Northern Spotted Owl Effectiveness Monitoring for the NWFP

NOBODY SAID IT WAS GOING TO BE EASY – SPOTTED OWLS, BARRED OWLS, AND THE NWFP

Objectives of NWFP

- **Maintain viable populations of native plants and animals while also producing lumber, recreation, and other resources.**

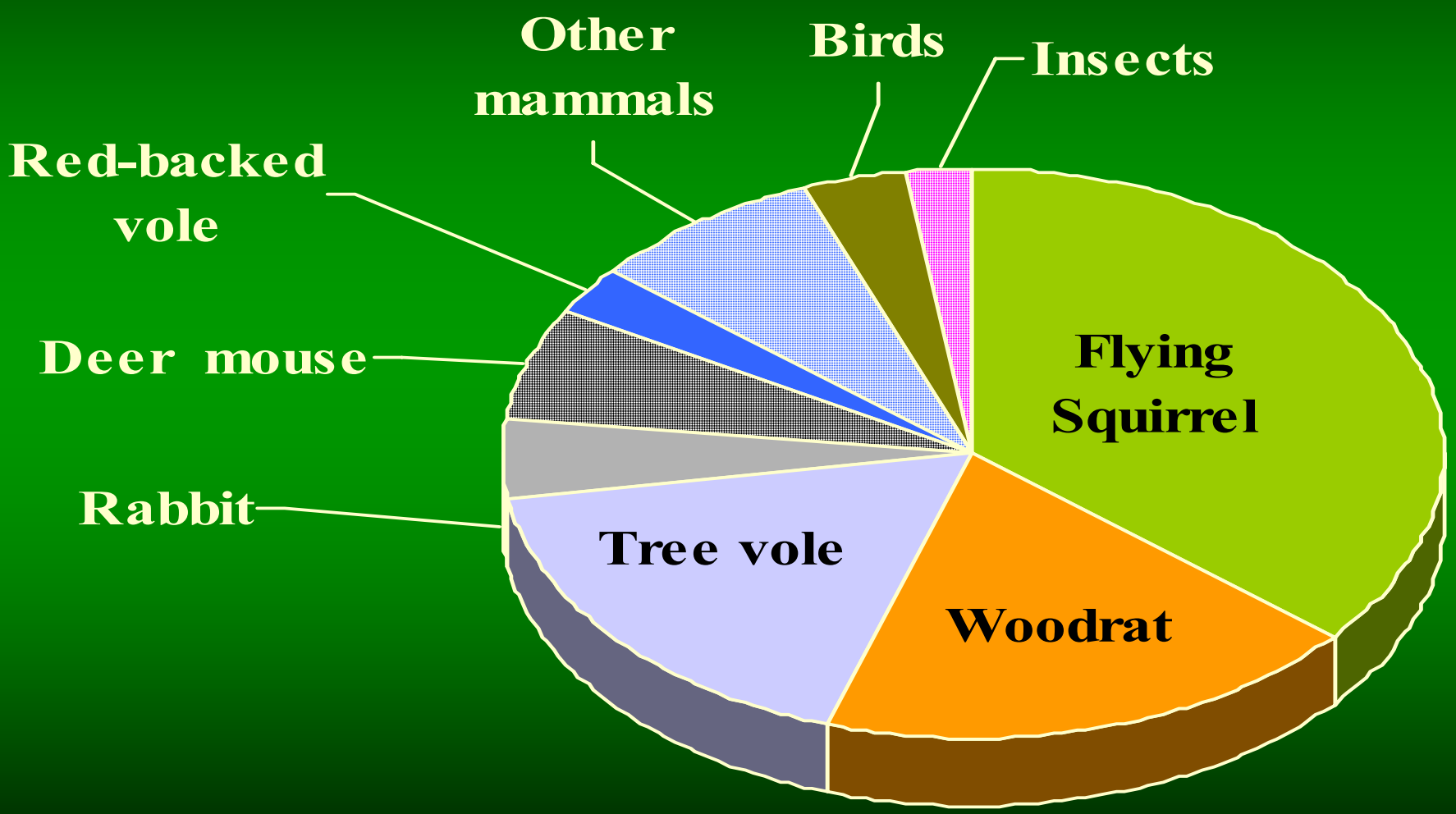
Evolution of the NWFP

- 1973-1989 Management based on owl territories
- ISC Plan 1990 – Network of large reserves distributed at 6-12 mile intervals
- NWFP 1994 - Network of reserves modified from ISC to incorporate protection for more species, including fish

