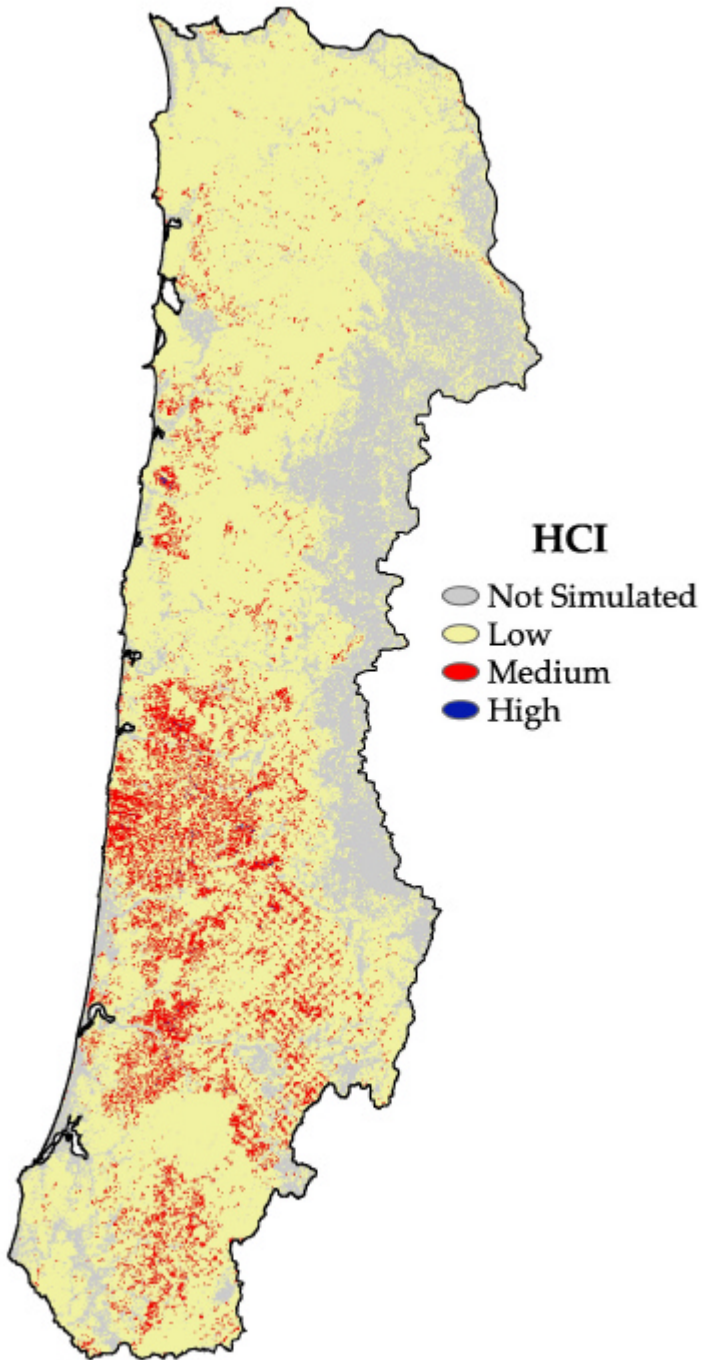# Trends in Biodiversity Indicators

Significant Technical Help:
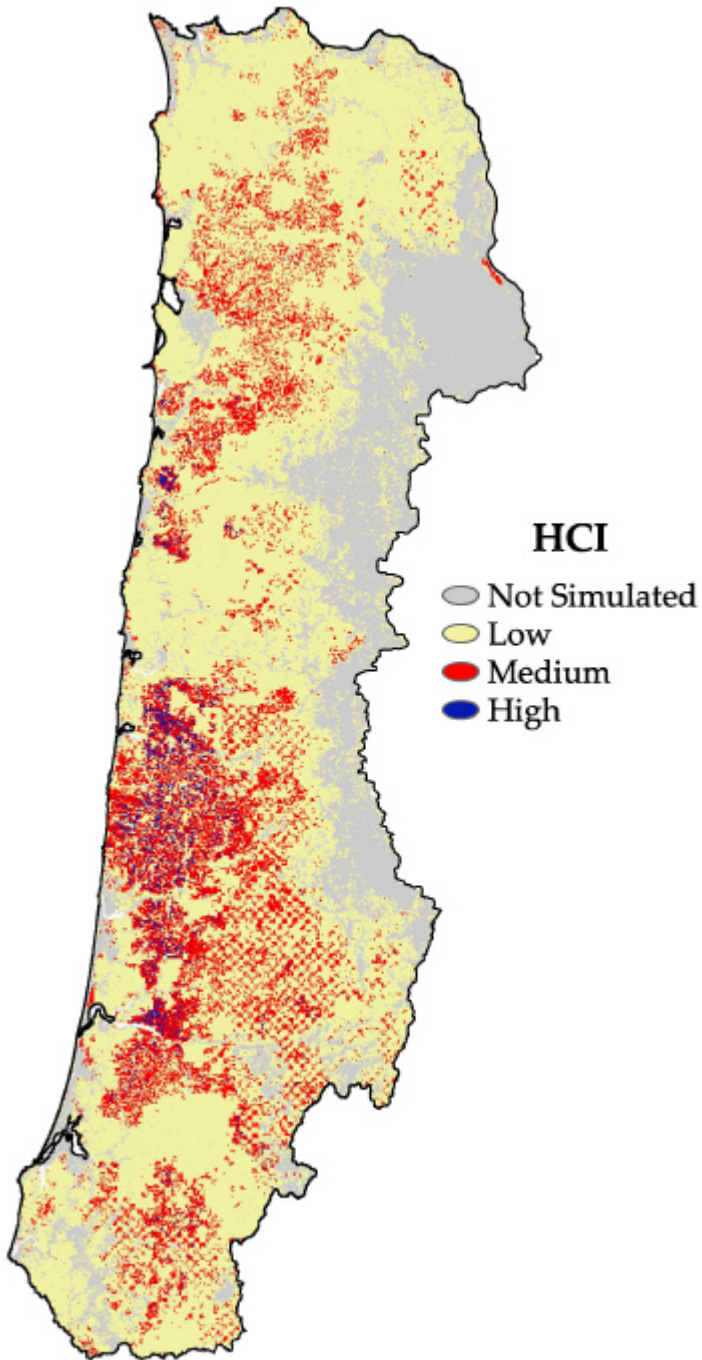
- Keith Olsen
- Etsuko Nonaka
- Rob Pabst
- Rebecca Kennedy
- Jonathan Brooks
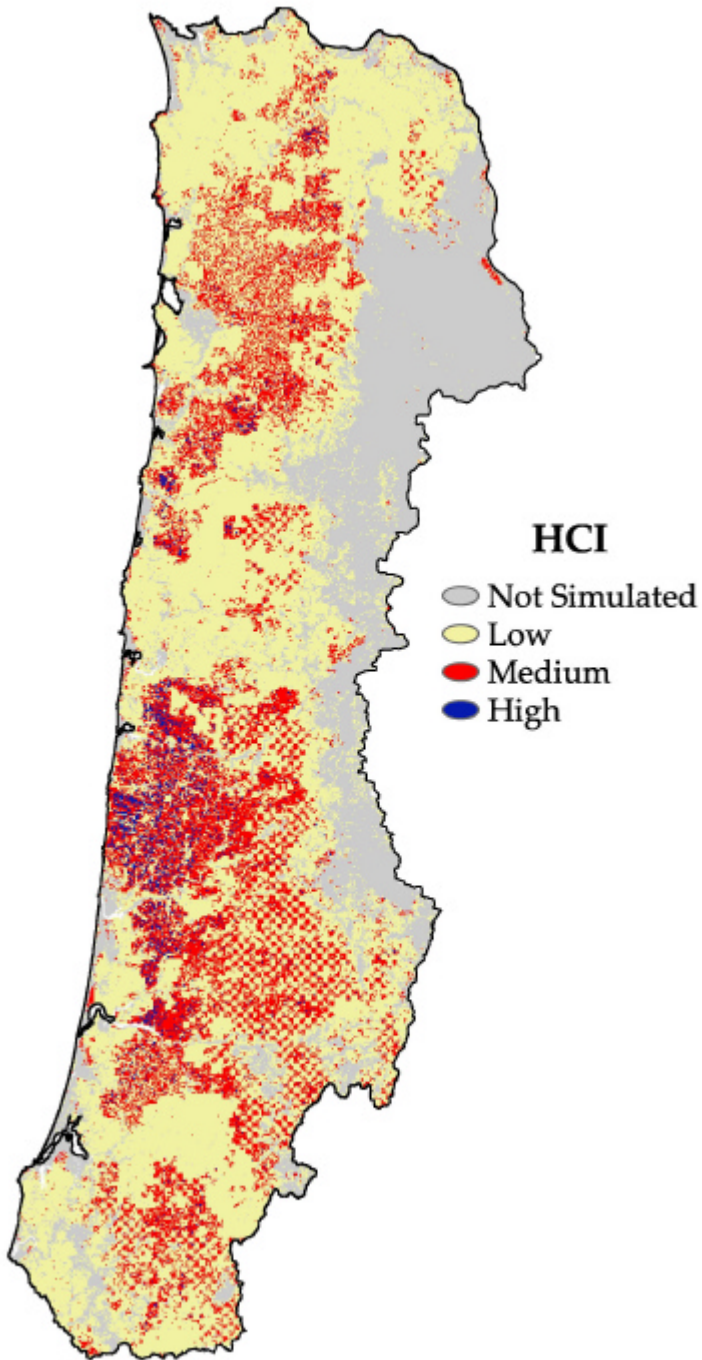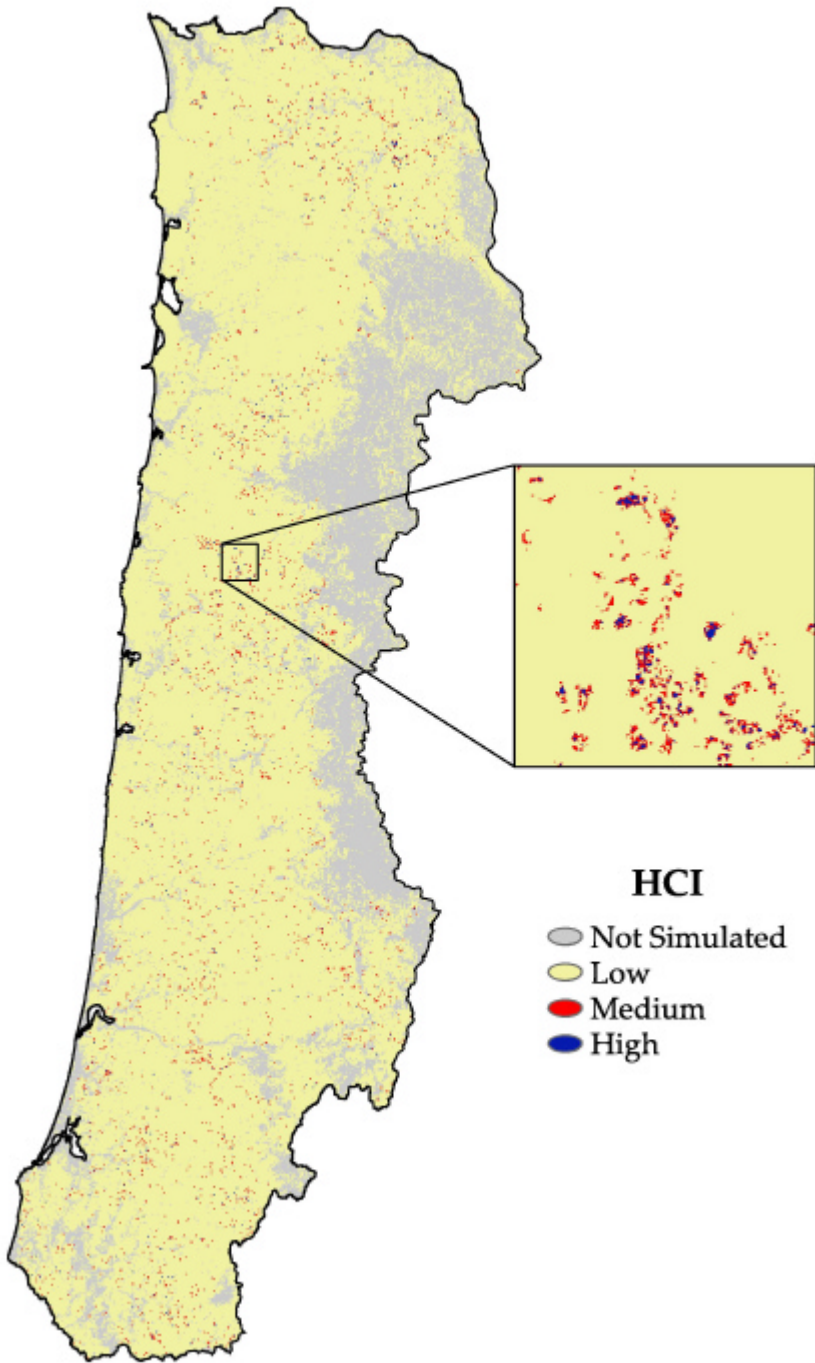- Mike McGrath
- Matt Gregory

