

# RIVER OTTER

AIDS TO IDENTIFYING TRACKS AND SCAT



photo: Diane Hargreaves

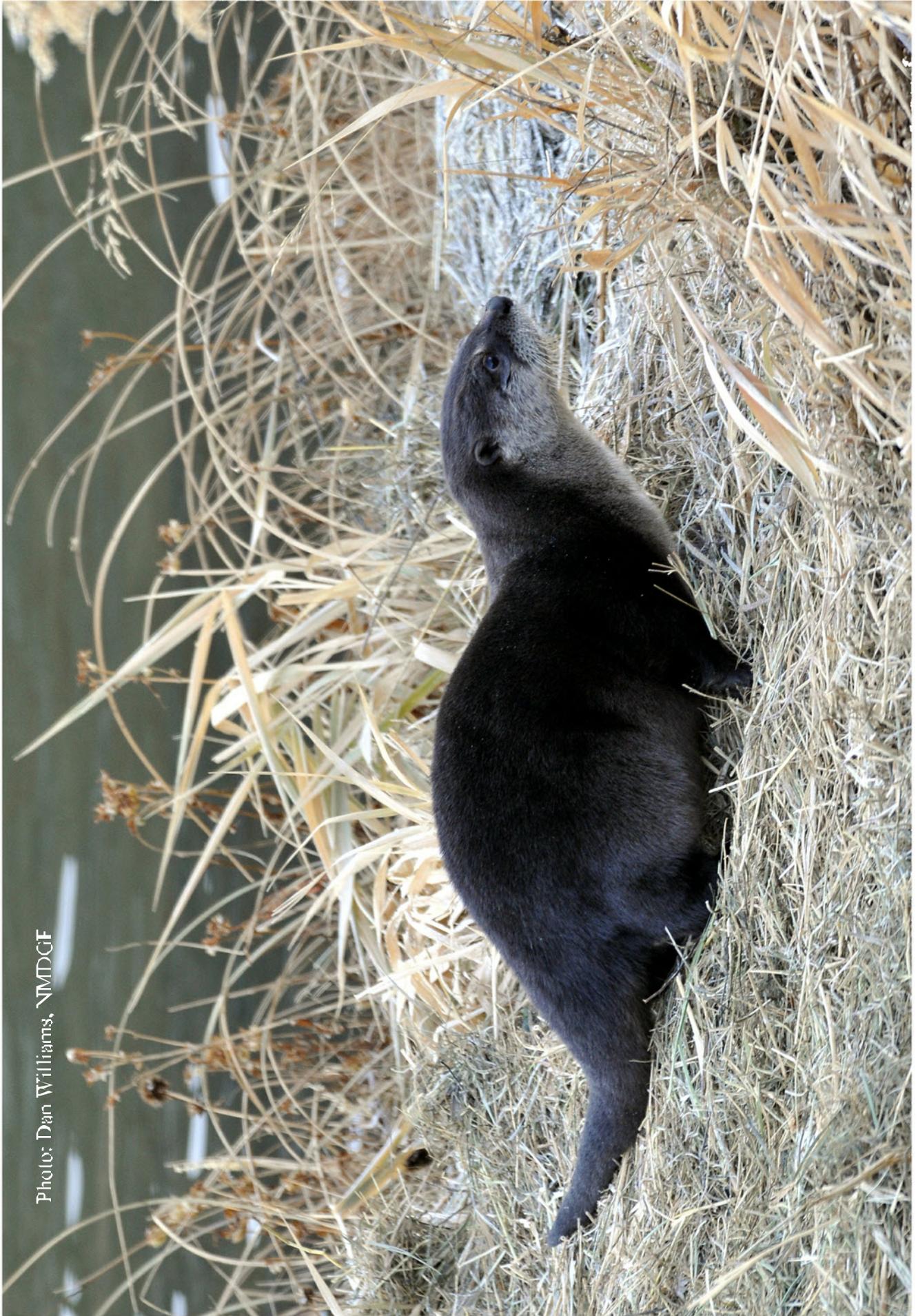


Photo: Dan Williams, NMDGIF



Photo: Cynthia Wolf



Photo: Jon Klingel

# OTTER TRACKS

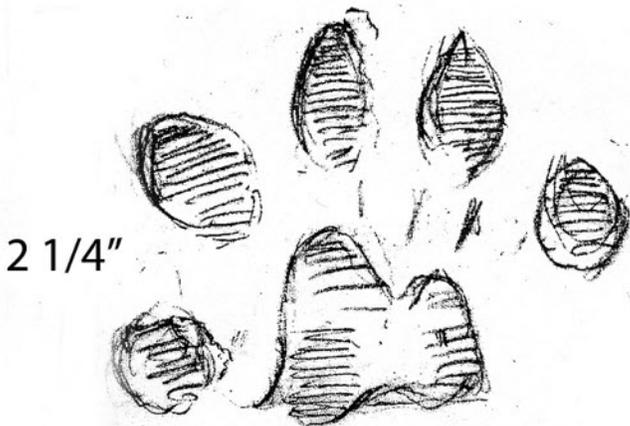
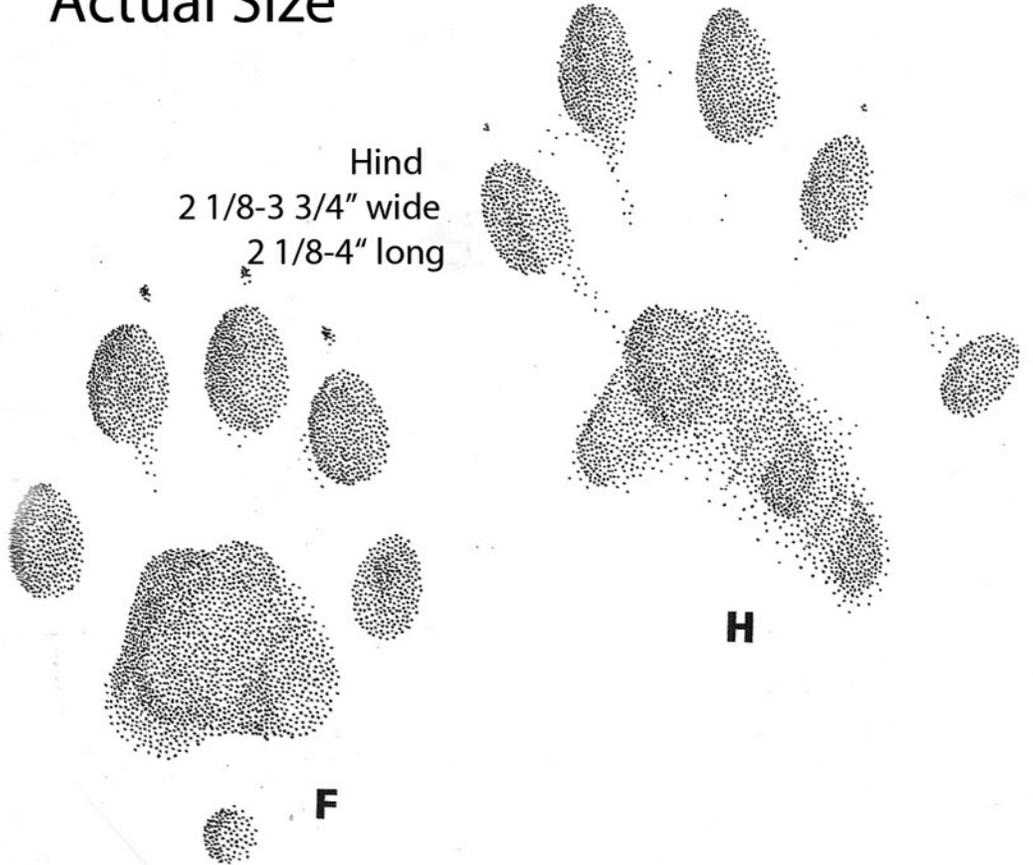
Otters slide on various substrates, from leaf litter to snow, with slides up to 20-25 feet. Downhills or flat ground are always traversed with lopes and slides in snow.

