= North American river otter =

The North American river otter (Lontra canadensis) , also known as the northern river otter or the common otter , is a semiaquatic mammal endemic to the North American continent found in and along its waterways and coasts . An adult river otter can weigh between 5 @.@ 0 and 14 kg (11 @.@ 0 and 30 @.@ 9 lb) . The river otter is protected and insulated by a thick , water @-@ repellent coat of fur .

The river otter , a member of the subfamily Lutrinae in the weasel family (Mustelidae) , is equally versatile in the water and on land . It establishes a burrow close to the water 's edge in river , lake , swamp , coastal shoreline , tidal flat , or estuary ecosystems . The den typically has many tunnel openings , one of which generally allows the otter to enter and exit the body of water . Female otters give birth in these underground burrows , producing litters of one to six young .

North American river otters , like most predators , prey upon the most readily accessible species . Fish is a favored food among the otters , but they also consume various amphibians (such as salamanders and frogs) , freshwater clams , mussels , snails , small turtles and crayfish . Instances of river otters eating small mammals and occasionally birds have been reported as well .

The range of the North American river otter has been significantly reduced by habitat loss , beginning with the European colonization of North America . In some regions , though , their population is controlled to allow the trapping and harvesting of otters for their pelts . River otters are very susceptible to the effects of environmental pollution , which is a likely factor in the continued decline of their numbers . A number of reintroduction projects have been initiated to help stabilize the reduction in the overall population .

= = Taxonomy and evolution = =

The North American river otter was first described by German naturalist Johann Christian Daniel von Schreber in 1777 . The mammal was identified as a species of otter and has a variety of common names , including North American river otter , northern river otter , common otter and , simply , river otter . Other documented common names are American otter , Canada otter , Canadian otter , fish otter , land otter , nearctic river otter , and Prince of Wales otter .

The river otter was first classified in the genus Lutra ; Lutra was the early European name . The species name was Lutra canadensis . The species epithet canadensis means " of Canada " .

In a new classification , the species is called Lontra canadensis , where the genus Lontra includes all the New World river otters . Molecular biological techniques have been used to determine when the river otter and the giant otter diverged . These analyses suggest they diverged in the Miocene epoch 23 @.@ 03 to 5 @.@ 33 million years ago (Mya) , which is " much earlier " than indicated in the fossil record . Fossils of a giant river otter dating back 3 @.@ 5 Mya have been found in the US Midwest , however fossils of the modern river otter did not appear in North America until about 1 @.@ 9 Mya . The earliest known fossil of Lontra canadensis , found in the US Midwest , is from the Irvingtonian stage (1 @,@ 800 @,@ 000 to 300 @,@ 000 years ago) . The oldest fossil record of an Old World river otter comes from the late Pliocene epoch (3 @.@ 6 to 1 @.@ 8 Mya) . The New World river otters originated from the Old World river otters after a migration across the Bering Land Bridge , which existed off and on between 1 @.@ 8 million and 10 @,@ 000 years ago . The otters migrated to North America and southwards again across the Panamanian Land Bridge , which formed 3 Mya .

= = = Subspecies = = =

Listed alphabetically
L. c. canadensis (Schreber , 1777) ? (eastern Canada , USA , Newfoundland)
L. c. kodiacensis (Goldman , 1935) ? (Kodiak Islands , Alaska)
L. c. lataxina (Cuvier , 1823) ? (USA)
L. c. mira (Goldman , 1935) ? (Alaska , British Columbia)

L. c. pacifica (J. A. Allen , 1898) ? (Alaska , Canada , northern USA , south to central California , northern Nevada , and northeastern Utah)
L. c. periclyzomae (Elliot , 1905) ? (British Columbia)
L. c. sonora (Rhoads , 1898) ? (USA , Mexico)

= = Physical characteristics = =

The North American river otter is a stocky animal of 5 to 14 kilograms (11 to 31 lb) , with short legs , a muscular neck no smaller than the head , and an elongated body that is broadest at the hips . An average adult male weighs about 11 @.@ 3 kilograms (25 lb) against the female 's average of 8 @.@ 3 kilograms (18 lb) . Its body length ranges from 66 to 107 centimetres (26 to 42 in) . About one @-@ third of the animal 's total length consists of a long , tapered tail . Tail lengths range from 30 to 50 centimetres (12 to 20 in) . Large male North American river otters can exceed a weight of 15 kilograms (33 lb) . It differs from the European otter by its longer neck , narrower visage , the smaller space between the ears and its shorter tail .

