Northern Spotted Owl Effectiveness Monitoring for the NWFP

Population Trend

Predictive models

Owl Movement

$Lambda_{RJS}$

Habitat Suitability

Survival

Number of owls banded

Reproduction

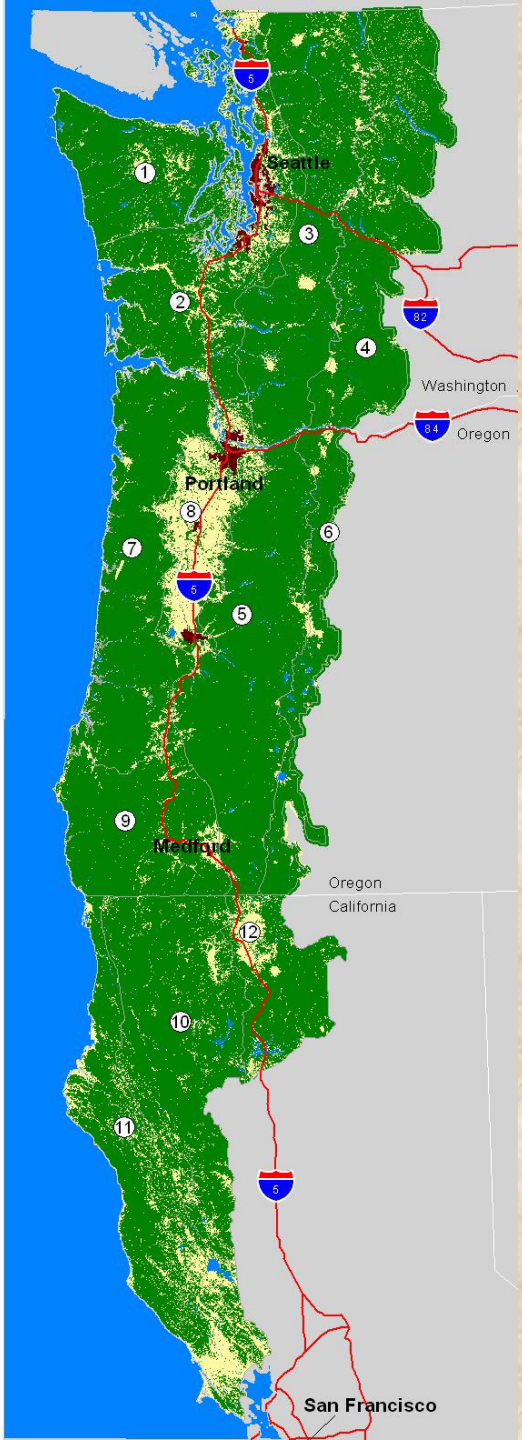
Habitat Change

Status and Trends in Habitat of Northern Spotted Owls on Federal Lands

Was Habitat Maintained or Restored?

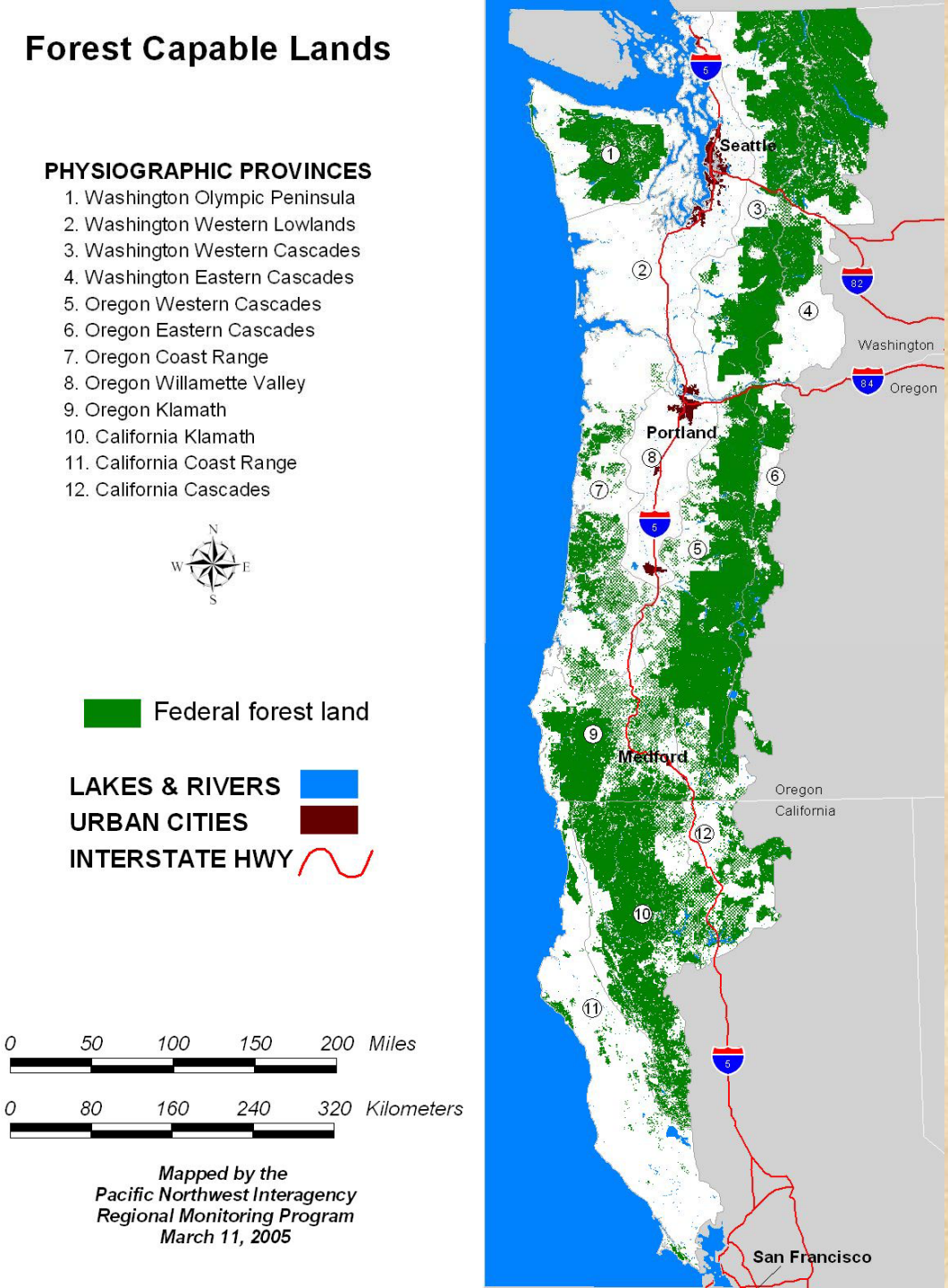
- Expected loss of habitat was 5%
- Losses incurred from stand-replacing disturbances such as wildfire and clearcut timber harvests
- Recruitment of habitat in the first decade was not expected to be high
- Product of forest succession…and takes several decades as opposed to years

Forest Capable Lands



Forest Capable Lands

- **48.2 million acres**
  - **18.4** in Washington
  - **18.3** in Oregon
  - **11.5** in California

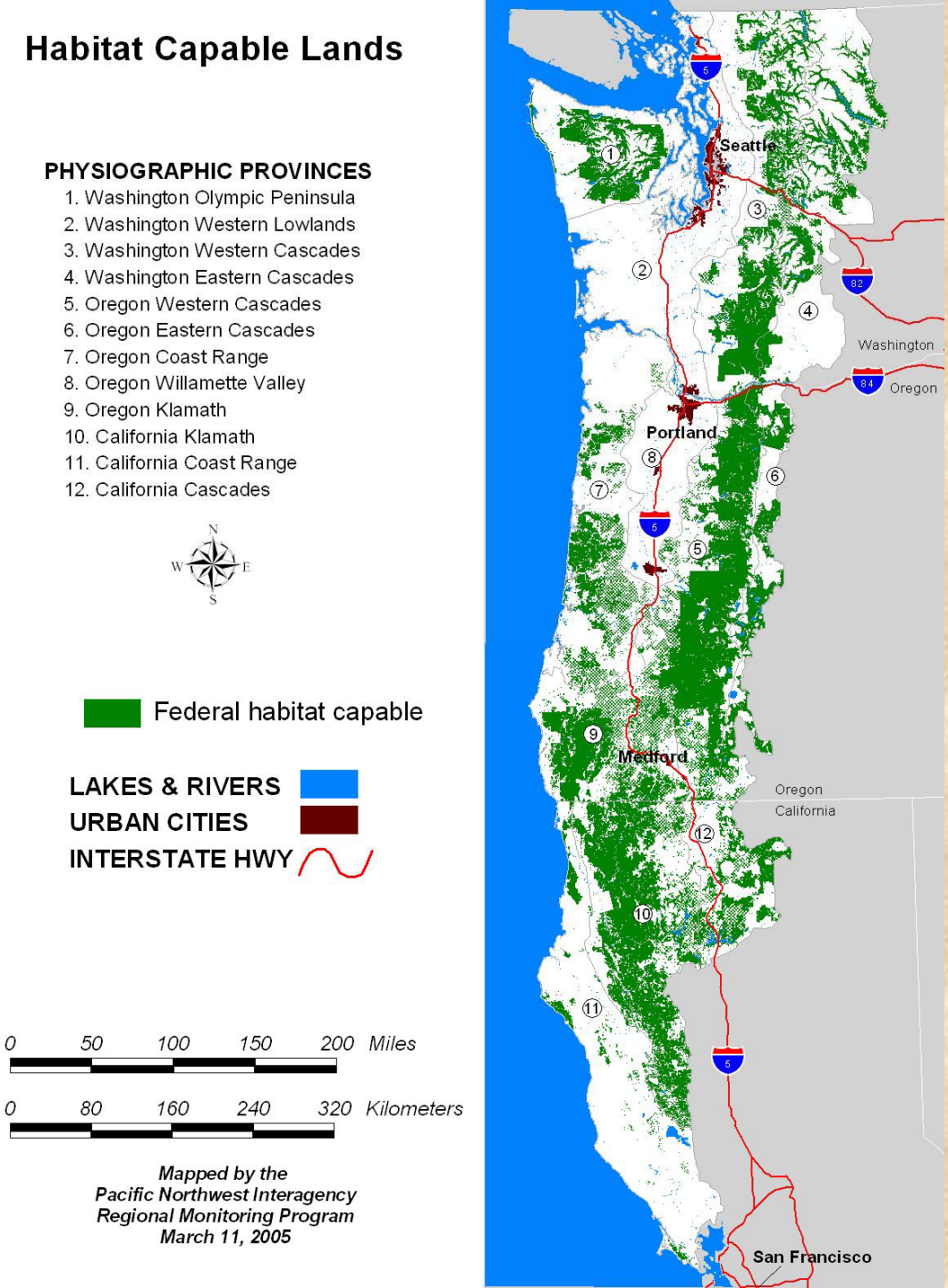


FOREST CAPABLE FEDERAL LANDS

- **23.2 million acres**
  - **8.3** in Washington
  - **9.3** in Oregon
  - **5.6** in California

