IGBC North Cascades Ecosystem Tech Team Report Out

10 October 2023

No Net Loss in the NCE

In 1997, the USFS and NPS agreed to “No Net Loss” of core habitat for grizzly bears in the NCE in any Bear Management Unit (BMU).

- **Definition of core habitat:**
  the area which is > 0.3 miles (500 meters) from any open motorized access route or high use non-motorized access route

- **Definition of high use non-motorized route:**
  any route that receives more than 20 parties per week at least once during early or late season
  - Zone of influence is the same (500 m) as motorized routes
  - Qualitative assessment with recreation staff
  - High use trails have increased substantially in the NCE since 1997

Recreation Effects on Grizzly Bears

Does non-motorized recreation affect grizzly bears?

- Grizzly bears spend less time foraging and consume fewer calories when recreationists are present (White et al. 1999)

- Recreation can cause temporal and spatial displacement with associated increases in energetic costs and declines in nutritional intake. Regulating recreation may reduce impacts on reproduction and survival (Fortin et al. 2016)

- Grizzly bears move away from hikers in most encounters (Sahlén et al. 2015: 89 – 95 %; Ordiz et al. 2019: 75 %)

Recreation Effects on Grizzly Bears

- Graves et al. 2002 found that 3 of 4 bears showed less than expected use of areas within 450-600 m of single track (mostly non-motorized use) trails in Montana

- Kasworm and Manley 1990 found that areas within 122 m of trails were used less than expected through spring and fall in western Montana.

- Grizzly bears responded more strongly to people on foot in remote areas than to any other stimulus tested (e.g., fixed wing aircraft). Bears reacted to people on foot at distances <150 m (Mclellan and Shackleton 1989)

- Bear distances from trails averaged 73 +/- 6 m and was explained best by differences in individual bears, rather than seasons or other predictors. (Cristescu et al. 2016)

Recreation Effects on Grizzly Bears

Literature review:

- Of 26 papers reviewed, 14 studies reported distances at which bears were displaced by nonmotorized recreation: 4 studies found no effect or a weak effect.
- 10 studies found displacement and reported an effect greater than zero.
- Including the four studies that found no effect, these distances ranged from 0 – 750 m with an average of 213 m and a median of 122 m.
- Not included in analysis was a technical review paper that found an average displacement distance at 270 m (Mattson 2019).

Recreation Effects on Grizzly Bears

Uncertainties:

- **Threshold effect – how many people on a trail results in displacement?**

  Muhly et al. 2011 - Trail cameras in southwest Alberta. Predators (including grizzly bears) were less abundant on roads and trails that exceeded 18 humans/day.

- **Population level effects of non-motorized recreation**

  IGBC Science Committee: high priority research area relevant to all Recovery Zones.

Recommendation – High Use Trails

- High use non-motorized trails:

- Tech team conducted a literature review to revisit the effects of high use trails on grizzly bears and the definition of high use. Currently: 500 m zone of influence around trails with >20 parties per week. Based on that review we recommend the following:

