

Gifford Pinchot Task Force Southwest Washington Carnivore Tracking Program

Introduction

Conservation biologists recognize that the recovery of predator species such as wolves, bears, and wolverines is integral to restoring ecosystem health and providing top down regulation of ecosystems. Along these lines the Gifford Pinchot Task Force believes that restoring predators and predator habitat to the Gifford Pinchot National Forest is particularly important not only to provide ecosystem balance but also because of the GPNF's central role in linking the wildlands of the north and south Cascades.

In *Restoring Volcano Country, a plan for the Gifford Pinchot National Forest*, the Gifford Pinchot Task Force has laid out strategic restoration actions for the region including forest thinning, road removal, and above all bringing back a healthy predator population to Washington forests. Understanding what types of predators are present or not present on the forest and where these predators are located is an essential component to effectively restoring habitats and making strategic decisions about forest thinning and road removal that will help bring back healthy ecosystems.

The following protocols have been designed to kick off a permanent predator tracking program for southwest Washington. The data will be gathered and analyzed by the Task Force to update our restoration plan for the GPNF, and it is our hope that it will be used by management agencies to better prioritize, analyze and implement restoration projects that ecosystem and wildlife habitat health. We present the Carnivore Tracking Program as a flexible working document that we will adapt as we learn more about techniques, needs and opportunities.

To become a volunteer tracker for the carnivore tracking program, one must complete the training program offered by the Gifford Pinchot Task Force, which includes a weekend carnivore ecology class and tracking class. Volunteers will learn about gait patterns and tracks and the forms they will be expected to complete while in the field. After completing the training, volunteers will be on a survey block that they are expected to survey 3 – 6 times over the course of the season. A meeting will be held at least once a year, which trackers will be invited to attend, to share their results and see what other trackers have found as well.

Goals of the Carnivore Tracking Program

The goals of the Carnivore Tracking Program are:

1. Determine the number, distribution, and territories for predators in southwest Washington.
2. Determine the existence of rare carnivores such as lynx, fisher, wolverine, and wolves in southwest Washington.

3. Determine strategic and valuable habitat for these species and important corridors for predator movement.
4. Create an accurate, updated, and readily accessible database for predator information.
5. Use the data to inform restoration projects on the Gifford Pinchot National Forest and other areas of southwest Washington as applicable.

Tools

1. One of the following tracking guides:
 - a. Peterson's Field Guide to Animal Tracks by J. Murie
 - b. A Field Guide to Mammal Tracking in North America by James Halfpenny
 - c. Mammal Tracks and Signs by Mark Elbroch
2. Map of the Gifford Pinchot National Forest
3. Detailed map of the survey areas/ district maps
4. Data Sheets, clipboards, pencils, waterproof notebook for notes. Please write all data in pencil or permanent ink as regular ink may run if the sheets get wet. Use a separate survey sheet for each block and each survey.
5. Notecards for labeling photographs.
6. 6 inch rulers: Marked in both inches and mm or tape measure: marked in both inches and mm.
7. 35 mm camera or digital camera with sufficient battery and memory, which can be checked out from the Task Force if needed.
8. Appropriate clothing and gear:
 - a. Rain gear/snow gear
 - b. Hiking shoes/snowshoes
 - c. Backpack
 - d. Water bottle
 - e. Hat, sunscreen, and bug repellent

- f. Pepper spray or bear repellent
 - g. Headlamp
9. Optional equipment:
- a. Pedometer for determining mileage when walking
 - b. Geographic Positioning System (GPS) unit for determining location of tracks, scat or sighting, which can be checked out from the Task Force.
 - c. Hiking pole or stick- this is very useful for measuring stride distance when you encounter tracks

Conducting the Survey

General Information:

Please enjoy your time in the forests. Tracking is an art and can sometimes be difficult and frustrating. It is not unusual that on a survey you will not find tracks as predator species are often rare and elusive. Please do not get discouraged if you go out to conduct a survey and are not able to record any tracks found. Just enjoy your time in the forest!

We would like this survey to produce accurate results. Please record information clearly and accurately. Please be sure to mark tracks that are inconclusive on the tracking form. We ask that you mark the location of tracks found and photograph any tracks that are inconclusive and send them along with your survey results. More details are below.

