



North Cascades National Park Complex Vegetation An Overview of Management

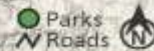
**Mignonne Bivin, Plant Ecologist, North Cascades
National Park Complex**



North Coast and Cascades Network
National Park Service Inventory & Monitoring Program

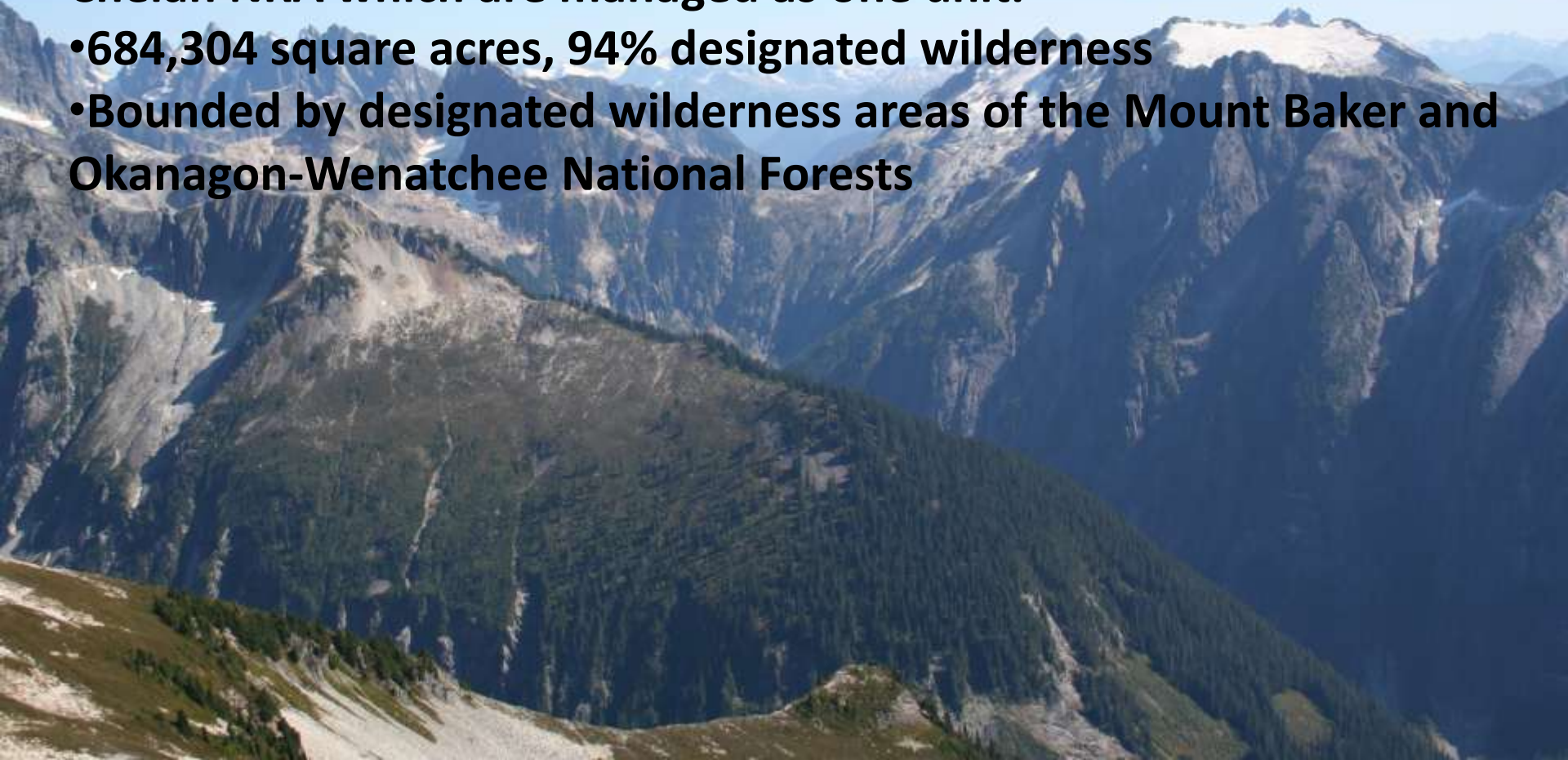


Ebey's Landing, Fort Vancouver, Lewis & Clark, Mount Rainier, North Cascades, Olympic, San Juan Island



