *Plantago patagonica*. Waste sites, weedy.*

Blackseed plantain. *Plantago rugelii*. Waste sites, shady places. Weedy.*

Polygalaceae – Milkwort Family (4 species in Nebraska)

White milkwort. *Polygala alba*. Rocky prairie hillsides. #

Polygonaceae – Buckwheat Family (46 species in Nebraska)

Umbrella plant. *Eriogonum annuum*. Dry open grasslands.#

Common knotweed. *Polygonum arenastrum*. Waste sites, Introduced weed.*#

Pale smartweed. *Polygonum lapathifolium*. Damp soils.*#

Pennsylvania smartweed. *Polygonum pensylvanicum*. Eastern valley, disturbed sites, weedy.#

Bushy knotweed. *Polygonum ramosissimum*. Damp, brackish soils.*#

Climbing false buckwheat. *Polygonum scandens*. Waste sites. Introduced weed.#

Wild begonia (veiny dock). *Rumex venosus*. Sandy dunes and riverbanks.#

Potamogetonaceae – Pondweed Family (16 species in Nebraska)

Baby pondweed. *Potamogeton pusillus*. Submerged aquatic,#

Clasping-leaf pondweed. *Potamogeton richardsoni*. Submerged aquatic,#

Curly muckweed. *Potamogeton crispus*. Submerged aquatic.#

Fries pondweed. *Potamogeton friesii*. Submerged aquatic,#

Leafy pondweed. *Potamogeton foliosus*. Submerged aquatic,#

Sago pondweed. *Potamogeton pectinatus*. Submerged aquatic,#

Slender pondweed. *Potamogeton filiformis*. Submerged aquatic,#

Primulaceae – Primrose Family (10 species in Nebraska)

Fringed loosestrife. *Lysimachia ciliata*. Eastern valley, moist woods and wetter sites.*

Tufted loosestrife. *Lysimachia thyrsiflora*. Moist to wet sites.*

Ranunculaceae – Buttercup Family (39 species in Nebraska)

Candle anemone. *Anemone cylindrica*. Open prairies and pastures.

Pasque flower. *Anemone patens*. Open prairies, often rocky soil.#

Prairie larkspur. *Delphinium virescens*. Prairies and pastures.*#

Early wood (Smallflower) buttercup. *Ranunculus abortivus*. Eastern valley, moist woods.

Purple meadow rue. *Thalictrum dasycarpum*. Moist habitats.*

Rubiaceae – Madder Family (14 species in Nebraska)

Catchweed bedstraw. *Galium aparine*. Woods, prairies, waste ground.*#

Santalaceae – Sandalwood Family (1 species in Nebraska)

Bastard toad-flax. *Comandra umbellata*. Dry, sandy to rocky soils, open woods.

Scrophulariaceae – Figwort Family (54 species in Nebraska)

Rough purple gerardia. *Agalinis aspersa*. Dry prairie, open woods.#

Slender gerardia. *Agalinis tenuifolia*. Moist woods and prairies.*

Butter-and-eggs. *Linaria vulgaris*. Waste sites, weedy.

White beardtongue. *Penstemon albidus*. Sandy to gravel soils, open prairie.#

Narrow beardtongue. *Penstemon angustifolius*. Western valley, sandhills and sandy prairie.#

Slender penstemon. *Penstemon gracilis*. Sandy to gravel soil, dry prairies.

Shell-leaf penstemon. *Penstemon grandiflorus*. Eastern valley, sandy to loamy prairies.#

Common mullein. *Verbascum thapsus*. Waste sites. Introduced weed.*#

Brooklime speedwell. *Veronica americana*. Emergent in aquatic sites.#

Water speedwell. *Veronica anagallis-aquatica*. Emergent in aquatic sites.*#

Solanaceae – Nightshade Family (19 species in Nebraska)

Clammy groundcherry. *Physalis heterophylla*. Prairies, open woods.*#

Virginia groundcherry. *Physalis virginiana*. Open woods, waste sites.*

Buffalobur. *Solanum rostratum*. Waste sites.#

Urticaceae – Nettle Family (6 species in Nebraska)

Pennsylvania pellitory. *Parietaria pensylvanica*. Shaded woods.*#

Stinging nettle. *Urtica dioica*. Moist woods, streambanks.*#

Verbenaceae – Vervain Family (9 species in Nebraska)

Dakota vervain. *Verbena bipinnatifida*. Dry plains and prairies.

