

OTHER WILDLIFE SEEN IN EACH QUADRANT DURING 30 MINUTE SURVEY PERIODS:

Time at detection	Species	Total # animals	# adults	# young	Quadrant located (NE, NW, SE, SW)	Comments (note behavior of species and any interactions with goats observed):

OTHER MOUNTAIN GOATS SEEN DURING HIKE (OUTSIDE OF QUADRANTS AND SURVEY PERIODS):

Time at detection of goats	Total # goats	# adults if known	** Behavior of adults	# young	** Behavior of young	Photo taken (Y/ N)	UTM's (in NAD 83) Easting	UTM's (in NAD 83) Northing	*** Landscape feature	Specific location (mountain, aspect, trail mileage, etc.)	Comments:

MOUNTAIN GOAT SURVEY PROCEDURES:

1. Navigate to survey site using route map and description, GPS point location and photo of reference point on trail.
2. **Population Count:** Set up your spotting scope and face due north using a compass. Declination for our area is 14.5°E (for compasses without pre-set declination).
3. Hold both arms straight out at your sides to encompass a 180° view to the north. The center line of the 180° view is the boundary between NE and NW quadrants.
4. Survey all terrain within the 180° view while facing north for 20 minutes. Complete at least 2 full sweeps with binoculars of all terrain within the 20 minute survey period. If the view of a whole quadrant is obstructed by trees or other features do not survey that quadrant.
5. Count any goats you see. Document the initial time of detection of each goat or group of goats and location in the chart entitled “GOATS DETECTED, LOCATION AND BEHAVIORS”. Do not double count goats that are moving. Be certain that you are not re-documenting the same individual or group.
6. Once you have completed two binocular sweeps, relocate the area(s) where goats were seen with a spotting scope to accurately count and classify any goats present. Spend the rest of the 30 minute survey time scanning the 180° view with a spotting scope. Photograph each group of goats seen through spotting scope.
7. Turn and face due south using a compass. Repeat steps 2 through 6 for the SE and SW quadrants, surveying the 180° view to the south for 20 minutes.
8. **Behavioral Scan:** Choose the largest group you have previously spotted to conduct behavioral observations. Do your first behavioral scan at 0 minutes (start time). Record **at that instant**, the total number of animals in that group that are lying, standing, feeding, walking, or engaged in other behavior (briefly describe this behavior, such as ‘aggression’, ‘grooming’, ‘defecating’, etc). If you cannot clearly see what an animal in the group is doing, simply do not record its behavior. Do not guess. It is ok to only record behavior on a few goats in the group if you cannot see all goats clearly.
9. Do a subsequent behavioral scan at 3 minutes, 6 minutes, etc., for a total of 7 scans. Do not record behaviors during the intervals between three minutes.
10. Return survey forms and photos ASAP by fax: (406)888-7903; email: jami_belt@nps.gov; or mail GNP-CCRLC, PO Box 128, West Glacier, MT 59936

Distinguishing mountain goats by age and sex

Kids (young of year) ● ¼ adult size

- closely follow their mothers
- horns barely visible- < 3.5inches

Yearlings ● ½ adult size

- Follow mothers, kids and 2 year olds
- horns over 10 cm

Adults ● Once mountain goats are two years or older they are hard to discern from other adults

Adult Males: ●Larger horn base; wider than eye width

- Gradual curve
- Stretching posture during urination

Adult Females: ● Smaller horn base; Wider space between horns

- Sharp horn curve (curving towards end)
- Squatting posture during urination

