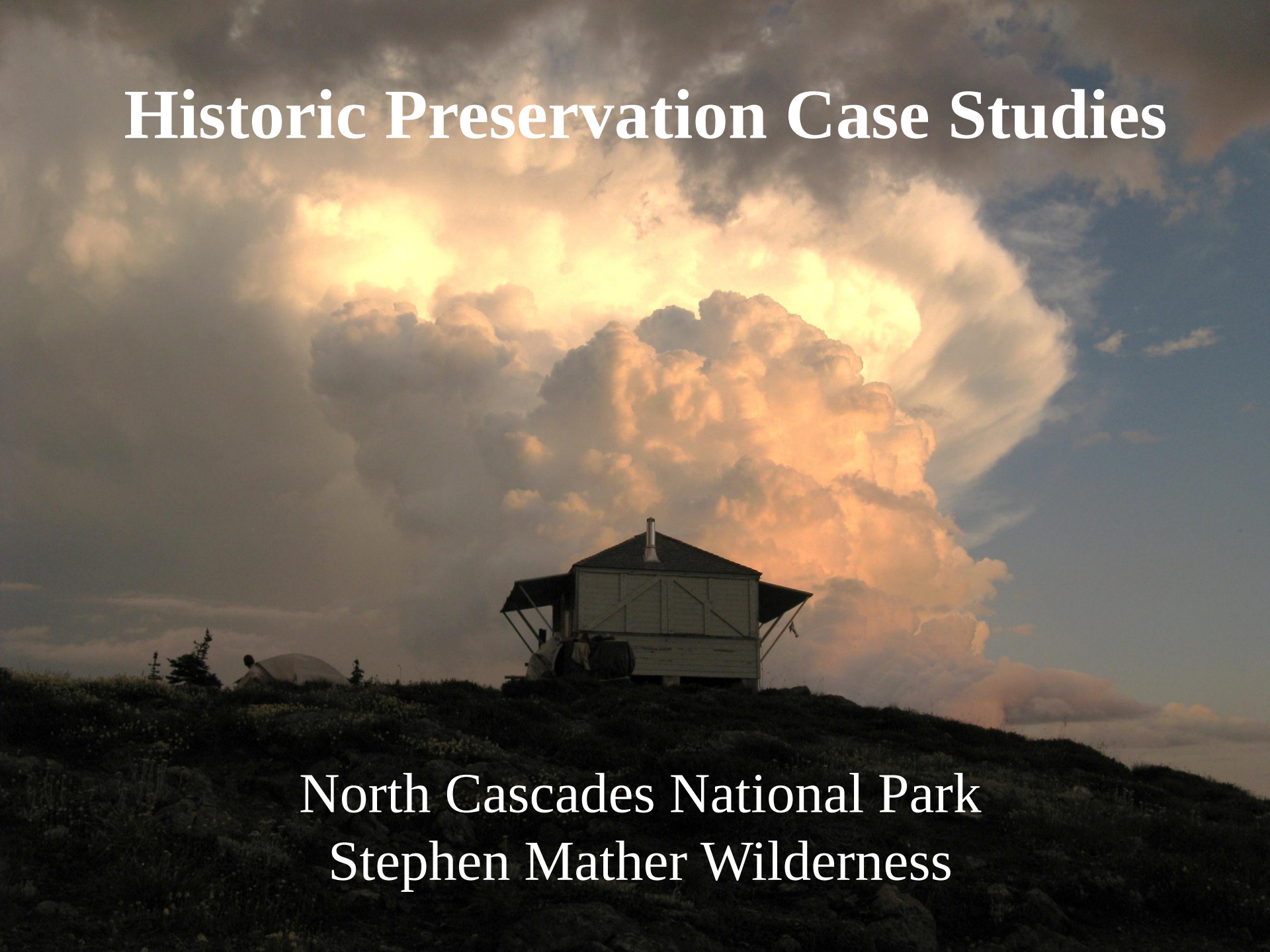
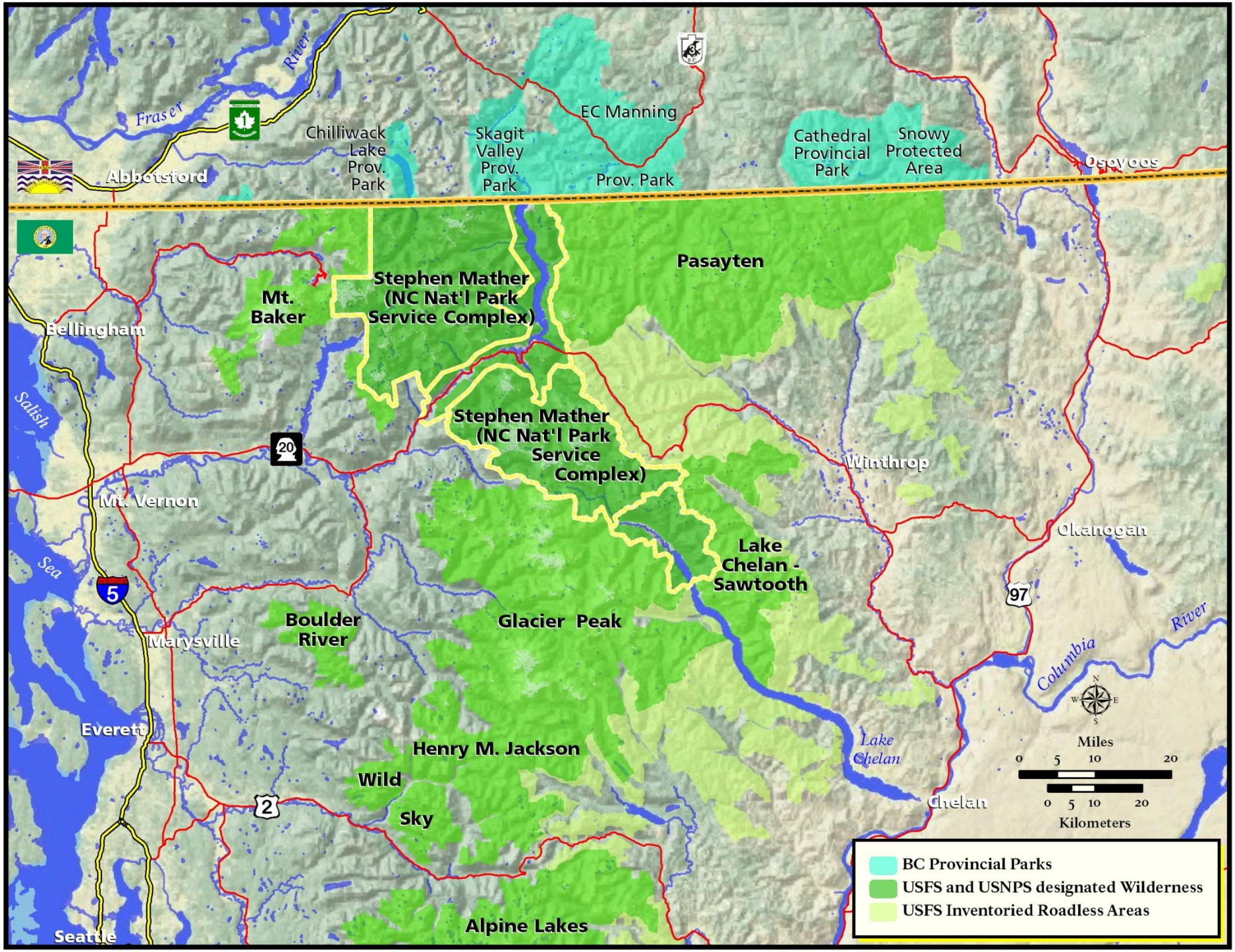
Historic Preservation Case Studies



