

**REFUGE CENTENNIAL CD-ROM****Slide#    Refuge**

- 289        Bon Secour NWR, Gulf Shores, Alabama:**  
Lying along a peninsula between the Gulf of Mexico and Mobile Bay, the six units of Bon Secour National Wildlife Refuge consists of varied coastal habitat including changing sand dunes. Here one can find such interesting species as the endangered Alabama beach mouse, loggerhead sea turtles and gopher tortoises (also endangered), and American alligators--once considered endangered but now recovered. Here, too are brown pelicans, ospreys, and several heron species. And in mid-October, monarch butterflies by the hundreds can be seen in the milkweeds along Pine Beach Trail, drawing sustenance to continue on their trek to Mexico and Central America.
- 10792      Choctaw NWR, Jackson, Alabama**  
Choctaw National Wildlife Refuge spans 4,218 acres along the Tombigbee River and also includes 236 acres in conservation easements. More than half of this acreage is bottomland hardwood forests. Herons, wood ducks, and wintering waterfowl populate the many sloughs, creeks and lakes.
- 10248      Alaska Maritime NWR, Homer, Alaska:**  
Alaska Maritime Refuge follows the coast of Alaska from Hydaburg, about 150 miles west of Ketchikan, to Cape Lisburne in the Arctic Ocean and includes the 200+ islands of the Aleutian Chain. It was originally established in 1913 to protect and restore the nearly extinct northern sea otter. That effort was so successful that the population now numbers in excess of 60,000 animals. In addition to the entertaining sea otter, this refuge is home to dozens of bird species found nowhere else, including such Asian species (due to its proximity to Siberia) as Steller's eagles, Mongolian plovers, Oriental cuckoos, Siberian rubythroats, and Asiatic rose finches. On the rocky windswept islands are some of the world's largest nesting colonies of crested and least auklets, fulmars, and fork-tailed storm petrels. Alaska's

largest colony of tufted puffins like these is found on tiny Kaligagan Island in the Aleutians. Mammals in this refuge include several species of whale--grays, orcas, belugas, and humpbacks, for instance--dolphins, sea lions, walruses, seals, wolves, Sitka black-tailed deer, Dall sheep, caribou, shaggy musk oxen, and mighty Kodiak bears. Polar bears are found in the northern areas of the refuge. The refuge also includes the site of the only World War II battle fought on North American soil: Attu Island.

**9452 Alaska Peninsula NWR, King Salmon, Alaska**

Established under the 1980 Alaska National Interest Lands Conservation Act along with Becharof National Wildlife Refuge for the protection of the region's rich and diverse wildlife and habitats, Alaska Peninsula National Wildlife Refuge is a wilderness paradise. Alaska Peninsula is home to moose, caribou, wolves and more than 250 bird species including the bald eagle. Five types of Pacific salmon; chum, coho, sockeye, pink and king can be found in the rivers and lakes of this refuge. This abundance of salmon draws a large population of brown bears to the refuge to feed during spawning season. And one of Alaska's largest caribou herds can be found here as they travel on their annual migration. Alaska Peninsula NWR provides spectacular wildlife observation and photographic opportunities as well as hiking, canoeing, and camping.

**9448 Arctic NWR, Fairbanks, Alaska:**

The only time the braided rivers of the lowlands can be seen at Arctic National Wildlife Refuge is during the short polar summer. The rest of the year, they lie under several feet of snow and ice. The 20 million acres of this northernmost refuge encompass all of the arctic and sub arctic habitat types: mountain, tundra, boreal forest, barrier islands, coastal, riverine. It is a land of superlatives. From the magnificent Brooks Mountain Range to the coast of the Beaufort Sea, Arctic National Wildlife Refuge harbors the greatest diversity of wildlife of any protected circumpolar area. Birds from four continents are found here at one time or another during the year. Many nest and breed here. And there are 45 species of mammals--36 land and 9 marine--many

found on no other refuge.

**9353**

**Becharof NWR, King Salmon, Alaska:**

Tundra, mountains, and still-smoldering volcanoes, part of the Pacific "Ring of Fire," fill the senses as far as the eye can see at Becharof National Wildlife Refuge. Mt. Paulik volcano, seen here, is the most prominent feature of this refuge. Gas rocks, which constantly seep volcanic gasses, are found around the south shore of Becharof Lake, the second largest lake in Alaska. Becharof Refuge is home to thousands of huge Alaska brown bears, some standing as high as 9 feet tall and weighing as much as 1,000 pounds--one of the world's largest concentrations of this magnificent animal. Caribou, moose, wolves, river otters, and wolverines are among the other mammals found here. Anglers will find Arctic char, northern pike, grayling, rainbow trout, and five species of salmon--red, pink, king, coho, and dog. Birds inhabiting this refuge include black oystercatchers, peregrine falcons, tufted and horned puffins, gyrfalcons, redpolls, yellow warblers, willow and rock ptarmigan, and hundreds of bald eagles. The offshore waters teem with sea lions, seals, sea otters, gray whales. Travel to this refuge is difficult, requiring chartered air travel, rugged hiking/camping gear, extra provisions, and warm, water-repellent (not down) clothing.

**9355**

**Innoko NWR, McGrath, Alaska:**

As with most national wildlife refuges in Alaska, there are no roads into or out of the 6,000-square-mile Innoko National Wildlife Refuge. Access is by bush plane or boat--kayak, canoe, or motorized raft. But if you make the effort, you will be rewarded with a tremendous array of wildlife and diverse habitats. The meandering Innoko River provides habitat for northern pike, sheefish, Arctic graylings, and three salmon species (chum, king, and silver); Canada and white-fronted geese, Arctic and red-throated loons, and myriad waterfowl. Beavers, moose, eagles, and osprey are also found along the river. The forested areas harbor black and grizzly bears, martens, wolverines, lynx, wolves, and red foxes. And the birds--redpolls, Bohemian waxwings, varied thrushes, boreal chickadees, spruce and ruffed grouse, three-

toed and black-backed woodpeckers, kestrels, great gray and northern hawk owls, sandhill cranes, various warblers. An unforgettable sight is the 500,000-member Western Arctic caribou herd moving across the refuge.

**9361 Kanuti NWR, Fairbanks, Alaska:**

This 1.4-million-acre refuge straddles the Arctic Circle about 150 miles northwest of Fairbanks. The only access is by bush plane or by boat down the Kanuti River from Dalton Highway. However, a trip to this refuge is well worth the effort. Inhabiting Kanuti's mosaic of lakes, streams, wetlands, and muskegs; boreal forests; and broad meadows are all manner of birds, waterfowl, mammals, and insects. Here are moose, martens, lynx, wolves, beaver, lemmings, minks, bears (both black and grizzly), and wolverines; willow ptarmigan, snow buntings, redpolls, Arctic warblers, and varied thrushes; loons, tundra and trumpeter swans, Barrow's and common goldeneyes, shovelers, wigeon, and mallards; plovers, phalaropes, and whimbrels; peregrine falcons, boreal hawk owls, northern harriers, and rough-legged hawks. Summer electrical storms are dramatic and often spark wildfires, which are allowed to burn themselves out unless they threaten the many historic and prehistoric sites or native villages. The best time to visit Kanuti is during the short Arctic summer: mid-June through August. But if you can stand the cold, which can reach 70 below zero, not including wind chill during the winter, you will be rewarded with a fantastic 360-degree view of nature's ultimate light show--the shimmering red, green, gold, and multi-colored hues of the Aurora Borealis.

**10260 Kenai NWR, Kenai, Alaska:**

Sixty-nine percent of Kenai National Wildlife Refuge's 1.97 million acres is designated wilderness. It is a refuge of uncommon beauty, representing almost every kind of geologic feature and ecosystem found in the State of Alaska. Kenai's lakes range in size from small potholes to the 74,000-acre Lake Tustumena. There are more than 1,000 miles of rivers and streams. And habitat types vary from heaths, bogs, and muskegs to rolling hills, birch-spruce-aspen forest, and high mountains. Here moose can reach 1,700 pounds,

mountain goats and Dall sheep cavort on the steep slopes, and Alaska brown bears are drawn to the streams during salmon-spawning. And at night, one can hear the haunting calls of wolf and loon.

**10255 Kodiak NWR, Kodiak, Alaska:**

One of the most popular programs in the National Wildlife Refuge System is Kodiak's bear-viewing program. Applications must be submitted by March, when participants are chosen by lottery to spend 4 days in rustic cabins. Biologists accompany them to strategically placed blinds from which they can watch majestic Kodiak bears such as this one fishing at Dog Salmon Creek. Kodiak is also home to bald eagles, mountain goats, silver foxes, tundra swans, puffins, whales, and porpoises, among others. The wildflowers are stunning: bright pink fireweed, irises, orchids, and shooting stars amid the thousands of fruiting plants such as salmonberries, blueberries, and elderberries.

**0286 Nowitna NWR, Galena, Alaska:**

Established to protect breeding habitat for geese and ducks, Nowitna National Wildlife Refuge is 2 million acres of remote, riparian habitat in the Yukon River Valley. Abundant with waterfowl; white-fronted geese, common goldeneye, American wigeons, northern pintails and both greater and lesser scaups are among the many types of ducks and geese that nest at Nowitna NWR. Wolves, lynx, moose, marten and wolverine as well as grizzly and black bears can be found throughout the refuge. Nowitna also hosts many popular sport fish such as salmon, northern pike, least cisco and Arctic grayling in the Nowitna and Yukon Rivers that flow through the refuge. This refuge offers excellent wildlife recreational opportunities. Hunting, fishing, wildlife observation and camping are among the many activities available on the refuge, but because of Nowitna's remote location, most of the public use consists of local residents participating in subsistence activities.

**9366 Togiak NWR, Dillingham, Alaska:** It's hard to tell top from bottom in this view of the Ahklun Mountains reflected in mirror-smooth Upper Togiak Lake. The Ahklun Mountains cover about 80 percent of Togiak

National Wildlife Refuge's 4.2 million acres. Refuge lakes and waterways may be ice-covered from October-April so views like this are fleeting. Togiak refuge boasts a diversity of Arctic habitats and wildlife from the Bering Sea, with its walruses, sea lions, whales and seabirds, to the alpine tundra with its bears, eagles, hummingbirds, and minks. Fisherman rate the refuge's Kanektok River best in the country for Arctic char, rainbow trout, grayling, and five species of salmon.

9368

**Yukon Delta NWR, Bethel, Alaska:**

In ancient times, it was said, "All roads lead to Rome." And in more modern times, "All roads lead to Paris." Well, no roads lead to Bethel, Alaska, and the 26-million-acre Yukon Delta National Wildlife Refuge. To get there, one must plan well in advance, being prepared to fly the 400 miles from Anchorage to Bethel via commercial airline, then charter a flight out onto the refuge for a week of very primitive camping or take a mail plane into one of the Eskimo villages where guides are usually available. Bring rain gear, hip boots, warm clothing, and plenty of insect repellent. Once there, the stunning vistas, landscape, and variety of interesting wildlife make all the preparations and planning well worth it. Here are black and brown bears, caribou, wolverines, Arctic hares, moose, musk oxen, and tundra hares. Millions of salmon from all five Pacific species (chinook, chum, coho, sockeye, and pink) swim up the Yukon and Kuskokwim rivers to spawn. Other fish found here include Dolly Varden, burbot, northern pike, and grayling. Beluga whales and walruses visit the coast of this refuge and come up the rivers in the spring. But it's the birds that make this refuge so special. Many of them fly thousands of miles during migration to nest here. Arctic terns have the longest migration route of all--22,000 miles round trip from here to Antarctica. The rugged cliffs of Nunivak Island in the Bering Sea have some of the largest colonies of nesting seabirds such as these crested auklets. Horned and tufted puffins, murres, pigeon guillemots, and parakeet auklets are also here. Various species of warblers, waterfowl, and raptors all find this refuge to their liking.

10168

**Buenos Aires NWR, Sasabe, Arizona:**

Although inhabited for thousands of years, it was settlement in the 1860s that drastically altered the natural processes of what is now Buenos Aires National Wildlife Refuge in south-central Arizona. The desert plants were destroyed and natural fires suppressed, leaving the fragile soils bare and vulnerable to erosion from torrential summer rains. Native animals were hunted or trapped to oblivion. In 1985, the Fish and Wildlife Service took advantage of an opportunity to buy Buenos Aires Ranch. Since then, Service biologists have worked with ranchers across the Mexican border to restore the natural habitat and, with it, the native animals once common here. Now once again, pronghorns can be seen grazing or bounding across the valley, mountain lions prowl the uplands, and endangered masked bobwhite quail are recovering from near-extinction.

433

**Havasu NWR, Lake Havasu City, Arizona:**

Along the banks of the Colorado River, bordering Arizona and California sits Havasu NWR. Extremely popular for water recreation, the refuge hosts some 500,000 visitors a year and is host to over 297 species of birds such as herons, pelicans, grebes and the Gila woodpecker. The endangered southwestern willow flycatcher and Yuma clapper rail are found in Topock Marsh located in the northern region of the refuge. Havasu NWR desert lands are home to 39 species of reptiles such as the western diamondback rattlesnake. Desert bighorn sheep, bobcats, coyotes and kit foxes feed on the abundant supply of cottontail and Black-tailed rabbits and other rodents found here in this desert oasis.

