Influences of HBU on Forest Land Conversion in Washington State

42nd Western Forest Economist Meeting, May 8, 2007
Concurrent Session on the Economics of Land Use Change

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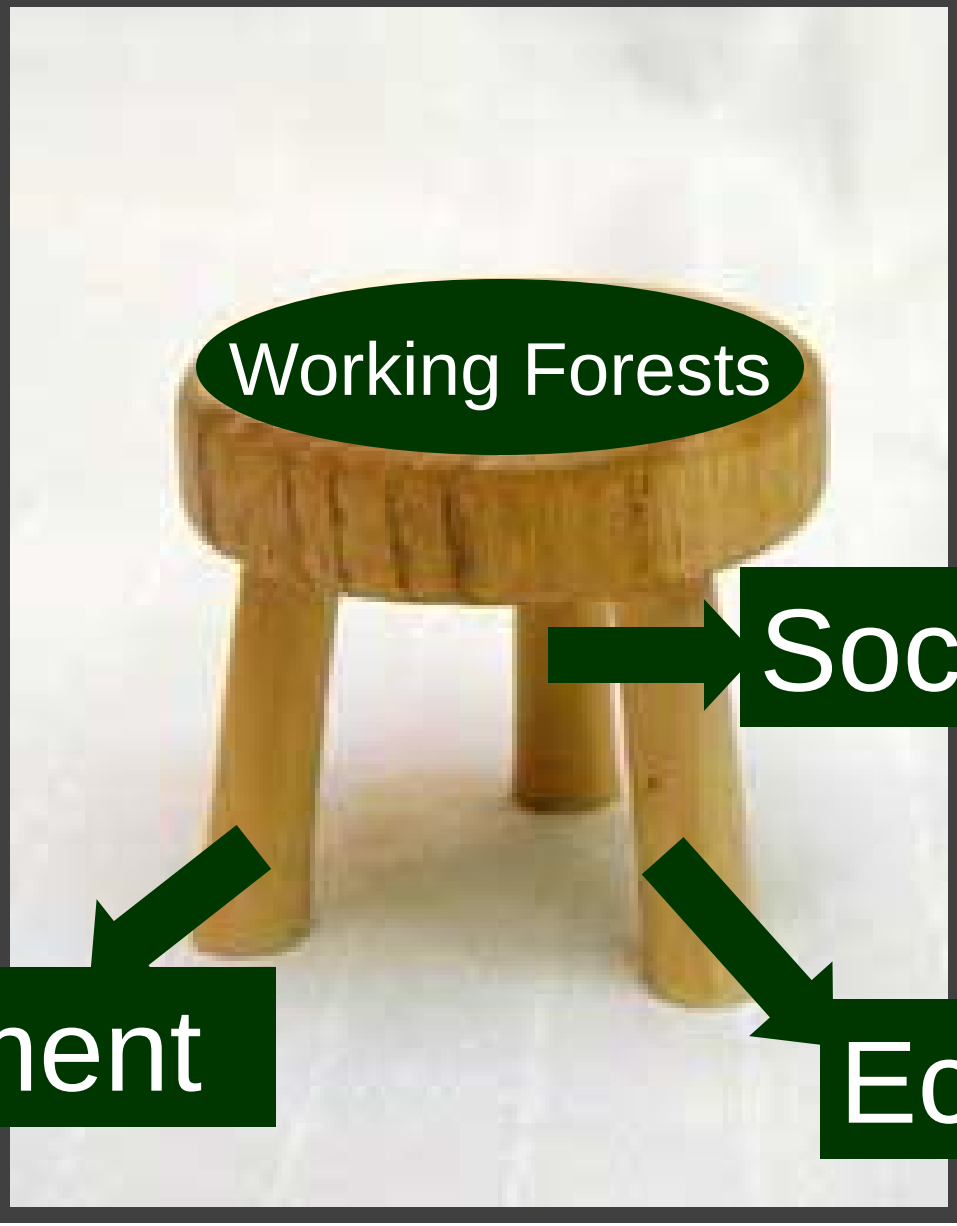
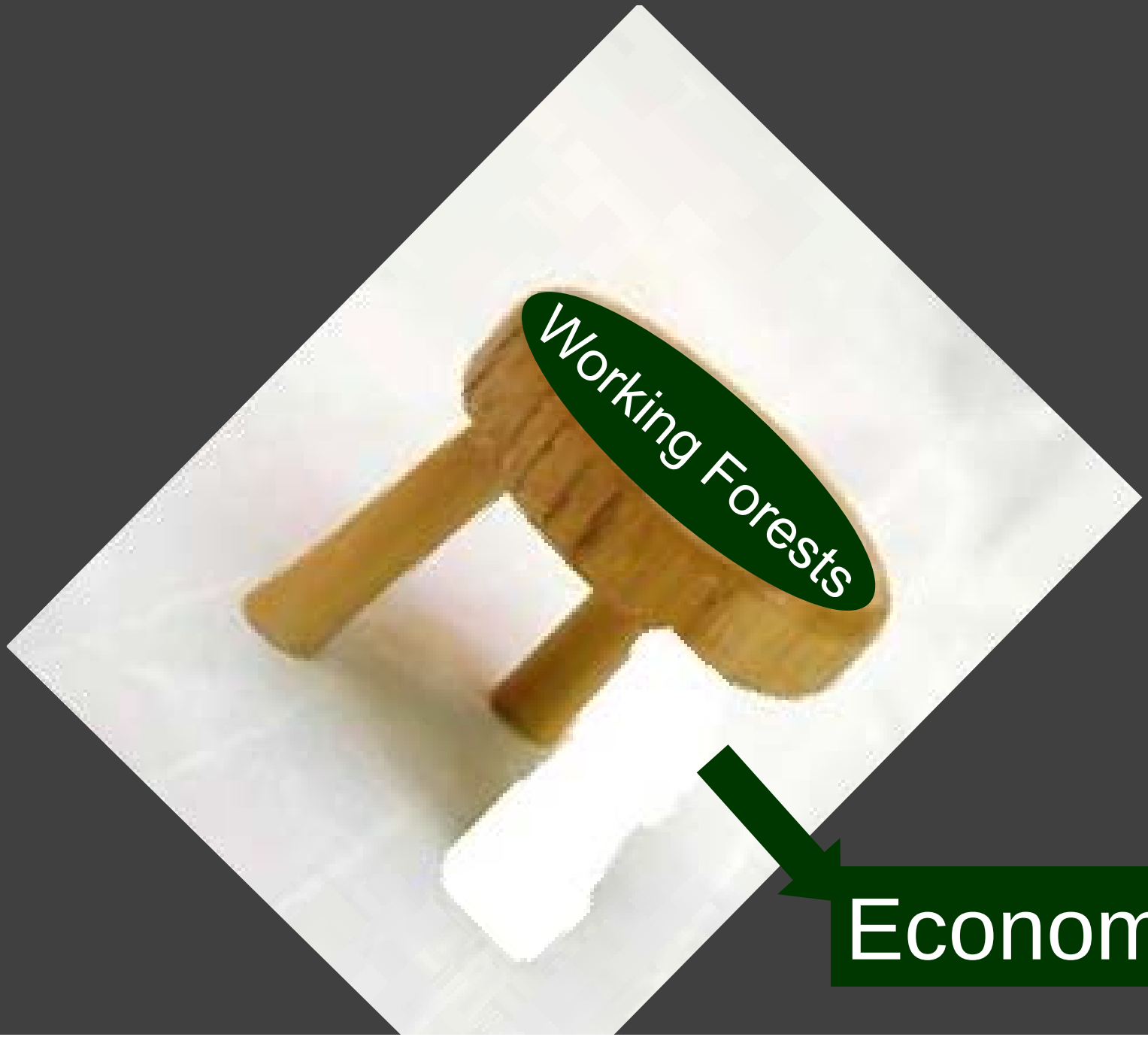
Today's Presentation

- Working forest land sustainability
- Influences of higher and better use values on forest land conversion
- Current estimates of change
- Future directions