- OR -

- **48 percent of total**
  - **45%** of Washington's
  - **51%** of Oregon's
  - **49%** of California's



HABITAT CAPABLE FEDERAL LANDS

- **18.1 million acres**
  - **4.8** in Washington
  - **8.4** in Oregon
  - **4.9** in California

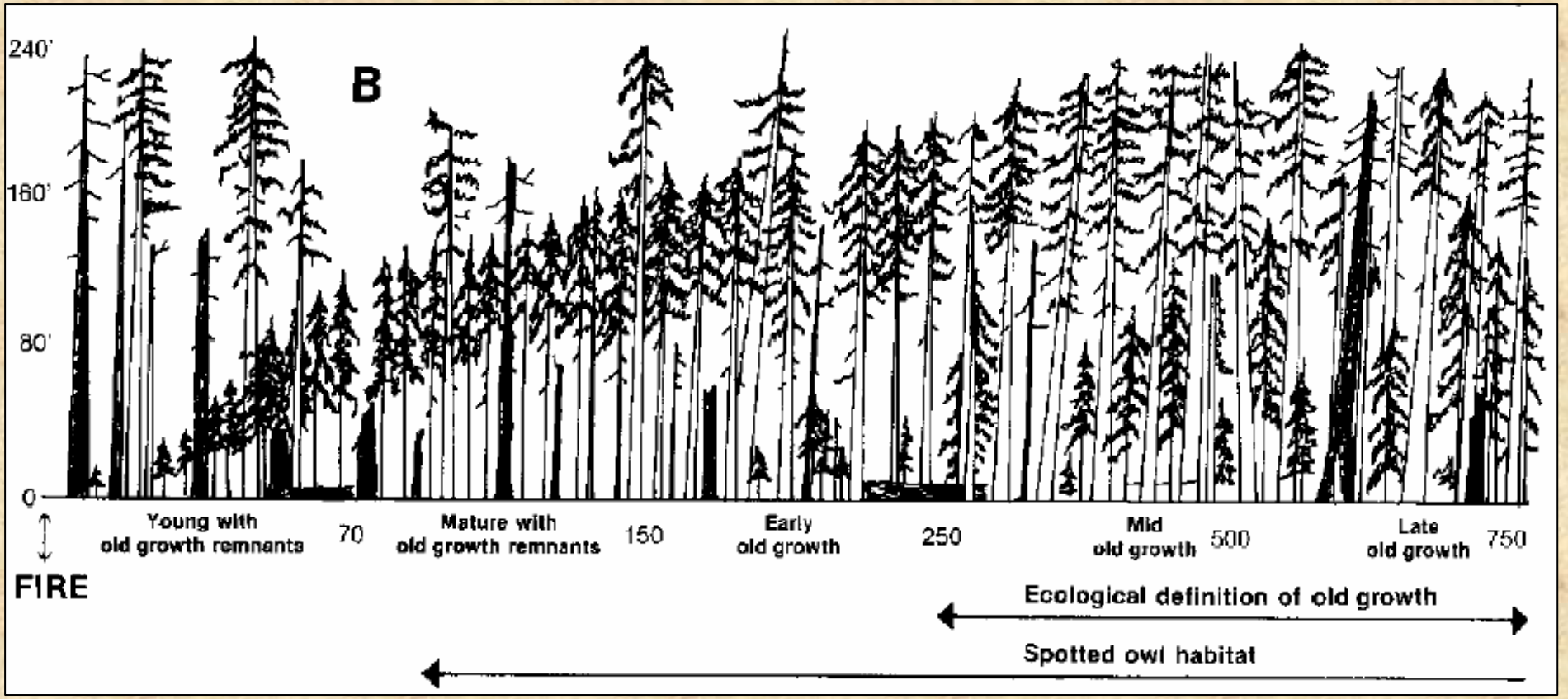
- OR -

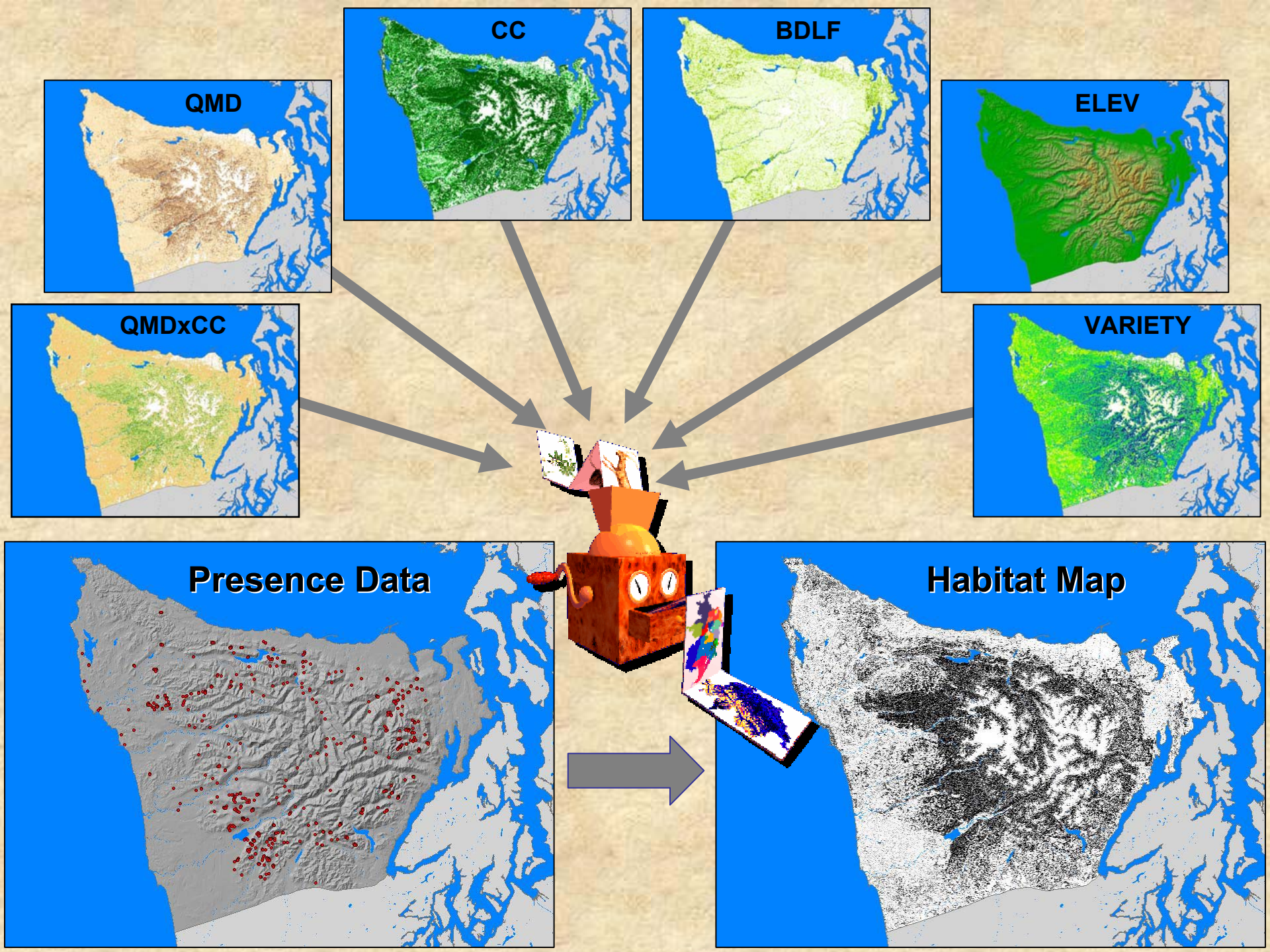
- **78 percent of total**
  - **58%** of Washington's
  - **90%** of Oregon's
  - **88%** of California's