Feet are webbed. Webbing may or may not show. Webbing does not show on firm surfaces but often shows in soft mud. Nails may or may not register. Front track is more symmetrical. In the hind track the inner toe is often conspicuously out to one side.

## Actual Size

Front  
1 7/8 - 3" wide  
2 1/8 - 3 1/4" long

Hind  
2 1/8 - 3 3/4" wide  
2 1/8 - 4" long

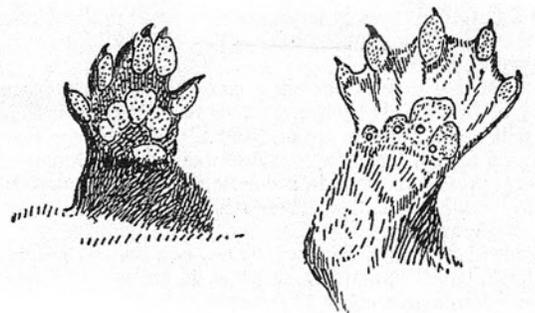


2 1/4"

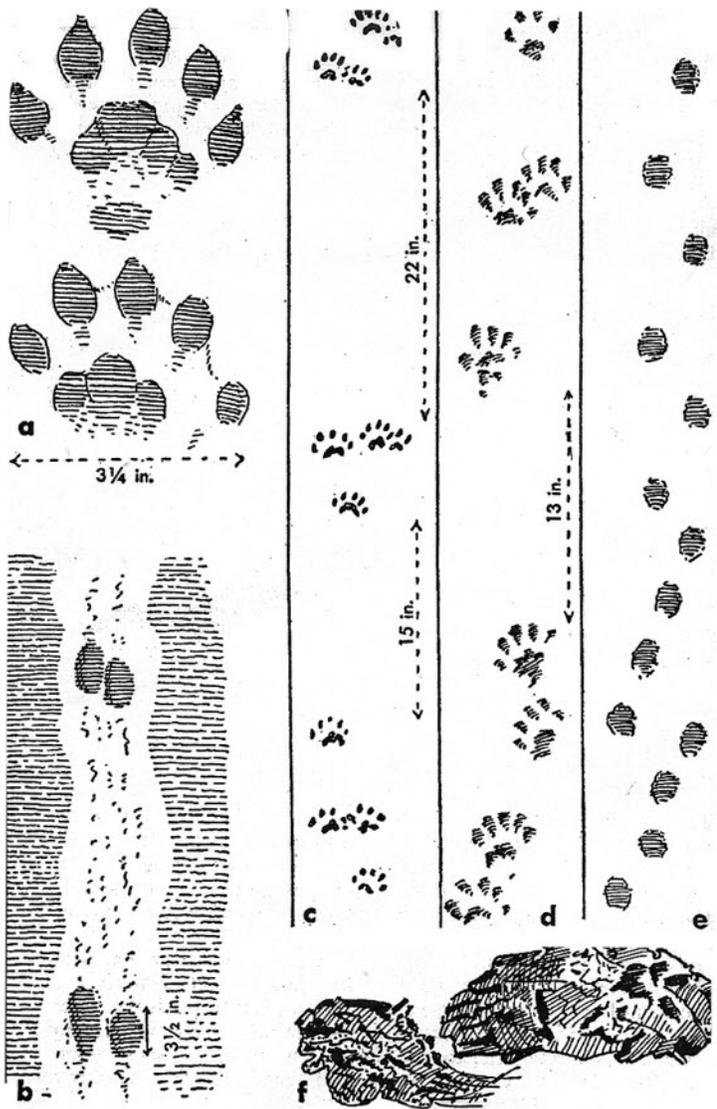
2 3/4"

