NORTHERN RIVER OTTER MANAGEMENT PLAN
V. 2.0
2010-2020

UTAH

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INTRODUCTION

The purpose of the Utah River Otter Management Plan is to provide direction for management of northern river otter (*Lontra canadensis*) in Utah and to expand the current distribution to its historic range. This purpose is in accordance with the mission statement of the Utah Division of Wildlife Resources:

To serve the people of Utah as trustee and guardian of the state's wildlife

The Utah River Otter Management Plan will direct river otter management statewide for a period of ten years (2010-2020). During 2020, this document will be reviewed, management progress will be evaluated and an updated management plan will be written and implemented.

BACKGROUND

Life History

Northern river otters are the most aquatic member of the family Mustelidae, with webbed feet, streamlined body and a heavily muscled tail, making them well suited for swimming. Adults weigh 6-15kg (13–33 lbs.) and range from 102-152 cm (40-60 in.) in length. Their coat can vary from a glossy black to a light brown and consists of sleek, short, dense fur. Otters have highly sensitive, long whiskers that aide in finding and capturing prey. River otters are carnivorous and will consume fish, amphibians, crustaceans, small birds and mammals.

Most otters reach sexual maturity at two years of age. Breeding occurs in late winter or early spring but, as a result of delayed implantation, gestation may last from nine to thirteen months. In the spring, pregnant females search for a den where they will give birth. River otters do not excavate their own dens, but rather use abandoned beaver bank dens or lodges, natural cavities or other holes made by burrowing animals. Usually two to four pups are born and remain in the den for about 60 days. Young are self-sufficient by five months of age, but typically remain with their mother up to one year or just prior to the birth of a new liter.

Otters remain active throughout the winter, feeding under frozen waters and coming up for air in gaps in the ice. They are highly mobile animals and may move many miles in search of prey and open waters. Home ranges in Idaho varied from 8-78 km of stream and shoreline habitats and dispersing animals have known to travel 42 km in one day (Melquist and Hornocker 1983). During periods of severe weather, otters will seek protection from the elements in dens, log jams, under tree roots or in other areas.

Distribution and Abundance

Northern river otters have never been abundant in Utah (Bich 1988). Between 1540 and 1872, only one expedition reported otters in the State. In 1826, Peter Skeene Ogden

reported that three otters were trapped from the Raft River in Box Elder County, and in 1829, six otters were trapped from the Bear River and Clarkston Creek in Cache County (Rawley 1982). Sporadic sightings of river otters continued to be reported throughout the first half of the twentieth century. Berryman (1949) believed that otters were probably present in the late 1940s on the Raft and Colorado Rivers. The Utah Division of Wildlife Resources (Division) removed three otters from the Raft River in 1953 (Bich 1988). Durrant (1952) considered river otters to be distributed throughout the Colorado River drainage, and the Wasatch, Uinta, and Raft River Mountains in Utah. A river otter was captured in the late 1960s from the Price River near Scofield Reservoir (Bich 1988). Bates (1988) compiled 58 "positive" (reliably documented) otter sightings in Utah from 1978 to 1988. These sightings occurred throughout Utah and included the following drainages: Bear River, Colorado River, Green River, Provo River, Raft River, Sevier River and Weber River. Bich (1988) reported 46 positive otter sightings made in Utah from 1964-1988. In addition, Bich (1988) conducted searches of 844.4 km of streams in northern Utah during which he found otter sign on 11 sections including, East Canyon Creek, Goose Creek and the Raft and Weber Rivers.

Legal Status

In 1899, the Utah State Fish and Game Commission classified the otter as a rare species and the state legislature protected them from harvest in the same year (Rawley 1982). There has been no legal harvest of river otters in the state of Utah since that time. In 1988, the Utah Division of Wildlife Resources designated the northern river otter as a State sensitive species because of low population levels and potential threats to existing habitats. In December 2003, the Utah Wildlife Board approved an updated sensitive species list for Utah and included the northern river otter as a Tier III species.

Management Actions

Beginning in 1989, the Division began a river otter reintroduction effort along the Green River in eastern Utah. From 1989-1992, the Division released 67 otters along the Green River (Table 1; Figure 1). Since this reintroduction effort, river otters have increased their distribution throughout northeastern Utah, spreading into tributaries of the Green River. From 2002 to 2004, fifteen otters have been trapped from nuisance situations and released in northeastern Utah along tributaries of the Green River (Table 1; Figure 1).