North Cascades National Park
Stephen Mather Wilderness

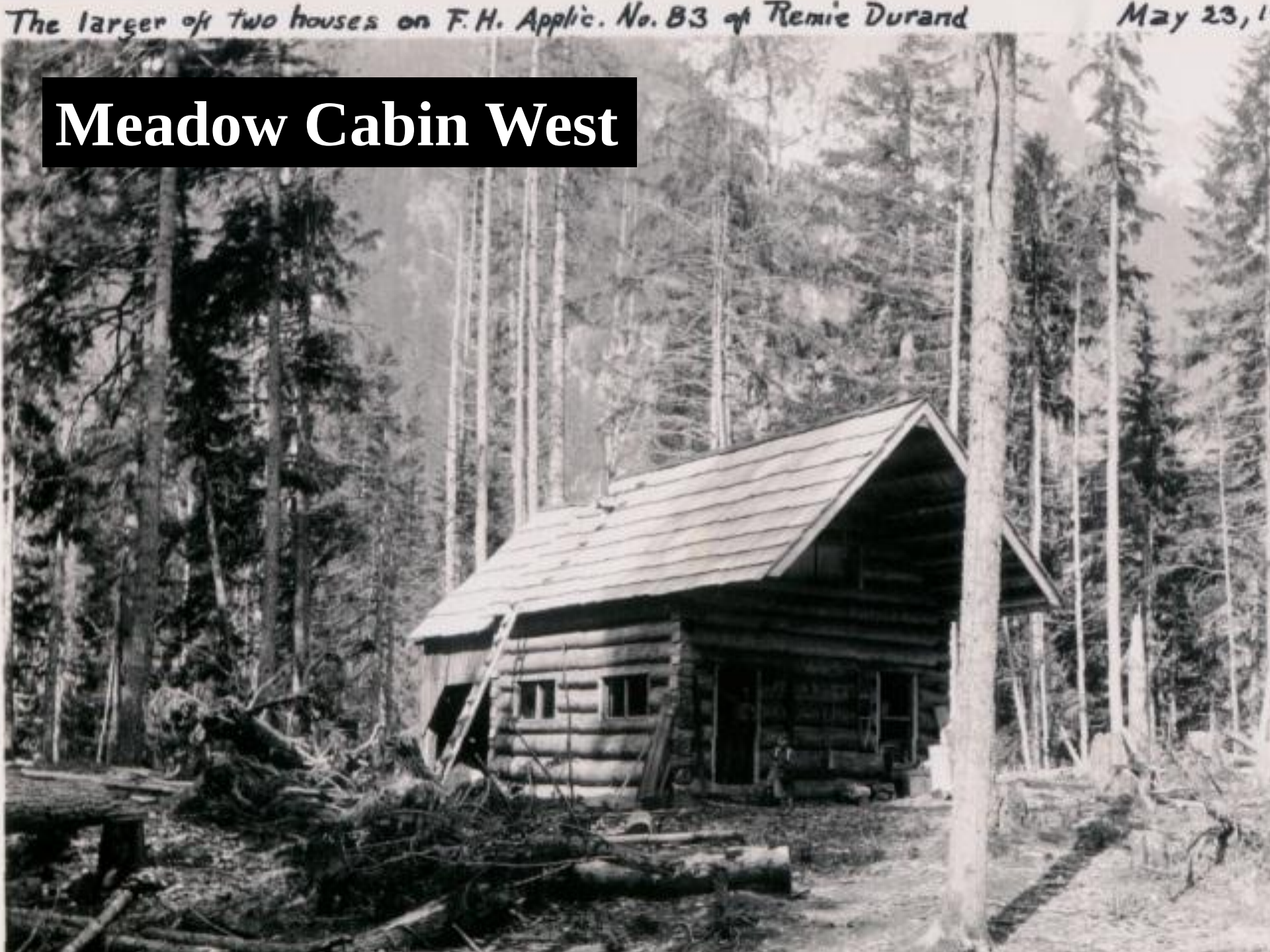
Overview

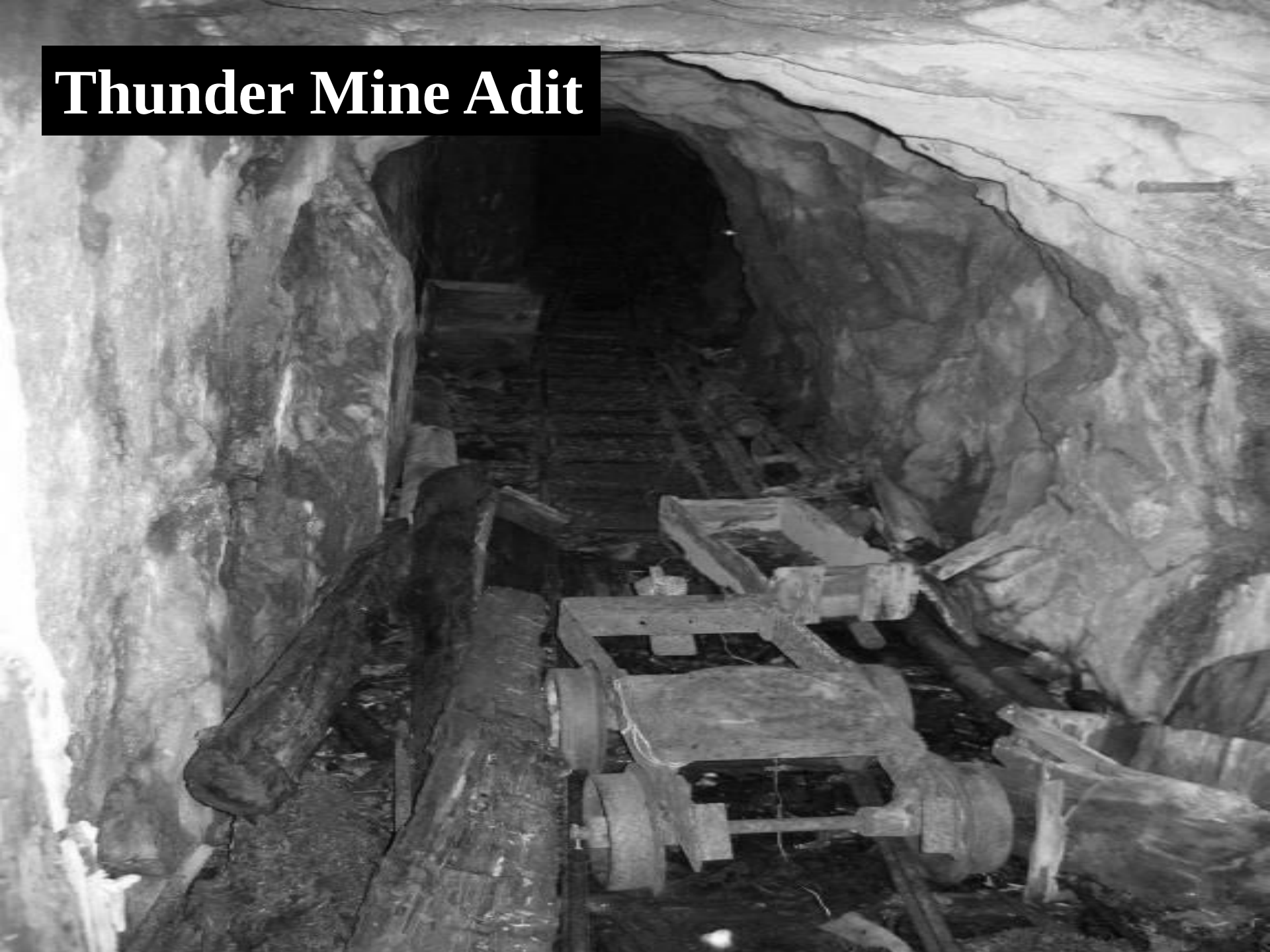
- Introduction to North Cascades Wilderness
- Overview of Historic Cultural Resources in Wilderness
- Preservation Tools, Techniques and Transport Methods
- Case Studies in applying the Minimum Requirement Concept