North Cascades National Park Complex

- Is comprised to 2 National Recreation Areas and one Park Service Unit- Ross Lake NRA, North Cascades National Park and Lake Chelan NRA which are managed as one unit.
- 684,304 square acres, 94% designated wilderness
- Bounded by designated wilderness areas of the Mount Baker and Okanagon-Wenatchee National Forests



**North Cascades
vascular plant list totals
1,459 species**

**North Cascades has the
greatest plant species
diversity of the NCCN
mountainous parks
(Olympic NP
documented 1,318
species and Mount
Rainier NP documented
964 species).**



Factors leading to diversity

- Elevation range from 400 feet to 9206 feet
- Mean precipitation range of 35” in Stehekin to 80” in Newhalem
- Over 300 lakes
- Maritime climate on the west side and dry interior climate on the east side
- Diverse parent material, microclimates, rain shadow effects and glaciation

Vegetation types

- 54% of North Cascades is forested, this includes coniferous and deciduous forests types
- 45% is rock, snow and ice, lakes, rivers, meadows and shrub
- Based on 1990's PMR map
- A new vegetation mapping effort will begin field work in 2012



EXPERIENCE
YOUR
AMERICA

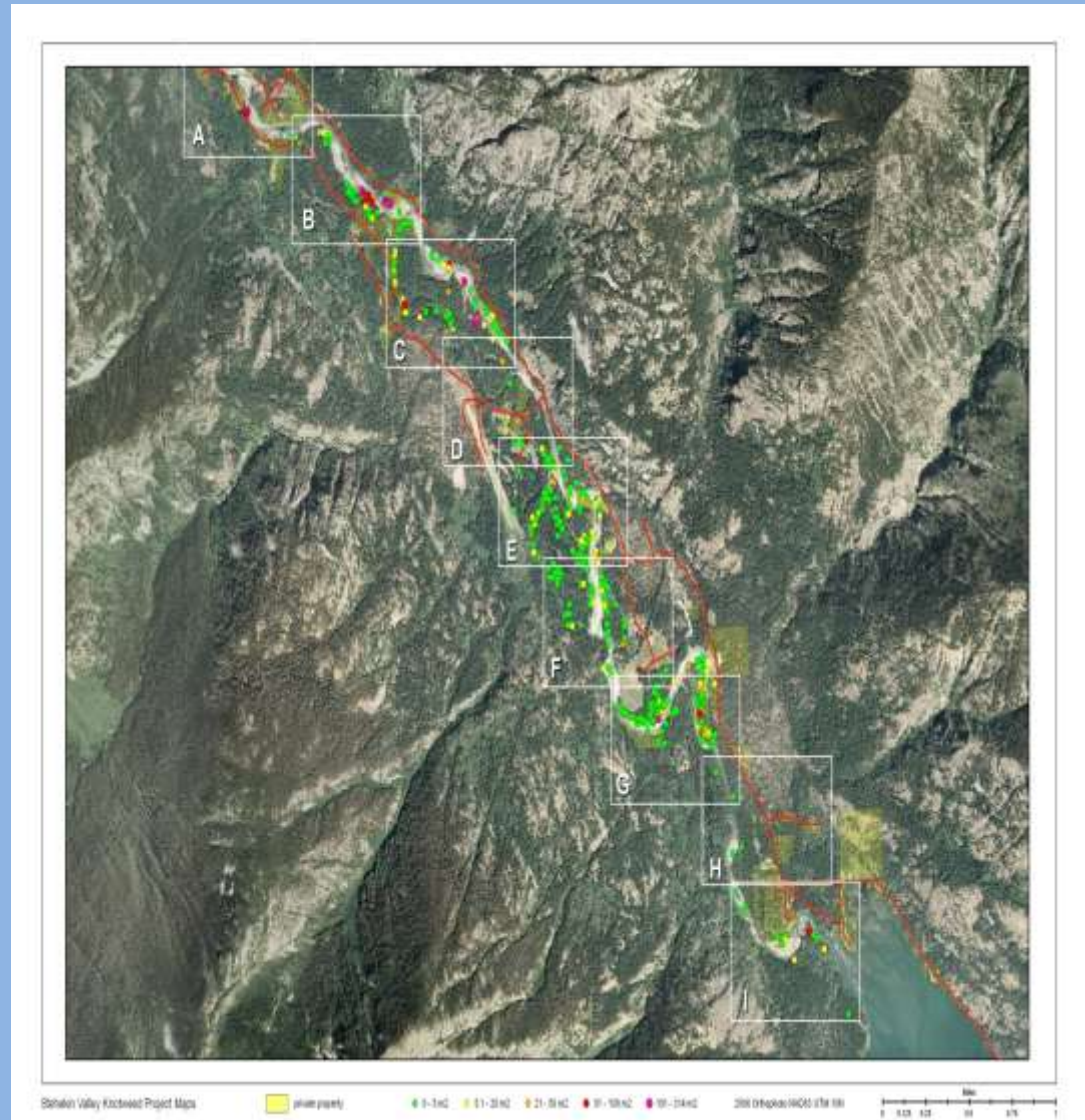
- The National Park Service manages for ecosystem processes and natural evolving species genetics rather than individual species or species complexes
- No recovery plans
- Do offer special protection for federally and state listed species under NEPA