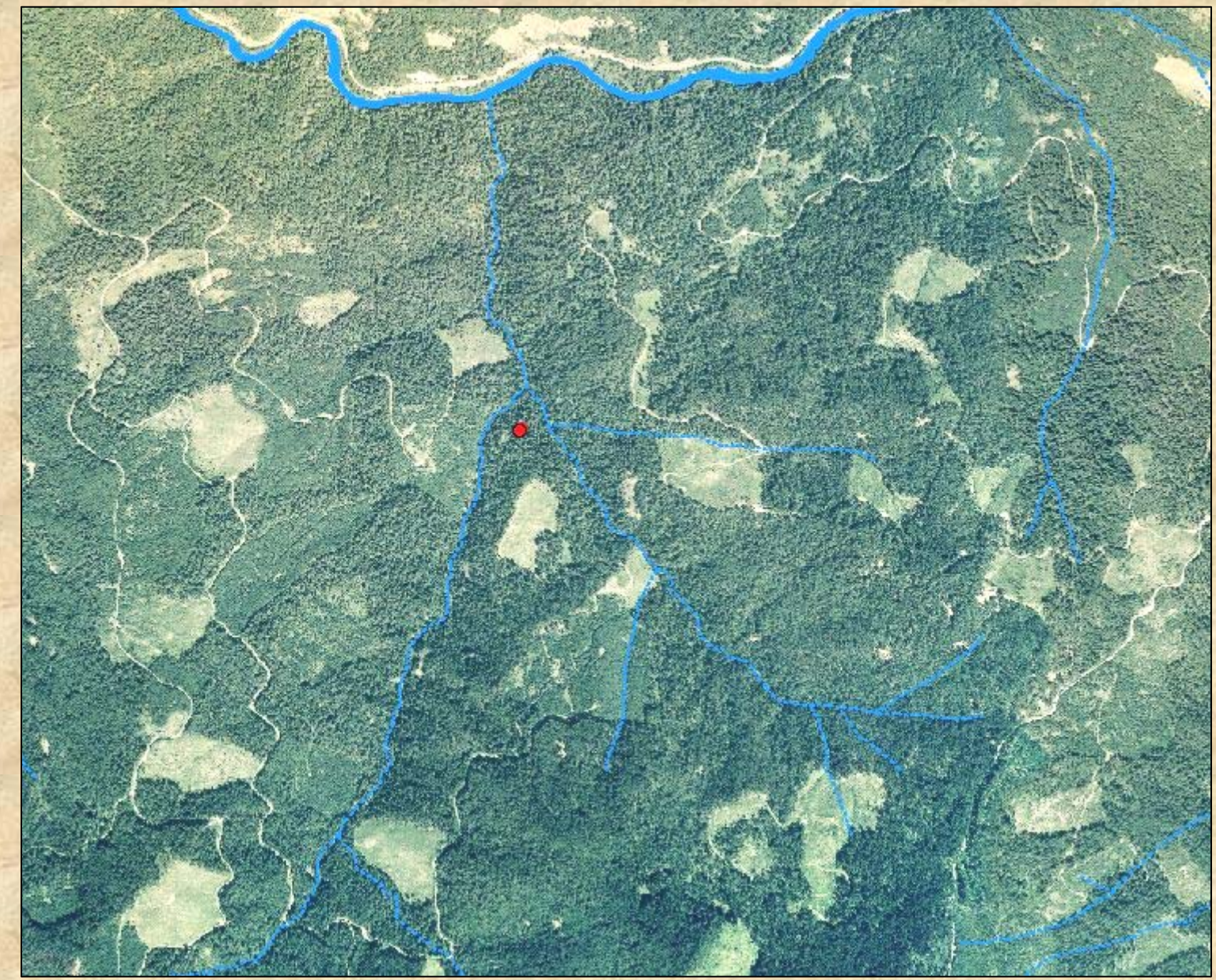
SPOTTED OWL HABITAT

1) Nesting, Roosting and Foraging
2) Dispersal

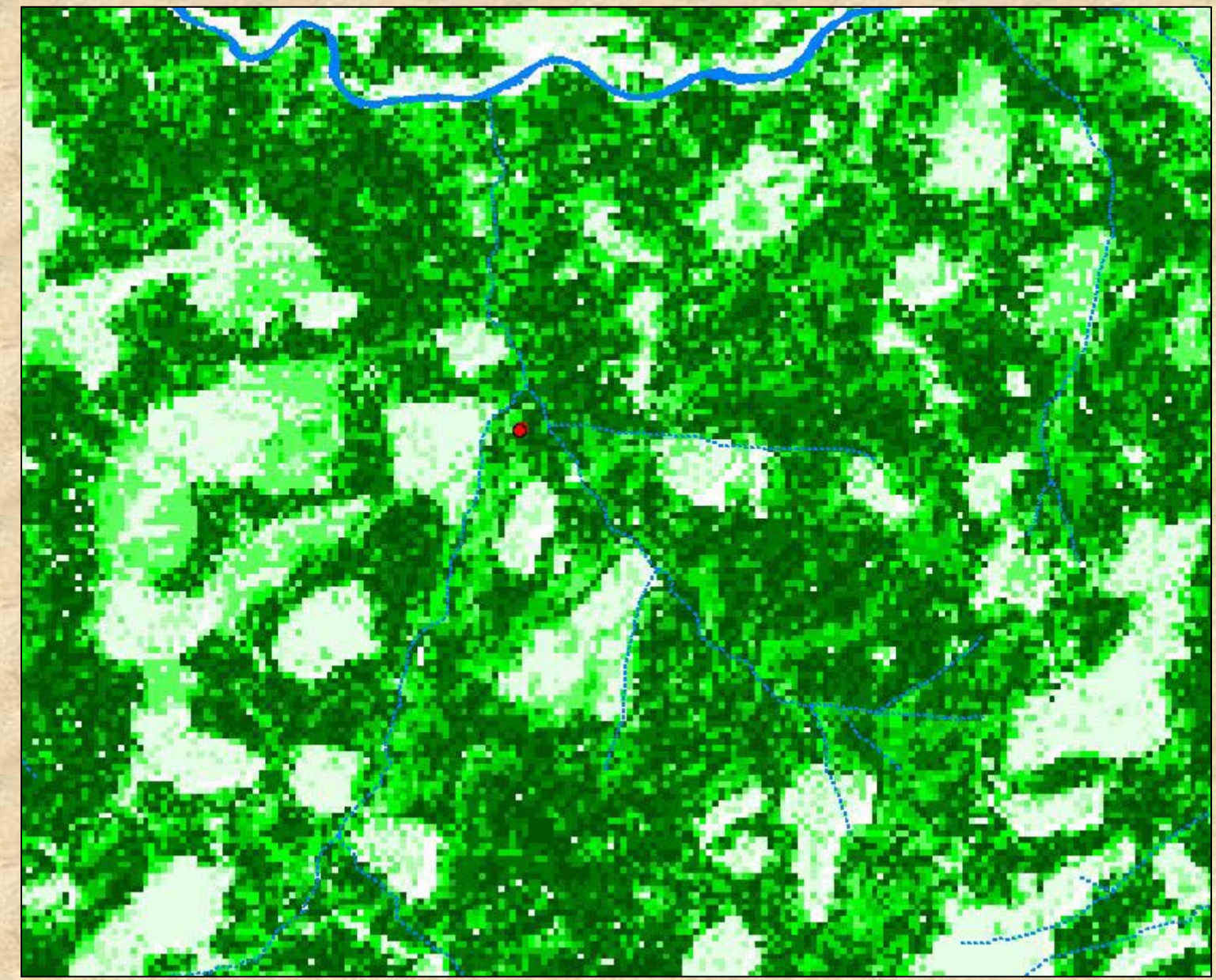
Wildlife and Vegetation of Unmanaged Douglas-Fir Forests
General Technical Report PNW-GTR-285
Franklin and Spies 1991




CC
BDLF
QMD
ELEV
QMDxCC
VARIETY
Presence Data
Habitat Map



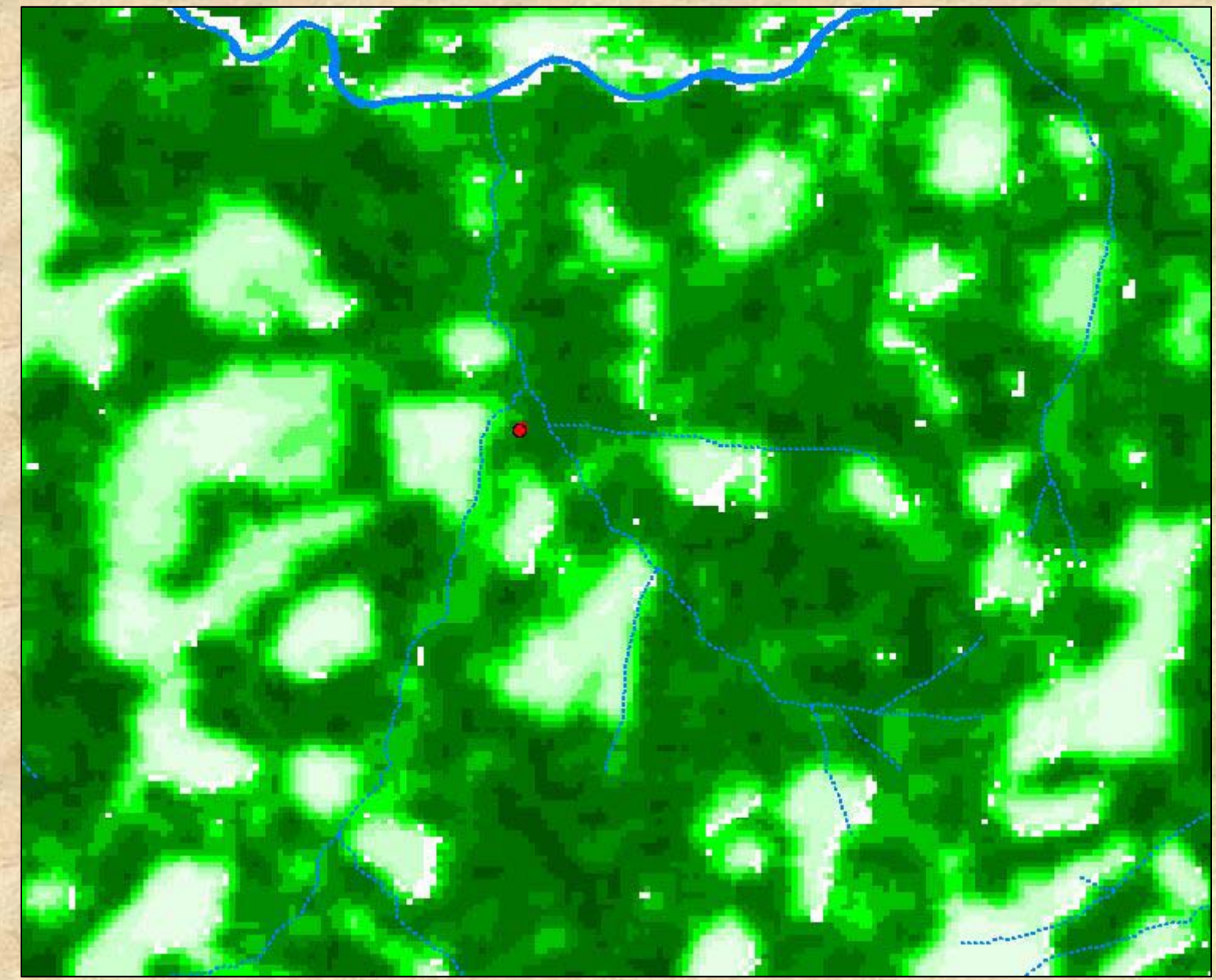
What does it look like?