Fraser River
Abbotsford
Chilliwack Lake Prov. Park
Skagit Valley Prov. Park
EC Manning Prov. Park
Cathedral Provincial Park
Snowy Protected Area
Osoyoos
Pasayten
Stephen Mather (NC Nat'l Park Service Complex)
Mt. Baker
Bellingham
Salish Sea
Stephen Mather (NC Nat'l Park Service Complex)
Winthrop
Mt. Vernon
Okanogan
Lake Chelan - Sawtooth
Glacier Peak
Boulder River
Marysville
Columbia River
Everett
Henry M. Jackson
Wild Sky
Lake Chelan
Chelan
Alpine Lakes
Seattle
Miles
0 5 10 20
0 5 10 20
Kilometers
BC Provincial Parks
USFS and USNPS designated Wilderness
USFS Inventoried Roadless Areas

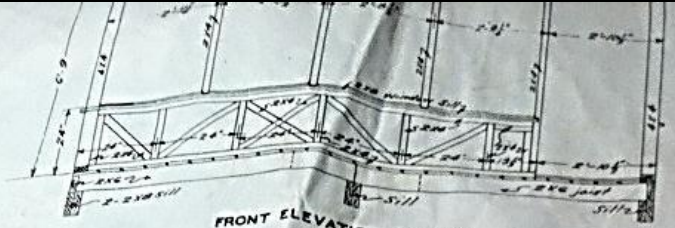
9000 Years of Human History


C.MARSH
JAN 27-1912

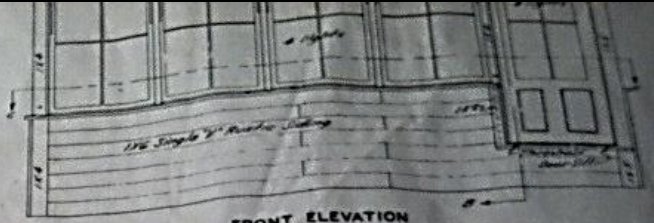

The larger of two houses on F.H. Applic. No. 83 of Remie Durand
May 23,
Meadow Cabin West


