

1. Species: River Otter (*Lontra canadensis*)

2. Status: Table 1 summarizes the current status of this species or subspecies by various ranking entity and defines the meaning of the status.

Entity	Status	Status Definition
NatureServe	G5T2	<i>Species is Imperiled</i> At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
CNHP	S3S4	<i>Species is Vulnerable</i> At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
Colorado State List Status	State Threatened	Colorado List of Threatened and Endangered Species.
USDA Forest Service	R2 Sensitive	Region 2 Regional Forester’s Sensitive Species
USDI FWS ^b	N/A	N/A
^a Colorado Natural Heritage Program.		
^b US Department of Interior Fish and Wildlife Service.		

The 2012 U.S. Forest Service Planning Rule defines Species of Conservation Concern (SCC) as “a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species’ capability to persist over the long-term in the plan area” (36 CFR 219.9). This overview was developed to summarize information relating to this species’ consideration to be listed as a SCC on the Rio Grande National Forest, and to aid in the development of plan components and monitoring objectives.

3. Taxonomy

Genus/species *Lontra canadensis* is accepted as valid (ITIS 2015).

4. Distribution, abundance, and population trend on the planning unit [12.53.2,3,4]:

The species occurs broadly across much of North America and is considered reasonably secure overall. Severe declines in the 1800’s from unregulated fur harvest and habitat destruction extirpated or severely reduced populations in many parts of the United States, including much of the USDA Forest Service, Region 2 area. River otters were extirpated from Colorado and Nebraska, nearly extirpated from South Dakota and Kansas, and severely reduced in Wyoming (Boyle 2006).

Armstrong (1972) noted historical specimens and reliable observations from the Yampa, White, Colorado, Gunnison, and Dolores rivers in western Colorado, and from the upper and lower reaches of the Arkansas and South Platte rivers in eastern Colorado. While no historical records exist for the Rio Grande watershed in Colorado, because river otters are well documented

historically in the Rio Grande in northern New Mexico (Polechla 1985), Armstrong (1972) assumed their presence in the upper reaches in Colorado as well (summarized in Boyle 2006).

Regulation of trapping, improved water quality, and intensive management, including translocations, are actions that have re-established the species to much of its former range in North America. Reintroductions in Colorado have re-established river otters to some of its former range, and otter populations appear to be expanding into additional remaining suitable habitat (Boyle 2006). The current distribution of river otters in Colorado is likely the result of reintroductions by Colorado Parks and Wildlife since 1976 into the upper Colorado River (Rocky Mountain National Park), the Gunnison River (Delta and Montrose counties), the Piedra River (Archuleta County), and the Dolores River (Dolores County). River otters reintroduced to the Green River in northeastern Utah have apparently expanded their distribution downstream into northwestern Colorado (Boyle 2006).

River otters are currently not known to occur within the planning area. One observation (2004) has been reported over the past 20 years (Table 2). Another otter was found dead on highway 149 near Wagon Wheel Gap in 2010. Other than historic accounts, river otters were not known to inhabit the upper Rio Grande River Basin prior to these occurrences and indicate that they have recolonized the upper river basin on their own, most likely from the river sources on the west side of the continental divide.

Table 2. Known Occurrence Frequency within the Planning Area

Known Occurrences in the past 20 years	2
Year Last Observed	2004

5. Brief description of natural history and key ecological functions [basis for other 12.53 components]:

Otters are highly mobile and often move in response to shifting availability of food. Home range size and location are dynamic seasonally. In Rocky Mountain National Park, annual home ranges of otters of both sexes ranged from 2 to 27 mi², with an average of 12 mi² (Mack 1985). On the Dolores River, Colorado, home ranges of otters during the first year after translocation varied from 3.5 mi² in winter to 8.5 mi² in summer, with spring and fall home range sizes intermediate (Malville 1990). Male home ranges are usually larger than those of females. Both sexes exhibit inter- and intrasexual overlap in home ranges, and home ranges tend to shrink in winter and exhibit less overlap (Boyle 2006).

In the interior western United States, river otters most often inhabit stream-associated habitats (Melquist and Hornocker 1983, Mack 1985, Bradley 1986 summarized in Boyle 2006), but lakes, reservoirs, beaver ponds, and floodplain wetlands may occur within seasonal home ranges. Valley streams are preferred to mountain streams. In mountainous areas, headwater streams or stream reaches are often characterized by high gradient and low productivity and, therefore, do not provide quality habitat for river otters (Melquist and Hornocker 1983, Dubuc et al. 1990, summarized in Boyle 2006).

