

# The Uphill Climb: Mountain Goat-Human Interactions on the Olympic National Forest

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- An example of challenges involving recreating public and wildlife
- Wildlife impacts on the recreating public, as well as vice versa.
- Also, an example of where we are trying to engage the public as part of the solution.



Olympic NP

# Basic Definitions

- Habituation: A decrease in response to a given stimulus after repeated presentations or exposures.
- Food conditioning: Associating humans with sources of food.
- Aversive conditioning: The process by which an unwanted behavior is paired with an unpleasant stimulus, with the intention to reduce the undesired behavior.
  - Continuum of response



Okanogan-Wenatchee NF

# Mountain Goats (*Oreamnos americanus*)

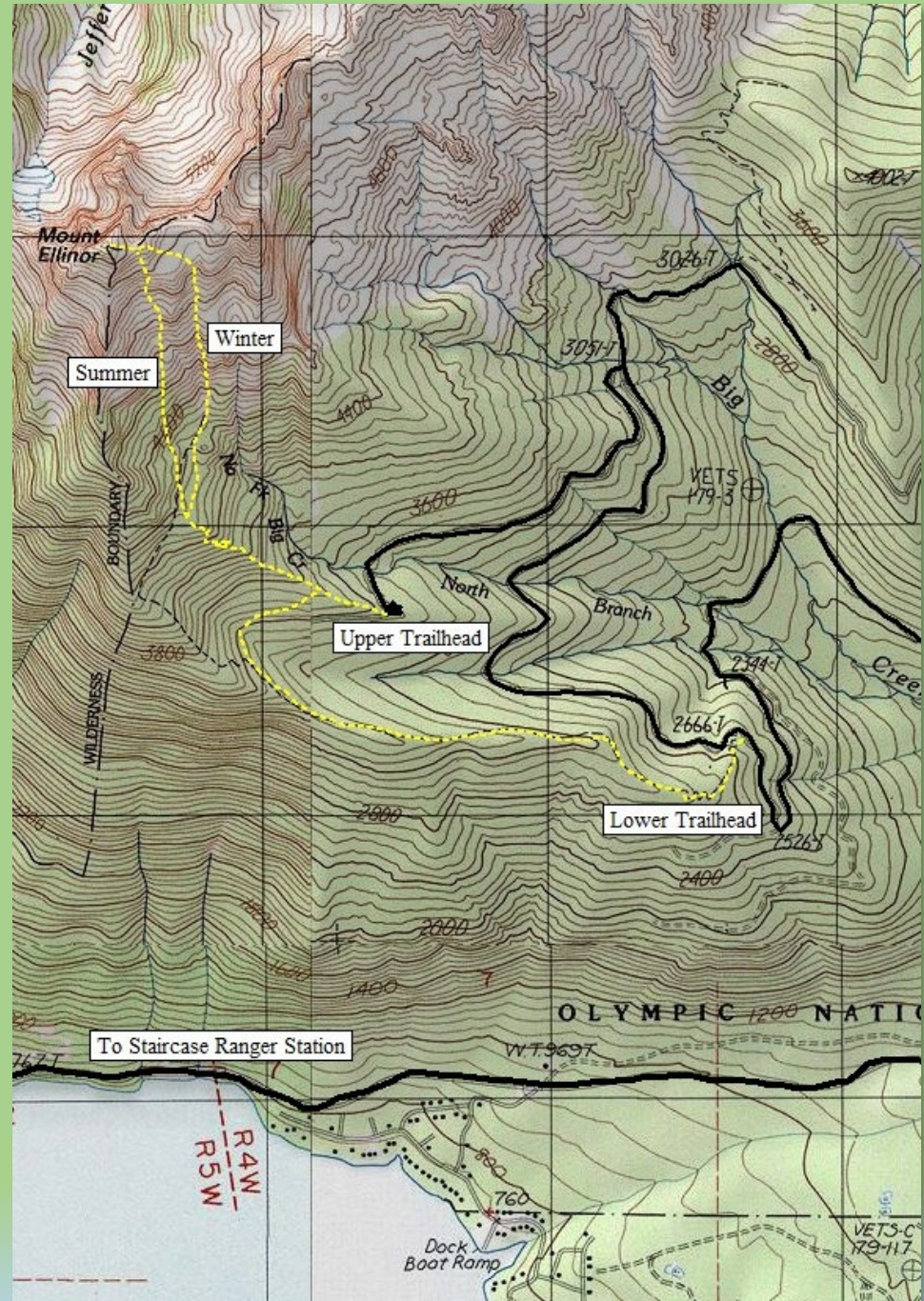
## – Key Points

- Steep (>33% slope), rocky terrain and cliffs for “escape terrain”
- Summer: Seek sources of minerals/salt
- Aggression between goats is common:
  - Rank, access to resources, etc.
  - Males aggressive during fall rut
- Generally not aggressive toward humans
- NOT native to Olympic Peninsula
  - 2016 estimate: ~ 600+ mountain goats
  - >70 on Olympic NF lands





Mt Ellinor



# Timeline of Key Events



- 2010: \*Human fatality in Olympic National Park.
- 2011-2012: Reports of “aggressive” mountain goats at Mt Ellinor.
- July through early October, 2012: \*Mt Ellinor Trail Closure.
  - Development of safety plans, employee training, mountain goat monitoring and action plan, education & outreach materials.
  - Internal Coordination: Wildlife, Recreation, Line Officers, Safety, Public Affairs, Regional Office, and many other support staff.
  - External Coordination: Olympic National Park and WDFW.
  - Overall strategy: Manage attractants, change human & mountain goat behavior.
- 2013 through present: Ongoing implementation and modification of monitoring, education & outreach efforts

## What we were hearing in 2011 & 2012:

Mountain goats were approaching  
hikers closely (< 10 feet).

Some hikers were allowing goats to  
lick them or their gear.

Hikers reported being followed or  
chased by goats.

A smaller number of hikers  
reported “aggressive” behavior by  
goats.

Horn swipes

Rushing behavior



# Understanding the Attraction

- Salt- and mineral-seeking behavior
  - Rumination?, Gestation?, Lactation?
  - Plant phenology?
- Rice, C.G. 2010. Mineral lick visitation by Mountain Goats, *Oreamnos americanus*. *Canadian Field-Naturalist* 124(3): 225–237.
