

Wildlife

Knowledge of wildlife can increase people's understanding of environmental relationships. Wild animals are a source of enjoyment, recreation, and food, offering outlets for activities such as bird-watching, hunting, fishing, trapping, photography, sketching, and sculpting. They contribute to the diversity on which the health and resilience of the natural environment depend. Animal populations are also sensitive indicators of environmental health, often responding to subtle changes in pollution levels, land uses, and other stresses in observable ways.

The interaction of natural resources and human activities determines which wild animals thrive in an area. Vertebrates (animals with a backbone), such as mammals, birds, reptiles, amphibians, and fishes, and invertebrates (animals without a backbone), such as insects, snails, and worms, comprise this wildlife community. This chapter reviews the wildlife habitats and vertebrate species of Dutchess County.

Habitat Types

The place where a species lives is its habitat. The type and amount of habitat determine the animal species and the number of individuals of each species that can successfully find food and shelter and reproduce in a given area. Some types of habitats are common while others are scarce. The quality of a given type may also vary, due to the interaction of human influence and environmental factors.

The wildlife chapter was prepared by Erik Kiviat, an Ecologist with Hudsonia Limited of Annandale, New York.



Common habitats in Dutchess County include farm ponds, warm-water streams, weed fields, shrub land, young woodlots, residential yards, and pastures. Scarce habitats include caves, cliffs, talus slopes (rock slides), dry rocky hilltops, large hayfields, large-tree forests, extensive cattail marshes, tidal wetlands, tidal stream mouths, cool-water streams, and natural lakes and bogs. Still other habitats are moderately common but have special significance to wildlife. For example, intermittent woodland pools are critical breeding areas for certain amphibian species. Damage caused by dumping, filling, and spraying is reducing the number of woodland pools available to these species.

Habitat Changes

In the 1600s Dutchess County was extensively forested. Clearings created by Indian fires and agriculture dotted the landscape. By the mid-1800s most of the county had been converted into farmland. Today, over a quarter of a million people live in Dutchess County on land that includes farmland, redeveloping forest, and large residential, commercial, and industrial areas.



Wildlife species have reacted in various ways to the changing patterns of vegetation and land use. A few, such as the timber wolf and passenger pigeon, have disappeared completely. Beaver and pileated woodpecker disappeared at one time but have now returned. Some species, such as the bobcat, osprey, and Atlantic sturgeon, are less common now than they were in the 1600s, while other species, such as deer, raccoon, red fox, robin, and painted turtle are more common today. The wild turkey, which disappeared from Dutchess County during the 1840s, was reintroduced in 1974 and is now a naturally reproducing resident.

Several species are relative newcomers to the county. Coyotes moved into Dutchess County about 20 years ago and are now permanent residents. The Canada goose, now a moderately common breeder, was formerly only a migrant in the county.

Not all wildlife has fared well; natural and human factors threaten several species. Animals that need large, continuous, or interconnected habitat units often have trouble maintaining populations as their habitats become increasingly fragmented by land use changes. Important specific factors that are adversely affecting wildlife species include the following:

- Change in the water, soil, and vegetation that make up species' habitats.

- Pollution of water by sewage, PCBs (polychlorinated biphenyls), pesticides, and other toxic substances.
- Disturbance by noise, capture and release, and household pets.
- Competition from or predation by tolerant species whose populations have increased.

Cold-water fish like brook trout and sculpin have had some of their habitats ruined by the removal of bank vegetation and the silting and warming of streams. The habitats of cattail-nesting birds, such as the marsh wren, are reduced as purple loosestrife replaces cattail in disturbed marshes. Certain species of the tidal waters and wetlands of the Hudson River are scarce or absent due to environmental contaminants and adjacent land use. Introduced starlings have displaced eastern bluebirds from natural nesting cavities. Rattlesnakes have declined in range and number as a result of commercial collection and wanton killing.

Troubled Species

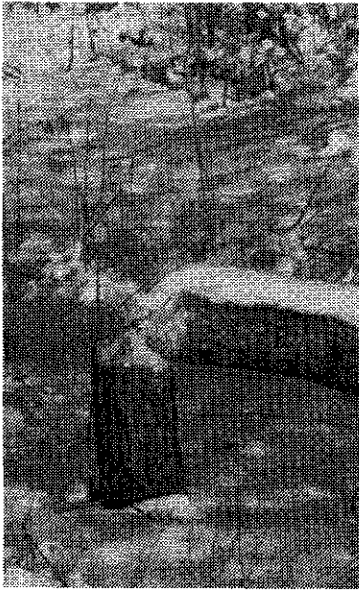
In 1983, the New York State Department of Environmental Conservation developed a new, expanded endangered species list with three categories (in order of decreasing concern): endangered, threatened, and special concern. Species classified as endangered or threatened are protected under the Environmental Conservation Law. The species on the new state list are noted in the list of vertebrate species in Dutchess County provided in Table 7.1.

Very few fishes and invertebrates have been included on the New York State endangered species list. Some biologists believe there are many additional species, both invertebrates and vertebrates, that are in serious trouble in New York and merit listing as endangered, threatened, or of special concern. A few of the unlisted Dutchess County vertebrates whose numbers are declining or whose habitat is seriously threatened, and that appear to be in trouble, are the marsh wren, ribbon snake, and marbled salamander. Detailed study would reveal that many additional species are similarly vulnerable.

Important Species

Many wildlife species thriving in Dutchess County are major influences on the landscape or have significant economic value. Deer are abundant and affect vegetation by selective feeding. Heavy browsing of seedlings and saplings and consumption of acorns can prevent all but the





least palatable trees and shrub species from reproducing. Affected areas may eventually show a shift in tree species composition.

Beaver, which are fairly common in eastern Dutchess County, affect forests and wetlands. They cut and girdle many trees and shrubs to feed on the bark. Beaver dams raise water levels temporarily, triggering the development of vegetation from forest to pond to marsh or swamp, and sometimes back to forest. The ponds and wetlands that beaver create are habitat for waterfowl, turtles, fish, and other animals. Beaver-created habitats enhance landscape diversity.

Muskrats influence wetland vegetation by selectively eating certain plants, notably cattails. Muskrats make small clearings in the marsh vegetation, which may either return to the predominant plant community after a few years or be invaded by a different community, such as shrubs or purple loosestrife. Like beaver, muskrats increase the diversity of plant communities.

Deer, eastern cottontail, and gray squirrel are important game animals in Dutchess County. Muskrat, beaver, red fox, and gray fox are valuable furbearers. Game birds include ruffed grouse, ring-necked pheasant, wild turkey, and a number of waterfowl species. Some of the important game and food fish of non-tidal waters are brown trout, largemouth bass, pumpkinseed, bluegill, and brown bullhead. Hudson River fishery species include American shad, alewife, blueback herring, white perch, American eel, and striped bass. Eel and striped bass are still off-limits for commercial fishing because of their high PCB content.

Vertebrate Species

All vertebrate wildlife species recorded in Dutchess County are listed in Table 7.1. Relatively little is known about where many of these species are concentrated within the county.

Key to Annotations

The symbols listed below are used in Table 7.1 to indicate the abundance and protection status of wildlife species reported in Dutchess County. Whether or not a species is known to breed in the county is also noted.

- C** Common: A common species is found wherever there is suitable habitat, probably in all towns, by an observer familiar with its behavior and sign. A common species often occupies more than one habitat type.