The most important physical habitat attribute to river otters other than water is riparian vegetation, which provides security cover when they are feeding, denning, or moving on land. Riparian vegetation also enhances otter habitat by stabilizing banks (which reduces soil erosion and protects water quality), contributing nutrients and invertebrates to aquatic systems, providing shading for fish habitat, and encouraging beaver activity.

Throughout their range breed from December to April, but in Colorado they probably breed in March and April (Melquist and Hornocker 1983, Fitzgerald et al. 1994, summarized in Boyle 2006). True gestation lasts 61 to 63 days, but because the fertilized egg does not implant in the uterus for 8 months or more, the time between copulation and parturition may reach 10 to 12 months. Young are born between February and April. Females retire to secluded locations to give birth and to rear young, generally using dens of other aquatic mammals, especially beaver bank dens. Other structures such as red fox burrows, beaver or muskrat lodges, dense riparian vegetation, log jams, brush piles, or talus may also be utilized for denning.

Fish form most of the river otter's diet rangewide, and the presence of fish in suitable quantity typically constitutes an essential habitat component. River otters will also take crustaceans, mollusks, insects, birds, and mammals, occasionally in abundance but more often opportunistically (Knudsen and Hale 1968, Reid et al. 1994a, Melquist et al. 2003, summarized in Boyle 2006).

6. Overview of ecological conditions for recovery, conservation, and viability [12.53 7, 9?, 10, 11, 12]:

Boyle (2006) describes the following conservation considerations for river otters:

- Where river otters occur, or the potential exists for their recolonization, suitable otter habitat should be maintained, and potentially suitable, but degraded, habitat should be restored where opportunities may exist. At local scales, this requires maintenance of adequate streamflow (at least 50 cfs) and food resources, good water quality, riparian vegetation providing at least 50 percent cover along banks, other cover in or along streams such as woody debris or boulders, and streamflow regimes that protect natural aquatic and riparian processes, ensuring the continued existence of river otter habitat.
- Actions that alter instream flows, degrade or destroy riparian habitat, eliminate woody debris in streams, or reduce beaver activity should be modified where possible to alleviate impacts to river otter habitat.
- Principal actions of concern on USFS lands include livestock grazing in riparian areas, timber harvest and fire management where they may affect riparian vegetation or stream siltation, recreational uses and road management along streams and in riparian areas, and water diversion and development projects.
- Fisheries projects that increase fish (especially native species) and invertebrate biomass are likely to benefit river otters, but replacement of slower-swimming native fish with non-native salmonids may decrease prey availability for otters.
- Mining and energy development should be managed to avoid water pollution because of the sensitivity of river otters to pollutants.
- Identification of key habitat linkages, protection of those linkages from habitat degradation, and the restoration of degraded or severed habitat linkages where necessary.
- At local scales, habitat consists of streamflow (at least 50 cfs) and food resources, good water quality, riparian vegetation providing at least 50 percent cover along banks, other

cover in or along streams such as woody debris or boulders, and streamflow regimes that protect natural aquatic and riparian processes.

7. Threats and Risk Factors

In USFS Region 2, the primary limiting factors for river otters are habitat-related. Large areas of river habitat have been degraded by water depletions and water development, decline in water quality, loss of riparian vegetation, and heavy human settlement. These areas mostly occur beyond USFS lands, in valleys where private lands dominate. However, riparian vegetation degradation has also occurred on some federal lands from livestock grazing and other land uses (Boyle 2006).

Unregulated harvest of river otters for pelts was formerly a viable threat to the species and, along with habitat destruction, resulted in large declines in river otter abundance and distribution in North America. River otters are now protected from harvest in Colorado (Boyle 2006).

River otters are highly vulnerable to pollution. Chronic pollution of waterways in Region 2 that could affect river otters is a greater issue in areas downstream of NFS lands where urban or industrial discharges or agricultural runoff contribute pollutants. Water pollution on NFS lands is primarily confined to areas where past or current mining activity contributes sediments, oils and greases, or heavy metals to rivers and streams (Rudd et al. 1986 cited in Boyle 2006).

Other risk factors include human settlement, recreation, incidental trapping, and illegal take (Boyle 2006).

8. Key literature:

Boyle, S. 2006. North American River Otter (*Lontra canadensis*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/northamericanriverotter.pdf> [06/29/2015].