sketch: Brian Long

## Forefoot and hind foot of River Otter



# OTTER TRACKS



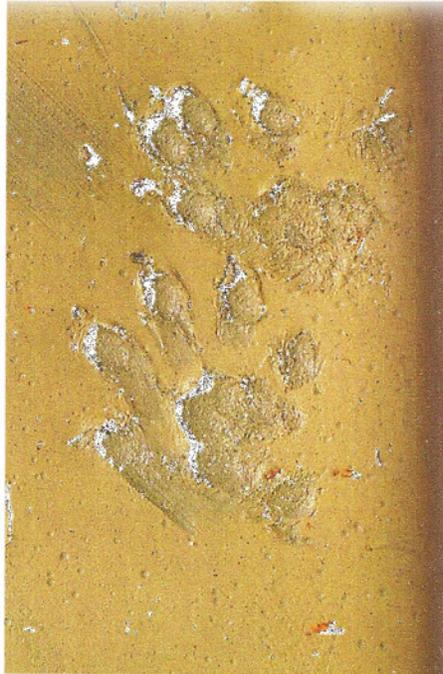
Northern River  
Otter Walk

Northern River  
otter 3x4 lope

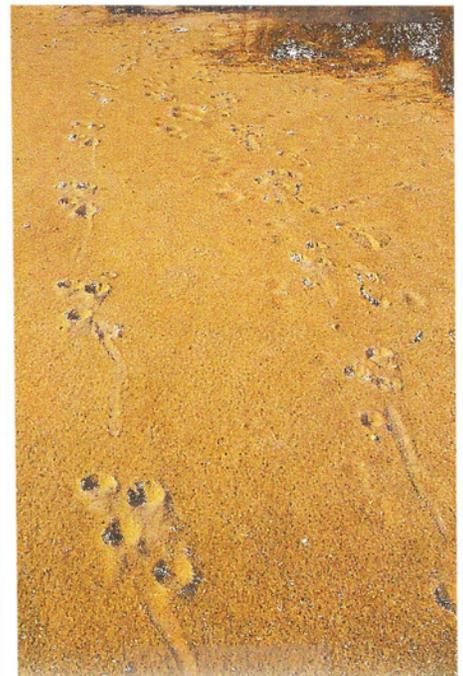
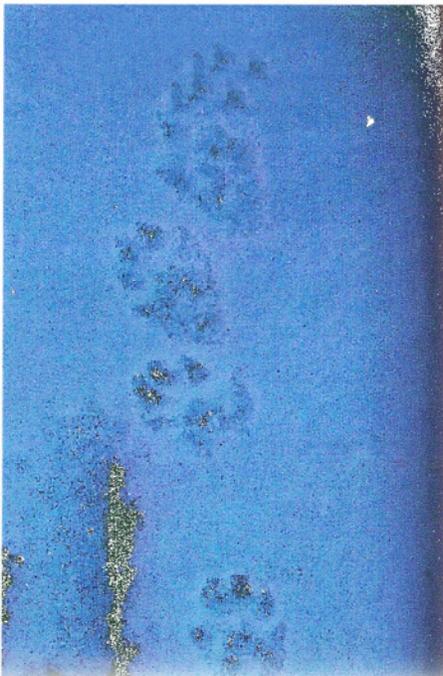
Otter tracks and scat.

- a Tracks in wet sand (Wyo., 1937).
- b Tracks in deep snow trough.
- c and d. Tracks of otter running in soft mud (Wyo., 1936).
- d Mixed gait, slowing to a walk, in soft sand (Yellowstone Lake, 1937)
- e Otter scat, about  $\frac{2}{3}$  natural size.

# OTTER TRACKS



Lope and slide on ice



Note tail drag marks



Otter tracks

# OTTER SCAT

**Otter Scat:** 3/8-1 inch diameter by 3-6 inches long. Fresh scat generally black and slimy with strong fishy odor. Consist of fish scales and/or crayfish parts.