A broad muzzle is found on the river otter 's flat head , and the ears are round and inconspicuous . The rhinarium is bare , with an obtuse , triangular projection . Eyes of the animal are small and placed anteriorly . A short , broad rostrum for exhaling and a long , broad cranium define the relatively flat skull . The river otter 's nostrils and ears close during submersion , inhibiting water from entering them . Its vibrissae (whiskers) are long and thick , enhancing sensory perception underwater and on land .

The fur of the species is short (guard hairs average 23 @.@ 8 mm (0 @.@ 94 in)) , with a density of about 57 @,@ 800 hairs / cm2 (373 @,@ 000 hairs / in2) in the midback section . The pelage has a high luster and varies from light brown to black . The throat , chin , and lips are grayer than the rest of the body . Fur of senescent river otters may become white @-@ tipped , and rare albinos may occur .

Sexual dimorphism exists among the river otters . Males are , on average , 5 % larger than females . In Idaho , juvenile , yearling , and adult males averaged 8 , 11 , and 17 % heavier , respectively , than females of the same age . A clinical reduction in size may exist from north to south along the Pacific coast , but not from east to west .

North American river otters live an average of 21 years of age in captivity , but they can reach 25 years of age . However , they normally live about 8 to 9 years in the wild , but are capable of living up to 13 years of age .

= = = Form and function = = =

The river otter is physically well @-@ equipped for aquatic life . The ears are short , the neck is the same diameter as the head , the legs are short and powerful , the toes are fully webbed , and the tail (one @-@ third of body length) is tapered . These qualities give the river otter a streamlined profile in water , but reduce agility on land . The smell and hearing abilities of the river otter are acute . The otter has a delicate sense of touch in the paws in addition to great dexterity . River otters characteristically approach within a few feet of a boat or a person on shore because they 're near @-@ sighted , a consequence of vision adapted for underwater sight . River otters have transparent nictitating membranes to protect their eyes while swimming .

The right lung of the river otter is larger than the left , having four lobes compared with two for the left . Reduced lobulation of the lungs is presumed to be adaptive for underwater swimming . In addition , the length of the trachea of the river otter is intermediate between that of terrestrial carnivores and marine mammals . The mean tracheal length of the river otter is 15 @.@ 3 cm (6 @.@ 0 in) , or 23 @.@ 2 % of the body length . A shorter trachea may improve air exchange and increase lung ventilation in diving mammals .

Most mustelids , including otters , have specialized teeth , including sharp canines and carnassials that inflict lethal bites to prey . Also , river otters have large molars used for crushing hard objects , such as the shells of molluscs . An adult river otter has a total of 36 teeth . Additional premolars may

be present . The dental formula is 3 @.@ 1 @.@ 4 @.@ 13 @.@ 1 @.@ 3 @.@ 2 .

= = Behavior = =

River otters are active year @-@ round , and are most active at night and during crepuscular hours . They become much more nocturnal in the spring , summer , and fall seasons , and more diurnal during winter . They may migrate as a result of food shortages or environmental conditions , but they do not migrate annually .

= = = Movement = = =

Otters swim by quadrupedal paddling , forelimb paddling , alternate hind @-@ limb paddling , simultaneous hind @-@ limb paddling , or body and tail dorsoventral undulation . The tail , which is stout and larger in surface area than the limbs , is used for stability while swimming and for short bursts of rapid propulsion . While swimming at the surface , the dorsal portion of the river otter 's head , including nostrils , ears , and eyes , is exposed above water . It must remain in motion to maintain its position at the surface .

