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RIVER OTTERS

Fig. 1. The North American river otter, *Lutra canadensis*



Damage Prevention and Control Methods

Exclusion

Fence small raceways, tanks, or ponds with 3 x 3-inch (7.6 x 7.6-cm) mesh wire.

Repellents

None are registered.

Toxicants

None are registered.

Fumigants

None are registered.

Trapping

Use Conibear® traps (Nos. 220 and 330), foothold traps (No. 2), and snares to control river otters in damage situations.

For restocking purposes, river otters can be caught in live traps, modified No. 1 1/2 soft-catch traps, and No. 11 longspring traps.

Shooting

If nonlethal approaches cannot be employed, shooting with shotgun or small-caliber rifle can be effective in damage situations that involve only one or two otters.

Identification

River otters (*Lutra canadensis*, Fig. 1) are best known for their continuous and playful behavior, their aesthetic value, and the value of their durable, high-quality fur. They have long, streamlined bodies, short legs, and a robust, tapered tail, all of which are well adapted to their mostly aquatic habitat. They have prominent whiskers just behind and below the nose, thick muscular necks and shoulders, and feet that are webbed between the toes. Their short but thick, soft fur is brown to almost black except on the chin, throat, cheeks, chest, and occasionally



PREVENTION AND CONTROL OF WILDLIFE DAMAGE — 1994

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Fig. 2. Distribution of the river otter in North America.

the belly, where it is usually lighter, varying from brown to almost beige.

Adult males usually attain lengths of nearly 48 inches (122 cm) and weights of about 25 pounds (11.3 kg), but may reach 54 inches (137 cm) and 33 pounds (15 kg). Their sex can be readily distinguished by the presence of a baculum (penile bone). Females have 4 mammae on the upper chest and are slightly smaller than males. Female adults measure about 44 inches (112 cm) and weigh 19 pounds (8.6 kg). The mean weights and sizes of river otters in southern latitudes tend to be lower than those in latitudes farther north.

Range and Habitat

River otters occur throughout North America except the arctic slopes, the arid portions of the Southwest, and the intensive agricultural and industrialized areas of the midwestern United States (Fig. 2). Their precolonial range apparently included all of North America except the arid Southwest and the northernmost portions of Alaska and Canada. Otter populations are confined to water courses, lakes, and wetlands, and therefore, population densities are lower than those of terrestrial species. Their extirpation from many areas is believed to have been related more to poisoning by pesticides bio-magnified in fishes, and to the indirect adverse effects of water pollution on fish, their main food, than

to excessive harvest. The loss of ponds and other wetland habitat that resulted from the extirpation of beaver in the late 1800s may have adversely affected continental populations of river otters more than any other factor. Increases in the range and numbers of river otters in response to the return of beaver has been dramatic, particularly in the southeastern United States. Recent releases totaling more than 1,000 otters have been made in Arizona, Colorado, Iowa, Kansas, Kentucky, Missouri, Nebraska, Oklahoma, Pennsylvania, Tennessee, and West Virginia in efforts to reestablish local populations.

River otters are almost invariably associated with water (fresh, brackish, and salt water), although they may travel overland for considerable distances. They inhabit lakes, rivers, streams, bays, estuaries, and associated riparian habitats. They occur at much higher densities in regions of the Great Lakes, in brackish marshes and inlets, and in other coastal habitats than farther inland. In colder climates, otters frequent rapids and waterfall areas that remain ice-free. Vegetative cover and altitude do not appear to influence the river otter's distribution as much as do good or adequate water quality, the availability of forage fish, and suitable denning sites.

Food Habits

The diet of the river otter throughout its range is primarily fish. Numerous species and varieties of fresh and anadromous fishes are eaten, but shellfish, crayfish, amphibians, and reptiles are also frequently eaten, as are several species of crabs in coastal marshes. Mammals and birds are rarely eaten. Consumption of game fishes in comparison to nongame (rough) fishes is generally in proportion to the difficulty, or ease, with which they can be caught. Because of the availability of abundant alternate food species in warm water, losses of the warm water sport fishes are believed minor compared to losses river otters can inflict on cold water species such as trout and salmon.