Otters eat fish and/or crayfish and usually consist of fish scales or crayfish skeletal parts. Scats vary from amorphous, pattylike squirts to tubular structures, but regardless of shape, they often disintegrate into a pile of fish scales and reek of fish. Scats composed of crayfish are more tubular.

**Raccoon scat:** 5/16-1 3/16 inch diameter by 3 1/2-7 inches long. Raccoons also eat fish and crayfish, and can be confused with otter scat. Often lacks tapered ends, granular in appearance, color black to reddish, sometimes bleached to white. Note: raccoon scat can carry a parasitic roundworm which can be fatal to humans; handle with care.



Otter (NC): Tubular scats. 3/8 to 1 inch (1 to 2.5 cm) in diameter, 3 to 6 inches (7.6 to 15.2 cm) long.



Otter (VT): Tubular crayfish scats. 3/8 to 1 inch (1 to 2.5 cm) in diameter, 3 to 6 inches (7.6 to 15.2 cm) long.

Fresh scat: black, slimy, fish smell



# LATRINE AND ROLLING SITES

Otters use latrine sites that are stations visited by any adult otter that passes through the neighborhood. Droppings are found at these locations or on logs or rocks adjacent to or extending out into the water. Good places to look for latrine sites are under bridges and at confluences with tributaries. Otter also have rolling places, evidenced by the disturbed vegetation. Scat accumulates at regular rolls. They also have a unique way of twisting up tufts of grass to mark selected points where scent is applied. A collection of scrapes and digs found together is common.



An otter brown-out. Look closely for fish scales from long dissolved scat (NH)



Typical otter roll with accompanying scats and urine (MA)



Mounds and digs made by otters scenting and marking an area.

# OTTER SKULL

When viewed from the side, the skull is quite straight on top.

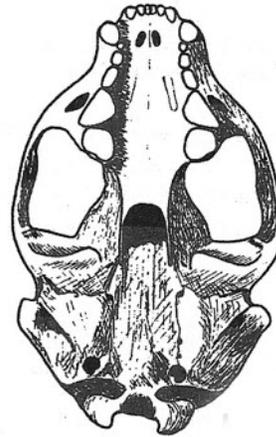
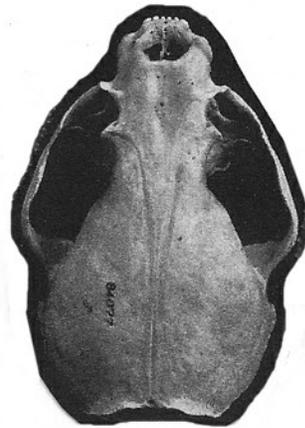
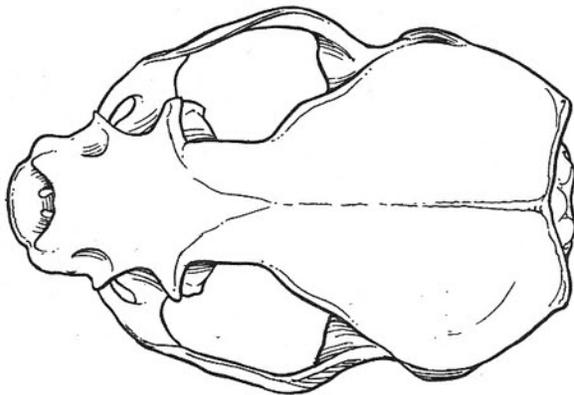
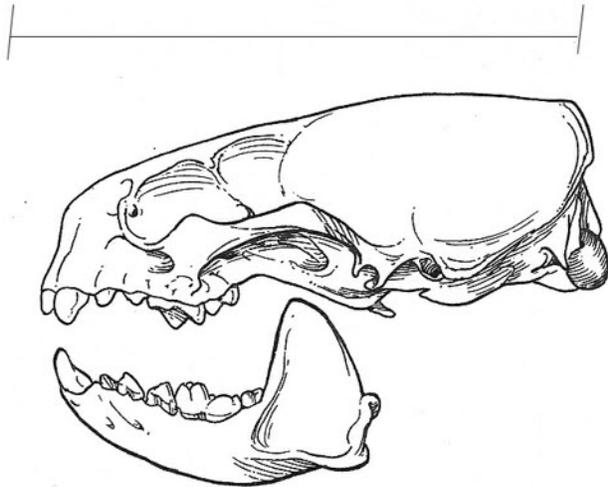
Teeth: 5 cheek teeth (excludes canine) on each side of skull and lower jaw.

Dental Formula:

incisors	canines	premolars	molars
3/3	1/1	4/3	1/2

Total = 36 teeth

approx. 4"