  - Most salt lick visitation occurred from June 01 through 15 August, with a peak visitation from mid-June through end of July.
- No known natural salt licks in Olympic Mountains
- Human (& dog) urine, sweat, foods are a source of salt/minerals

## Why does it matter where I urinate?

It is all about the salt!



Most animals crave salt and other minerals. Your urine, sweat, and food contain these. Urinating away from the trail keeps the goats at a safe distance.

For a dangerous, non-emergency wildlife complaint, call the Washington Department of Fish & Wildlife: 1-877-933-9847.  
-For emergencies call 911.





# Likely Contributing Factors

Trails/Infrastructure in habitat.

Proximity to human population centers.

A steep but relatively short and non-technical hike.

Popularity/Social Media.

Wildlife viewing

Scenic views

Therefore, high levels of visitation contributing to habituation.

Humans provide source of mineral salts.



Mt Ellinor trail

# Assessing the Situation

- Initial observations during closure period did not show signs of aggressive behavior
  - Highly habituated, approaching, salt-seeking, persistent
- More robust monitoring developed after 2012
- Interaction Monitoring
  - Trailhead register form
  - Hiking organization website reports
  - WDFW website and Dangerous Animal hotline
  - Contact with hikers
  - Phone reports and follow-up
  - Direct observation (biologists, interns, partners)
- Document key behaviors associated with aggression
- Coordination with WDFW
  - Aversive conditioning
  - Dangerous animal removal



(Olympic NP)

# Messaging: Ongoing & Evolving

- Press releases and media interviews
- Presentations to hiking organizations
- Sign strategy
  - General Info/Kiosk Sign
  - Focused topic signs
  - Heightened Awareness
- Interagency Goat Safety Video
- Twitter
- Trailside contacts with hikers

## Mtn. Goat Safety Precautions



Mountain goats are wild animals that frequent this area. Habituated goats can be aggressive. Please follow the guidelines below:

- ✓ Keep your distance from the goats—at least 150 feet.
- ✓ If a goat approaches you, slowly move away from them to keep a safe distance. If it continues to approach, be prepared to chase it off by yelling, waving coats or throwing rocks.
- ✓ Never surround, crowd, chase, or follow a mountain goat—it may respond by charging.
- ✓ Goats crave salt found in human sweat and urine. If you need to urinate, do so on rocks 100 feet away from the trail. Do not leave clothes or gear unattended.
- ✓ Never attempt to feed any wild animal including a mountain goat. Wild animals that receive food rewards just once may become aggressive.