Northern Spotted Owl
1996

HCI

- Not Simulated
- Low
- Medium
- High

Northern Spotted Owl
Base Policy - 2046

HCI
- Not Simulated
- Low
- Medium
- High

Northern Spotted Owl
Base Policy - 2096

HCI

- Not Simulated
- Low
- Medium
- High

Western Bluebird
1996

HCI
- Not Simulated
- Low
- Medium
- High

Photo by David Rintoul

Western Bluebird
Base Policy - 2046

HCI
- Not Simulated
- Low
- Medium
- High

Photo by David Rintoul

Western Bluebird
Base Policy - 2096

HCI
- ◯ Not Simulated
- ◯ Low
- 🔴 Medium
- 🔵 High

Photo by David Rintoul

Olive-Sided Flycatcher
1996

HCI
- ⬭ Not Simulated
- ⬭ Low
- 🔴 Medium
- 🔵 High

Olive-Sided Flycatcher
Base Policy - 2046

HCI
- Not Simulated
- Low
- Medium
- High

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Olive-Sided Flycatcher
Base Policy - 2096

HCI

- ○ Not Simulated
- ○ Low
- ● Medium
- ● High

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Old-Growth Habitat
1996

OGHI
- Not Simulated
- Low
- Medium
- High

Old Growth Habitat
Base Policy - 2046

OGHI
- Not Simulated
- Low
- Medium
- High

Old Growth Habitat
