

Proposed Translocation of Mountain Goats



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FISH and WILDLIFE

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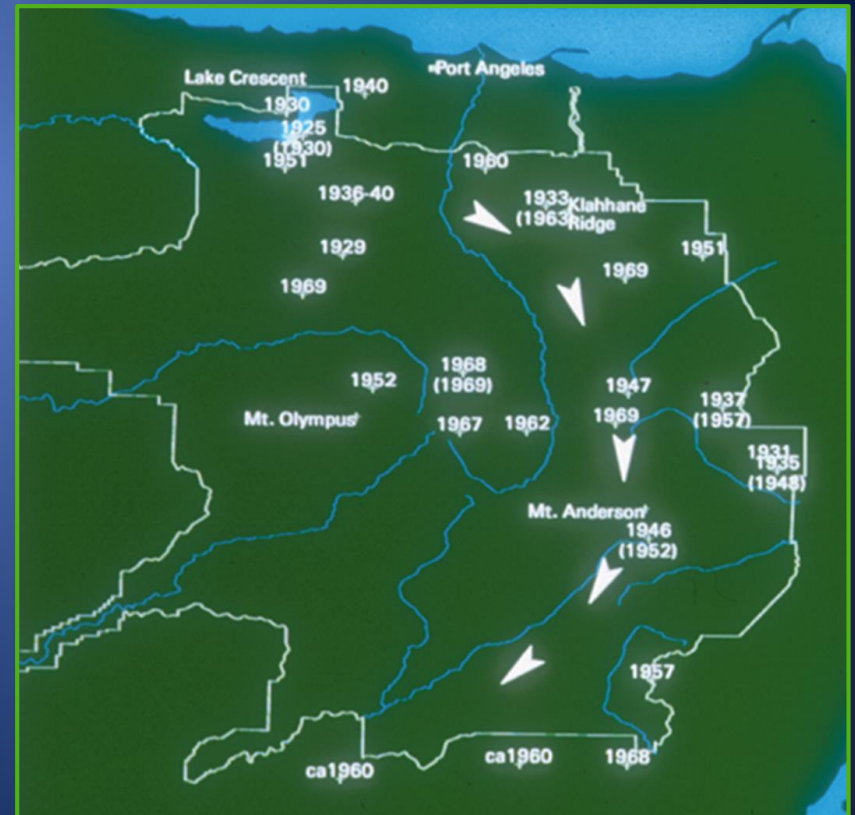
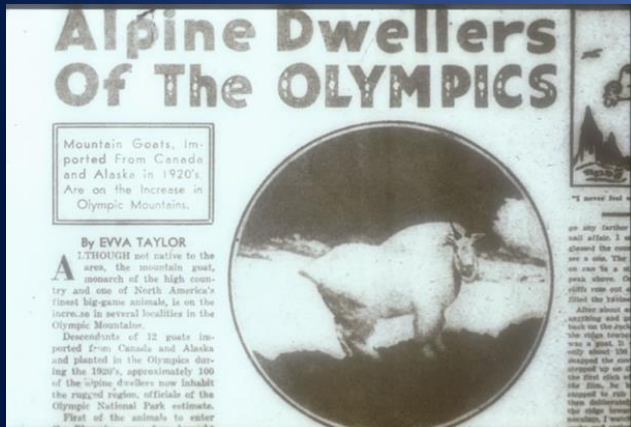
Olympic National Park Goat Management Plan/EIS