Invasive plant species

- **Approximately 225 non-native species**
- **Non-native plants represent approximately 14% of all vascular plant species.**
- **Grasses are the most common non-native growth form with 20% of all non-native species.**
- **18% are forbs, 16% are trees and 12% are shrubs.**
- **There are no known ferns or fern allies.**

Invasive Plant Management

- Prior to 2001 opportunist approach
- 2002 Exotic Plant Management Team (EPMT)
- The EPMT is designed to address invasive plant management issues that pose an imminent threat to park resources.
- Invasive plant EA should be completed in the winter of 2012 will allow more treatment options including controversial and those in designated wilderness



Sensitive Species Management

- 24 vascular plant species that occur on the Washington State Natural Heritage Program rare plant list
- 3 listed as threatened, 15 state sensitive and 6 watch species
- No Federally listed species
- Most species are either high elevation species and/or are associated with wetlands.
- Many are the southern extensions of populations that are more abundant north



Fire Management

- North Cascades has an active prescribed burning and fire use for resource benefit program
- The fire program uses several techniques including fuel treatment, prescribed fire, adaptive management
- Projects are currently focused on the Stehekin Valley



Inventory and Monitoring Program



- **Forests**
- **Alpine and Subalpine**
- **Whitebark pine**

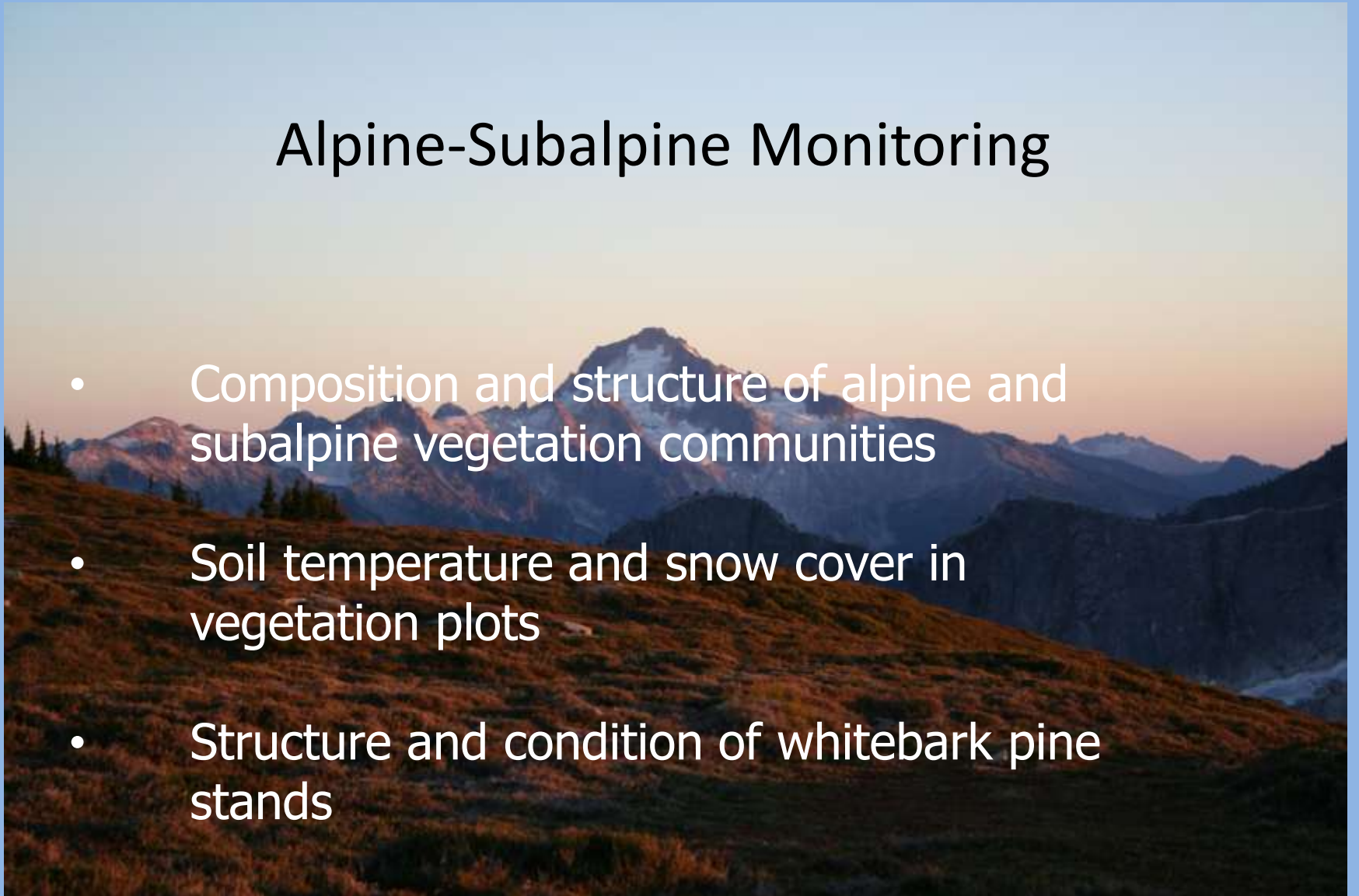
Forest Monitoring



- Hemlock-Douglas fir forest
- Subalpine forests
- Focused on tree recruitment, growth, and mortality in forests

Alpine-Subalpine Monitoring

- Composition and structure of alpine and subalpine vegetation communities
- Soil temperature and snow cover in vegetation plots
- Structure and condition of whitebark pine stands



Whitebark Pine Monitoring

- Is threatened by a non-native fungus Eurasian fungus, *Cronartium ribicola* which is causing wide spread mortality throughout the west
- As part of the subalpine-alpine monitoring we will monitor
 - status & trends in mortality
 - status & trends in infection rates
 - in species composition of stands
 - Determine possible rates of resistance

Questions ?





