General Biology, Reproduction, and Behavior

The reproductive biology of river otters and all other weasels is complex because of a characteristic known as delayed implantation. Following breeding and fertilization in spring, eggs (blastocysts) exist in a free-floating state until the following winter or early spring. Once they implant, fetal growth lasts 60 to 65 days until the kits are born, usually in spring (March through May) in most areas. In the southern portion of the range the dates of birth occur earlier, mostly in January and February, implying implantation in November and December. Litters usually contain 2 to 4 kits, and the female alone cares for the young. They usually remain together as a family group though the fall and into the winter months. Sexual maturity in young is believed to occur at about 2 years of age in females, but later in males.

River otters are chiefly nocturnal, but they frequently are active during daylight hours in undisturbed areas. Socially, the basic group is the female and her offspring. They spend much of their time feeding and at what appears to be group play, repeatedly sliding down steep banks of mud or snow. They habitually use specific sites (toilets) for defecation. Their vocalizations include chirps, grunts, and loud piercing screams. They are powerful swimmers and are continuously active, alert, and quick—characteristics that give them immense aesthetic and recreational value. Their webbed feet, streamlined bodies, and long, tapered tails enable them to move through water with agility, grace, and speed. Seasonally, they may travel distances of 50 to 60 miles (80 to 96 km) along streams or lake shores, and their home ranges may be as large as 60 square miles (155 km²). Males have been recorded to travel up to 10 miles (16 km) in 1 night.

River otters use a variety of denning sites that seem to be selected based on availability and convenience. Hollow

logs, rock crevices, nutria houses, and abandoned beaver lodges and bank dens are used. They will also frequent unused or abandoned human structures or shelters. Natal dens tend to be located on small headwater branches or streams leading to major drainages or lakes.

Damage and Damage Identification

The presence of river otter(s) around or in a fish hatchery, aquaculture, or fish culture facility is a good indication that a damage problem is imminent. Otter scats or toilets that contain scales, exoskeletons, and other body parts of the species being produced is additional evidence that damage is ongoing. Uneaten parts of fish in shallow water and along the shore is evidence that fish are being taken. Otters usually eat all of a small catfish except for the head and major spines, whereas small trout, salmon, and many of the scaled fishes may be totally eaten. Uneaten carcasses with large puncture holes are likely attributable to herons. River otters can occasionally cause substantial damage to concentrations of fishes in marine aquaculture facilities. Often the damage involves learned feeding behavior by one or a family of otters.

Legal Status

The river otter is listed in Appendix II of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES). Its inclusion in this appendix subjects it to international restrictions and state/province export quotas because of its resemblance to the European Otter. Moreover, the river otter is totally protected in 17 states. Twenty-seven states have trapping seasons, and four states and two provinces have hunting seasons.

Damage Prevention and Control Methods

Because river otter damage has been minor compared to that of other species, and because of its legal status under the CITES Agreement, little con-

trol research and experimentation has been done. Registration of repellents, toxicants, or fumigants for river otter control has not been sought. Alternate aquacultural practices and species, predator avoidance behavior, and use of protective habitat have not been fully explored. Careful assessment should be made of reported damage to determine if nonlethal preventative measures can be employed, and to ensure that if any lethal corrective measures are employed, they do not violate state or federal laws. Damage problems should then be approached on an individual basis. Cultural methods and habitat modification are normally not applicable. Opportunities to use repellents, toxicants, fumigants, and frightening devices are infrequent, yet the development of any of these or other effective nonlethal approaches would be preferable to lethal control measures.

Exclusion

Fencing with 3 x 3-inch (7.6 x 7.6-cm) or smaller mesh wire can be an economically effective method of preventing damage at aquacultural sites that are relatively small, or where fish or aquaculture activities are concentrated. Fencing is more economical for protection of small areas where research, experimental, or propagation facilities such as raceways, tanks, ponds, or other facilities hold concentrations of

fish. Hog wire-type fences have also been used effectively, but these should be checked occasionally to ensure that the lower meshes have not been spread apart or raised to allow otters to enter.