River otter populations in eastern Utah may have also benefited from restoration efforts by the Colorado Division of Wildlife. Beginning in the 1970s, Colorado released otters in rivers that bisected the Colorado-Utah border. Otters have presumably moved into Utah from these releases, which occurred on the Colorado River, Dolores River and a tributary of the San Juan River.

In 2002, four river otters that were causing fish mortality at the United States Fish and Wildlife Service fish hatchery at Jone's Hole were captured and relocated to the Strawberry River (Figure 1). All four otters (2 males, 2 females) were released near an

Year	Total Released	Release Location	Origin
1989	9	Green River @ confluence of Red Creek	5 Nevada, 4 Alaska
1990	14	Little Hole (along Green River)	14 Alaska
1991	32	11 Green River @ Island Park (Dinosaur NM) 6 Green River @ Rainbow Park (Dinosaur NM) 9 @ Ouray NWR 6 Pariette Wetlands	32 Alaska
1992	12	2 Flaming Gorge Reservoir 10 Green River @ Sand Wash boat ramp	12 Alaska
2002	4	Strawberry River	Jone's Hole Hatchery
2003	7	Duchesne River Rock Creek	Jone's Hole Hatchery Whiterocks Hatchery
2004	3	Duchesne River	Small pond @ Red Canyon Lodge adjacent to Flaming Gorge Reservoir
2005	8	Escalante River	Jone's Hole Hatchery
2009	12	Middle Provo River	Green River below Flaming Gorge Dam downstream to Little Hole
Total	101		

Table 1. Summary of River Otter Reintroduction in Utah 1989-2004.

area where otters were previously documented. In 2003, a total of eight otters were captured at fish hatcheries. Seven otters (4 females, 3 males) were captured at the Jone's Hole hatchery and one otter (female) was captured at the Division's Whiterock's fish hatchery. Six of the eight otters were released along the North Fork of the Duchesne River near areas where otters had been previously documented. One otter was released along Rock Creek. An adult female otter died while in the trap at Jone's Hole. A necropsy revealed the otter was in poor health prior to capture with four broken canines and no subcutaneous fat deposits. In 2004, three otters were captured on a small pond near Red Canyon Lodge adjacent to Flaming Gorge Reservoir. All three otters (2 females, 1 male) were released on the North Fork of the Duchesne River at the 2003 release site.