Sustaining working forests




Working Forests
Society



Economy

Environment

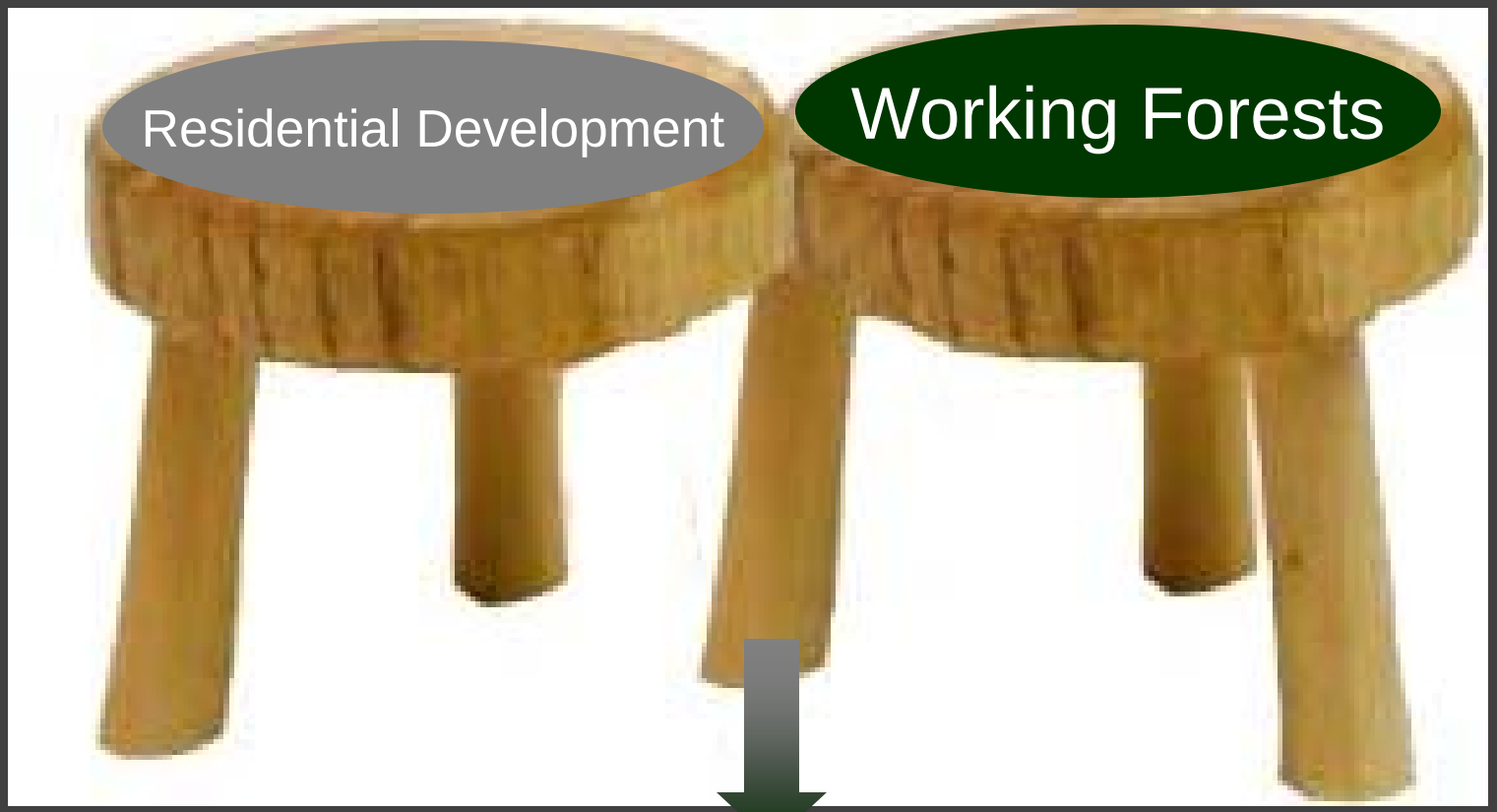
Sustaining residential development

Society

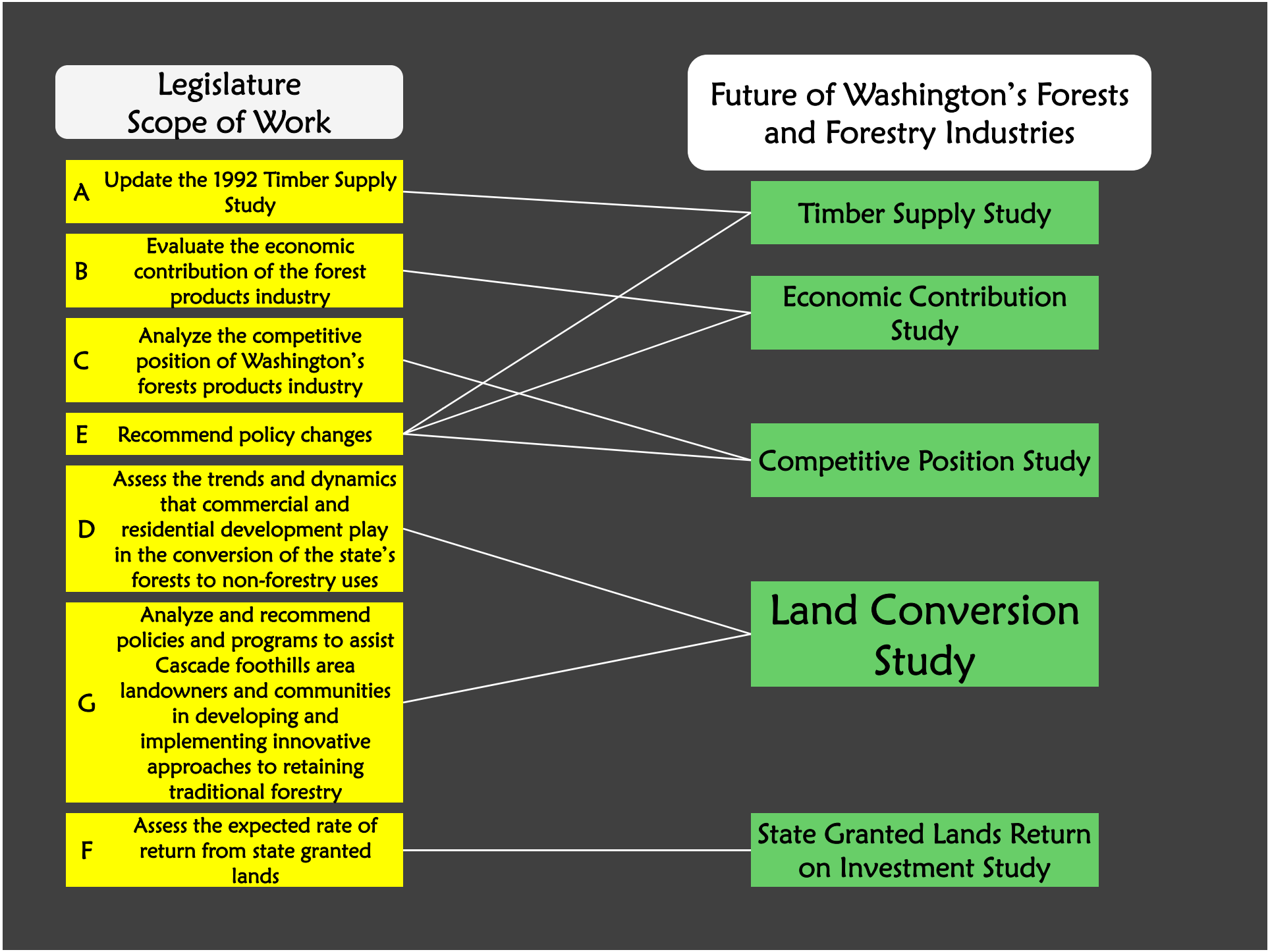
Environment

Economy

A 5-legged stool?