10178

**Cabeza Prieta NWR, Ajo, Arizona:**

In the desert, the word is "patience." If you're just passing through, you are not likely to see any wildlife. But if you stop and sit in the shade of a boulder, a large cactus, or even your car, and wait, you will be rewarded. Cabeza Prieta Refuge, located in the lower Sonoran Desert, is home to a dazzling array of species, though none are abundant. Horned toads, kangaroo rats, and ground squirrels are found here, as are collared peccaries (also known as javelinas), ring-tailed cats, coatimundis, and desert

bighorn sheep. Birds include phainopeplas, tiny Costa's hummingbirds, cactus wrens, Gambel's quails, prairie falcons, elf owls, and Gila woodpeckers. In spring, the desert bursts into color with the blossoms of cacti such as barrel, hedgehog, saguaro, and organpipe; paloverdes; desert sunflowers; penstemons; and catchfly gentians. To visit this refuge, a 4-wheel-drive vehicle is a must. You must also stop at the headquarters and get a permit because the refuge is used as a military gunnery range and staff will have to check the practice schedule. It is one of the few refuges that allows overnight camping.

**10967**

**San Bernardino NWR, Douglas, Arizona:**

In the arid landscape of San Bernardino National Wildlife Refuge, the many small streams and ponds provide welcome relief from the 100-degree-plus summer temperatures. The streams are fed by springs and artesian wells from an aquifer that developed following an 1887 earthquake. Thus you will find great blue herons, black-bellied whistling ducks, and occasional tundra swans in the desert. Here also are bright red vermilion flycatchers and cardinals, exotic-sounding pyrrhuloxias and phainopeplas, and various warblers and sparrows. Mammals include javelinas, ring-tailed cats, and coatimundis as well as more familiar white-tailed and mule deer. And the refuge was established to protect two rare fish found nowhere else: the Yaqui chub and coppery-colored Yaqui topminnow

**9572**

**White River NWR, DeWitt, Arkansas:**

White River National Wildlife Refuge lies along 90 miles of Arkansas' White River near its confluence with the Arkansas and Mississippi rivers. Seasonal flooding of these three mighty waterways creates a patchwork of streams, creeks, ponds, and oxbow lakes. In winter, as much as 90 percent of the refuge may be under water, creating paradise for waterfowl such as these mallards. Alternately, the flooding presents a real challenge for upland species such as black bears, forcing them to den and bear their young high up in the trees. But nature provides as the cypress and oaks may have trunks 5 feet across giving the bears adequate den sites.



- 10592 Logan Cave NWR, Dardanelle, Arkansas:**  
 Logan Cave Refuge was established as a satellite of Holla Bend Refuge to protect the highest quality cave habitat in the Ozarks. Among the endangered species found here are gray bats (some 25,000 of them), the Ozark crayfish, troglobitic crayfish, and grotto salamanders. Admission to the refuge is by special permit for scientific research only.
- 10858 Sweetwater Marsh NWR, Imperial Beach, California:**  
 This bit of salt-marsh habitat, just 315 acres, is all that's left of the huge salt marshes surrounding San Diego Bay. The refuge was developed as a result of a court-ordered settlement over a development plan that would have included a hotel, a flood-control channel, and a highway-widening project. The refuge, a satellite of Tijuana Slough Refuge, is home to the endangered least tern, Belding's savannah sparrow, and light-footed clapper rail. The visitor center features a sea life petting pool and a burrowing owl aviary. Access is via shuttle bus from the parking lot in Chula Vista.
- 9351 Antioch Dunes NWR, Mare Island, California:**  
 Located in northeast San Pablo Bay, Antioch Dunes National Wildlife Refuge was the first refuge established for an endangered insect and two endangered plants. The insect is Lange's metalmark butterfly and the plants are the yellow Contra Costa wallflower and the white Antioch Dunes evening primrose, shown here. Public use is extremely limited. Check at the refuge office for dates and times of guided tours.
- 11199 Coachella Valley NWR, Thousand Palms, California:**  
 Coachella Valley National Wildlife Refuge was established specifically to protect the endangered Coachella Valley fringe-toed lizard. As you can see, this fascinating little creature blends in perfectly with its sandy habitat. It is not unusual to see this little lizard go skittering across the sand and then suddenly disappear, diving headlong into the sand to escape predation or the excessive desert heat. This refuge is not open to the public but there is a visitor center at the adjacent Coachella Valley Preserve where you can learn about this species amid

the palms of a desert oasis.

**9376 San Joaquin River NWR, Los Banos, California:**

San Joaquin River National Wildlife Refuge is a fairly new refuge in central California. There are no visitor facilities at this time. This refuge will eventually encompass 10,000 acres along a 36-mile stretch of the San Joaquin River floodplain. It provides habitat for several thousand Aleutian Canada geese, greater sandhill cranes, white pelicans, and Swainson's hawks. In addition, one of the largest populations of threatened tri-colored blackbirds in California is found here.

**9175 Clear Lake NWR, Tulelake, California:**

This open field of wild rye and sage provides grazing for a small herd of pronghorn that are found on Clear Lake National Wildlife Refuge. Clear Lake Reservoir covers half of this refuge located in the eastern part of Klamath Basin. The reservoir is often crowded with white pelicans fishing and nesting on the small rocky islands. California gulls and double-crested cormorants are frequent visitors as well.

**10142 Lower Klamath NWR, Tulelake, California:**

Hills and mountains surround the lowland marshes of Lower Klamath National Wildlife Refuges in California. Winter snowpack at higher elevations provides the spring runoff to replenish the Klamath Basin's numerous permanent and seasonal wetlands.

**10690 Tule Lake NWR, Tulelake, California:**

Tule Lake NWR is the most visited of the Klamath Basin refuges, welcoming over 200,000 visitors in recent years. Up to 1,000 bald eagles winter in the Klamath Basin. The eagles feed on both waterfowl and small rodents, with the highest number of eagles seen on Lower Klamath and Tule Lake National Wildlife Refuges. Each February, birders flock to the Klamath Basin to see these large concentrations of our national symbol and to attend Klamath Falls, Oregon's annual bald eagle festival.

**10127 San Francisco Bay NWR, Newark, California:**

Hikers and bikers can get close-up looks at a variety of birds and other wildlife from the 30+ miles of

trails at San Francisco Bay Refuge. This refuge has more land below water than above it and is home to species as diverse as harbor seals and salt-marsh harvest mice, peregrine falcons and pelicans. During spring and fall migrations, shorebirds may number up to one million, waterfowl around 700,000, and wading birds about 30,000. San Francisco Bay is the first urban refuge in the system and has the largest public use program in the country.

**9171 Humboldt Bay NWR, Loleta, California:**

Nearly the entire western population of black brant, 200,000 strong, stops at Humboldt Bay Refuge to feed on the abundant eelgrass during migration. Black-necked stilts, such as these, are among the many shorebirds and waterfowl that are found here. Several hundred harbor seals haul out here in midwinter to bear their young.

**10128 San Luis NWR, Los Banos, California:**

Tule elk, smallest member of the elk family, were once so numerous they crowded California's Central Valley. However, market hunting nearly wiped them out. They were saved partly through the efforts of a cattle baron, Henry Miller, who owned much of the land between Fresno, California, and Oregon. Miller paid hunters to bring elk and release them alive on his property. There are now 3,000 in herds around the state. Other species found in the fields and marshes of San Luis Refuge include Swainson's hawks, Aleutian Canada geese, San Joaquin kit foxes, and giant garter snakes (all threatened or endangered species); waterfowl and shorebirds numbering close to one million; and a million blackbirds of four species (Brewer's, red-winged, yellow-headed, and tri-colored). Visitors can also fish for striped bass, green sunfish, and catfish.

**10910 Sonny Bono Salton Sea NWR, Calipatria, California:**

Most of Salton Sea National Wildlife Refuge is under water. The sea was formed in 1905 when the Colorado River burst a man-made dike and flooded the area, creating a vast lake in the desert 235 feet below sea level. Because it is fed primarily by agricultural run-off, the water of Salton Sea is 30 percent saltier than sea water. In spite of water quality problems,

it has become an important stop-over for migrating birds. Brown and white pelicans, western sandpipers, and avocets number in the tens of thousands and marsh wrens exceed 100,000. All manner of songbirds, waterfowl, and shorebirds can be found here in season. And small mammals such as cottontail rabbits, raccoons, and coyotes are quite common, in spite of the blistering summer temperatures (in excess of 100 degrees for 6 months straight). Kit foxes, badgers, and bobcats are also present.

**9347      Alamosa/Monte Vista NWRs, Alamosa and Monte Vista, Colorado:**

Alamosa and Monte Vista National Wildlife Refuges are adjacent refuges in southern Colorado. Alamosa is on the upper end of the Rio Grande while Monte Vista is just west of there. They share some interesting features and wildlife. From an 80-foot bluff at Alamosa, visitors can get an eagle's-eye view of one of the last unspoiled stretches of the upper Rio Grande. Seventy or more bald eagles gather here in March and April to feast on winter-killed fish in the frozen oxbows of the Rio Grande. In addition, golden eagles, northern harriers, Swainson's hawks, and rough-legged hawks hunt in the adjoining meadows. Beavers, muskrats, and cliff swallows all use the river resources for their homes. The beavers and muskrats build their homes right in the river or in the riverbank while cliff swallows gather mud from the riverbank to build their nests on any convenient vertical surface. At Monte Vista, sandhill cranes are the story. As many as 10,000 of these magnificent birds leap, bow, and flutter their wings in their curious courtship dance every spring. A 3-mile auto-tour route and 12 miles of county roads take the visitor to many of the 100 or so small ponds surrounded by the majestic Rockies that make up Monte Vista Refuge. Both Monte Vista and Alamosa are home to mule deer, bobcats, coyotes, elk, and pronghorn antelope, as well as a host of waterfowl, herons, and egrets. Prairie and peregrine falcons are also found here. Both refuges offer excellent opportunities for wildlife observation photography, and hiking.

**9350      Arapaho NWR, Walden, Colorado:**  
Arapaho National Wildlife Refuge sits in a glacial

bowl at 8,300 feet elevation--the highest refuge outside of Alaska. Here birds migrate seasonally not north and south but up and down the mountains. Visitors are almost certain to see the handsome and fleet-footed pronghorn antelope, moose, and elk. Three species of rosy finch are found here: the brown-capped, black, and gray-crowned. These hardy little birds spend the winter here, then migrate in spring with gray and Steller's jays, red crossbills, mountain chickadees, and mountain bluebirds to higher elevations to nest. White-tailed prairie dog towns, sometimes shared with Richardson's ground squirrels, are adjacent to the auto-tour route. Badgers, which can move more earth for their size than any other animal, will stop at the least vibration to dig out prey. Along the Illinois River, look for avocets, sora rails, Wilson's phalaropes, and black-crowned night herons. Fishing can be excellent for brown trout. White-tailed jackrabbits, which turn all white in winter except for black eartips, present a funny sight as they bound across the wintry meadow like so many black dots bobbing and turning, sometimes followed and scolded by black-billed magpies. In addition to fishing and auto-touring, the refuge is open to hiking and wildlife observation and photography.

**10237      Rocky Mountain Arsenal NWR, Commerce City, Colorado**  
Once adjoining a chemical weapons facility, Rocky Mountain Arsenal was named a Federal Superfund site in 1987. Clean up efforts have long been under way by the Fish and Wildlife Service and have begun to turn this once contaminated chemical site into a major restoration effort resulting in what is soon to be one of the nation's greatest urban refuges. Rocky Mountain Arsenal has long been a haven for wintering bald eagles to the Denver area, along with colonies of black-tailed prairie dogs, burrowing owls and herds of mule deer and white-tail deer.

**9369      Bombay Hook NWR, Smyrna, Delaware:**  
The story of Bombay Hook National Wildlife Refuge is a story of waterfowl--hundreds of thousands of ducks and geese arriving in the fall to rest and feed before heading further south or to winter over. The flocks of snow geese have been compared to the herds of

wildebeest on Africa's Serengeti. No less impressive are the Canada geese, pintails, gadwalls, and teal. But the story doesn't end with waterfowl. In spring, millions of ancient horseshoe crabs come ashore to lay their eggs, providing food for tens of thousands of shorebirds: red knots, ruddy turnstones, semi-palmated sandpipers, and black-bellied plovers. And in the fall, one may find a flock of 250 dainty avocets with their slender up-curved bills and rusty heads and necks. Bald eagles nest here and can often be seen soaring above or fishing in the tidal flats. Diamondback terrapins, once near extinction, lay their eggs here. Mammals include white-tailed deer, foxes, muskrats, beavers, and river otters. And there are all manner of colorful songbirds--blue grossbeaks, scarlet tanagers, prothonotary warblers, and orchard orioles, to name just a few. Enjoy the 12-mile auto-tour route, hiking trails, and observation/photography towers. But be sure to bring the insect repellent, especially on spring and summer visits.

**11665 Archie Carr NWR, Titusville, Florida:**

Archie Carr National Wildlife Refuge consists of 20 miles of beach along central Florida's Atlantic Coast. It hosts the largest concentration of nesting loggerhead sea turtles in the western hemisphere. Here a female returns to the ocean after laying her eggs. She's fitted with radio telemetry equipment so that her movements can be monitored, enabling scientists to gain a greater understanding of the species and develop strategies for restoring populations to healthy levels.

**7941 Florida Panther NWR, Naples, Florida:**

As its name suggests, the Florida Panther Refuge was established to protect the critically endangered Florida panther, a local subspecies of mountain lion. It is thought that there are fewer than 50 of these animals remaining. Recent introductions of a close cousin, the Texas panther, are already thought to be successful in enhancing the gene pool and improving the Florida panther's chances of survival. Other species found in this forested wetland of cypress trees and subtropical hardwoods include black bears, bobcats, alligators, and otters. Endangered wood storks are also found here, and the area is home to the largest concentration and greatest density of native orchids on

the continent.