- U** Uncommon: The abundance of an uncommon species is intermediate between common and rare. Such a species may be unevenly distributed. It is likely to be found in several towns, and perhaps in all towns, but in smaller numbers than a common species of similar size.
- R** Rare: A rare species is usually very uneven or local in occurrence, and may be found in only one or a few towns. It may be restricted to a single--often scarce--habitat type. Overall numbers are low.
- H** Hudson River: Such species are confined, or very nearly confined, to Hudson River tidal habitats.
- b** Breeder: Such species are known or believed to reproduce (rear young) in the county, and may also be present outside of the breeding season.
- n** Nonbreeder: Nonbreeding species are present part of the year or occasionally, but probably do not reproduce in the county. (Breeding and nonbreeding populations of the same species may be noted separately in Table 7.1 if the status of the two populations differs greatly.)
- unv** Unverified: Unverified species have been reported in the county, but their presence has not been proven. The reports are probably correct. In addition, a few species that have been found very close to Dutchess County but have not yet been found in the county are listed as unverified.
- per** Peripheral: Such a species is at the edge of its geographic range. It is likely to be rare, and its numbers are likely to fluctuate. Marine or coastal species that barely penetrate as far inland as Dutchess County are also listed as peripheral.
- acc** Accidental: Accidental species are well outside their normal range and have been recorded in Dutchess County only once or a few times.
- int** Introduced: Such species are not native to Dutchess County, but in most cases are established and reproducing here. Aquatic species that arrived through canals are considered introduced. Escaped species that are not established in the county, such as the red-eared turtle, are not included in Table 7.1.
- ext** Extirpated: Such species were formerly present in the county but are now extinct here. They may still exist outside the county.

EE Endangered: Such species appear on the federal and New York State endangered species lists. They are automatically protected under state and federal law, but their habitats are not.

E Endangered, New York: Such species appear on the New York State list of endangered species, but not on the federal list. They are in danger of being completely eliminated or have already been extirpated from the state. They are automatically protected under state law, but their habitats are not.

T Threatened, New York: Such species appear on the New York State list of threatened species, and are likely to become endangered in the foreseeable future. Threatened species are automatically protected under state law, but their habitats are not.

S Special Concern, New York: These species appear on the New York State list of species that have not been recognized as endangered or threatened but are of special concern because available evidence raises questions about their continued welfare in New York State. Special concern species are not automatically protected as endangered and threatened species are. Some, however, have other legal protection under state law.

lor# Completely or Partially Protected: These species have some protection in Dutchess County under federal or New York State law. The degree of protection for these species may vary from year to year in Dutchess County, or from region to region in New York State. Completely protected species found in the wild may not be pursued, killed, hunted, fished, trapped, or otherwise harrassed at any time, for any purpose, except by special permit. Partially protected wildlife may be harvested in the wild during open seasons, established by order of the New York State Department of Environmental Conservation or by legislative action. (See Bergstrom, 1979, and the 1983 New York State Endangered Species List.)

***** Blue List for 1982: These bird species have undergone apparent population declines over large portions of their ranges, and are included on "The Blue List for 1982" (Tate and Tate, 1982).

Table 7.1 Vertebrate Wildlife of Dutchess County

Species	Notes
Fishes	
American brook lamprey, <u>Lampetra appendix</u>	R H
Sea lamprey, <u>Petromyzon marinus</u>	R H b
Shortnose sturgeon, <u>Acipenser brevirostrum</u>	R H n EE !
Atlantic sturgeon, <u>Acipenser oxyrhynchus</u>	R? H #
American eel, <u>Anguilla rostrata</u>	C n
Blueback herring, <u>Alosa aestivalis</u>	C H b
Alewife, <u>Alosa pseudoharengus</u>	C H b
American shad, <u>Alosa sapidissima</u>	C H b #
Atlantic menhaden, <u>Brevoortia tyrannus</u>	R H n per
Gizzard shad, <u>Dorosoma cepedianum</u>	RH per int?
Bay anchovy, <u>Anchoa mitchilli</u>	U H b
Cisco (lake herring), <u>Coregonus artedii</u>	unv per int ext?
Rainbow trout, <u>Salmo gairdneri</u>	U? n int #
Brown trout, <u>Salmo trutta</u>	U b int #
Brook trout, <u>Salvelinus fontinalis</u>	R? b #
Lake trout, <u>Salvelinus namaycush</u>	unv int #
Rainbow smelt, <u>Osmerus mordax</u>	R? b (int inland)
Central mudminnow, <u>Umbra limi</u>	R b per
Redfin pickerel, <u>Esox americanus</u>	C b #
Northern pike, <u>Esox lucius</u>	H n unv per #
Chain pickerel, <u>Esox niger</u>	C? b #
Goldfish, <u>Carassius auratus</u>	C b int
Carp, <u>Cyprinus carpio</u>	C b int
Cutlips minnow, <u>Exoglossum maxillina</u>	U? b
Eastern silvery minnow, <u>Hybognathus regius</u>	U? H b per?
Golden shiner, <u>Notemigonus crysoleucas</u>	C b
Comely shiner, <u>Notropis amoenus</u>	H n acc? int?
Satinfin shiner, <u>Notropis analostanus</u>	H n acc int?
Emerald shiner, <u>Notropis atherinoides</u>	R? H b per int
Bridle shiner, <u>Notropis bifrenatus</u>	ext?
Common shiner, <u>Notropis cornutus</u>	C b
Spottail shiner, <u>Notropis hudsonius</u>	C b
Spotfin shiner, <u>Notropis spilopterus</u>	R H per
Bluntnose minnow, <u>Pimephales notatus</u>	unv
Fathead minnow, <u>Pimephales promelas</u>	R b int ?
Blacknose dace, <u>Rhinichthys atratulus</u>	C b
Longnose dace, <u>Rhinichthys cataractae</u>	U b
Creek chub, <u>Semotilus atromaculatus</u>	C? b
Fallfish, <u>Semotilus coporalis</u>	C? b
White sucker, <u>Catostomus commersoni</u>	C b
Creek chubsucker, <u>Erimyzon oblongus</u>	unv
Northern hogsucker, <u>Hypentelium nigricans</u>	R b? per?
White catfish, <u>Ictalurus catus</u>	U? H b per
Black bullhead, <u>Ictalurus melas</u>	unv per int?
Yellow Bullhead, <u>Ictalurus natalis</u>	R per (int inland?)

Table 7.1 Cont.