9. Map of Known Occurrences and Modeled Suitable Habitat

Highest order streams are most likely to contain the lower gradients and higher flows necessary to support river otters (Figure 1). Approximately 139 miles of stream orders 6 or higher occur within the planning area. Yearlong sustained minimum streamflows of 50 cfs (cubic feet per second) as recommended by Boyle (2006) may not occur within all or portions of stream reaches shown in Figure 1. Mapped occurrence does not include the reported otter mortality along Highway 149 described above.

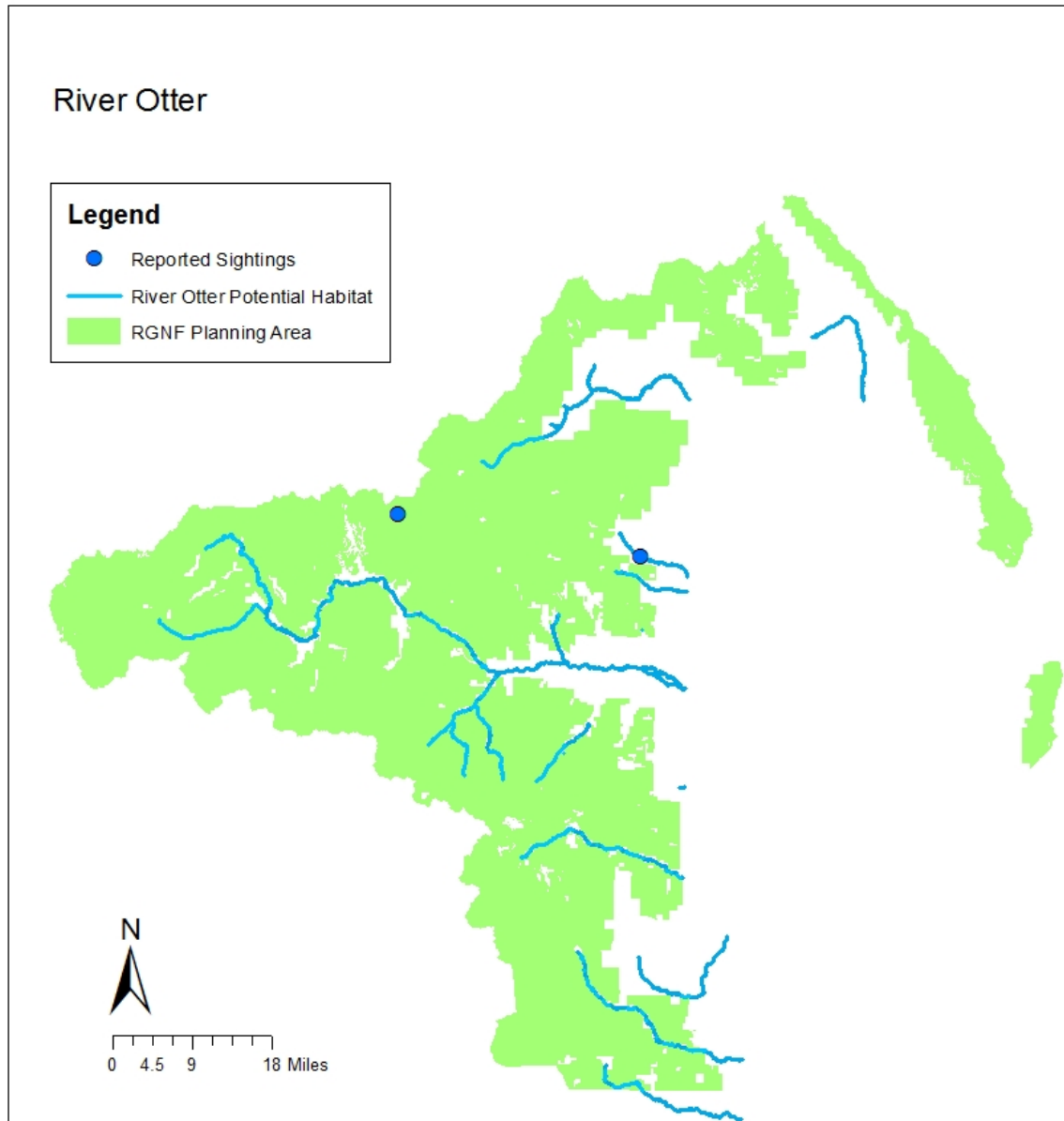


Figure 1. River Otter Modeled Habitat and Known Occurrences.