Species to look for:

1. Wolf: Gray wolves are the largest wild members of the dog family (Canidae). Adult gray wolves range from 18–80 kilograms (kg) (40–175 pounds (lb)) depending upon sex and region. Adult male gray wolves average over 45 kg (100 lb), but may weigh up to 60 kg (130 lb). Females weigh slightly less than males. Wolves' fur color is frequently a grizzled gray, but it can vary from pure white to coal.
2. Coyote: The color of the coyote's pelt varies from grayish brown to yellowish gray on the upper parts, while the throat and belly tend to have a buff or white color. The forelegs, sides of the head, muzzle and feet are reddish brown. The back has tawny-colored underfur and long, black-tipped guard hairs that form a black dorsal stripe and a dark cross on the shoulder area. The ears are proportionately large in relation to the head, while the feet are relatively small in relation to the rest of the body. Coyotes typically grow from 75-100 centimeters (30–40) in length and on average, weigh from 7–21 kilograms (15–46 lbs.).

3. Fox: Foxes are generally smaller than other members of the dog or Canidae family. Male Foxes weigh an average of 5.9 Kg (13 lbs.) and Females weigh less at 5.2 Kg (11.5 lbs). Fox-like features typically include a long snout and bushy tail.
4. Bobcat: The name bobcat may have originated from its short tail, which is only 6 or 7 inches long. The end of its tail is always black, tipped with white, which distinguishes the Bobcat from its northern cousin, the Canadian Lynx, whose tail is tipped solid black. The Bobcat has long legs and large paws. Large specimens can weigh up to 30 pounds, but the average Bobcat is only 15 to 20 pounds.
5. Lynx: The lynx is a medium-sized cat with long legs; large, well-furred paws; long tufts on the ears; and a short, black-tipped tail. Adult males average 10 kilograms (22 pounds) in weight and 85 centimeters (33.5 inches) in length (head to tail), and females average 8.5 kilograms (19 pounds) and 82 centimeters (32 inches) The lynx's long legs and large feet make it highly adapted to hunting in deep snow.
6. Cougar: A mammal of the cat or Felidae family the cougar is an adaptable generalist species that can be found in every major habitat type in North America. Adults weigh about between 53 and 72 kilograms (115 to 160 lbs.) They are often slender and about 2.0 ft tall off the ground. The cougar head is round and the ears are erect not floppy. It has five retractable claws on its forepaw and four on its hind paw. It is often tawny colored but can range from reddish to silver grey.
7. Wolverine: The wolverine is the largest terrestrial member of the family mustelidae. Adult males weigh 12 to 18 kilograms (kg) (26 to 40 pounds) and adult females weigh 8 to 12 kg (17 to 26 lbs.). The wolverine resembles a small bear with a bushy tail. It has a broad, rounded head; short, rounded ears; and small eyes. Each foot has five toes with curved semi-retractile claws used for digging and climbing.
8. Black Bear: The black bear is approximately 5 feet long and varies in weight from 125 to 400 pounds. It has small eyes, rounded ears, a long snout, a large body, and a short tail. The shaggy hair varies in color from white through chocolate brown, cinnamon brown, and blonde to black, but most black bears are indeed black or a darker shade of brown. The black bear's characteristic shuffle results from walking flat-footed, with the hind legs slightly longer than the front legs. Each paw has five strong, non-retractable claws used for tearing, digging, and climbing.
9. Grizzly Bear: Grizzly Bears coloring range from blond to a deep brown or red. They have a large hump over their shoulders. Their head is large and round with concave facial profile. Grizzly pelt is silver tipped. They weigh from 400 to 600 lbs.