Species	Notes
Brown bullhead, <u>Ictalurus nebulosus</u>	C b
Trout-perch, <u>Percopsis omiscomaycus</u>	unv
Atlantic tomcod, <u>Microgadus tomcod</u>	U? H b
Atlantic needlefish, <u>Strongylura marina</u>	R H n per
Banded killifish, <u>Fundulus diaphanus</u>	C b (R inland?)
Mummichog (saltwater killifish), <u>Fundulus heteroclitus</u>	C H b
Fourspine stickleback, <u>Apeltes quadracus</u>	U? H b
White perch, <u>Morone americana</u>	C H b
White bass, <u>Morone chrysops</u>	H unv int
Striped bass, <u>Morone saxatilis</u>	C H b #
Rock bass, <u>Ambloplites rupestris</u>	C b int
Redbreast sunfish, <u>Lepomis auritus</u>	C b
Green sunfish, <u>Lepomis cyanellus</u>	R b int
Pumpkinseed, <u>Lepomis gibbosus</u>	C b
Warmouth, <u>Lepomis gulosus</u>	R b int
Bluegill, <u>Lepomis macrochirus</u>	C b int
Smallmouth bass, <u>Micropterus dolomieu</u>	U b int #
Largemouth bass, <u>Micropterus salmoides</u>	C b int #
White crappie, <u>Pomoxis annularis</u>	R H b? int
Black crappie, <u>Pomoxis nigromaculatus</u>	U b int
Tessellated darter (eastern johnny darter), <u>Etheostoma olmstedii</u>	C b
Yellow perch, <u>Perca flavescens</u>	C b int #
Walleye (pikeperch), <u>Stizostedion vitreum</u>	H acc (int ext inland)#
Bluefish, <u>Pomatomus saltatrix</u>	U? H n per #?
Crevalle jack, <u>Caranx hippos</u>	R H n per
Silver perch, <u>Bairdiella chrysoura</u>	H unv per
Weakfish, <u>Cynoscion regalis</u>	H unv per
White mullet, <u>Muqil curema</u>	R H n per
Slimy sculpin, <u>Cottus cognatus</u>	R b per?
Hogchoker, <u>Trinectes maculatus</u>	U? H n
Amphibians	
Mudpuppy, <u>Necturus maculosus</u>	H unv int ext?
Marbled salamander, <u>Ambystoma opacum</u>	R? b per
Jefferson salamander, <u>Ambystoma jeffersonianum</u>	R? b per? S
Silvery salamander, <u>Ambystoma platineum</u>	R b
Blue-spotted salamander, <u>Ambystoma laterale</u>	R b per S
Tremblay's salamander, <u>Ambystoma tremblayi</u>	R b
Spotted salamander, <u>Ambystoma maculatum</u>	C b S
Eastern newt (red-spotted newt, red eft), <u>Notophthalmus viridescens</u>	C b
Dusky salamander, <u>Desmognathus fuscus</u>	R? b

Table 7.1 Cont.

Species	Notes
Redback salamander (leadback salamander), <u>Plethodon cinereus</u>	C b
Slimy salamander, <u>Plethodon glutinosus</u>	R? b per
Four-toed salamander, <u>Hemidactylum scutatum</u>	R b
Red salamander, <u>Pseudotriton ruber</u>	unv per
Two-lined salamander, <u>Eurycea bislineata</u>	C? b
American toad, <u>Bufo americanus</u>	C b
Fowler's toad, <u>Bufo woodhousii</u>	R b per
Spring peeper, <u>Hyla crucifer</u>	C b
Gray treefrog, <u>Hyla versicolor</u>	U b
Bullfrog, <u>Rana catesbeiana</u>	U b #
Green frog, <u>Rana clamitans</u>	C b #
Wood frog, <u>Rana sylvatica</u>	C b #
Northern leopard frog (northern meadow frog), <u>Rana pipiens</u>	R per #
Pickerel frog, <u>Rana palustris</u>	C b #
Reptiles	
Snapping turtle, <u>Chelydra serpentina</u>	C b
Stinkpot (musk turtle), <u>Sternotherus odoratus</u>	U b
Mud turtle, <u>Kinosternon subrubrum</u>	unv T !
Spotted turtle, <u>Clemmys guttata</u>	U b S
Bog turtle (Muhlenberg's turtle), <u>Clemmys muhlenbergii</u>	R b E !
Wood turtle, <u>Clemmys insculpta</u>	U b S !
Eastern box turtle, <u>Terrapene carolina</u>	R b per? !
Diamondback terrapin, <u>Malaclemys terrapin</u>	H unv per S
Map turtle, <u>Graptemys geographica</u>	R b H per? int?
Painted turtle, <u>Chrysemys picta</u>	C b
Blanding's turtle, <u>Emydoidea blandingii</u>	R b T !
Spiny softshell turtle, <u>Trionyx spiniferus</u>	unv int
Eastern fence lizard, <u>Sceloporus undulatus</u>	R b per
Five-lined skink, <u>Eumeces fasciatus</u>	unv per
Northern water snake, <u>Nerodia sipedon</u>	C? b
Brown snake, <u>Storeria dekayi</u>	U? b
Redbelly snake, <u>Storeria occipitomaculata</u>	R b?
Eastern ribbon snake, <u>Thamnophis sauritus</u>	R b
Common garter snake, <u>Thamnophis sirtalis</u>	C b
Eastern hognose snake, <u>Heterodon platyrhinos</u>	R b per S
Ringneck snake, <u>Diadophis punctatus</u>	R? b
Worm snake, <u>Carphophis amoenus</u>	unv per S
Black racer, <u>Coluber constrictor</u>	U? b
Smooth green snake, <u>Opheodrys vernalis</u>	R? b
Black rat snake (pilot blacksnake), <u>Elaphe obsoleta</u>	U? b per?
Milk snake, <u>Lampropeltis triangulum</u>	U b
Copperhead, <u>Agkistrodon contortrix</u>	U b per?
Timber rattlesnake, <u>Crotalus horridus</u>	R b T !

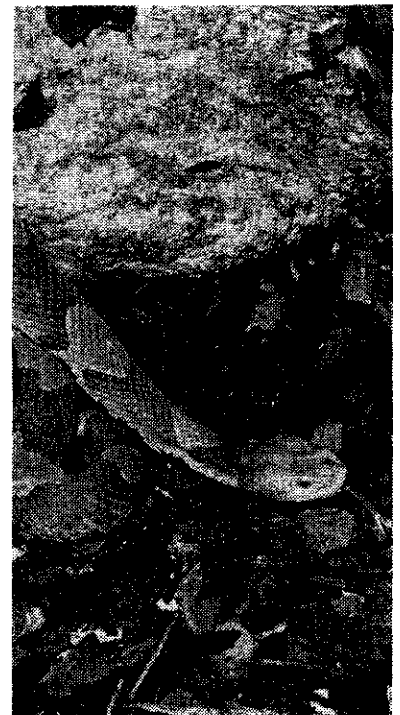


Table 7.1 Cont.

Species	Notes
Birds	
Red-throated loon, <u>Gavia stellata</u>	n acc !
Common loon, <u>Gavia immer</u>	R n S !
Pied-billed grebe, <u>Podilymbus podiceps</u>	R b, U n !
Horned grebe, <u>Podiceps auritus</u>	R n !
Red-necked grebe, <u>Podiceps grisegena</u>	n acc !
Eared grebe, <u>Podiceps nigricollis</u>	n acc !
Northern gannet, <u>Sula bassanus</u>	H n acc !
Great cormorant, <u>Phalacrocorax carbo</u>	H n acc !
Double-crested cormorant, <u>Phalacrocorax auritus</u>	R H n !
American bittern, <u>Botaurus lentiginosus</u>	R b * !
Least bittern, <u>Ixobrychus exilis</u>	R b S * !
Great blue heron, <u>Ardea herodias</u>	R b, U n !
Great egret (American or common egret), <u>Casmerodius albus</u>	R n !
Snowy egret, <u>Egretta thula</u>	R n !
Little blue heron, <u>Egretta caerulea</u>	n acc !
Cattle egret, <u>Bubulcus ibis</u>	n acc !
Green-backed heron (green heron), <u>Butorides striatus</u>	U? b !
Black-crowned night-heron, <u>Nycticorax nycticorax</u>	ext b, R n !
Yellow-crowned night-heron, <u>Nycticorax violaceus</u>	n acc !
Glossy ibis, <u>Plegadis falcinellus</u>	n acc !
Fulvous whistling-duck (fulvous tree duck), <u>Dendrocygna bicolor</u>	n acc !
Tundra swan (whistling swan), <u>Cygnus columbianus</u>	n acc !
Mute swan, <u>Cygnus olor</u>	R b int !
Greater white-fronted goose, <u>Anser albifrons</u>	n acc #
Snow goose, <u>Chen caerulescens</u>	R n #
Ross' goose, <u>Chen rossii</u>	n acc !
Brant, <u>Branta bernicla</u>	U n #
Canada goose, <u>Branta canadensis</u>	U? b int? C n native #
Wood duck, <u>Aix sponsa</u>	U b, C n #
Green-winged teal, <u>Anas crecca</u>	R b per, C n #
American black duck, <u>Anas rubripes</u>	R b, C n #
Mallard, <u>Anas platyrhynchos</u>	U b int?, C n #
Northern pintail, <u>Anas acuta</u>	R n #
Blue-winged teal, <u>Anas discors</u>	R b, C n #
Northern shoveler, <u>Anas clypeata</u>	R n #
Gadwall, <u>Anas strepera</u>	n acc #
Eurasian wigeon, <u>Anas penelope</u>	n acc #
American wigeon, <u>Anas americana</u>	R n #
Canvasback, <u>Aythya valisineria</u>	U n #
Redhead, <u>Aythya americana</u>	R n #
Ring-necked duck, <u>Aythya collaris</u>	U n #
Greater scaup, <u>Aythya marila</u>	U? n #

Table 7.1 Cont.