Prostrate vervain. *Verbena bracteata*. Waste sites, prairies.* #

Blue vervain. *Verbena hastata*. Moist meadows, woods, seepage areas.*#

Hoary (Woolly) vervain. *Verbena stricta*. Pastures, prairies, waste sites.*#

Violaceae – Violet Family (17 species in Nebraska)

Blue prairie violet. *Viola pratincola*. Open woods, prairie hillsides.*#

Zygophyllaceae – Caltrop Family (species in Nebraska)

Puncture vine. *Tribulus terrestris*. Waste places, weedy.*#

Identification Keys to Some Common Nebraska Forbs

(Page references refer to descriptions in Farrar, 1990)

Key to Common Nebraska Goldenrods (*Solidago & Euthamia*)

A Flowers in a terminal, flat-topped cluster or tight group at end of central axis

- B. Leaves without glandular dots... **Rigid goldenrod.** *S. rigida*. (p 121). Widespread
- BB. Leaves with tiny glandular dots...**Grassleaf goldenrod,** *Euthamia graminifolia*. (p. 119.) Widespread.

AA Flowers not in terminal cluster, often in cone-like panicles

- B Flowers in small clusters in leave axils or a straight cylindrical cluster

- C. Leaf veins nearly parallel... **Canada goldenrod.** *S. canadensis* (p. 121). Widespread
- CC. Veins spreading from midrib... **Showy-wand goldenrod.** *S. speciosa* (p. 120).

Eastern fourth of Nebraska.

- BB. Flowers terminal, in racemes (short stalks off a main axis) or panicle (coming off a main branch), nodding, and with the heads mainly along one side

- C Leaves mostly basal, the upper ones progressively reduced... **Prairie goldenrod.** *S. missouriensis* .(p. 120). Widespread

- CC. Leaves mostly on the stem, not progressively reduced.

- D. Leaves with a single main vein... **Elm-leaved goldenrod.** *S. ulmifolia*. Rare in southeastern Nebraska

- DD. Leaves with three prominent veins.

- E. Leaves and stem smooth 5-6 feet tall.... **Late goldenrod** . *S. gigantea*. (p. 121.). Widespread.

- EE. Leaves rough or pubescent 1-4 feet tall

- F. From 2-4 ft. tall. ...**Canada goldenrod.** *S. canadensis* (p. 121). Widespread

- FF. From 12-20" tall... **Soft goldenrod** .*S. mollis*. Uncommon.

Key to Common Nebraska Gayfeathers (*Liatris*)

- A. Heads 4-6 flowered, leaves linear, with tiny dots...**L. punctata** (Dotted gayfeather). Statewide. (p. 176)

AA. Heads usually with 10 or more flowers, leaves variably punctate (dotted)

- B. Spikes with leafy supports longer than florets, to 2 ft tall, upper stem not hairy; Flower bracts with short pointed tips ...**L. squarosa = glabrata** (Scaly gayfeather or Blazing star). Statewide, sandy grasslands. (p. 175)

- BB. Spikes not with conspicuous leafy supports below flower clusters, often 3-5 ft tall

- C. Spikes interrupted, leaves with rough edges, bracts rounded, upper stem hairy...**L. aspera** (Rough gayfeather). Eastern half of Nebraska.(p. 177)

- CC. Spikes continuous, leaves not with rough edges, to 5 ft tall Lower leaves much longer basally (to 20"), flower bracts spreading, long-pointed...

- L. pycnostachya** (Prairie gayfeather). Eastern third of Nebraska (p. 176)

Key to Common Nebraska Milkweeds (*Asclepias*)

1a. Habitat: Upland fields, prairies, wasteland

1. Flowers orange... **Butterfly milkweed**, (*A. tuberosa*) p. 127 (Southeastern Nebraska)
2. Flowers flesh-colored, pink... **Common milkweed**, (*A. syriaca*) p. 163 (Widespread in eastern Nebraska)
3. Flowers green and purple... **Spider or Green-flowered milkweed** (*A. viridis*), p. 16 (Southeastern Nebraska)
4. Flowers all green: Go to 5
- 5a. Leaves small, linear, flowers terminal on unbranched stems... **Whorled milkweed** (*A. verticillata*) p. 46. (Widespread)
- 5b Leaves narrow & long, flowers clustered on short stems... **Narrow-leaved milkweed** (*A. stenophylla*) (p. 17) (Widespread)
- 5c. Leaves broad ovate, flowers terminal and in leaf axils... **Green milkweed** (*A. viridiflora*) (p. 17) (Widespread)