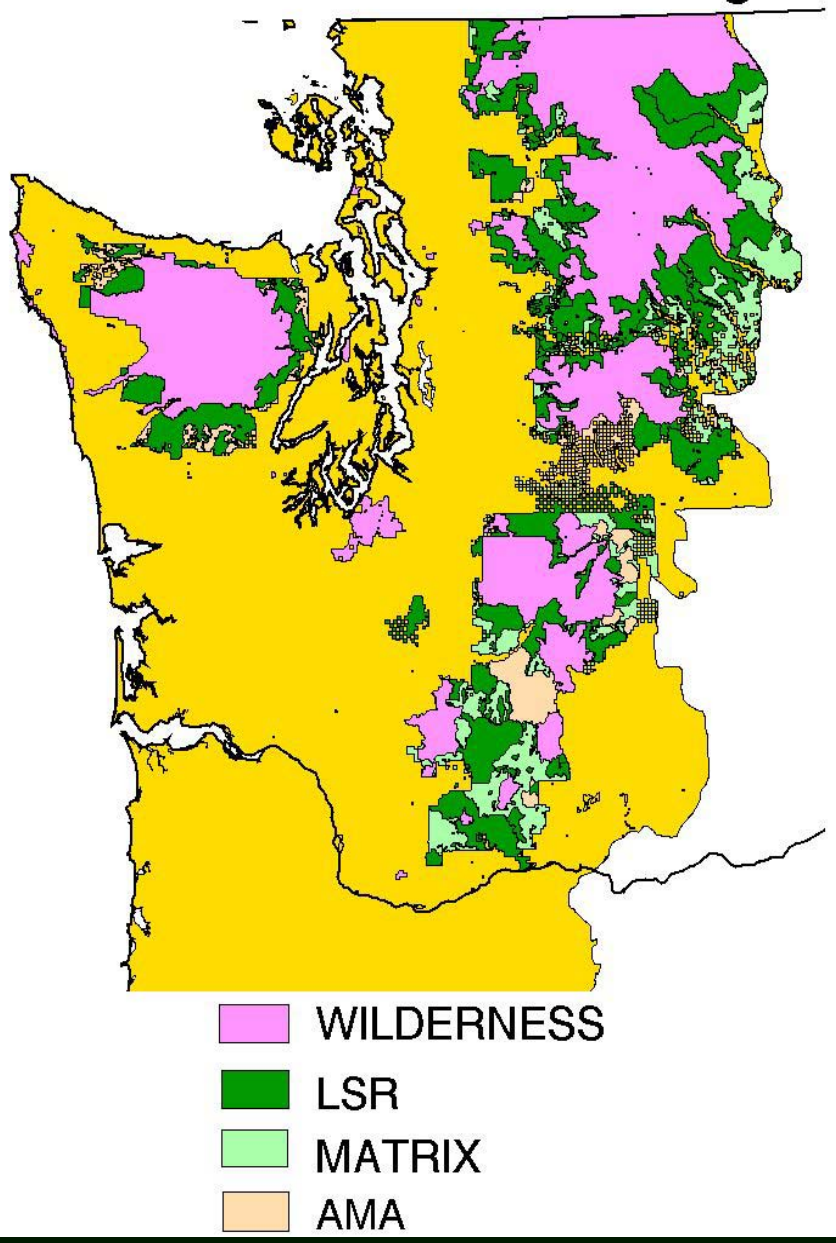
- Old-growth forest habitat occupied by spotted owls in the Oregon Coast Ranges