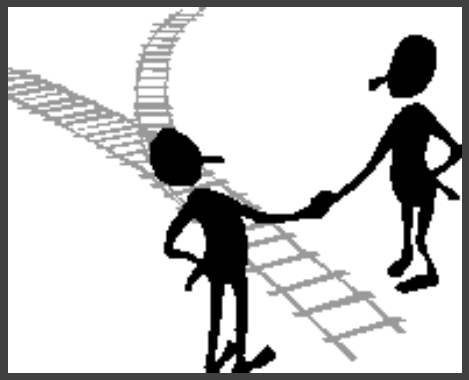
Environment: Forest land base


Legislature
Scope of Work
A Update the 1992 Timber Supply Study
B Evaluate the economic contribution of the forest products industry
C Analyze the competitive position of Washington's forests products industry
E Recommend policy changes
D Assess the trends and dynamics that commercial and residential development play in the conversion of the state's forests to non-forestry uses
G Analyze and recommend policies and programs to assist Cascade foothills area landowners and communities in developing and implementing innovative approaches to retaining traditional forestry
F Assess the expected rate of return from state granted lands
Future of Washington's Forests and Forestry Industries
Timber Supply Study
Economic Contribution Study
Competitive Position Study
Land Conversion Study
State Granted Lands Return on Investment Study

Goals of Study







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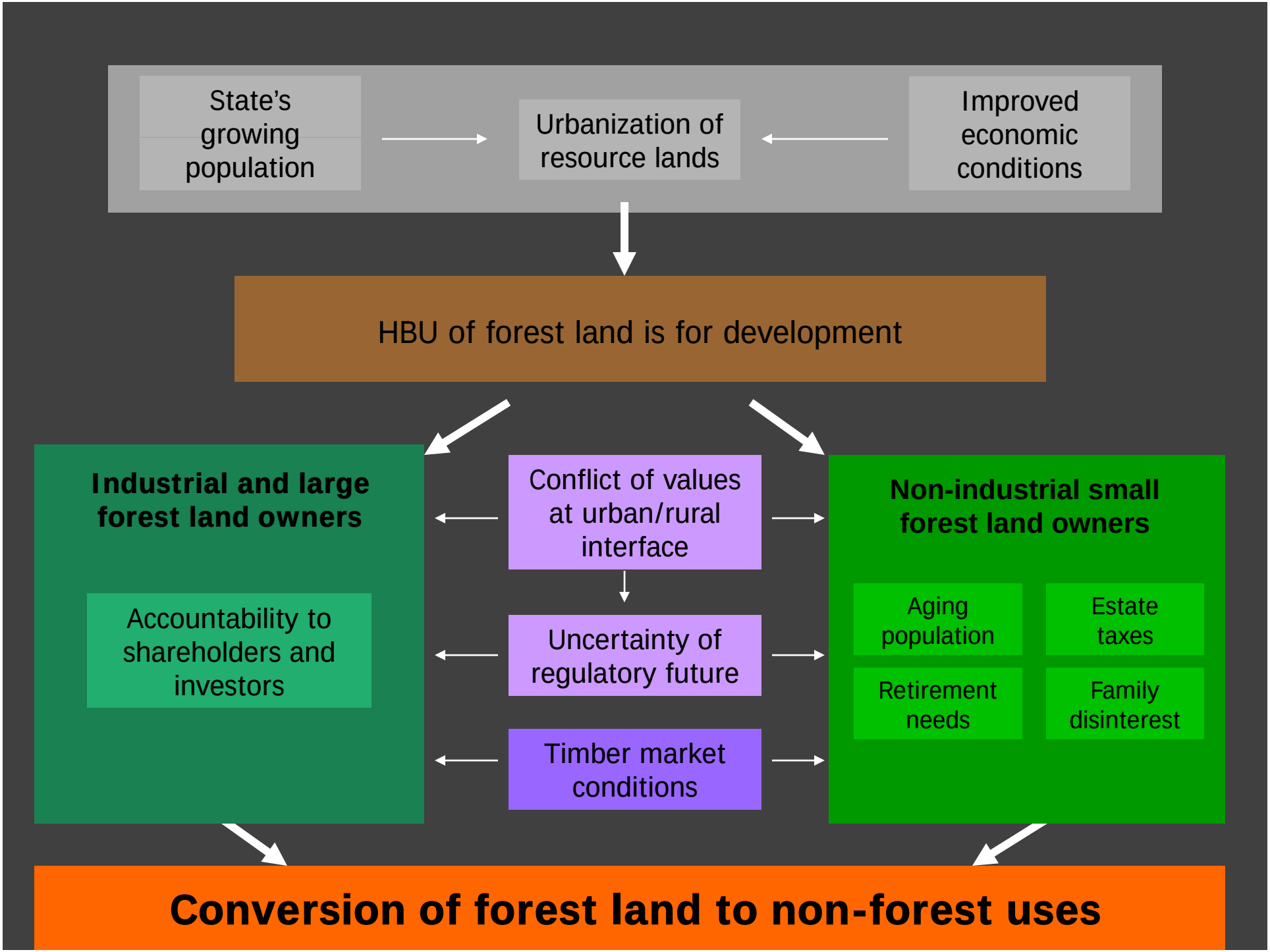
http://clintburdett.com/process/11_documents/documents_00_0_intro.htm

- Identify forest land use change statewide.
- Identify factors associated with forest land use conversion.
- Identify incentives and disincentives that alter the maintenance of working forests in areas susceptible to land conversion, and programs that could minimize conversion of forest lands.

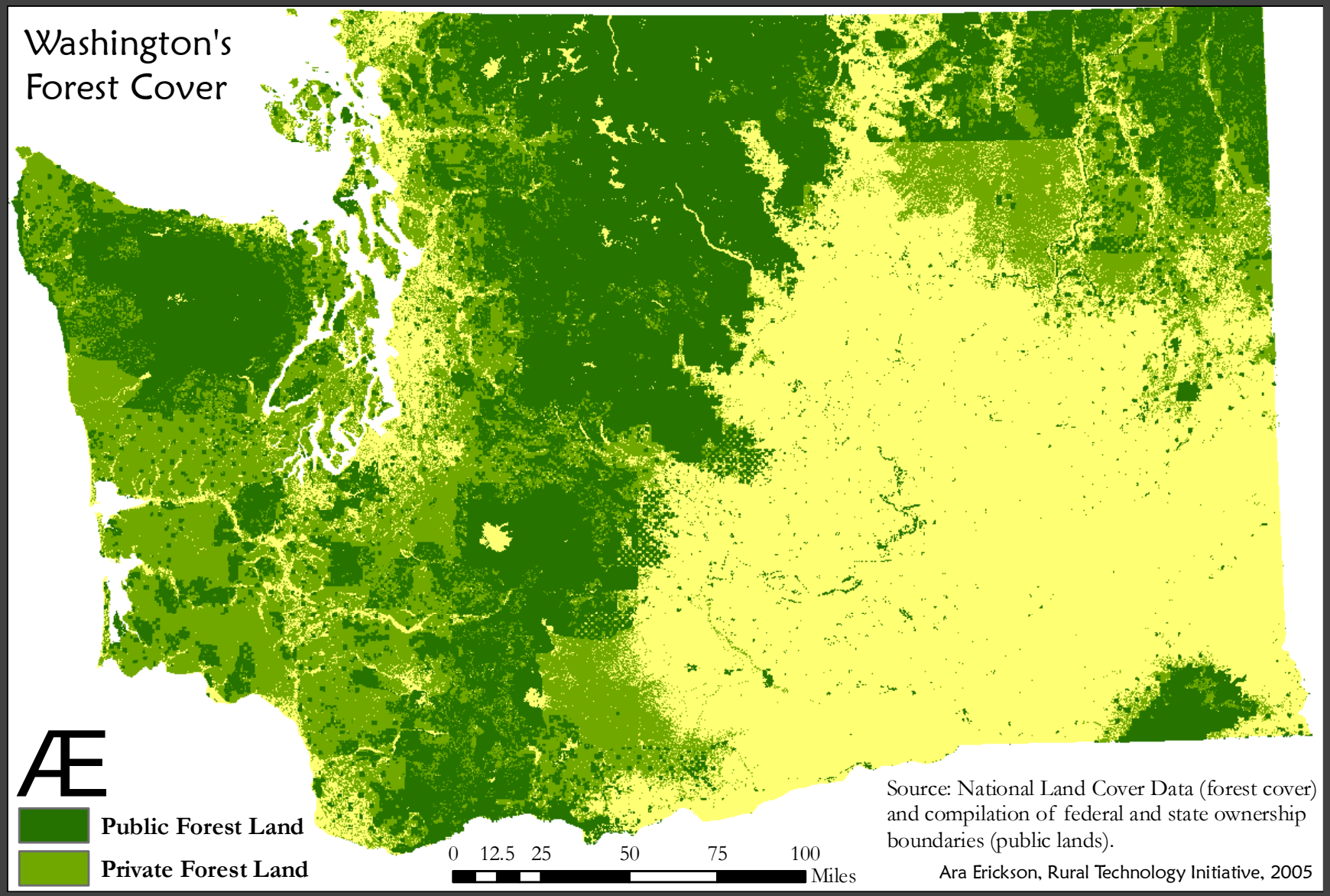

State's growing population
Urbanization of resource lands
Improved economic conditions
HBU of forest land is for development
Industrial and large forest land owners
Accountability to shareholders and investors
Conflict of values at urban/rural interface
Uncertainty of regulatory future
Timber market conditions
Non-industrial small forest land owners
Aging population
Estate taxes
Retirement needs
Family disinterest
Conversion of forest land to non-forest uses