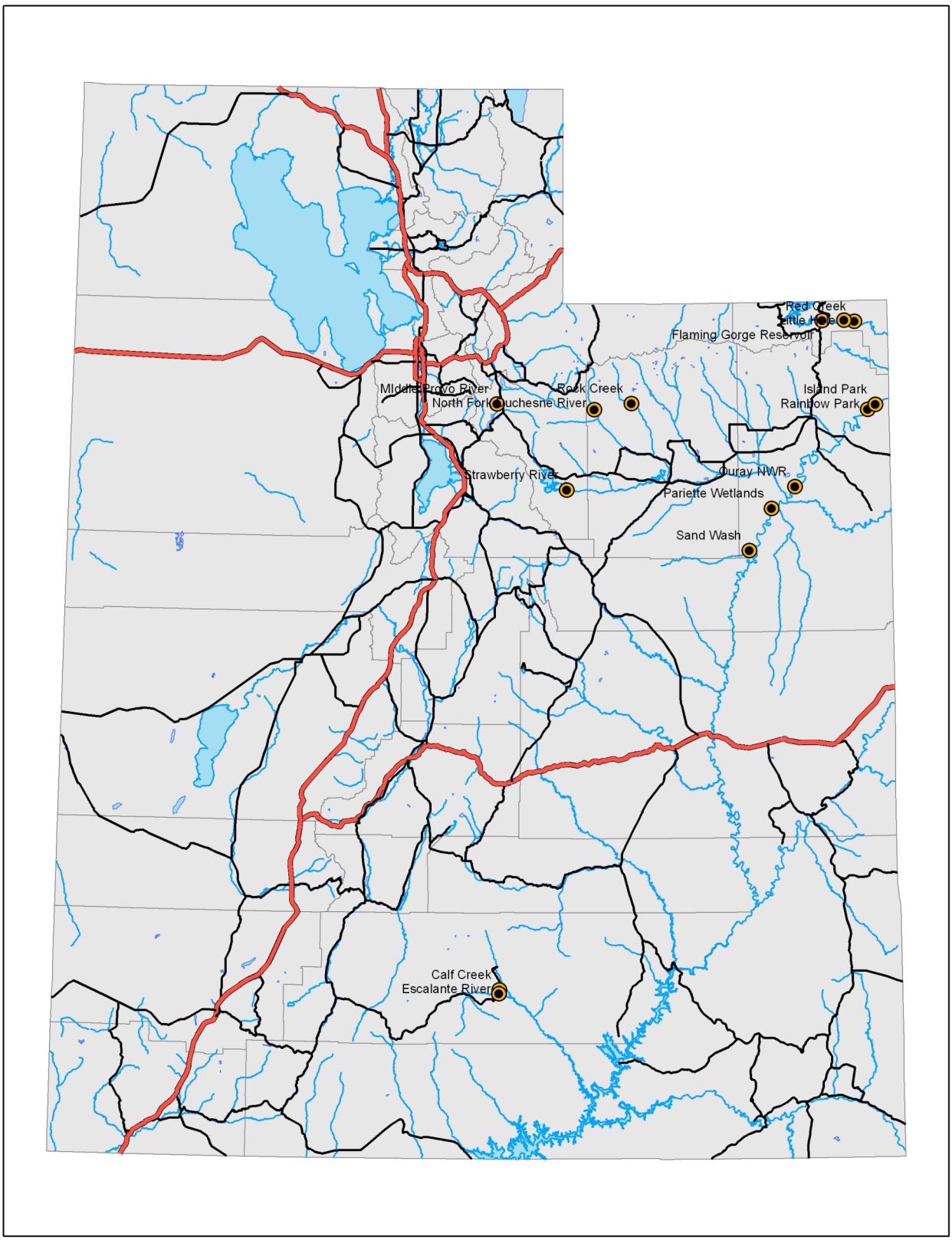

Figure 1. Otter release sites in Utah, 1989-2009.

From 2005 through 2009 two additional river otter reintroductions occurred in Utah. The source populations for both release sites (Escalante and Provo Rivers) were obtained from the Green River and associated tributaries in northeastern Utah. Since 2005, 8 otters were moved to the Escalante River in southern Utah. In November and December 2009, 12 otters (5 females, 7 males) were transplanted to the middle section of the Provo River between Jordanelle Dam and Deer Creek Reservoir (Table 1; Figure 1). Shortly after release two females were found dead. Brigham Young University, under contract with the Division, will begin studying this new otter population in the middle Provo River in 2010. A final report of their findings is due 2012.

ASSESSMENT

Population Size/Distribution

Otter Population levels appear to have remained very low throughout the 1900s until the Division began a reintroduction effort in 1989. In addition, several releases in Colorado on rivers that flow through Utah may have enabled dispersing otters to settle within Utah.

The size of Utah's river otter population is unknown, as no population estimates exist. Otters are secretive animals that occur in low densities, and therefore accurate population estimates or even reliable indices of otter population size are difficult to obtain. Sighting reports have been compiled in a database stored at the Division's Northeastern Regional Office to document the distribution of river otters within the State.

Recently, river otters have been reported throughout the Uintah Basin in northeastern Utah. In southeastern Utah, river otters have been reported recently along the Colorado and San Juan Rivers and in Lake Powell.

This increase in distribution of sighting reports suggests that the river otter population may be increasing in eastern Utah. However, very few sightings have been documented recently in western Utah, suggesting few, if any otters are present throughout the waterways of that region.

Habitat

River otters are able to adapt to a wide variety of aquatic habitats, including coastal regions (Toweill and Tabor 1982, Foy 1984) and inland river systems (Toweill and Tabor 1982). Melquist and Hornocker (1983) discussed availability of food and shelter, stable water supplies, human activity and individual otter preference as factors influencing habitat use and selection.