1b. Habitat: Moist, open bottomlands, floodplains

- Flowers pink, rarely white, leaves linear... **Swamp milkweed** (*A. incarnata*)
(p. 165) (Widespread)

1c. Habitat: Low prairies

- Flowers pink, leaves oval, thick... **Smooth milkweed** (*A. sullivantii*), (p. 162)(Eastern Nebraska)

Key to Common Nebraska Sunflowers (*Helianthus*)

1a. Leaves with long petioles (leaf stems), petioles not winged

- 2a. Leaves large, ovate to broad, with irregular large teeth, mostly alternate except uppermost, disk without white center. **Common sunflower**, *H. annuus*. Widespread.
p. 125
- 2b. Leaves ovate to lance-like, usually not notched and few teeth, all leaves alternate, disk with whitish center., **Plains sunflower**. *H. petiolaris*. Widespread, p. 122
- 2c. Leaves *opposite* on long petioles, broadly ovate to triangular, large teeth, hairy. **False sunflower** or **Oxeye**, *Heliopsis helianthoides*. Eastern Nebraska. p. 116

1b. Leaves with winged (having flattened edges) petioles

- 2d. Leaves lance-shaped, coarsely toothed, long, 3-veined, rough hairy above, downy below... **Jerusalem artichoke** *H. tuberosus*. Widespread in east. p. 124
- 2e. Leaves long, coarsely toothed, petioles often with small wings, upper leaves closely spaced, alternate, lower ones usually opposite... **Sawtooth sunflower**, *H. grosseserratus*. Mostly eastern Nebraska. p. 124

1c. Leaves sessile or with very short petioles.

- 2f. Leaves densely gray-green,, broadly ovate, opposite, teeth inconspicuous... **Hairy sunflower**, *H. mollis*. Rare in southeastern Nebraska.
- 2g. Leaves rough, arched and folded into a trough, toothless, with conspicuous middle veins... **Maximilian's sunflower**, *H. maximiliani* Widespread. p. 125
- 2h. Leaves fairly uniformly lance-like, rough hairy, very short petioles, almost all opposite, 9-15 leaves below a few flowers, teeth small... **Stiff sunflower**, *H. rigidus*. Central & western Nebraska.
- 2i. Leaves variable, broadly lance-like, rough, hairy, & toothless, with very short petioles... **Hairy sunflower**, *H. hirsutus*. Southeastern Nebraska.

Key to Common Nebraska Thistles (*Cirsium* spp. and *Carduus nutans*)

- 1. Flower head white or pale pink to pale purple; if colored then heads small, in dense clusters; plant to 4 ft. tall**
 - A. Leaves lighter below than above, nodding flower heads 1+ inch wide...**Platte thistle** (*C. canescens*). Mostly western.
 - AA. Leaves whitish above and below, heads 1/2" wide & clustered...**Canada thistle** (*C. arvense*). Statewide, moist sites.(p. 156)
- 2. Flower heads pink to purple, not white and not densely clustered; variable height**
 - A. Stem with spiny wings below leaf bases, plant up to 6+ ft tall
 - a. Flower head bracts reflexed down, nodding head, leaves not hairy above...**Musk thistle** (*Carduus nutans*). Eastern Nebraska., moist sites.(p. 159)
 - aa. Flower head with erect bracts that are yellow-tipped, head erect, leaves hairy above...**Bull thistle** (*C. vulgare*). Statewide, disturbed sites.(p. 158)
 - AA. Stem without spiny wings below leaf bases, plant up to 5 ft tall
 - b. Leaves generally oval in shape, not so highly dissected and spiny
 1. Leaves not wavy-edged, head not sticky, to 5 ft tall...**Tall thistle** (*C. altissimum*). Mostly eastern Nebraska.
 2. Leaves wavy-edged, head sticky, to 3 ft tall ...**Wavyleaf thistle** (*C. undulatum*). Mostly western Nebraska.
 - bb. Leaves not oval, very dissected & spiny, undersides very hairy
 1. Upper leaf surface smooth green, leaves large, to 5 ft tall...**Field thistle** (*C. discolor*) Rare in southeastern Nebraska.
 2. Upper leaf surface partly hairy, leaves small, to 2.5 ft. tall ...**Flodman's or Prairie thistle** (*C. flodmanii*). Statewide, in moist soils.(p. 158)