- Spotted owl habitat in southwest Oregon near Butte Falls

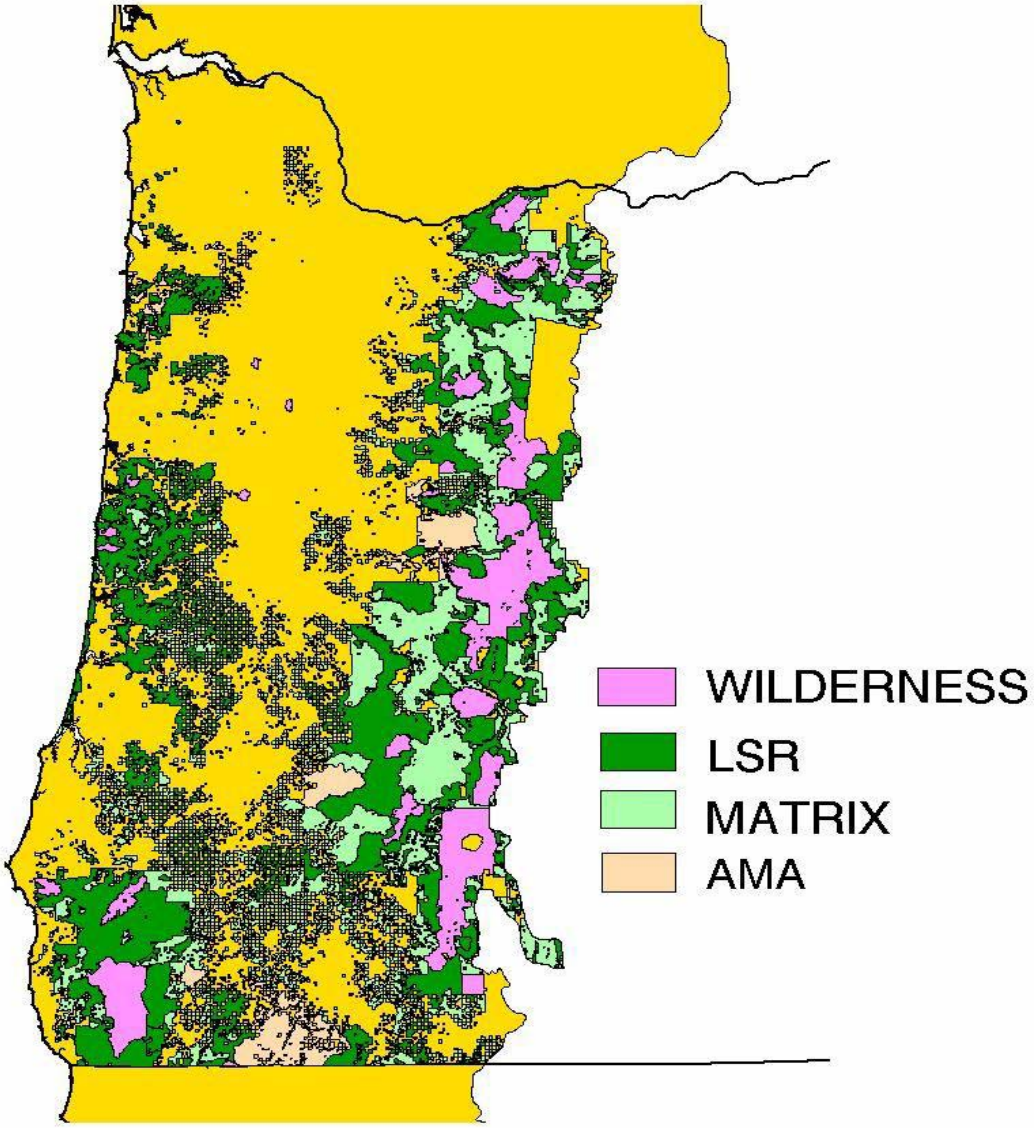
Percent of prey numbers in diets of Spotted Owls in western Oregon