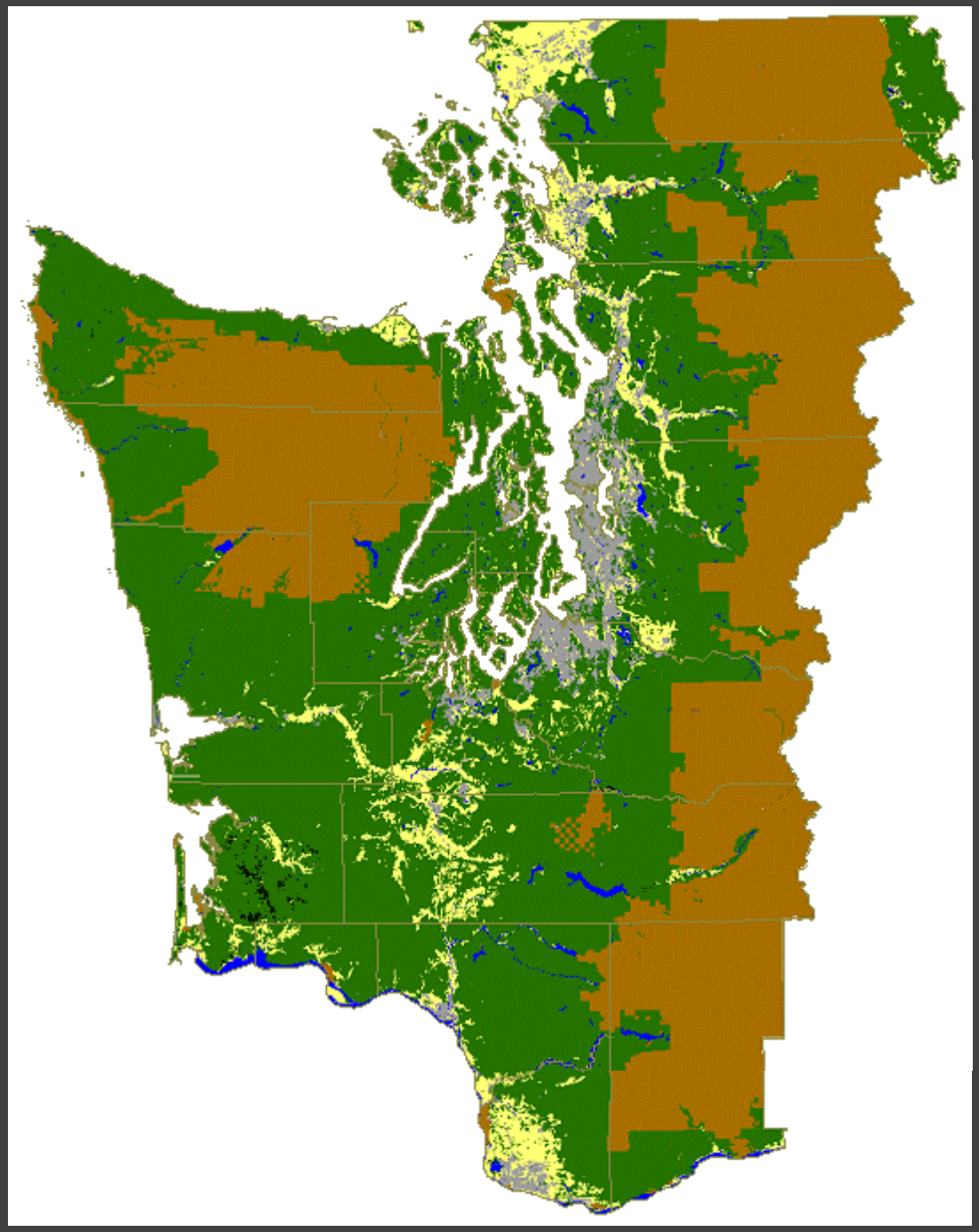
Major Reasons for Loss of Commercial Forest Land

- Clearance for crops, pasture, Christmas tree farms
- Roads and reservoirs
- Urbanization
- Second homes
- Reservation for parks or wilderness
- Reclassification to noncommercial forest

~Healy, 1984, based on U.S. Forest Service, forest surveys, 1965-1981

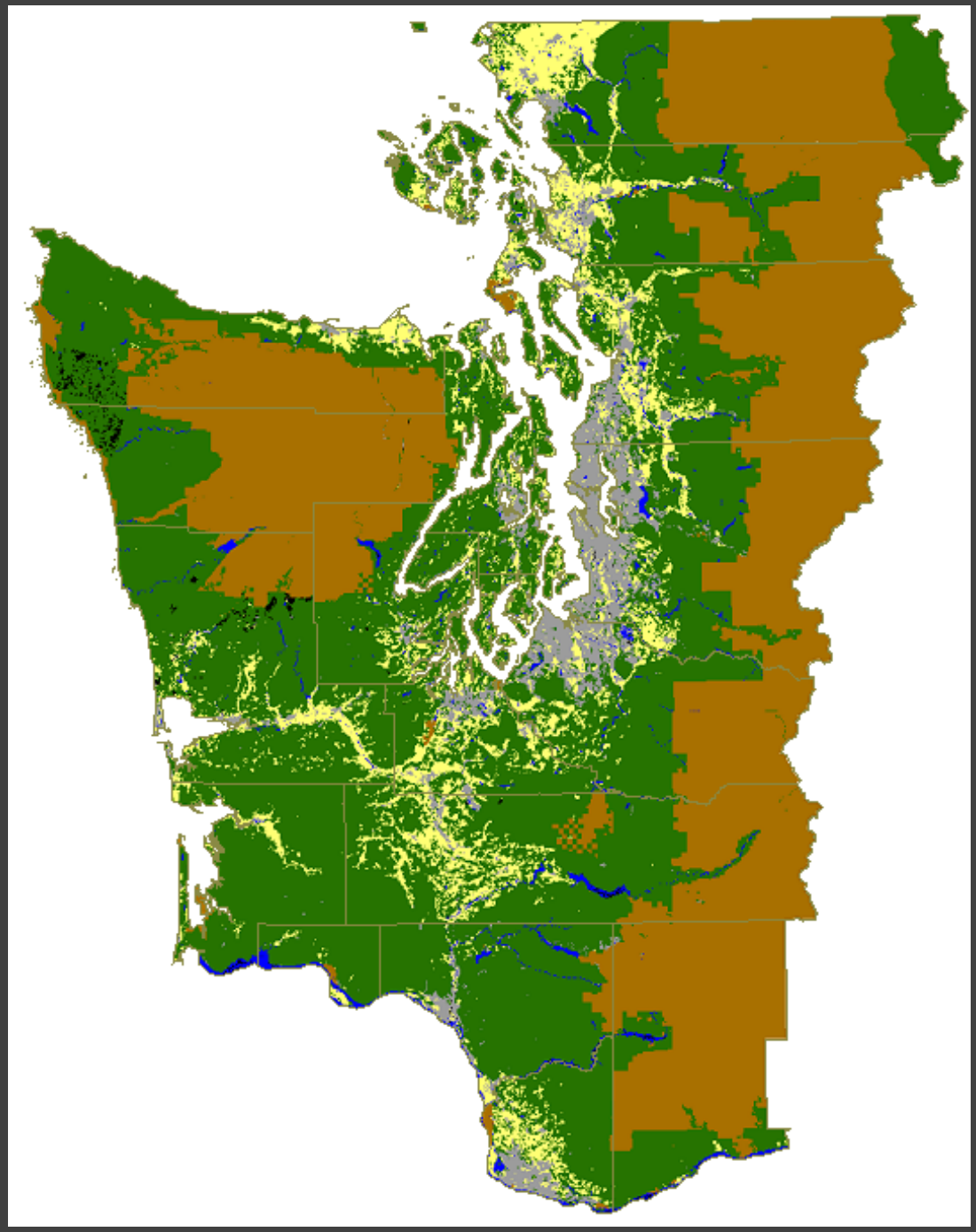
Washington's Forest Land Base...?