Base Policy - 2096

OGHI
- Not Simulated
- Low
- Medium
- High
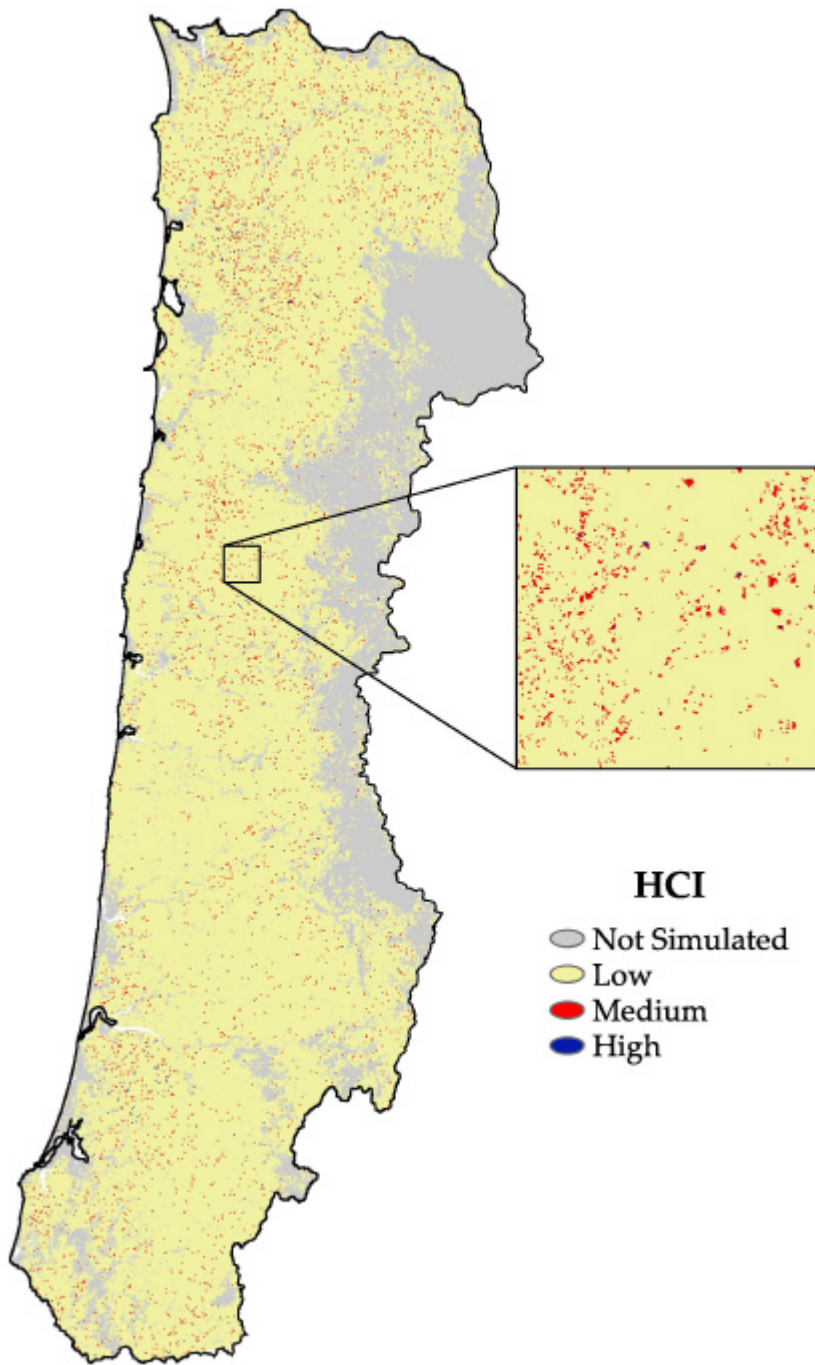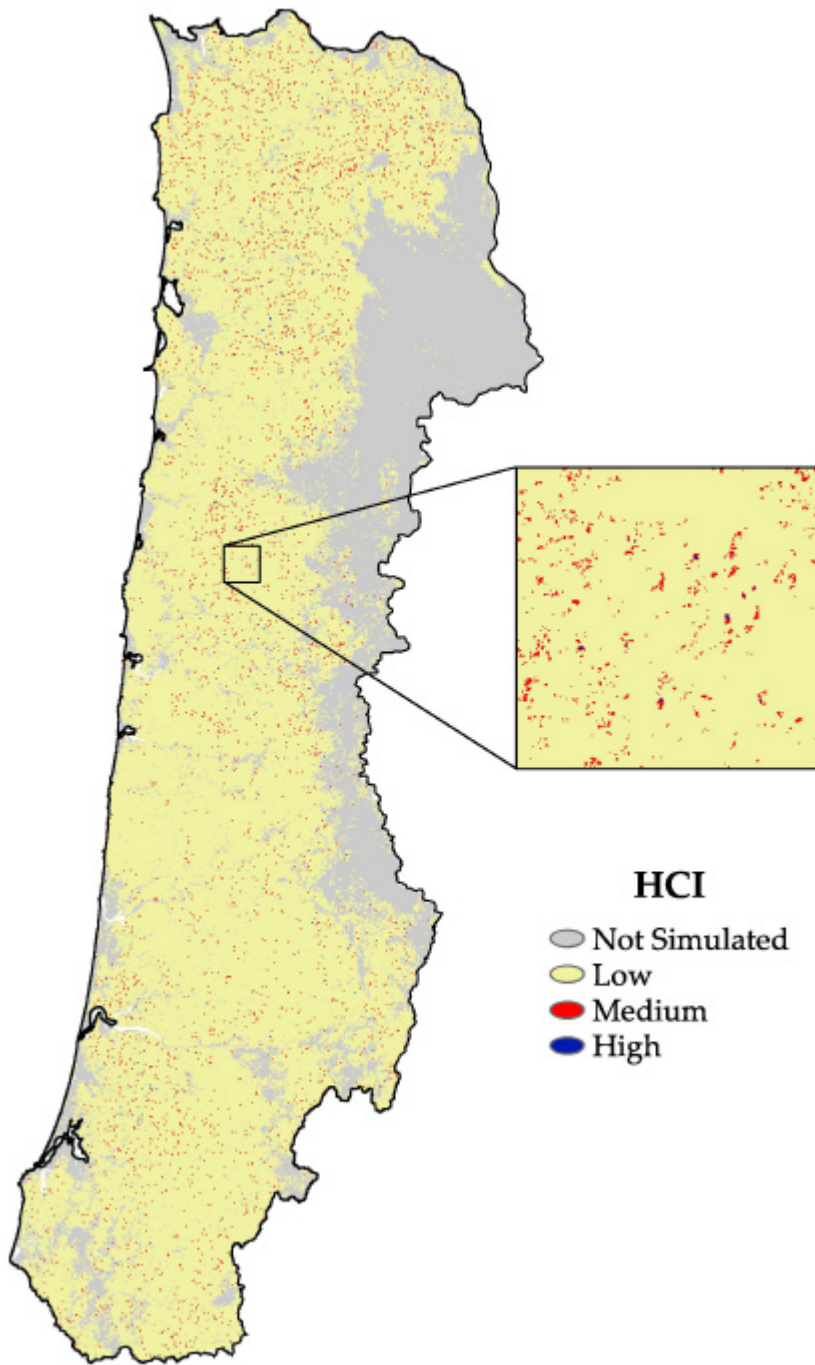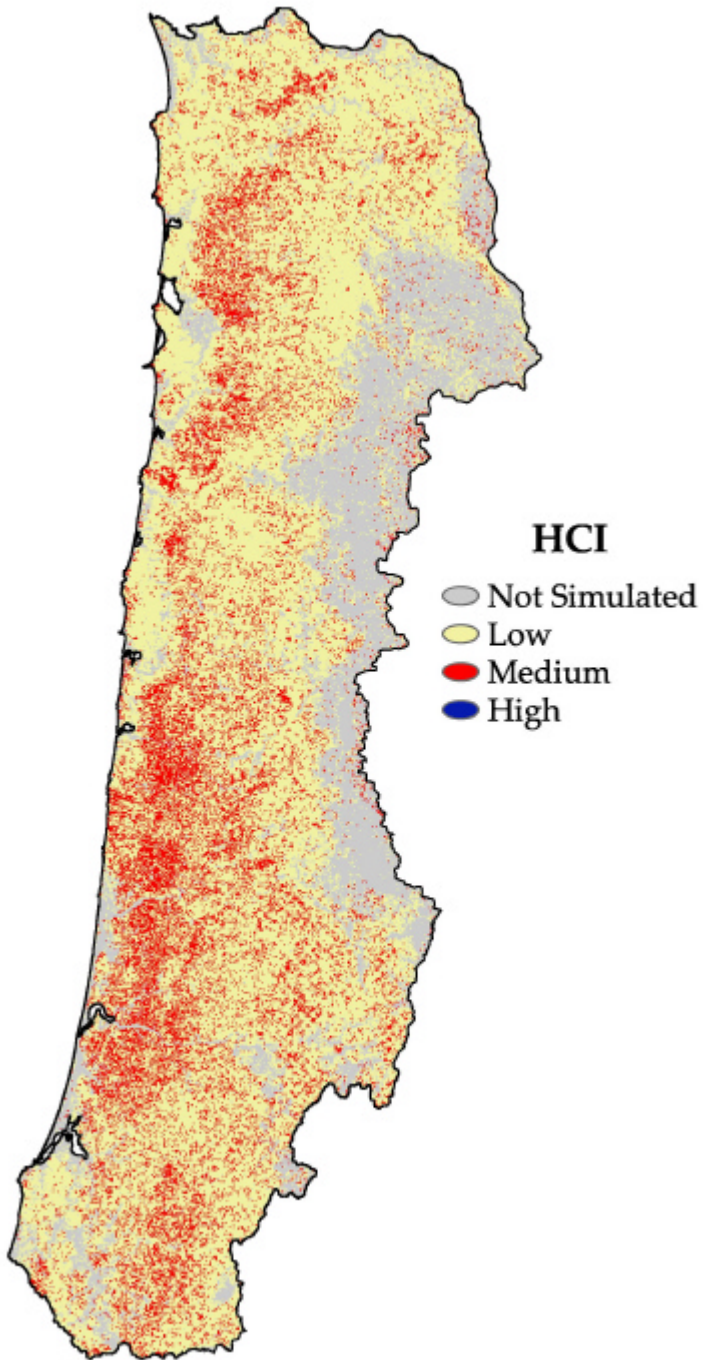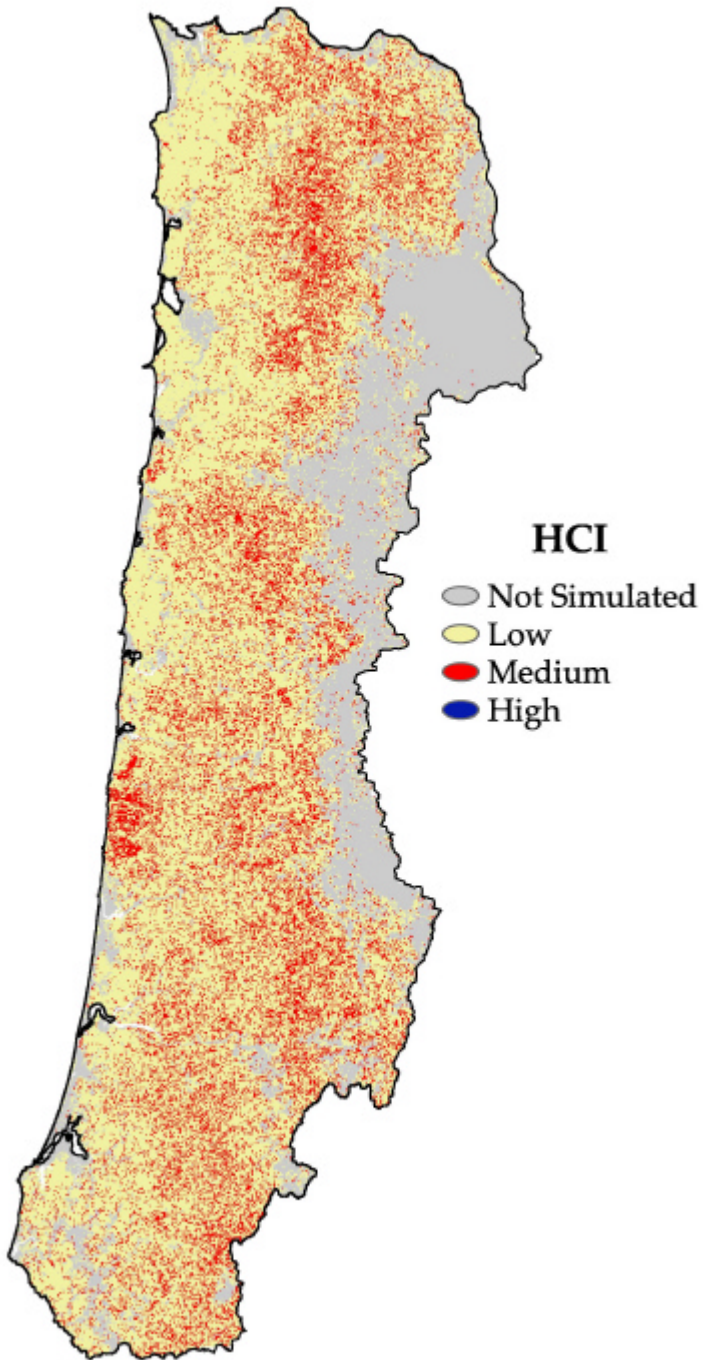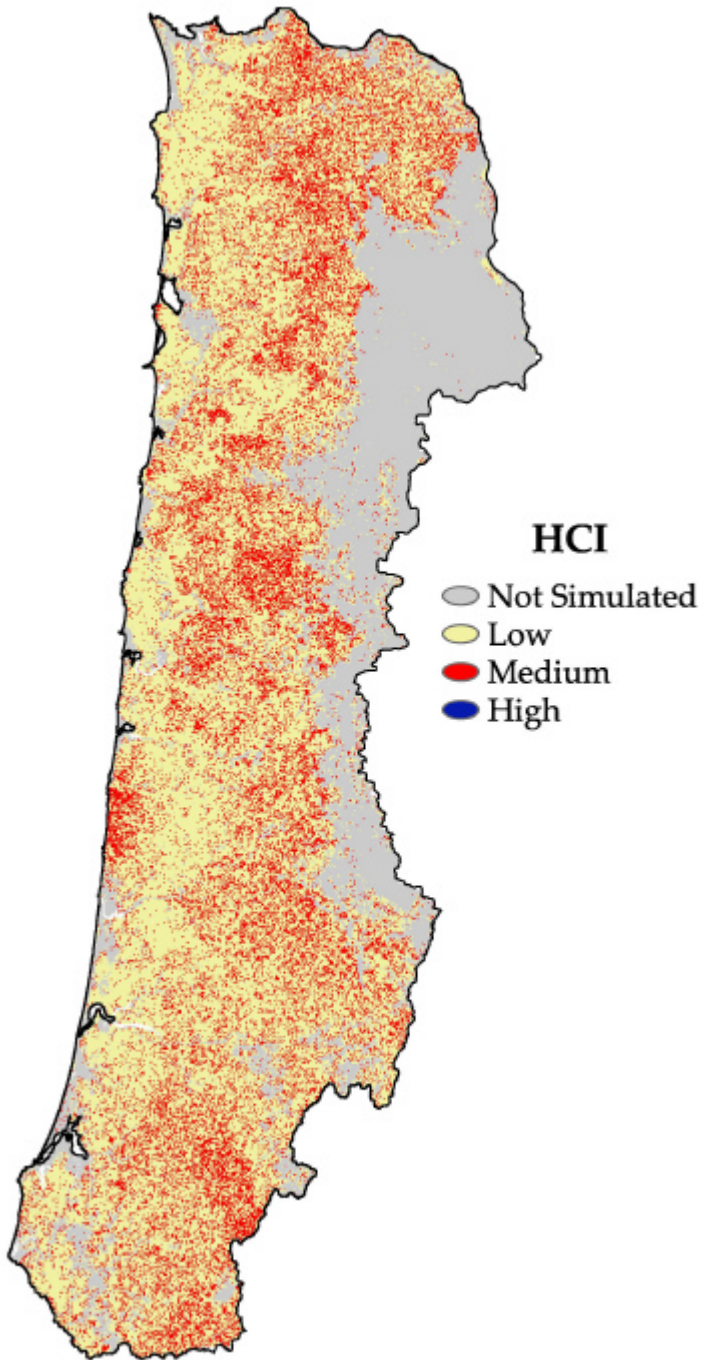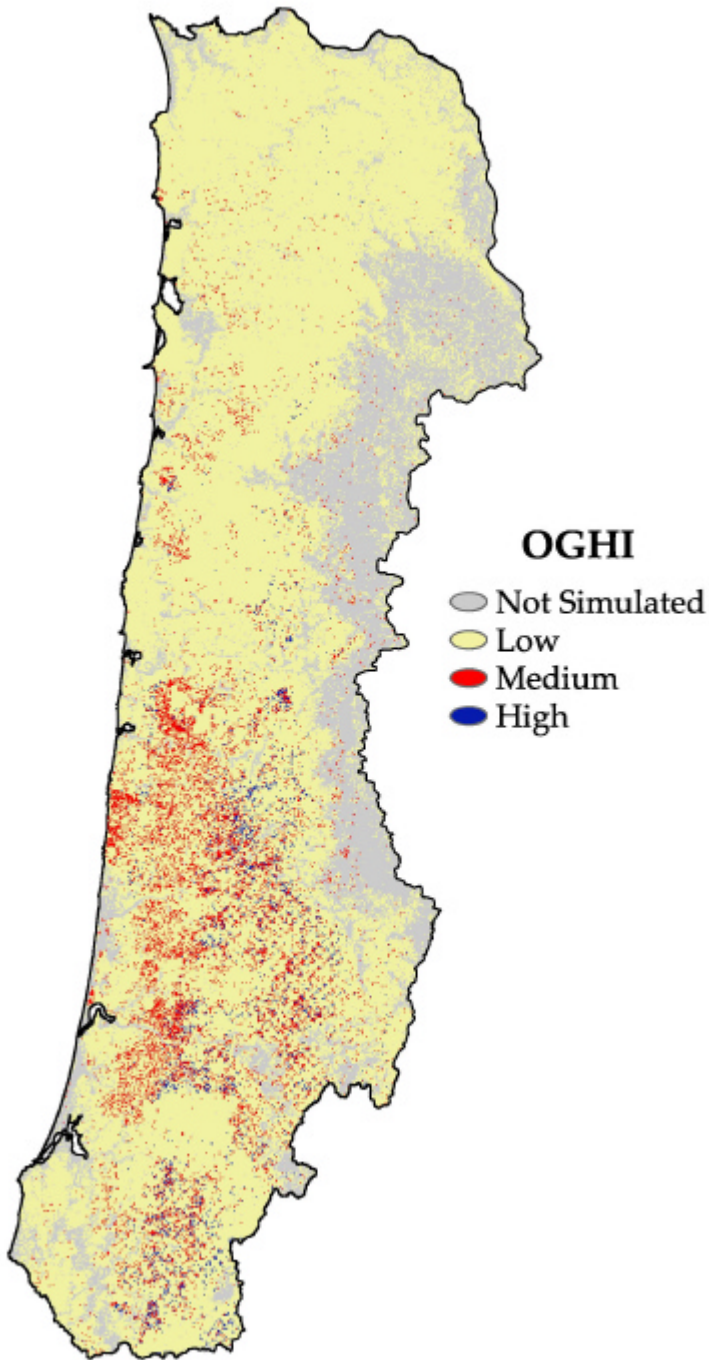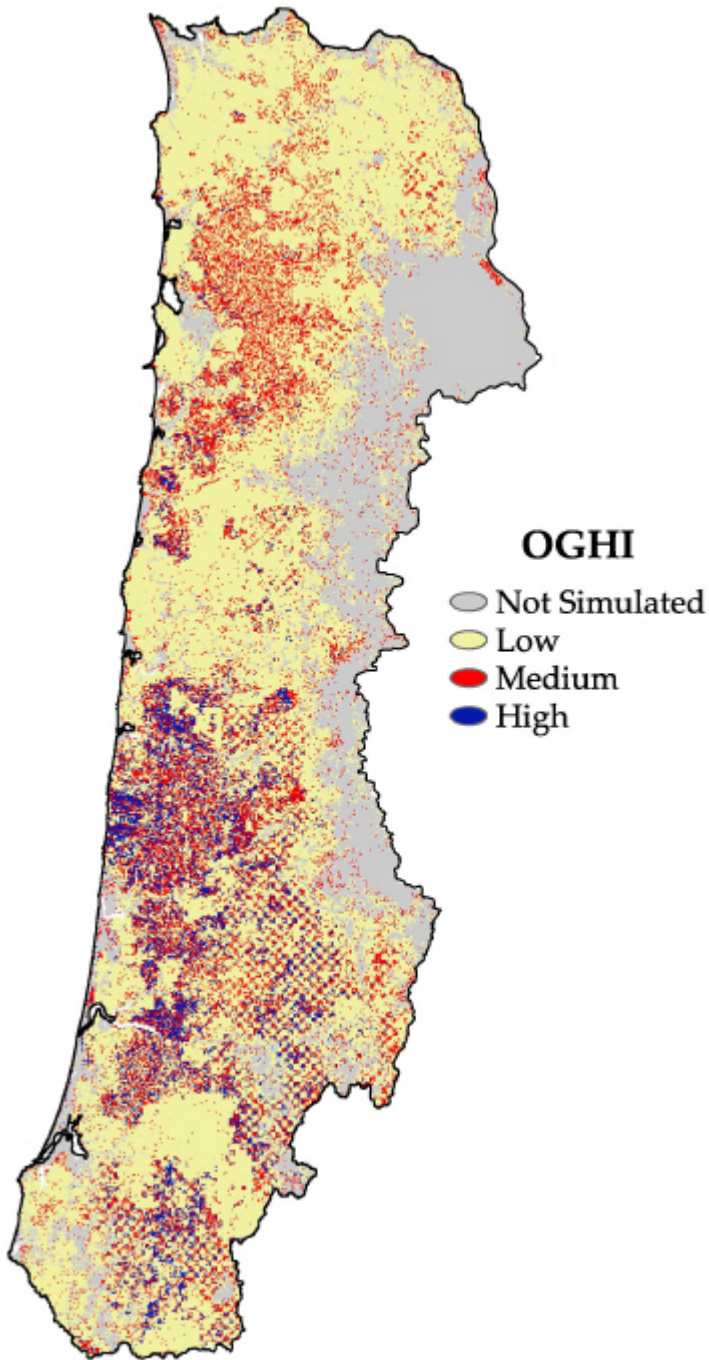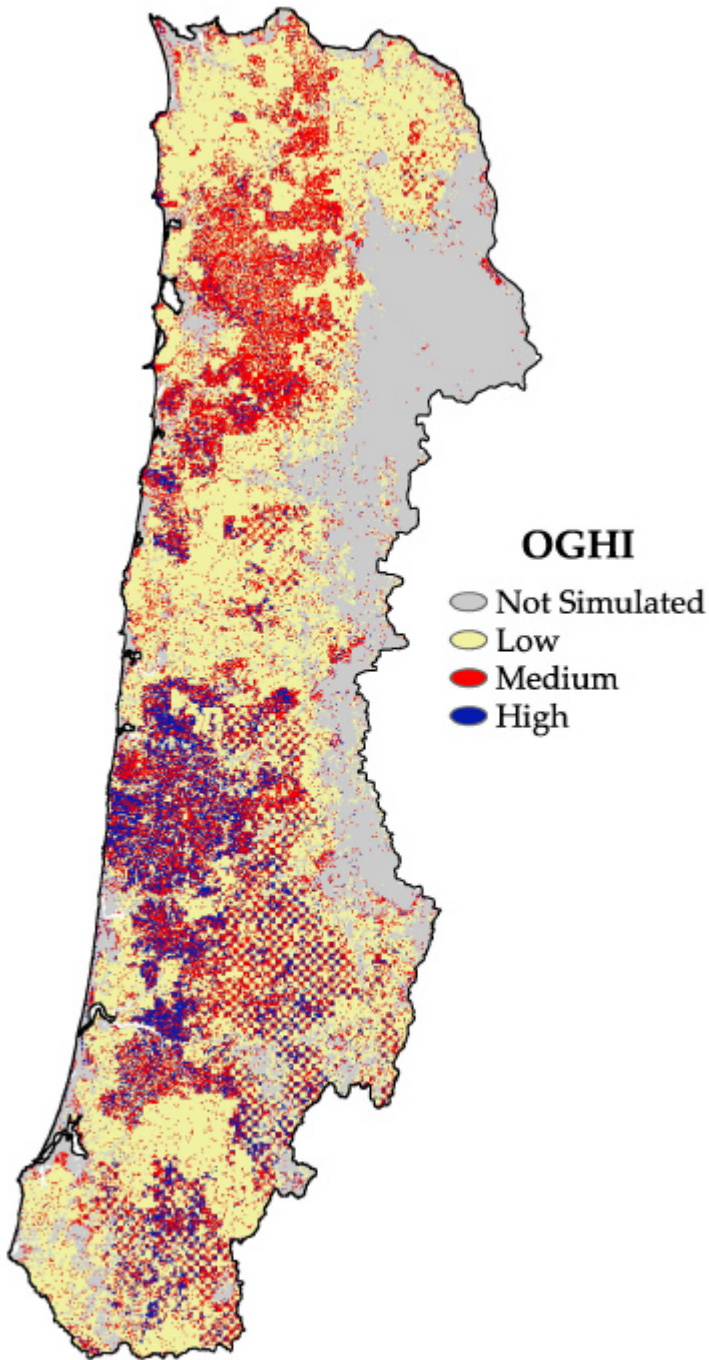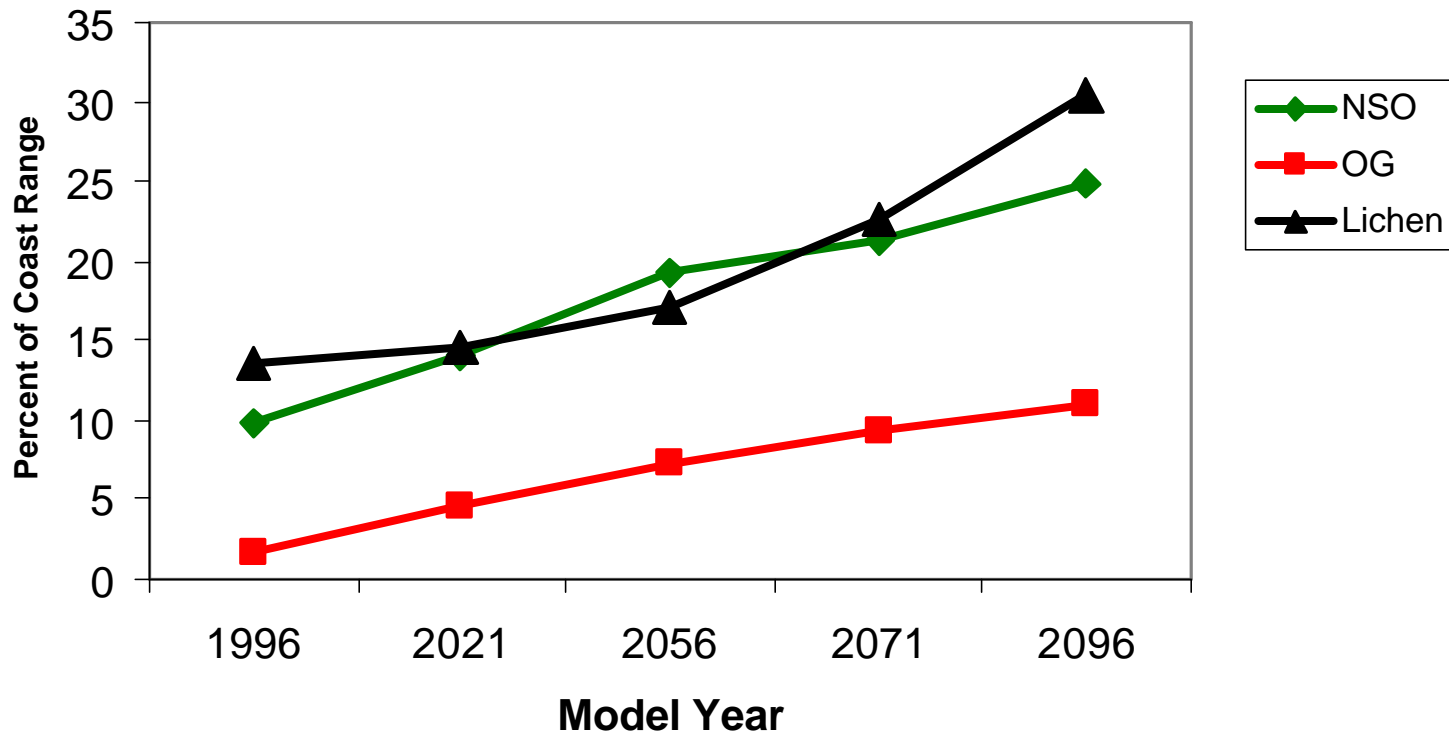
Change in Indicators for Coast Range for 100 Year Simulation under Base Practice
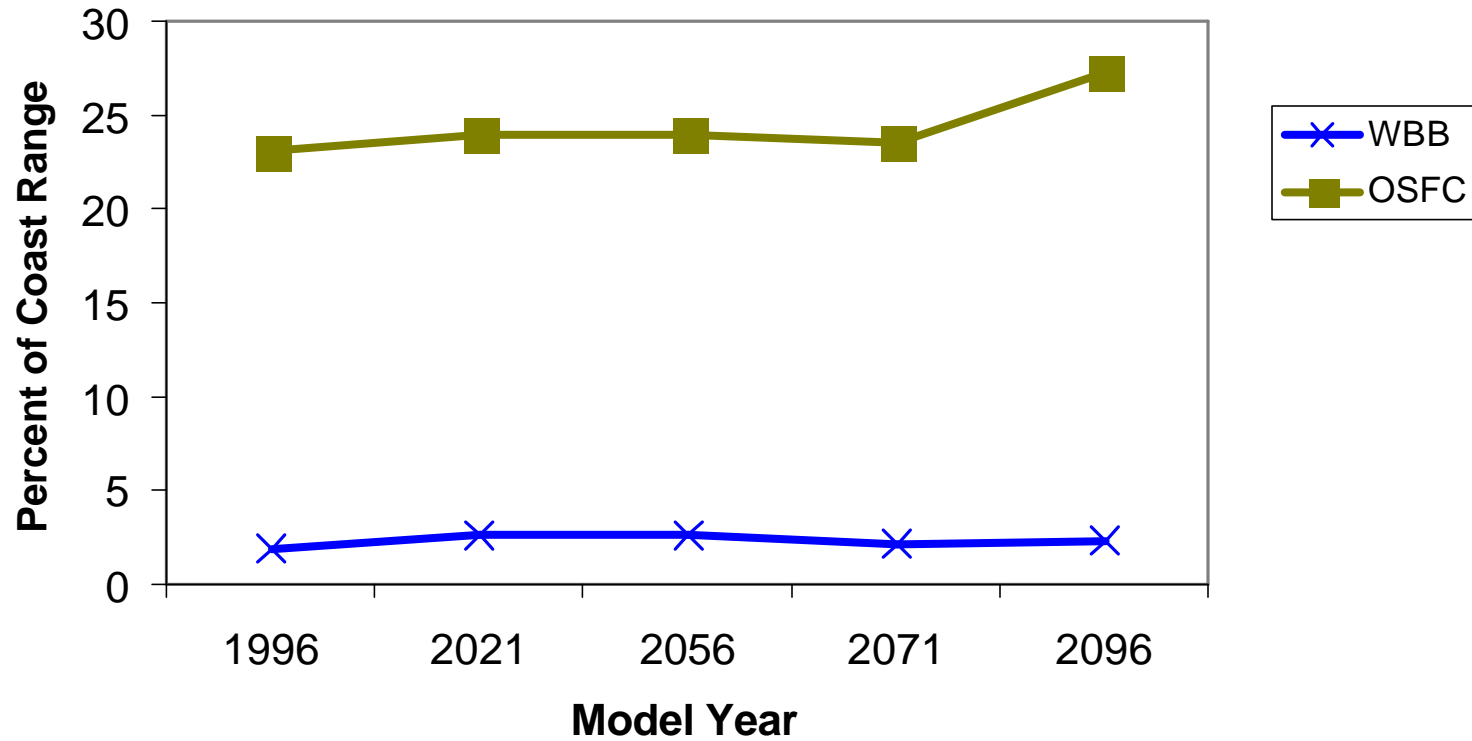