River Otter

# OTHER TRACKS POTENTIALLY CONFUSED WITH OTTER TRACKS

All tracks approximately actual size

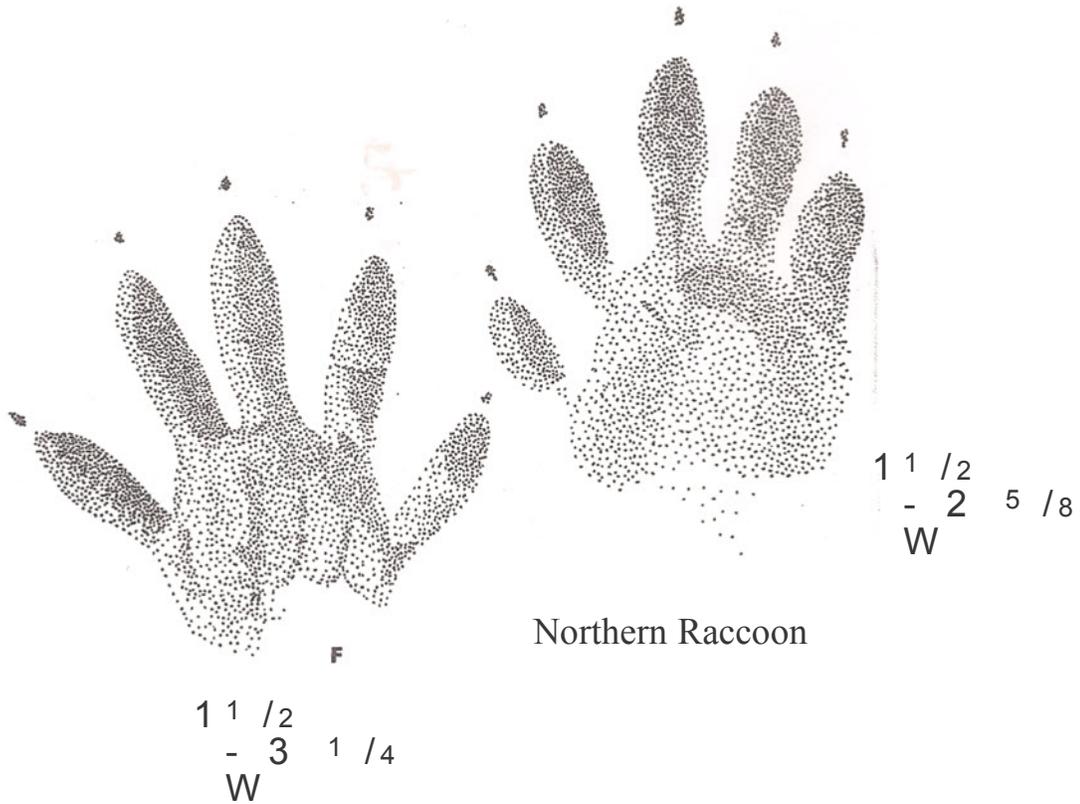
F= front foot track

H= hind foot track

W= track width

L= track length

dimensions in inches



1 <sup>3</sup>/<sub>8</sub> - 2 <sup>1</sup>/<sub>16</sub> W

2 <sup>5</sup>/<sub>8</sub> - 3 <sup>5</sup>/<sub>8</sub> L

H



F



H

1 <sup>5</sup>/<sub>16</sub> - 1 <sup>3</sup>/<sub>16</sub> W

1 <sup>5</sup>/<sub>16</sub> - 2 L

1 - 1 <sup>3</sup>/<sub>16</sub> W

1 <sup>5</sup>/<sub>8</sub> - 2 <sup>1</sup>/<sub>16</sub> L

Striped Skunk

White-nosed  
Coati (Gila only)

1 <sup>1</sup>/<sub>4</sub> - 1 <sup>7</sup>/<sub>8</sub> W

2 <sup>1</sup>/<sub>4</sub> - 3 <sup>1</sup>/<sub>4</sub> L

F



American  
Beaver

2 <sup>1</sup>/<sub>4</sub> - 3 <sup>1</sup>/<sub>2</sub> W

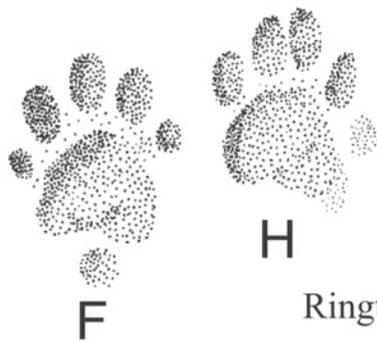
2 <sup>1</sup>/<sub>2</sub> - 3 <sup>7</sup>/<sub>8</sub> L

3 <sup>1</sup>/<sub>4</sub> - 5 <sup>1</sup>/<sub>4</sub> W

4 <sup>3</sup>/<sub>4</sub> - 7 L

F

H



$\frac{7}{8} - 1 \frac{1}{16}$  W  
 $1 - 1 \frac{3}{8}$  L

Ringtail

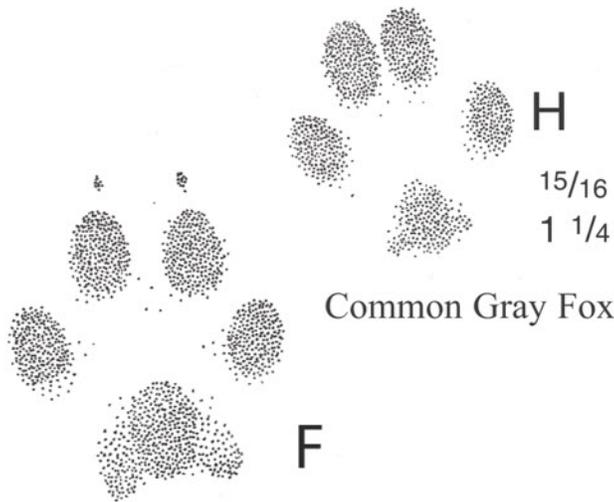
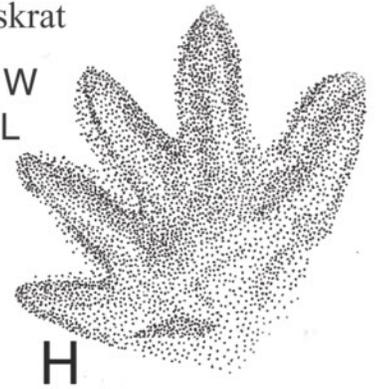
$1 \frac{5}{16} - 1 \frac{1}{4}$  W  
 $1 \frac{1}{8} - 1 \frac{7}{16}$  L