Key to Common Nebraska Sages & Sageworts (*Artemisia*)

A Herbs, stem base never woody

- a. Leaf segments 2 mm. or more wide, or entire and over 2 mm wide, plant to 1 m. high,
 - aa. Leaves with dense woolly pubescence, at least below...**A. ludoviciana (Cudweed sagewort)**. Statewide.
 - bb. Leaves green and glabrous, to 3" long, stems reddish... **A. dracunculus (Green sagewort)**. Widespread
- b. Leaf segments often less than 2 mm. wide
 - aa, Receptacle hairy between flowers; leaf segments <1 mm, plant to 2 ft tall...**A. frigida (Fringed sagewort)** West and central Nebraska
 - bb. Receptacle not hairy between flowers; leaf segments > 1 mm, to 3 ft tall..
 - aaa. Leaves mostly entire, to 6 mm. wide, surface glabrous (shiny) green, heads numerous, in compound panicle... **A. dracunculus (Green sagewort)**. Widespread,
 - bbb. Leaves usually subdivided; if entire then tormentose (woolly) leaves to 1.5 cm. wide, heads numerous, in open panicle...**A. ludoviciana (Cudweed sagewort)**. Statewide.

B. Shrubs, the stem base woody

- C: Leaves deeply divided, repeatedly dissected., to 1/2 m high ...*A. frigida* (**Fringed sagewort**).
West and central Nebr.
- D: Leaves entire or 3-cleft at tip, usually over 1/2 m high
- aa. Leaves simple or deeply 3-cleft into linear lobes., to 1 m. high... *A. filifolia* (**Sand sagebrush**). West and southwest Nebr.
 - bb. Leaves lanceolate or elliptic-lanceolate, to 1 m. high... *A. cana* (**Silver sagebrush**). Western panhandle.
 - cc. Leaves shallowly 3-cleft at tip, to 4 m high... *A. tridentata* (**Big sagebrush**). Western panhandle

Grasses, Sedges & Rushes of the Central Platte Valley

After various sources. An extensive survey of Nebraska range and pasture grasses was provided by Stubbendieck *et al.* (1985). Stubbendieck *et al.* (1995) also illustrated 41 weedy Nebraska grasses and sedges. Haddock (2005) illustrated 41 grasses and 14 sedges or rushes of Kansas, while Johnson & Larson (1999) illustrated 57 grasses and 10 sedges or rushes of South Dakota. Species reported by Nagel and Kolstad.(1987) from Crane Meadows (Hall County) or the Lydia Rowe Audubon Sanctuary (Buffalo County) are shown with asterisks. Those reported for Keith County by Sutherland and Rolfsmeier (1989) are indicated by # symbols. The “upper” valley refers here to Lincoln and Keith counties, and the “entire” valley refers to the total 11-county region covered by this booklet, from Keith County east to Hamilton County.

Poaceae – Grass Family(ca. 200 species in Nebraska)