Land Use in Western Washington: 1988

- Wildland Forest, Rural Forest, Other Forest
- Intensive Ag, Mixed Ag, Other Agriculture
- Residential, Urban
- Water
- Unknown, Clouds, Shadow
- Federal land (not included in analysis)



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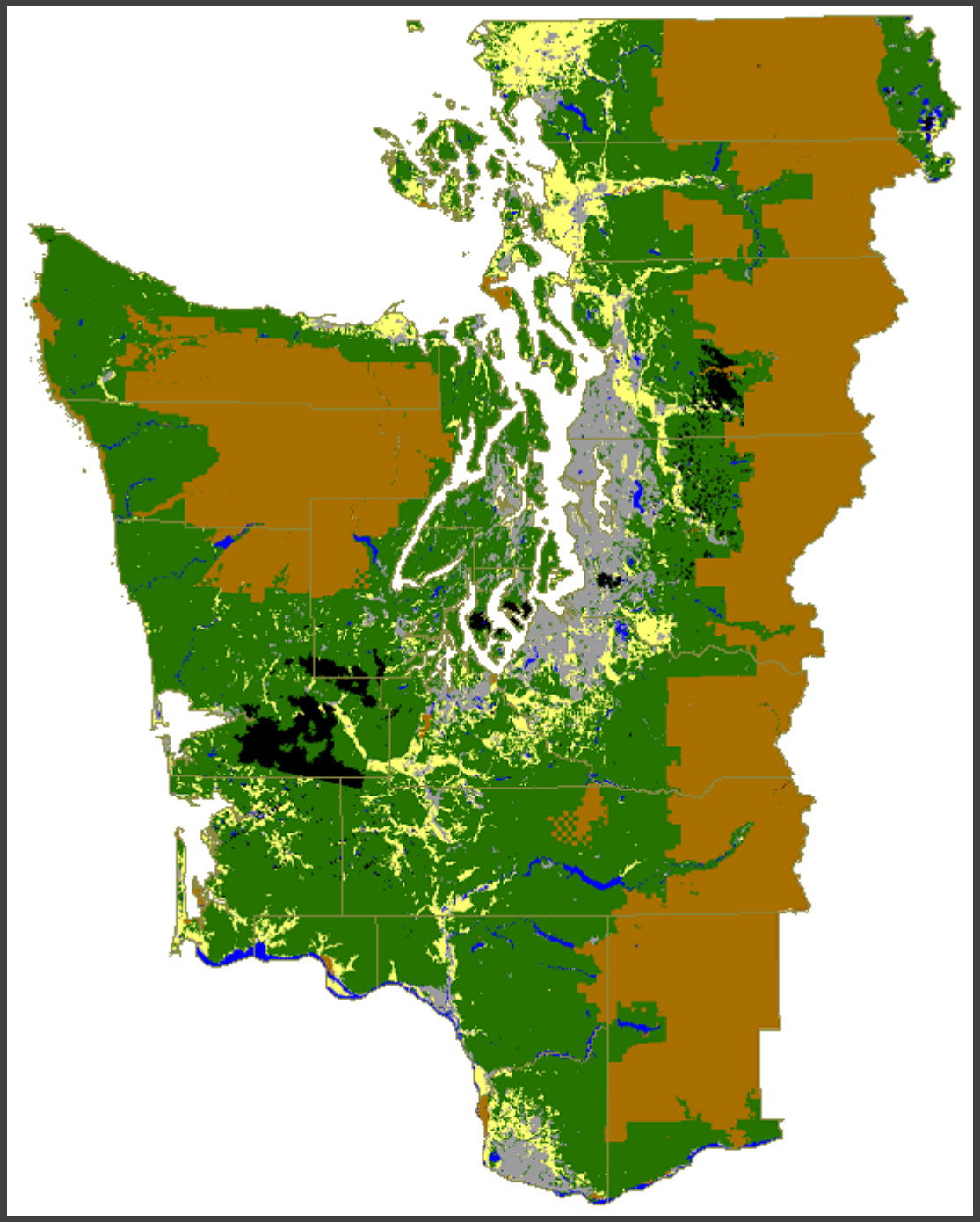
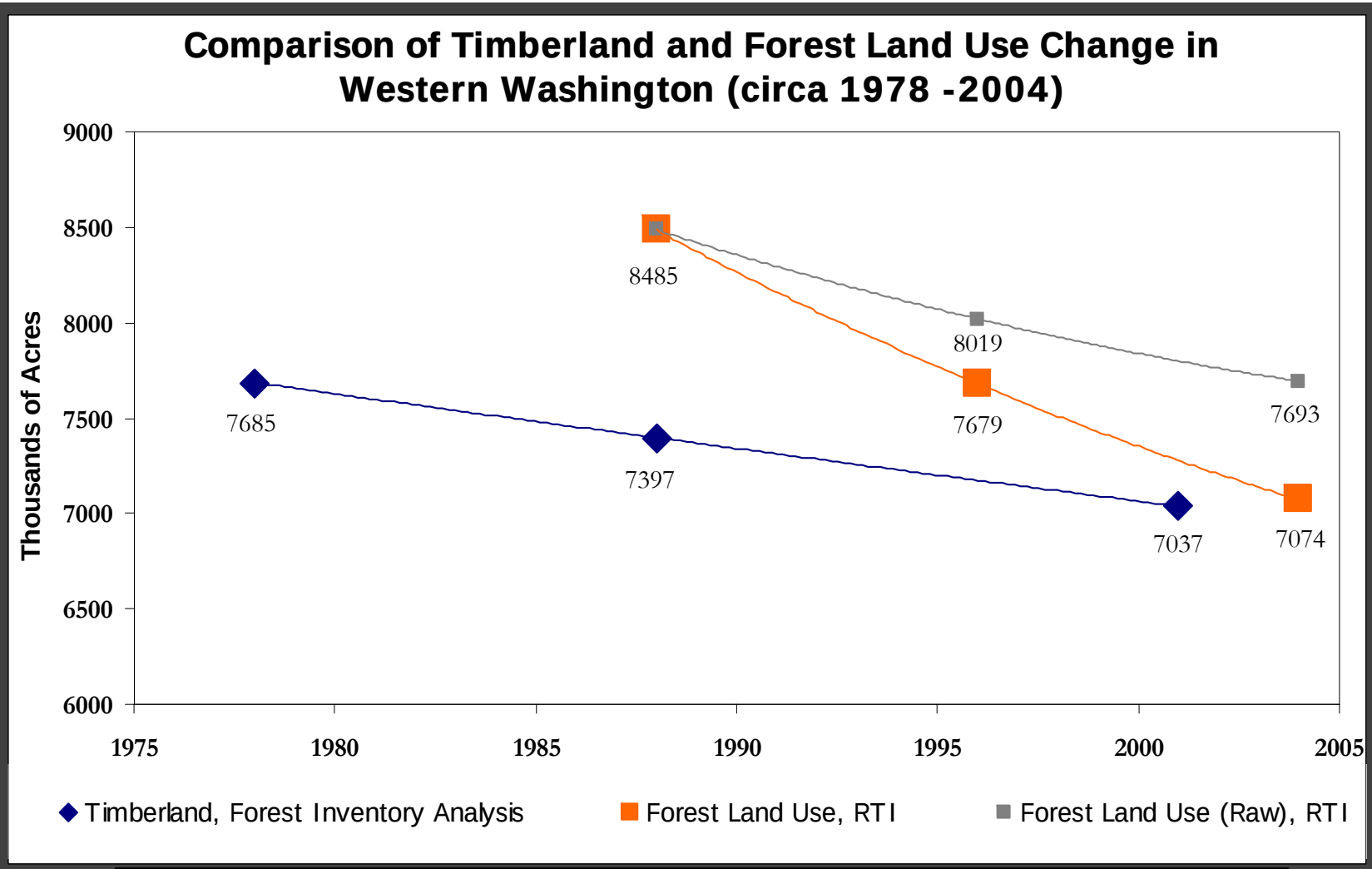