Thunder Mine Adit

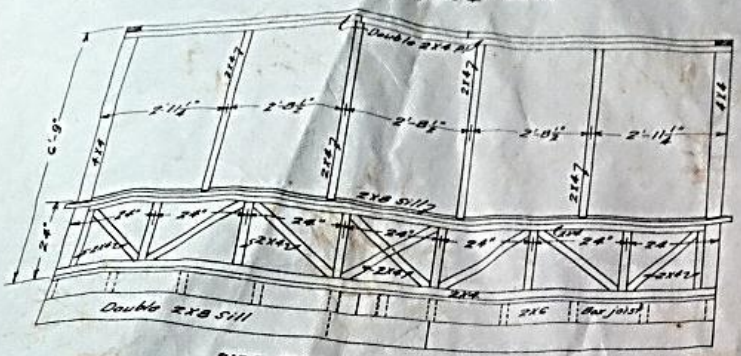
Sourdough Lookout



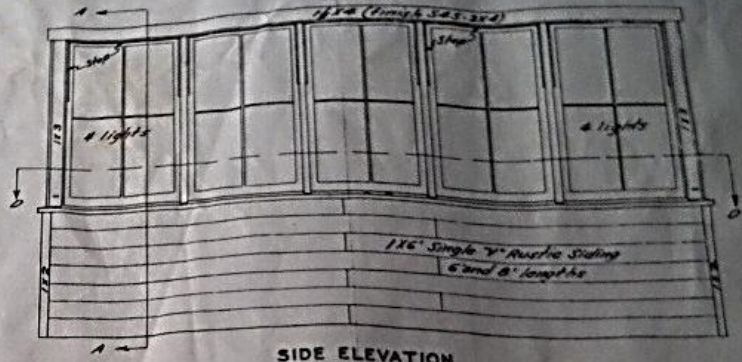
FRONT ELEVATION FRAMING
Figure 4



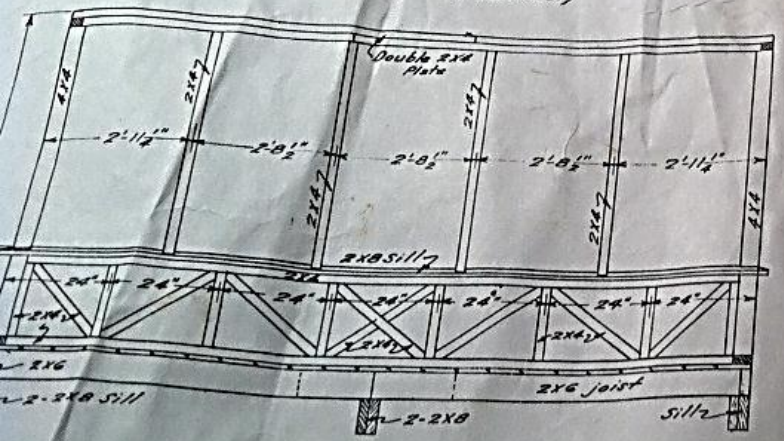
FRONT ELEVATION
Figure 5