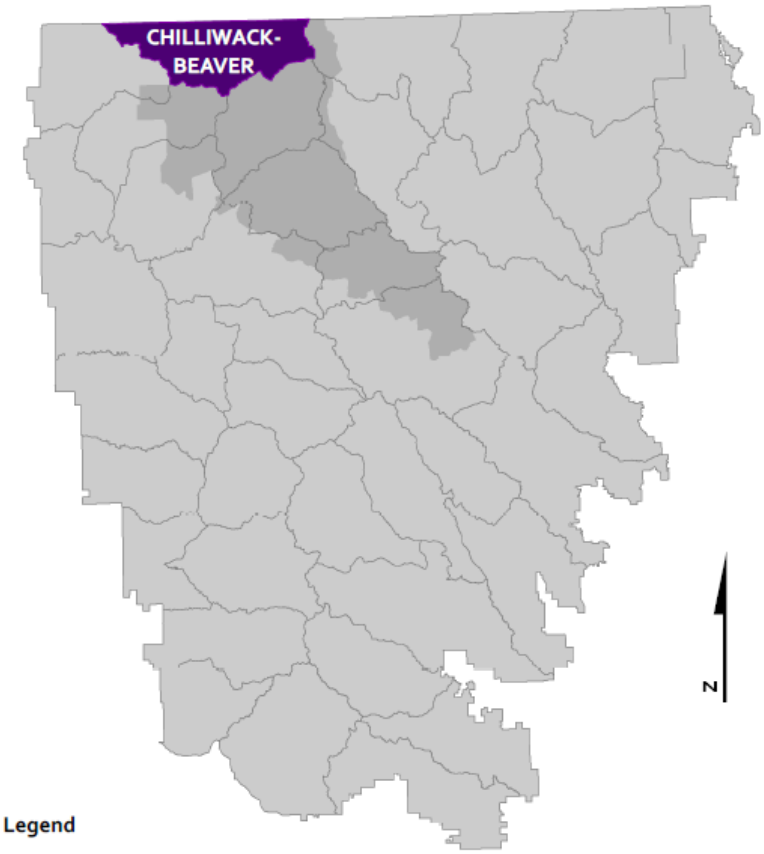
  Recommendation: Reduce zone of influence from 500 m to 250 m based on literature review.

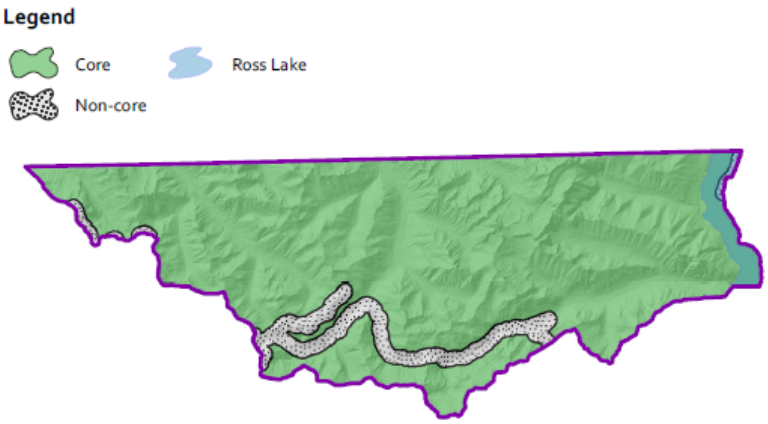
  Recommendation: Consider all maintained trails as high use for the new baseline, save for trails that are unlikely to become high use. Treat unmaintained trails as low use. Non-system or user-created trails and winter recreation trails are not included in this calculation. If better information or data comes out this definition should be updated.

Recommendations – High Use Trails

- CHILLIWACK-BEAVER BMU (shared NPS and USFS)

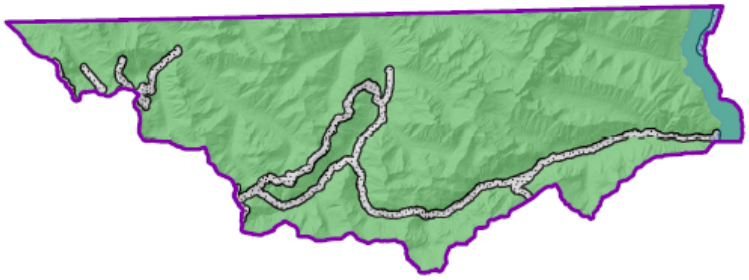
  BMU with roads and high use trails buffered to 500 m
  vs
  example with roads buffered to 500 m and all trails to 250 m.





92.73%

BMU with roads and high use trails buffered to 500 m.



92.28%

Example with roads buffered to 500m and all trails to 250 m.

