Northern River Otter

Lontra canadensis

REGULATORY STATUS

USFWS: No special status
USFS R2: Sensitive
USFS R4: No special status
Wyoming BLM: No special status
State of Wyoming: Protected Animal

CONSERVATION RANKS

USFWS: No special status
WGFD: NSS3 (Bb), Tier II
WYNDD: G5, S3S4
Wyoming Contribution: LOW
IUCN: Least Concern

STATUS AND RANK COMMENTS

The Wyoming Natural Diversity Database has assigned Northern River Otter (*Lontra canadensis*) a state conservation rank ranging from S3 (Vulnerable) to S4 (Apparently Secure) because of uncertainty about the state range and proportion of range occupied for this species in Wyoming.

NATURAL HISTORY

Taxonomy:

Historically, 7–19 subspecies of Northern River Otter were recognized. However, reintroduction programs have occurred across North America, facilitating breeding among subspecies, and recent genetic analysis of Northern River Otter populations suggests that subspecies designations are no longer valid [1, 2].

Description:

Identification of Northern River Otter is possible in the field. Northern River Otter is a large, stocky, yet streamlined member of the weasel family. The species is characterized by short legs, webbed feet, a long tapered tail that makes up a third of the body length, and a small blunt head. The fur is short and dense, ranging in color from pale chestnut to nearly black on the back and light brown to silver gray on the belly. Adult length ranges from 91–134 cm. Weight ranges from 5–14 kg. Young otters are similar in appearance to adults [2, 3]. In Wyoming, Northern River Otter is most similar to Mink (*Mustela vison*), Muskrat (*Ondatra zibethicus*), and American Beaver (*Castor Canadensis*) but can be distinguished from these species by its long, thick, tapered tail and ventral fur that is noticeably paler than the dorsal fur [4].

Distribution & Range:

Historically, Northern River Otter was distributed across most major river drainages in the United States and Canada, including much of Wyoming. The species was largely extirpated across its range due to fur trapping, pollution, and habitat degradation [2, 5]. Outside of Grand

Teton and Yellowstone National Parks, the species had been extirpated from Wyoming by the mid-1900s. Protection of Northern River Otter in Wyoming outside of the national parks began in 1953. The species is now more widespread in Wyoming, having expanded south and east from Yellowstone and Grand Teton National Parks and north from reintroductions in Colorado [2, 4]. However, its exact distribution in the state is still unclear. Confirmed or suspected breeding has been documented in 12 of Wyoming's 28 latitude/longitude degree blocks, primarily in the western half of the state [6].

Habitat:
Across the species' range, Northern River Otter uses many types of aquatic habitat, including rivers, streams, marshes, lakes, and reservoirs. The species requires aquatic habitats with relatively high water quality, riparian vegetation for cover, permanent open water for foraging, and ample food sources [2]. Northern River Otter prefers vegetated shorelines with stable banks for denning and cover and avoids waterbodies with gently sloping sandy or gravel shorelines. The species also requires structural complexity in the form of riparian vegetation, logjams, beaver or muskrat lodges, or rock piles for cover [2, 5]. Habitat needs are similar year-round. In winter, the species is restricted to areas with open water [2].

Phenology:
Northern River Otter females may breed every 1–2 years. Mating occurs from late winter through early spring; however, females delay implantation for 8 months or more. Gestation is 61–63 days, and litters of 1–3 young are born between February and April. Young begin to eat solid food at 9–10 weeks of age and are weaned by 12 weeks but remain with the mother until they are 37–38 weeks old. Dispersal of young from the natal territory occurs in April and May, at age 12–13 months [2, 5].

Diet:
Northern River Otter primarily feeds on fish from a wide variety of families, but will also readily eat crustaceans (especially crayfish) and amphibians. Other prey items include mollusks, insects, birds, and mammals. Diet composition is usually a reflection of the relative abundance of available prey items [2, 4].

CONSERVATION CONCERNS

Abundance:
Continental: WIDESPREAD
Wyoming: VERY RARE
There are no robust estimates of abundance for Northern River Otter in Wyoming. The species has an estimated statewide abundance rank of VERY RARE and appears to be uncommon even within suitable environments in the occupied area [6]. In Wyoming, Northern River Otter is believed to be most common in the Yellowstone, Green, and Snake River drainages [2, 7]. In 2008, the Northern River Otter population in Yellowstone Lake and nearby tributaries was estimated to range from 1 otter per 10.1–20.4 km of shoreline (approximately 14–28 individuals) [8]. Population estimates for 3 study reaches along the Green and New Fork Rivers (106 km of river) ranged from 35–44 individuals in 2010 [9].