0 **Habitat Suitability (HS)** 100

"Raw" model output

90% of owl pairs



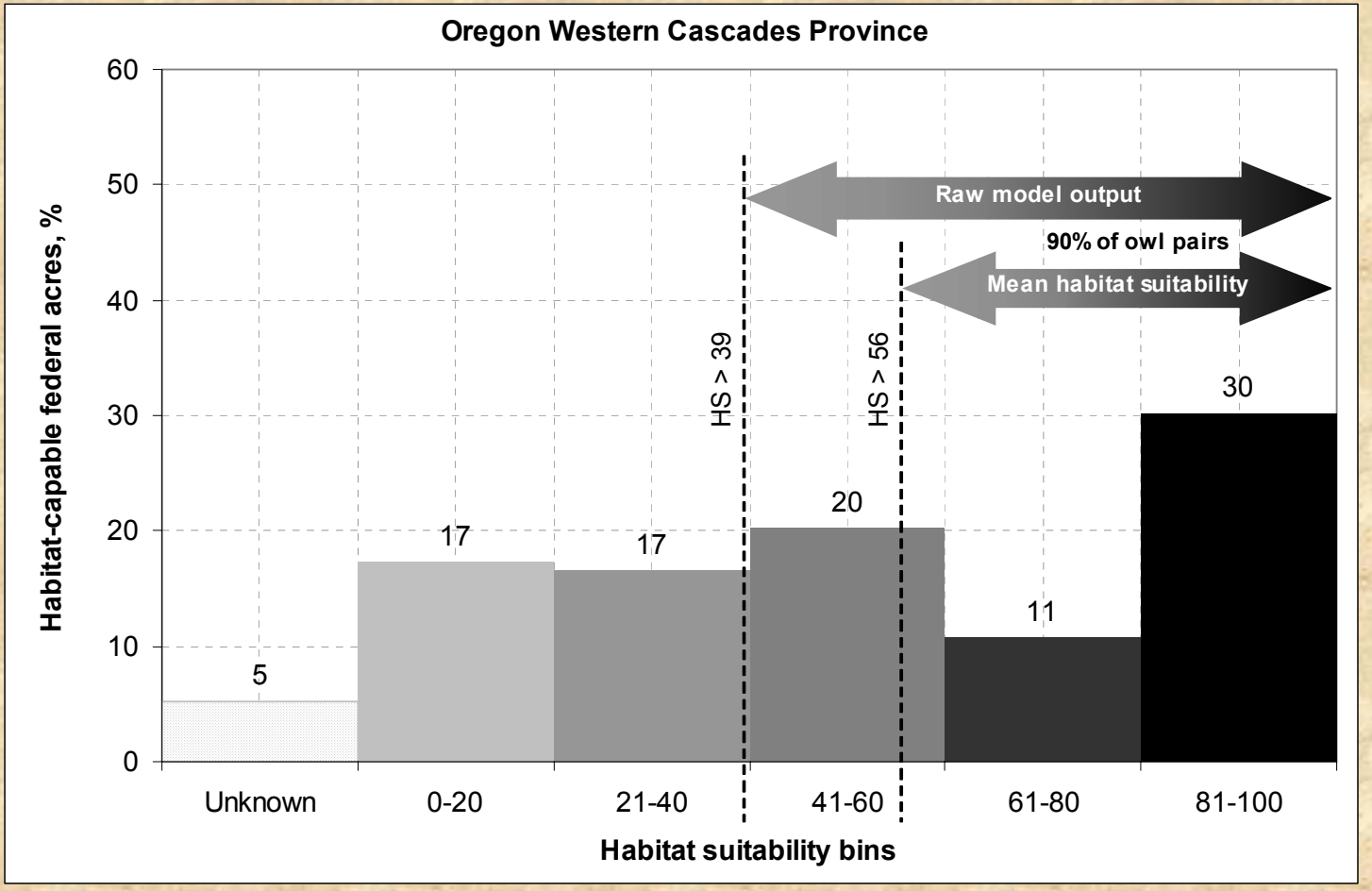
0 **Habitat Suitability (HS)** 100

Smoothed using mean HS

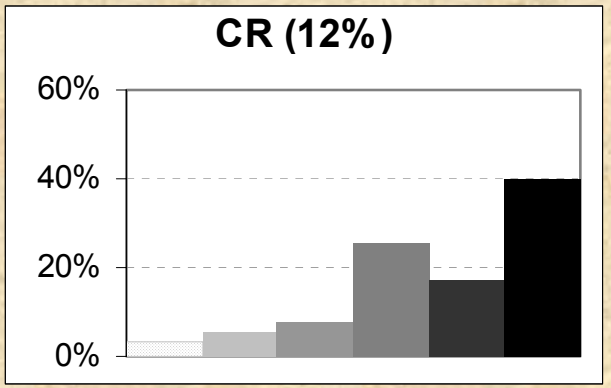
90% of owl pairs

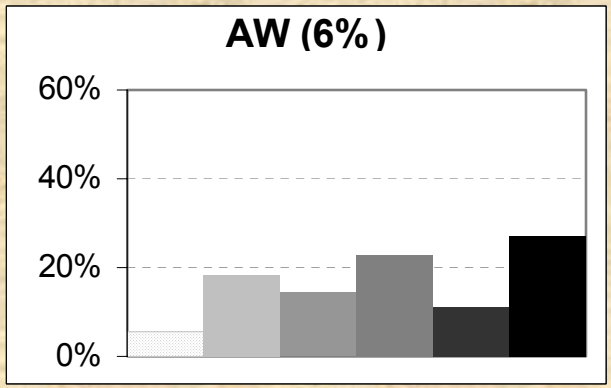
HABITAT CONDITION PROFILE

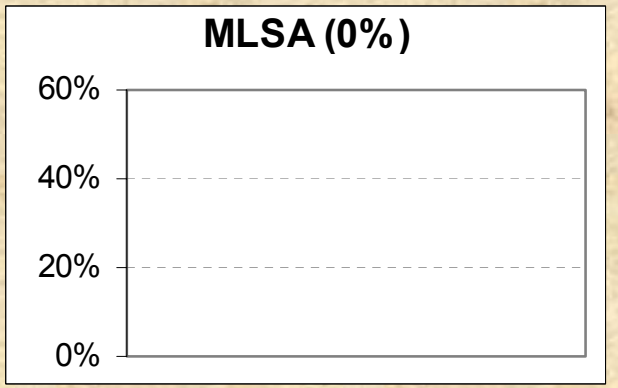
HISTOGRAMS WITH 5-EQUAL INTERVALS OF HABITAT SUITABILITY

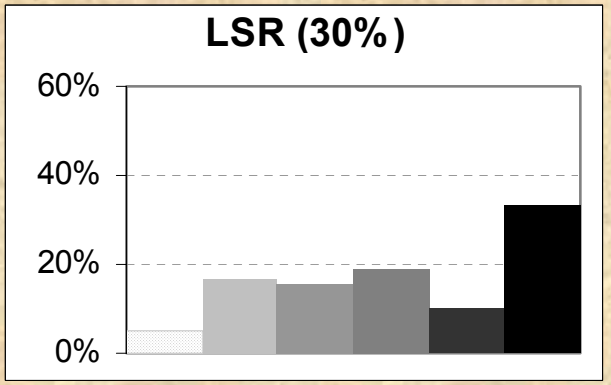


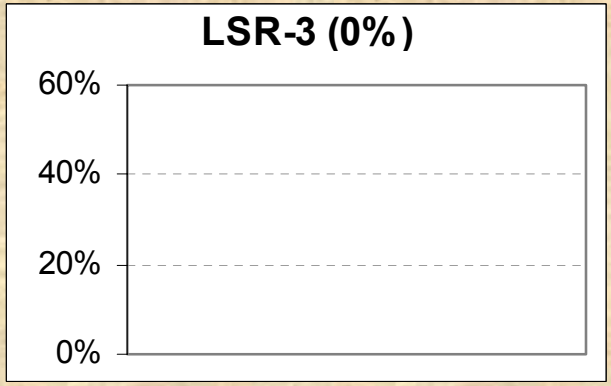
HABITAT CONDITION PROFILE

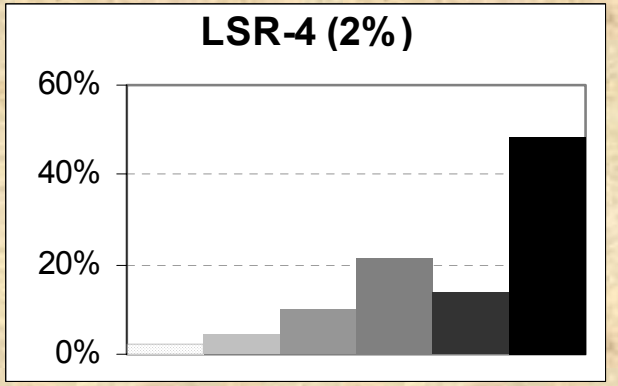


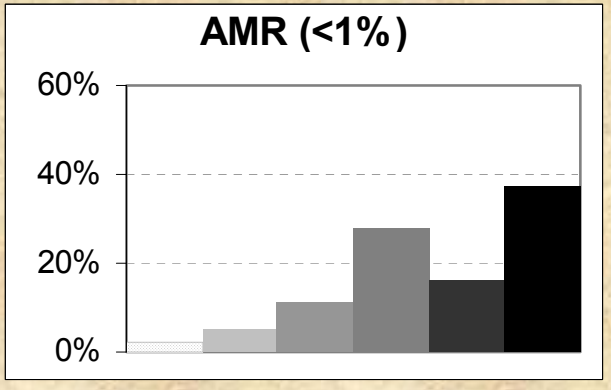


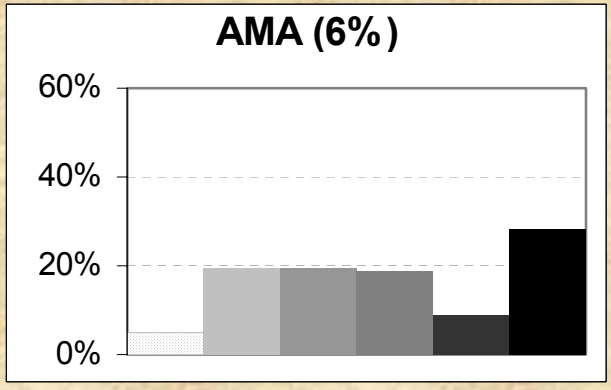


