

ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract

Element Code: AMAJF10011

Data Sensitivity: No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Lontra canadensis sonora*

**COMMON NAME:** Southwestern River Otter

**SYNONYMS:** *Lutra canadensis sonora* Rhoads

*Lutra hudsonicus sonora*

**OTHER COMMON NAMES:** Arizona River Otter

**FAMILY:** Mustelidae

**AUTHOR, PLACE OF PUBLICATION:** Rhoads, Trans. Amer. Philos. Soc., New Ser.,  
19:431.1898.

**TYPE LOCALITY:** Beaver Creek, Montezuma Well, Yavapai Co., AZ

**TYPE SPECIMEN:** AMNH MS-3712. Preserved skin and skull, collected by Edgar A. Mearns  
(475) December 26, 1886.

**TAXONOMIC UNIQUENESS:** One of four species in the genus (Wilson and Reeder 2005),  
and the only species in Arizona (Hoffmeister 1986). One of 7 North American subspecies  
(Wilson and Reeder 2005), and the only native subspecies in Arizona (Hoffmeister 1986). The  
eastern subspecies *L. c. lataxina* was introduced into Arizona in the 1980's along the Verde  
River.

Only six specimens referable to *L. c. sonora* have been collected (Compton 2000, Klingel and  
MacDonald, 2002). There is some question to the validity of the subspecies due to the smallness  
of the sample size, but Van Zyll de Jong (1972) retained *L. c. sonora* when he revised the  
taxonomy of river otters.

Formerly included in the genus *Lutra* (Jones et al. 1975, Hoffmeister 1986). Van Zyll de Jong  
(1972, 1987) proposed using the generic name *Lontra* for New World otters; this is appropriate if  
New World otters are more closely related to *Aonyx* otters of Africa than to *Lutra* otters of  
Eurasia and was supported by an analysis of mitochondrial cytochrome b sequences (Koepfli and  
Wayne 2001). Jones et al. (1997), Wozencraft (in Wilson and Reeder 2005), Bradley et al 2014,  
and ASM (2023) followed van Zyll de Jong in using *Lontra* as the generic name.

**DESCRIPTION:**

**Species:** A semiaquatic, slender, long-bodied mammal with total lengths of 88.9-130 cm (35-51  
in); tail lengths of 30-50.7 cm (11.8-20 in); and weights of 5-14 kg (11-31 lb). They are  
specialized for aquatic life with thick guard hair, dense oil under the fur, webbed toes, and small  
ears. Coloration is a dark brown above (looks black when wet), with a paler belly; throat often a  
silvery gray. Paler coloration in the subspecies in Arizona (Hoffmeister, 1986). Eyes are small  
(eyeshine pale amber), face has prominent whitish whiskers, and dorsally flattened head has a  
broad snout. Tail thick at base, tapering toward tip.

**AIDS TO IDENTIFICATION:** Skull of *Lontra canadensis sonora* is larger and more angular in shape as well as being flatter and less convex with inflated tympanic bullae (Hoffmeister 1986) than other otters. *Lontra canadensis* is distinguished from *Lontra longicaudis*, a river otter found in Mexico, by less hair on the side of the nose, a dorsally flattened skull, and tufts of hair under the toes (Wilson and Ruff, 1999).

**ILLUSTRATIONS:**

Color photo of species (Wilson and Ruff, 1999: p. 179)

Color photo of species (Whitaker, 1996: plates 259, 260)

Color drawing of species (Burt and Grossenheider, 1976: plate 5)

**TOTAL RANGE:** Historically this subspecies occurred in low densities in major rivers in Arizona, New Mexico, and Nevada, as well as southern California, Colorado, and Utah (Findley et al. 1975, Fitzgerald et al. 1994, Buskirk 2000). Potentially extinct throughout range (Compton 2000).

**RANGE WITHIN ARIZONA:** Historically, occurred in the Colorado River drainage. This subspecies is functionally extinct in the state. Sightings are occasionally reported along the Colorado River, but no reliable documentation of their presence in Arizona has occurred since the 1970's (Haney et al. 2008).

**SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** *Lontra canadensis* can live in any marine (coastal) or freshwater habitat with a permanent food and water supply. Their dens are located in shelters dug by other mammals or in natural hollows under logs, trees, rock piles, thickets, or on river banks. Each den has an underwater entrance with a tunnel leading to a nesting chamber. They have both permanent and temporary nests. Nests are made up of leaves, grasses, mosses, pieces of bark, and some hair. Young reach sexual maturity after 2 or 3 years and can live up to 21 years in captivity. (Wilson and Ruff 1999).

*Lontra canadensis* are skillful swimmers and divers and can remain submerged for up to eight minutes. In most regions, they hunt in the water at night, and can cover several kilometers in a hunting foray. They search for prey under logs, rocks, and in the mud. They will pursue terrestrial prey when on land. Generally, otters hunt solitarily but may group in pairs. They have few natural enemies, but sometimes are attacked by bobcats, coyotes, or other mammalian predators, and by some birds of prey. Adult males are generally solitary, while females live with their young until dispersal. Densities and home range sizes are quite variable, depending on habitat quality. Some reports from areas of good habitat indicate densities of one otter per 2 or 3 km of waterway. Males mark and defend territories within their home ranges. (Wilson and Ruff 1999). Their vocalizations include a whistle, probably used to communicate over distances, and a shrill, chattering call, emitted during mating season. Otters chuckle softly to siblings and mates, probably as a sign of affection, and also chirp, grunt, snort, and growl. (Whitaker 1996).

**REPRODUCTION:** *Lontra canadensis* breeds once a year, in late winter or early spring. A male can copulate with several females during breeding, and mating usually occurs in water.

Gestation is estimated to be around 2 months, but because otters employ delayed implantation, gestation can last up to a year. Parturition takes place from November to May, with a peak in March and April. Litter size is 1 to 6, but more usually 2 or 3. The young are fully-furred, but helpless, at birth. Young open their eyes after one month and are weaned at about three months. Dispersal from the natal area probably begins about three months after weaning. (Wilson and Ruff 1999).

**FOOD HABITS:** Fish and crayfish make up the greatest proportion of the diet with amphibians, arthropods, and frogs also being consumed. They occasionally prey upon muskrats and other small mammals or feed on aquatic plants (Wilson and Ruff, 1999).

**HABITAT:** Riparian habitat along rivers and streams with adequate prey. For the species, rivers, streams, lakes, reservoirs, marshes, swamps, and estuaries all provide potential habitat (Wilson and Ruff, 1999).

Introduced populations of *L. canadensis lataxina* in the Verde River were found to forage heavily on crayfish, with crayfish found in every scat examined. 41.5% of scats contained remains of vertebrates, and 22.6% contained remains of insects.

**ELEVATION:**

**PLANT COMMUNITY:** For the species and its range: they inhabit a variety of riparian plant communities, including those dominated by willows (*Salix* spp.), cottonwoods (*Populus* spp.), birches (*Betula* spp.), and spruce (*Picea* spp.). Other vegetation common to their habitat includes cattails (*Typha* spp.), red-osier dogwood (*Cornus sericea*), black hawthorn (*Crataegus douglassi*), common snowberry (*Symphoricarpos albus*), grasses, horsetails (*Equisetum* spp.), bulrushes (*Scirpus* spp.), and sedges (*Carex* spp.). (Tesky, 1993).

**POPULATION TRENDS:** Never abundant in historic times (Bailey 1935, Hoffmeister 1986). This species is now functionally extinct in the state (Haney et al. 2008). A Louisiana subspecies (*L.c. lataxina*) was successfully introduced into central Arizona (Verde River drainage) during 1981-1983 has persisted in low numbers ever since (Britt and Phelps 1980, Christensen 1984).