- 10297 Arthur R. Marshall-Loxahatchee NWR, Boynton Beach, Florida:** Loxahatchee Refuge encompasses 221 square miles of Florida's legendary "River of Grass." This northernmost remnant of the vast Everglades ecosystem supports immense populations of plants and wildlife found nowhere else. But it's the huge numbers of wading birds, such as these endangered wood storks, that make a visit to this refuge most memorable. When water levels are favorable, there may be as many as 270 rookeries, some boasting as many as 10,000 pairs of nesting herons, egrets, ibises, and wood storks.
- 9079 J.N. "Ding" Darling NWR, Sanibel, Florida:** Gumbo limbo, Jamaica caper, strangler fig, red mangrove and white and black), night-blooming cereus, sea grapes, and cabbage palms . . . the plants that vegetate Ding Darling Refuge evoke a sense of the exotic and mysterious. And the wildlife are equally exotic: West Indian manatees, American alligators, American crocodiles, wood storks, roseate spoonbills, sea turtles, frigatebirds, gulf fritillaries, horseshoe crabs, dowitchers, black-whiskered vireos, and brown pelicans. For more than 2,000 years, the Calusa Indians called this tropical paradise home. By the mid-1800s, Europeans had displaced the tribe and used the island mostly for agriculture. In 1926, a fierce hurricane destroyed the agriculture industry. The refuge was established in 1945 as the "Sanibel National Wildlife Refuge." It was renamed in 1967 to honor pioneer conservationist/cartoonist/U.S. Biological Survey (later U.S. Fish and Wildlife Service) Director Jay Norwood "Ding" Darling. Ding Darling initiated the Federal Duck Stamp Program and designed the first Duck Stamp in 1934. Duck Stamps are required of all waterfowl hunters 16 and older. Revenues generated by Duck Stamp sales are used to buy wetlands to protect wildlife habitat. One of the best ways to see this barrier-island refuge off the southwest coast of Florida is by canoe. There are several canoe trails and canoes can be rented at the refuge. Auto-touring, hiking, fishing, and wildlife photography are also popular activities.
- 10305 National Key Deer Refuge, Big Pine Key, Florida:**

Key deer, found only in the Florida Keys, are the smallest members of the North American deer family. A fully antlered buck stands just over 2 feet tall at the shoulder. By 1950, they were nearly extinct due to poaching and habitat destruction. Since establishment of the refuge in 1957, the population has increased although it is still considered endangered. Other rare species benefiting from refuge establishment include the American crocodile, sea turtles, Schaus' swallowtail butterflies, and Florida tree cactus.

**9524      Pelican Island NWR, Titusville, Florida:**

Pelican Island is officially the first national wildlife refuge, established in 1903 by Executive Order of President Theodore Roosevelt to protect not only the pelicans but also herons, egrets, cormorants, and ibises being hunted for sport and for plumes to decorate ladies' hats. Subsequent acquisitions and designations have increased the size of this refuge from the original 3.5-acre island to thousands of acres of protected islands and open waters. While the Fish and Wildlife Service plans to build a visitor center, good views of the island and its magnificent birds can be had from the Town of Sebastian and from boats that can be rented locally.

**10331    Ten Thousand Islands NWR, Naples, Florida:**

Administered by Florida Panther Refuge, Ten Thousand Islands is a fairly new refuge comprising 20,000 acres of estuarine habitat on the southwestern coast of Florida. It is one of the last stretches of undeveloped coastline in the state. Its marshes and mangroves protect breeding and feeding grounds for fish, manatees, bald eagles, and sea turtles. There may even be a few endangered American crocodiles here. Ospreys, formerly called "fish hawks," like this one landing at its nest find food in abundance here. Visitor facilities are still being developed. Included in the plans are hiking trails and observation platforms.

**7311      Banks Lake NWR, Lakeland, Georgia:**

Banks Lake Refuge is a satellite of the larger and more well-known Okefenokee National Wildlife Refuge. It consists of a lake surrounded by marshes and punctuated by impressive bald cypresses. It is prime habitat for



fish such as bass and bream; wood ducks, cranes, and various other waterfowl, wading birds, and shorebirds. There are no visitor facilities at this refuge.

**10966      Bond Swamp NWR, Round Oak, Georgia:**

Bond Swamp National Wildlife Refuge sits on the fall line that separates the piedmont plateau and the coastal plains. The Ocmulgee River and Stone Creek, which run through the refuge from north to south, were important to Native Americans from Ice Age hunters to the Muscogee (Creeks) and Seminoles of more recent history as well as early European explorers and frontiersmen. Because of its position along the fall line and the two waterways, Bond Swamp contains a variety of habitats, including this cypress swamp, and a corresponding diversity of species. The robust redhorse sucker, a rare fish once thought to have disappeared entirely from the Ocmulgee was rediscovered in the river near the refuge in 1999. The refuge is also home to several anadromous fish, including the endangered shortnose sturgeon.

**10307      Harris Neck NWR, Savannah, Georgia:**

During World War II, the land that is now Harris Neck NWR was managed by the Federal Aviation Administration as an Army airfield. Today, it is home to thousands of waterfowl and shorebirds. Refuge staff provide artificial nesting platforms for endangered wood storks, numbered to facilitate monitoring.

**10049      Okefenokee NWR, Folkston, Georgia:**

To enter Okefenokee National Wildlife Refuge is to step into another world. There is an ethereal, other-worldly quality to this "Land of the Trembling Earth," where a heavy step can set great trees to quavering. Human habitation in the swamp dates back about 5,000 years when early Native American cultures shared the swamp with ancient alligators. The Native Americans are gone but the alligators remain, as they have for millions of years. There are surprises around every bend of the several marked canoe trails, from historic sites to primitive green pitcher plants, from massive cypress trees bedecked with Spanish moss to dainty orchids of every hue and description, from great colonies of long-legged wading birds covering 20 acres or more, to the hidden nest-holes of endangered red-

cockaded woodpeckers, and of course, the spectacular sunsets.

**10859      Piedmont NWR, Round Oak, Georgia:**

It has been said of Piedmont National Wildlife Refuge that, "If a wildlife refuge can be made here, it can be made anywhere." In the early 1800s, European settlers cleared the vast forest and planted cotton, which soon robbed the soil of its natural fertility. The loss of trees with their stabilizing root system led to massive erosion. The Civil War, the boll weevil, and the Great Depression added to the problems in this area and it was abandoned--left barren, infertile, and utterly depleted. In 1939, the Fish and Wildlife Service acquired the land and established the refuge. Today it is once again a thriving forest with several productive ecosystems: wetland, bottomland hardwood, old-growth pine, to name a few. Wildlife are present in greater numbers than when the first settlers arrived. A particular success story is the presence of several colonies of endangered red-cockaded woodpeckers, which nest in old-growth pines such as these.

**271        Savannah NWR, Savannah, Georgia:**

Who's watching whom in this Southeastern marsh? At Savannah National Wildlife Refuge, wading birds and alligators occur in numbers not found at many other refuges. But they aren't the only species inhabiting this refuge that was once a rice plantation. Here are colorful wood ducks by the thousands, hundreds of snipe, and good numbers of raptors, including bald eagles. And the plants here are no less impressive. Some 900 species have been catalogued, including Chinese tallow trees descended from seeds sent by Benjamin Franklin from Europe.

**11672      Hakalau Forest NWR, Hilo, Hawaii:**

"Hakalau" means "many perches" in the native Hawaiian language, and it is an apt name for this refuge, which boasts dense tangles of forest and tropical birds and plants found nowhere else. A visit to this refuge is not for the faint-of-heart. The Maulua Tract is open the last weekend of every month for hikers and birders. Access is by foot or by 4-wheel-drive vehicle only and it is a 2-hour drive from any hotel or gas station. Rain gear is a must and visitors must register with the

staff 3 weeks ahead, if at all possible, for safety. Parts of this mystical place are still unexplored and all but impenetrable. But if you go, the rewards are unimaginable. The brightly colored native birds with all-but-unpronounceable names (akiapola'us, amakihi, iiwis, apapnes, akepas) are abundant. The native ohia tress flower all year long, attracting insects and birds by the dozens. Many endangered species can be found here, among them Hawaiian creepers, 'los (Hawaiian hawks), and pueos (short-eared owls). Fallen logs become gardens of huge ferns and other tropical plants, many of them rare.

**10091 Hanalei NWR, Kilauea, Kauai, Hawaii:**

Although there is no public road access to Hanalei Refuge, visitors can get a good look at the variety of wildlife here from a county road that transects the refuge. A refuge overlook offers a spectacular view, one of the most photographed in Hawaii. From the road or the overlook, you may get a glimpse of some of the endangered species found here, such as this Hawaiian moorhen. Visitors can get a closer look at this and other endangered species (Hawaiian coot, Hawaiian stilt, Hawaiian duck) by renting kayaks and traveling on the Hanalei River.

**10133 Kilauea Point NWR, Kilauea, Kauai, Hawaii:**

Kilauea Point Refuge is located on the rim of an extinct volcano at ocean's edge. Here is one of the few places one can observe albatrosses on land. Here also is an historic lighthouse, the largest of its kind in the world. Tropicbirds, frigatebirds, and boobies are among the beautiful tropical birds found here. Also easily observable are humpback whales, spinner dolphins, and green sea turtles. The once-nearly-extinct nene goose, the state bird of Hawaii, is found here year 'round. And if the scenery, beaches, and cliffs look vaguely familiar, it may be because the movie *South Pacific* was filmed on this island.

**10835 Kootenai NWR, Bonners Ferry, Idaho:**

In the far north of Idaho, almost at the Canadian border, a beautiful little refuge lies nestled in the Kootenai River valley of the Selkirk Mountains, part of the majestic Rocky Mountain chain. The woods, ponds, streams, and marshes provide habitat for a great

diversity of species. The various roads and trails through the refuge provide opportunities for the visitor to encounter ospreys, otters, deer, eagles, coyotes, and hummingbirds. The adjacent Selkirk Mountains are designated critical habitat for woodland caribou and grizzly bears.

**9348 Crab Orchard NWR, Marion, Illinois:**

Crab Orchard National Wildlife Refuge is a study in contrasts. It is adjacent to the Nation's main Federal maximum security prison; near Southern Illinois University; and houses industries manufacturing explosives, missile parts, display cases, and sporting goods. The refuge even used to run its own railroad. Yet here are also hundreds of thousands of Canada geese and ducks, 4,000 white-tailed deer, and wild turkeys so abundant that surplus birds are live-trapped to repopulate depleted areas elsewhere. There are two active bald eagle nests and bluebirds regularly fledge upwards of 340 young. Interesting plants found here include the cucumber tree, silky asters, trout lilies, and purple trillium. Visitor opportunities include swimming, boating, and water skiing; auto-touring; hiking; and fishing. Largemouth bass in some of the ponds are more than 21 inches long. And Crab Orchard is one of the few refuges to offer camping--there are three campgrounds on-site.

**9374 Cypress Creek NWR, Ullin, Illinois:**

One word comes to mind when trying to describe Cypress Creek Refuge: ethereal. The ancient bald cypress trees, some more than 1,000 years old, give one a sense of time standing still. Other trees grow old and majestic, as well, including water locusts, green hawthorns, and overcup oaks. The cypresses are often home to several species, including wood ducks, barn owls, chimney swifts, pileated woodpeckers, flying squirrels, bats, and barn swallows. One cypress that was cut down was found to have housed more than 100 species of birds and mammals. Traveling quietly on one of the canoe trails, you might come across a great blue heron, a family of painted turtles, prothonotary warblers, and bright green tree frogs all on a single stump. In addition to the wetland species found here, one might also see deer, bobcats, and coyotes. Small wonder this refuge is part of an area designated a

"Wetland of International Importance" by the Ramsar Convention on Wetlands.

**11187 Muscatatuck NWR, Seymour, Indiana:**

In this "Land of Winding Waters," as it was named by Algonquin Indians, one will find hundreds of wood ducks, once threatened with extinction from over hunting and habitat destruction. The swamps and moist soil attract so many insects that eight species of flycatchers can be found here.

**10182 DeSoto NWR, Missouri Valley, Iowa:**

As spectacular as the sight of hundreds of thousands of wintering snow geese is, one should not overlook some of the other unique experiences at DeSoto Refuge. Travel back in time at the visitor center's display of artifacts salvaged from the wrecked steamship *Bertrand*, which sank in 1865; scan the waters for strange and primordial paddlefish; file your nails on the horsetail rush, an ancient plant with a heavy concentration of silica.

**262 Upper Mississippi River National Wildlife and Fish Refuge, McGregor District, McGregor, Iowa:**

The 200,000 acres of the Upper Mississippi River Refuge extend along both sides of the northern section of the Mississippi River as it travels through four states: Minnesota, Wisconsin, Iowa, and Illinois. Viewing platforms such as this one give the visitor an opportunity to step right out over the river to watch and photograph some of the myriad waterfowl and shorebirds. Heron and egret rookeries are located about every 20 miles along the 264-mile length of this refuge. Because the refuge is located in the overlap between the Central and Atlantic flyways, it is host to species from both areas: eastern red-winged blackbirds are found with western yellow-headed blackbirds, both eastern and western meadowlarks inhabit the grasslands, bald and golden eagles nest and fish along the shoreline. The best way to experience this refuge is by boat--motorboat, canoe, even houseboat, tying up on sandbars where one can camp for as long as 14 days without a permit. But this refuge is not all water. There are also forested uplands, high bluffs, and grasslands that provide habitat for white-tailed deer, muskrats, beavers, river otters, seven different

species of woodpeckers, various warblers, five species of owl and five of hawks.

**10304 Quivira NWR, Stafford, Kansas:**

The marshes, fields, forests, and mudflats of Quivira National Wildlife Refuge, located near the geographical center of the United States, provide habitat for both eastern and western species. For instance, the wild turkey, most commonly associated with eastern deciduous forests, can be found alongside prairie dogs, most commonly associated with western prairies. Both eastern and western meadowlarks are here, as are the beautiful scissor-tailed flycatcher, greater prairie chickens, bald eagles, and red-headed woodpeckers. When Coronado visited this area in 1541 during his search for the fabled Seven Cities of Cibola, he called the handsome, tall natives he found here "Quivira," denoting the plentiful natural resources he found here.