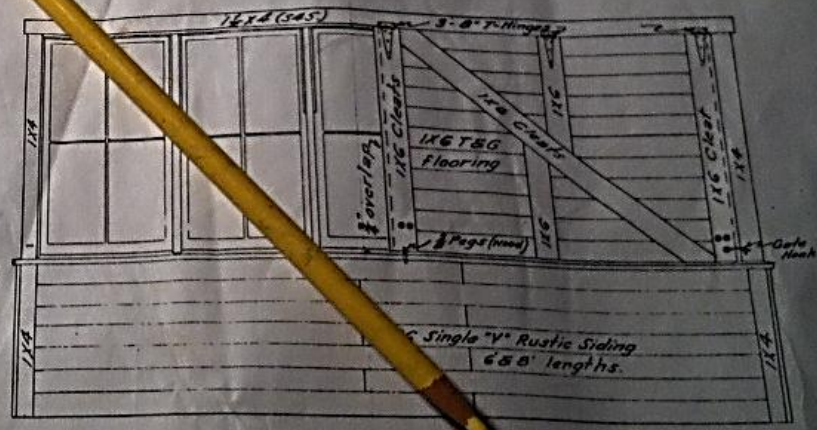
SIDE ELEVATION FRAMING
Figure 6 & 10 (Identical)



SIDE ELEVATION
Figure 7 & 11 (Identical)



REAR ELEVATION FRAMING
Figure 8



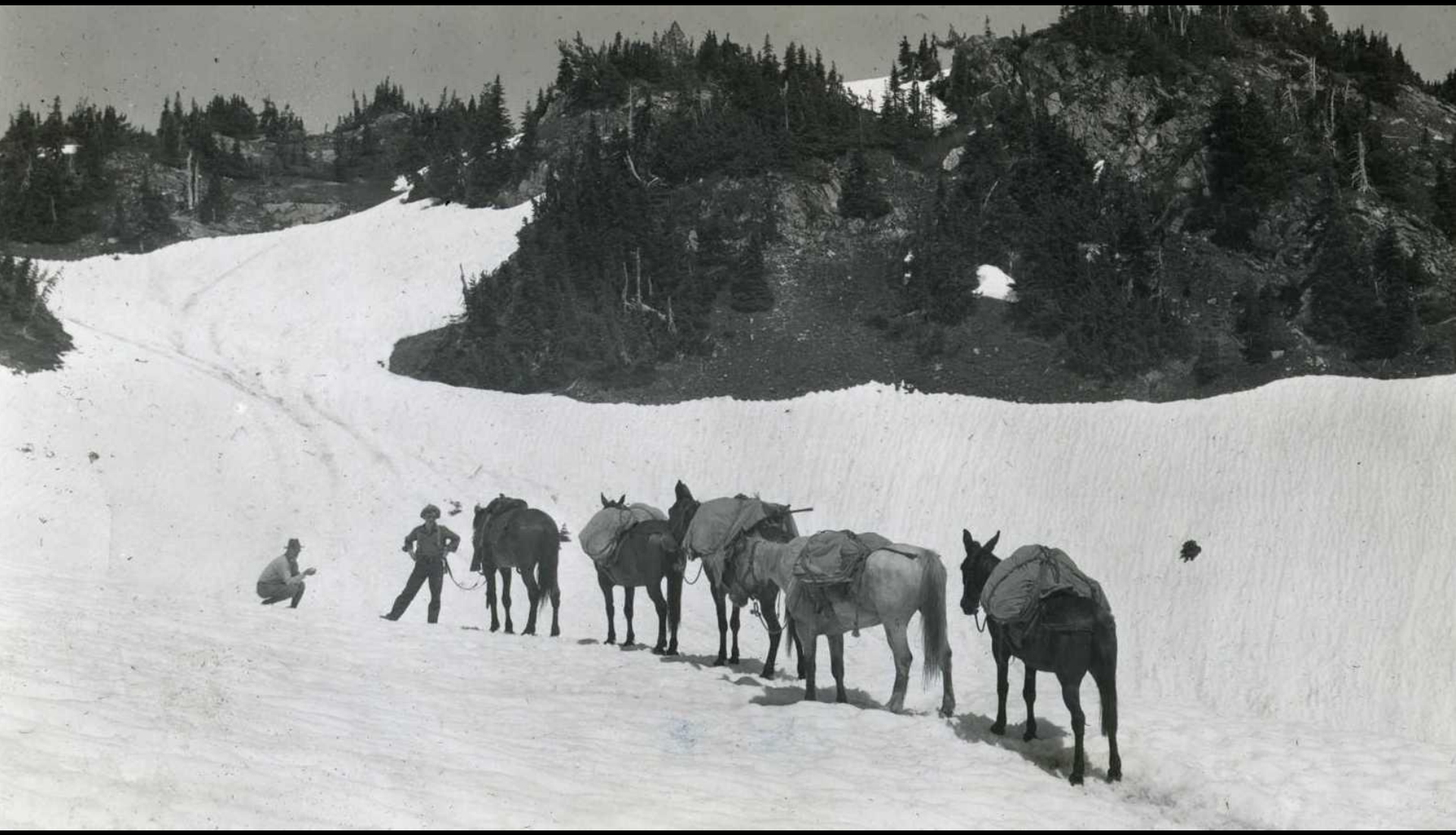
REAR ELEVATION
Figure 9

Scale ¼"-1'-0"