On land , the river otter can walk , run , bound , or slide . Foot falls during walking and running follow the sequence of left limb , right limb , right limb , left limb . During walking , the limbs are moved in a plane parallel to the long axis of the body . Bounding is the result of simultaneous lifting of the limbs off the ground . As the front feet make contact with the ground , the back feet are lifted and land where the front paws first contacted the ground , producing a pattern of tracks in pairs typical of most mustelids . Sliding occurs mostly on even surfaces of snow or ice , but can also occur on grassy slopes and muddy banks . Sliding across snow and ice is a rapid and efficient means of travel , and otters traveling over mountain passes , between drainages , or descending from mountain lakes often slide continuously for several hundred meters . Rear leg paddling enables continuous sliding where gravity is an insufficient or an opposing force . During winter , the river otters heavily use openings in the ice , and may excavate passages in beaver dams for accessing open water .

North American river otters are highly mobile and have the capacity of traveling up to 42 km (26 mi) in one day . Daily movements of yearling males and females in Idaho averaged 4 @.@ 7 and 2 @.@ 4 km (2 @.@ 9 and 1 @.@ 5 mi) in spring , 5 @.@ 1 and 4 @.@ 0 km (3 @.@ 2 and 2 @.@ 5 mi) in summer , and 5 @.@ 0 and 3 @.@ 3 km (3 @.@ 1 and 2 @.@ 1 mi) in autumn , respectively . Daily movements of family groups averaged 4 @.@ 7 , 4 @.@ 4 , and 2 @.@ 4 km (2 @.@ 9 , 2 @.@ 7 , and 1 @.@ 5 mi) in spring , summer , and winter , respectively . Both males and family groups travel drastically less during winter .

= = = Playing = = =

River otters are renowned for their sense of play . Otter play mostly consists of wrestling with conspecifics . Chasing is also a common game . River otters rely upon play to learn survival skills such as fighting and hunting . However , playful behavior was found in only 6 % of 294 observations in a study in Idaho , and was limited mostly to immature otters .

= = = Hunting = = =

Prey is captured with a quick lunge from ambush , or more rarely , after a sustained chase . River otters can remain underwater for nearly 4 minutes , swim at speeds approaching 11 km / h (6 @.@ 8 mph) , dive to depths nearing 20 m (22 yd) , and travel up to 400 m (440 yd) while underwater . Several river otters may even cooperate while fishing . Small fish are eaten at the surface , but larger ones are taken to the shore to be consumed . Live fish are typically eaten from the head .

River otters dry themselves and uphold the insulative quality of their fur by frequent rubbing and rolling on grass , bare ground , and logs .

A highly active predator , the river otter has adapted to hunting in water , and eats aquatic and semiaquatic animals . The vulnerability and seasonal availability of prey animals mainly governs its food habits and prey choices . This availability is influenced by the following factors : detectability and mobility of the prey , habitat availability for the various prey species , environmental factors , such as water depth and temperature , and seasonal changes in prey supply and distribution in correspondence with otter foraging habitat .

The diet of the river otter can be deduced by analyzing either scat obtained in the field , or gut contents removed from trapped otters . Fish are the primary component of the river otter 's diet throughout the year . Every study done on the food habits of the river otter has identified varying fish species as being the primary component of its diet . For instance , an Alberta , Canada study involved the collection and analysis of 1 @,@ 191 samples of river otter scats collected during each season . Fish remnants were found present in 91 @.@ 9 % of the scat samples . Moreover , a western Oregon study revealed fish remains were present in 80 % of the 103 digestive tracts examined . Crustaceans (crayfish) , where regionally available , are the second @-@ most important prey for otters . Crustaceans may even be consumed more than fish . For example , a study conducted in a central California marshland indicated crayfish formed nearly 100 % of the river otter 's diet at certain times of the year . However , river otters , as foragers , will immediately take advantage of other prey when readily obtainable . Other prey consumed by river otters includes fruits , reptiles , amphibians , birds (most especially moulting ducks which render the birds flightless and thus makes them easier to capture) , aquatic insects , small mammals , and mollusks . River otters are not scavengers ; they avoid consuming carrion . Northern river otters do not generally handle prey of a large size relative to themselves but there are occasions where they 've been observed ambushing and killing adult common snapping turtles while the large turtles (which are roughly equal in average body weight to a river otter) are hibernating . Remains of the much larger American beaver have been found in otter scat in some regions , although most otter dietary studies in areas where otters and beaver are sympatric do not show them to be regular predators of beavers (despite the claims of fur @-@ trappers that otters frequently hunt beavers) and perhaps only young beaver kits may be attacked .