10. Fisher: The fisher, a member of the weasel family (Mustelidae), has a long body, short legs and a long, bushy tail. The head is broad and flat with a sharp, pronounced muzzle. The ears are broad, rounded, and low. Fur color varies from light brown to dark blackish brown, although the face, neck, and shoulders may have a lighter grizzled gray appearance. Often there are irregular white patches on the chest and underside. Adults range in length from 90 to 120 centimeters (about 2.5 to 4 feet). Males weigh 3 to 6 kilograms (about 7 to 13 pounds); females weight 1.5 to 2.5 kilograms (about 3 to 5.5 pounds). Large feet, with 5 toes on all 4 feet and retractable claws, enable fishers to rotate their hind paws almost 180 degrees, allowing them to run down trees head first like a squirrel. Central pads on the hind paws have circular patches of coarse hair which are associated with plantar glands. These glands produce a distinctive odor believed to be used for communication during reproduction.

11. Otter: The river otter is large and dark brown with a long, narrow body. It has a long tail which is thick at the base and tapers down evenly to a point. Length ranges from 1 to 1.4 meters (3.25 to 4.5 feet) with the tail measuring about a third of the total body length. The underside of the otter's body is a lighter grayish-brown with grayish fur on the cheeks and lips. Coloration varies between individuals. Legs are very short and stumpy. Each foot has five toes and is fully webbed for swimming. Weight commonly varies from 5.4 to 10.4 kg (12 to 23 lbs) but can reach up to 15 kg (33 lbs). Length and weight are greater in males than in females and increase with latitude. The otter's head is broad and flat and the neck is short. The eyes are located at the top of the head, ears are small, the snout is rounded with long whiskers, and the nostrils are on the top of the nose. The nostrils close automatically when the otter is submerged. Like other otter species the river otter has very dense fur. Air bubbles that get trapped in the thick fur insulate the otter from the cold water. The dense underfur is protected by long, waxy guard hairs.

Conducting Vehicle Surveys

- 1) Each vehicle survey should cover 15-30 miles. If you are responsible for surveying more than one block, you should survey 15-30 miles per block.
- 2) Vehicle surveys should be conducted at driving speeds of less than 10 miles per hour. The reason for going slow is to ensure that you will not miss tracks along the road ways.
- 3) Vehicle surveys during the summer months: Conducting a vehicle survey during the summer months is challenging as finding tracks on dusty roadways and in dirt is difficult. During the summer months what is important is to find and locate scat and if possible hair snags. These

indications could lead you to tracks or point you in the right direction. Also it may be easier to conduct surveys during summer months by foot. See below for Conducting Hiking Surveys.

- 4) If surveying in the winter months; surveys should be run 2-3 days after a fresh snowfall. We need time to allow for fresh tracks to accumulate. If run later, vehicle traffic or other traffic may obscure tracks, or new and old tracks will have overlapped making both identification and counts difficult to obtain.
- 5) Cover as many miles of unpaved, snow covered or un-snow covered roads as possible per survey. Miles driven along paved roads should be excluded from surveys, unless the roads are not busy and have an unpaved shoulder that can be tracked.
- 6) In blocks with large areas that can't be driven, you can survey these areas by hiking or if in snow you can survey these areas by snow shoeing or skiing, if possible. See below for the explanation of the hiking, snowshoeing, and skiing surveys.
- 7) Conduct at least 3 surveys per block.

Conducting Hiking/Snowshoeing/Skiing Surveys

- 1) Each survey group/individual should survey 5-10 miles. If responsible for more than one survey block please survey each block for 5- 10 miles.
- 2) If surveying during summer months it is often difficult to find tracks. It is recommended that you begin your survey on a dirt Forest Service road or on trails where tracks may be visible or after rains when tracks will more visible in muddy areas. In winter months, following roads is also recommended as animals often use roads for traversing.
- 3) During summer months also keep an eye out for scat, hair snags, and scratching as these are often indicators of where to find good tracks.
- 4) If surveying during the winter months, surveys should be run 2-3 days after a fresh snowfall.
- 5) Cover as many miles of unpaved roads/trails as possible. If you do track into wooded areas please indicate on the data form what direction off the road or trail you where headed so we know general location and area of tracks found.
- 6) Conduct at least 3 surveys per block over the season.

Completing the Data Forms

- 1) Observer(s) – list all observers conducting survey.
- 2) Sheet Number - enter the page number of this sheet & the total number of sheets for this survey
- 3) Survey Block – Write number of block.
- 4) County – List all counties in which tracking was done (some blocks cover portions of two or more counties).
- 5) Snow Depth – Measure accumulated snow in an area off the road.
- 6) New Snow Depth on Road - Indicate amount of snow on road surface or edge.