Many of the river drainages in Utah that historically supported populations of river otters have been severely altered. Degraded riparian vegetation and agricultural and urban encroachment negatively impacted water levels and water quality (Bich 1988). As a result, populations of fishes, arthropods and mollusks that form otters' prey base were reduced or totally removed, reducing the ability of these drainages to support otters.

In recent decades, habitat conditions have improved along many of Utah's waterways as a result of improved riparian habitat management. However, heavy demand for urban irrigation water and encroachment of residential and industrial development along the heavily populated Wasatch Front in northcentral Utah continue to reduce the capacity of waterways to support river otters, and urbanization is increasing (Bich 1988). However, a suitable prey base for otters is now found in most perennial waters in Utah as a result of the Division efforts to provide recreational fishing opportunities to the public. These managed improvements of habitat conditions and fish stocking have allowed for reintroduction efforts and the increase in distribution and abundance of river otters.

Use

Historically, very little use of river otters has been documented, probably because they were so scarce in the State. Current trapping pressure on river otters in Utah is purely accidental, as otter trapping has been prohibited for over a century but 2-3 otters are trapped each year in northeastern Utah (UDWR, unpublished data). Specific restrictions on trapping equipment and methods have been implemented along the Green River to reduce the incidental take by trappers that are targeting other aquatic furbearers.

River otters provide an important non-consumptive use along the Green River corridor in northeastern Utah. Fisherman and wildlife enthusiasts enjoy observing river otters along the Green River and on Flaming Gorge Reservoir.

Relationship with other wildlife

The river otter is a specialist, feeding primarily on fish (Melquist et al. 1981). However, it also consumes other types of aquatic prey such as mammals, birds, crayfish and insects (Findley et al. 1992). Ryder (1954) hypothesized that otter feed on fish in proportion to their abundance and in inverse proportions to swimming speed. Otter can be considered opportunistic predators on a variety of aquatic prey. Slow swimming fish and those that are easily detected are consumed first and injured fish are primary targets (Findley et al. 1992).

River otters in the Green River were found to feed primarily on carp (35.6%) and trout (22.4%) (Findley et al. 1992). However, they also preyed upon other fish species as well as crayfish and muskrats (Findley et al. 1992). Observations of river otter in Flaming Gorge Reservoir suggest that otters there consume primarily crayfish during the summer months and switch to fish in the fall and winter (Roger Schneiderven, UDWR Biologist, pers. comm.).

River otters have few predators while they are in the water. However, coyotes, bobcats, cougar, and wolves prey upon otters when they are on dry ground (Melquist and Hornocher 1983).

MANAGEMENT ISSUES

Public Issues

- Effect of reintroduced river otters on sport fisheries.
- Desire of Utah trappers to trap otters and the effects of trapping on river otter populations.
- Viewing/watchable wildlife opportunities.
- Lack of public knowledge about river otter biology and management in Utah.

Biological/Management Issues

- Proper assessment of potential release sites.
- Effect of reintroduced river otters on sport fisheries.
- Effects of trapping on river otter populations.
- Effect of river otters on threatened, endangered, and sensitive fish species.
- Viability of small populations.
- Connectivity of populations of river otter in separate drainages throughout Utah.
- Metapopulation management of otters.
- Management of otter population without reliable population estimates.
- Coordination and cooperation needed with Colorado to manage otter populations along the Colorado, Green, and San Juan rivers.
- Habitat quality and quantity.
- Fish depredation by otters at fish hatcheries, private fish ponds and community fisheries.
- Funding limitations.
- Transfer of aquatic nuisance species from contaminated watersheds to uncontaminated watersheds and hatchery facilities adjacent to occupied habitat.

MANAGEMENT OBJECTIVES and STRATEGIES

Objective A: Maintain current river otter distribution and self sustaining populations (reproducing five years post translocation) in Utah along the Green, Escalante and Provo River watersheds.

Strategies:

1. Develop and test survey protocol to monitor populations by 2015.
2. Monitor otter distribution using newly established survey protocol.
3. Maintain a statewide database of river otter sightings reported by the public and agency personnel. Emphasis will be placed

on sightings of adult females with young.
4. Limit accidental trapping mortality by trappers. (See Objective C)

Objective B: Expand distribution within occupied watersheds and establish a minimum of two new populations of river otters in two separate waterways by 2020.