Otters do not dramatically reduce prey populations in the wild , generally speaking . When a copious supply of food dwindles or other prey becomes available , otters either transfer to a new location or convert their dietary choices to the most adequate prey . When left unchecked , though , otter depredations can be quite significant under certain circumstances (e.g. in hatcheries or other fish culture facilities) . Likewise , the potential predatory impact of otters may be considerable whenever fish are physically confined (most commonly in smaller ponds offering sparse cover or other escape options) . Resolution of such conflicts will usually require removal and / or relocation of nuisance otters . Even in larger bodies of water , they may take disproportional advantage of any seasonal concentrations of fish when and where only very limited areas of suitable spawning , low @-@ flow , or over @-@ wintering habitat may exist . Even such fast @-@ swimming species as trout become lethargic in extremely cold water , with a commensurate increase in their vulnerability to predation . As such , careful consideration of any threatened , endangered , or fish species of special interest is warranted prior to reintroduction of otters to a watershed . Although other prey species are of temporary significance to the river otter , the deciding factor whether the river otter can establish itself as a permanent resident of one location is the year @-@ round availability of fish .

There are reports of photographs of retrieving otters that were used by hunters near Butte , Nebraska .

= = = Social behavior = = =

The North American river otter is more social than most mustelids . In all habitats , their basic social group is the family , consisting of an adult female and her progeny . Adult males also commonly establish enduring social groupings , some documented to comprise as many as 17 individuals . In coastal areas , males may remain gregarious even during the estrous period of females . Family

groups may include helpers , which can be made up of unrelated adults , yearlings , or juveniles . Male otters disperse from such family groups more often than females . When females leave , they tend to move much further away (60 ? 90 km or 37 ? 56 mi) than males (up to 30 km or 19 mi) , which tend to move shorter distances . Male river otters do not seem to be territorial , and newly dispersing males may join established male groups . On occasion , groups of unrelated juveniles are observed . River otters living in groups hunt and travel together , use the same dens , resting sites , and latrines , and perform allogrooming . In freshwater systems , groups occur most often in autumn and during early winter . From mid @-@ winter through the breeding season , adult females move and den alone . River otters are not territorial , but individual otters of different groups portray mutual avoidance . Home ranges of males are larger than those of females , and both sexes exhibit intra- and intersexual overlap of their domains .

= = = Communication = = =

Communication among North American river otters is accomplished mainly by olfactory and auditory signals . Scent marking is imperative for intergroup communication . The river otter scent @-@ marks with feces , urine , and possibly anal sac secretions . Musk from the scent glands may also be secreted when otters are frightened or angry .

River otters can produce a snarling growl or hissing bark when bothered , and a shrill whistle when in pain . When at play or traveling , they sometimes give off low , purring grunts . The alarm call , given when shocked or distressed by potential danger , is an explosive snort , made by expelling air through the nostrils . River otters also may use a birdlike chirp for communication over longer distances , but the most common sound heard among a group of otters is low @-@ frequency chuckling .

= = = Reproduction and life cycle = = =

North American river otters are polygynous . Females usually do not reproduce until two years of age , although yearlings produce offspring on occasion . Males are sexually mature at two years of age . The number of corpora lutea increases directly with age .

River otters typically breed from December to April . Copulation lasts from 16 ? 73 minutes and may occur in water or on land . During the breeding , the male grabs the female by the neck with his teeth . Copulation is vigorous , and is interrupted by periods of rest . Females may caterwaul during or shortly after mating . Female estrus lasts about a month per year , and true gestation lasts 61 ? 63 days . Because the otters delay implantation for at least eight months , the interval between copulation and parturition can reach 10 ? 12 months . Delayed implantation distinguishes the species from the European otter , which lacks this feature . Young are born between February and April , and parturition lasts three to eight hours .