**9447 Bayou Cocodrie NWR, Ferriday, Louisiana:**

In the spring, bald cypress stands such as this one at Bayou Cocodrie National Wildlife Refuge are noisy with woodstork, heron, and egret rookeries. Waterfowl such as pintails, mallards, teal, and shovelers stop at the refuge to rest and feed during migration. And colorful wood ducks are year-round residents. In fact, one of the reasons Bayou Cocodrie was established in 1992 was to provide habitat for wood ducks. Other wetland-dependent species found here include alligators, beavers, ospreys, and swallow-tailed kites. Peregrine falcons and bald eagles winter here. The forested areas of the refuge provide a corridor for endangered Louisiana black bears traveling between Tensas River National Wildlife Refuge to the north and Red River Wildlife Management Area. Hunting and fishing are popular activities at the refuge, as are hiking, boating, wildlife observation and photography. Use of all-terrain vehicles is also permitted on the refuge.

**10796 Bayou Sauvage NWR, Slidell, Louisiana:**

Located only 15 minutes from New Orleans' famed French Quarter, Bayou Sauvage National Wildlife Refuge is the Nation's largest urban refuge. It was established in 1986 after developers' plans to drain the 20,000-acre marshes and build apartments fell through and landed in bankruptcy court. Now the closest thing you'll find to

apartments here is large colonies (called "rookeries") of great blue herons, snowy egrets, glossy ibises, and tree-colored herons with their huge stick nests built within sight and sound of each other--the so-called "colonial nesters." There are also otters, alligators, and a myriad of other wetland-dependent species, all within the city limits of New Orleans.

**10745 Breton NWR, Slidell, Louisiana:**

Breton National Wildlife Refuge consists of several islands off the southeast coast of Louisiana. To the east of the islands lies the Gulf of Mexico. To the west, Breton Sound (south) and Chandeleur Sound (north). President Theodore Roosevelt established this refuge in 1904 after hearing about the destruction of birds and their eggs on these islands. As a result, the refuge is now home to the largest nesting colonies of terns and brown pelicans in the country. This lighthouse, which stands at the northern point of the refuge, was built at the turn of the 20th Century. Although primitive camping is allowed on the refuge, access can only be accomplished by boat or seaplane.

**10197 Delta NWR, Slidell, Louisiana:**

Located where the Mississippi River finally meets the sea (in this case, the Gulf of Mexico), Delta Refuge is 49,000 acres of wetlands: bayous, marshes, shallow ponds. Wintering waterfowl sometimes exceed a quarter of a million birds, including snow geese and 13 species of ducks. Herons, egrets, and alligators are among the permanent residents. Delta is an important stopover for migratory songbirds on their way to and from the tropics. In the fall, it is their last chance to prepare for the 600-mile non-stop flight across the Gulf. In the spring, it is their first landfall after crossing hundreds of miles of salt water. Among the colorful visitors resting up before continuing their journeys are painted and indigo buntings, scarlet tanagers, summer tanagers, rose-breasted grosbeaks, and 25 species of warbler. Tree swallows skimming over inland ponds number as many as 60,000. The best way to visit this refuge is by boat. Canoeing in and out of the braided waterways of the delta will allow you to get fairly close to the abundant wildlife of this special refuge.

**9420 Grand Cote NWR, Marksville, Louisiana:**

In Cajun-French, a "grand cote" is a big hill, thus the refuge name identifies its most prominent feature: a large bluff on the northern boundary. Most of the rest of this south-central Louisiana refuge is wetlands bordered by ridges and terraced uplands. This crawfish pond with its large stand of water smartweed is typical of the productive wetlands found here. The mix of habitat at Grand Cote supports a wide variety of species. It is particularly important as a wintering ground for northern pintails.

**9565 Lacassine NWR, Lake Arthur, Louisiana:**

The dominant feature of Lacassine National Wildlife Refuge in southwestern Louisiana is Lacassine Pool, a 16,000-acre marsh enclosed by a low levee. Lacassine refuge supports one of the largest concentrations of waterfowl of any national wildlife refuge. In the past, as many as 800,000 waterfowl have been seen at Lacassine Pool. The refuge is also home to one of the first breeding colonies of cattle egrets in America outside of Florida. And one of the few roseate spoonbill rookeries in Louisiana is found here. The refuge is also home to many other wetland-dependent species, such as alligators, swamp rabbits, nutria, otters, great and snowy egrets, both black- and yellow-crowned night herons, American bitterns. And there are armadillos, occasional endangered Louisiana black bears, fox squirrels, and deer.

**10551 Sabine NWR, Hackberry, Louisiana:**

Sitting as it does between Calcasieu and Sabine lakes in southwest Louisiana, Sabine National Wildlife Refuge provides a variety of aquatic habitats and the water quality varies from fresh to almost-sea-strength saline. The wildlife found here are as diverse as the habitats that support them. Waterfowl here, such as these blue-phase snow geese, number in the tens of thousands. An oak grove near the refuge headquarters harbors a wide variety of songbirds, with one tree sheltering as many as 16 different species of warbler. In fact, during the National Audubon Society's annual Christmas Bird Count, Sabine consistently registers among the highest numbers of species in the Nation with nearly 200.



**10836      Tensas River NWR, Tallulah, Louisiana:**

The remnant bottomland-hardwood forest that makes up the terrestrial portion of Tensas River Refuge is home to the equally rare Louisiana black bear and Bachman's warblers. The aquatic portion comprises oxbow lakes, streams, ponds, and the Tensas River. Here otters play, alligators bellow, geese congregate, and herons wade in the shallows. One of the last confirmed sightings of the presumed-extinct ivory-billed woodpecker was on what is now refuge land in the 1940s. Indigo buntings, painted buntings, summer tanagers, and prothonotary warblers are among the colorful songbirds found here. The giant trees draped with lovely Spanish moss are home to black fox squirrels, pileated woodpeckers, and barred owls. Coyotes, bobcats, and wild turkeys inhabit the forest understory. Visitor opportunities include canoeing (bring your own), fishing, hiking, wildlife observation and photography, hunting, and auto-touring. Be sure to bring insect repellent.

**10783      Upper Ouachita NWR, Farmerville, Louisiana:**

A public boat ramp provides easy access for seeing this beautiful refuge as it was meant to be seen by boat. For the more land-bound visitor, the drive along River Road has an almost mystical quality, with its large trees hung with Spanish moss. Wildlife that can be found in this bottomland hardwood forest adjacent to the Ouachita River include endangered red-cockaded woodpeckers, as well as seven other woodpecker species, white pelicans, bald eagles, beavers, alligators, spotted salamanders, all manner of waterfowl and wading birds, several species of warblers, bobcats, coyotes, and wild turkeys. There may even be a few roadrunners here, at the easternmost edge of their range.

**10829      Lake Umbagog NWR, Errol, Maine:**

From the Anasagunticook Indians to the European settlers, people have long recognized the habitat and wildlife of Lake Umbagog ("clear water") as special and important. Its glacial geology, northern climate (just 30 miles south of the Canadian border), and meandering rivers make it one of the most productive breeding areas for common loons in the Northeast U.S. The area

also supports a high density of moose, fishers, and bobcats. Other species common here but considered rare in next-door New Hampshire include spruce grouse, gray jays, and black-backed (formerly Arctic) and northern three-toed woodpeckers. The only bald eagle nest in the state is found in this refuge.

**10809 Moosehorn NWR, Calais, Maine:**

Moosehorn Refuge was established on the coast of Maine near the Canadian border in 1937 for the protection and study of the woodcock. The refuge encompasses nearly every kind of habitat found in the state, from rocky coastline with 28-foot tides to inland marshes, streams, and woods. And the wildlife is correspondingly diverse, including warblers of nearly every species found in the U.S., waterfowl and shorebirds; harbor seals; beavers, bears, and porcupines; bobcats; owls, eagles, and ospreys; and of course the woodcock.

**10213 Rachel Carson NWR, Wells, Maine:**

Named for the renowned author of Silent Spring and The Sea Around Us, Rachel Carson Refuge consists of a series of estuarine habitats along the southeastern coast of Maine. Here one will find salt marshes surrounded by stands of 75-foot white pines sheltering pink lady's slippers and trillium. A tidal pool at the mouth of the Saco River supports a complete ecosystem of sea creatures and is considered one of the best birding areas in the state. The upland areas support deer, otters, and coyotes while the coastal areas are home to various sea ducks and shorebirds. Endangered piping plovers nest here, as do black ducks and mallards. The mile-long nature trail near the refuge headquarters is wheelchair-accessible.

**9434 Blackwater NWR, Cambridge, Maryland:**

Look close, as the sun sets over Blackwater National Wildlife Refuge, two bald eagles perch in a tree high above. Blackwater is also home to the endangered Delmarva fox squirrel, a large handsome steel-gray squirrel that once ranged from Pennsylvania throughout the Delmarva (Delaware-Maryland-Virginia) peninsula but is now limited to four counties on Maryland's Eastern Shore. Peregrine falcons can also be found here, as well as a wide variety of wetland-dependent mammals and

birds.

**10221 Patuxent Research Refuge, Laurel, Maryland:**

Patuxent Research Refuge is divided into three sections or "tracts." The central tract is still known by the refuge's original name, Patuxent Wildlife Research Center, and is dedicated to research on such diverse species as California and Andean condors, bald eagles, and whooping cranes. This is where Rachel Carson did much of the research that led to the writing and publication of her books Silent Spring and The Sea Around Us. The central tract is closed to public access. Much of the north tract is a converted military base: Ft. George G. Meade. Hunting, fishing, and wildlife observation are popular activities here. The focal point of the south tract is the National Wildlife Visitor Center, which features interactive exhibits on global environmental issues, migratory birds, habitats, endangered species, and scientists' tools and techniques.

**10208 Great Meadows NWR, Sudbury, Massachusetts:**

Great Meadows Refuge is a green oasis in the midst of highly populated eastern Massachusetts. Just 15 miles from downtown Boston, it is adjacent to Minuteman National Historical Park, where the first shots of the Revolutionary War were fired. Henry David Thoreau studied the natural history of this area 150 years ago and Walden Pond and his cabin are nearby. Among the more interesting denizens of Great Meadows are minks, red foxes, otters, bald eagles, osprey, ruffed grouse, and ring-necked pheasants. Hiking, snowshoeing, and cross-country skiing are popular activities at this refuge.

**10206 Monomoy NWR, Chatham, Massachusetts:**

In the 11th and 12th centuries, Monomoy Peninsula was a Viking haven. Then in the late 16th or early 17th Century, French explorer Samuel de Champlain took refuge here when his ship's rudder broke. In 1711, a tavern for sailors operated near the middle of the peninsula and in the mid-1800s, a fishing community thrived at the southern end of the peninsula and then slowly died out. A lighthouse guided sailors in the treacherous waters of the southern end of the peninsula from 1828 through 1923 and the Coast Guard had a

staffed installation in the same area as the fishing village from 1905-1945. In 1958, a hurricane separated the peninsula from the mainland and in 1978, another winter storm divided the relatively new island into two islands: North Monomoy Island and South Monomoy Island, collectively known now as Monomoy National Wildlife Refuge. Where once Vikings and explorers and sailors took refuge, now endangered species such as roseate terns and piping plovers find protection. Gray and harbor seals are found here, along with gannets, cormorants, loons, and various species of ducks. Wild roses, heaths, and orchids lend seasonal color to these barrier islands. The only access is by boat. Trips are best guided by local boatmen familiar with the waters. But once there, the visitor will find excellent opportunities for beach combing, wildlife photography and study, and surf fishing.

**10942      Parker River NWR, Newburyport, Massachusetts:**

Located as it is on a barrier island off the far northeast coast of Massachusetts, Parker River Refuge is a prime spot for birders. Its variety of coastal habitats offer habitat for such rarities as Ross' gulls, rarely seen south of the Arctic Circle; black swans, native to Australia; and garganeys, a European teal. More common birds are also here, such as eiders, dovekies, snowy owls, goldeneyes, rough-legged hawks, tree swallows by the thousands, and snowy egrets by the hundreds. Threatened piping plovers find a safe place to nest here on a section of beach closed to visitors from April through August. Parker River also has its share of mammals and amphibians, as well, including white-tailed deer, red foxes, beavers, and river otters. The spadefoot toad burrows 10 feet into the ground in this, the northernmost limit of its range. Off the coast, ocean sunfish weighing several hundred pounds startle swimmers with their shark-like dorsal fins.

**10189      Seney NWR, Seney, Michigan:**

The dense carpets of ferns in deep woods stand as silent testimony to the restorative powers of the earth. The area that is now Seney Refuge was once nearly stripped of its pine forests, then the land was burned so severely that the humus (the rich layer of

fertile top soil) was practically destroyed. After that, it was drained and sold for agriculture, which failed. Finally, it reverted to the state for taxes. The state recommended it be developed as a refuge and, in 1935, restoration work began. Now, the refuge hosts a tremendous variety of wildlife, including more than 200 species of birds. Minks, weasels, porcupines, bobcats, and occasionally wolves are found here. Scientists from Russia and China come here to observe refuge techniques for raising sandhill cranes, and then use that knowledge to help save the Siberian crane. There is a 7-mile self-guided auto tour route and 80 miles of gravel roads closed to motorized vehicles but open for hiking, snowshoeing, and cross-country skiing.

**10192 Shiawassee NWR, Saginaw, Michigan:**

The forests of Shiawassee Refuge are so productive they can support healthy populations of red-tailed hawks, northern harriers, great horned owls, screech owls, numerous songbird species, and white-tailed deer that frequently produce twin fawns and 10-point bucks. But there are also vast numbers of waterfowl and shorebirds on the rivers, streams, mudflats, and ponds of this central Michigan refuge. An observation tower and 9 miles of trails offer excellent opportunities for hiking and wildlife photography.