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** SC (USDI, FWS 1996)  
[C2 (USDI, FWS 1994) as *Lutra canadensis sonora*]  
[C2 (USDI, FWS 1985, 1989, 1991) as *Lutra canadensis sonorae*]

**STATE STATUS:** 2 (AZGFD, AWCS 2022)  
[1B (AGFD SWAP 2012)]  
[WSC (AGFD, WSCA 1996 in prep) ], as *Lutra canadensis sonora*]

**OTHER STATUS:**

[Endangered (AGFD, TNW 1988), as *Lutra canadensis sonora*]

Not BLM Sensitive (USDI, BLM AZ 2017, 2010)

[Bureau of Land Management Sensitive (USDI, BLM 2008) as *Lutra*]

Not Forest Service Sensitive (USDA, FS Region 3 2000, 2007, 2013)

[Forest Service Sensitive (USDA, FS Region 3 1999) as *Lutra*, removed from list with 2/23/2000 correction]

[Forest Service Sensitive (USDA, FS Region 3 1988) at full species as *Lutra*]

Group 3, at full species level (NNDFG, NESL 2020)

[Group 1 (NNDFG, NESL 2001, 2005, 2008)]

[Navajo Endangered Species List (1994)]

**MANAGEMENT FACTORS:** Riparian alteration would affect existing populations and dispersion from nearby ones. The species is very sensitive to pollution and have disappeared from heavily polluted waters (Wilson and Ruff, 1999). According to Tesky (1993), *Lontra canadensis* “have been extirpated or reduced in many areas due to human encroachment, habitat destruction, and overharvest. ... A variety of internal parasites affect river otters. Of these, two roundworms (*Strongyloides lutrae* and *Gnathostoma miyazakii*) may cause serious pathological damage. River otters are also susceptible to canine distemper, jaundice, hepatitis, and feline panleucopenia.”

**PROTECTIVE MEASURES TAKEN:****SUGGESTED PROJECTS:**

**LAND MANAGEMENT/OWNERSHIP:** Once occurred on land owned or managed by the Coronado, Prescott and Tonto National Forests, NPS, BLM, and Hualapai and Havasupai Indian Reservations.

**SOURCES OF FURTHER INFORMATION****REFERENCES:**

- American Society of Mammalogists. 2023. Mammal diversity database, v1.11, released 15 April 2023. Available at <https://www.mammaldiversity.org/index.html> (accessed 21 June 2023)
- Arizona Game and Fish Department. 1988. Threatened native wildlife in Arizona. Arizona Game and Fish Department Publication, Phoenix, Arizona. p. 23.
- Arizona Game and Fish Department. 1996, in prep. Wildlife of special concern in Arizona. Arizona Game and Fish Department Publication. Phoenix, Arizona. p. 23.

- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan 2012-2022. Arizona Game and Fish Department, Phoenix, Arizona. 233 pages
- Arizona Game and Fish Department. 2022. Arizona Wildlife Conservation Strategy: 2022-2032. Arizona Game and Fish Department, Phoenix, Arizona. 378 pages.
- Bailey, V. 1935. Mammals of the Grand Canyon region. Natural History Bulletin 1. Grand Canyon Natural History Association, Grand Canyon, Arizona, 42 pages.
- Bradley, R.D., L.K. Ammerman, R.J. Baker, L.C. Bradley, J.A. Cook, R.C. Dowler, C. Jones, D.J. Schmidly, F.B. Stangl Jr., R.A. Van den Bussche and B. Würsig. 2014. Revised checklist of North American mammals north of Mexico, 2014. Occasional Papers, Museum of Texas Tech University 327:1-28.  
<https://www.depts.ttu.edu/nsrl/publications/downloads/OP327.pdf>
- Britt, T.L., and J.S. Phelps. 1980. River otter information and a reintroduction proposal for the Verde River. Pref. Rep. W-53-R. Arizona Game and Fish Department, Phoenix, Arizona.
- Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals, North America north of Mexico. Third Edition. Houghton Mifflin Company, Boston, Massachusetts. pp. 60-63.
- Buskirk, S.W. 2000. The conservation status of New World mustelids. pages 40-51 *In*: H.I. Griffiths, editor. Mustelids in a modern world: management and conservation aspects of small carnivore – human interactions. Backhuys Publishers, Leiden.
- Christensen, K. M. 1984. Habitat selection, food habits, movements and activity; patterns of reintroduced river otters (*Lutra canadensis*) in central Arizona. Master of Science Thesis, Northern Arizona University Flagstaff, Arizona.
- Cockrum, E.L. 1960. The recent mammals of Arizona: their taxonomy and distribution. The University of Arizona Press, Tucson, Arizona. pp.242-243.
- Compton, L.A. 2000. Status of southwest river otters, *Lontra canadensis sonora*, in the Colorado River through Grand Canyon National Park. River Otter Journal 9(2):10-11.
- Edwards, C. 1979. A report on the distribution, abundance, population trends and habitat requirements for the river otter on the Lower Colorado River. Arizona Game and Fish Department, Phoenix, Arizona.
- Findley, J.S., A.H. Harris, D.E. Wilson, and C. Jones. 1975. Mammals of New Mexico. University of New Mexico Press, Albuquerque, New Mexico. xxii + 360 pp.
- Fitzgerald, J.P., C.A. Meaney, D.M. Armstrong. 1994. Mammals of Colorado. Denver Museum of Natural History and University of Colorado Press, Denver, Colorado.
- Hall, E.R. 1981. The mammals of North America. second edition. John Wiley & Sons, Inc. New York, New York. pp.1029-1031.
- Haney, J.A., D.S. Turner, A.E. Springer, J.C. Stromberg, L.E. Stevens, P.A. Pearthree, and V. Supplee. 2008. Ecological implications of Verde River flows. A report by the Arizona Water Institute, The Nature Conservancy, and the Verde River Basin Partnership. viii + 114 pages.
- Hanna, J.D., D.W. Belitsky and J.S. Phelps. 1994. Status of river otters in Arizona. Presentation for the Nearctic River Otter Symposium. Albuquerque, New Mexico.
- Hoffmeister, D.F. 1986. Mammals of Arizona. The University of Arizona Press, Tucson, Arizona and The Arizona Game and Fish Department, Phoenix, Arizona. pp. 515-517.
- Jones, C., R.S. Hoffman, D.W. Rice, M.D. Engstrom, R.D. Bradley, D.J. Schmidly, C.A. Jones, and R.J. Baker . 1997. Revised checklist of North American mammals north of Mexico, 1997. Occasional Papers, Museum of Texas Tech University 173:1-19.  
<https://www.depts.ttu.edu/nsrl/publications/downloads/OP173.pdf>