Moderate-High Habitat Quality for Owls, Old Growth, and Canopy Lichen Indices

Change in Percent of Habitat for Coast Range for 100 Year Simulation under Base Practice

Low-Moderate Habitat Quality for Western Bluebird and Olive-sided Flycatcher Indices
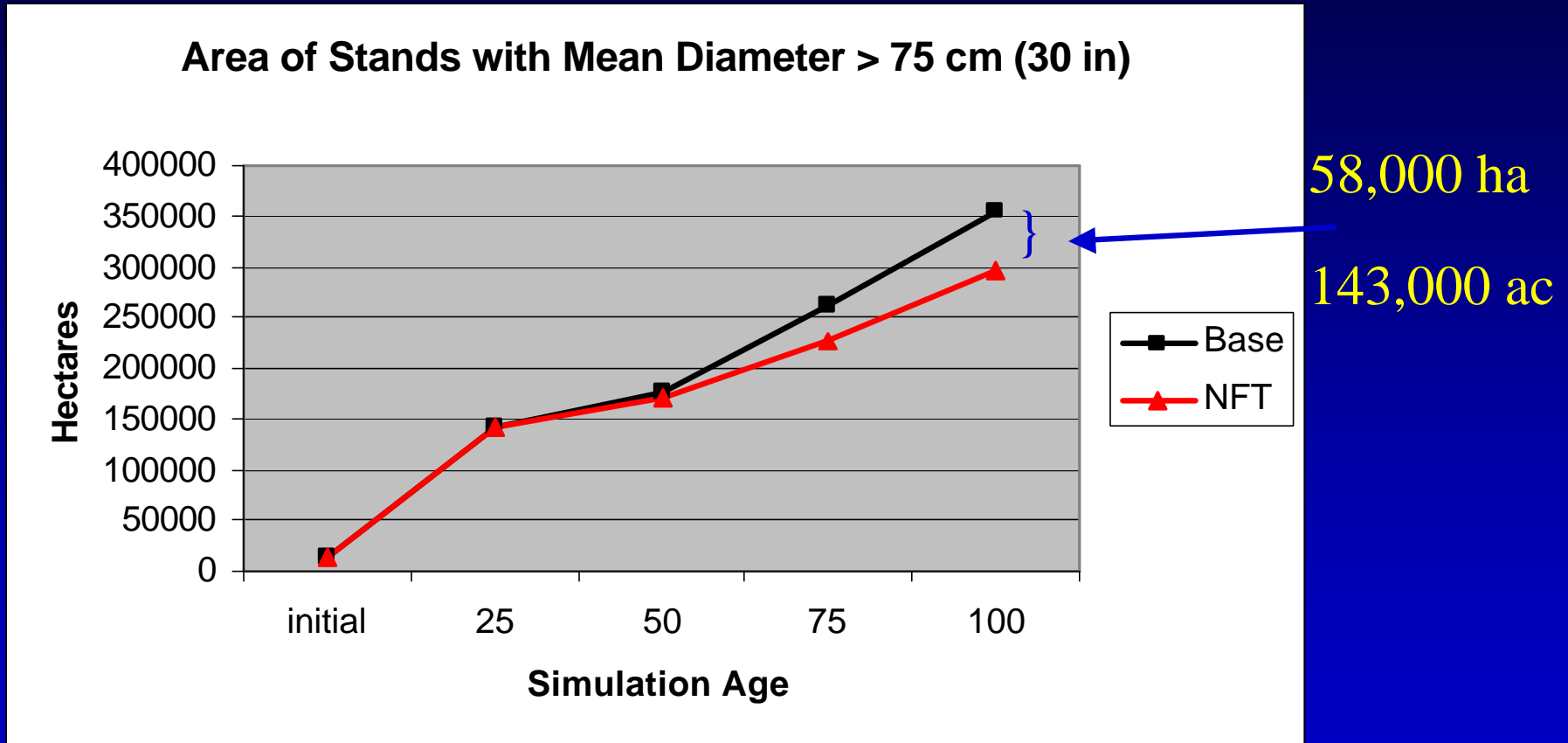
Legend: WBB, OSFC

X-axis: Model Year (1996, 2021, 2056, 2071, 2096)
Y-axis: Percent of Coast Range (0–30)

Thinning effects at Landscape Scales

Simulate Federal Lands With and without Thinning

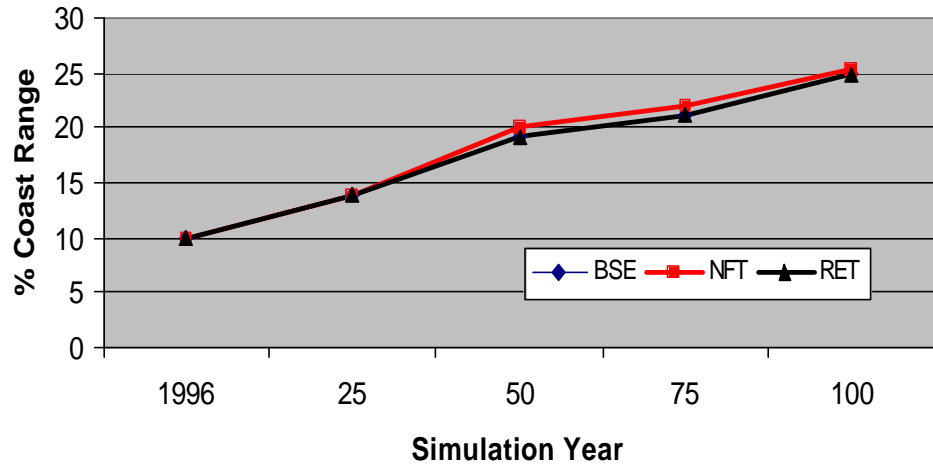Comparison of Federal Thin and No-Thin Alternatives
Entire Coast Range

Wildlife Tree Retention Effects
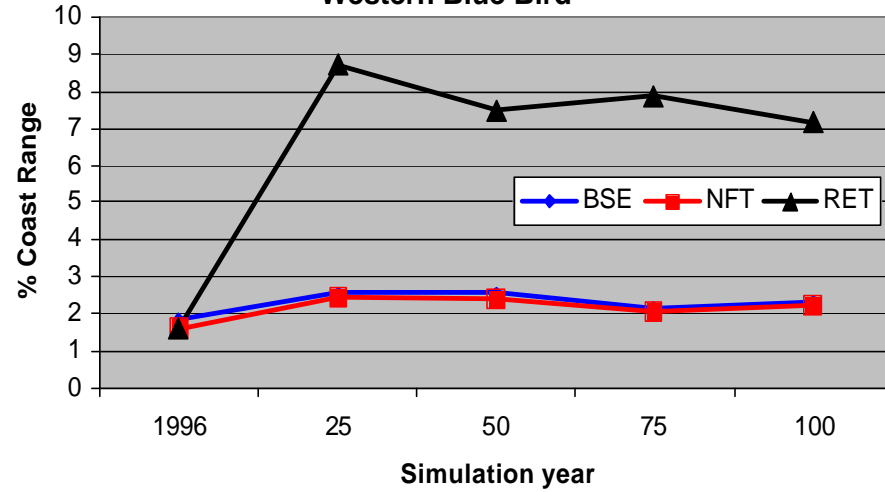
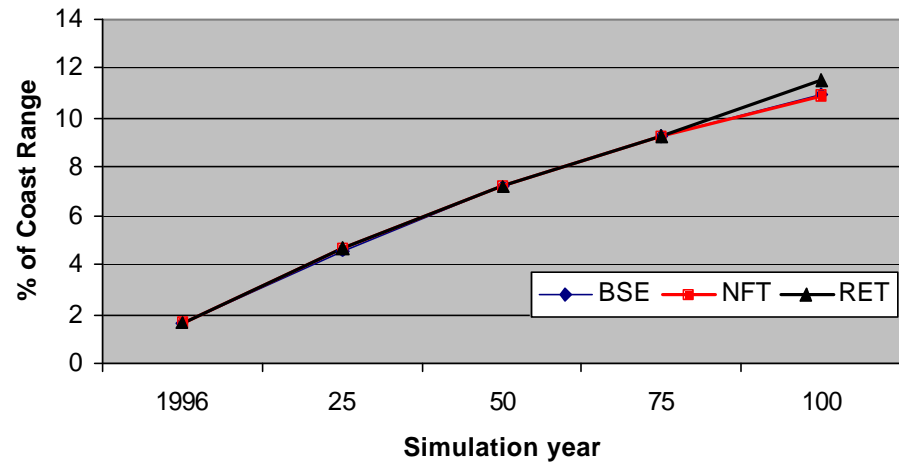## Simulate Increased Rentention on Private Lands

Comparison of Alternatives
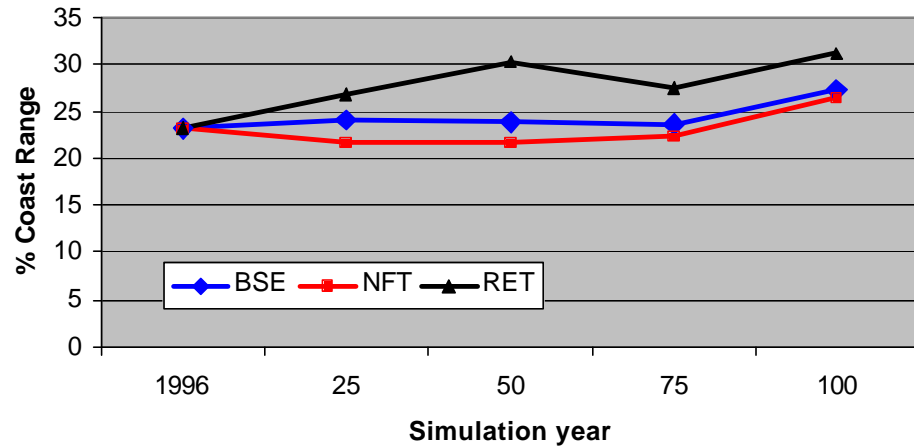
Ownership Patterns
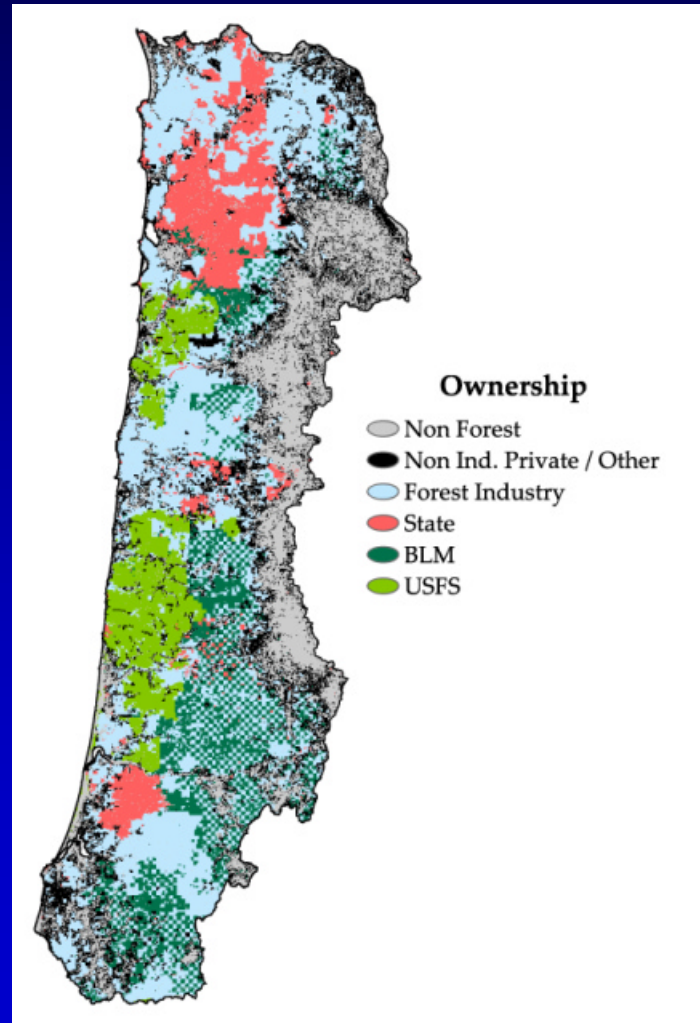
Area of Habitat by Ownership and Quality at 100 years for Base Practice