- Alkali sacaton. *Sporobolus airoides*. Entire valley, alkali soils.*#..
- Barnyardgrass. *Echinochloa crusgalli* Entire valley; introduced weed.*#
- Bearded sprangletop. *Leptochloa fascicularis*. Entire valley; weedy.*#
- Big bluestem *Andropogon gerardii*. Entire valley; mesic tallgrass prairies.*#
- Blowoutgrass. *Redfieldia flexuosa*. Bare sand dunes.#
- Blue grama. *Bouteloua gracilis*. Entire valley; mixed-grass prairies.*#
- Bristly foxtail. *Setaria verticillata* Entire valley; introduced weed.*
- Buffalo grass. *Buchloe dactyloides*. Upper valley; shortgrass prairies.#
- Canada bluegrass. *Poa compressa*. Entire valley; introduced.*
- Canada wildrye. *Elymus canadensis*. Entire valley; streams and roadsides.*
- Carolina lovegrass. *Eragrostis pectinacea*, Reported from central valley.*
- Common reed. *Phragmites australis*. Entire valley; wet soils.*#
- Crested wheatgrass. *Agropyron cristatum*. Entire valley; introduced; dry prairies.#
- Downy brome. *Bromus tectorum*. Entire valley; introduced weed.*#
- Forest muhly. *Muhlenbergia sylvatica*. Reported from central valley.*
- Fowl mannagrass. *Glyceria striata*. Entire valley; moist soils.*#
- Foxtail barley. *Hordeum jubatum*. Entire valley; weedy.*#
- Green foxtail. *Setaria viridis*. Entire valley; introduced weed.*#
- Green needlegrass. *Stipa viridula*. Entire valley; upland prairies, roadsides.#
- Hairy grama. *Bouteloua hirsuta*. Entire valley, shortgrass prairies.*#
- Indiangrass. *Sorghastrum nutans*. Entire valley; moist prairies and near water.*#
- Japanese brome. *Bromus japonicus*. Entire valley; introduced weed.*#
- Kentucky bluegrass. *Poa pratensis*. Entire valley; introduced weed.*#
- Large crabgrass. *Digitaria sanguinalis*. Entire valley; introduced weed.*#
- Little barley. *Hordeum pusillum*. Entire valley; weedy.*#
- Little bluestem. *Schizachyrium (Andropogon) scoparium*.. Entire valley; mixed prairies.*#
- Longspine sandbur. *Cenchrus longispinus*. Entire valley; weedy in sandy soils.*#
- Marsh muhly. *Muhlenbergia racemosa*. Entire valley; weedy.*#
- Meadow fescue. *Festuca pratensis* Reported from central valley.*
- Needle-and-thread. *Stipa comata*. Entire valley; native prairies.*
- Northern reedgrass. *Calamagrostis inexpansa*. Entire valley, wet places.
- Orchardgrass. *Dactylis glomerata*. Entire valley; introduced weed.*#
- Plains muhly, *Muhlenbergia cuspidata*. Entire valley; dry soils.#

Porcupine grass. *Stipa spartea*. Entire valley; native prairies.*
 Prairie cordgrass. *Spartina pectinata*. Entire valley; near wetlands.*#
 Prairie junegrass. *Koeleria pyramidata*. Entire valley; sandy and mixed prairies.*#
 Prairie sandreed. *Calamovilfa longifolia*. Entire valley; sandy and mixed prairies. *#
 Prairie threeawn. *Aristida oligantha*. Reported from central valley.*
 Prairie wedgegrass, *Sphenopholis obtusata*. Entire valley, wet meadows.*#
 Purple lovegrass. *Eragrostis spectabilis*. Central and upper valley.*#
 Quackgrass. *Agropyron repens*. Entire valley; introduced, weedy.*#
 Rabbitfoot grass. *Polypogon monspeliensis*. Central and upper valley, streamsides*#
 Red threeawn *Aristida longiseta*. Entire valley; dry prairies.
 Redtop bent. *Agrostis stolonifera*. Entire valley; mesic sites, introduced weed.*
 Reedgrass. *Calamagrostis stricta*. Entire valley; sandbars and marshes.#
 Reed canarygrass. *Phalaris arundinacea*. Entire valley; moist soils.*#
 Saltgrass. *Distichlis spicata* Entire valley; saline soils, weedy.*#
 Sandgrass. *Triplasis purpurea*. Central and upper valley, sandy, disturbed ground.*#
 Sand dropseed. *Sporobolus cryptandrus*. Entire valley; sandy soils.*#
 Sand lovegrass. *Eragrostis trichodes*. Entire valley; sandy prairies.#
 Sandhills bluestem. *Andropogon hallii*. Entire valley; sandy prairies and sandhills.#
 Scratchgrass. *Muhlenbergia asperifolia*. Entire valley, Damp soils.*
 Side-oats grama. *Bouteloua curtipendula*. Entire valley; mixed-grass prairies.*#
 Sixweeks fescue. *Festuca octoflora*. Entire valley; weedy.*#
 Slender paspalum,. *Paspalum setaceum*. Central and upper valley; sandy or disturbed soils.*#
 Slender wheatgrass. *Agropyron caninum (trachycaulum)*. Entire valley, dry woods.*#
 Slender wild rye. *Elymus villosus*. Reported from central valley.*
 Small (Scribner) panicgrass. *Panicum oligosanthes*. Entire valley; more common in east.
 Smooth brome. *Bromus inermis*. Entire valley; introduced weed.*#
 Stinkgrass. *Eragrostis cilianensis*. Entire valley; weedy annual.*
 Sweetgrass. *Hierochloe odorata*. Central and upper valley,
 Switchgrass. *Panicum virgatum*. Entire valley; tallgrass prairies.*#
 Tall dropseed. *Sporobolus asper*. Entire valley.*#
 Tall wheatgrass. *Agropyron elongatum*. Waste places, introduced.*#
 Timothy. *Phleum pratense*. Entire valley; disturbed habitats, introduced.*#
 Tumblegrass. *Schedonnardus paniculatus*. Entire valley; weedy.#
 Western wheatgrass. *Agropyron smithii*. Entire valley. Introduced.*#
 Wild oats. *Avena fatua*. Entire valley; introduced weed.*#
 Witchgrass. *Panicum capillare*. Entire valley; weedy.*#
 Yellow foxtail. *Setaria glauca*. Entire valley; introduced weed.#