Species	Notes
Lesser scaup, <u>Aythya affinis</u>	U? n #
Common eider, <u>Somateria mollissima</u>	n acc #
Oldsquaw, <u>Clangula hyemalis</u>	n acc !?
Black scoter, <u>Melanitta nigra</u>	R n !?
Surf scoter, <u>Melanitta perspicillata</u>	n acc? !?
White-winged scoter, <u>Melanitta fusca</u>	R n !?
Common goldeneye, <u>Bucephala clangula</u>	U n #
Barrow's goldeneye, <u>Bucephala islandica</u>	n unv acc #
Bufflehead, <u>Bucephala albeola</u>	U n #
Hooded merganser, <u>Lophodytes cucullatus</u>	unv b, R n #
Common merganser, <u>Mergus merganser</u>	U n #
Red-breasted merganser, <u>Mergus serrator</u>	R n #
Ruddy duck, <u>Oxyura jamaicensis</u>	n acc #
Black vulture, <u>Coragyps atratus</u>	n acc !
Turkey vulture, <u>Cathartes aura</u>	unv b, U n !
Osprey, <u>Pandion haliaetus</u>	acc b, R n T !
Black-shouldered kite (white-tailed kite), <u>Elanus caeruleus</u>	n acc !
Bald eagle, <u>Haliaeetus leucocephalus</u>	ext b, R n EE !
Northern harrier (marsh hawk), <u>Circus cyaneus</u>	ext b, R n T * !
Sharp-shinned hawk, <u>Accipiter striatus</u>	R b per?, U? n * !
Cooper's hawk, <u>Accipiter cooperii</u>	R b, R n S !
Northern goshawk, <u>Accipiter gentilis</u>	R b, R n !
Red-shouldered hawk, <u>Buteo lineatus</u>	R b, R n T * !
Broad-winged hawk, <u>Buteo platypterus</u>	R? b, C n !
Red-tailed hawk, <u>Buteo jamaicensis</u>	C b, C n !
Rough-legged hawk, <u>Buteo lagopus</u>	R n !
Golden eagle, <u>Aquila chrysaetos</u>	R n E !
American kestrel (sparrow hawk), <u>Falco sparverius</u>	C b, C n !
Merlin, <u>Falco columbarius</u>	n acc !
Peregrine falcon, <u>Falco peregrinus</u>	acc ext b, R n EE !
Gyr Falcon, <u>Falco rusticolus</u>	n acc !
Gray partridge (Hungarian partridge), <u>Perdix</u> <u>perdix</u>	int ext
Ring-necked pheasant, <u>Phasianus colchicus</u>	U b int #
Ruffed grouse, <u>Bonasa umbellus</u>	C b #
Wild turkey, <u>Meleagris gallopavo</u>	R b #
Northern bobwhite, <u>Colinus virginianus</u>	T b per #
King rail, <u>Rallus elegans</u>	R b? per? * #
Virginia rail, <u>Rallus limicola</u>	R b #
Sora, <u>Porzana carolina</u>	R b per?, U n #
Common moorhen (common gallinule), <u>Gallinula</u> <u>chloropus</u>	R b #
American coot, <u>Fulica americana</u>	U n #
Sandhill crane, <u>Grus canadensis</u>	n acc !
Black-bellied plover, <u>Pluvialis squatarola</u>	R n !
Lesser golden-plover, <u>Pluvialis dominica</u>	n acc !

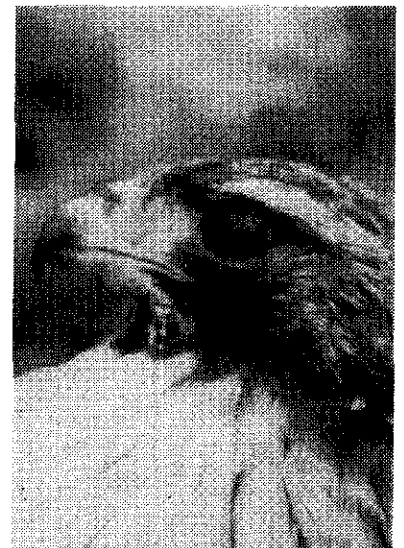


Table 7.1 Cont.

Species	Notes
Semipalmated plover, <u>Charadrius semipalmatus</u>	R n !
Killdeer, <u>Charadrius vociferus</u>	C b !
Greater yellowlegs, <u>Tringa melanoleuca</u>	U n !
Lesser yellowlegs, <u>Tringa flavipes</u>	U n !
Solitary sandpiper, <u>Tringa solitaria</u>	R n !
Willet, <u>Catoptrophorus semipalmatus</u>	n acc !
Spotted sandpiper, <u>Actitis macularia</u>	R b, C n !
Upland sandpiper, <u>Bartramia longicauda</u>	R n S * !
Marbled godwit, <u>Limosa fedoa</u>	n acc !
Ruddy turnstone, <u>Arenaria interpres</u>	n acc !
Red knot, <u>Calidris canutus</u>	n acc !
Sanderling, <u>Calidris alba</u>	n acc !
Semipalmated sandpiper, <u>Calidris pusilla</u>	R n !
Western sandpiper, <u>Calidris mauri</u>	n acc !
Least sandpiper, <u>Calidris minutilla</u>	C? n !
White-rumped sandpiper, <u>Calidris fuscicollis</u>	n acc !
Baird's sandpiper, <u>Calidris bairdii</u>	n acc !
Pectoral sandpiper, <u>Calidris melanotos</u>	R n !
Dunlin, <u>Calidris alpina</u>	R n !
Stilt sandpiper, <u>Calidris himantopus</u>	n acc !
Buff-breasted sandpiper, <u>Tryngites subruficollis</u>	n acc !
(Short-billed?) dowitcher, <u>Limnodromus ?griseus</u>	n acc !
Common snipe, <u>Gallinago gallinago</u>	R b per, U n #
American woodcock, <u>Scolopax minor</u>	U b #
Wilson's phalarope, <u>Phalaropus tricolor</u>	n acc !
Red-necked phalarope (northern phalarope), <u>Phalaropus lobatus</u>	n acc !
Long-tailed jaeger, <u>Stercorarius longicaudus</u>	n acc !
Laughing gull, <u>Larus atricilla</u>	R n per !
Bonaparte's gull, <u>Larus philadelphia</u>	R H n !
Ring-billed gull, <u>Larus delawarensis</u>	C n !
Herring gull, <u>Larus argentatus</u>	C n !
Iceland gull, <u>Larus glaucoides</u>	H n acc !
Glaucous gull, <u>Larus hyperboreus</u>	H n acc !
Great black-backed gull, <u>Larus marinus</u>	U H n !
Black-legged kittiwake, <u>Rissa tridactyla</u>	H n acc !
Caspian tern, <u>Sterna caspia</u>	H n acc !
Common tern, <u>Sterna hirundo</u>	H n acc T !
Sooty tern, <u>Sterna fuscata</u>	n acc !
Black tern, <u>Chlidonias niger</u>	R n S * !
Dovekie, <u>Alle alle</u>	n acc !
Thick-billed murre, <u>Uria lomvia</u>	H n acc !
Atlantic puffin, (common puffin), <u>Fratercula arctica</u>	n acc !
Rock dove (pigeon), <u>Columba livia</u>	U b int
Mourning dove, <u>Zenaida macroura</u>	C b !
Passenger pigeon, <u>Ectopistes migratorius</u>	ext
Monk parakeet, <u>Myiopsitta monachus</u>	n acc int ext?