Area of Bluebird Habitat by Ownership and Quality at 100 years for Base Practice

Photo by David Rintoul

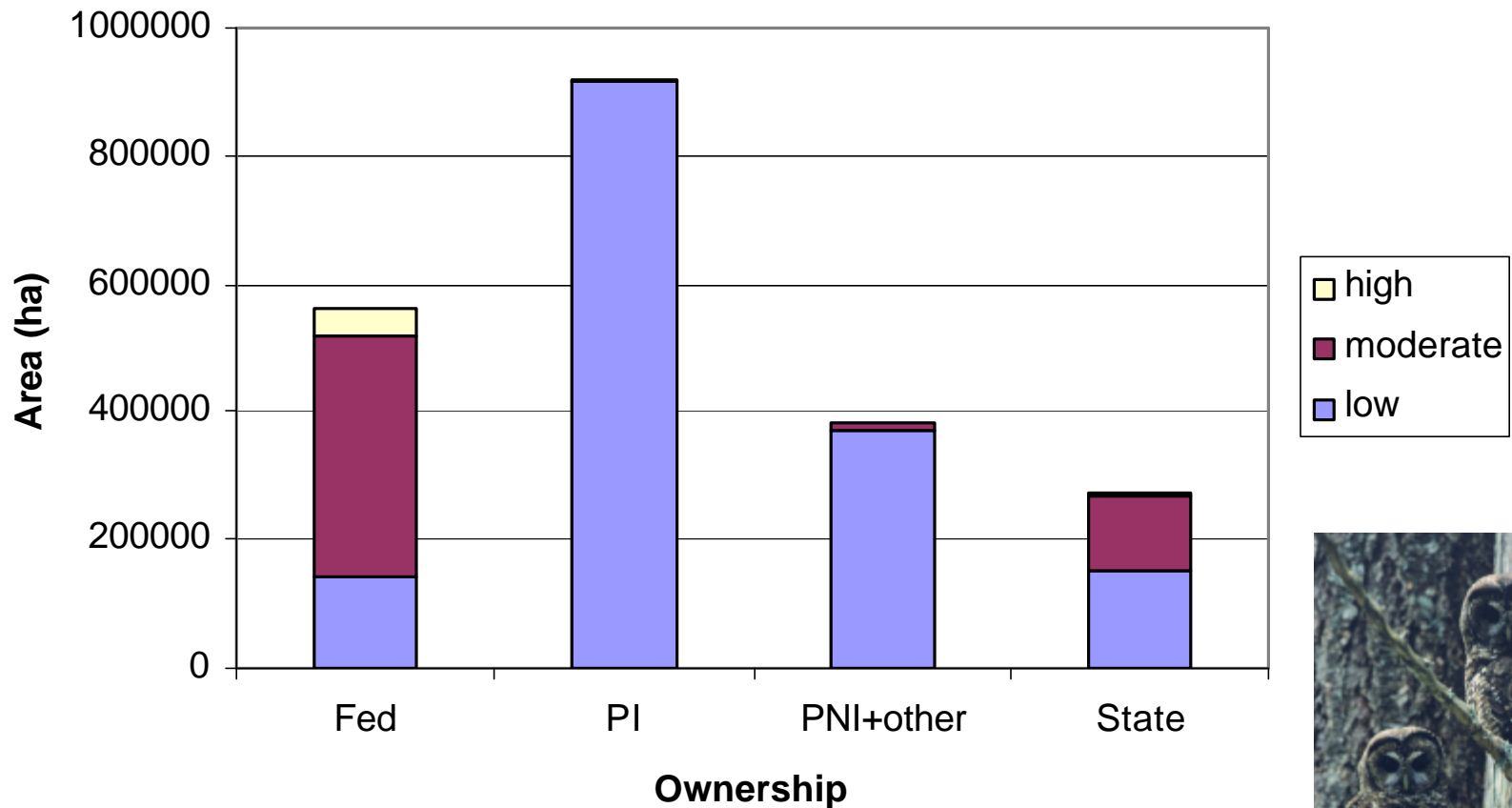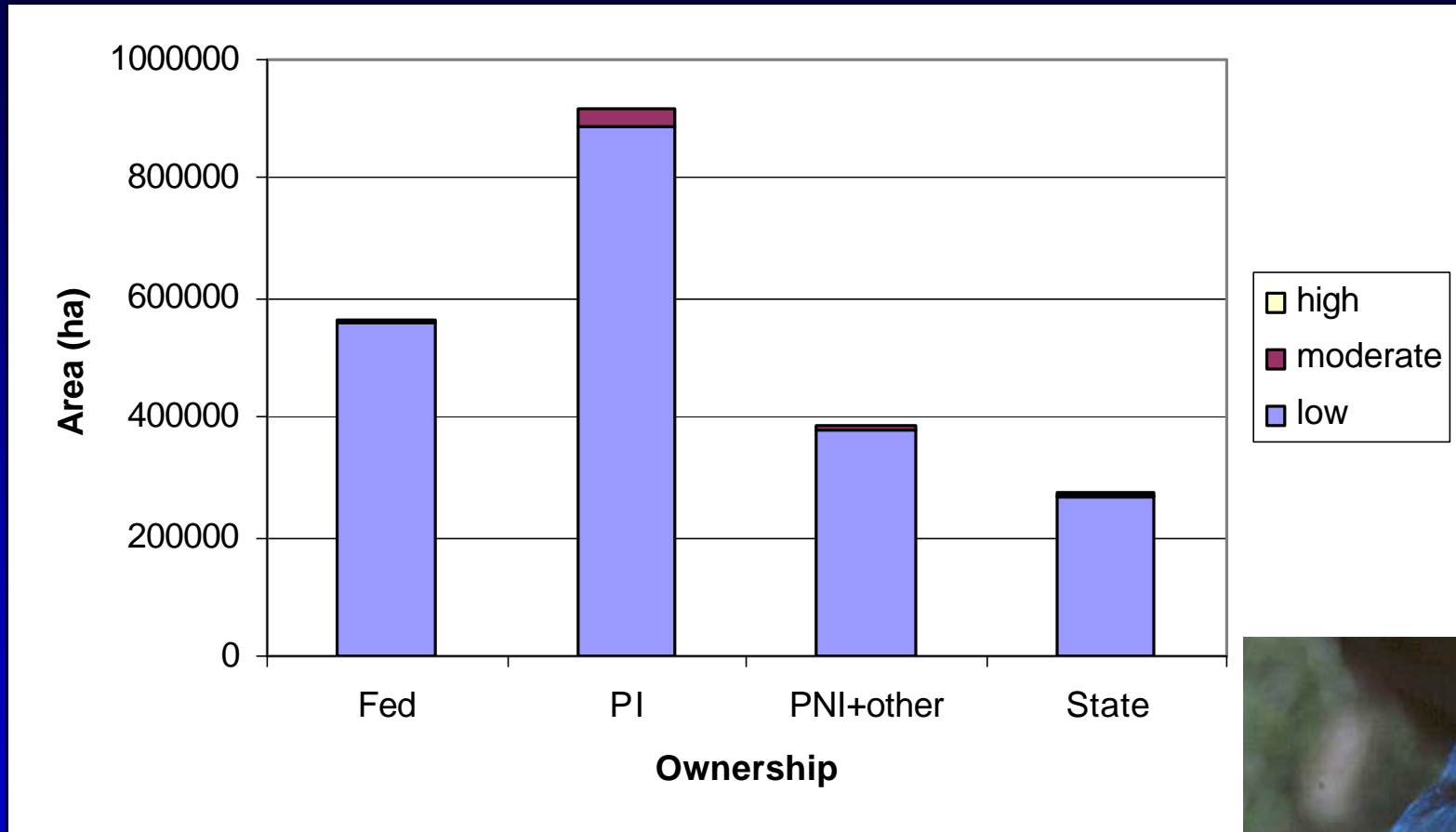# Area of Flycatcher Habitat by Ownership and Quality at 100 years for Base Practice
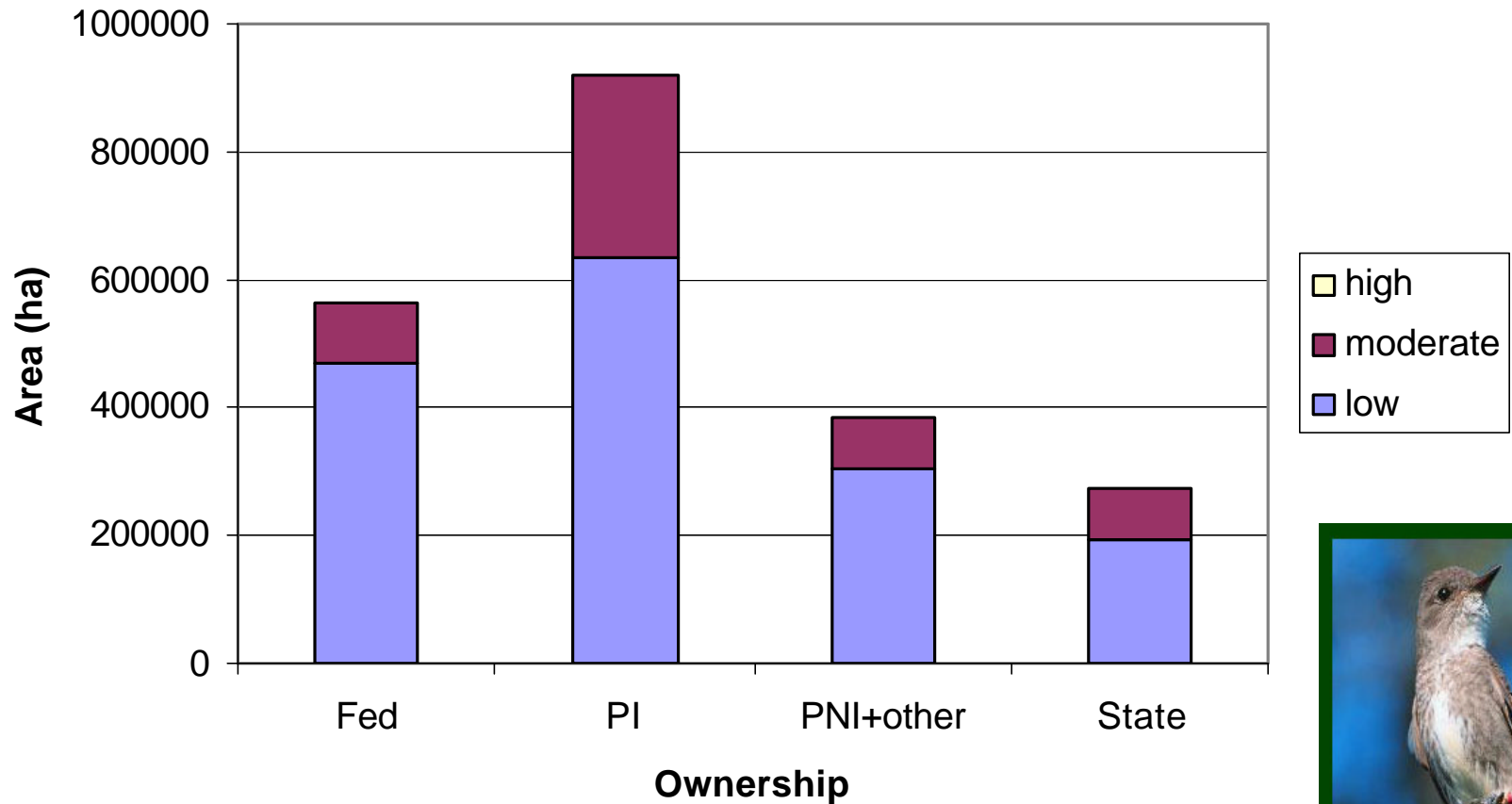

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Area of Habitat by Ownership and Quality at 100 years for Base Practice