Recommendations – High Use Trails

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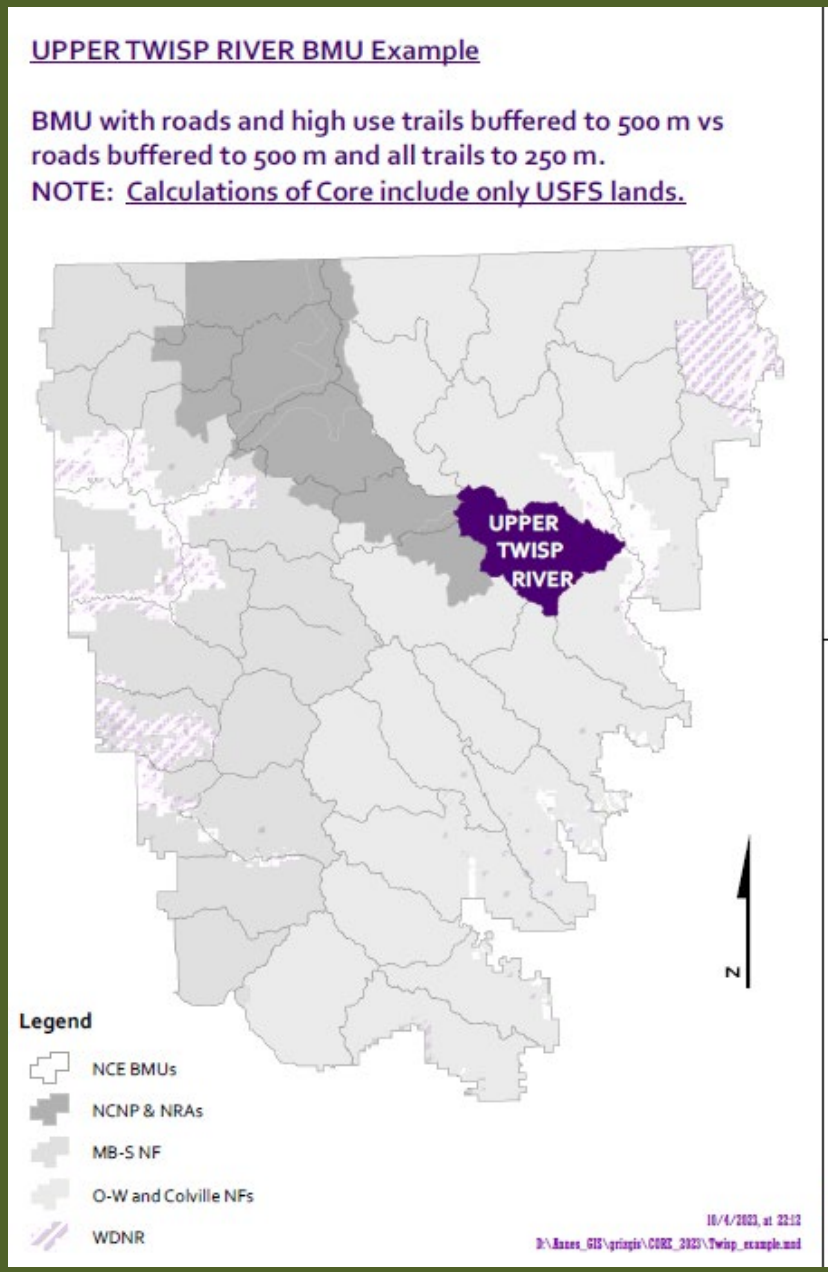