Note: See Sheet 4 for Cross Sections thru Sections B-B and C-C fig. 5 and A-A and D-D fig. 7-11.

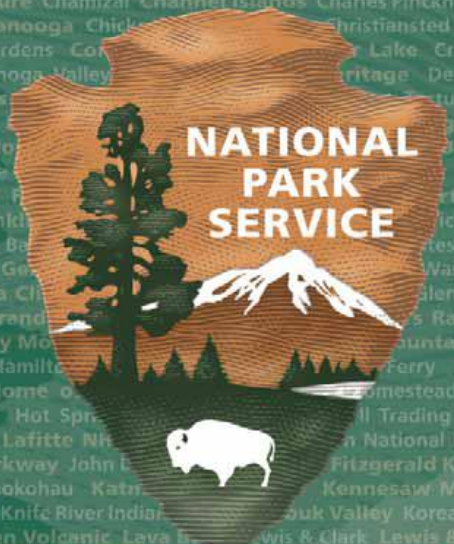
PLAN L-4
R-6 1930 L.O. HOUSE
14'X14'
1932 REVISION

Sourdough Lookout



Desolation Lookout

Management Policies 2006



Minimum Requirement Concept

1. Determine if action is necessary and will not cause a significant impact to wilderness character.

If yes, then:

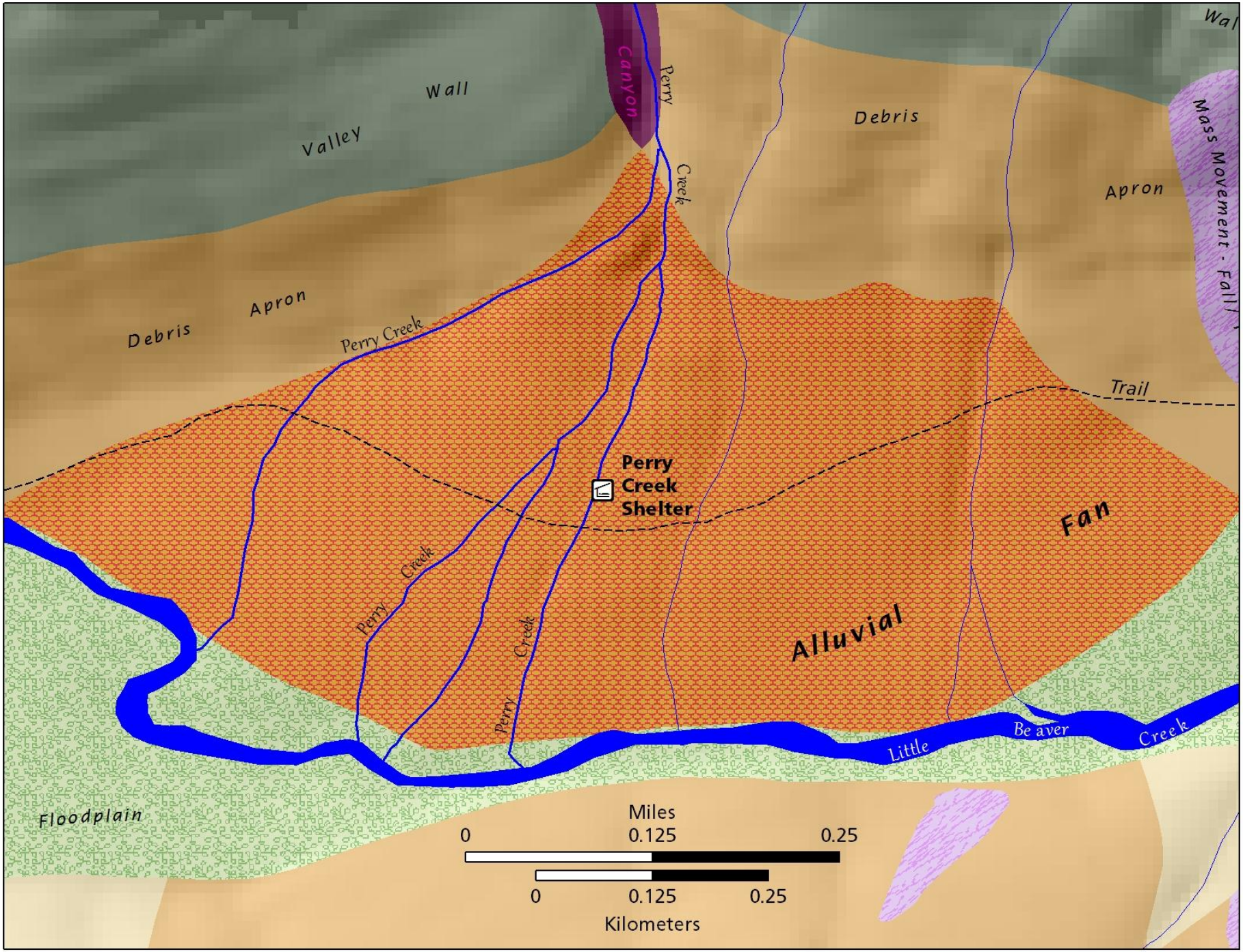
2. Select the minimum tool, technique or method. Choose tools and methods to minimize impacts on wilderness character.