- 7) General Area –Write general area such as “Stevens Lake”.
- 8) Temp – Indicate temperature at start of survey and whether degrees are Celsius or Fahrenheit.
- 9) If conducting a survey in snow; list time of Last Snow Fall – If less than 48 hours, list hours at which last snowfall occurred. Otherwise, list number of days.
- 10) Begin Survey: Section Township Range – indicates the township and range coordinate that are located in the margins of the Atlas. Make sure you circle E or W in the Range box. Only corner sections are labeled. Section numbers run from right to left.
- 11) Survey Date – Date of survey.
- 12) Start Time – Exact time survey begins.
- 13) End Time – Exact time survey ends.
- 14) Cloud Cover – Check the appropriate box for estimated % cloud cover.
- 15) Past Weather – Indicate high/low temperatures over last 24 hours.
- 16) Precipitation - Note any precipitation over the past 24 hours.
- 17) Track Conditions –
 - Poor* = Many prints do not register; identifications are mainly from stride and gait patterns.
 - OK* = Most prints register but often lack detail. May need to follow into woods to identify.
 - Good* = Every print registers, but many do not show good detail.
 - Excellent* = Every print registers and shows good detail.
- 18) For the form below this point please enter every track found if from a separate animal. If you are tracking the same animal make sure to note the direction of travel in the notes column.
- 18) Roads & Direction of Travel – At start of survey enter intersection, direction of travel, and name of road traveling on. Enter name of road & direction of travel whenever you change the road you're traveling on.
- 19) If Hiking/Snowshoeing/Skiing: At the start of the survey enter the road you are parked on, direction of travel, and name of trail you will be going on. If you go into the forest to conduct surveys try to be accurate as to road you are parked on, where you began your hike (if on a trail indicate the trail, if on a Forest Service road indicate the road, if heading into the woods enter location of where you enter off the road and direction).
- 20) Indicate on Map – On your tracking block map, indicate your starting point and direction of travel. Show your route and mark where you encounter tracks.
- 21) Mileage – The intersection where you begin your survey is mile 0. If you turn around or drive twice over any section of road, only count the mileage once. For example, if you survey a six-mile dead-end road and turn around, the number of miles surveyed would be 6, not 12.
- 23) Location- The intersection where you begin your survey is mile 0. Reset your car’s odometer or your pedometer at this time. Note odometer reading or mileage from pedometer if hiking at every identified carnivore track. Preferable you can put in map locations or GPS readings at this spot so that we can pinpoint track locations on our maps.

24) Carnivore Groups – write the code for each animal’s tracks observed under the appropriate column. Include a count number of how many tracks found. If you believe there is more than one animal near the track markings please indicate that with counts. Example: 2W (2 wolves), 1F (1fox), 3C (3 coyote).

25) Notes and Comments – Indicate the direction of travel, track measurements, observations of scats and urinations for any tracks observed. If available, list GPS location, preferably in decimal degrees. If you find hair snags or scratching on poles please indicate where you found these items. Take pictures of hair snags and scratching and send them along with your survey forms- make sure to identify the photos with the data form. Please mark the inconclusive box in the notes section if any track is inconclusive. Please also take a picture of this track and send it along with your survey forms. Please make sure to identify photographs with the appropriate tracks on your sheet, hair snags, or scratching so we can associate tracking notes with the appropriate photographs.

When You Encounter Tracks

- 1) Identify the species that made the track. Please consult your tracking guide to ensure an accurate identification.
 - A pattern of tracks may need to be observed before a species can be identified.
 - Different species have tracks that look similar. If you are uncertain as to identity of the species pay attention to gait patterns (the sequence of foot movements) which may help you identify tracks. There are tracking guide which do describe gait pattern associated with each species - for example Halfpenny’s guidebook.
 - It may be necessary to follow tracks into adjacent forest areas to find more reliable tracks.
- 2) Measure tracks and stride each time they are encountered; photograph with ruler. Please try to take a photograph of at least one track of every animal track sequence you run into (if there is a sequence of tracks take a picture of at least one of the tracks). Make sure to use the ruler/tape measure next to the track and identify the photograph with the track on your data sheet so we can appropriately match photographs.
- 3) If there is a sequence of tracks take at least one picture of the track sequence as well.
- 4) Take care to avoid over counting the number of animals present.
- 5) Record any other related sign encountered while tracking.
 - Note any carcasses killed or scavenged by carnivores. If possible, determine the predator involved and the age, sex, and physical condition of the kill.
 - Record any hair snags or scratch markings.