In early spring , expectant mothers begin to look for a den where they can give birth . The female otters do not dig their own dens ; instead , they rely on other animals , such as beavers , to provide suitable environments to raise their offspring . When the mothers have established their domains , they give birth to several kits . Litter size can reach five , but usually ranges from one to three . Each otter pup weighs approximately five ounces . At birth , the river otters are fully furred , blind , and toothless . The claws are well @-@ formed and facial vibrissae (about 5 mm (0 @.@ 20 in) long) are present . The kits open their eyes after 30 ? 38 days . The newborns start playing at five to six weeks , and begin consuming solid food at 9 ? 10 weeks . Weaning occurs at 12 weeks , and females provide solid food for their progeny until 37 ? 38 weeks have transpired . The maximum weight and length of both sexes are attained at three to four years of age .

The mothers raise their young without aid from adult males . When the pups are about two months old and their coats grow in , their mother introduces them to the water . Otters are natural swimmers and , with parental supervision , they acquire the skills necessary to swim . The otters may leave the den by eight weeks and are capable of sustaining themselves upon the arrival of fall , but they usually stay with their families , which sometimes include the father , until the following spring . Prior

to the arrival of the next litter , the otter yearlings venture out in search of their own home ranges .

= = Geographic range = =

The North American river otter is found throughout North America , inhabiting inland waterways and coastal areas in Canada , the Pacific Northwest , the Atlantic states , and the Gulf of Mexico . River otters also currently inhabit coastal regions throughout the United States and Canada . North American river otters also inhabit the forested regions of the Pacific coast in North America . The species is also present throughout Alaska , including the Aleutian Islands , and the north slope of the Brooks Range .

However , urbanization and pollution instigated reductions in range area . They are now absent or rare in Arizona , Hawaii , Kansas , Kentucky , Nebraska , New Mexico , North Dakota , Ohio , Oklahoma , South Dakota , Tennessee , and West Virginia . Reintroduction projects have expanded their distribution in recent years , especially in the Midwestern United States . In 2010 , the Colorado Department of Wildlife reported the species , reintroduced in the 1980s , was " thriving " and recommended its protection status be reconsidered . In late 2012 , a river otter nicknamed Sutro Sam took up residence around the former site of the Sutro Baths in San Francisco , the first river otter sighting in that city in more than half a century . In Canada , North American river otters occupy all provinces and territories , except for Prince Edward Island .

Historical records indicate river otters were once populous throughout most major drainages in the continental United States and Canada prior to European settlement . North America ? s largest otter populations were found in areas with an abundance and diversity of aquatic habitats , such as coastal marshes , the Great Lakes region , and glaciated areas of New England . In addition , riverine habitats in interior regions supported smaller , but practical , otter populations . The otter existed on all parts of the Pacific Coast , including the seashore and inland streams and lakes . However , large populations never occurred in areas of Southern California such as the chaparral and oak woodlands and Mojave Desert seasonal waterway regions , or in the xeric shrubland regions in New Mexico , Texas , Nevada , and Colorado . In Mexico , the otters lived in the Rio Grande and Colorado River Deltas .

= = Habitat = =

Although commonly called a " river otter " , the North American river otter is found in a wide variety of aquatic habitats , both freshwater and coastal marine , including lakes , rivers , inland wetlands , coastal shorelines , marshes , and estuaries . It can tolerate a great range of temperature and elevations . A river otter 's main requirements are a steady food supply and easy access to a body of water . However , it is sensitive to pollution , and will disappear from tainted areas .

Like other otters , the North American river otter lives in a holt , or den , constructed in the burrows of other animals , or in natural hollows , such as under a log or in river banks . An entrance , which may be under water or above ground , leads to a nest chamber lined with leaves , grass , moss , bark , and hair . Den sites include burrows dug by woodchucks (Marmota monax) , red foxes (Vulpes vulpes) , nutria (Myocastor coypus) , or beaver and muskrat lodges . River otters also may use hollow trees or logs , undercut banks , rock formations , backwater sloughs , and flood debris . The use of den and resting sites is chiefly opportunistic , although locations that provide protection and seclusion are preferred .