Table 7.1 Cont.

Species	Notes
Black-billed cuckoo, <u>Coccyzus erythrophthalmus</u>	R? b !
Yellow-bellied cuckoo, <u>Coccyzus americanus</u>	R? b !
Common barn-owl, <u>Tyto alba</u>	R b S !
Eastern screech-owl, <u>Otus asio</u>	U? b !
Great horned owl, <u>Bubo virginianus</u>	U b !
Snowy owl, <u>Nyctea scandiaca</u>	R n !
Barred owl, <u>Strix varia</u>	R b !
Long-eared owl, <u>Asio otus</u>	R b !
Short-eared owl, <u>Asio flammeus</u>	R n S * !
Boreal owl, <u>Aegolius funereus</u>	n acc !
Northern saw-whet owl, <u>Aegolius acadicus</u>	R n? per !
Common nighthawk, <u>Chordeiles minor</u>	ext b, U n S !
Whip-poor-will, <u>Caprimulgus vociferus</u>	R b !
Chimney swift, <u>Chaetura pelagica</u>	U b !
Ruby-throated hummingbird, <u>Archilochus colubris</u>	R? b, U n * !
Belted kingfisher, <u>Ceryle alcyon</u>	U b !
Red-headed woodpecker, <u>Melanerpes erythrocephalus</u>	ext? per? b, R n !
Red-bellied woodpecker, <u>Melanerpes carolinus</u>	R b per? !
Yellow-bellied sapsucker, <u>Sphyrapicus varius</u>	U n !
Downy woodpecker, <u>Picoides pubescens</u>	C b !
Hairy woodpecker, <u>Picoides villosus</u>	U? b * !
Black-backed woodpecker (black-backed three-toed woodpecker), <u>Picoides arcticus</u>	n acc !
Northern flicker (yellow-shafted flicker), <u>Colaptes auratus</u>	C b !
Pileated woodpecker, <u>Dryocopus pileatus</u>	R b !
Olive-sided flycatcher, <u>Contopus borealis</u>	R n !
Eastern wood-pewee, <u>Contopus virens</u>	C b !
Yellow-bellied flycatcher, <u>Empidonax flaviventris</u>	R n !
Acadian flycatcher, <u>Empidonax virescens</u>	R b per !
Willow flycatcher (Traill's flycatcher in part), <u>Empidonax traillii</u>	R b per? * !
Least flycatcher, <u>Empidonax minimus</u>	U? b !
Eastern phoebe, <u>Sayornis phoebe</u>	C b !
Great crested flycatcher, <u>Myiarchus crinitus</u>	U b !
Western kingbird, <u>Tyrannus verticalis</u>	n acc !
Eastern kingbird, <u>Tyrannus tyrannus</u>	U b !
Horned lark, <u>Eremophila alpestris</u>	R b !
Purple martin, <u>Progne subis</u>	R b !
Tree swallow, <u>Iachycineta bicolor</u>	C b !
Northern rough-winged swallow, <u>Stelgidopteryx serripennis</u>	R b !
Bank swallow, <u>Riparia riparia</u>	U b !
Cliff swallow, <u>Hirundo pyrrhonota</u>	ext? b, R n !
Barn swallow, <u>Hirundo rustica</u>	U b !
Gray jay, <u>Perisoreus canadensis</u>	n acc !
Blue jay, <u>Cyanocitta cristata</u>	C b !
American crow (common crow), <u>Corvus brachyrhynchos</u>	C b #

Table 7.1 Cont.

Species	Notes
Fish crow, <u>Corvus ossifragus</u>	R b per !
Common raven, <u>Corvus corax</u>	n acc S !
Black-capped chickadee, <u>Parus atricapillus</u>	C b !
Boreal chickadee, <u>Parus hudsonicus</u>	n acc !
Tufted titmouse, <u>Parus bicolor</u>	U b per? !
Red-breasted nuthatch, <u>Sitta canadensis</u>	b unv, R n !
White-breasted nuthatch, <u>Sitta carolinensis</u>	U b !
Brown creeper, <u>Certhia americana</u>	R? b, U n !
Carolina wren, <u>Thryothorus ludovicianus</u>	R b per !
Bewick's wren, <u>Thryomanes bewickii</u>	n unv * !
House wren, <u>Troglodytes aedon</u>	C b !
Winter wren, <u>Troglodytes troglodytes</u>	R b per, U n !
Sedge wren (short-billed marsh wren), <u>Cistothorus platensis</u>	ext? b, R n S !
Marsh wren (long-billed marsh wren), <u>Cistothorus palustris</u>	R b !
Golden-crowned kinglet, <u>Regulus satrapa</u>	U n, R b !
Ruby-crowned kinglet, <u>Regulus calendula</u>	C? n !
Blue-gray gnatcatcher, <u>Polioptila caerulea</u>	R? b, U n !
Northern wheatear, <u>Oenanthe oenanthe</u>	n acc !
Eastern bluebird, <u>Sialia sialia</u>	R b S * !
Mountain bluebird, <u>Sialia currucoides</u>	n acc !
Townsend's solitaire, <u>Myadestes townsendi</u>	n acc !
Veery, <u>Catharus fuscescens</u>	U b !
Gray-cheeked thrush, <u>Catharus minimus</u>	R n !
Swainson's thrush, <u>Catharus ustulatus</u>	U n !
Hermit thrush, <u>Catharus guttatus</u>	R b, U n !
Wood thrush, <u>Hylocichla mustelina</u>	C b !
American robin, <u>Turdus migratorius</u>	C b !
Gray catbird, <u>Dumetella carolinensis</u>	C b !
Northern mockingbird, <u>Mimus polyglottos</u>	U b per? !
Brown thrasher, <u>Toxostoma rufum</u>	U b !
Water pipit, <u>Anthus spinoletta</u>	R n !
Bohemian waxwing, <u>Bombycilla garrulus</u>	n acc !
Cedar waxwing, <u>Bombycilla cedrorum</u>	U? b !
Northern shrike, <u>Lanius excubitor</u>	R n !
Loggerhead shrike, <u>Lanius ludovicianus</u>	R n E * !
European starling, <u>Sturnus vulgaris</u>	C b int
White-eyed vireo, <u>Vireo griseus</u>	R b per !
Solitary vireo, <u>Vireo solitarius</u>	R b per !
Yellow-throated vireo, <u>Vireo flavifrons</u>	U b !
Warbling vireo, <u>Vireo gilvus</u>	U? b !
Philadelphia vireo, <u>Vireo philadelphicus</u>	R n !
Red-eyed vireo, <u>Vireo olivaceus</u>	C b !
Blue-winged warbler, <u>Vermivora pinus</u>	U? b per? !
Golden-winged warbler, <u>Vermivora chrysoptera</u>	R b * !
Tennessee warbler, <u>Vermivora peregrina</u>	R n !
Orange-crowned warbler, <u>Vermivora celata</u>	n acc !