**276 Agassiz NWR, Middle River, Minnesota:**

The marshes and woodlands of Agassiz National Wildlife Refuge occupy part of the area of a huge prehistoric glacial lake that was larger than the Great Lakes. The abundant wildlife here include the only gray wolf pack on a refuge outside of Alaska. One of the most beautiful features of the refuge is this aspen park. Elk and moose may be seen here, along with sandhill cranes, red foxes, porcupines, and woodcock.

**10185 Minnesota Valley NWR, Bloomington, Minnesota:**

Two major highways, three major hotels, an international airport, and the giant Mall of America surround this refuge. Yet within its invisible walls is a world of some 250 species of birds, 50 species of mammals, and 30 species of reptiles and amphibians. The refuge encompasses a remnant native prairie habitat, woodlands, lakes and marshes, and a rare calcareous fen--a special habitat created by spring

water passing through limestone, thus changing the acidity of the water. Many unusual plant communities are found in this type of habitat. Peregrine falcons and bald eagles are found in this urban refuge, as are badgers, beavers, and the threatened harvest mouse. The 20 miles of walking trails become excellent cross-country skiing trails in winter. Waterfowl and wading birds are abundant here. This refuge is unique in that it was not established to provide habitat for wildlife but rather because the local citizens felt the need for a bit of country in the city and so worked with politicians and public officials to make it happen. Now approximately 72 miles of the Minnesota River and its associated lakes, streams, and habitats are set aside in a number of parks and refuges.

**9433 Mississippi Sandhill Crane NWR, Gautier, Mississippi:**  
Mississippi Sandhill Crane National Wildlife Refuge was established specifically to preserve the endangered Mississippi sandhill crane subspecies, and it has succeeded beautifully. Numbers have more than doubled from the low of 30 birds and the population is now stable. The refuge's 20,000 acres of savanna, swamp, and pine forest also ensured the survival of some 50 threatened gopher tortoises. Other rare species found on this southern Mississippi refuge include Bachman's sparrow, snakemouth orchids, pitcher plants, and sundews.

**10833 Panther Swamp NWR, Yazoo City, Mississippi:**  
The beautiful little wood duck is by far the most abundant species found in the managed wetlands and bottomland hardwoods of Panther Swamp National Wildlife Refuge, a satellite of Yazoo National Wildlife Refuge in western Mississippi. Other colorful and interesting birds found here include indigo and painted buntings, prothonotary warblers, northern orioles, summer tanagers, Mississippi kites, red-headed woodpeckers, and purple gallinules. The large rookeries of shorebirds feature great and little blue herons, great and snowy egrets, and white ibis. Alligators are common here. Coyotes and wary bobcats are also common and occasionally seen, thanks to the large population of cottontail rabbits. Both bald and golden eagles can be found here as well as three owl species--barred, great horned, and screech. The endangered Louisiana

black bear seems to be increasing in this refuge, probably partly due to the reforestation efforts. Fishing and hunting (deer, small game, and waterfowl) are allowed at this refuge.

**10874 St. Catherine Creek NWR, Sibley, Mississippi:**

St. Catherine Creek Refuge was established in 1990 as a resting and feeding place for ducks migrating along the Mississippi and Central flyways. Clear-cut and taken over for farming in the early 1970's, this hardwood river bottomland is being restored as prime wildlife habitat. White pelicans, waterfowl, and wading birds, including endangered wood storks, are quite common. Northern harriers and bald eagles hunt the marshes. Bluebirds frequent the headquarters building. Alligators, beavers, and river otters are found in the waterways while deer, turkeys, and coyotes traverse the upland areas. Located as it is along 6 miles of the lower Mississippi River, St. Catherine Creek is subject to seasonal flooding and, in wet years, the whole refuge may be under water through June.

**9562 Clarence Cannon NWR, Annada, Missouri:**

Clarence Cannon National Wildlife Refuge is a unit of the Mark Twain National Wildlife Refuge near Quincy, Illinois. It is located along the Mississippi River north of St. Louis. Although riverboats still ply the main channel of the Mississippi, as they did in Mark Twain's day, the sloughs and backwaters harbor some interesting creatures, such as this king rail.

**9563 Squaw Creek NWR, Mound City, Missouri:**

From a trail atop the loess bluffs at Squaw Creek National Wildlife Refuge, one can see clear to tomorrow, or at least into Nebraska and Kansas as well as Missouri. Meanwhile, down on a pond, a common gallinule (also called "moorhen") traverses a log foraging for insects and aquatic plants. Its long unwebbed toes enable it to walk lightly on the giant lily pads found in the ponds and marshes. The National Audubon Society has named Squaw Creek refuge, with its abundant wildlife, including several hundred bald eagles and hundreds of thousands of waterfowl in winter, one of its "best bets" for nature photography on a refuge.

**10963      Lee Metcalf NWR, Stevensville, Montana:**

All seasons of the year are interesting at this beautiful little refuge set in the midst of the Bitterroot National Forest in southwestern Montana. All manner of birds are found here, from the majestic bald eagle to the diminutive calliope hummingbird. Waterfowl abound and a special treat is in store when the tundra swans pass through.

**10229      National Bison Range, Moiese, Montana:**

The rolling grasslands of National Bison Range are ideal habitat for the big grazers for which this refuge was established in 1908. In addition to the bison, elk and pronghorns find favorable conditions here, as do coyotes, yellow-bellied marmots, blue and ruffed grouse, and prairie falcons. The 19-mile auto-tour route will take you through the prairie grasslands to the deep woods of Douglas fir and ponderosa pine, along streambeds and shrub areas. Here can be found an abundance of small birds such as lazuli buntings, mountain bluebirds, Bohemian waxwings, red crossbills, and calliope and rufous hummingbirds. Columbian ground squirrels and yellow pine chipmunks scurry around the forest understory while mountain goats and bighorn sheep roam the high country on the west slope of the Rockies. And the handsome, if noisy, black-billed magpies are everywhere. As might be expected in an area that was once an island in a prehistoric lake, the wildflowers are spectacular, especially the lupines, which give the appearance of a shimmering blue lake when viewed without the aid of binoculars.

**10637      Red Rocks Lake NWR, Lima, Montana:**

Red Rock Lakes National Wildlife Refuge is one of the most beautiful places in the western United States. Situated in the Centennial Valley in the foothills of the Rocky Mountains, it is part of the Greater Yellowstone Ecosystem. The meadows burst into color in the spring, watered by snowmelt from the nearby mountains. All manner of wildlife are found here--porcupines, moose, pronghorns, sandhill cranes, black and grizzly bears, white pelicans, to name just a few. And it was at Red Rock Lakes that a remnant population of trumpeter swans, thought to be near extinction in the Lower 48, was found. Now one can almost always see



these magnificent birds somewhere on the refuge--either at one of the ponds, in the marshes, or even near the headquarters building.

**10227      UL Bend Refuge, Lewistown, Montana:**

Adjacent to and administered by Charles M. Russell Refuge, U.L. Bend offers many of the same activities and species as Russell. Once on the look-out for black-footed ferrets, black-tailed prairie dogs such as this one now keep a wary eye out for coyotes, badgers, bobcats, eagles, and ferruginous hawks, among others. Endangered piping plovers and least terns nest here and common loons voice their eerie song on spring evenings. Also in spring, campers may be awakened at dawn by sage and sharp-tailed grouse booming on their leks--special courting grounds where males inflate their colorful throat pouches and drum to attract mates. Five species of owl are found here, including great horned and the mysterious looking snowy. Some of the interesting and colorful songbirds found on these refuges include mountain and western bluebirds, rock wrens, Bohemian waxwings, and pinyon jays.

**10246      Fort Niobrara NWR, Valentine, Nebraska:**

Once, vast seas covered the prairies of Ft. Niobrara National Wildlife Refuge in north-central Nebraska. Later, great herds of camels, mastodons, rhinoceros, and three-toed horses wandered here... then bison by the tens of millions, along with elk, deer, and other wildlife. And the Plains Indians, who depended on the bison for food, clothing, and shelter, followed the herds. Then came European settlers, buffalo hunters, and soldiers, who nearly wiped out both the bison and the Plains Indians. Now, the area is home once again to bison, elk, prairie dogs (one town covers 20 acres), and longhorn cattle, descended from Spanish bullfighting stock. The vegetation is so lush the cattle can gain as much as 3 pounds a day.

**10752      Valentine NWR, Valentine, Nebraska:**

The rolling grasslands and meadows of Valentine National Wildlife Refuge seem to go on forever under the bright blue Nebraska sky. In spring, the peace is broken and the landscape seems to bounce as sharp-tailed grouse and prairie chickens jump and vocalize during their annual courtship dances. But there is

more to this refuge than prairie. Interspersed among its 71,000 acres are about 10,000 total acres of water in prairie potholes, lakes, and marshes. They attract such species as muskrats, Canada geese, white pelicans, and several species of ducks as well as harboring such popular game fish as bass, perch bluegills, and northern pike.

**10145      Ash Meadows NWR, Las Vegas, Nevada:**

Located 90 miles northwest of Las Vegas, Ash Meadows Refuge consists of nearly 13,000 spring-fed acres and desert uplands. This refuge has been cited as a "Wetland of International Importance" under the Ramsar Convention. It provides habitat for at least 26 plant and animal species found nowhere else in the world. The spring water is so clear, fish can be seen from the surface to a depth of 12 feet.

**10308      Desert NWR, Las Vegas, Nevada:**

Twenty-five miles north of Las Vegas lies Desert National Wildlife Refuge, an area of such varied habitat that small bird migration is measured not in miles north or south but in feet up and down the mountains. This largest refuge outside of Alaska has six habitat or life zones, ranging from the hot desert floor up 10,000 feet to snowy alpine areas. Cacti and Joshua trees yield to ponderosa pines which yield to bristlecone pines. Desert tortoises are found here, as are badgers, kit foxes, and desert bighorn sheep. Mountain lions and golden eagles frequent the upper elevations. The ponds, springs, and remnants of fruit and nut orchards around the field office attract a dizzying assortment of small birds. Hiking, backpacking, horseback riding, and primitive camping are permitted at this refuge. Auto touring and photography are popular activities here.

**9439      Ruby Lake NWR, Elko, Nevada**

The beautiful snow-capped Ruby Mountains border the lakes and meadows of Ruby Lake National Wildlife Refuge in north-central Nevada. The area (mountains, lake, refuge) was named for the deep red stones early settlers found here, which later turned out to be not rubies but garnets. One of the largest mountain lion populations' left in the West is found in the Ruby

Mountains but will seldom be seen. What refuge visitors will see is sandhill cranes, trumpeter swans, golden eagles, coyotes, and pronghorns, among other wildlife. There is also a historic homesteader cabin on the refuge.

**9049**

**Cape May NWR, Cape May Court House, New Jersey:**

A visit to Cape May National Wildlife Refuge in May and early June will take you back some 500 million years as you watch horseshoe crabs come ashore to lay their eggs while shorebirds such as red knots, short-billed dowitchers, Atlantic sanderlings, and ruddy turnstones greedily search out and gobble as many of the eggs as they can before returning to their Arctic breeding grounds. Don't worry, though, there will be plenty of crab eggs left to develop and ensure the next generation of horseshoe crabs. This refuge encompasses a variety of habitats: coastal (both bay and ocean), upland, salt marsh, forest, salt meadow, and bog, to name a few. And there is a corresponding variety of species here, including the endangered swamp pink, Atlantic white cedar, and tiger salamander; river otters; white-tailed deer; Pine Barrens tree frogs; American woodcock (also known as the "timber doodle"); dozens of species of warblers; bald eagles; and peregrine falcons. The area is also renowned for its concentrations of raptors during spring and fall migrations. Visitor facilities are limited because of the newness of this refuge: it was established in 1989 with a 90-acre tract made available by The Nature Conservancy. It has grown to 8,000 acres. Once completed, it will encompass 16,700 acres. In the meantime, there is good deer and waterfowl hunting. The various trails offer the visitor excellent opportunities for hiking, wildlife observation, photography, and environmental education.

**9436**

**Edwin B. Forsythe NWR, Oceanville, New Jersey:**

The two divisions of Edwin B. Forsythe National Wildlife Refuge--Barnegat to the north and Brigantine to the south, were originally established at separate times as two distinct refuges. In 1984, they were combined and renamed in honor of the late New Jersey Congressman and avid conservationist. The two units preserve coastal wetlands and barrier island ecosystems and provide habitat for long- and short-legged wading

birds, waterfowl, raptors (including peregrine falcons, which nest here), and some wetland-dependent mammal species, all within a short distance of the busy skyline of Atlantic City.

**9379 Wallkill River NWR, Sussex, New Jersey:**

Nestled between the picturesque Hamburg Mountains to the east and the Kittatinny Mountains to the west, Wallkill River National Wildlife Refuge encompasses 9 miles of the north-flowing Wallkill River from Sparta, New Jersey, to the New York State line. Native Americans inhabited this formerly glaciated area as early as 10,000 BC. The Wallkill Valley was an important source of the flint and chert used by Native Americans to make projectile points. In 1835, a large canal lowered the water table to benefit the farmers, who had been plagued by frequent flooding. However, mill owners wanted to keep the lands flooded to keep their mills in operation. A series of battles known as the "Muskrat (millers) and Beaver (farmers) Wars" ensued and were finally settled in the farmers' favor in 1872. The Fish and Wildlife Service acquired the land in 1990 to conserve, restore, and enhance the natural biological diversity of the area. The variety of habitats--swamps and floodplains, river, grasslands, bottomland hardwoods, upland hardwoods--support such species as the threatened bog turtle; songbirds such as eastern bluebirds, northern orioles, various warblers, cedar waxwings, and scarlet tanagers; waterfowl such as black ducks, Canada geese, wood ducks, and green-winged teal; several hawk and owl species; and mammals such as otters, mink, beavers, red and gray foxes, coyotes, deer, and bears. Visitor opportunities include fishing (excellent warmwater fishing for perch, pickerel, and largemouth bass), hunting, canoeing, cross-country skiing, wildlife observation and photography, and hiking, especially along the Appalachian Trail, which crosses the northern unit of the refuge.