= = = Population localization = = =

Aquatic life ties North American river otters almost exclusively to permanent watersheds . The river otters favor bog lakes with banked shores containing semiaquatic mammal burrows and lakes with beaver lodges . The otters avoid water bodies with gradually sloping shorelines of sand or gravel . In Maine , use of watersheds by river otters is negatively associated with the proportion of mixed hardwood @-@ softwood stands in forested areas adjacent to waterways . However , it is positively

associated with the number of beaver flowages , watershed length , and average shoreline diversity . In Idaho , river otters prefer valley habitats over mountainous terrain , and they select valley streams over valley lakes , reservoirs , and ponds . Log jams are heavily used when present . In Florida , inhabitation of North American river otters is lowest in freshwater marshes , intermediate in salt marshes , and highest in swamp forests . During the dry season , they will recede from the marshland and move to permanent ponds , where water is available and food is in greater supply . In Idaho and Massachusetts , ecological elements preferred for latrine sites include large conifers , points of land , beaver bank dens and lodges , isthmuses , mouths of permanent streams , or any object that protrudes from the water .

River otters often reside in beaver ponds . Encounters between otters and beavers are not necessarily hostile . In Idaho , otters and beavers were recorded in the same beaver lodge simultaneously on three separate occasions . The otters may compete with the American mink (Mustela vison) for resources . In Alaska , the two species living in marine environments indicate niche separation through resource partitioning , probably related to the swimming abilities of these mustelids .

= = = Fish = = =

River otters consume an extensive assortment of fish species ranging in size from 2 to 50 centimeters (0 @.@ 79 to 19 @.@ 69 in) that impart sufficient caloric intake for a minute amount of energy expenditure . River otters generally feed on prey that is in larger supply and easier to catch . As a result , slow @-@ swimming fish are consumed more often than game fishes when both are equally available . Slow @-@ moving species include suckers (Catostomidae) , catfish , sunfish and bass (Centrarchidae) ; and daces , carp , and shiners (Cyprinidae) . For instance , Catostomidae are the primary dietary component of river otters in Colorado 's Upper Colorado River Basin . Likewise , the common carp (Cyprinus carpio) is a preferred fish species for the otter in other regions of Colorado . Fish species frequently found in the diets of the North American river otters include : Catostomidae , which consists of suckers (Catostomus spp .) and redhorses (Moxostoma spp .) ; Cyprinidae , made up of carp (Cyprinus spp .) , chubs (Semotilus spp .) , daces (Rhinichthys spp .) , shiners (Notropis and Richardsonius spp .) , and squawfishes (Ptychocheilus spp .) ; and Ictaluridae , which consists of bullheads and catfish (Ictalurus spp .) . Other fish an integral part of the river otters ' diets are those that are often plentiful and found in large schools : sunfish (Lepomis spp .) ; darters (Etheostoma spp .) ; and perches (Perca spp .) . Bottom @-@ dwelling species , which have the tendency to remain immobile until a predator is very close , are susceptible to river otters . These include mudminnows (Umbra limi) and sculpins (Cottus spp .) . Game fish , such as trout (Salmonidae) and pike (Esocidae) , are not a significant component of their diets . They are less likely to be prey for the North American river otters since they are fast @-@ swimming and can find good escape cover . However , river otters will prey on trout , pike , walleye (Sander vitreus vitreus) , salmon (Oncorhynchus spp .) , and other game fish during spawning .

Adult river otters are capable of consuming 1 to 1 @.@ 5 kilograms (2 @.@ 2 to 3 @.@ 3 lb) of fish per day . A study conducted on captive otters revealed they preferred larger fish , ranging from 15 to 17 centimeters (5 @.@ 9 to 6 @.@ 7 in) , more than smaller fish , ranging from 8 to 10 centimeters (3 @.@ 1 to 3 @.@ 9 in) , and they had difficulty catching fish species less than 10 centimeters (3 @.@ 9 in) or larger than 17 centimeters (6 @.@ 7 in) . Otters are known to take larger fish on land to eat , whereas smaller fish are consumed in the water .

= = = Crustaceans = = =

Otters may prefer to feed on crustaceans , especially crayfish (Cambarus , Pacifasticus , and others) more than fish where they are locally and seasonally plentiful . In Georgia , crayfish accounted for two @-@ thirds of the prey in the summer diet , and their remnants were present in 98 % of the summer spraint . In the winter , crayfish made up one @-@ third of the otter 's diet . A

study conducted on North American river otters in a southwestern Arkansas swamp identified a correlation between crayfish consumption , fish consumption , and water levels .
During the winter and spring , when the water levels were higher , otters had a greater tendency to prey upon crayfish (73 % of scats had crayfish remains) rather than fish . However , when water levels are lower , crayfish will seek out shelter while fish become more highly concentrated and susceptible to predation . Therefore , fish are more vulnerable to being preyed upon by otters because the crayfish have become more difficult to obtain .