Population Trends:
Historic: LARGE DECLINE
Recent: INCREASE

Historically, Northern River Otter suffered large population declines range-wide and was extirpated from much of Wyoming as a result of fur trapping, pollution, and habitat degradation [2, 5]. Reintroduction and management efforts in a number of states have allowed populations to rebound, and Northern River Otter populations are likely stable or increasing in most western states [2, 10]. Although reintroductions have not occurred in Wyoming, Northern River Otter populations are believed to be increasing in the state, partly due to dispersal from reintroduced populations in neighboring states [2, 4].

Intrinsic Vulnerability:

MODERATE VULNERABILITY

Northern River Otter has moderate intrinsic vulnerability to extrinsic stressors in Wyoming due to its limited habitat requirements, low fecundity, and large home range size. Suitable habitat for Northern River Otter in Wyoming may be limited. Although the species will use several types of aquatic habitats, high altitude montane ponds and streams are typically unsuitable due to lack of open water in the winter, low food availability, and/or steep terrain [2]. The species' need for high quality productive waterways with structurally complex riparian vegetation and limited human disturbance also limits available habitat at lower elevations. Furthermore, Northern River Otter territories can be large, limiting the number of otters a single waterway can support [2]. Although the species will often live in family groups, individual male and female territories can range from 50–80 km and 31–58 km of river, respectively [2].

Extrinsic Stressors:

SLIGHTLY STRESSED

Northern River Otter is slightly stressed by alteration and degradation of aquatic habitats in Wyoming. Because the species is dependent upon higher quality productive aquatic systems with structurally diverse riparian vegetation, threats to the health of these aquatic habitats could negatively impact the species. Negative impacts on aquatic habitats can result from alteration of natural flow regimes due to dams and reservoirs, siltation of streams and rivers from logging operations, pollution from agricultural chemicals and oil and gas development, and both habitat degradation and anthropogenic disturbance resulting from human development along waterways [2, 11, 12]. Research suggests that Northern River Otter abundance in Wyoming's Green River drainage is negatively impacted by anthropogenic disturbance (i.e., oil and natural gas development, infrastructure development) and possibly pollution [9]. Northern River Otter is high on the aquatic food chain, making it susceptible to reduced prey abundance and bioaccumulation of heavy metals and toxic compounds resulting from water pollution [2, 5, 8, 13].

KEY ACTIVITIES IN WYOMING

Surveys for Northern River Otter were conducted along the Green River in southwestern Wyoming in 2010 and 2011 to assess the influence of oil and gas development on species abundance [9]. Results suggest that Northern River Otter tended to avoid areas with energy development; however, it is unclear whether avoidance resulted from increased disturbance or from water contamination. Researchers also studied the demographic and behavioral response of Northern River Otter to declining native Yellowstone Cutthroat Trout (*Oncorhynchus clarkii bouvieri*) populations in Yellowstone Lake and surrounding tributaries from 2002–2008 [8]. Results suggest that Northern River Otter distribution and diet appear to have changed as a result of the decline in native cutthroat trout, once a major food source for otters in that drainage. Both survival and abundance of Northern River Otter might also be negatively impacted by the decline in native trout, although further monitoring is necessary to elucidate population trends [8].

ECOLOGICAL INFORMATION NEEDS

Information on the current distribution, abundance, and population status of Northern River Otter is needed for Wyoming. Factors limiting recolonization and occupancy of different drainages in Wyoming are not understood. Further information is needed to clarify the effects of energy development on otter abundance, particularly the relative impacts of industrial disturbance and water contamination [9]. Northern River Otter would also benefit from continued monitoring of the impacts of declining native cutthroat trout on survival and abundance in the Yellowstone Lake area, once a population stronghold for otters in Wyoming.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Nichole L. Bjornlie. Recent management activities for Northern River Otter in Wyoming have included funding research projects to improve understanding of limiting factors, particularly energy and other anthropogenic development. Moving forward, management priorities will continue to address the impacts of limiting factors as well as focusing on developing a better understanding of distribution throughout the state and identifying potential barriers and corridors to dispersal and colonization. Additional priorities include developing and implementing a robust protocol to detect Northern River Otter and monitor population trends, all of which will ultimately be used to develop management and conservation recommendations.