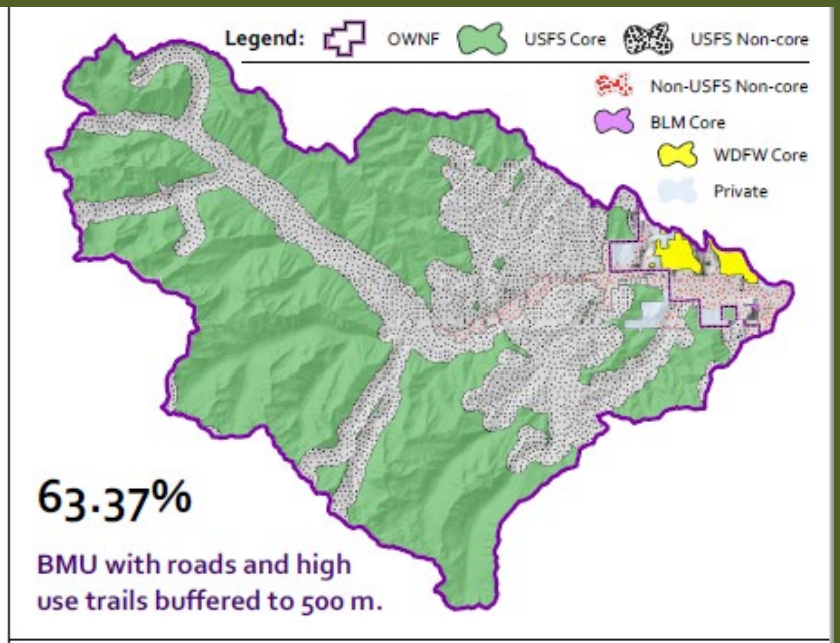

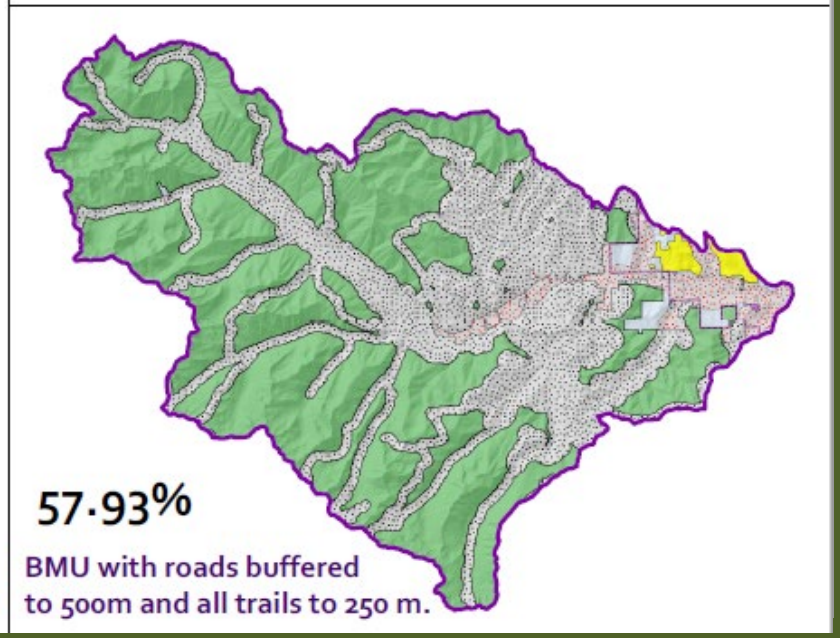

Recommendations – High Use Trails