Electric fences have also been used, but they require frequent inspection and maintenance, and like other fencing, are usually impractical for protecting individual small ponds, raceways, or tanks in a series. They are of greater utility as a supplement to perimeter fences surrounding an aquaculture facility.

Trapping

Traps that have been used effectively for river otters include the Conibear® (sizes 220 and 330) or other similar body-gripping traps and leghold traps (modified No. 1 1/2 soft-catch and No. 11 double longspring). The latter two are usually employed to capture river otters for restocking purposes. In water, body-gripping traps are usually placed beneath the water surface or partially submerged where runs become narrow or restricted (Fig. 3). They are effective when partially submerged at dam crossings, the main runs in beaver ponds, or other locations where otters frequently leave the water. Body-gripping traps are also effective in otter trails that connect pools of water or that cross small peninsulas. In these sets, the trap should

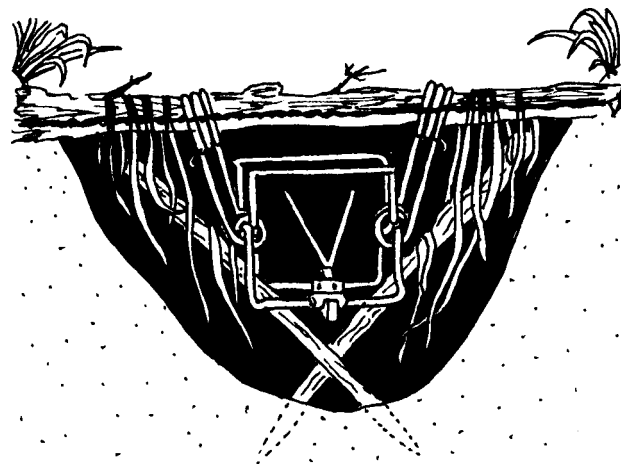


Fig. 3. Body-gripping trap suspended with a pole through the spring loops in a channel set to capture a river otter.

be placed at a height to blend with the surrounding vegetation to catch an otter that is running or sliding. After ice forms on the surface of streams and lakes, some trappers bait the triggers of body-gripping traps with whole fish. River otter trapping is prohibited in 21 states and one Canadian province. Check local regulations before trapping.

Most of the wild otters used for restocking in recent years were caught with No. 11 longspring traps in coastal Louisiana. These animals were usually caught in sets for nutria, in traps that were set in narrow trails and pullouts where shallow water necessitated that otters walk rather than swim. Leghold traps are also effective when placed in shallow edges of trails leading to otter toilets or other areas they frequent. Leghold traps set in out-of-water trails and peninsula crossings should be covered with damp leaves or other suitable covering.

With the depression of fur prices, nuisance beaver problems and efforts to control them have increased substantially throughout the United States. The killing of otters during beaver control trapping can be minimized by using snares, but they do occasionally sustain moderate injuries. In most situations, snared river otters can be released unharmed. Accordingly, snares are neither the most effective, nor the most convenient devices for capturing river otters or removing them from an area, and therefore are not recommended for either.

Shooting

Shooting the offending otters that cause damage problems will often effectively prevent continued losses. Although otters are shy, they are inquisitive and will often swim within close range of a small rifle or shotgun. Extreme caution should be taken to avoid ricochet when shooting a rifle at objects surrounded by water.

Shooting river otters for fur harvest is legal in four states and one Canadian province. Check your local, state, and federal laws and permits governing shooting, the use of lights after dark, the seasons, and the possession of otter carcasses or parts, to ensure that planned activities are legal.

Economics of Damage and Control

Although individual incidences of river otter damage and predation on fish can cause substantial losses to pond owners and to fresh water and marine aquacultural interests, their total effects are believed to be insignificant. Given the otter's aesthetic and recreational value, and its current legal status, consideration of broad control programs are unwarranted and undesirable.

Acknowledgments

Figure 1 from Schwartz and Schwartz (1981).

Figure 2 from Toweill and Tabor (1982), adapted by Dave Thornhill, University of Nebraska-Lincoln.

Figure 3 by Clint Chapman, University of Nebraska-Lincoln.

For Additional Information

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Editors

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