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Courtesy Pacific Biodiversity Institute



Fire Ecology of the Northwest Plan Area:

Implications for Species
Management



Fire Regimes

- Describe landscapes: moisture, temperature, topography, soils
- Potential vegetation used as the framework
- Characteristic mix of fire frequency, severity, and patch sizes



Historic Fire Regimes

I - Frequent (0-35 yrs) low & mixed

II – Frequent replacement

III – Infrequent (36-200 yrs) mixed

IV – Infrequent replacement

V – Rare (200 yrs +)

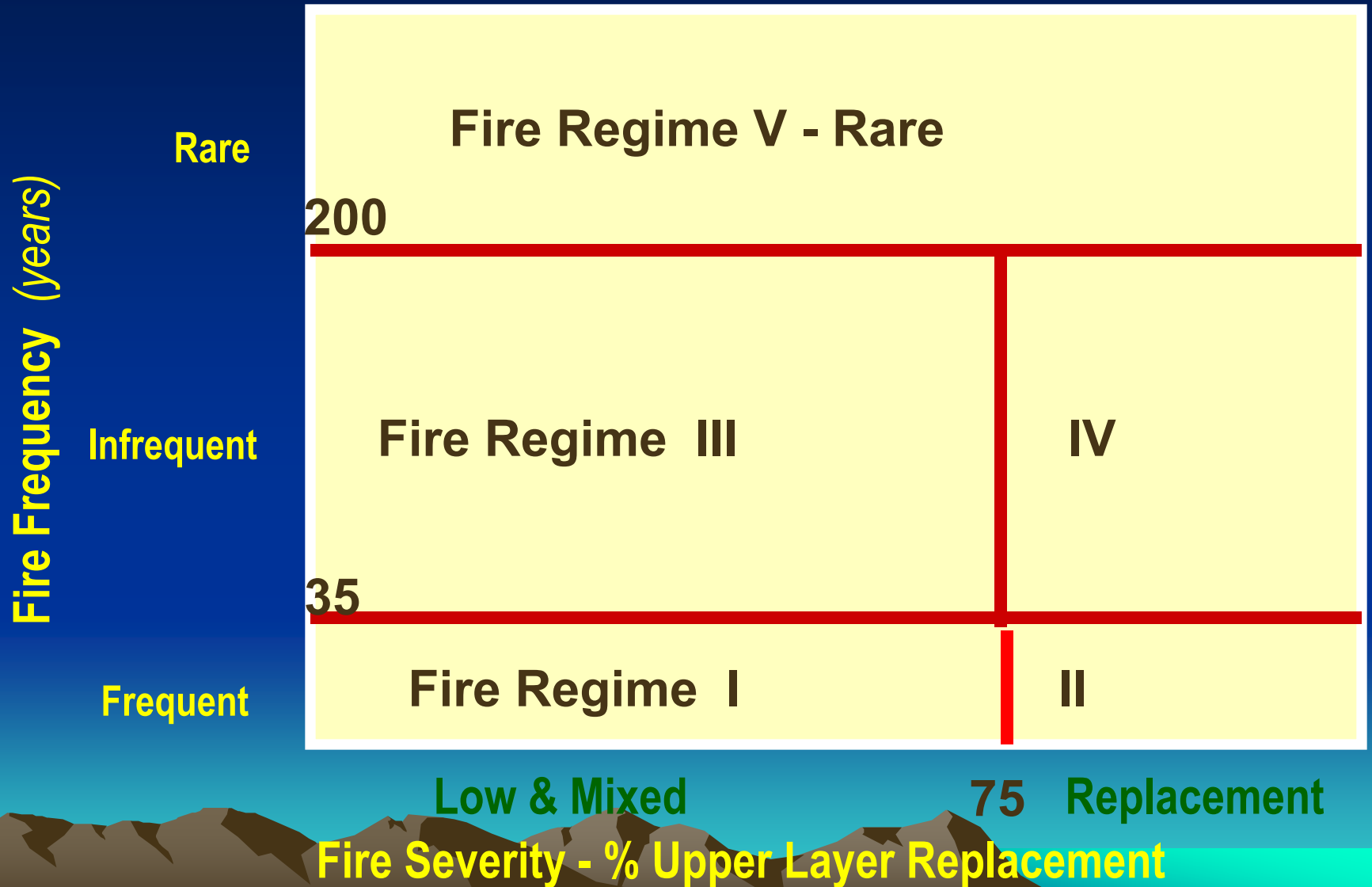


Fire Regimes

- Provide the context for ecological processes
- Long interval, high severity
- Short interval, low severity
- Middle interval, mixed severity



Fire Regimes



Condition Class

- Measure of departure, not risk
- Assessed at landscape scale
- Departure is indicator of how well ecological processes are functioning



Condition Class: Departure

Condition Class 3 Uncharacteristic disturbances

Condition Class 2

Condition Class 1 (Within HRV)



NW Plan Area

In this presentation we will use the
“Medium and Large” LSOG Definition:

--Average tree size
at least 20 inches dbh



Rough Estimates!

- Used 2000 Coarse Assessment of Fire Regime Condition Class
- 1 km² Resolution
- Finer resolution mapping on the way



NW Plan Area

- About 24 million acres
- About 8.5 million acres of LSOG

Of this:

--4.5 million acres in long interval fire regimes

--1.8 million in short interval fire regimes

--2.2 million in mixed interval fire regimes



NW Plan Area

1994-2004:

0.2% clearcut (17,300 ac)

1.3% severely burned (101,500 ac)



Condition Class (Excerpt Table 17)

Percentage of older forest acres

| | CC3 | CC2 | CC1 |
|----------------|-----|-----|-----|
| OR Klamath | 66 | 22 | 11 |
| WA East Casc | 21 | 36 | 40 |
| OR East Casc | 38 | 33 | 27 |
| OR Coast Range | 3 | 77 | 2 |
| OR West Casc | 6 | 84 | 10 |
| WA Olympic | 5 | 7 | 87 |



Losses to Fire

| | Acres | Percent |
|---------------------|---------|---------|
| Entire NW Plan Area | 101,500 | 1.3 |
| Oregon Klamath | 47,600 | 6.6 |
| California Klamath | 29,900 | 1.6 |
| OR West Cascades | 18,700 | 1.0 |
| WA East Cascades | 3,700 | 2.3 |



Net Gains in Older Forest

| | Acres | Percent |
|---------------------|---------|---------|
| Entire NW Plan Area | 605,700 | 7.7 |
| Oregon Klamath | 76,100 | 9.7 |
| California Klamath | 193,700 | 9.7 |
| OR West Cascades | 74,900 | 3.6 |
| WA East Cascades | 4,900 | 2.7 |
| Olympic Peninsula | -30,600 | -4.6 |



Implications for Species

- Range of variation implies LSOG will come and go
- Will be lost more often in current short and middle interval fire regimes
- Static reserves may be acceptable for long interval regimes, but even there they can be lost



Implications for Species

- 40 percent minimum canopy cover retention for owls may conflict with FRCC improvement goal
- Klamath Province owls may be more adapted to openings
- Consider range of variation as management approach, and not static reserves



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