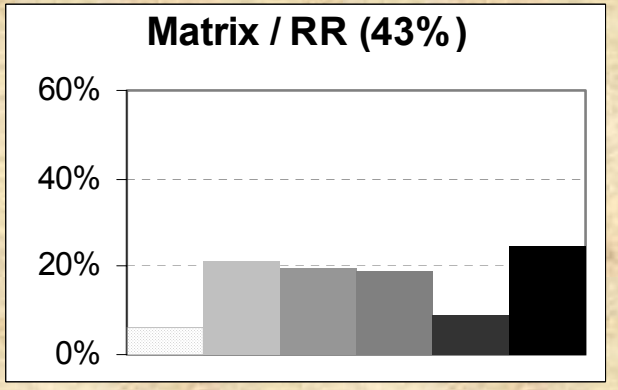




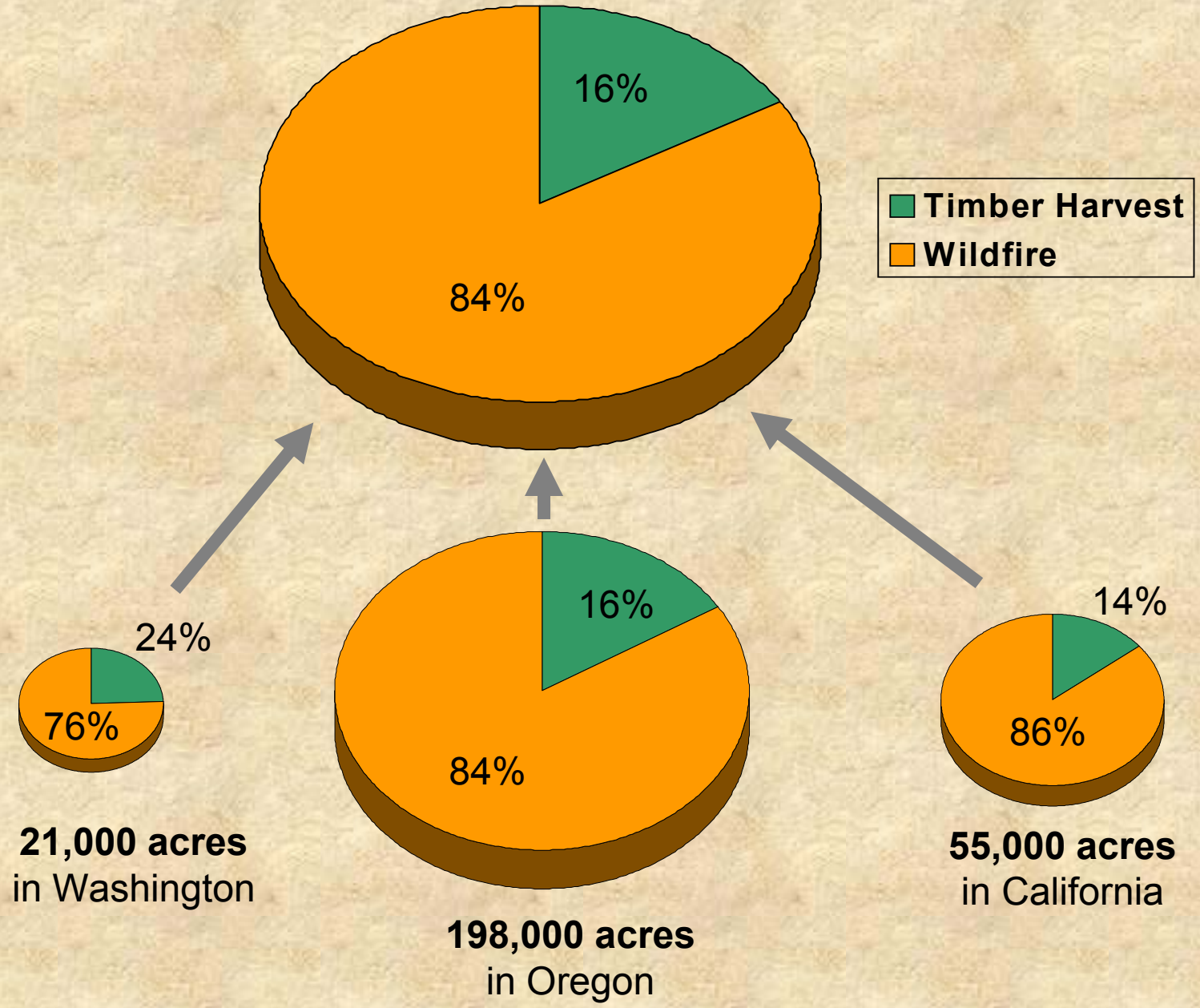




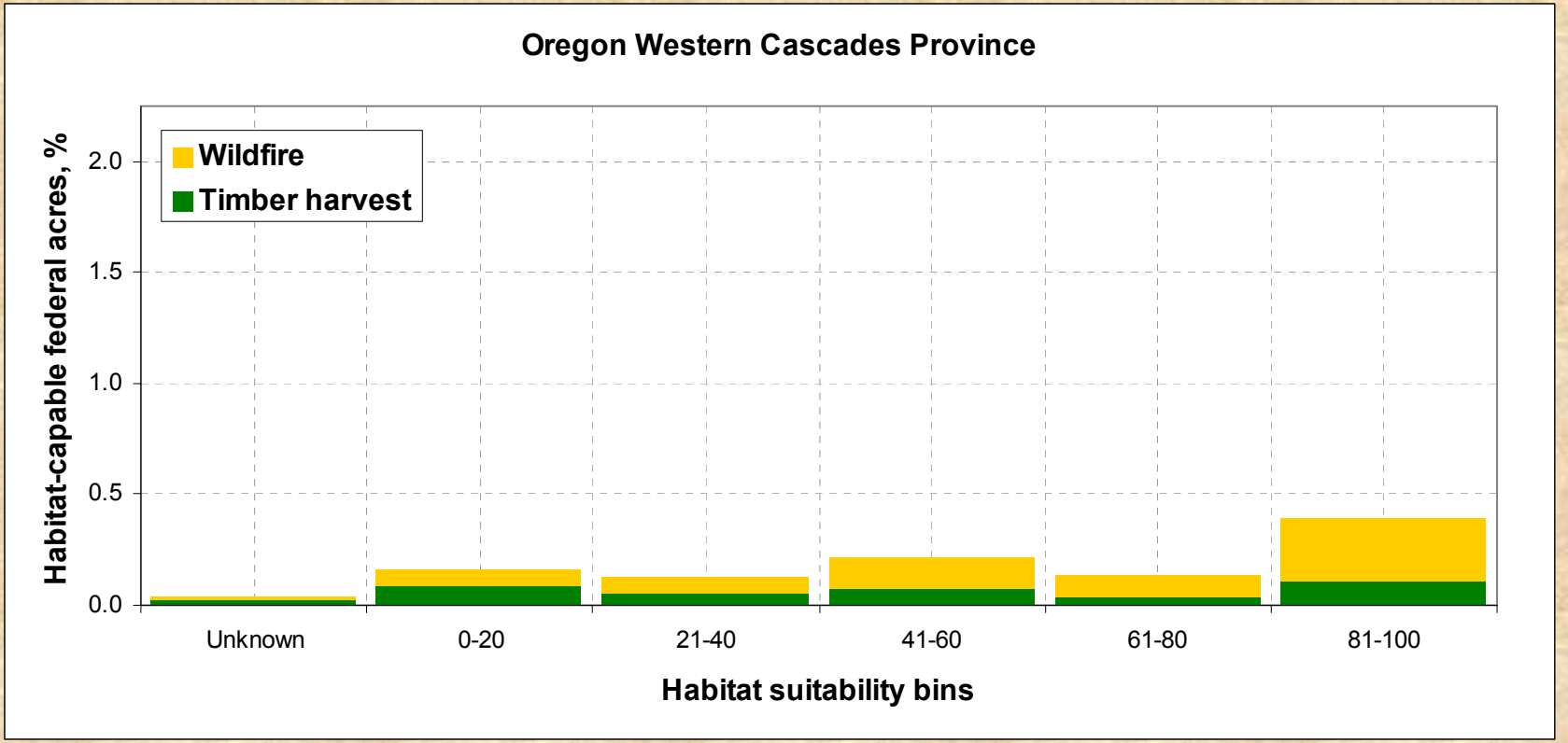




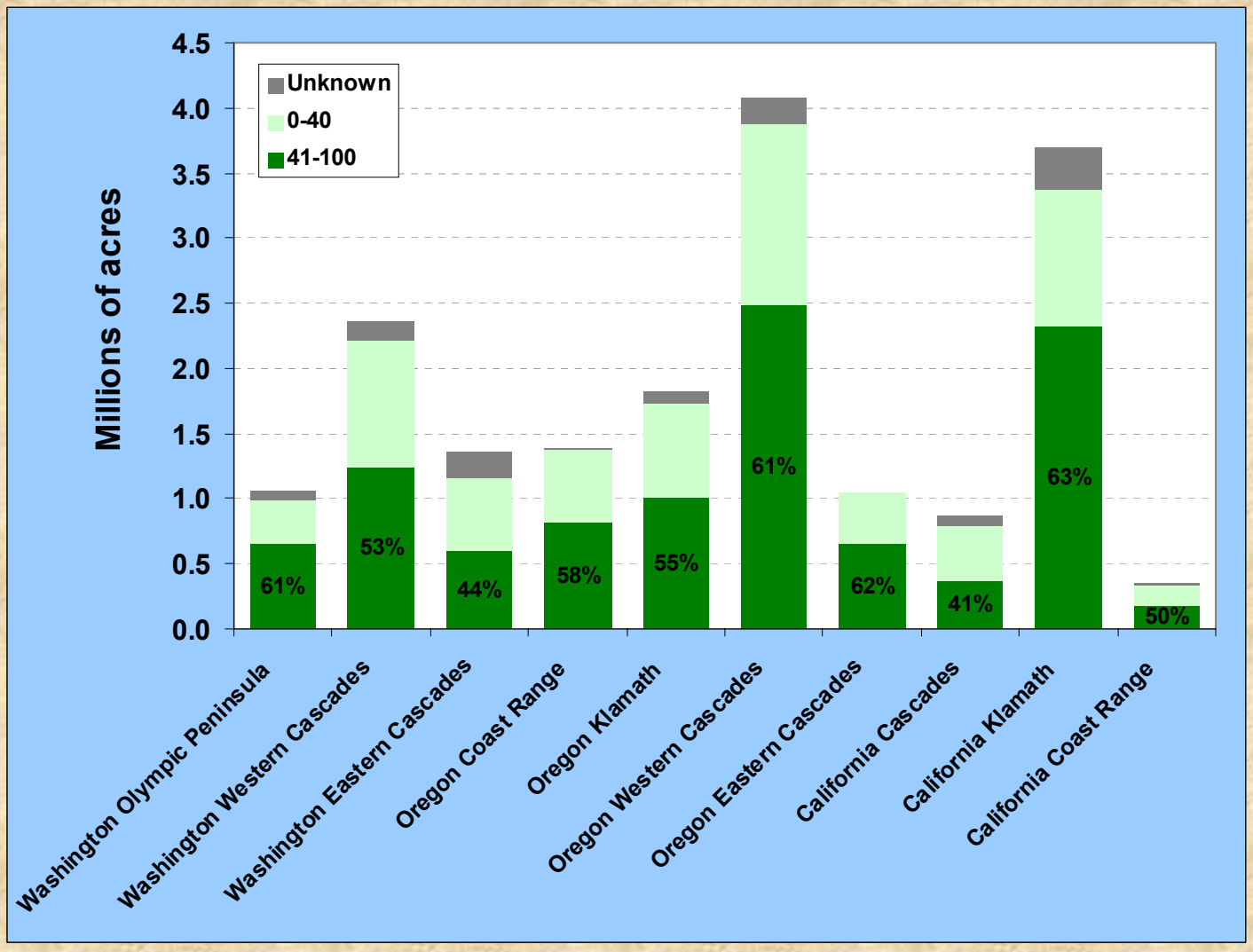
Approximately 274,000 Acres of Stand-Replacing Disturbance on Federal Habitat Capable Lands



HABITAT CHANGE PROFILE



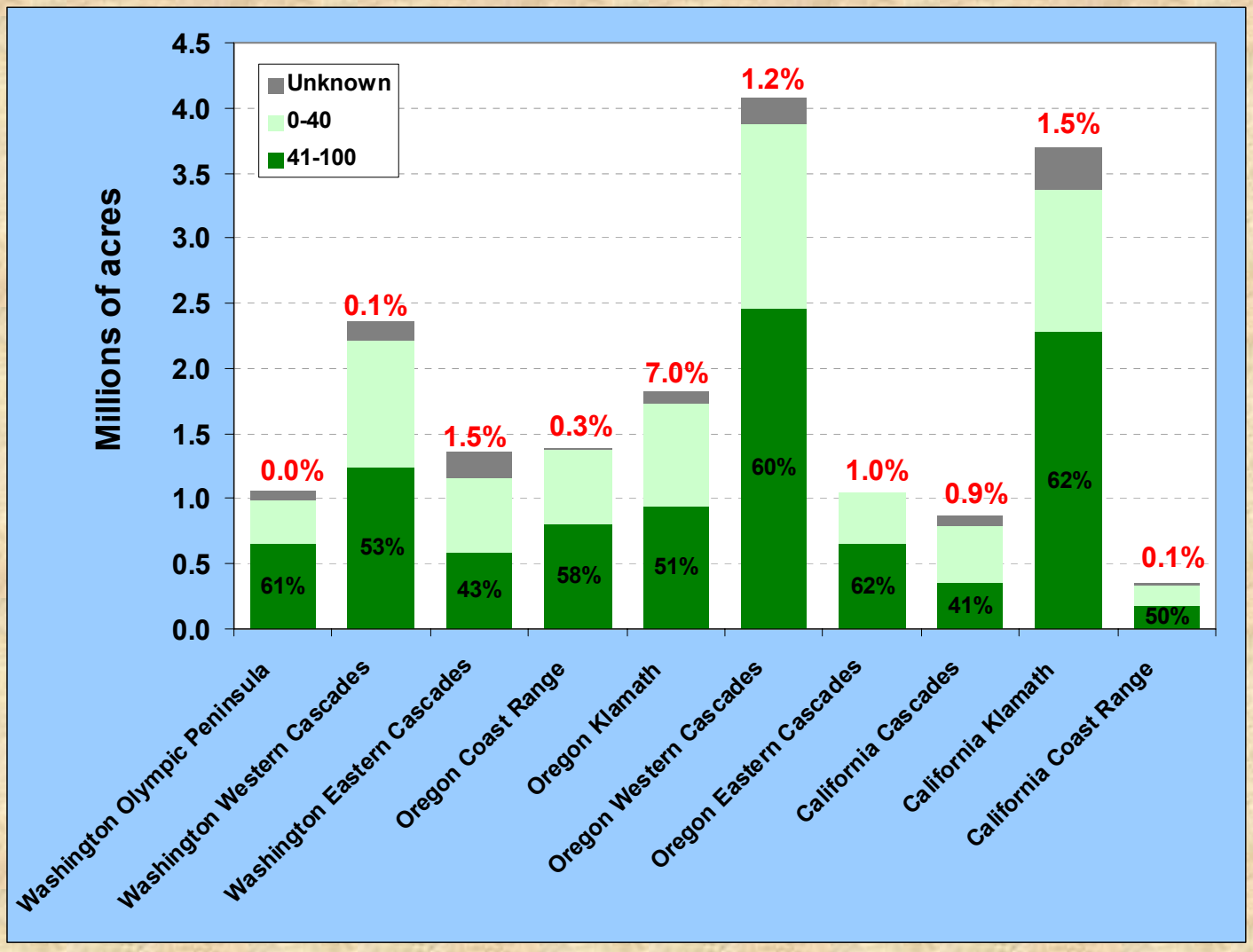
BASELINE (1994) CONDITION OF OWL HABITAT ON FEDERAL HABITAT CAPABLE LANDS



Trend (1994-2003) in Condition of Owl Habitat on Federal Habitat Capable Lands

Expected decline = 5%

Observed decline = 1.5%



Reserved federal land and large reserve blocks

PHYSIOGRAPHIC PROVINCES