**9438 Bitter Lake NWR, Roswell, New Mexico:**

Tourists seeking alien life forms in Roswell, New Mexico, need only come to Bitter Lake National Wildlife Refuge where the dramatic red bluffs and alkaline sinkholes harbor such strange species as barking frogs, the salt-loving Pecos puzzle sunflower, and greenthroat darters, a fish that changes color--the males from dull

olive to bright emerald green with reddish fins--during breeding season. The males of another fish species, the Pecos pupfish, also change color during breeding--from drab brown to iridescent blue. At this refuge, the Chihuahuan Desert meets the Southern Plains, all watered by the Pecos River and an underground river welling up in playa lakes, seeps, gypsum springs, and sinkholes. During fall migration, thousands of snow geese descend on the refuge like so many white clouds.

**11656      Bosque del Apache NWR, Socorro, New Mexico:**

Where these snow geese now congregate for the winter, Piro Indians lived until driven out by disease and Apaches in the 1600s. Remnants of their culture can be found in the rock art they left behind. Also on this refuge is a portion of El Camino Real, the "Royal Road" of the Spanish conquistadors and an important trade route between Mexico and Santa Fe for nearly 300 years. The name of this refuge means "woods of the Apache" because of the many Apache camps in the thickets and small wooded areas along the Rio Grande. In late November, the refuge hosts a fall "Festival of the Cranes", including special tours, workshops, and crafts centered around the 12,000 or more sandhill cranes that winter here as they have done for some 40 million years. That tall white bird amongst the gray sandhills is one of eight endangered whooping cranes found at this refuge. Also on this refuge in other seasons of the year are roadrunners, turkeys, Gambel's quail, porcupines, beavers, mule deer, bobcats, and badgers. At night, 14 species of bats come out to snatch up insects on the wing, taking over for the earlier-appearing nighthawks. In addition to 15 miles of roads for auto touring, there are numerous nature trails and 30,000 acres of wilderness open for hiking.

**9432      Las Vegas NWR, Las Vegas, New Mexico:**

Las Vegas National Wildlife Refuge is located in northeast New Mexico, where the Sangre de Cristo Mountains meet the southern Great Plains. River canyons encircle the refuge, which encircles several ponds. Here fall migration may bring several thousand snow geese, along with as many as 25,000 ducks and Canada geese. The refuge also contains many archaeological sites. Native Americans are known to have inhabited this fertile valley as early as 8,000

BC. Later, Pueblo Indians built their cliff dwellings here, only to be driven out by drought and Apaches. Coronado claimed the territory for Spain during his search for the fabled "Seven Cities of Cibola" in 1540. Spanish settlers and missionaries followed him and established churches and ranches here. The Spanish influence and culture are still prevalent. Remnants of rock corrals and fences from this era can still be found on the refuge. And the name of the refuge (and nearby town), Las Vegas, is Spanish for "the meadows." Plains Indians and Comanches roamed through here, raiding the pueblos and Spanish settlements. And the Santa Fe Trail crosses the refuge.

9383

**Maxwell NWR, Maxwell, New Mexico:**

The open prairies of Maxwell National Wildlife Refuge in northeastern New Mexico are home to black-tailed prairie dogs, coyotes, cottontails, and jackrabbits. And in the mountains, you'll find long-tailed weasels--the stoats of Europe whose winter pelage provided the ermine collars on royal robes. But it's the birds that make the greatest impression. In the mountains, pine siskins and mountain bluebirds. On the lakes, bufflehead ducks, white pelicans, Wilson's phalaropes, American avocets, greater yellowlegs, thousands of Canada geese, and thousands of ducks of a dozen or more species. And everywhere roadrunners, bald eagles, ring-necked pheasants, black-billed magpies, horned larks, ravens, violet-green swallows, rufous hummingbirds, burrowing owls, lark buntings, Swainson's hawks, prairie falcons . . . the list goes on. For anglers, the rainbow trout fishing is exceptional. The refuge has 7 miles of roads for auto-touring, most areas are open for hiking (by permit from the refuge office), and campers are welcome for 3-day stays in primitive campsites. But be prepared. The weather can be quite erratic and nearly impossible to predict.

11562

**Sevilleta NWR, Socorro, New Mexico:**

The rugged desert habitat of Sevilleta National Wildlife Refuge in central New Mexico makes it an ideal place for acclimatizing rare Mexican gray wolves before release into the wild in remote areas of Arizona. There are no visitor facilities at Sevilleta; it is closed to public access.

- 10751 Conscience Point NWR, Shirley, Long Island, New York:**  
Conscience Point National Wildlife Refuge is one of several small refuges located on Long Island, adjacent to New York City. It encompasses 60 acres of meadows, woodlands, and brackish marsh essential for deer and migratory waterfowl. There is no public access to Conscience Point.
- 10224 Montezuma NWR, Seneca Falls, New York:**  
The area now known as Montezuma Refuge once included a vast wetland spreading 12 miles north from Cayuga Lake. It was given the name "Montezuma" in 1806 by Dr. Peter Clarke after a visit to Mexico City. Following construction of the New York State Barge Canal in 1911, the wetland all but disappeared. After the droughts of the 1930s, people became concerned with restoring wetland areas and in 1937, Montezuma Refuge was established. Today, it hosts hundreds of thousands of migrating ducks, geese, and shorebirds. It is also home to about 150 pairs of great blue herons. Bald eagles and osprey nest here, as do black-crowned night herons, mallards, wood ducks, and blue-winged teal. In addition, the upland areas shelter veeries, vireos, warblers, and owls. Mammals found at this refuge include deer, muskrats, raccoons, skunks, and foxes. Hiking, skiing, and snowshoeing the many trails through the refuge offer good opportunities for observing and photographing wildlife, as does the 5-mile auto tour route.
- 10316 Morton NWR, Shirley, Long Island, New York:**  
Most of Elizabeth A. Morton National Wildlife Refuge is a slender peninsula on north-central Long Island. This skinny finger of land separates Noyack Bay to the east from Little Peconic Bay to the west. Bartlett pears, apples, mulberry trees for silkworm culture, shorthorn cattle, and merino sheep were introduced to this area when this land was an estate. Now, the beaches, saltmarshes, ponds, upland forests, grasslands, and lagoon provide for a variety of wildlife, such as this northern cardinal. In addition to the more common species, endangered piping plovers find ample nesting sites here and least and roseate terns can be seen feeding along the shoreline.
- 10807 Seatuck NWR, Shirley, Long Island, New York:**

Seatuck National Wildlife Refuge is an oasis of marshes, grasslands, and woodlands within driving distance of more than 12 million people. Located on the southeast shore of Long Island, it provides habitat for more than 200 species of birds. White-tailed deer and red foxes are common sights. To maintain habitat diversity and protecting nesting birds such as osprey and waterbirds, public use is limited and requires a special permit from the refuge office.

**9380 Shawangunk Grasslands NWR, Wallkill, New York:**

Located on land once owned by West Point Military Academy, the grassland was created when the military filled a wetland to build airplane runways in the 1940s. Although man-made, this grassland has become an important habitat for many migratory bird species. Therefore, the Fish and Wildlife Service management strategy is designed to maintain the grassland rather than allow the area to revert to the original forested wetland. Refuge staff strive to restore and expand habitats for such declining migratory birds as bobolinks, savannah sparrows, grasshopper sparrows, upland sandpipers, northern harriers, and short-eared owls. These are among the grassland-dependent species currently or historically found in this area. Visitors are invited to participate in such activities as wildlife observation, nature photography, hiking, and auto-touring. Snowshoeing and cross-country skiing are also allowed on the refuge. However, visitors must remain on the refuge roads and runways to avoid potential safety hazards remaining from the military occupation.

**10325 Alligator River NWR, Manteo, North Carolina:**

Alligator River National Wildlife Refuge was established in 1984 with an initial donation of 118,000 acres of forest, fresh- and brackish-water marsh, and pocosin ("swamp on high ground") from the Prudential Insurance Corporation. It now encompasses 152,000 acres in eastern North Carolina from the Alligator River to Croatan and Pamlico sounds. The area, with its bears and snakes and other wild things, was once considered a fearsome place and travelers to the Outer Banks would plan their trips so as not to be crossing this "no-man's land" after dark. When biologists began searching for a place to begin reintroducing captive-



bred red wolves, then extinct in the wild, Alligator River proved ideal. The first wolves were brought in 1986. Now the refuge hosts a healthy and growing population of this most secretive and solitary of wolf species. Alligator River also boasts one of the densest black bear populations in the Southeast, as well as minks, otters, deer, red and gray foxes, endangered red-cockaded woodpeckers, and, as its name would suggest, alligators, found here in the northernmost limit of their range.

**10294 Cedar Island NWR, Swanquarter, North Carolina:**

Bordered by Core and Pamlico sounds in southeastern North Carolina, the land mass of Cedar Island includes one of the largest relatively pristine salt marshes on the East Coast. Boating and birding are particularly popular activities here. Royal terns find this refuge a good place to nest and raise young. Other birds found here include black rails, black ducks, swans, and ospreys. While picnicking in the vicinity of the refuge office, one can enjoy a beautiful view of the Outer Banks to the east.

**10323 Mattamuskeet NWR, Swan Quarter, North Carolina:**

The main feature of Mattamuskeet Refuge is Lake Mattamuskeet, comprising 40,000 acres of the 50,000-acre refuge. It is the largest natural lake in North Carolina. The forests and marshes surrounding the lake provide a haven for reptiles and amphibians as well as supporting peregrine falcons, bald eagles, deer, otters, and the endangered red wolf.

**10823 Pocosin Lakes NWR, Creswell, North Carolina:**

A "pocosin" is an upland shrub bog overlying a spongy peat bed, sometimes as much as 12 feet thick. It supports a variety of plants, including the blueberries and huckleberries favored by black bears. Otters cavort in the streams and canals criss-crossing this refuge and upwards of 100,000 waterfowl winter here.

**10243 J. Clark Salyer NWR, Upham, North Dakota:**

When the land that is now J. Clark Salyer National Wildlife Refuge was acquired in 1935, drainage, drought, poor farming practices, and market hunting had left it a veritable wasteland. Today, it is a thriving

northern prairie ecosystem, with grassland, marsh, forest, and riverine habitats providing nesting, feeding, and resting places for a wide variety of species. Auto-tour routes and hiking and canoe trails lead the visitor on a treasure hunt for interesting plant, bird, and animal species.

**10523      Tewaukon NWR, Cayuga, North Dakota:**

Tewaukon Refuge is a waterfowl paradise. Scattered over its 8,363 acres are more than 100 bodies of water of every size and description from tiny glacial potholes to 1,200-acre Lake Tewaukon. Northern shovelers, like this one stopping to rest on a convenient rock, mallards, blue-winged teal, redheads, and pintails are just a few of the species that nest and breed here. But it's not just waterfowl that find this southeast North Dakota refuge enticing. In spring and fall, the skies over the refuge turn white with tundra swans, white pelicans, snow geese, and Franklin's and ring-billed gulls. Terns, bitterns, double-crested cormorants, and three species of heron are among the other water-dependent birds found here. In the upland areas, you can find pheasants, gray partridges, horned larks, white-tailed deer, thirteen-lined ground squirrels, Franklin's squirrels, and Richardson's squirrels (called "flickertails" because they hold their tails upright). Beavers, red foxes, great horned owls, and bald eagles can be seen throughout the refuge. In the harsh winters, almost everything hibernates or flies away but the hardy, sharp-eyed visitor may catch a glimpse of Bohemian waxwings, redpolls, Lapland longspurs, snow buntings, or even a snowy owl.

**9371      Deep Fork NWR, Okmulgee, Oklahoma:**

Seasonal flooding of the muddy meandering Deep Fork River creates the richly productive bottomland hardwood ecosystem that is Deep Fork National Wildlife Refuge. Pecan, elm, cottonwood, sycamore, black walnut, shumard oak, bur oak, pin oak, and hackberry flourish in soils replenished and fertilized by floodwaters. The swamp rabbit, which has disappeared from much of its range, is common here, as are the bright yellow and blue prothonotary warblers, kingfishers, wood ducks, beaver, gray and fox squirrels, herons, and egrets. Four of Oklahoma's species of special concern are found at this

refuge: Bell's vireo, alligator snapping turtles, river otters, and the northern scarlet snake. Because this is a fairly new refuge, visitor facilities are scarce. However, there are a number of parking areas for wildlife observation and photography, and the refuge is open for hunting and fishing and limited boating (only those vessels that can be launched from steep riverbanks).

**10525      Salt Plains NWR, Jet, Oklahoma:**

Salt Plains Refuge boasts a number of features found on no other refuge. It encompasses the largest mid-continent salt flat, fought over by Indians, exploited by pioneers on their way West. Delicate hourglass-shaped selenite crystals can be collected from April 1 through October 15. The underlying quicksand, which has claimed horses, wagons, and even an airplane, makes traveling in nondesignated areas hazardous at best. A number of endangered and threatened species are found here, from tiny snowy plovers, which nest on the salt flats, to stately whooping cranes stopping by on their way between Canada and Texas. The shallow 10,000-acre Great Salt Plains Lake abounds with waterfowl, shorebirds, and other wildlife. This is one of the few refuges that allows camping on the premises.