Table 7.1 Cont.

Species	Notes
Nashville warbler, <u>Vermivora ruficapilla</u>	R b per !
Northern parula (parula warbler), <u>Parula americana</u>	R n !
Yellow warbler, <u>Dendroica petechia</u>	C b * !
Chestnut-sided warbler, <u>Dendroica pensylvanica</u>	U? b !
Magnolia warbler, <u>Dendroica magnolia</u>	U nb !
Cape May warbler, <u>Dendroica tigrina</u>	U nb !
Black-throated blue warbler, <u>Dendroica caerulescens</u>	R b per, U n !
Yellow-rumped warbler (myrtle warbler), <u>Dendroica coronata</u>	R b per, C n !
Townsend's warbler, <u>Dendroica townsendi</u>	n acc !
Black-throated green warbler, <u>Dendroica virens</u>	R b, U n !
Blackburnian warbler, <u>Dendroica fusca</u>	R b unv, R n !
Yellow-throated warbler, <u>Dendroica dominica</u>	n acc !
Pine warbler, <u>Dendroica pinus</u>	b ext?, R n !
Prairie warbler, <u>Dendroica discolor</u>	U b !
Palm warbler, <u>Dendroica palmarum</u>	U? n !
Bay-breasted warbler, <u>Dendroica castanea</u>	R n !
Blackpoll warbler, <u>Dendroica striata</u>	U n !
Cerulean warbler, <u>Dendroica cerulea</u>	R b !
Black-and-white warbler, <u>Mniotilta varia</u>	R? b, C n !
American redstart, <u>Setophaga ruticilla</u>	C b !
Prothonotary warbler, <u>Protonotaria citrea</u>	n acc !
Worm-eating warbler, <u>Helminthos vermivorus</u>	R b per !
Ovenbird, <u>Selurus aurocapillus</u>	U b !
Northern waterthrush, <u>Selurus noveboracensis</u>	R b per !
Louisiana waterthrush, <u>Selurus motacilla</u>	U b per !
Kentucky warbler, <u>Oporornis formosus</u>	n acc !
Connecticut warbler, <u>Oporornis agilis</u>	R n !
Mourning warbler, <u>Oporornis philadelphia</u>	R n !
Common yellowthroat (Maryland yellowthroat), <u>Geothlypis trichas</u>	C b !
Hooded warbler, <u>Wilsonia citrina</u>	R b unv !
Wilson's warbler, <u>Wilsonia pusilla</u>	R n !
Canada warbler, <u>Wilsonia canadensis</u>	R b !
Yellow-breasted chat, <u>Icteria virens</u>	R b per
Summer tanager, <u>Piranga rubra</u>	n acc !
Scarlet tanager, <u>Piranga olivacea</u>	U b !
Northern cardinal, <u>Cardinalis cardinalis</u>	C b !
Rose-breasted grosbeak, <u>Pheucticus ludovicianus</u>	U b !
Black-headed grosbeak, <u>Pheucticus melanocephalus</u>	n acc !
Indigo bunting, <u>Passerina cyanea</u>	U b !
Dickcissel, <u>Spiza americana</u>	n acc * !
Rufous-sided towhee <u>Pipilo erythrophthalmus</u>	C b !
American tree sparrow, <u>Spizella arborea</u>	C n !
Chipping sparrow, <u>Spizella passerina</u>	C b !
Clay-colored sparrow, <u>Spizella pallida</u>	n? acc !
Field sparrow, <u>Spizella pusilla</u>	C b !
Vesper sparrow, <u>Poocetes gramineus</u>	R b S !

Table 7.1 Cont.

Species	Notes
Lark sparrow, <u>Chondestes grammacus</u>	n acc !
Lark bunting, <u>Calamospiza melanocorys</u>	n acc !
Savannah sparrow, <u>Passerculus sandwichensis</u>	R b !
Grasshopper sparrow, <u>Ammodramus savannarum</u>	R b S * !
Henslow's sparrow, <u>Ammodramus henslowii</u>	b ext, R n S !
Sharp-tailed sparrow, <u>Ammodramus caudacutus</u>	H n acc !
Fox sparrow, <u>Passerella iliaca</u>	R n !
Song sparrow, <u>Melospiza melodia</u>	C b !
Lincoln's sparrow, <u>Melospiza lincolni</u>	R n !
Swamp sparrow, <u>Melospiza georgiana</u>	U b !
White-throated sparrow, <u>Zonotrichia albicollis</u>	C n !
White-crowned sparrow, <u>Zonotrichia leucophrys</u>	R n !
Harris' sparrow, <u>Zonotrichia querula</u>	n acc !
Dark-eyed junco (slate-colored junco), <u>Junco hyemalis</u>	R b per, C n !
Lapland longspur, <u>Calcarius lapponicus</u>	R n !
Snow bunting, <u>Plectrophenax nivalis</u>	R n !
Bobolink, <u>Dolichonyx oryzivorus</u>	R b !
Red-winged blackbird, <u>Agelaius phoeniceus</u>	C b !
Eastern meadowlark, <u>Sturnella magna</u>	U b * !
Western meadowlark, <u>Sturnella neglecta</u>	b? acc !
Yellow-headed blackbird, <u>Xanthocephalus xanthocephalus</u>	n acc !
Rusty blackbird, <u>Euphagus carolinus</u>	U n !
Common grackle (purple grackle, bronzed grackle), <u>Quiscalus quiscula</u>	C b !
Brown-headed cowbird, <u>Molothrus ater</u>	C b !
Orchard oriole, <u>Icterus spurius</u>	R b, R n per !
Northern oriole, (Baltimore oriole), <u>Icterus galbula</u>	C b !
Brambling, <u>Fringilla montifringilla</u>	n acc !?
Pine grosbeak, <u>Pinicola enucleator</u>	R n !
Purple finch, <u>Carpodacus purpureus</u>	R b per, U n !
House finch, <u>Carpodacus mexicanus</u>	U b int !
Red crossbill, <u>Loxia curvirostra</u>	R n !
White-winged crossbill, <u>Loxia leucoptera</u>	n acc !
Common redpoll, <u>Carduelis flammea</u>	R n !
Hoary redpoll, <u>Carduelis hornemanni</u>	n acc !
Pine siskin, <u>Carduelis pinus</u>	R n !
American goldfinch, <u>Carduelis tristis</u>	C b !
Evening grosbeak, <u>Coccothraustes vespertinus</u>	R b?, U n !
House sparrow, <u>Passer domesticus</u>	U b int !

Mammals

Virginia opossum, <u>Didelphis virginiana</u>	C b
Masked shrew, <u>Sorex cinereus</u>	R? b
Water shrew, <u>Sorex palustris</u>	unv per
Smoky shrew, <u>Sorex fumeus</u>	R b
Short-tailed shrew, <u>Blarina brevicauda</u>	C b



Table 7.1 Cont.