1. Washington Olympic Peninsula
2. Washington Western Lowlands
3. Washington Western Cascades
4. Washington Eastern Cascades
5. Oregon Western Cascades
6. Oregon Eastern Cascades
7. Oregon Coast Range
8. Oregon Willamette Valley
9. Oregon Klamath
10. California Klamath
11. California Coast Range
12. California Cascades

RESERVED ALLOCATIONS

Large block reserves

Other reserves

LAKES & RIVERS

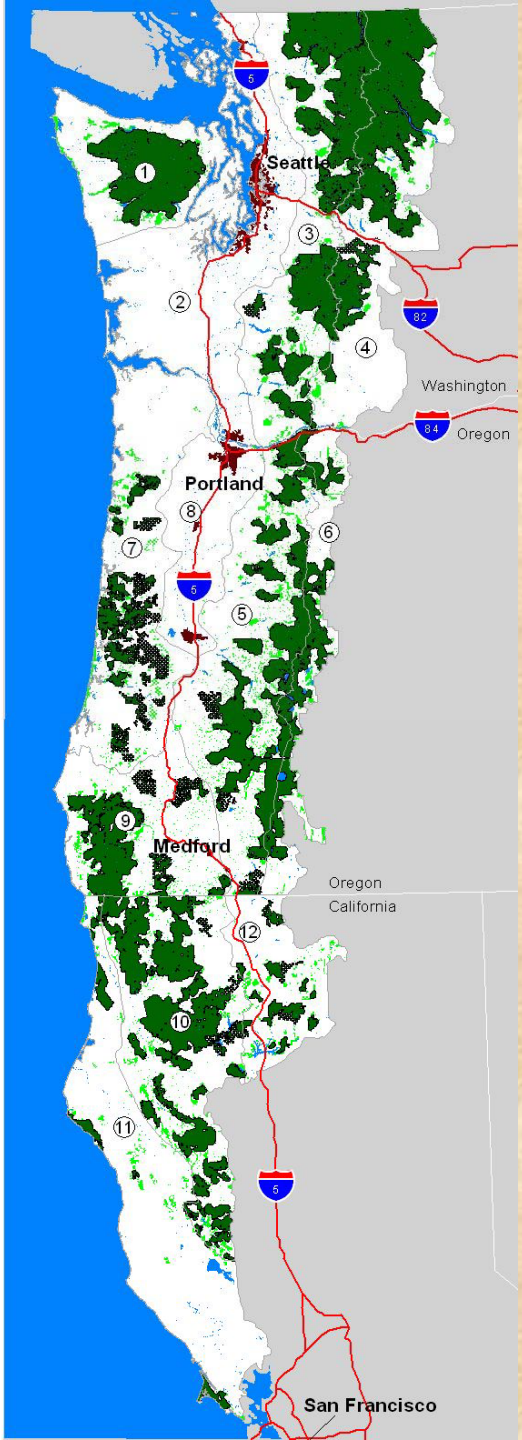
URBAN CITIES

INTERSTATE HWY

0 50 100 150 200 *Miles*

0 80 160 240 320 *Kilometers*

Mapped by the Pacific Northwest Interagency Regional Monitoring Program March 11, 2005