- Klingel, J. and S. MacDonald. 2002. Southwestern river otter, *Lontra canadensis sonora*; summary of taxonomy, legal status, and distribution in New Mexico. Unpublished report to New Mexico River Otter Working Group. 4 pages.
- Koepfli, K.-P. and R.K. Wayne. 2001. Phylogenetic relationships of otters (Carnivora: Mustelidae) based on mitochondrial b sequences. *Journal of Zoology* 246(4):401-416. <https://doi.org/10.1111/j.1469-7998.1998.tb00172.x>
- NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <https://explorer.natureserve.org/> (accessed 11 December 2003).
- Navajo Nation Fish and Wildlife Department. 2000. Navajo Endangered Species List.
- Navajo Nation Fish and Wildlife Department. 2005. Navajo Endangered Species List. P. 2.
- Navajo Nation Fish and Wildlife Department. 2008. Navajo Endangered Species List. P. 2.
- Taylor, M., J.E. Rettig and G.R. Smith. 2003. Diet of re-introduced river otters, *Lontra canadensis*, in north-central Arizona. *Journal of Freshwater Ecology* 18(2):337-338. <https://doi.org/10.1080/02705060.2003.9664501>
- Tesky, J.L. 1993. *Lutra canadensis*. In: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station Sciences Laboratory (2002, September). Fire Effects Information System, <https://www.fs.usda.gov/database/feis/animals/mammal/loca/all.html>. (accessed 26 November 2002).
- USDA, Forest Service Region 3. 1988. Regional Forester's sensitive species, Region 3, August 1988. U.S. Forest Service. 41 pages.
- USDA, Forest Service Region 3. 1999. Regional Forester's list of sensitive animals - 7/21/1999. U.S. Forest Service. 7 pages.
- USDA, Forest Service Region 3. 2000. Regional Forester's sensitive species list (7/21/99 as corrected 2/23/00). U.S. Forest Service. 13 pages.
- USDA, Forest Service Region 3. 2007. Regional Forester's list of sensitive animals. U.S. Forest Service. 39 pages.
- USDA, Forest Service Region 3. 2013. Regional Forester's sensitive species: animals - 2013. U.S. Forest Service. 5 pages.
- USDI, Bureau of Land Management Region 2. 2008. Arizona BLM sensitive species list. Bureau of Land Management, Arizona State Office, Phoenix, Arizona.
- USDI, Bureau of Land Management Region 2. 2010. Arizona BLM sensitive species list. Instruction memorandum No. AZ-IM-2011-005. Bureau of Land Management, Arizona State Office, Phoenix, Arizona.
- USDI, Bureau of Land Management. 2017. Arizona BLM sensitive species list. Instruction memorandum No. AZ-IM-2017-009. Bureau of Land Management, Arizona State Office, Phoenix, Arizona. 6 pages.
- USDI, Fish and Wildlife Service. 1985. Endangered and threatened wildlife and plants: review of vertebrate wildlife; notice of review. *Federal Register* 50(181):37958-37967.
- USDI, Fish and Wildlife Service. 1989. Endangered and threatened wildlife and plants; animal notice of review; notice of review. *Federal Register* 54(4):554-579.
- USDI, Fish and Wildlife Service. 1991. Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species; notice of review. *Federal Register* 56(225):58804-58836.

- USDI, Fish and Wildlife Service. 1994. Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species; notice of review. Federal Register 59(219):58982-59028.
- USDI, Fish and Wildlife Service. 1996. Endangered and threatened wildlife and plants; review of plant and animal taxa that are candidates for listing as endangered or threatened species; notice of review. Federal Register 61(40):7596-7613.
- Van Zyll de Jong, C.G. 1972. A systematic review of the Nearctic and Neotropical river otters. Life Science Contributions, Royal Ontario Museum, No. 80. 104 pages.
- Van Zyll de Jong, C.G. 1987. A phylogenetic study of the Lutrinae (Carnivora; Mustelidae) using morphological data. Canadian Journal of Zoology 65:2536-2544.  
<https://doi.org/10.1139/z87-383>
- Whitaker, Jr., J.O. 1996. National Audubon Society field guide to North American mammals. Revised Edition. Alfred A. Knopf. New York, New York. pp. 782-785.
- Wilson, and Reeder. 1993. Mammals species of the world: a taxonomic and geographic reference. Second edition. Smithsonian Institution Press, Washington, DC. xviii + 1206 pages.
- Wilson, D.E., and D.M. Reeder, editors. 2005. Mammal species of the world: a taxonomic and geographic reference. Third edition. The Johns Hopkins University Press, Baltimore, Maryland. Two volumes. 2,142 pages. Available online at:  
<https://www.departments.bucknell.edu/biology/resources/msw3/>
- Wilson, and Ruff. 1999. Smithsonian book of North American Mammals. Smithsonian Institution Press, Washington, D.C. 750 pages.

#### MAJOR KNOWLEDGEABLE INDIVIDUALS:

#### ADDITIONAL INFORMATION:

Otters of the subspecies *L. c. lataxina* from Louisiana were reintroduced into the Verde River system, 1981-1983. This population, estimated at 15-20 breeding adults in 1994, persists along the Verde River and tributaries (Hanna et al. 1994).

<b>Revised:</b>	1987-08-15 (BDB)
	1995-04-03 (DBI)
	1997-03-04 (SMS)
	2002-11-15 (RHB)
	2002-11-27 (SMS)
	2022-05-27 (KSL)
	2023-03-06 (MBL)
	2023-06-01 (MSB)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 20XX (= year of last revision as indicated at end of abstract). X...X (= taxon of animal or plant). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.