$1 - 1 \frac{1}{2}$  W  
 $\frac{7}{8} - 1 \frac{1}{2}$  L

Muskrat

$1 \frac{1}{2} - 2 \frac{1}{2}$  W  
 $1 \frac{1}{2} - 2 \frac{3}{4}$  L

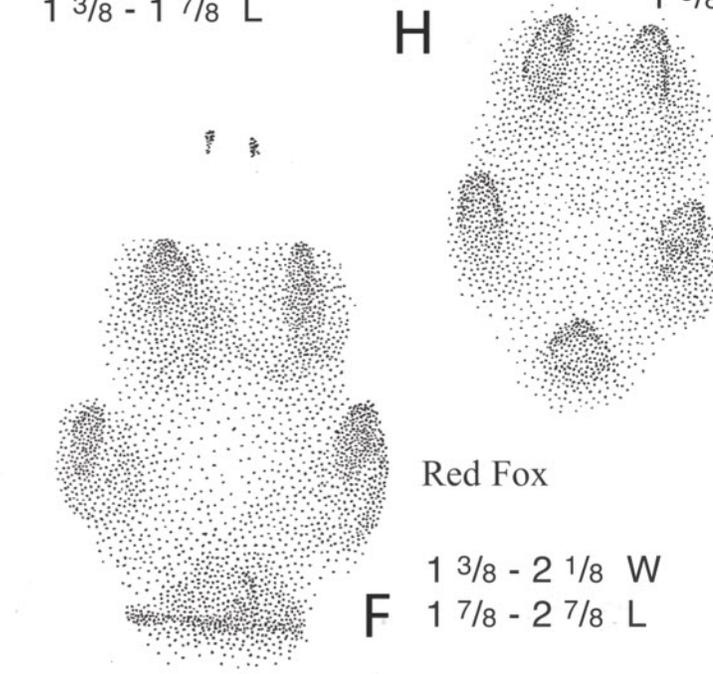


$\frac{15}{16} - 1 \frac{1}{2}$  W  
 $1 \frac{1}{4} - 1 \frac{3}{4}$  L

Common Gray Fox

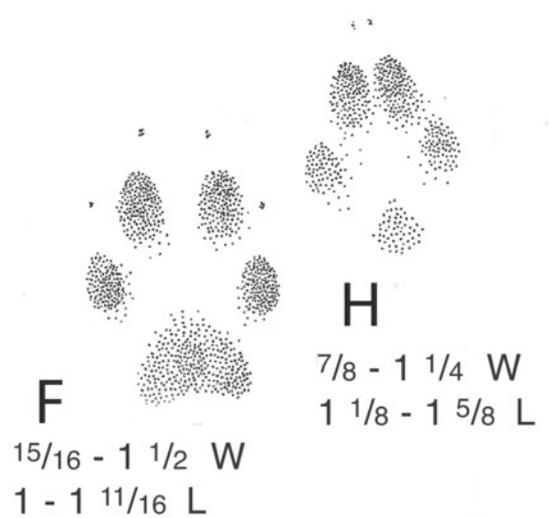
$1 \frac{3}{16} - 1 \frac{3}{4}$  W  
 $1 \frac{3}{8} - 1 \frac{7}{8}$  L

$1 \frac{1}{4} - 1 \frac{7}{8}$  W  
 $1 \frac{5}{8} - 2 \frac{1}{2}$  L



Red Fox

$1 \frac{3}{8} - 2 \frac{1}{8}$  W  
 $1 \frac{7}{8} - 2 \frac{7}{8}$  L



$\frac{15}{16} - 1 \frac{1}{2}$  W  
 $1 - 1 \frac{11}{16}$  L

Kit Fox

$\frac{7}{8} - 1 \frac{1}{4}$  W  
 $1 \frac{1}{8} - 1 \frac{5}{8}$  L



F

1 1/2 - 2 1/2 W  
2 1/4 - 3 1/4 L



H

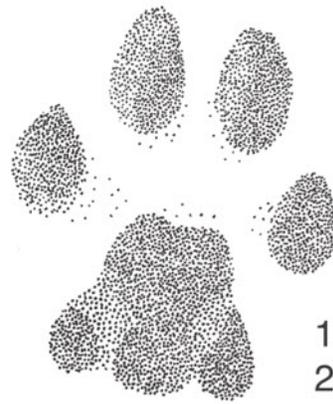
Coyote

1 1/8 - 2 W  
2 1/8 - 3 L



F

1 3/8 - 2 5/8 W  
1 5/8 - 2 1/2 L  
can splay over 3" W



H

Bobcat

1 3/16 - 2 5/8 W  
2 9/16 - 2 1/2 L

DOCUMENTING EVIDENCE OF  
RIVER OTTER (*Lontra canadensis*) IN NEW MEXICO  
NEW MEXICO OTTER WORKING GROUP

AUGUST 2010

BACKGROUND:

The distribution of river otters in North America originally included most of the US, Canada and extreme NW Mexico but was extirpated from much of the US by the mid 1900s (including complete extirpation from 11 states) due to over trapping, habitat loss and water pollution. Restoration projects have been successfully completed in 21 states including Colorado, Arizona and Utah. Viable populations now exist in every state within the historic range, except New Mexico.