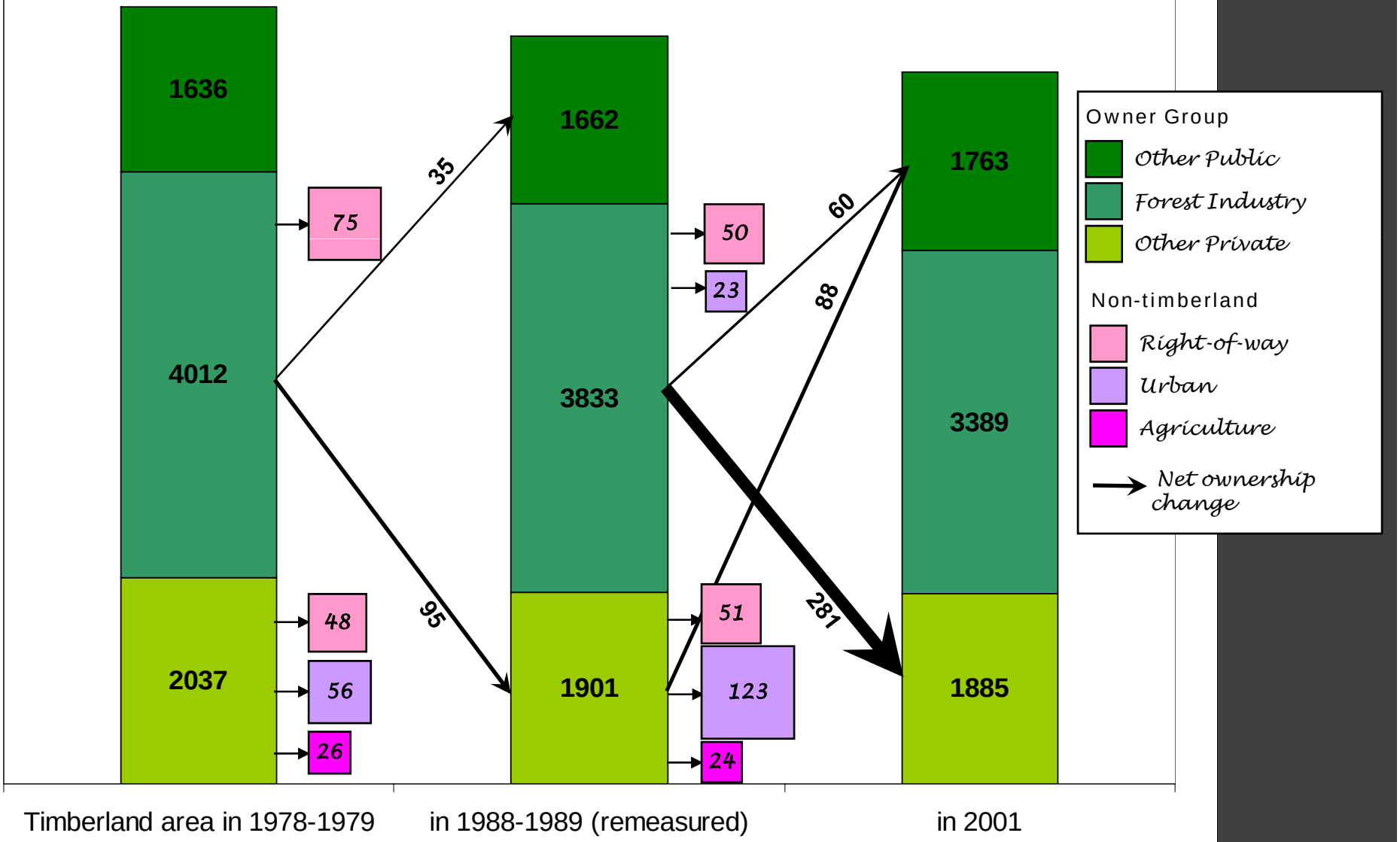
Land Use in Western Washington: 2004

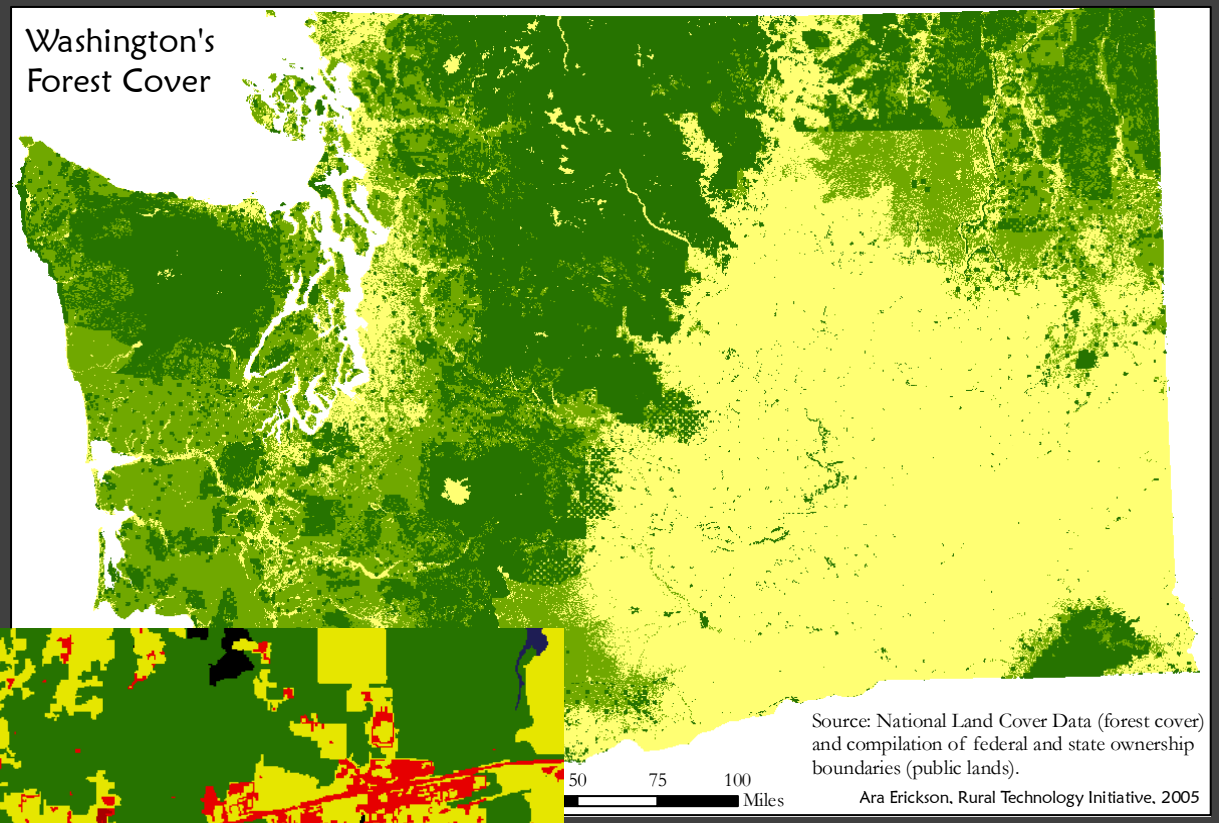
- Wildland Forest, Rural Forest, Other Forest
- Intensive Ag, Mixed Ag, Other Agriculture
- Residential, Urban
- Water
- Unknown, Clouds, Shadow
- Federal land (not included in analysis)

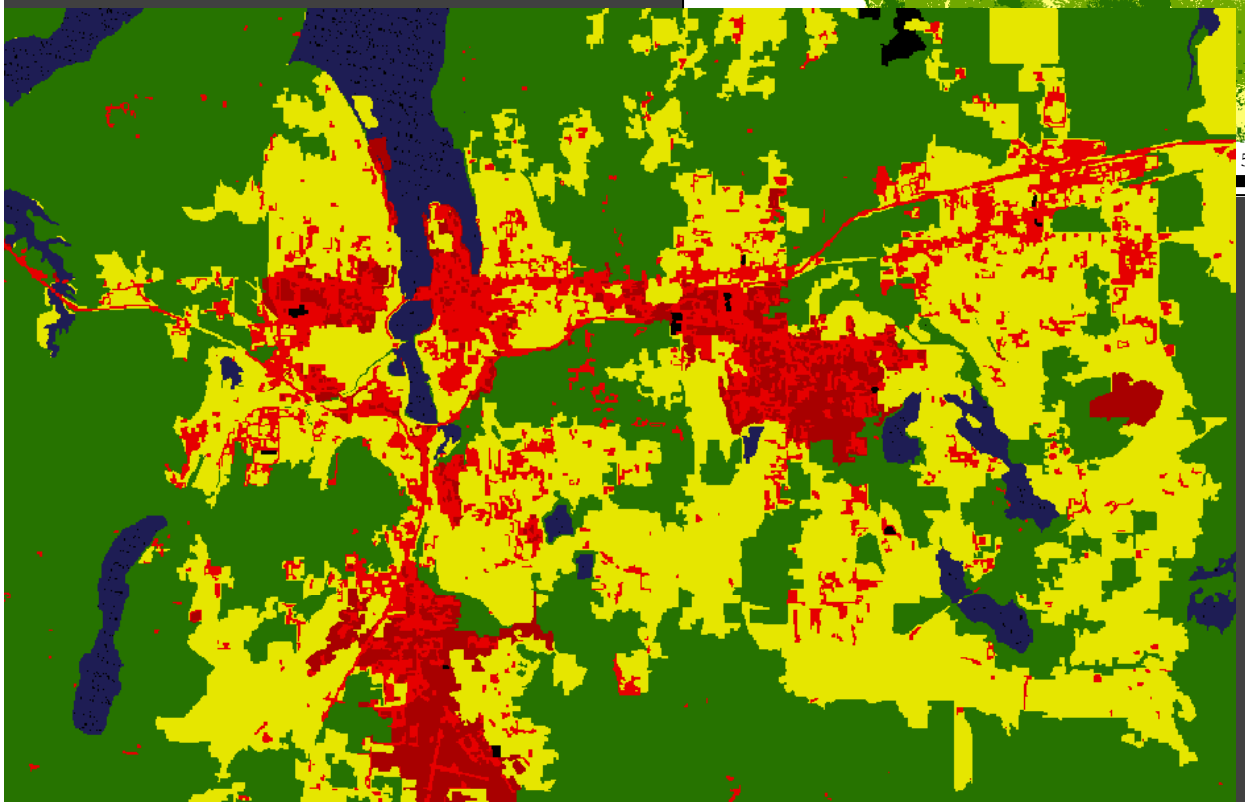


Average Change / Year	
Timberland, FIA	**Forest Land Use**
1978/79-1988/89: -0.37%	
1988/89-2001: -0.37%	1988-1996 -1.19% (0.69%)
	1996-2004 -0.99% (0.51%)
1978-2001: -0.37%	**1988-2004: -1.04% (0.58%)**