UNTRAMMELED
UNDEVELOPED
NATURAL
SOLITUDE

Perry Creek Shelter

- Historic Shelter constructed by CCC.
- Shelter lies on an unstable alluvial fan.
- Perry Creek has changed course due to recent flooding. This is common on alluvial fans.
- Water flows through the shelter after heavy rain.
- The shelter probably will not last much longer.

Is preservation appropriate?


Wall
Valley
Canyon
Perry
Creek
Debris
Apron
Mass Movement - Fall
Wal
Debris
Apron
Perry Creek
Trail
Perry
Creek
Shelter
Fan
Alluvial
Perry Creek
Perry Creek
Perry Creek
Little
Beaver
Creek
Floodplain
Miles
0
0.125
0.25
0
0.125
0.25
Kilometers

Perry Creek Shelter

- Interim measures have been taken to remove debris from behind structure.
- There is no reasonable place to relocate the shelter given the terrain.
- No action would seem to meet Minimum Requirement in this case.
- Must follow Section 106 process to arrive at final decision.

Transportation Methods

- North Cascades is a *rugged* wilderness landscape
- Options include backpack, stock or helicopter
- Must consider personnel safety, feasibility, timing, weight/bulk of materials
- Impacts to wilderness character (e.g. loss solitude) can be mitigated but not eliminated. By law that's OK.

Tools for Historic Preservation

The choice of the “Minimum Tool” depends upon:

- Project objectives
- Personnel safety, site conditions
- Weight of materials
- Timing, budget, personnel resources available
- Mechanized tools can be a reasonable choice


STIHL


DEWALT

Meadow Cabins

Objectives:

- Replace deteriorated logs in-kind
- Replace shake roof in-kind
- Preserve historic fabric whenever possible
- Remove hazard trees around structure
- Provide hands-on experience for…

Pacific Northwest Preservation Field School 2006

Backcountry Session
Meadow Cabin East

North Cascades National Park Service Complex

D. Barton 8/2006

Logistical Constraints

- Cabins are located 12 mi. in wilderness and accessible by stock trail.
- Very heavy materials to move & lift into place.
- Complex scope of work includes educational Field School component.
- Cedar shake bolts in difficult to access floodplain setting.

Wilderness Mitigations

- Obtain cedar bolts from downed logs and use hazard trees from local area. Do not import.
- Use hand tools to minimize impacts.
- Use many hands, stock and mechanical advantages to move heavy things.
- Use hand tools to replicate in-kind deteriorated components.
- Keep group size <12. Use LNT principles.

Desolation Lookout

Objectives:

- Replace cedar shingle roof
- Work safely and avoid lead exposure
- Abate lead paint and avoid site contamination
- Repaint L/O inside & out
- Maximize quality of paint job to minimize future maintenance

Logistical Constraints

- Lokkout most accessible from June-September.
- Need to abate lead paint without exposure to personnel or to the environment.
- Need good weather to paint.
- Trail to lookout not suitable for stock.
- Mechanized equipment and shingles too heavy to pack in.
- Must camp near worksite in subalpine setting.

Wilderness Mitigations

- Use helicopter to transport essential materials– before/after peak season. Hike rest in and out.
- Pb toxic to environment: use ultra quiet portable generator to power HEPA PPE & heat gun
- Use generator only in morning—shut down when visitors arrive
- Follow LNT practices.


HONDA
EU2000

Sourdough Lookout

Objectives:

- Preserve the lookout.
- Retain historic fabric whenever possible.
- Repair door and windows (extensive repairs).
- Straighten structure from racking due to snowload.
- Replace deteriorated structural members in-kind.
- Work safely. Minimize impact to subalpine env.