In New Mexico, otters are listed as protected furbearers but the last confirmed otter was trapped in the Gila River near Cliff, NM in 1953. Although there have been several reported sightings since then, none have been confirmed and the species has been presumed extinct within the state. However, Colorado restored otters in the Piedra River, a tributary of Navajo Lake / San Juan River. The CO/NM border runs through the lake in NW New Mexico – SW Colorado. Recent evidence suggests otters have entered the Lake and swam across the state line into New Mexico. Restoration has been approved by the State Game Commission for the upper Rio Grande and the Gila River. Reintroduction efforts are now underway in the northern Rio Grande watershed. Data on sightings and otter sign is needed to assist with monitoring survival, distribution, and range expansion.

BIOLOGY:

River otters are Mustelids, in the same family as weasels, marten, mink, badgers, fishers, and wolverines. The distinctive feature of this family is a scent gland that they use to mark their territory and which leaves a strong, musty odor.

The otter is highly adapted for aquatic life. Physical adaptations include a relatively small, flattened head with a short muzzle and small ears, short legs with large webbed feet, and short dense underfur that provides insulation. Physiological adaptations include oxygen conservation measures such as bradycardia (slowing of heartbeat), which allows otters to remain underwater for 4 minutes. The weight of an adult otters ranges from 5 to 15 kg (11-33 pounds) and total length from 90 to 140 cm (35-55 inches) with body length to approximately 31” and tail length to 20”. Adult males are approximately 20% larger than females.

Otters are relatively social, with the basic family group comprised of a female and her most recent offspring. The family group remains intact until immediately prior to parturition in late spring. Adult males do not associate with families, but may congregate to form bachelor groups. River otters reach sexual maturity at 2 years of age. Breeding activity peaks in March and April, and otters undergo delayed implantation which lengthens the total gestation period to approximately 320 days. Mean litter size is three pups, which develop rapidly and are weaned at 3-4 months, self-sufficient at 5-6 months, and disperse from the family group at 8-12 months. The lifespan of otters is 10-15 years.

Given their agility and speed, they have few natural enemies in the water. On land, otters are vulnerable to a number of predators including cougars, bobcats, and coyotes, but predation represents an insignificant source of mortality in most otter populations. Vehicle collisions and domestic dogs are the primary mortality sources for reintroduced otters in Colorado.

Food availability and the distribution of foraging sites exert the strongest influence on otter habitat selection. Diets are almost exclusively comprised of aquatic foods, with fish representing >90% of the diet. However, where abundant, crayfish may constitute up to almost 100% of the diet on a seasonal basis. A variety of alternative prey species supplement their diet including frogs and insects, as well as an occasional bird or mammal. Otters are highly opportunistic predators, and the particular species of fish preyed upon is largely determined by the distribution, abundance, swimming ability, detectability, and habitats used by potential fish prey and the quality of in-stream structure. Slower fish (e.g., carp & suckers) are more susceptible to otter predation.

Otters need diverse structure in both the aquatic system and adjacent riparian. Prey abundance alone does not ensure a sufficient food supply for otters, since fish may be present but not available. Diverse in-stream structure, including beaver dams, log jams, exposed tree roots, and boulders, promotes a diverse, and therefore stable, prey base and increases prey availability throughout the various seasonal hydrological conditions. As a result, in-stream structure provides core habitat for forage, dens and rest sites. River otters utilize existing animal dens, man-made structures, and natural formations (i.e., downed logs, tree root systems, rocks and talus, and beaver lodges) for den and rest sites. Selection of these sites is opportunistic, with security and proximity to foraging habitat more important than specific structure type.

Otters are generally nocturnal, but in areas undisturbed by human activity they can be active during the day. They are very playful and curious, and use a range of vocalizations such as whistles, buzzes, twitters, and chirps.

#### EVIDENCE: IDENTIFICATION, DOCUMENTATION AND PRESERVATION:

**General:** Information should be as accurate, complete and detailed as possible. Field evidence and samples collected using techniques discussed below will be most useful. Photographs of the general area and of details (e.g., tracks, scat, skeletal remains, etc.) are helpful. Where appropriate, including something in the photo for scale, such as a 6" ruler, is important. A photo of a GPS unit with readable coordinates also works well. A sample data sheet is attached.

Good places to look for otter sign are under bridges, on mud bars, near deep pools, on large rocks and logs in the river, and at confluences with side streams.