Sedge Family – Cyperaceae (126 species in Nebraska)

Broom sedge. *Carex scoparia*. Eastern Nebraska; Eastern; recorded in the central valley.*
 Clustered field-sedge. *Carex praegracilis*. Widespread; recorded in the central valley.*
 Common threesquare. *Scirpus pungens*. Recorded in the central and upper valley.*#
 Darkgreen bulrush. *Scirpus atrovirens*. Eastern; recorded in the central valley.*
 Fescue sedge. *Carex brevior*. Widespread; recorded in the central and upper valley.*#
 Flatstem spikerush.. *Eleocharis compressa*. Eastern; recorded in the central valley.*
 Fox sedge. *Carex vulpinoides*. Widespread; recorded in the central valley.*

Hardstem bulrush. *Scirpus acutus*. Statewide; recorded in the central and upper valley.*#
Heavy sedge. *Carex gravida*. Eastern Nebraska; recorded in the central valley.*
Mead's sedge. *Carex meadii*. Eastern Nebraska; recorded in the central valley.*
Needle spikerush, *Eleocharis acicularis*. Widespread; recorded in the central valley.*
Needleleaf sedge. *Carex eleocharis*. Widespread, recorded in the central valley.*
Prairie bulrush. *Scirpus maritimus*. Widespread; recorded in the central valley.*
River bulrush, *Scirpus fluviatilis*, Widespread; recorded in the central and upper valley.*#
Saw-beak sedge. *Carex stipata*. East and central; recorded in the central valley.*
Schweinitz flatsedge. *Cyperus schweinitzii*. Recorded in the central and upper valley.*#
Softstem bulrush. *Scirpus validus*, Statewide; recorded in the central and upper valley.*#
Spikerush. *Eleocharis erythropoda* & *E. macrostachya*. Widespread; recorded in the central
valley.*
Water sedge. *Carex aquatilis*. Local; recorded in the central valley.*
Woodland sedge. *Carex blanda*. Eastern; recorded in the central valley.*
Woolly sedge. *Carex lanuginosa*. Statewide, recorded in the central and upper valley.*#

Rush Family- Juncaceae (16 species in Nebraska)

Baltic rush. *Juncus balticus*. Widespread; recorded in the central and upper valley.*#
Dudley rush. *Juncus dudleyi*. Widespread; recorded in the central and upper valley.*#
Knotted rush. *Juncus nodosus*, Widespread; recorded in the central and upper valley.*#
Toad rush. *Juncus bufinus*. Local; recorded in the central and upper valley.*#
Torrey's rush. *Juncus torreyi*. Statewide; recorded in the central and upper valley.*#

Bur-reed Family – Sparganiaceae (2 species in Nebraska)

Giant bur-reed. *Sparganium eurycarpum*. Statewide; entire valley, Emergent aquatic.*#

Cattail Family – Typhaceae (3 species in Nebraska)

Common cattail. *Typha latifolia*. Entire valley. Emergent aquatic.*#
Narrow-leaved cattail. *Typha angustifolia*. Widespread. Emergent aquatic *#

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