If You Encounter Tracks of a Rare Species

- 1) Rare species include fisher, wolves, lynx, and possibly wolverine.
- 2) Always take a photo of the track - be sure to place a ruler next to the track.

- 3) Make a mark of the location where the track was encountered on your map or with a GPS. Please be very accurate.
- 4) Record any other data you may encounter such as hair snags (use plastic bag) or scratching- please take a picture and indicate where it is located.
- 5) Leave a message with the program coordinator (503)221-2102 ext. 101 as soon as possible as to location of the track and species.

If You Have Problems Identifying Tracks

- 1) Whenever identification of tracks is uncertain, take photos for later examination and please mark the box in the notes section for inconclusive tracks. Photos should be taken from directly above the track. Be sure to lay a 6-inch ruler with visible numbers next to the track before taking photos. Identify the photos taken with the inconclusive track data so we can correlate location found and other information.
- 2) If you are unsure whether a track was made by a wolf or a large domestic dog:
 - Check the gait. Wolves often place their hind foot directly over the front print when walking, whereas in domestic dogs the hind foot is usually placed to the side of the front print.
 - Check the travel pattern. Wolves usually walk straight down a road or trail unless they are scent marking. Domestic dogs often exhibit irregular travel patterns.
 - Dog tracks are often associated with human sign and are usually found near residences. However, they do occasionally occur by themselves miles from any house.
- 3) If you are unsure whether a track was made by a wolf or a coyote:
 - Measure the front tracks. Coyote front tracks are usually 2.8 inches (7.0 cm) in length or less. Wolf tracks are larger.
 - Measure the stride. When walking, wolf strides measure 33-40 inches (84-100 cm), while coyote measures 25-30 inches (64-76 cm).
- 4) If you think you have found a cougar track, be sure you have not misidentified a dog track.
 - Check for claw marks. Cougar tracks lack claws, or rarely have narrow, knifelike claw marks. Dog tracks should have apparent claws.
 - Check the interdigital heel pad. In cougars, the heel pad has 3 similar-sized lobes at the back, and the front of the pad is square and/or concave in appearance. The heel pad of dogs will not have even-sized lobes, and the front of the pad will be more round and pointed.
- 5) Measure any small fisher tracks to make sure they are not marten tracks. Although marten are generally much smaller than fisher, large marten tracks may overlap in size with small fisher tracks. You may consider a track to be a fisher if it is at least 1.6 inches (41 mm) long and 1.5 inches (38 mm) wide.

Please Use Caution

- Drive with caution. There are a lot of people and animals out in the forest so please be extremely careful when driving on Forest Service roads.
- Park vehicles on the side of the road in a safe location.
- When driving slowly, be especially alert for logging trucks or other vehicles.
- If you do not think your car is adequate to go on a road, please do not take your car up that road. If conducting surveys in winter do not drive up roads with deep snow cover.
- Please hike with care and be prepared. Always bring water and necessary supplies. It is often appropriate to carry pepper spray or bear deterrent when walking in the woods.
- Avoid disturbing any tracks found if possible. Others may also be conducting surveys.
- Don't follow tracks on to private land (usually posted with signs) unless you have the permission of the landowner.
- Please don't howl when conducting tracking surveys. We may be conducting howling surveys in the future.

Reporting Your Results

Send a copy of the track survey form(s) to Gifford Pinchot Task Force Care of/Jessica Walz at 917 SW Oak Street Ste. 410 Portland Oregon 97205 or e-mail them if you have scanner capabilities to Jessica@gptaskforce.org after each survey, or at least monthly. This allows us to monitor which blocks are being tracked and which will need more attention. It also allows us the opportunity to field check results.