NW Forest Plan - Washington



NW Forest Plan - Oregon



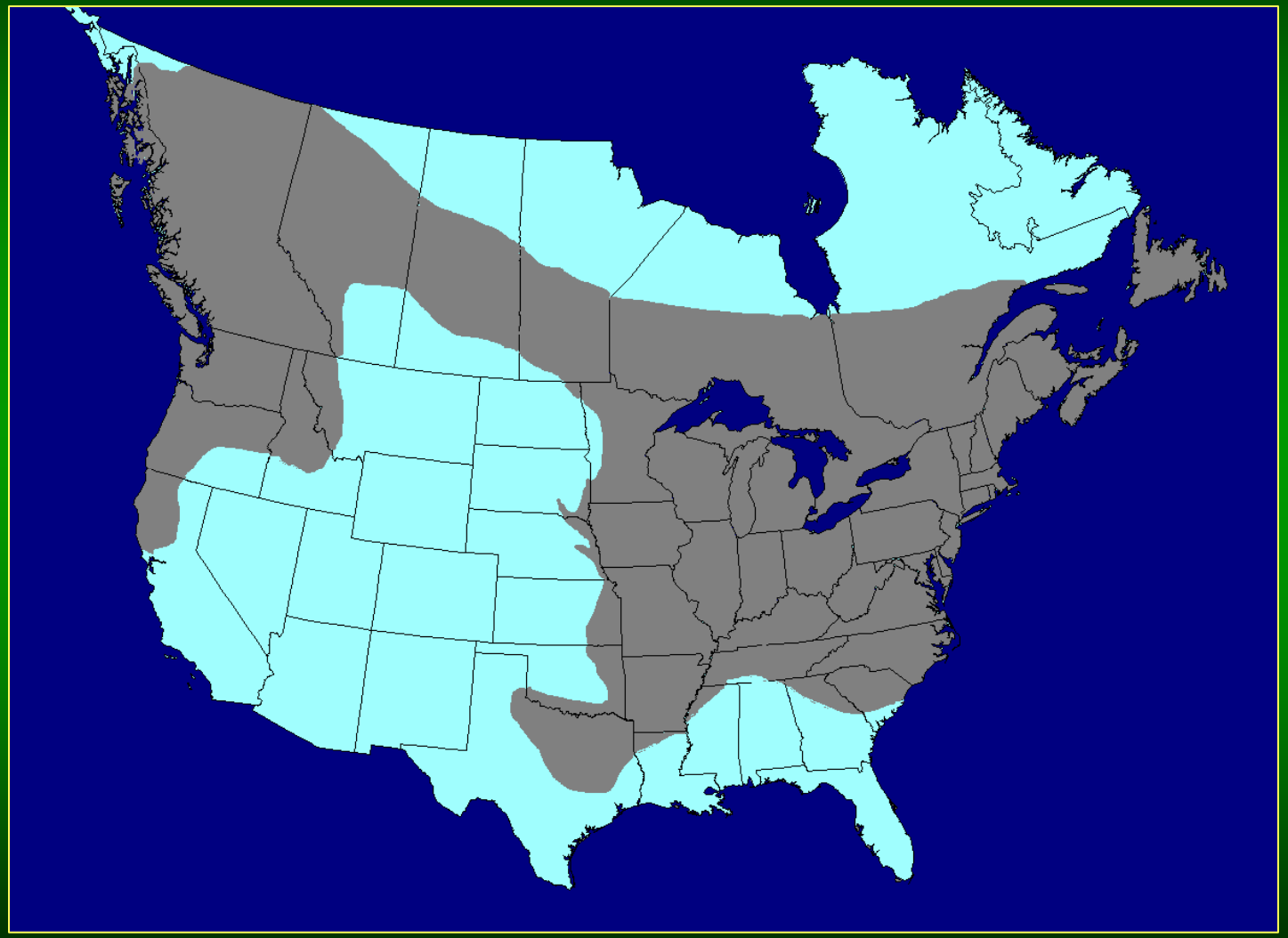
Spotted Owl Population Monitoring, 1995-2004