**10828      Wichita Mountains NWR, Indianahoma, Oklahoma:**

In 1901, President William McKinley set aside the area now known as Wichita Mountains NWR as a forest preserve for the plains buffalo. The New York Zoological Society donated 15 of the animals to form the nucleus of a herd, provided Congress would appropriate \$25,000 for fencing to protect their range. Comanche Chief Quanah Parker and several mounted braves were on hand in 1907 to witness the reintroduction of the bison into the protected area. Other species once flourishing in the area, then declining, and now reintroduced and thriving include Texas longhorn cattle, elk, and prairie dogs. Visitor opportunities include camping, hiking, fishing, hunting, boating, and biking.

**9382      Tishomingo NWR, Tishomingo, Oklahoma:**

No, that white area in the background is not the last remaining snow from winter. Snow is seldom seen at this southern Oklahoma refuge on the north pool of Lake Texoma. That white area is actually some of the

thousands of snow geese that, along with other waterfowl, winter here. Also stopping at Tishomingo during fall migration are hundreds of monarch butterflies, the only butterfly species with a documented migration route and wintering habitat. Most butterflies only live one season. Once the realm of bison, great flocks of birds, and Native Americans (the refuge is named for a famed Chickasaw chief), Tishomingo National Wildlife Refuge is now a watery wonderland of fish, waterfowl, and shorebirds. The lakes, ponds, and rivers host thousands of geese (mostly Canadas and snows) and ducks (such as mallards, wood ducks, widgeons, teals, and mergansers), great blue herons, wood storks, Franklin's and ring-billed gulls, and white pelicans. Anglers can fish for crappie; sand bass; and channel, blue, and flathead catfish. In the marshes you'll find beaver, otters, and muskrats. But water isn't the only story here. There are also uplands and hardwood forests. Here you'll find wild turkeys, armadillos, and raccoons. The refuge is also home to spectacular songbirds: the scissor-tailed flycatcher, Oklahoma's state bird; painted and indigo buntings; orchard orioles; white-eyed, Bell's, warbling, and red-eyed vireos; blue grosbeaks; and red-headed woodpeckers, to name just a few. Hunting, fishing, camping, wildlife observation and photography, and boating are among the visitor opportunities at this southern Oklahoma refuge.

**9349 Ankeny NWR, Dallas, Oregon:**

Ankeny National Wildlife Refuge is one of three northwest Oregon refuges set aside in the mid-1960s to protect the declining population of dusky Canada geese. The entire population of dusksies winter here and at the other two refuges in Oregon's fertile Willamette Valley, along with some 50,000 Taverner's Canada geese. Common sights at this refuge are such interesting birds as band-tailed pigeons, Steller's jays, California quail, bushtits, scrub jays, killdeer, ruffed grouse, great blue herons, and kestrels. Seasonally, you'll find tundra swans, lazuli buntings, yellow-breasted chats, orange-crowned warblers, and black-headed grosbeaks. Black-tailed deer and coyotes are numerous around the refuge. The same conditions that provide for the abundance of wildlife here attracted pioneers on the Oregon Trail, making this area the western

terminus of their trek from Missouri. Hiking and auto-touring are popular activities at this refuge, although most of Ankeny is closed November 1-April 15 to protect the geese.

**9344      Bandon Marsh NWR, Bandon, Oregon:**

Bandon National Wildlife Refuge consists of 289 acres of salt marsh on the southern coast of Oregon. Wildlife in this undisturbed area includes beavers, otters, harbor seals, and black-tailed deer. Waterfowl are here in abundance. The refuge also hosts occasional exotic visitors such as Mongolian plovers and Hudsonian and bar-tailed godwits. There are no visitor facilities at this refuge. This refuge is administered by the Western Oregon Refuge Complex headquartered in Corvallis.

**9341      Three Arch Rocks NWR, Cape Meares, Oregon:**

The best views of Three Arch Rocks Refuge, a group of inaccessible rocky islands off the southern coast of Oregon, are from a hilltop motel near Oceanside and the lighthouse 2 miles north. From these vantage points, one can see herds of Steller's sea lions hauled up on the rocks; harbor seals; and huge concentrations of seabirds such as common murre, tufted puffins, petrels, and Brandt's cormorants roosting shoulder to shoulder, diving into the water for fish, or flying low overhead.

**10730      Klamath Marsh NWR, Chiloquin, Oregon**

Yellow Pond Lilly or Wocus was once harvested by Klamath Indians in the Klamath Marsh. Sandhill cranes, white-headed woodpeckers, black-crowned night herons and cinnamon teal can be seen while canoeing in the marsh, which takes up almost 90 percent of the 63 mile refuge. The remaining acreage is covered by pine forests.

**11173      Malheur NWR, Princeton, Oregon:**

In 1908, President Theodore Roosevelt established Malheur Refuge to protect herons and egrets being slaughtered for their beautiful breeding plumes. Now hundreds of these long-legged waders nest on the islands of Malheur Lake. Malheur's wetlands, ponds, and lakes also attract waterfowl and shorebirds by the thousands. When this horned grebe's young hatch, they

will climb up on her back for the ride of their lives, clinging tenaciously even as she dives for small fish and crustaceans.

**9342 Oregon Islands NWR, Newport, Oregon:**

Oregon Islands National Wildlife Refuge is made up of several rocky islands scattered along 300 miles of the Oregon coast from the north part of the state all the way to the California border. Most are inaccessible but vantage points along the mainland roads offer opportunities for wildlife observation. Seabirds such as tufted puffins, common murre, guillemots, and Brandt's and pelagic cormorants can be seen packed shoulder to shoulder on the rocky cliffs. In the waters and on the low points of the islands, one might spot sea lions or harbor seals.

**9343 Cape Meares NWR, Oceanside, Oregon:**

This birds-eye view of Cape Meares National Wildlife Refuge near Oceanside, Oregon, shows why it's so important to so many species. The nearly inaccessible coastline, with its rugged perpendicular cliffs and sheltered coves, invites hundreds of thousands of seabirds--common murre, pigeon guillemots, petrels, tufted puffins, Brandt's and pelagic cormorants, black oystercatchers, for instance--as well as large concentrations of sea lions and harbor seals. Cape Meares also protects one of the few remaining stands of coastal old-growth forest along the Oregon coast. The forest is predominated by Sitka spruce and western hemlock. Endangered marbled murrelets have been seen in the forest, but breeding has not yet been confirmed. Although there are some past records (more than a decade old) of threatened northern spotted owls being seen there, the area is much too small to support them and there is no adjacent habitat. Any spotted owls seen there are likely young dispersing from other areas. A bald eagle nest in the forest has been present for more than a decade. On the sea cliffs is a peregrine falcon eyrie discovered in 1987. It was the first one found on the Oregon coast, has been active every year, and is in full view of the public. Refuge staff soon will have a deck and interpretive panel to enhance that view. The Fish and Wildlife Service does most of its interpretive development in cooperation with adjacent Cape Meares State Park and most bird

observations occur there. To protect the threatened and endangered species on the refuge, public access is confined to the Oregon Coast Trail that runs through it. All of the refuge (except the trail) is within a Research Natural Area. Public uses on the trail and adjoining state park include hiking, wildlife observation, photography, and environmental education and interpretation. From the cape on the state park, viewing of whale and migratory bird migration is spectacular.

**9346      Siletz Bay NWR, Newport, Oregon:**

Siletz Bay National Wildlife Refuge is the only one of the Oregon Coastal Refuges truly accessible by car. U.S. Highway 101, which parallels the Pacific Coast from Mexico to Canada, traverses the wetlands of Siletz Bay refuge. Cormorants, sea lions, harbor seals, tufted puffins, and guillemots are just a few of the species that might be seen in Siletz Bay. For the best view, spotting scopes or binoculars are recommended.

**7575      Johnston Island NWR, Honolulu, Hawaii, Pacific Islands Complex:**

Johnston Island is one of several tiny unpopulated islands spanning more than 12,000 miles in the Pacific Ocean west of Hawaii. Because they are unpopulated and seldom visited, they are a real haven for many sea-going birds such as these magnificent frigatebirds. The males inflate their bright crimson throat pouches to attract females during courtship. Frigatebirds sometimes called "man-'o-war" birds, are so called because their sail-like wings, aerial maneuverability, and habit of swooping in and stealing food from other seabirds are reminiscent of the small, fast ships (frigates) preferred by pirates for darting in and stealing cargo from merchant ships.

**9440      Erie NWR, Guys Mills, Pennsylvania:**

The dominant feature of the Sugar Lake Division of Erie National Wildlife Refuge is a series of lakes and ponds providing habitat for a multitude of wetland-dependent species, such as beavers, Canada geese, wood ducks, muskrats, hooded mergansers, and great blue herons, as well as both warm and coldwater fish. The northern

division, known as the Seneca Division, is primarily a hemlock swamp with huge, old sugar maples, several kinds of ferns, and five species of wild orchids. The refuge is named for the Erie Indians who frequented this area. The first oil well in the United States was drilled in Titusville, 16 miles west of the refuge.

**10210 John Heinz NWR at Tinicum, Philadelphia, Pennsylvania:**  
Tinicum Marsh has a long history of disturbance, beginning in 1634 when Swedish, Dutch, and English settlers diked and drained parts of it for grazing. Other parts have been dredged and filled to accommodate post-World War I urbanization, reducing the tidal marsh from 5,700 acres to just 200 acres. Thanks in part to the efforts of the late Pennsylvania Senator John Heinz, the remaining area was preserved and expanded. It is now home to a wide variety of wildlife, including the state-listed red-bellied turtle and southern leopard frog.

**282 Cabo Rojo NWR, Boqueron, Puerto Rico:**  
Kibei Rojo National Wildlife Refuge sits on the extreme southwest point of the island of Puerto Rico. The land was used for cattle ranching and agriculture for nearly two centuries and, in 1967, the Foreign Broadcast Information Service acquired 587 acres and built a listening post to monitor foreign communications. By 1974, satellites made the system of antennae and wires obsolete and the land was transferred to the Fish and Wildlife Service. Cattle ranching and agricultural uses finally ceased in 1978 and refuge personnel have set about restoring the native ecosystems. The only native land mammals on the refuge, and in all of Puerto Rico, are bats. Although the refuge provides important migration habitat for such familiar North American species as Cape May warblers and northern parula warblers, it also hosts a colorful array of native Puerto Rican birds such as the yellow-shouldered blackbird, Puerto Rican tody, and Caribbean elaenia.

**10943 Pettaquamscutt Cove NWR, Charlestown, Rhode Island:**  
Pettaquamscutt Cove National Wildlife Refuge is one of several small refuges along the various coasts of Rhode Island. It is located on the southwest coast of Narragansett Bay near where the Bay meets the Atlantic Ocean. The refuge includes riverine and salt marsh



habitats as well as upland areas and provides excellent wintering habitat for black ducks.

**10322 Sachuest Point NWR, Charlestown, Rhode Island:**

Red foxes pursue small rodents along the trails of this rugged refuge, located on a rocky peninsula jutting out into the Atlantic Ocean. More than 200 bird species have been recorded on this former naval communications station, including the spectacular harlequin duck, all scoter species, rare Barrow's goldeneyes, snowy owls, and purple sandpipers.

**2451 Lake Andes NWR, Lake Andes, South Dakota:**

Sandhill cranes are a stunning sight as they rise from the prairie of Lake Andes Refuge. The lake for which the refuge is named is a typical prairie lake, dependent upon snowmelt and rainfall run-off. About every 20 years or so, it is dry. The wildlife vary according to the season and the precipitation cycle. In wet years, there is an abundance of white pelicans, tundra swans, and waterfowl of every description. In dry years, the upland birds--the ring-necked pheasants, wild turkeys, prairie chickens, and sharp-tailed grouse--take over. The refuge also hosts white-tailed and mule deer, herons, yellowlegs, sandpipers, badgers, coyotes, red foxes, raccoons, and a variety of songbirds. Bald eagles hunt and fish here, but their night roosts and nests are at the adjacent Karl Mundt refuge, closed to the public because the eagles' sensitivity to disturbance during nesting. However a road through that refuge offers ample opportunities for observing the eagles and other species found there.

**9373 Chickasaw NWR, Ripley, Tennessee:**

The uneven topography of Chickasaw National Wildlife Refuge is partly the result of the same earthquakes that created Reelfoot Lake. This refuge contains many and diverse ecosystems, from seasonally flooded bottomland hardwood forest to sandy grassland savannah, riverine habitat (streams, oxbow lakes, sloughs) to upland bluff, and open lands managed for migratory birds. Several varieties of oaks are found here--cherrybark, Nuttall, willow, and overcup--along with cottonwood, persimmon, pecan, hickory, sweetgum, and bald cypress. White-tailed deer, beavers, woodchucks, and muskrats are easily seen while bobcats, mink, river

otters, and coyotes are more elusive. The forests are alive with indigo buntings, scarlet and summer tanagers, bluebirds, flycatchers, warblers, and vireos while the mudflats and sandbars boast yellowlegs, sandpipers, plovers, gulls, and terns. Great blue herons, little blue herons, and snowy egrets are found wading at water's edge in search of the many frogs, toads, salamanders, and small fish. White pelicans pass through during fall and spring migrations. Birds of prey found here include bald eagles, Mississippi kites, great horned owls, and red-tailed hawks while upland game birds include wild turkeys, bobwhite quail, woodcock, and mourning doves. A visit to this refuge offers a variety of visitor opportunities, including hunting, fishing, boating, hiking, mountain biking, and horseback riding (on established roads and trails only).