Olympic Peninsula Mountain Goat Introduction Sites



Population Expansion: 1920-1960s

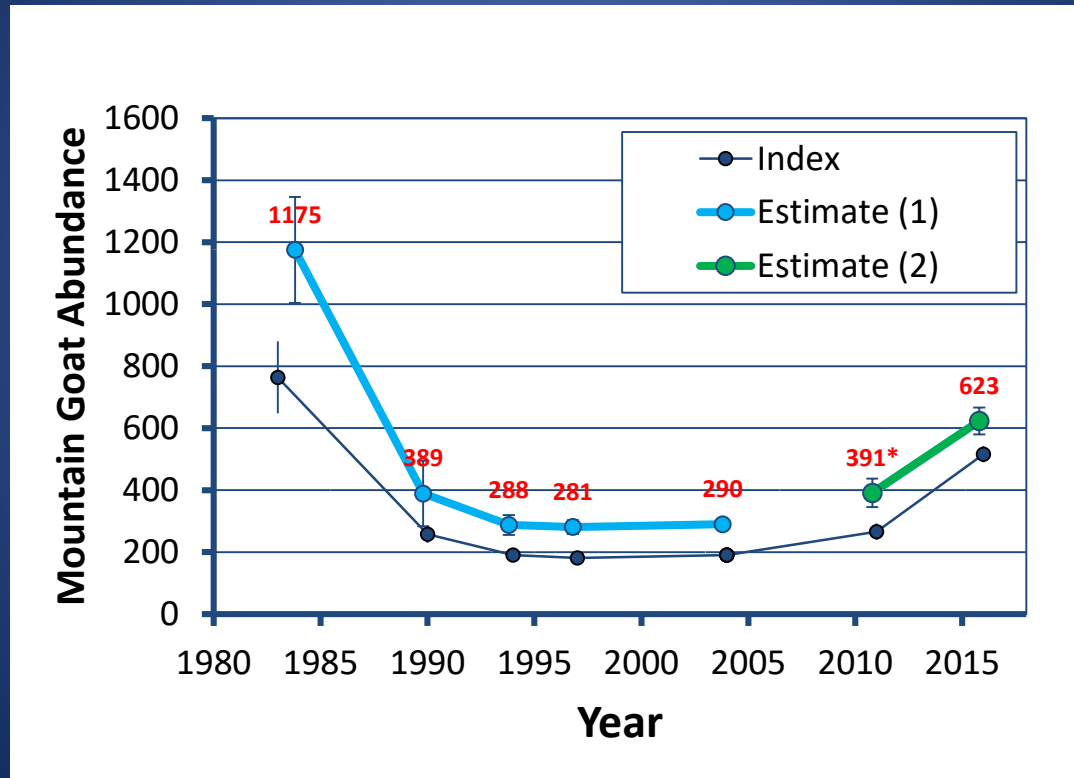


1980: Estimated 222 Goats on Klahanne Ridge



Olympic Mountain Goat Population Trends: 1983 - 2016

2016 estimate: **623** \pm 43 (SE) goats. Increasing at **8.1** \pm 1.5%/yr (2004-2016)



Index: minimum population number of goats, 1983-2004 survey area, no correction for sightability
 Estimate (2) : 2011-2016 sample frame, corrected for sightability using model
 *2011 estimate includes count from Ellinor from 2012

Mountain Goats in the Cascades

STATUS OF MOUNTAIN GOATS IN WASHINGTON

CLIFFORD G. RICE¹, Research Scientist, Washington Department of Fish and Wildlife, 600 Capitol Way N., Olympia, WA, 98501, USA

Abstract: Based on aerial surveys (2004–2007, adjusted for sightability) and subjective estimates for unsurveyed areas, I developed an estimate of the total number of mountain goats (*Oreamnos americanus*) in Washington State, USA. Mountain goat populations were estimated for 56 units, 40 areas, and 21 zones, yielding a total 2,815 (2,401–3,184) mountain goats. Of the units/areas/zones identified, about 60% have been monitored with aerial surveys. For the remaining areas, ground counts and the rest subjectively estimated. Additional knowledge of mountain goat populations in Washington.