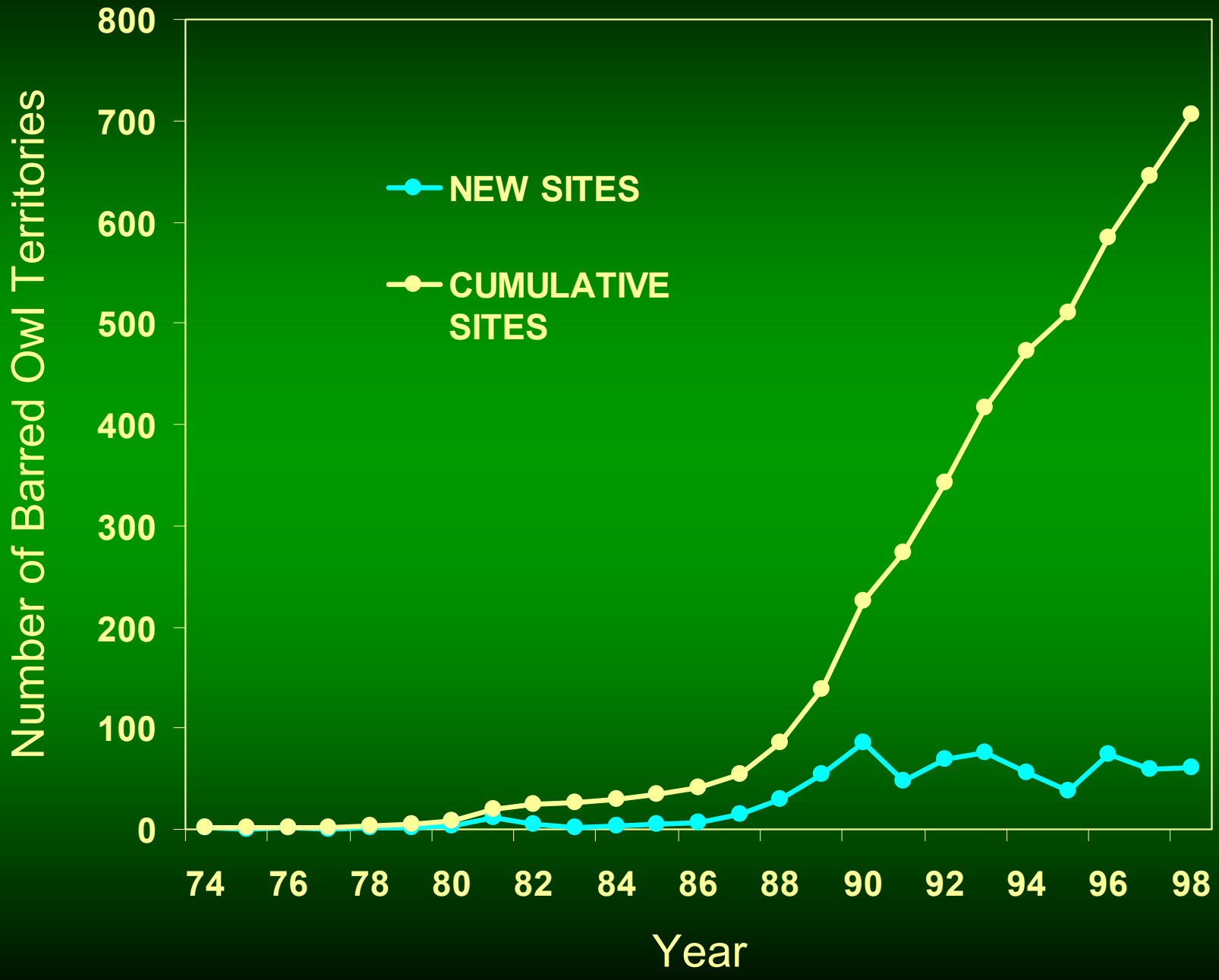
- USFS and BLM Research biologists continue extensive monitoring program to monitor trends in owl population.
- Data indicate that owl populations on many study areas are continuing to decline, especially in Washington, were the estimated average annual rate of decline in 1985-2003 was 7% per year.