9372

**Reelfoot NWR, Union City, Tennessee:**

Legend has it that Chief Tecumseh became so angry over an injustice that he stamped his foot, causing the great earthquakes of 1811-1812 that created Reelfoot Lake. The floodplain fell 35-40 feet and the Mississippi River flowed backward for 3 days, filling the 45-square-mile basin. Another legend says that a Chickasaw brave incurred the wrath of the gods when he kidnapped a Choctaw princess for his bride. The brave, his bride, and his whole tribe were entombed at the bottom of the lake when the gods created a depression filled by the waters of the Mississippi River. Well, however it happened, the result was a hauntingly beautiful spot, where bald eagles roost in the tops of huge bald cypress trees towering over shallow-water inlets. In spring, wild roses cluster around the roots of these majestic trees, and later purple gallinules forage among golden lotuses and water lilies. Wintering populations of waterfowl number in the hundreds of thousands and there are no fewer than 56 species of fish, including ancient paddlefish and bowfin. Jim Bowie and Davy Crockett hunted here, finding an abundance of turkeys, deer, rabbits, squirrels, beavers, raccoons, and opossums. Mink are also found here, as are muskrats, bobcats, foxes, and coyotes. Songbirds include 16 species of warblers, ruby-throated hummingbirds, a million or so blackbirds--mostly red-wings but some Brewer's and others--

orioles, Swainson's thrushes, and flycatchers. Cooper's hawks, ospreys, and Mississippi kites are also familiar to visitors. Hunting and fishing are permitted here. Wildlife observation and photography opportunities are excellent. Boating is recommended as the best way to see the refuge, although motors greater than 10 horsepower are discouraged because of the shallow waters and proliferation of stumps. Auto-touring is popular. Several areas, including the visitor center, are fully accessible.

**9416      Anahuac NWR, Anahuac, Texas:**

Is this the picture of domestic tranquility, or what? But don't be fooled by the benign expressions. The American alligator hasn't persisted for millions of years by being passive. Once nearly extinct, American alligators are now found by the thousands and are easily seen in the marshes of Anahuac National Wildlife Refuge at the east end of Texas' East Bay. The refuge also provides important resting habitat for migrating warblers and other songbirds and is well-known for its rails. Six species of these secretive marsh birds occur on the refuge. And it was at Anahuac that the last wild red wolves were found. All have now been taken into captivity for captive-breeding and reintroduction. Some have been reintroduced at Alligator River and Cape Romain national wildlife refuges in North and South Carolina, respectively.

**5144      Aransas NWR, Austwell, Texas:**

These palmettos and prickly pear cacti define just one of the many habitat types found on the 59,000-acre Aransas National Wildlife Refuge on the shore of San Antonio Bay. Best known for its large flock of wintering whooping cranes, Aransas is also home to such diverse species as alligators, javelinas, blue crabs, bobcats, deer, giant swallowtail butterflies, and more than 390 bird species. Nine hiking trails, an observation tower, and a 16-mile auto tour loop provide a variety of experiences for visitors.

**840      Balcones Canyonlands NWR, Austin, Texas:**

Balcones Canyonlands National Wildlife Refuge is one of our newest national wildlife refuges. This 41,000-acre oasis of juniper-oak habitat in the hill country northwest of Austin, Texas, was established to protect

the endangered black-capped vireo and golden-cheeked warbler. The boardwalk and observation deck allow the visitor easy access and a shaded platform for watching and photographing wildlife.

**9388 Lower Rio Grande Valley NWR, Alamo, Texas:**

The Lower Rio Grande Valley National Wildlife Refuge extends 190 miles along the north shore of the Rio Grande east and west of Alamo, Texas. Here the Mississippi and Central flyways overlap and four major climatic zones--the subtropic, temperate, Chihuahuan desert, and Gulf Coast--converge. The result is a tremendously diverse network of habitat supporting a staggering variety of plants and wildlife. Here are found species seen nowhere else in the United States: altamira orioles, buff-bellied hummingbirds, green jays; endangered ocelots, jaguarundis; Mexican olives, leadtrees, and ebonies. Here also are more common species, such as bobcats and coyotes, white-winged doves and broad-winged hawks, armadillos and collared peccaries. Scratching around on the ground are such interesting critters as least shrews and Mexican ground squirrels like this one. The refuge offers a 7-mile auto-tour loop, an interpretive tram tour, 12 miles of hiking trails with observation blinds, and a wheelchair-accessible trail.

**10342 Santa Ana NWR, Alamo, Texas:**

This small refuge on the lower Rio Grande in southeast Texas is host to an incredible number of species due to its location and the convergence of two major flyways--the Central and Mississippi--and four major climatic zones--subtropics, temperate, Chihuahuan desert, and Gulf coastal. There are so many butterflies that the refuge hosts annual butterfly counts on July 4 and Christmas. This yellow-crowned night heron is only one of more than 380 species of birds found here. In addition, the refuge is home to several wild cat species, including bobcats, the endangered ocelot and jaguarundi and, occasionally, mountain lions. That gray rock at your feet is more likely a giant toad, 8 inches across and weighing a pound or more, as rocks are rare here. With a 327-day growing season, flowering plants are abundant and trees grow to majestic proportions. Two, a saffron plum and a Texas lignum vitae, are listed as "National Champion" trees,

and a third, a now-dead ebony, held that distinction with a 131-inch diameter while living.

- 316      Bear River Migratory Bird Refuge, Brigham City, Utah**  
74,000 acres of river delta spill across the Great Salt Lake valley welcoming hundreds of species of waterfowl, shorebirds and raptors. Goldeneye, lesser scaups and American wigeon are just a few of the migrating waterfowl that can be seen here. Shorebirds; American avocets, black-necked stilts, dowitchers, willets and marbled godwits thrive here among the mudflats, marshes and shores. A self guided 12 mile auto tour is open daily. Walking and biking are also permitted along the tour route and an observation deck for bird watching is available. Bear River Migratory Bird Refuge is a refuge that has truly gone to the birds!

- 10298      Fish Springs NWR, Dugway, Utah:**  
Fish Springs Refuge is an area of stark contrasts. The springs for which it is named create a marshy oasis in the midst of one of the most arid and inhospitable places in the country. On this refuge, the southern section of the Great Salt Desert gives way to mountains rising 8,000 feet. From the mountains on a clear day, you can see as far as 60 miles and even observe the curvature of the Earth. Archaeologists date human use of this area as far back as 6,000 years. And in 1860-61, a Pony Express station occupied what is now the refuge picnic area. Wildlife abound, from such dry-climate species as jackrabbits and kit foxes to water-dependent species such as muskrats and waterfowl. Ring-necked pheasants are found in the upland areas while Canada geese, pied-billed grebes, various wading birds, and waterfowl nest in the marshes. Five species of hummingbirds frequent the headquarters area and showy Caspian terns stop by the ponds during migration. There are 38 miles of refuge roads but be advised: the nearest gas station is 45 miles away and the nearest motel is more than 100 miles away. A visit to Fish Springs is not for the faint of heart but is well worth the effort.

- 10214      Missisquoi NWR, Swanton, Vermont:**  
Since much of Missisquoi Refuge is marsh or open water, the best way to experience it is via canoe or boat. Missisquoi is home to the largest great blue

heron rookery in Vermont. Some 300 pairs of this majestic bird raise more than 1,000 young in a noisy colony on Shad Island near the Canadian border. Cross-country skiing and ice fishing are popular activities in winter. Blueberry-picking and frogging are permitted in late summer. This refuge is also open to hunting for deer, waterfowl, and small game, subject to state and Federal regulations. A walk along the nature trail may reveal woodcock, beaver, hummingbirds, muskrats, or kingfishers. Tens of thousands of waterfowl migrate through, some stopping to nest, supported by wild rice, bulrush, arrowhead, and other aquatic vegetation.

**7194 Chincoteague NWR, Chincoteague, Virginia:**

Best known for the annual wild pony round-ups immortalized in Marguerite Henry's children's book Misty of Chincoteague, Chincoteague Refuge is equally important for its role as a home for endangered and threatened wildlife. Sand dune stabilization projects, which include protective fencing and native plant restoration, are key factors in providing habitat for endangered Delmarva Peninsula fox squirrels and piping plovers. In summer, refuge staff and volunteers take visitors on a wildlife safari to places not ordinarily open to the public. There is also a boat cruise around the island to watch shorebirds feeding and roosting.

**315 Great Dismal Swamp NWR, Suffolk, Virginia and North Carolina**

Great Dismal Swamp National Wildlife Refuge is anything but dismal! Deciduous and coniferous forests with bald cypress, Atlantic white cedar, maples, oaks and sweet gum are teeming with wildlife and birds. Black bear, white-tailed deer and bobcat are among the large mammals that can be found here, as well as more than 50 species of turtles, lizards, salamanders, frogs and toads inhabit the freshwater wetlands. The forests draw more than 93 bird species to nest here including Swainson's warblers, pileated woodpeckers and barred owls. The refuge includes a boardwalk trail, which offers many opportunities for wildlife observation, photography and hiking.

316

**9437 Columbia NWR, Othello, Washington:**

The fascinating geologic history of Columbia National

Wildlife Refuge includes earthquakes, cataclysmic glacial floods, and volcanic activity leaving 10,000-foot thick lava beds, 60-million-year-old rocks, and a spectacular complex of buttes, rock mesas, cataracts, and basins known as the Drumheller Channels. In the late 1950s, engineers completed the Columbia Basin Irrigation Project. Seepage water from that project created more than a hundred sloughs, wet meadows, ponds, and streams, an oasis in this arid area that only gets 7 ½ inches of precipitation annually. Consequently, Columbia Refuge harbors hundreds of thousands of waterfowl, as well as other wetland-dependent species. And ash deposited during the Mt. St. Helens eruption reveals footprints of animals otherwise not seen.

**10153      Grays Harbor NWR, Hoquiam, Washington:**

Grays Harbor Refuge hosts one of the largest concentrations of migrating shorebirds in the Lower 48 states. Peak viewing season is mid-April when up to a million individuals of varying species stop on the way to their northern breeding grounds.

**9423      Julia Butler Hansen NWR for Columbian White-tailed Deer, Cathlamet, Washington:**

When Lewis and Clark explored this area in 1806, the Columbian white-tailed deer was plentiful. But when settlers began to clear the land for farming, this small subspecies of the eastern white-tailed deer with its limited range--many spend their entire lives with a 1/2-mile area--was unable to adapt. By the 1930s, it was thought extinct. However, a remnant herd of about 200 was discovered and, in 1972, Julia Butler Hansen refuge was established to ensure their preservation. The refuge is named for a Washington State congresswoman. Today the population is stable and deer are frequently seen by visitors.

**294      Nisqually NWR, Olympia, Washington:**

Nisqually National Wildlife Refuge's three hiking trails take visitors through three vastly different ecosystems. This one is through the mixed hardwood-conifer forest, where one can find black-tailed deer, rabbits, coyotes, and all manner of brightly colored songbirds. Another trail traverses a dike across the marshes and wetlands where one will find beavers, river

otters, and long-legged wading birds. And the area adjacent to Puget Sound's southern shoreline is home to such saltwater species as harbor seals, four species of gulls, western and horned grebes, and three species of scoter. And all is within the shadow of beautiful Mt. Rainier.

**10794      Canaan Valley NWR, Elkins, West Virginia:**

Located in the mountains of eastern West Virginia adjacent to Monongahela National Forest, Canaan Valley refuge is a patchwork of habitats. It is home to several endangered species, including Indiana bats and Virginia northern flying squirrels. Canaan Valley was the 500th refuge established since President Theodore Roosevelt created the national wildlife refuge system in 1903.

**9074      Horicon NWR, Mayville, Wisconsin:**

At more than 32,000 acres, Horicon Marsh is the largest freshwater cattail marsh in the country. This leftover from the glacial period has been recognized as a Wetland of International Importance, a Globally Important Bird Area, and a unit of the Ice Age National Scientific Reserve. It is a shallow peat-filled lake bed scoured out of limestone. The area was logged in the early 1800s, then the river feeding the marsh was dammed in 1846 to create a lake for floating logs, moving farm products via steamboat, and powering a saw mill and a grist mill. The dam was removed in 1869. Attempts to convert the land to farming in the 1890s failed because it was too wet and peaty. Finally, conservationists succeeded in lobbying Congress to preserve this area as a national wildlife refuge in July 1941. More than 219 species of bird, including the largest nesting population of redhead ducks east of the Mississippi River, are found here. Other wetland-dependent species here include river otters, muskrats, many species of frogs, and snapping turtles. Upland species are also here--deer, foxes, coyotes, raccoons, minks, and skunks are just a few. Visitors are invited to take advantage of opportunities for hiking, cross-country skiing, fishing, hunting, trapping, snowshoeing, biking, and wildlife observation and photography.

**10234      National Elk Refuge, Jackson, Wyoming:**



A highlight of a winter visit to the National Elk Refuge is riding out across the plains in a horse-drawn sleigh to see the great herds of elk for which this refuge was established. But elk aren't the only denizens of this little jewel of a refuge set against the backdrop of the mighty Tetons. Bighorn sheep are also found here, as are mule deer, coyotes, antelope, moose, trumpeter swans, many different kinds of raptors and grouse. Small birds include calliope hummingbirds, bold Clark's nutcrackers, mountain bluebirds, and Steller's jays. Recreationists will find excellent trout fishing, biking, and photography opportunities.

**10827    Seedskadee NWR, Green River, Wyoming:**

"Seedskadee" is a Shoshone word meaning "river of the prairie hen." We know the prairie hen by its more common name--sage grouse. And they are more numerous here than anywhere else. Moose, such as this mother and calf, are favorites of photographers as they nibble marsh greens and willows. Jackrabbits and white-tailed prairie dogs provide an abundant food source for bobcats, eagles, badgers, and various hawks. Burrowing owls make use of prairie dog holes and porcupines rest and browse the willows that survive the beaver's efficient incisors. Two species of rosy finch, the gray-capped and the black, can be seen by the hundred at feeders near refuge headquarters and mountain bluebirds find nest boxes along the nest box trail much to their liking. But as interesting as the wildlife in this refuge is the history. From the bluffs, one can look down over the Green River Valley and see wagon ruts left by pioneers traveling west along both the Oregon and Mormon trails. This is the land of Jim Bridger, Sacajawea, and Father De Smet. A special refuge tour map shows some of the various historic sites that can be found here.