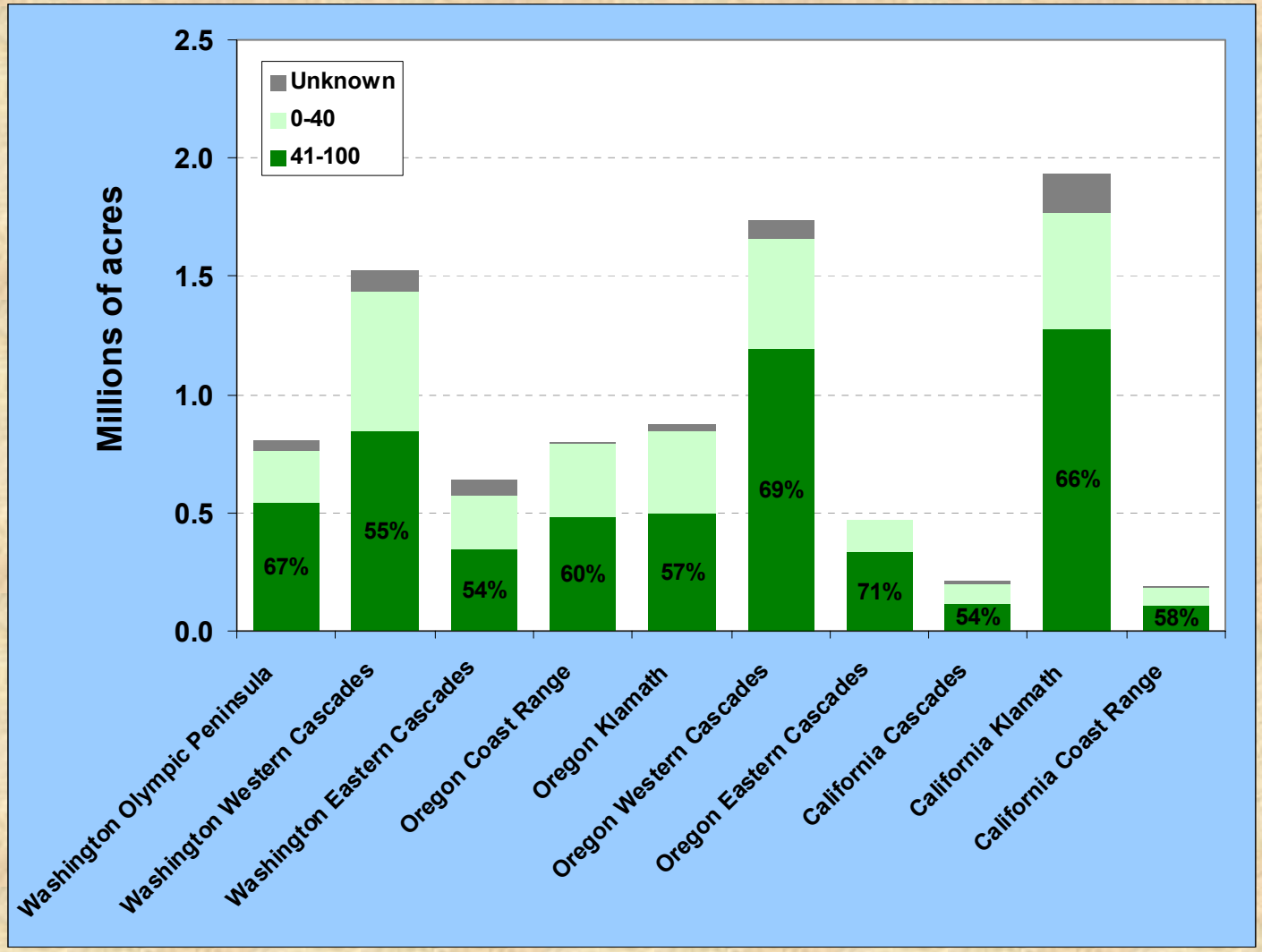
RESERVED BLOCKS AND HABITAT CAPABLE LANDS

- **9.2 million acres**
  - **3.0** in Washington
  - **3.9** in Oregon
  - **2.3** in California

- OR -

- **51 percent of total**
  - **62%** of Washington's
  - **47%** of Oregon's
  - **47%** of California's

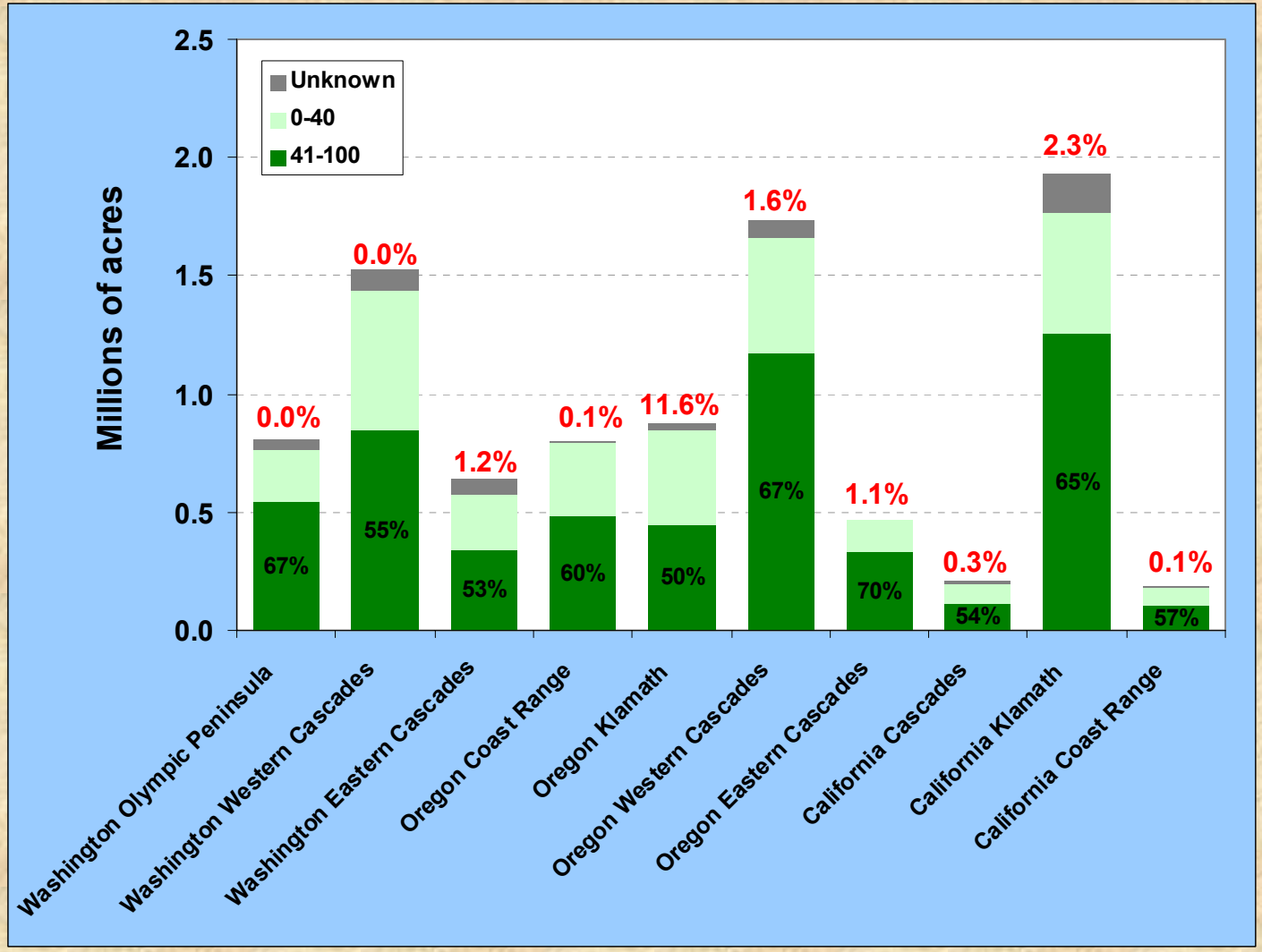
BASELINE (1994) CONDITION OF OWL HABITAT IN THE LARGE RESERVE BLOCKS



TREND (1994-2003) IN CONDITION OF OWL HABITAT IN THE LARGE RESERVE BLOCKS

Expected decline = 2.5%

Observed decline = 2%



Was Habitat Maintained or Restored?

- Expected decline was 370,000 acres
- Observed decline was 274,000 acres
- Estimated recruitment of 515,000 acres
- Net gain of 1.3%... however

- This does not account for disturbances that did not stand-replace habitat…such as partial harvests

Density of lightning-ignited wildfires during the monitoring period (1994-2003)

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NFMID data

Large lightning-ignited fires

Wildfire density (fires/100 sq. mi.)