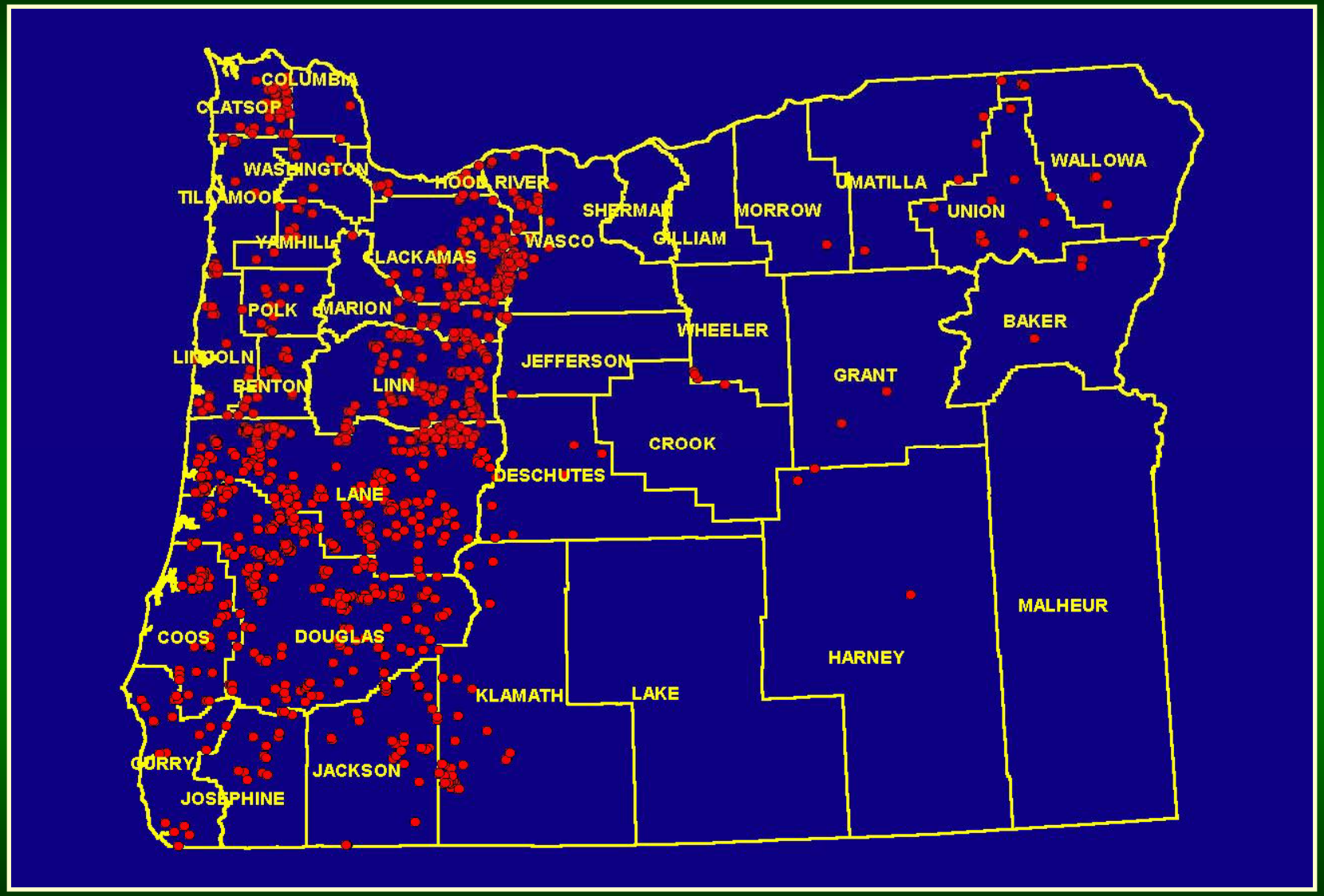
Why are owl populations still declining when so much habitat has been protected on federal lands?

Barred Owls Are Still Increasing

Barred Owl Distribution in 2002




Number of Barred Owl Territories
800
700
600
500
400
300
200
100
0
NEW SITES
CUMULATIVE SITES
74
76
78
80
82
84
86
88
90
92
94
96
98
Year


COLUMBIA
CLATSOP
WASHINGTON
TILLAMOOK
HOOD RIVER
SHERMAN
MORROW
UMATILLA
WALLOWA
UNION
YAMHILL
CLACKAMAS
WASCO
GILLIAM
POLK
MARION
WHEELER
BAKER
LINCOLN
JEFFERSON
GRANT
BENTON
LINN
CROOK
DESCHUTES
LANE
MALHEUR
COOS
DOUGLAS
HARNEY
KLAMATH
LAKE
CURRY
JACKSON
JOSEPHINE

Percent composition of diets of spotted owls and barred owls on the Baker Lake Study Area in Washington, 1986-1989 (76% overlap)

Prey type	BO	SO
Shrews, moles	23	4
Rabbits, pikas	8	6
Diurnal squirrels	9	2
Flying squirrels	20	51
Mice, voles, woodrats	14	32
Other mammals	1	1
Birds	11	3
Fish, frogs, snails, bugs	14	1

Mean annual home range areas (in hectares) of spotted owls and barred owls on the Baker Lake Study Area, Washington, 1986-1989

Estimator	BO (n = 23)	SO (n = 14)
95% Adaptive kernel	781	2659
95% Fixed kernel	593	1914
100% MCP	869	3099

Occupancy scores of spotted owls at historic territories before and after barred owls were first detected in the area (from Kelly et al. 2003).

	BO detected ≤ 0.8 km from territory center	BO detected > 0.8 km from territory center
Prior to BO detection	3.42 ± 0.08	3.25 ± 0.09
After BO detection	2.16 ± 0.16	2.98 ± 0.13
Mean difference	1.26 ± 0.18	0.27 ± 0.14