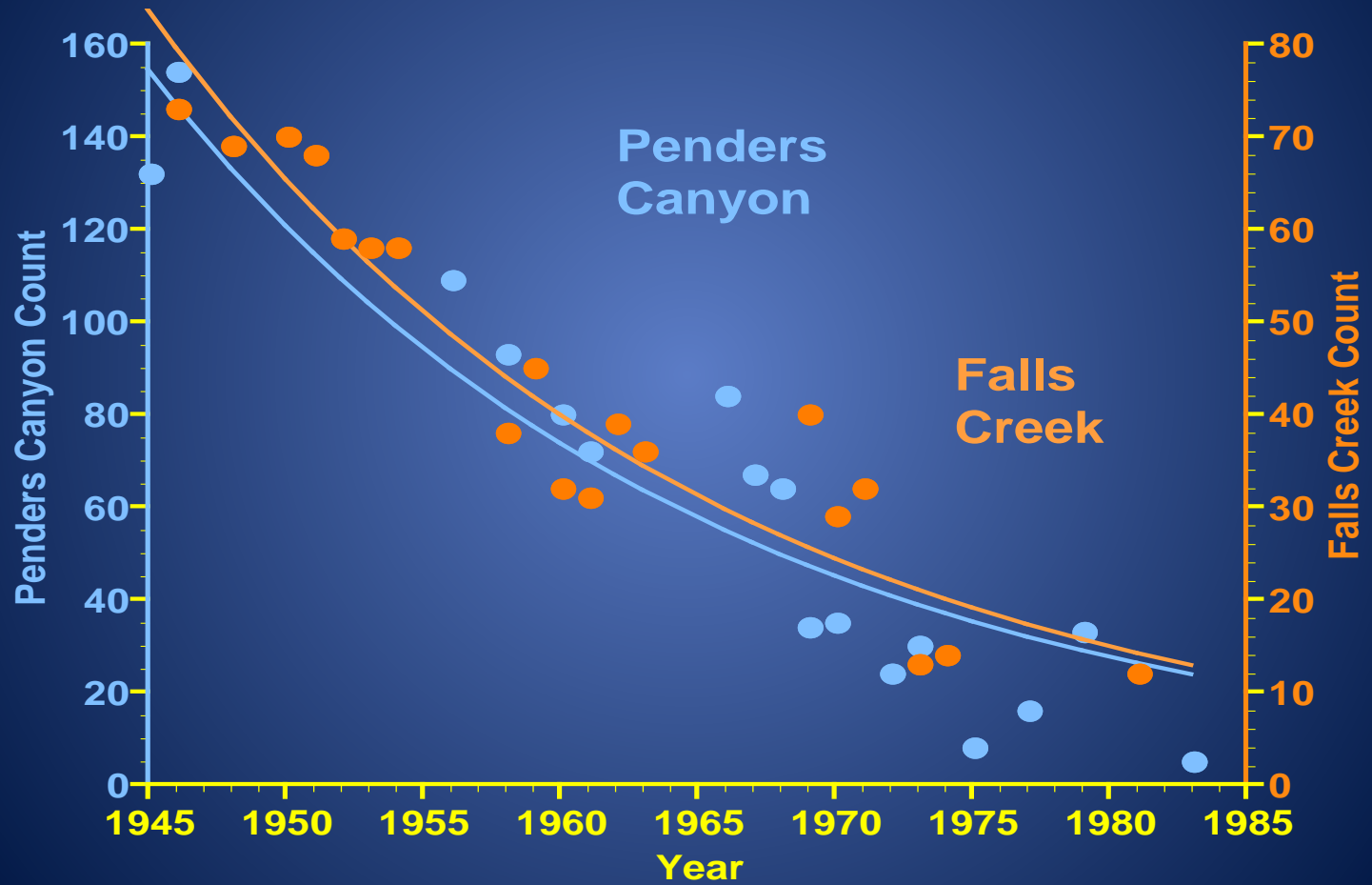
Biennial Symposium of the Northern Wild

Key words: population, *Oreamnos*, survey.

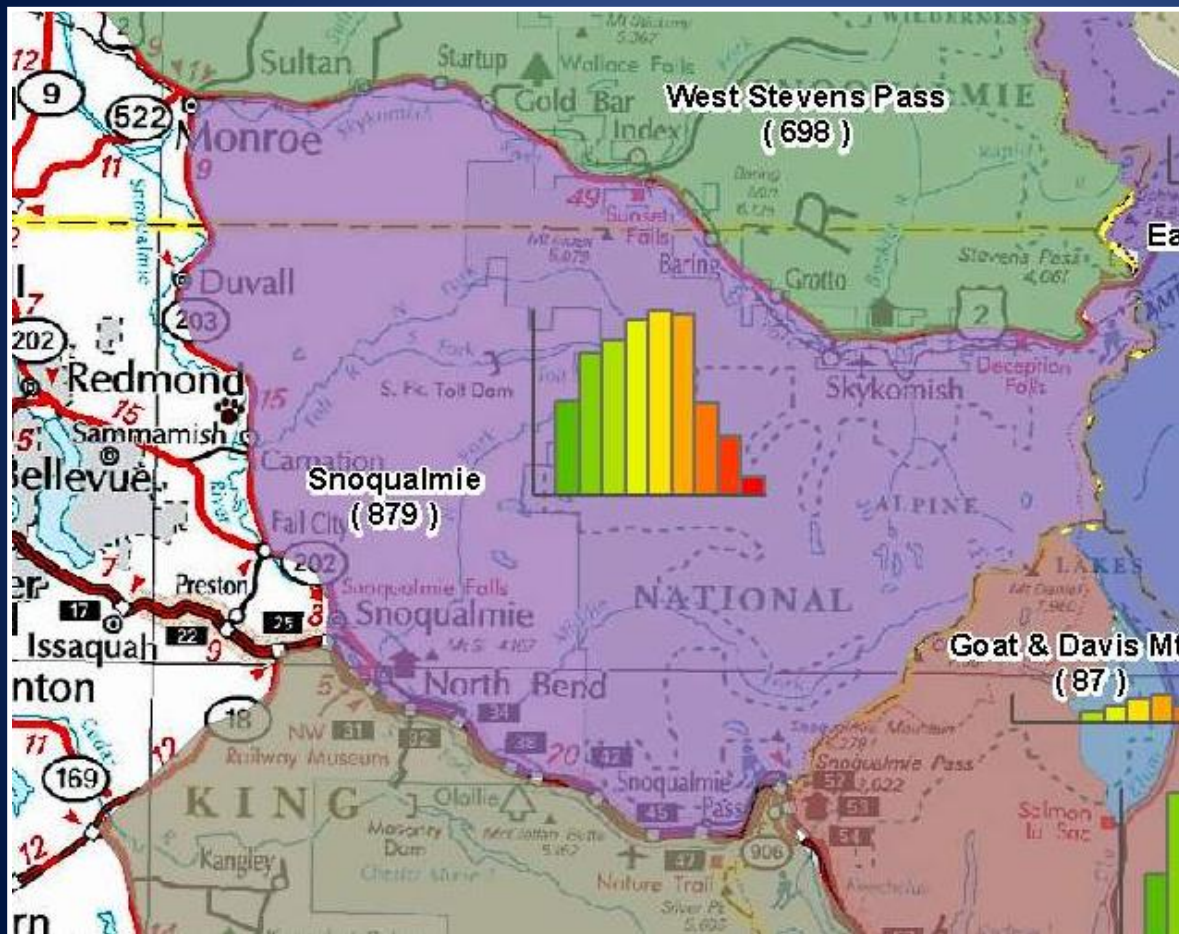
This is the first estimate of mountain goat status

My total estimate of 2,815 mountain goats in Washington was substantially less than the estimate of 8,555 goats from 1961. My estimate for the areas included for the 1961 estimate was 2,007 goats. It is difficult to say how much of this difference is due to declines in mountain goat populations, and how much is due to differing methods. It is clear that there have been large declines in some areas. For instance, the Snoqualmie area was thought to contain 450 mountain goats in 1961 (Wadkins 1962), while the current estimate was 50. Similarly the Bumping River area population was estimated at 475 in 1961 and my estimate was 67. Excessive harvest is thought to be the primary cause of such declines (Rice and Gay 2010). In contrast, Mount Rainier

Historic Declines



Harvest: 1948 - 1999



Harvest History



National Park Service Objectives

- Develop a scientifically based method for the management of exotic mountain goats.
- Reduce or eliminate impacts on sensitive environments and unique natural resources from mountain goats on the Olympic Peninsula.
- Reduce or eliminate the potential for visitor safety issues.
- Protect the wilderness character in the park and Olympic National Forest.
- Work cooperatively with co-managers of mountain goats.
- Support the wildlife management objectives of cooperating agencies and tribes, to the extent practicable, with respect to mountain goats.
- Provide opportunities to reestablish or augment sustainable native mountain goat populations in suitable mountain goat habitat on NFS lands in the North Cascades national forests.