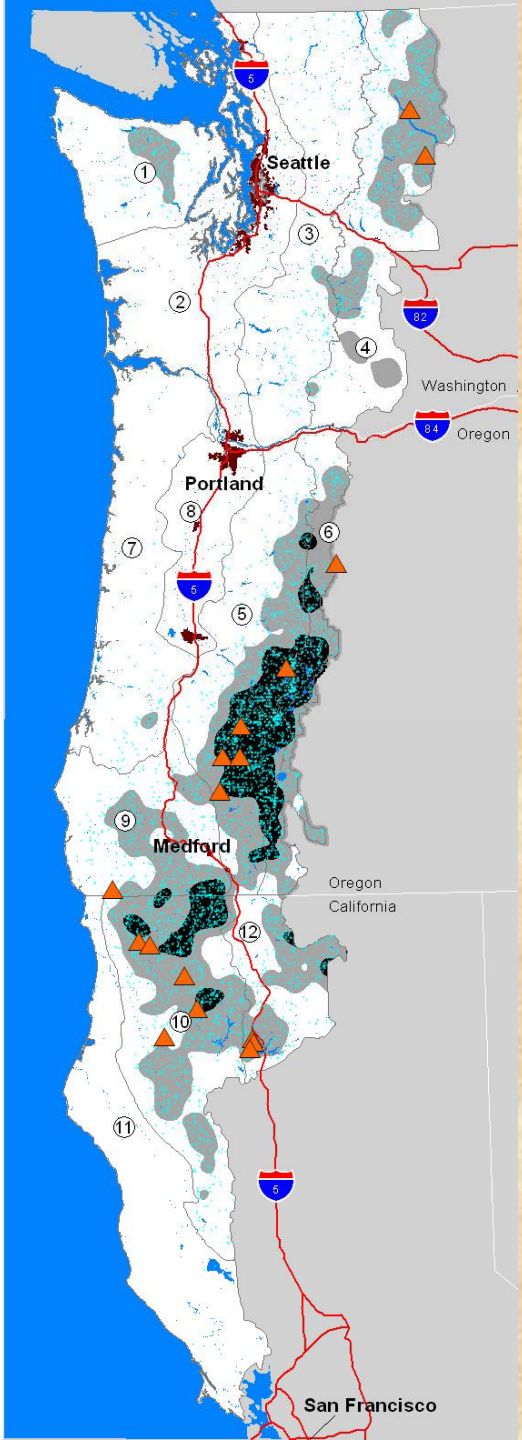
0 - 9
10 - 30
31 - 98

LAKES & RIVERS
URBAN CITIES
INTERSTATE HWY

0 50 100 150 200 Miles

0 80 160 240 320 Kilometers

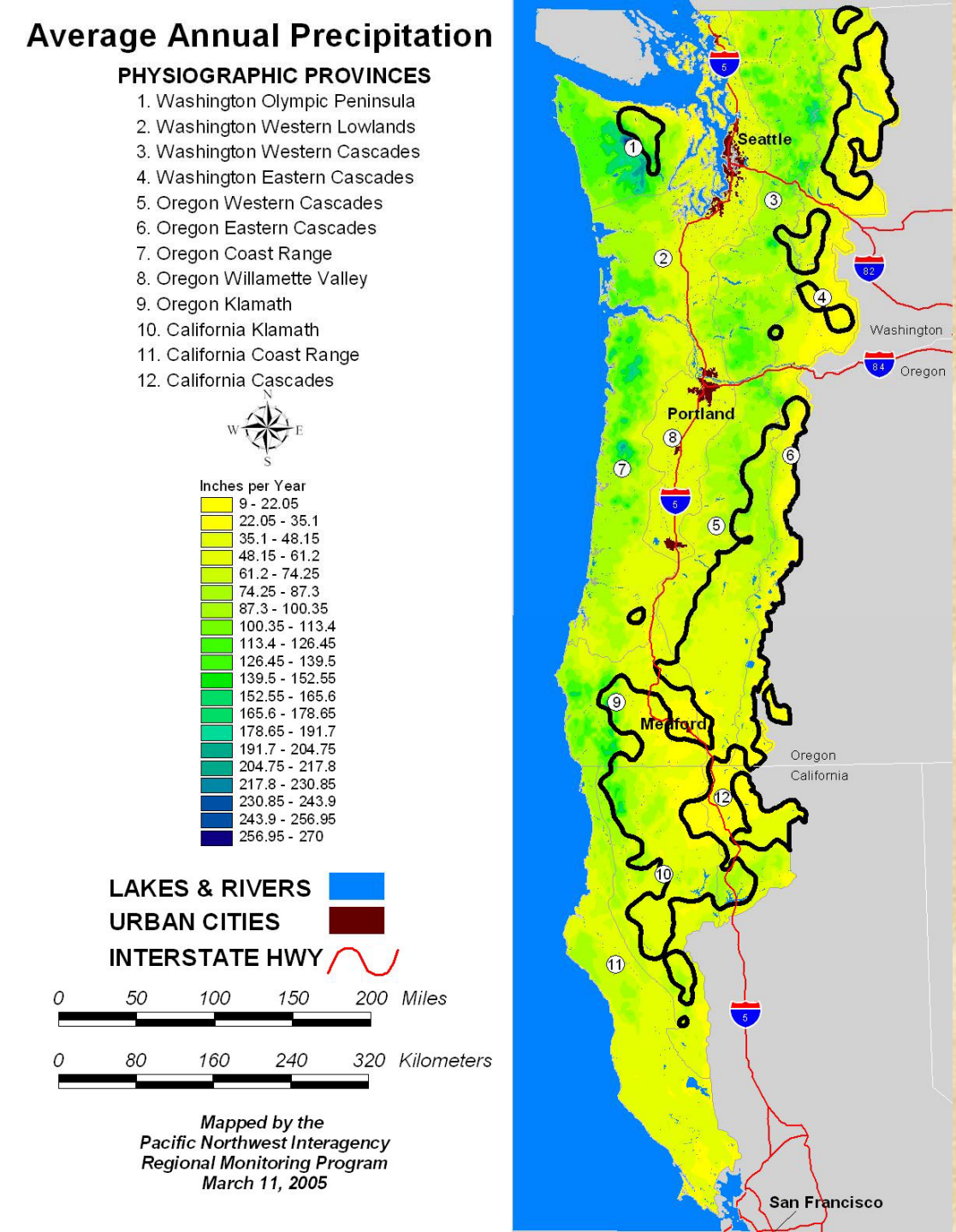
Mapped by the Pacific Northwest Interagency Regional Monitoring Program March 11, 2005



THE NEXT DECADE?

WILDFIRE WILL EFFECT FUTURE HABITAT

- 13,200 wildfires
- 50% lightning
- 50% human caused
- 75% of acres burned were from lightning fires



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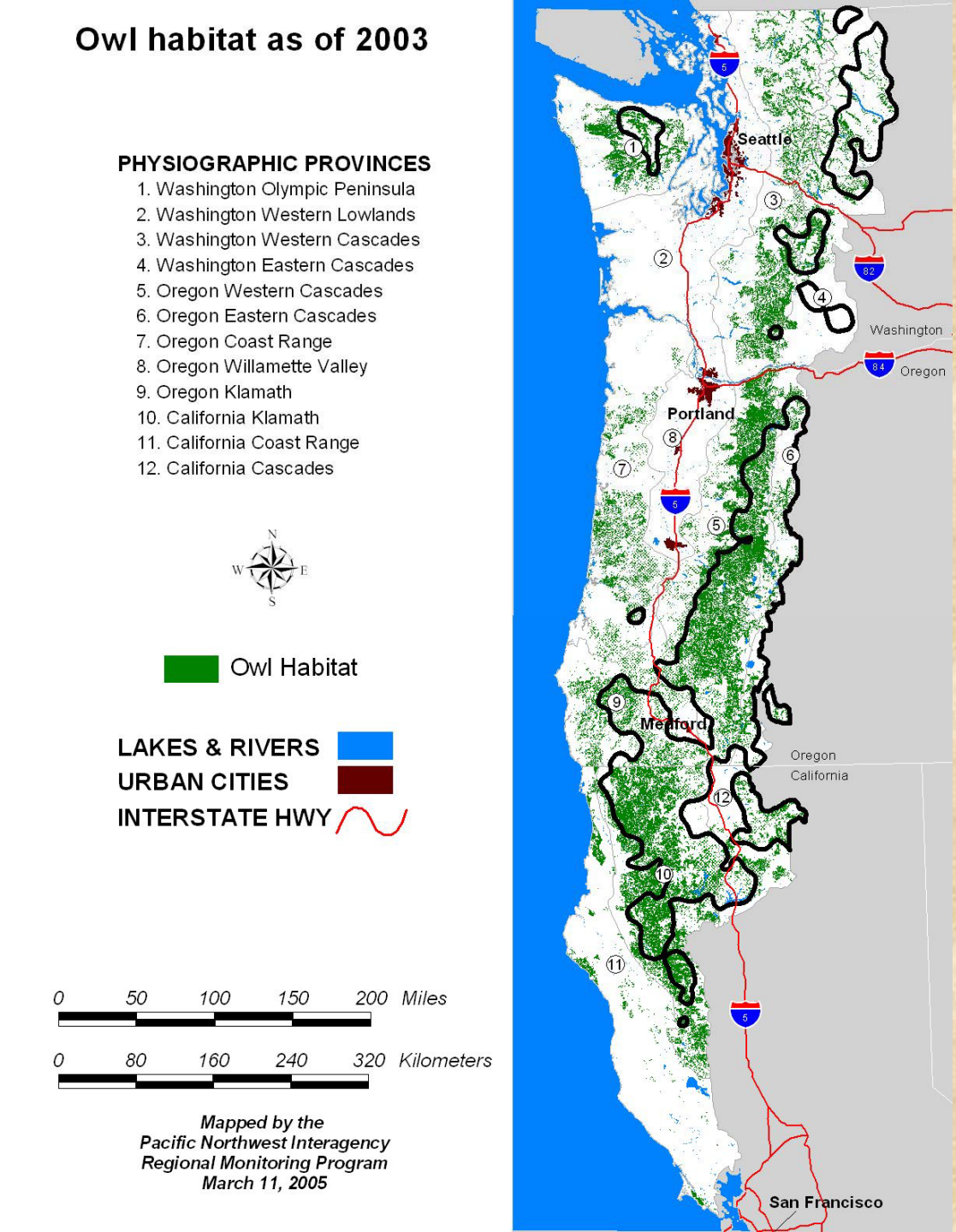

The Next Decade?

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Federal Habitat Reserve Network

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Large Reserve Blocks

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The Next Decade?

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Questions?