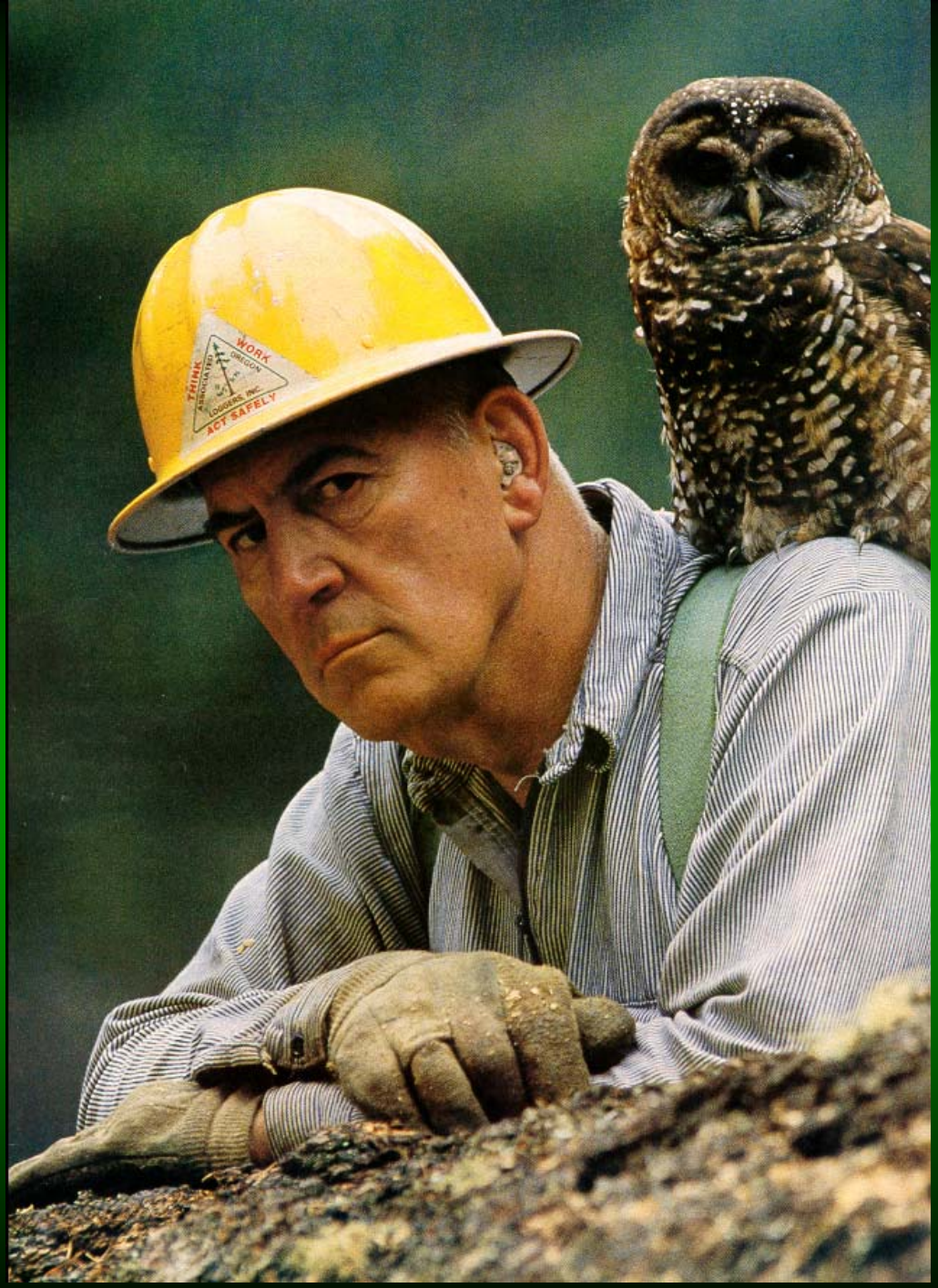
SPARRED OWL

(SPOTTED OWL AND BARRED OWL HYBRID)

ST. JOHNS JUVENILE SPARRED

Records of hybridization between spotted owls and barred owls, 1970-1999 (from Kelly and Forsman 2004)

No. of territories	Species combination		Yrs	# Juvs	# Juvs/yr
	Male	Female			
6	SO	BO	13	13F1	1.00
4	BO	F1	4	2 F2	0.50
3	SO	F1	8	0	0.00
1	SO/BO	F1	7	0	0.00
6	F1	BO	21	13 F2	0.61
3	F1	SO	6	1 F2	0.16
1	F1	UNK	2	0	0.00



- Although logging is still causing loss of spotted owl habitat, especially on private and state lands, the invasion of barred owls may ultimately be a greater threat than habitat loss: it is too early to tell…