NPS Alternatives

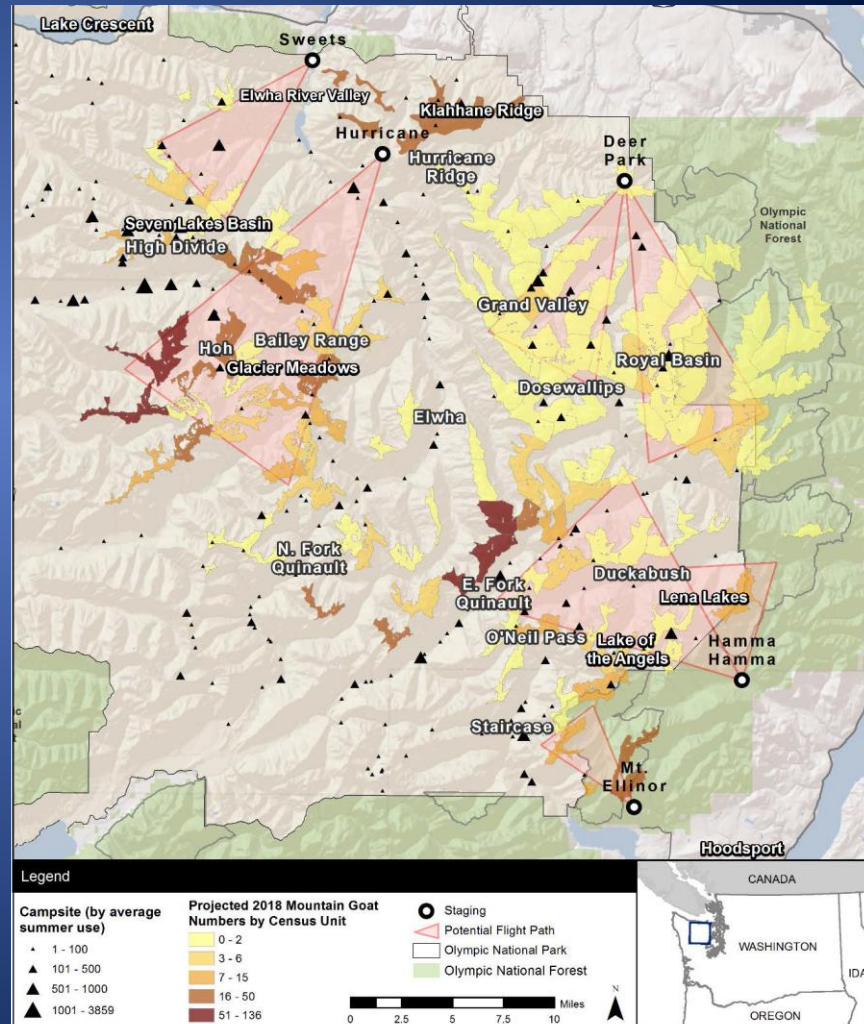
- A. No Action:
- B. Capture and translocation
- C. Lethal removal
- D. Preferred: Combination of capture and translocation and lethal removal.