Timberland Ownership and Net Flow – Western Washington



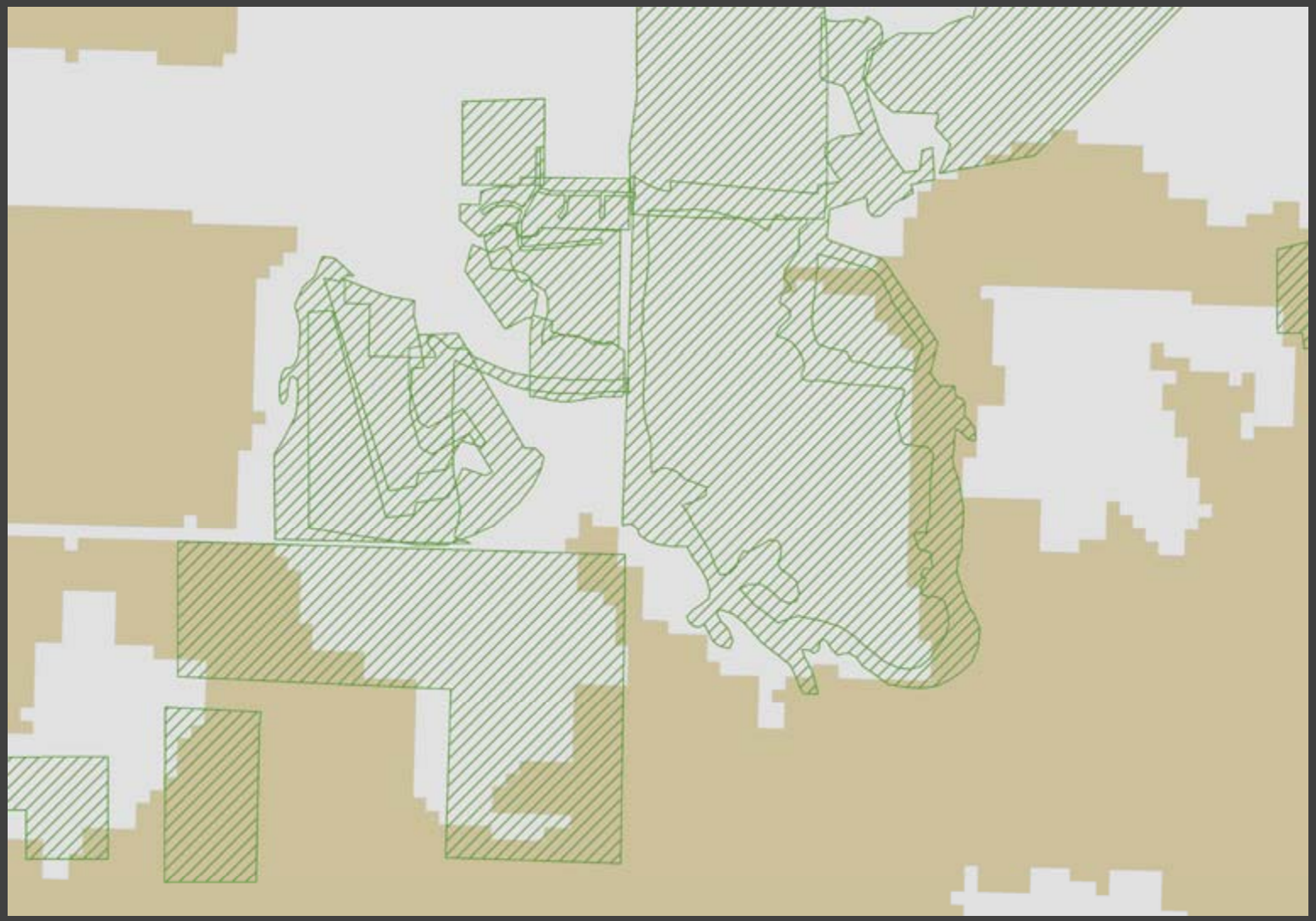

Washington's
Forest Cover
50
75
100
Miles
Source: National Land Cover Data (forest cover) and compilation of federal and state ownership boundaries (public lands).
Ara Erickson, Rural Technology Initiative, 2005



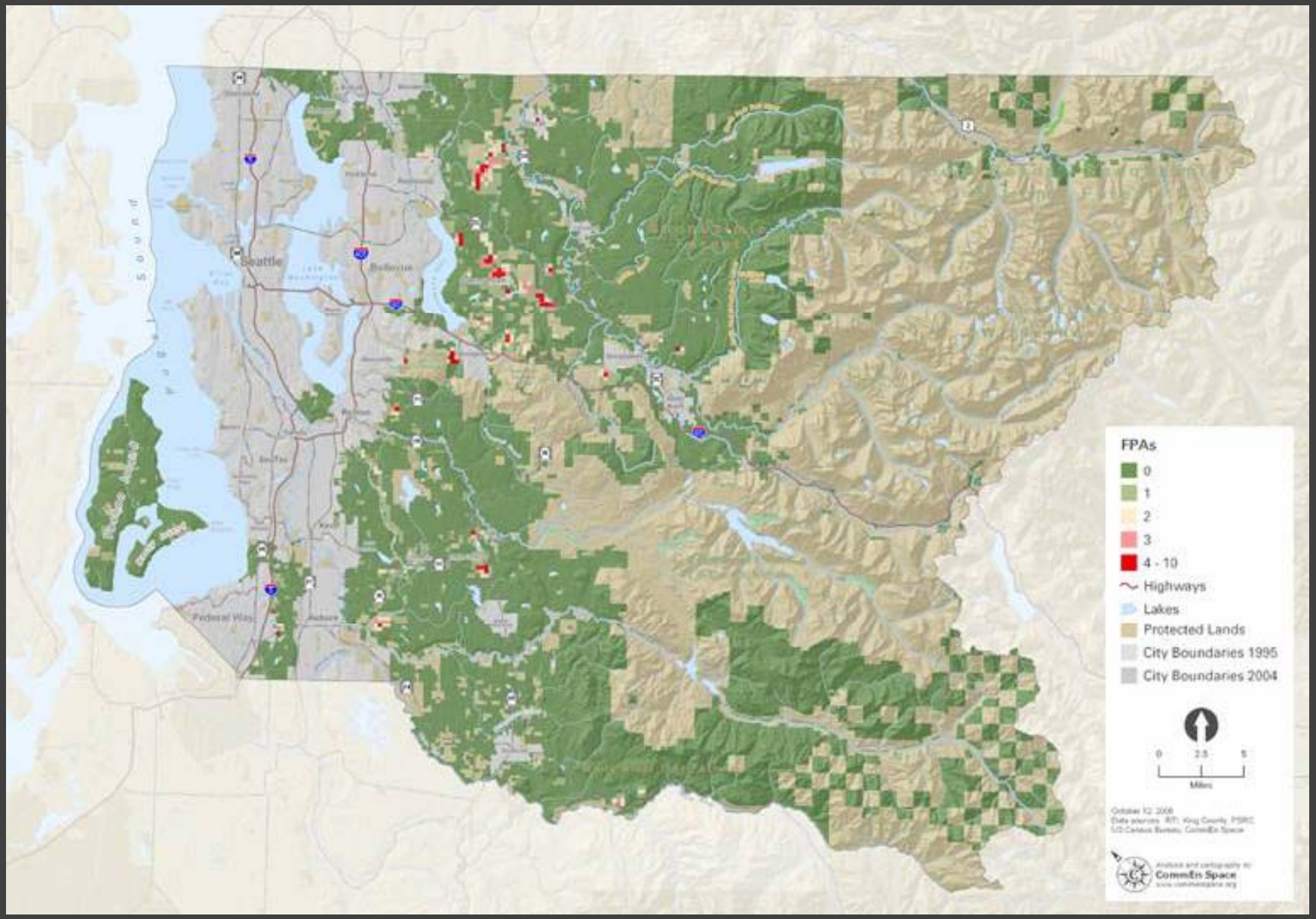
King County Example: A Closer Look at Forest Land Conversion