**Sighting of otters:** Photograph, if possible, and describe in as much detail as possible. Otters can be mistaken for beavers or muskrats. Muskrats are much smaller, only 16 to 24 inches long, including the tail, and weigh 1.5 to 4 lbs (otters: body length is 2-4 ft, tail is 1 to 1.5 ft, weight 6-30 lbs.). If the animal is swimming; beavers usually have their back and tail on the surface; otters will only have their head on surface. If it is on land, look at the TAIL: (1) length of tail in relation to rest of body length, and (2) diameter of tail where it leaves the body. Beavers have a big flat tail, while otters have a rope-like tail.

**Scat:**

Scat usually contains a viscous dark brown mucus excretion on or near the scat. It retains a strong mustelid (musky) odor long after it is fresh. Otters often defecate in particular places (latrine sites) and often return to the same spot, so you may find numerous piles in one location. The scat is a similar size as a man's little finger (1 inch diameter, 3 to 6 inches long) and will contain fish parts (i.e., bones, scales), or crayfish skeletal remains. Otter scat is often confused with raccoon, or muskrat. Raccoon scat has no mucus excretion or mustelid odor. Muskrat scat looks like small, oblong rabbit pellets and is composed of vegetation.

Photograph the general site and close-up detail (e.g., showing rock or log scat is on). Try to describe any odor associated with scat. Collect scat in plastic bag and place data with specimen. If specimen is wet, use pencil or waterproof ink, or number bag and keep notes separate. Scat from different locations needs to be in separate bags. If scat is fresh, do not touch with hands. Use a separate stick for each sample, put it in a plastic bag, throw the stick as far away as possible to avoid using again. If possible freeze or add concentrated ethanol (e.g., Everclear which is 95%) to the sample; otherwise try to keep sample cool and deliver to one of the contacts listed or Dept. of Game & Fish personnel. Put each bag into a separate ziplock bag to reduce cross contamination. Samples from the same site can be put into one large ziplock together. Rite-in-the-rain paper and pencil work well for labels in the samples. These techniques should ensure that scat can be used for DNA or diet analyses. Photos of scat are attached.

**Tracks:**

Otters have five toes and sometimes have indistinct or no claw marks; webbing may show, especially on the back foot. Prints are about three inches wide. Tracks can be mistaken for skunk or raccoon tracks. The front foot is hard to tell from beaver, especially when pulling itself onto the bank. When they run, otters bound, bringing the hindfeet up to meet the front paws. This leaves a distinct mustelid pattern, where the prints are often paired side-by-side and the tracks form a straight line. See attached photos and drawings.

Photographs and sketches showing dimensions will be helpful. Plaster-of-paris casts would also be good if possible. Write data on cast.

**Carcasses/Skulls:**

Carcasses are especially valuable, as they may provide important information on cause of death. Place remains in heavy-duty trash bag, if possible (Trash compactor bags work well). If possible, freeze carcass as soon as possible, otherwise deliver to one of the contacts listed or Dept. of Game & Fish personnel. Photos and drawings of otter skulls are attached.

**Other evidence:**

Other potential signs include otter slides and scent mounds. Otters make little mounds, 3 to 4 inches high, that look like a cat in a litter box that has turned 360 degrees, pulling up sand with its paw. The scent mounds smell strong, and are often found on sandy beaches and sometimes on grass.

Scent mounds should be photographed if possible. The area should be thoroughly searched for additional otter sign such as tracks and scat. Possible otter slides should be followed into the riparian area to determine if they are from beaver or otter.

**Reporting:**

Please send data to one of the contacts listed.

## REFERENCES

Information on tracks and scat presented in this handout is primarily from the first two sources: Murie and Elbrock. Two additional useful references are listed

**Murie, Olaus J.** 1954. A Field Guide to Animal Tracks. Peterson Field Guide Series. Houghton Mifflin Co. Boston. [the bible on animal tracks for many years].

**Elbroch, Mark.** 2003. Mammal Tracks & Sign, A Guide to North American Species. Stackpole Books. [a recent and very thorough reference]

**Halfpenny, James and Biesiot, Elizabeth.** 1986. A Field Guide to Mammal Tracking in North America. Johnson Books.

**Fitzgerald, J.P., Meaney, C.A. And Armstrong, D.M.** 1994. Mammals of Colorado. Denver Museum of Natural History and Univ. Press of Colorado.

## CONTACTS

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# RIVER OTTER OBSERVATION DATA SHEET

Observer(s) & Contact info:

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Date(s): \_\_\_\_\_

Location (GPS coordinates; map, etc): \_\_\_\_\_

GPS Datum (circle if known): UTM NAD27 NAD83 WGS84

General Site Description:

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Type of evidence (sighting, scat, track, etc.) and brief description:

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Evidence location (i.e. distance from river & description):

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Evidence attached (scat, photos, carcass):

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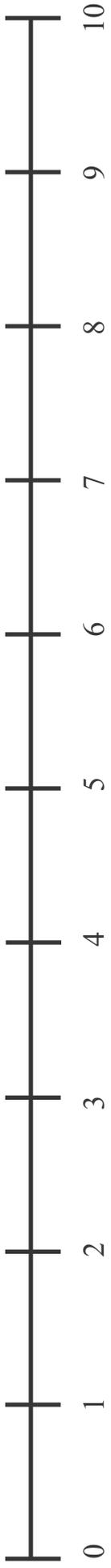
Conditions (e.g., water level, last high water event, etc.):

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How were you traveling (i.e., floating, fishing, walking on shore, etc.)?

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General comments/discussion/details:



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INCHES