Logistical Constraints

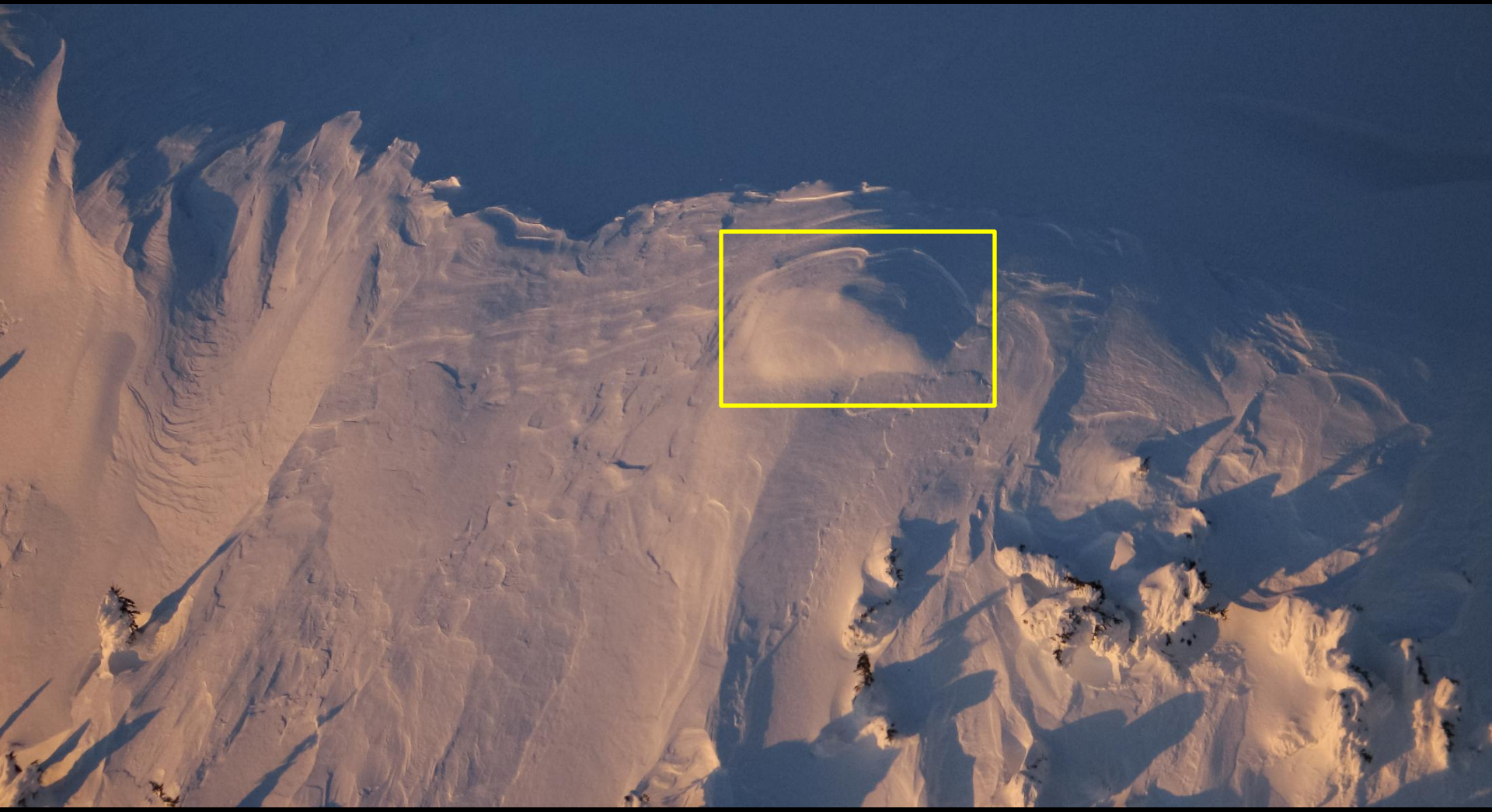
- Access from July(?)-September (La Nina=SNOWPACK)
- Extensive scope of work. Two year timeframe needed.
- Extensive window restoration work. Need controlled environment to do repairs and to re-glaze windows.
- Need materials (2x4 bracing & plywood) to “re-plumb” lookout and to temporarily stabilize for winter “entombment”.
- Windows & building materials too heavy/fragile to pack in/out.
- Trail to lookout not suitable for stock. Need helicopter.
- Extensive rot repairs to historic fabric of lookout. Need battery powered tools to do “surgical” repairs & preserve historic fabric.
- Need to camp in fragile subalpine setting.

Wilderness Mitigations

- Only use helicopter to transport essential materials. Avoid peak season. Pack in remainder.
- Only use solar powered equipment (e.g. drill, saw) to minimize noise. Otherwise use hand tools.
- Work 8-days at a time and camp on site to maximize productivity/minimize crew intrusion.
- Keep crew size small (2-3) and use LNT principles.


SOURDOUGH LOOKOUT
ELEV. 5997

Sourdough Lookout in Winter




This Site Listed on the
NATIONAL HISTORIC
LOOKOUT REGISTER
A national register recognizing fire lookout sites, structures and towers with historic and cultural significance to forest fire detection in order to promote their protection.
Maintained in cooperation with federal, state, and private forestry agencies and landowners throughout the


CAUTION


FLAMMABLE

Lessons to Take Home

- Evaluate every project according to site-specific circumstances and project objectives.
- Use a rigorous interdisciplinary process and carefully document your decisions.
- Impacts to wilderness character should consider duration, timing and intensity. Mitigate accordingly.
- Use traditional tools & techniques whenever feasible.
- Mechanical tools may be necessary, especially for personnel safety.
- Adaptively maintain historic uses whenever possible.

Questions?

NPS Organic Act

"to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."