Preferred Alternative

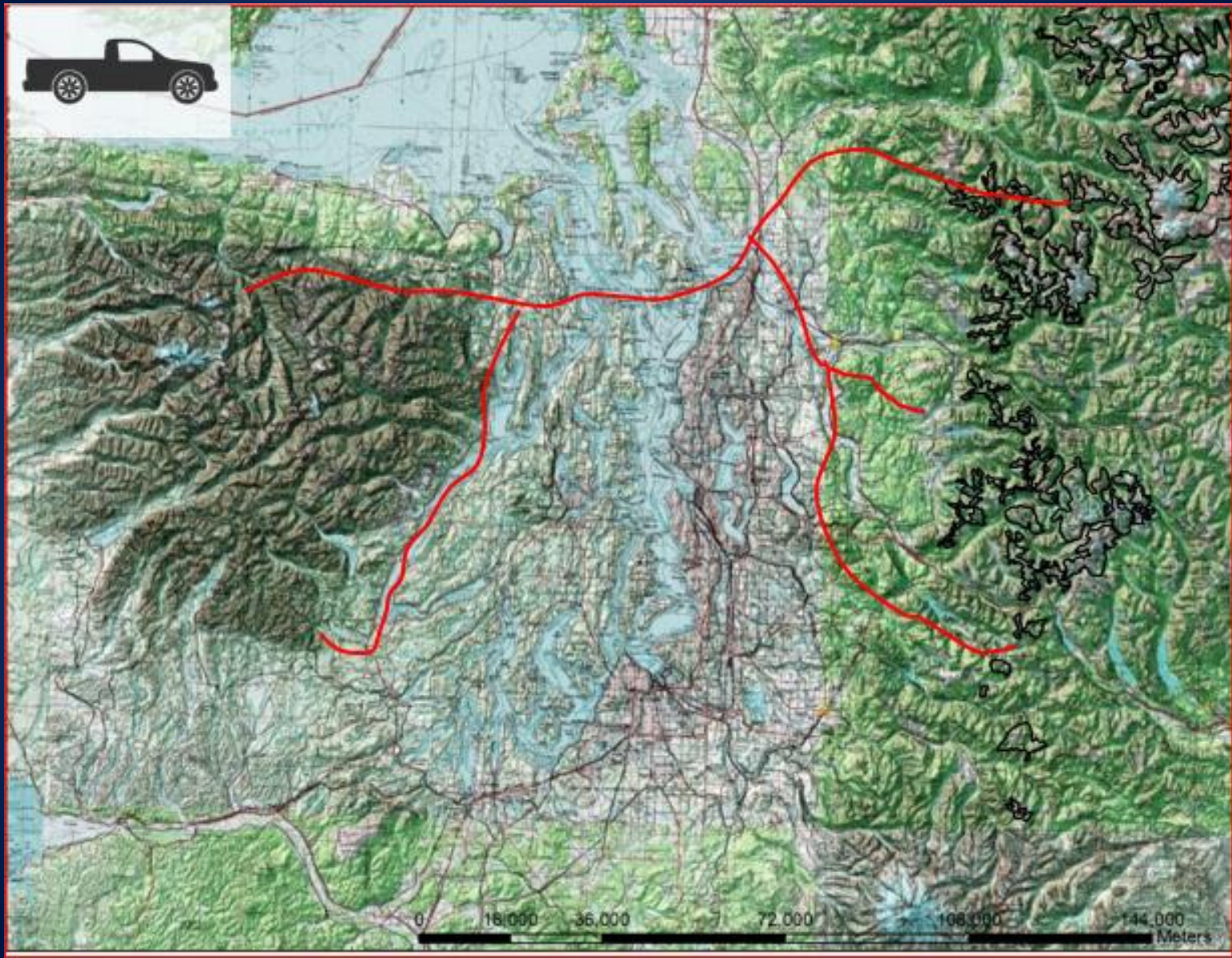
- Meets purpose, need and objectives; the best of all alternatives.
- Capture as many goats as safely and efficiently can. Stop when
 - Not safe or efficient
 - No more places to put them
 - No more resources for translocation
 - *Estimate 2 years and 50% of population*
- Lethal removal could start at end of year 2 (September)
 - Start with ground-based operation
 - Use designated, trained, and skilled volunteers
 - Follow with aerial operations the following year(s)