Species	Notes
Hairy-tailed mole, <u>Parascalops breweri</u>	R b
Eastern mole, <u>Scalopus aquaticus</u>	R b per
Star-nosed mole, <u>Condylura cristata</u>	U b
Little brown bat (little brown myotis), <u>Myotis lucifugus</u>	C b
Keen's bat (Keen's myotis), <u>Myotis keenii</u>	R b?
Indiana bat (Indiana or social myotis), <u>Myotis sodalis</u>	unv per EE !
Eastern pipistrelle, <u>Pipistrellus subflavus</u>	R b?
Big brown bat, <u>Eptesicus fuscus</u>	U b
Red bat, <u>Lasiurus borealis</u>	U n
Hoary bat, <u>Lasiurus cinereus</u>	unv
Eastern cottontail, <u>Sylvilagus floridanus</u>	C b #
New England cottontail, <u>Sylvilagus transitionalis</u>	unv S #
Snowshoe hare, <u>Lepus americanus</u>	R b? per #
European hare, <u>Lepus capensis</u>	R b int #
Eastern chipmunk, <u>Tamias striatus</u>	C b
Woodchuck, <u>Marmota monax</u>	C b
Gray squirrel, <u>Sciurus carolinensis</u>	C b#
Red squirrel, <u>Tamiasciurus hudsonicus</u>	U b
Southern flying squirrel, <u>Glaucomys volans</u>	U b
Beaver, <u>Castor canadensis</u>	U b#
Deer mouse, <u>Peromyscus maniculatus</u>	R b per?
White-footed mouse, <u>Peromyscus leucopus</u>	C b
Eastern woodrat, <u>Neotoma floridana</u>	ext? per T !
Southern red-backed vole, <u>Clethrionomys gapperi</u>	R b
Meadow vole, <u>Microtus pennsylvanicus</u>	C b
Woodland vole (pine vole), <u>Microtus pinetorum</u>	U b
Muskrat, <u>Ondatra zibethicus</u>	U b #
Southern bog lemming, <u>Synaptomys cooperi</u>	R b?
Norway rat, <u>Rattus norvegicus</u>	C b int
House mouse, <u>Mus musculus</u>	U b int
Meadow jumping mouse, <u>Zapus hudsonius</u>	C? b
Woodland jumping mouse, <u>Napaeozapus insignis</u>	R b? per?
Porcupine, <u>Erethizon dorsatum</u>	R b per?
Common dolphin, <u>Delphinus delphis</u>	H acc
Coyote, <u>Canis latrans</u>	U? b? #
Gray wolf (timber wolf), <u>Canis lupus</u>	ext EE !
Feral dog, <u>Canis familiaris</u>	R? b? int (1)
Red fox, <u>Vulpes vulpes</u>	U b int? #
Gray fox, <u>Urocyon cinereoargenteus</u>	C b #
Black bear, <u>Ursus americanus</u>	acc !
Raccoon, <u>Procyon lotor</u>	C b #
Fisher, <u>Martes pennanti</u>	R or acc !
Ermine (short-tailed weasel), <u>Mustela erminea</u>	U? b
Long-tailed weasel, <u>Mustela frenata</u>	U? b
Mink, <u>Mustela vison</u>	U? b #
Striped skunk, <u>Mephitis mephitis</u>	C b
River otter, <u>Lutra canadensis</u>	R b #

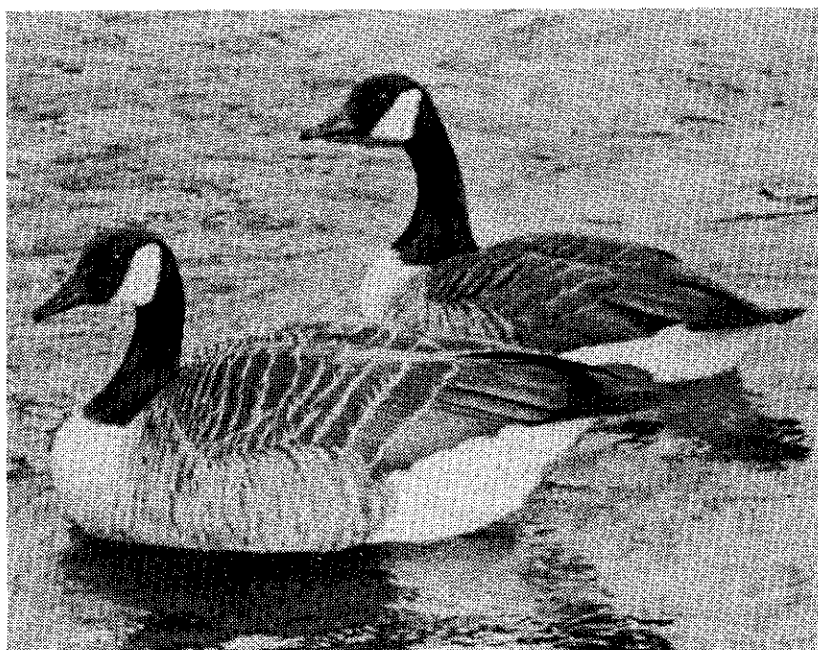


Table 7.1 Cont.

Species	Notes
Harbor seal, <u>Phoca vitulina</u>	H acc? per? !
Mountain lion (cougar), <u>Felis concolor</u>	ext? E !
Bobcat, <u>Felis rufus</u>	R b #
Feral cat, <u>Felis catus</u>	C? b int (1)
Elk, <u>Cervus elaphus</u>	ext
White-tailed deer, <u>Odocoileus virginianus</u>	C b #
Human, <u>Homo sapiens</u>	C b !

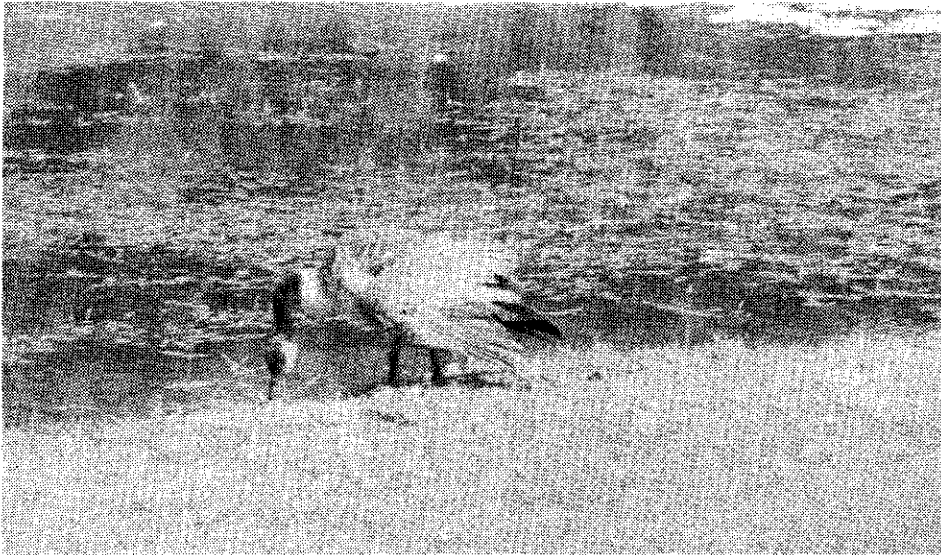
Source: The Ralph T. Waterman Bird Club, New York State Department of Environmental Conservation, Cary Arboretum, Rockefeller University Center for Field Research, Bard College Field Station, Hudsonia Limited, published literature and personal communications from individual observers. Scientific and common names are currently-recommended usage (with a few older names in parentheses) from: Jones et al. (1979), mammals; Eisenmann et al. (1982), birds; Collins, et al. (1982), reptiles and amphibians; and Robins et al. (1980), fishes. For seasons of occurrence of birds, see Ralph T. Waterman Bird Club (1977).

1) The status of feral (ownerless, self-sufficient) dogs and cats is uncertain; in particular, feral dogs, eastern coyotes, and their hybrids are difficult to tell apart.



Resource Management Implications

Wildlife species play an essential role in natural processes, and contribute to the well-being of the environment and of all human communities. Many common wildlife species can tolerate some alteration of environmental conditions. Other species, however, are extremely sensitive to changes in their habitats. Such species require careful habitat protection in order to survive.