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One of several iterations

# What We Have Observed:

- Trail use monitoring by recreation staff showed spikes in human use:
  - Weekends, Holidays and shoulders.
  - Staffing adjusted to cover peak days as much as possible.
- Very few incidences of verified aggressive behavior: Monitored closely.
- Hikers are tolerating being approached or followed by goats.
- Vast majority of encounters & approaches were likely due to salt-seeking.
- Trails provide ample opportunities for obtain salts from human sources (including dog urine).
- Too soon to determine if we are changing goat behavior.
- Some indications of changes in human behavior.

# The Numbers Game

- There are a relatively small number of mountain goats in any given location.
- 1000's of visitors each year; Up to several hundred visitors PER WEEKEND DAY on Mt Ellinor trail.
- Limited available USFS staff (including SCA interns, Field Rangers, volunteers).
  - At best, 1 or more visits per week by FS staff on the Mt Ellinor trail.
- Enthusiastic & invested volunteer group.
  - 1+ visit per week by volunteers with The Mountaineers.
- Interactions have the potential to influence subsequent behavior, especially if there is a perceived “reward” or, conversely, a “cost” associated with it.
- By sheer number, the visiting public has a greater potential to shape mountain goat behavior.

# Its still an uphill climb

- Habituated, salt-seeking mountain goats reported elsewhere in Region 6
- Agency staffing resources are relatively limited
- How do we most effectively engage the public's help with our efforts?
- What are the most effective methods of delivering our messages?
  - Personal contacts?
  - Social media?
  - Others?



Example of a focused topic sign

# You want me to do what?!!

## Throw those Stones

If a goat gets too close...



If a goat approaches, slowly move away.  
If the goat follows, scare it off by yelling,  
throwing stones, and waving your arms.

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call the Washington Department of  
Fish & Wildlife: 1-877-933-9847.  
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Does role modeling a “proper” reaction help?

# What other experiences with habituated wildlife can teach us.

- Habituation and the associated viewing phenomena may take decades to develop.
- Consistency in human behavior matters in maintaining coexistence.
- Prevention of food conditioning is very important.
- Both of those are hard to guarantee without staff present.



Anan Wildlife Viewing Area, Tongass NF



# Strengths & Successes

- Strong internal collaboration between Recreation and Wildlife staff
  - Staffing assistance – Shared burden
  - Input on messaging – Regional expertise
- Strong external cooperation
  - Service First Grant – Interagency video on mountain goat safety – 2013
    - USFS, NPS, and WDFW staff contributed to video
    - This video has been used by other USFS and NPS units with concerns about human-mountain goat interactions.
  - Olympic National Park – Messaging, management, populations surveys, and training assistance
  - WDFW
    - Messaging/Outreach – Reporting website
    - Assistance with identification and management of problematic goat behavior
    - Conflict Reduction hunt; 6 permits/year
    - Population Surveys
  - The Mountaineers
  - Tribal Hunters
- Learning from each other and our varied experiences

Thank You!  
Any Questions?



# For More Information:

- Mountain Goat Management Plan FEIS
  - Proposed Removal/Translocation from Olympic Mountains
  - FEIS just released
  - <https://parkplanning.nps.gov/OLYMgoat>
- Interagency Video: “Hiking Safely With Goats”
  - <https://www.fs.usda.gov/detail/olympic/home/?cid=stelprdb5412239>
- Glacier National Park Study – Effects of habituation and food condition
  - Video: “Unsure Footing – Glacier’s habituated mountain goats”
  - <https://www.nps.gov/media/video/view.htm?id=50160300-1DD8-B71B-0BED9B5DDE41D6BD>
  - Sarmiento, W.M., and J. Berger. Human visitation limits the utility of protected areas as ecological baselines. *Biological Conservation* 212:316-326.