Strategies:

1. Continue to provide surplus river otters to the Escalante and Middle Provo Rivers until populations become self sustaining (reproducing five years post translocation).
2. Review status of currently approved transplant site~~s~~; Weber River and Straight Canyon.
3. Identify new transplant sites through coordination with wildlife and aquatic section personnel. Coordination will involve hatchery personnel one year prior to the proposed release date to insure they have adequate time and budget to otter proof facilities. All new transplant sites must be approved through the Regional Advisory Council and Wildlife Board process and will be considered as plan amendments.
4. When feasible, the aquatic section will conduct a fish population survey in small streams prior to otter transplants for the purpose of establishing baseline data.
5. Survey select sections of the following waterways to document natural expansion of river otters when resources are available.
    - Currant Creek
    - Escalante River
    - Provo River
    - Logan River
    - Blacksmith Fork River
    - Raft River
    - Uintah North Slope Drainages from Flaming Gorge to Elizabeth Ridge
    - Weber River
    - East Canyon Creek
6. Explore the possibility of posting a notice in the fishing guidebook to encourage anglers to report otter sightings.
7. Capture up to 15 otters/year from the Northeastern Region (no more than 10 from the Green River) for release at approved sites. Use established capture protocol (Appendix A).
8. Limit the number of river otter captured along the Green River watershed each year in order to maintain viability of the donor population. The following is a prioritized list of otter capture sites within the Green River watershed:
    - Private fish ponds: Remove nuisance otters.

- Fish hatcheries: Remove nuisance otters.
- Sheep Creek inlet on Flaming Gorge Reservoir.
- Brown's Park Wildlife Management Area.
- Green River - Flaming Gorge Reservoir downstream to Brown's Park (Utah/Colorado stateline).

9. Look for opportunities to obtain otters from other states.
10. When feasible monitor reintroduction sites yearly while releases are taking place and then every three years thereafter using established survey protocol indentified in Objective A, Strategy 1.
11. Commit to meet with the Utah Trapping Association when considering new river otter translocations.
12. Prior to translocation coordinate with fish hatchery personnel and landowners with private fish ponds.
13. To address disease and aquatic invasive species issues otter transplant protocol will be developed and included in the established otter capture protocol found in Appendix A. Otters will not be translocated from known waters containing whirling disease or aquatic invasive species to waters believed to be clean.

Objective C: Reduce incidental trapping of river otter in Utah.

Strategies:

1. Continue to implement uniform trapping regulations along waterways where river otter protection is a management issue. Examples of trap regulations used to protect otters might include: no trapping of tributaries within 0.5 miles of river ; no trapping within 100 yds of either side of river; use of leg-hold traps only within 0.5 miles of river; required use of modified conibear traps within 0.5 miles of river.
2. Select the least restrictive trapping regulations to manage incidental take.
3. Educate trappers on methods to reduce river otter trap mortality.
4. Encourage the use of modified conibear body gripping traps along rivers where river otter occur. Conibear traps can be modified by replacing the standard V-trigger assembly with a top side-parallel trigger (Figure 2).

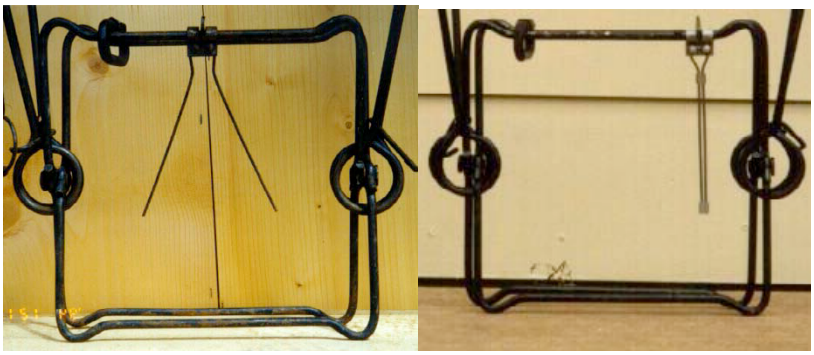

Figure 2. Standard V-trigger conibear trap and modified conibear trap.