= = = Reptiles and amphibians = = =

Amphibians , where regionally accessible , have been found in the river otter 's diet during the spring and summer months , as indicated in many of the food habit studies . The most common amphibians recognized were frogs (Rana and Hyla) . Specific species of reptiles and amphibians prey include : boreal chorus frogs (Pseudacris maculata) ; Canadian toads (Bufo hemiophrys) ; wood frogs (Rana sylvatica) ; bullfrogs (Rana catesbeiana) ; green frogs (Rana clamitans) ; northwestern salamanders (Ambystoma gracile) ; Pacific giant salamander (Dicamptodon ensatus) ; rough @-@ skinned newt (Taricha granulosa) ; and garter snakes (Thamnophis) .
Amphibians and reptiles are more obtainable by the river otter during the spring and summer as a result of breeding activity , appropriate temperatures , and water supply for the prey .

= = = Birds = = =

Waterfowl , rails , and some colonial nesting birds are preyed upon by otters in various areas . Susceptibility of these species is greatest during the summer (when waterfowl broods are vulnerable) and autumn . The otters have also been known to catch and consume moulting American wigeon (Mareca americana) and green @-@ winged teal (Anas crecca) . Other species of birds found within their diets include : northern pintail (Anas acuta) ; mallard (Anas platyrhynchos) ; canvasback (Aythya valisineria) ; ruddy duck (Oxyura jamaicensis) ; and the American coot (Fulica americana) .
Although they consume birds , river otters do not feed on bird eggs .

= = = Insects = = =

Aquatic invertebrates have been recognized as an integral part of the river otter 's diet . Otters consume more aquatic insects in the summer as the populations increase and specific life stages heighten their susceptibility . Most aquatic invertebrates preyed upon by the otters are from the families Odonata (dragonfly nymphs) , Plecoptera (stonefly nymphs) , and Coleoptera (adult beetles) . Invertebrates discovered within scats or digestive tracts could most likely be a secondary food item , first being consumed by the fish that are subsequently preyed upon by the otters .

= = = Mammals = = =

Mammals are rarely consumed by river otters , and are not a major dietary component . Mammals preyed upon by otters are characteristically small or are a type species found in riparian zones . The few occurrences of mammals found in the river otter 's diet include : muskrats (Ondatra zibethicus) ; meadow voles (Microtus pennsylvanicus) ; eastern cottontails (Sylvilagus floridanus) ; and snowshoe hares (Lepus americanus) .
Records of otters preying upon beavers (Castor canadensis) vary ; it has been reported in the southern boreal forest of Manitoba . Trappers in Alberta , Canada commonly assert otters are major predators of beavers . A 1994 river otter study reported findings of beaver remains in 27 of 1 @,@ 191 scats analyzed . However , many other studies did not report any findings of beaver remains in the scat sampled .

= = Threats = =

The otter has few natural predators when in water . Aquatic predators include the alligator (Alligator mississippiensis) , American crocodile (Crocodylus acutus) , killer whales (Orcinus orca) , and sharks , none of which commonly coexist with this otter and thus rarely pose a threat . On land or ice , the river otter is considerably more vulnerable . Terrestrial predators include the coyote (Canis latrans) , bobcat (Lynx rufus) , lynx (Lynx canadensis) , domestic dog (Canis lupus familiaris) , wolf (Canis lupus) , mountain lion (Felis concolor) , black bear (Ursus americanus) and (in young or small otters) red fox (Vulpes vulpes) . Most river otter mortality is caused by human @-@ related factors , such as trapping , illegal shooting , roadkills , and accidental captures in fish nets or set lines . Accidental deaths may be the result of ice flows or shifting rocks . Starvation may occur due to excessive tooth damage .