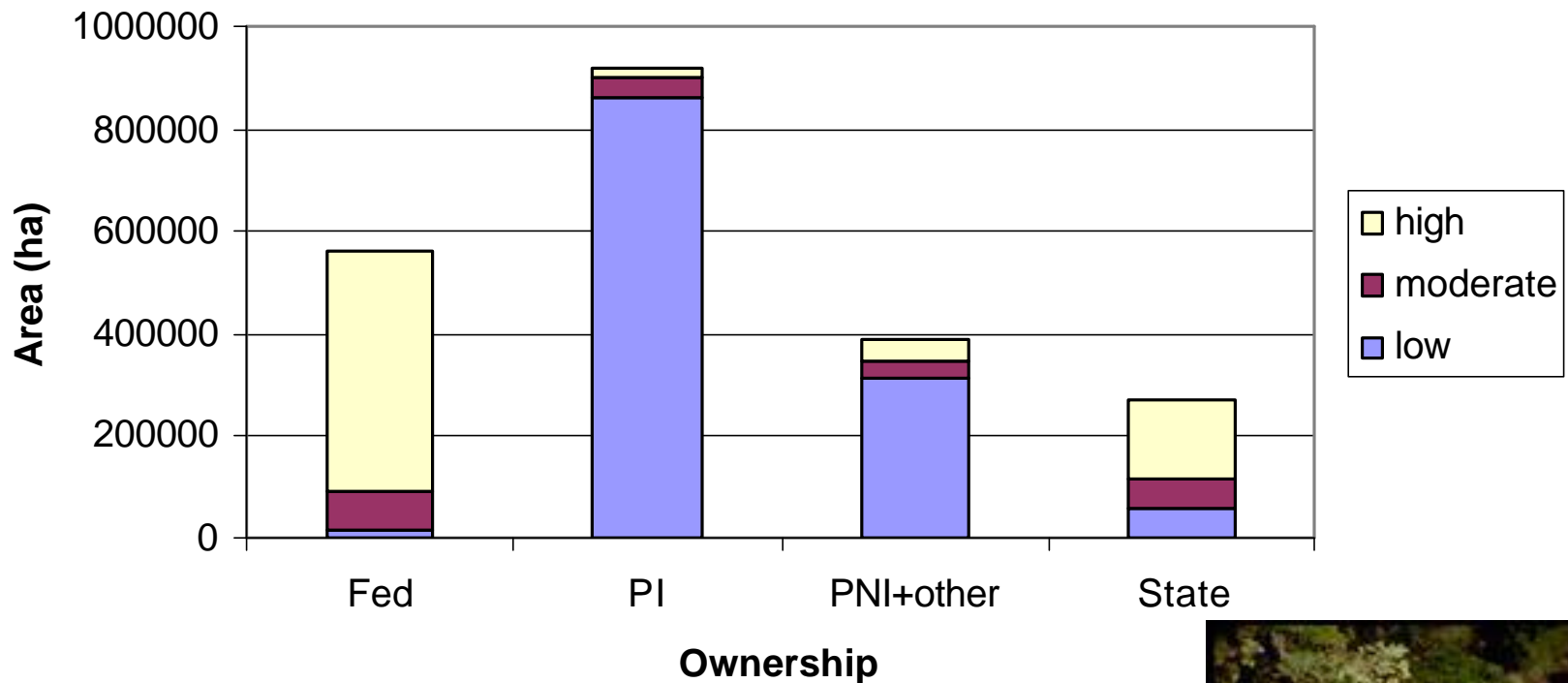# Area of Old Growth Habitat by Ownership and Quality at 100 years for Base Practice

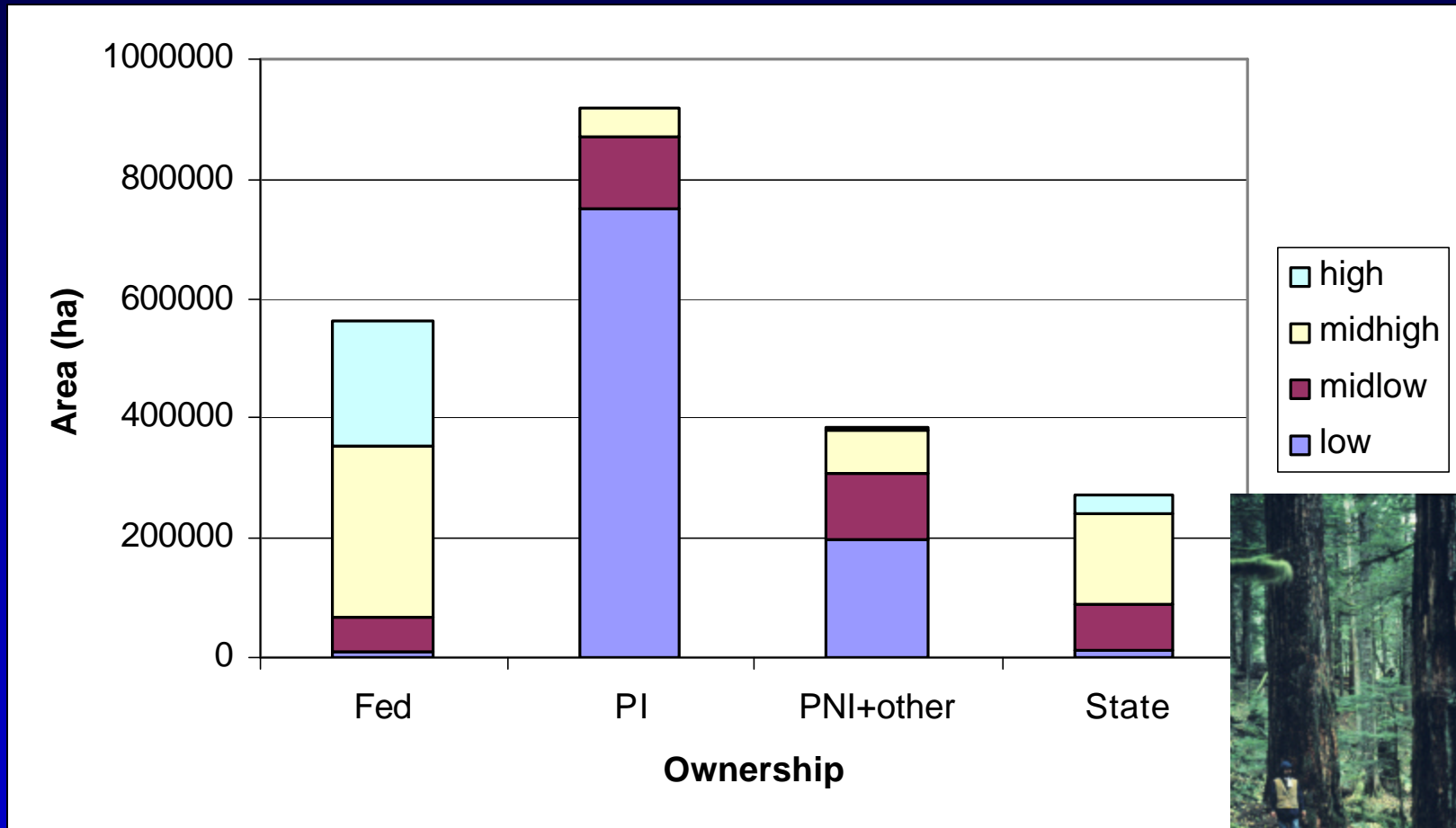# Age Class Distribution Current and After 100 years-- Base Practice
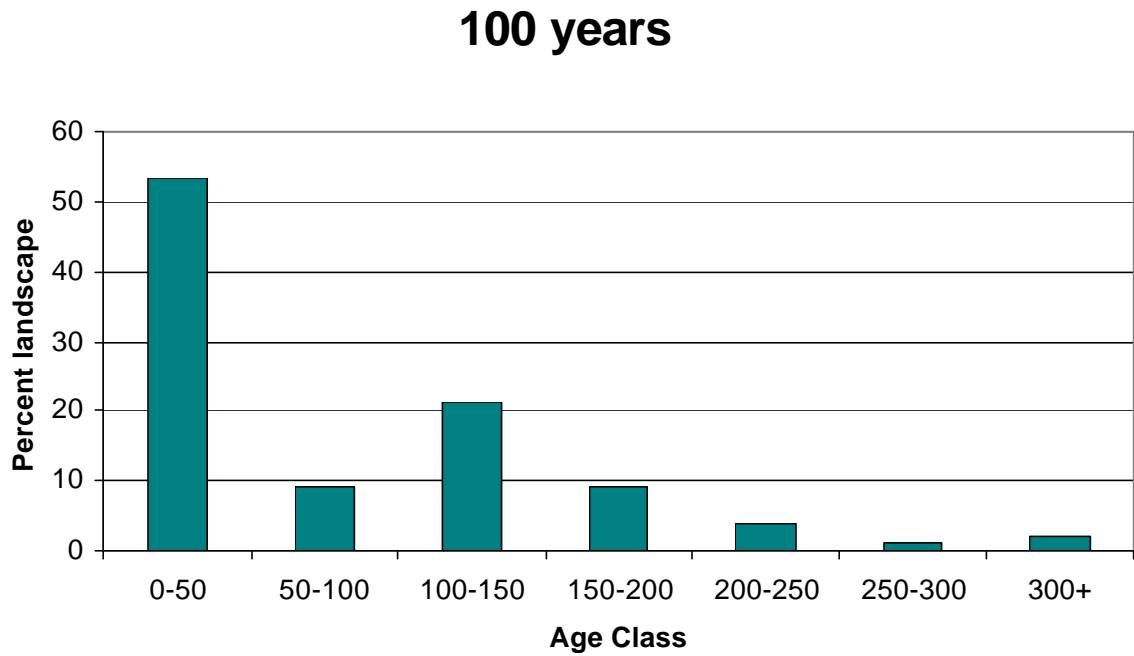
100 years
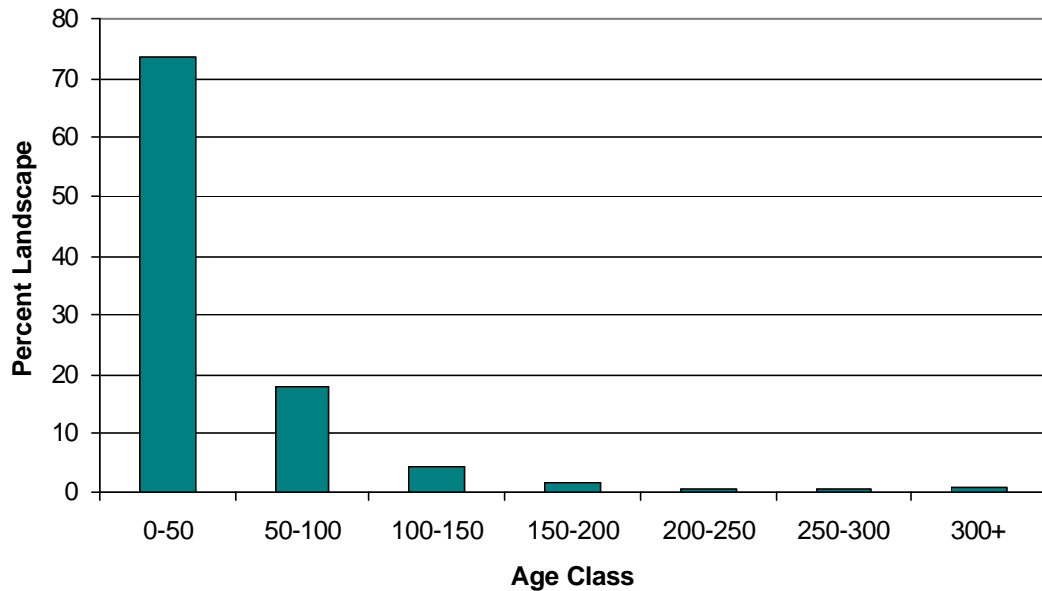
1996