Objective D: Evaluate the feasibility of allowing a limited amount of harvest by trappers in the future as populations become more established and widespread in the State

Strategies:

1. Evaluate the impacts of otter removal (live trapping and transplanting) from the source population by using the survey protocol identified in Objective A, Strategy 1.
2. Use the data gathered to evaluate the feasibility and appropriate level of future harvest.
3. Remove trapping restrictions on select tributaries when survey data suggest an increasing population trend.
4. Reinstate trapping restrictions on select tributaries when survey data suggests a decreasing population trend.
5. Investigate harvest strategies, e.g. quotas or limited entry permits.
6. Select and implement appropriate harvest strategy based on an analysis of different harvest options.

Objective E: Increase public awareness and interest in river otters in Utah.

Strategies:

1. Produce and distribute information about river otters in Utah.
2. Encourage media coverage of river otter reintroduction efforts in Utah.
3. Write an article about river otter reintroduction efforts and their current status.
4. Promote otters as a watchable wildlife species.

Objective F: Minimize and address nuisance otter activity.

Strategies:

1. Respond to nuisance otter reports within 48 hours.
2. Provide information to landowners on ways to minimize nuisance activity.
3. When otter abatement strategies are not effective, trap (preferably live trap) and remove nuisance otters.
4. Release nuisance otters a minimum of 50 miles away from the problem area in a waterway with an established population.

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Appendix A: Northern River Otter Capture Protocol

This protocol is provided to ensure the safety of the captured river otters as well as the safety of personnel. River otters are extremely strong animals and will vigorously attempt to bite and claw personnel after capture. Every caution should be taken to protect personnel from injury and ensure the safety of the otters that are captured.

Traps

River otters may be trapped using live-capture traps. Havahart 1081 (16" X 16" X 42") traps have been used successfully to trap otters in Utah. However, any live trap with similar dimensions should also work.

Foot-hold traps may also be used to capture otters in areas where the use of a live-trap is not possible. Modified No. 11 foot-hold traps have been used successfully in Utah and other states to capture otters for reintroduction purposes. Modifications required to make the traps usable to trap otter are the addition of 2-3 swivels along the length of the chain and flipping the jaws of the trap to create a space between the jaws when the trap closes – or use of offset or padded jaw traps. When foot-hold traps are used the area should be adequately signed to warn the public, especially those that may have pets.

The traps should be placed near areas frequented by river otters. Latrine sites, slides, and feeding areas are examples of areas frequented by otters. Foot-hold traps work well when embedded within loose, sandy, soil trails leading from the river to the latrine site. Live traps can be effective in hard packed, frozen, soil or rocky environments when positioned in a way that allows easy access by the otter. Otter are generally curious animals and will often enter live traps to investigate as they move about. Use of an otter scent may provide additional stimulus to attract otter to the trapping site and will also mask any human scent left on the trap. Bait (whole or cut fish) may also be used but should be replaced often because river otter will not eat putrefied bait. Traps can be covered with vegetation to obscure them from people.
Traps should be checked daily, preferably in the early morning to reduce potential injury and stress to the animal. The otter should be transferred to a transport tube as soon as possible.

Processing

Captured otters may be ear-tagged before they are placed in the transport box. An otter "chute" will allow personnel to handle the otters in a manner that will allow ear tags to be attached. One ear tag should be placed in each ear. The tag number, sex of the otter, approximate age (juvenile or adult), and capture location of each otter should be recorded. If possible, weight should also be recorded. After processing, otters should be immediately placed into the transport boxes and stored in a temperature controlled, quiet location.

Quarantine/Transport

Otters will be held for a period of at least 48 hours. This quarantine period will allow the otter to expel any disease (whirling disease) or invasive species (New Zealand Zebra Mussel) from its digestive system. Otters should be provided fresh fish (known disease free source) and water during the quarantine period.

After the quarantine period, the otters should be transported in a timely manner to the release site. Transport tubes should be used while transporting the otters. The transport tubes are well ventilated and are dark inside and will allow the otter to calm down. Only one otter should be placed in each tube during transport. Water should be provided for the otter during transport.

Release

Otters should be released near the shoreline of the river or lake. Otters can be released one at a time if there is more than one otter. All the otters should be released at the same site throughout the reintroduction period.

Suggested Equipment List

- Traps
- Wire cutters
- Pliers (needle nose or fencing pliers)
- Stakes
- Wire
- Leather gloves
- Otter lure
- Ear tags
- First aid kit