Threats to otter populations in North America vary regionally . Otter inhabitation is affected by type , distribution , and density of aquatic habitats and characteristics of human activities . Preceding the settlement of North America by Europeans , otters were prevalent among aquatic habitats throughout most of the continent . Trapping , loss or degradation of aquatic habitats through filling of wetlands , and development of coal , oil , gas , tanning , timber , and other industries , resulted in extirpations , or declines , in otter populations in many areas . In 1980 , an examination conducted on U.S. river otter populations determined they were extirpated in 11 states , and had experienced drastic lapses in 9 others . The most severe population declines occurred in interior regions where fewer aquatic habitats supported fewer otter populations . Although the distribution became reduced in some regions of southern Canada , the only province @-@ wide extirpation occurred on Prince Edward Island .

During the 1970s , improvements in natural resource management techniques emerged , along with increased concerns about otter population declines in North America . Consequently , many wildlife management agencies developed strategies to restore or enhance otter populations , including the use of reintroduction projects . Since 1976 , over 4 @,@ 000 otters have been reintroduced in 21 U.S. states . All Canadian provinces except Prince Edward Island and 29 U.S. states have viable populations that sustain annual harvests . Annual harvest numbers of northern river otters are similar for Canada and the United States , with most pelts being used in the garment industry . In the late 1970s , annual harvest in North America reached approximately 50 @,@ 000 pelts , for a value of US $ 3 million . Otters are inadvertently harvested by traps set for beavers , and therefore management plans should consider both species simultaneously . While current harvest strategies do not pose a threat to maintaining otter populations , harvest may limit expansion of otter populations in some areas . Otter harvests correlate positively with the beaver harvests and with the average beaver pelt price from the preceding year . Fur of the river otter is thick and lustrous and is the most durable of Native American furs . River otter pelts are used as the standard for rating the quality of other pelts .

Oil spills present a localized threat to otter populations , especially in coastal areas . Water pollution and other diminution of aquatic and wetland habitats may limit distribution and pose long @-@ term threats if the enforcement of water quality standards is not upheld . Acid drainage from coal mines is a persistent water quality issue in some areas , as it eliminates otter prey . This dilemma prevents , and consequently inhibits , recolonization or growth of otter populations . Recently , long @-@ term genetic consequences of reintroduction projects on remnant otter populations has been discussed . Similarly , many perceived threats to otters , such as pollution and habitat alterations , have not been rigorously evaluated . Little effort has gone into assessing the threat of disease to wild river otter populations , so it is poorly understood and documented . River otters may be victims of canine distemper , rabies , respiratory tract disease , and urinary infection . In addition , North American river otters can contract jaundice , hepatitis , feline panleucopenia , and pneumonia . They host numerous endoparasites , such as nematodes , cestodes , trematodes , the sporozoan Isopora , and acanthocephalans . Ectoparasites include ticks , sucking lice (Latagophthirus rauschi) , and fleas (Oropsylla arctomys) .

= = = Conservation status = = =

Lontra canadensis is listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora . They have been virtually eliminated through many parts of their range , especially around heavily populated areas in the midwestern and eastern United States . Appendix II lists species that are not necessarily threatened with extinction currently , but may become so unless trade is closely controlled .

The North American river otter is considered a species of least concern according to the IUCN Red List , as it is not currently declining at a rate sufficient for a threat category . By the early 1900s , river otter populations had declined throughout large portions of their historic range in North America . However , improvements in water quality (through enactment of clean water regulations) and furbearer management techniques have permitted river otters to regain portions of their range in many areas . Reintroduction projects have been particularly valuable in restoring populations in many areas of the United States . However , river otters remain rare or absent in the southwestern United States . Water quality and development inhibit recovery of populations in some areas . The species is widely distributed throughout its range . In many places , the populations have re @-@ established themselves because of conservation initiatives . Reintroduction of river otters may present a problem in that it may contaminate the genetic structure of the native population .

Habitat degradation and pollution are major threats to their conservation ; river otters are highly sensitive to pollution and readily accumulate high levels of mercury , organochloride compounds , and other chemical elements . The species is often used as a bioindicator because of its position at the top of the food chain in aquatic ecosystems . Environmental disasters , such as oil spills , may increase levels of blood haptoglobin and interleukin @-@ 6 immunoreactive protein , but decrease body mass . Home ranges of river otters increase in size on oiled areas compared to unoiled areas , and individual otters also modify their habitat use . Declines in the richness and diversity of prey species may explain these changes .