Translocation

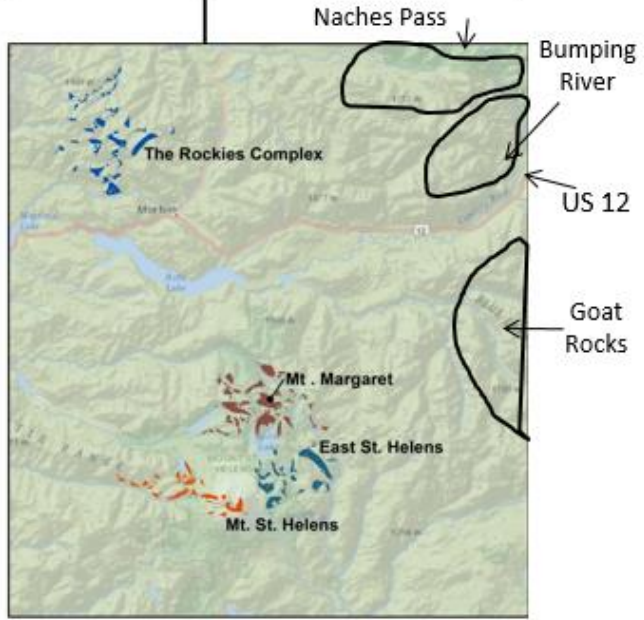
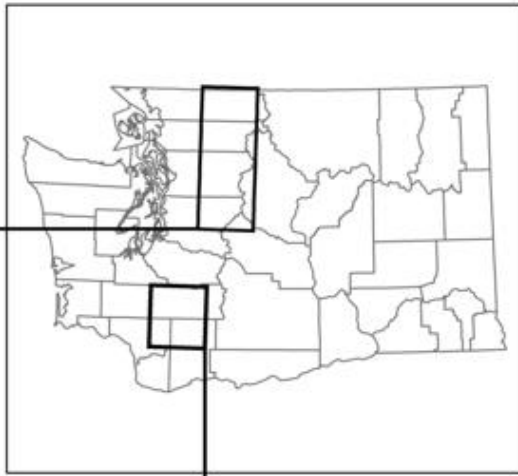
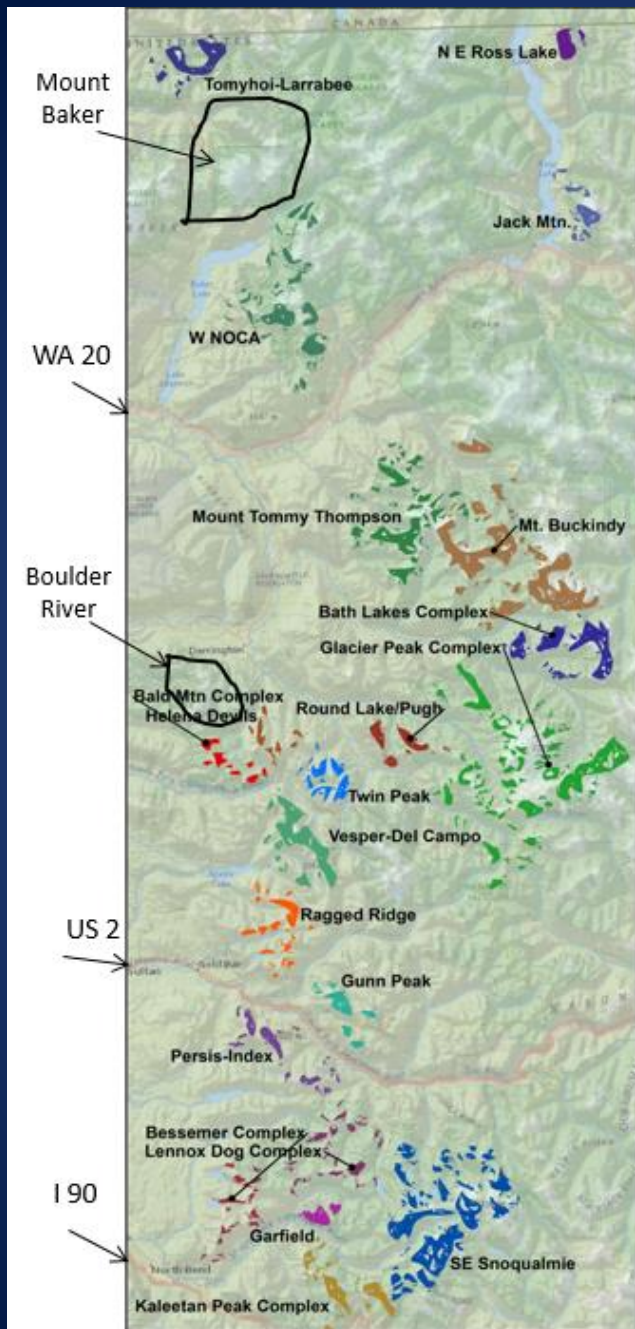
- Helicopters needed for capture and translocation
- 2 primary periods of operation:
 - 2 weeks in mid July
 - 2 weeks in late August/ early September