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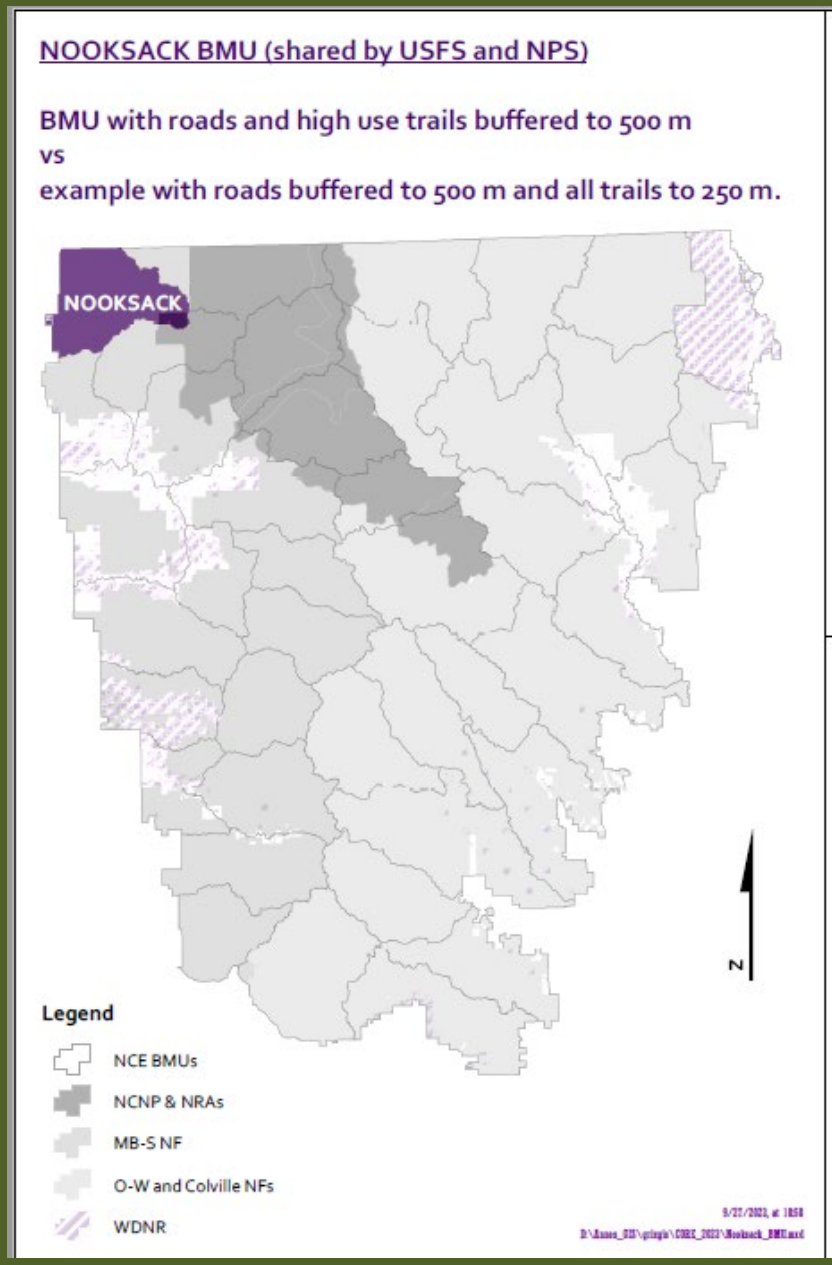