Wildlife Diversity

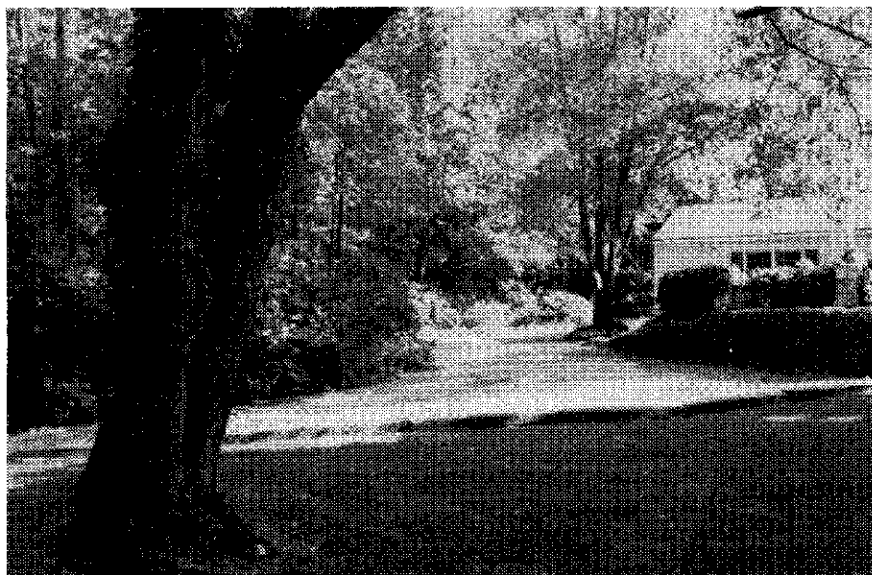
Actions that reduce wildlife and vegetation diversity, such as the large-scale intensive development of land and the loss of particular habitat types, reduce environmental stability and resilience. They also reduce the quality of life by depriving people of the opportunity to interact with, learn about, enjoy, and understand their role in maintaining the natural world.

In the past, resource management efforts have focused on game animals and the wildlife of rural areas; little attention was paid to wildlife in urban and suburban settings. Today, as more and more land is developed and the Dutchess County landscape changes, more thought should be given to the contribution wildlife can make to urban and suburban as well as rural communities. A greater awareness is needed throughout the county of the harmful impacts that careless--and often unnecessary--land use practices have on wildlife resources.

Habitat Conservation

Many of the adverse effects that human land uses have on wildlife can be ameliorated by incorporating a commitment to wildlife habitat protection into the land use planning and development process. For example, systematically reserving sizable open space corridors along streams, floodplains, and ridgelines in developing areas preserves habitat for many wild species while permitting orderly growth. Identifying and steering development away from the habitats of endangered, threatened, or otherwise sensitive species can improve such species' chances of survival.

Creatively using vegetation buffers in developed areas can minimize runoff, noise, dust, visual intrusions, and other traces of human activity that can disturb wildlife. Such buffers provide shelter for the wildlife and enhance the appearance of developed land. Wildlife can also be protected through such simple measures as making sure that road maintenance crews refrain from felling or trimming trees during the spring nesting and rearing season.

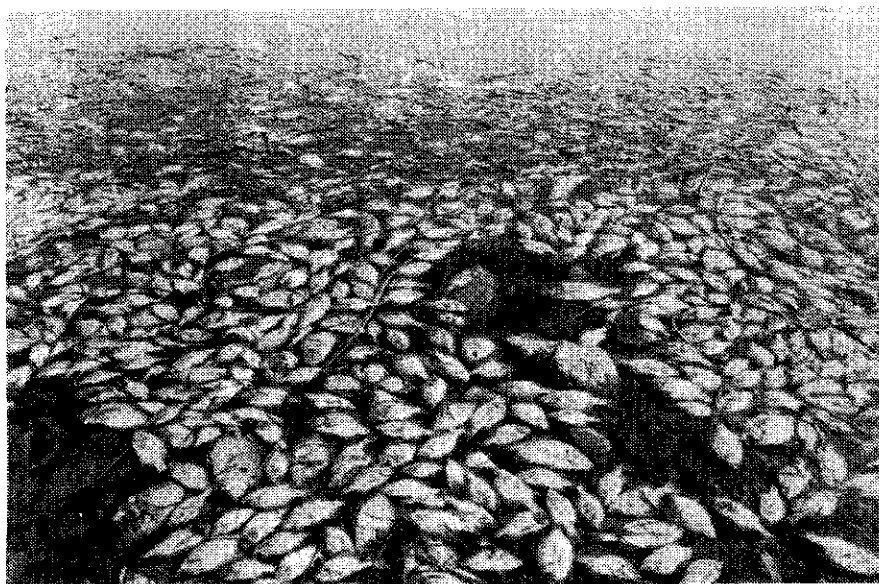
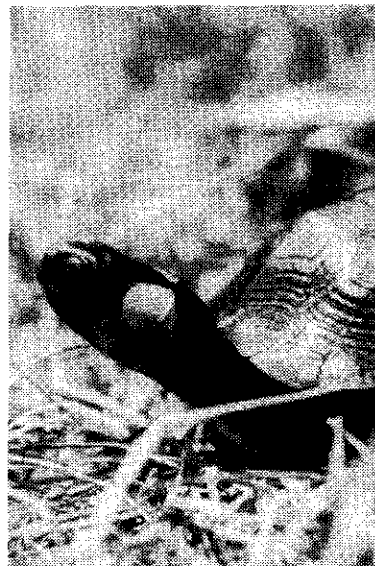


Relatively little is known about what many uncommon, sensitive, or threatened species need to maintain viable populations. Local and county governments should support efforts to study such species, and to develop management approaches that will increase their chances of survival. Important habitat areas should be mapped, and techniques developed to ensure that they are adequately protected.

In some cases, preserving a small habitat area may be sufficient protection for a rare species. More often, however, it is necessary to set aside a mosaic of interconnected habitat areas to support wildlife species. For example, bog turtles, which are endangered, need systems of wet meadows and beaver ponds connected by streams in order to thrive. Preserving only the scattered wet meadows or beaver ponds where bog turtles happen to be seen will not adequately protect them.

Sufficiently diverse and abundant habitat "mosaics" can be preserved through well-thought-out, effectively implemented zoning, site planning, and open space policies. Some significant habitats can be used with proper planning and management; others are so sensitive that they should not be used to any degree for human activities.

Wildlife suffer from habitat pollution as well as habitat encroachment. Inadequately treated septic wastes, leachate from dump sites, air pollution, stream sediment, and salts, oils, and chemicals in surface runoff degrade the environment and can make it intolerable to sensitive species. Pollutants affect the health of wildlife and, in the case of sport and commercial fish, can render them unsafe for human consumption. To be effective, wildlife protection efforts must be supported by aggressive pollution control programs at all levels of government.



Wildlife habitat management programs do not have to be labor-intensive. Beaver activity, natural fires, floods, vegetation development, and livestock grazing are examples of phenomena that diversify the environment, "managing" it so that it can support healthy and

complex biological communities. Land use practices that allow such phenomena to continue without interference go far toward maintaining diverse wildlife populations.

It is important to recognize that land use policies that are sensitive to the needs of wildlife species accomplish several objectives. Open space tracts and vegetation buffers reserved for wildlife habitat also enhance the visual environment, recharge groundwater supplies, reduce erosion, filter air, soften noise, increase nearby property values, help protect surface and groundwater quality, offer privacy, and in many instances meet agricultural or recreational needs. Protecting wildlife habitat, therefore, is one of the many goals of responsible environmental management efforts that can benefit all community members.