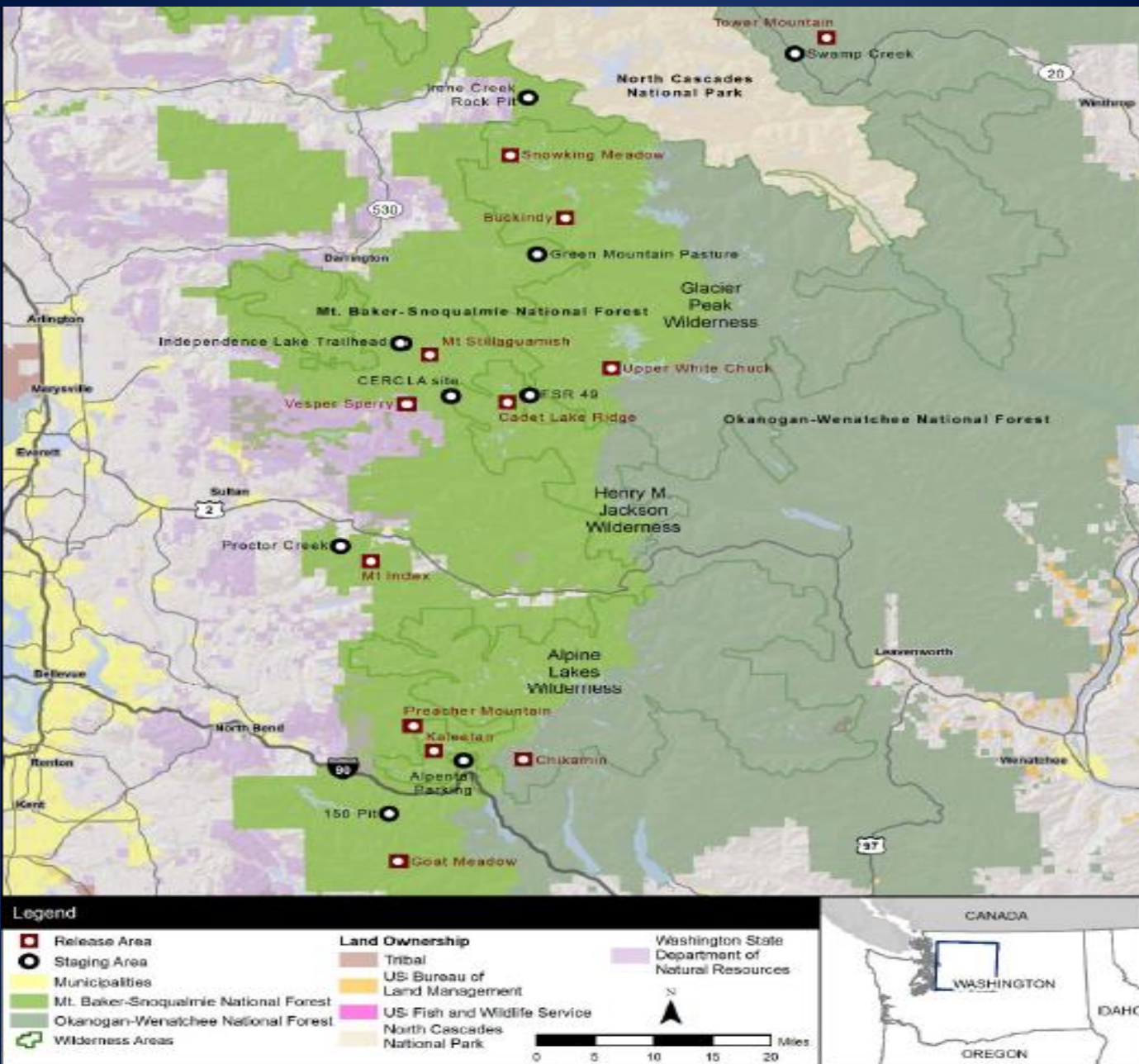




**NPS/WDFW Yakima TWS
March 28, 2017**

Analyses Conducted For Site Selection

- Success/failures of previous translocations into native habitat (Harris and Steele 2014)
- Rough assessment of summer habitat quality (Wells et al. 2011)
 - Based on 38 GPS collared goats; emphasized topographic features, rough indicator of vegetation only
 - Aggregated to 125x125 scale, then grouped to produce contiguous polygons
- Estimated historic population density (Rice 2014)
 - Historic abundance indexed by historic harvest
 - Density estimated by applying areas subjected to harvest (Note: NCNP included because much historic harvest preceded NP designation)
- Rough estimate of potential population size
 - Based on estimate of 2.3 goats/km² appropriate habitat throughout
- Connectivity
- Mountain goat diets in North Cascades (Harris et al. 2017)
- Historic goat presence as function of underlying geology
- Presence and abundance of preferred forage species by geology (Harris et al. 2017)
- Logistics: Access, wilderness designation



Issues Raised By Public

- 'Hunting' to lethally remove uncatchable goats
- Genetic uniqueness
- Agricultural damage
- Dangerous goats

Lethal Removal Background

- Hunting (as generally managed by state agencies) is not permitted in National Parks
- Would require an act of Congress to allow “hunting” within ONP
- However, use of skilled volunteers to kill animals has been successfully and lawfully implemented in at least 3 NPS units (Rocky Mtn., TR, Wind Cave) (elk in all 3 instances)
- The ONP/USFS/WDFW DEIS mentions use of volunteers to lethally remove goats
- Responding to good suggestions that the volunteer program be emphasized, we are doing just that

Hunting: Qualified Volunteers to Lethally Remove Animals in US National Parks

Hunting:

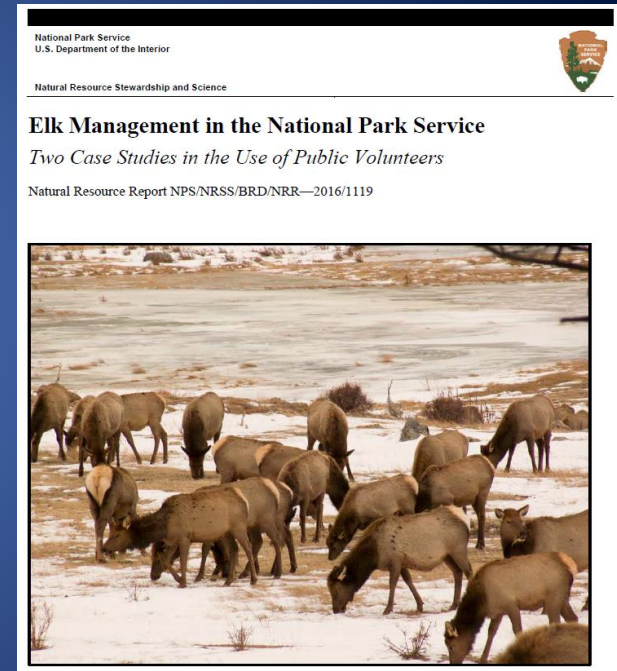
1. Licensed by state
2. Drawn by random process without consideration of skill/ability
3. Pay for privilege
4. No remuneration
5. Hunter free to choose animal to harvest (within regulations)
6. Fair Chase principles
7. Upon harvest, carcass property of individual (subject to regulations re: waste)

Qualified Volunteers:

1. No legal permitting by state
2. Drawn by random process after considering specified qualifications
3. No requirement to pay (but voluntary contributions possible)
4. No remuneration
5. Hunter cooperate with NPS in prioritizing targets
6. Removal objectives prioritized
7. Upon harvest, carcass remains property of NPS (with subsequent provision to hunter)

Things to Consider


- WDFW will assist NPS in developing list of applicants, vetting and selecting applicants.
- WDFW open to hunter community advice and assistance.
- Carcasses: Probably a combination of food bank/Tribal use/personal use by volunteer.
- Disposition of pelt and head: Unclear at this point.
- Non-toxic ammo will be required (NPS may provide if volunteer prefers).
- Animals taken/volunteer limited by pack out logistics.