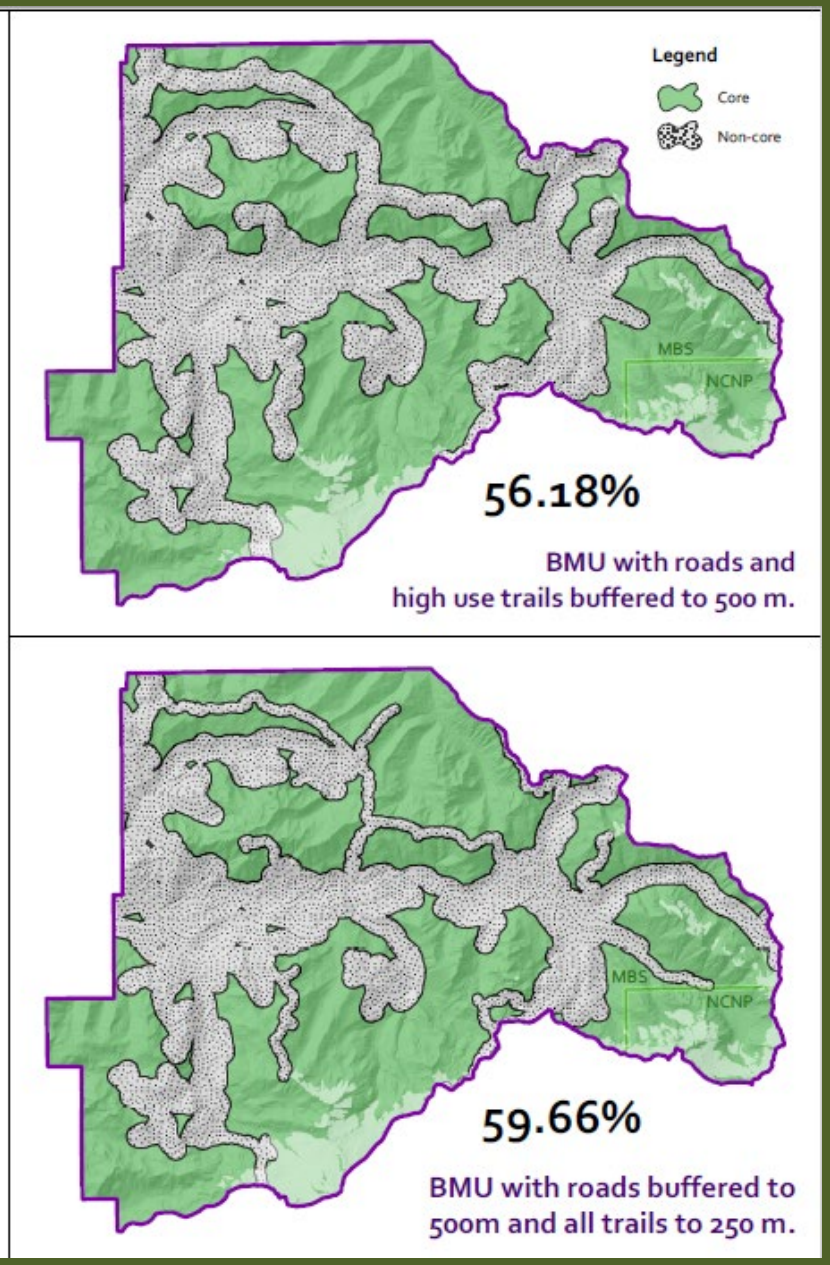

Recommendation: Core Banking

Recommendation: Because there have been no changes since the last BMU core habitat goals were set, continue to use existing goals. These could be updated in the future if biologically meaningful data become available.

Recommendation: Any core habitat documented to be currently in a temporary state of surplus or loss in any BMU would be transferred and credited when calculating the new baseline for that BMU.

Recommendation: The U.S. Forest Service and National Park Service provides annual reports on core habitat changes at the IGBC Subcommittee meetings. This will allow for better tracking of core that is currently in flux as well as tracking new roads (e.g., recently decommissioned roads, temporary roads).

Recommendation: BMU Lines

- Previous mapping analyses have resulted in inaccurate or mismatched BMU lines in the Okanogan-Wenatchee National Forest. Some mismatches occur where edges of the BMUs need to be adjusted to the recovery boundary line while others need to be adjusted to have consistency between agencies.

- **Recommendation**: Schedule BMU workshop with Tech Team and settle on finals lines for OWNF (not issue in MBS).

Recommendations

- **Private land:** Privately owned land should not be considered core due to uncertainties about future changes.
- **Minimum core size:** revisit if empirical biological data becomes available.
- **Seasonal habitat mapping:** Support and facilitate future research on grizzly bear seasonal habitat mapping in the NCE as a way to create new core.

Recommendations

Next steps:

- Choose “bear season” – period between denning season when bears are active
- Temporary roads and access routes
- Wildfire response and forest health treatment

Grizzly Bear Sighting Criteria

Current:

1. Class 1 (confirmed)
2. Class 2 (probable)
3. Class 3 (unknown)
4. Class 4 (not a grizzly bear)

Recommended:

1. Class 1 (confirmed)
2. Class 2 (indeterminant)
3. Class 3 (not a grizzly bear)