CONTRIBUTORS

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Figure 1: Adult Northern River Otter in Yellowstone National Park, Wyoming. (Photo courtesy of Nate Bowersock)

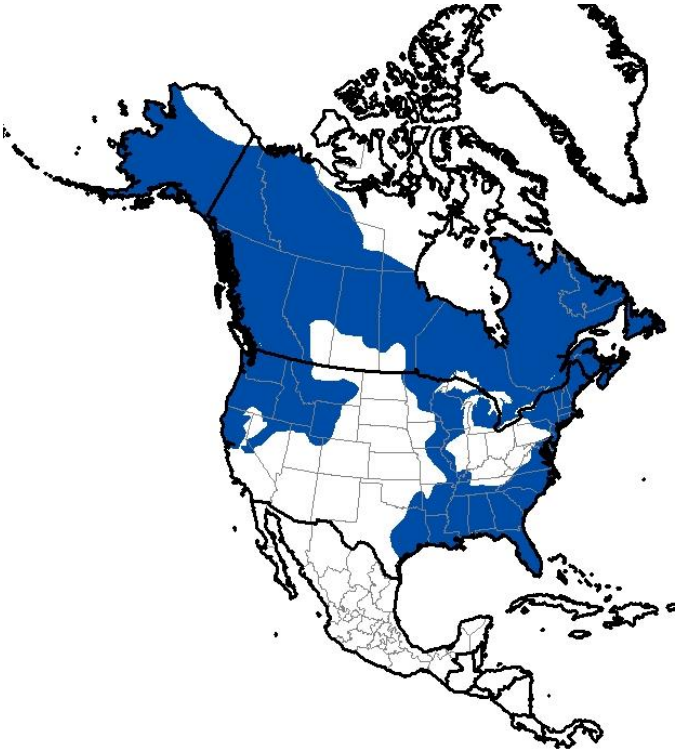

Figure 2: North American range of *Lontra canadensis*. Due to range expansions, the species may now be found outside the mapped range. (Map from: Patterson, B. D., et al. (2007) Digital Distribution Maps of the Mammals of the Western Hemisphere, version 3.0, NatureServe, Arlington, Virginia.)

Figure 3: Northern River Otter habitat on Yellowstone Lake in Yellowstone National Park, Wyoming. (Photo courtesy of Jamie R. Crait)

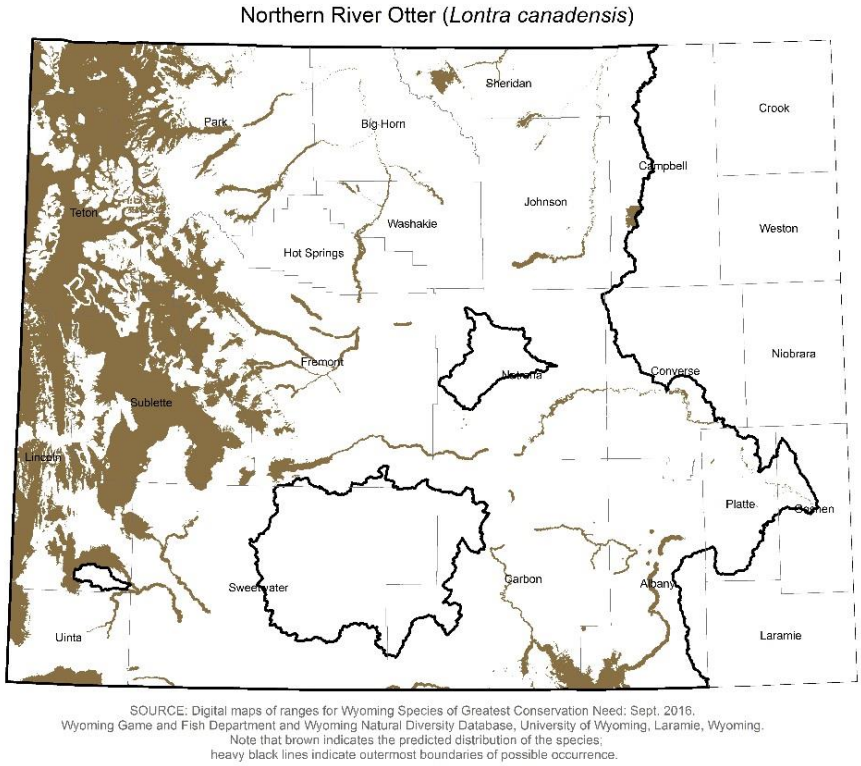

Figure 4: Range and predicted distribution of *Lontra canadensis* in Wyoming.