Genetic Uniqueness

1. No subspecies of mountain goats have been recognized.
2. North Cascades goats are distinguishable from Olympic ('Alaskan') goats at the molecular level, but there's no evidence of local adaptation.
3. North Cascades goats have low genetic diversity; this is likely particularly so, among any remaining where we intend to augment populations.
4. Balance of evidence suggests that – to the degree genetic/evolutionary concerns are substantial – addition of new animals will help Cascades goats, not hurt them.

Agricultural Damage

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- A photograph of a mountain goat standing on a rocky peak. The goat is white with a thick coat and is looking down. The background shows a rugged mountain landscape with rocky peaks, evergreen trees, and a clear sky. The image is used as a background for the slide.
- No documentation of agricultural damage from mountain goats anywhere in North America.
 - Previous WDFW study of goats in Cascades found no use of agricultural lands, and very little use < 3,000 feet elevation.
 - Mountain goats are tightly linked to steep escape terrain.
 - If goats become an agricultural nuisance, WDFW will remove them.

Where Translocated Mountain Goats Might Have Become Agricultural Pests

Square Butte, Montana: Introduced 1943 & 1971; grew to 7 goats/km²



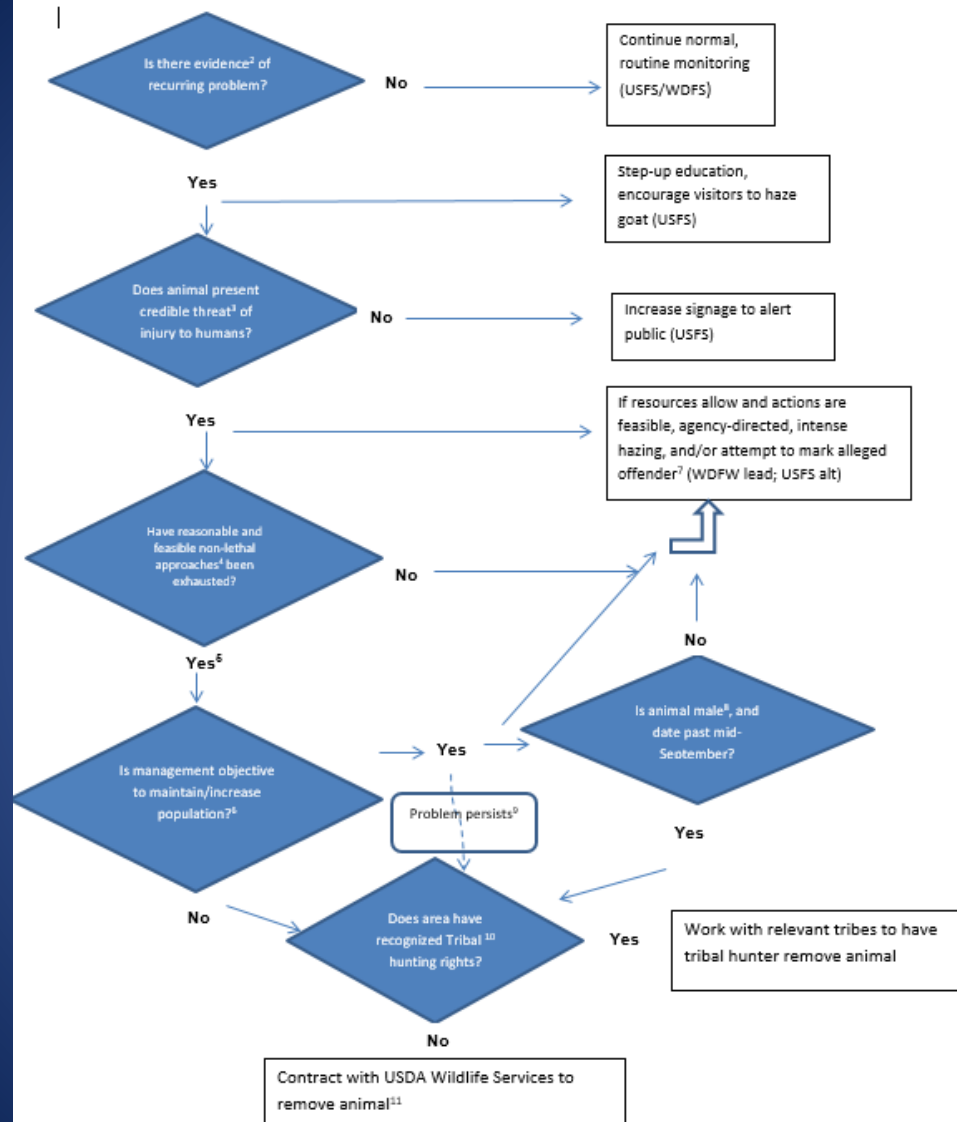
Goats dispersed through prairie habitat (Williams 1999)

Zero complaints or reports of goats as agricultural pests, 1943-2017 (Williams, MDFWP, pers. comm)

Dangers to Recreationists

- Most OP goats behave naturally; minority are 'problems.'
- Animals deemed aggressive by Park won't be moved.
- Animals from areas designated "habituated" will be moved only to less-visited release areas.
- WDFW has protocols to remove dangerous animals.

Draft: Step-down plan of agency response to "problem" goat¹



Questions?