Distribution of Old-Growth Index in 1996 for Coast Range
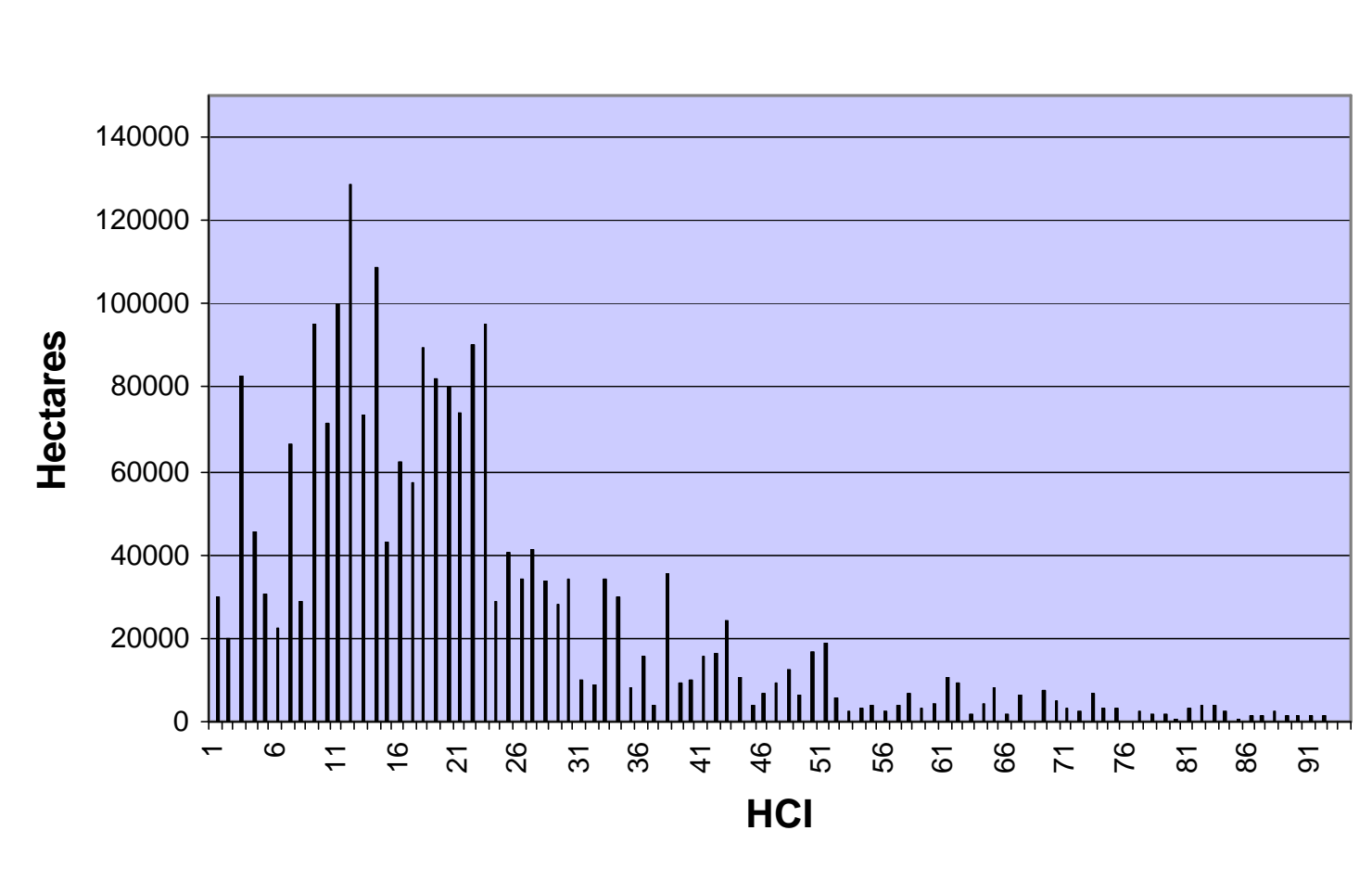
Distribution of Old-Growth Index in 50 years for Base Practice Simulation for Coast Range
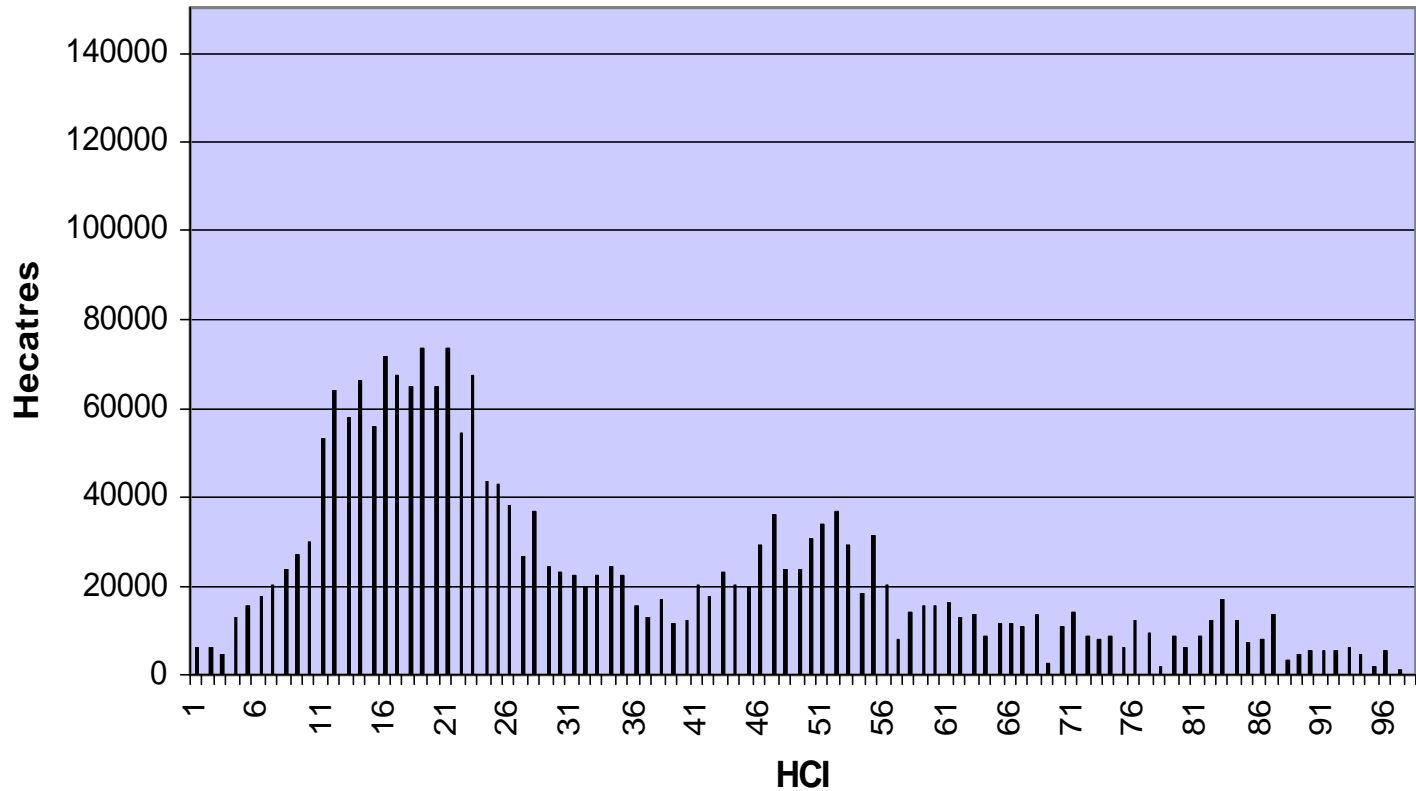
Distribution of Old-Growth Index in 100 years for Base Practice Simulation for Coast Range
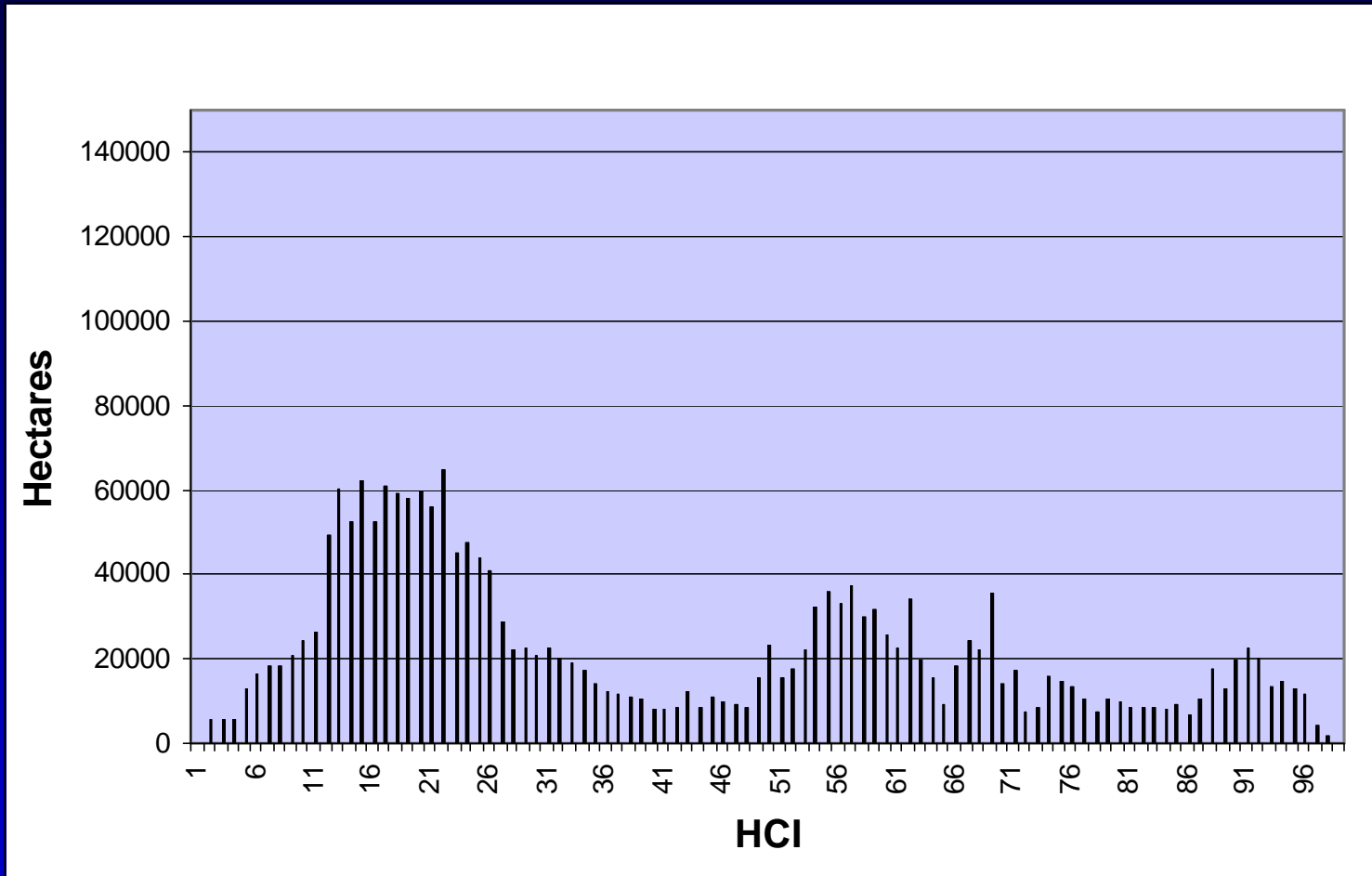
Landscape Patterns

Vegetation Classes
2096 – Projected
Base Policy

Not Simulated
Open Forest
Broadleaf
Mixed Small
Mixed Medium
Mixed Large
Mixed Very Large
Conifer Small
Conifer Medium
Conifer Large
Conifer Very Large
Mixed Very Small
Conifer Very Small
Remnants

Vegetation Classes
2096 – Projected
Base Policy

- Not Simulated
- Open Forest
- Broadleaf
- Mixed Small
- Mixed Medium
- Mixed Large
- Mixed Very Large
- Conifer Small
- Conifer Medium
- Conifer Large
- Conifer Very Large
- Mixed Very Small
- Conifer Very Small
- Remnants

Vegetation Classes
2096 – Projected
Base Policy

Not Simulated
Open Forest
Broadleaf
Mixed Small
Mixed Medium
Mixed Large
Mixed Very Large
Conifer Small
Conifer Medium
Conifer Large
Conifer Very Large
Mixed Very Small
Conifer Very Small
Remnants

Conclusions

Area of mature and old-growth forest and habitat for associated Species is expected to increase strongly over the next 100 years

Despite 100 years amounts of older forest and structural conditions still probably below historical range of variation

Low amounts of habitat for species requiring open structurally Diverse forests—trends are flat

Species diversity associated with hardwoods is projected to strongly decline

Conclusions

Alternative policies may alter condition of biological diversity but further analysis is needed

New landscape patterns developing that have particular ecological characteristics