- Used historical data to quantify changes within areas of forest land use and all other private unincorporated land
  - Class IV General FPAs from 1996 through 2004
  - Parcels from 1997 and 2003
  - Development permits from 1996 through 2004
- Measured with land use change polygons and uniform ¼ mile grid

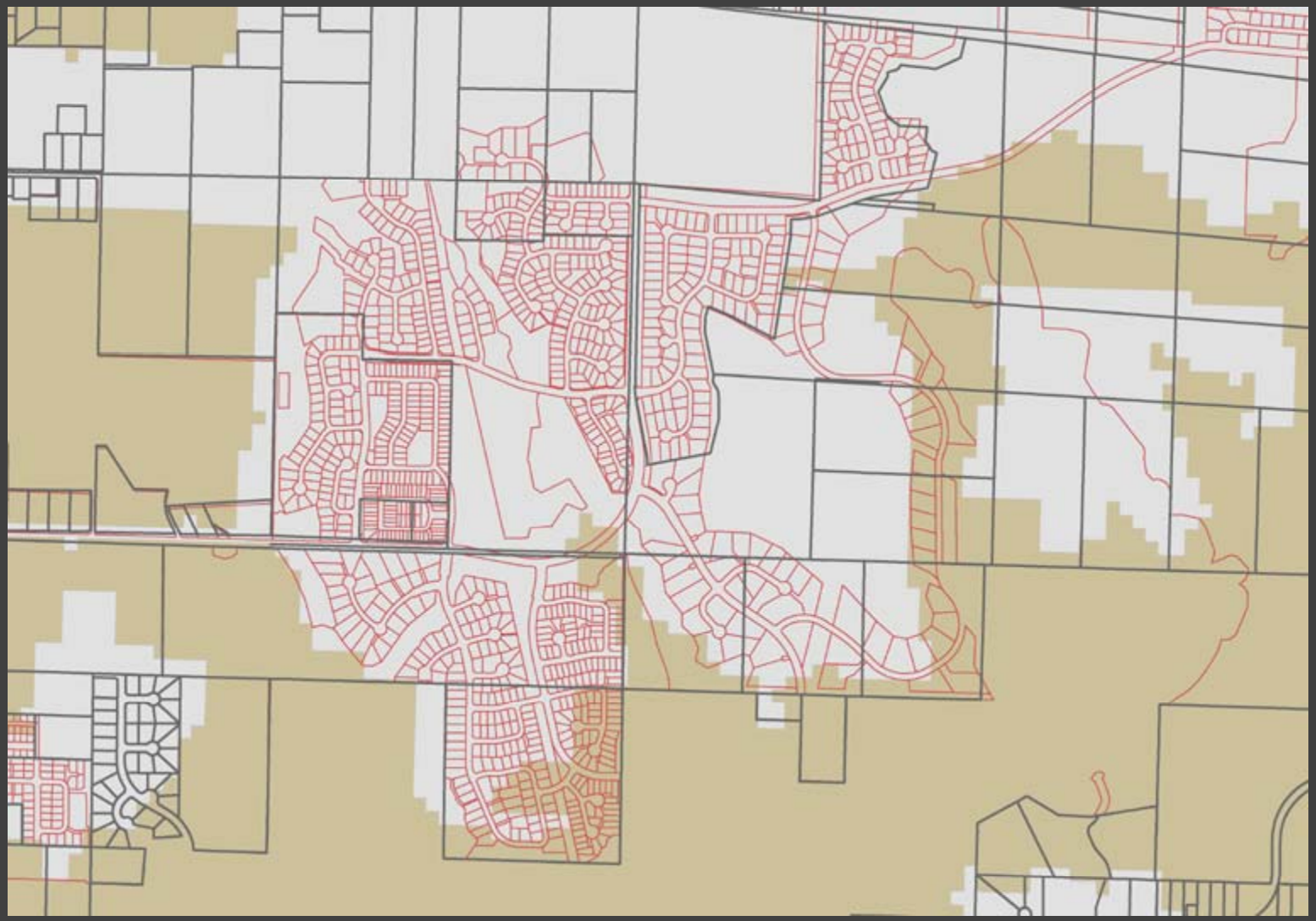
FPAs Illustration



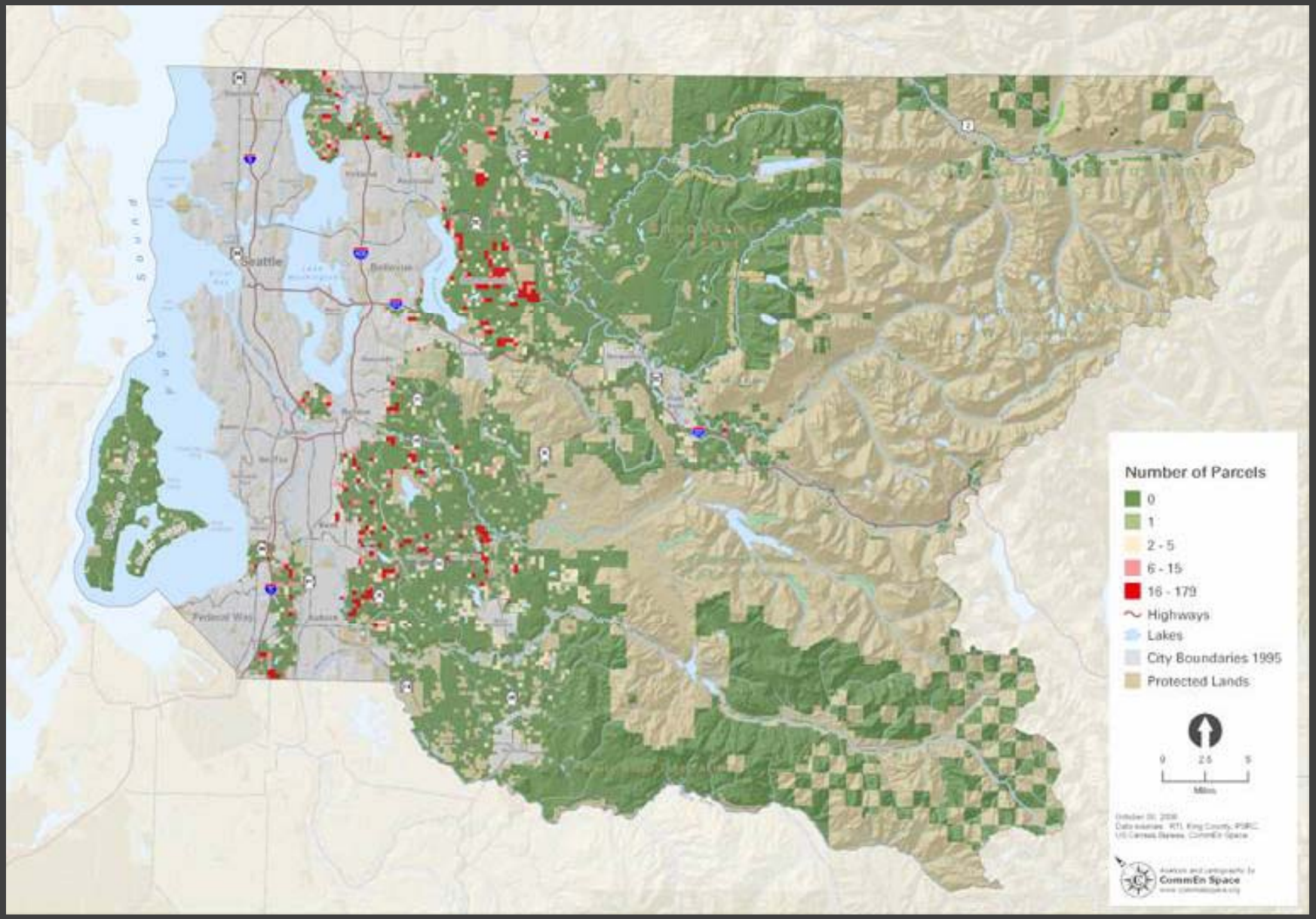
FPAs Per ¼ Mile 1996-2004



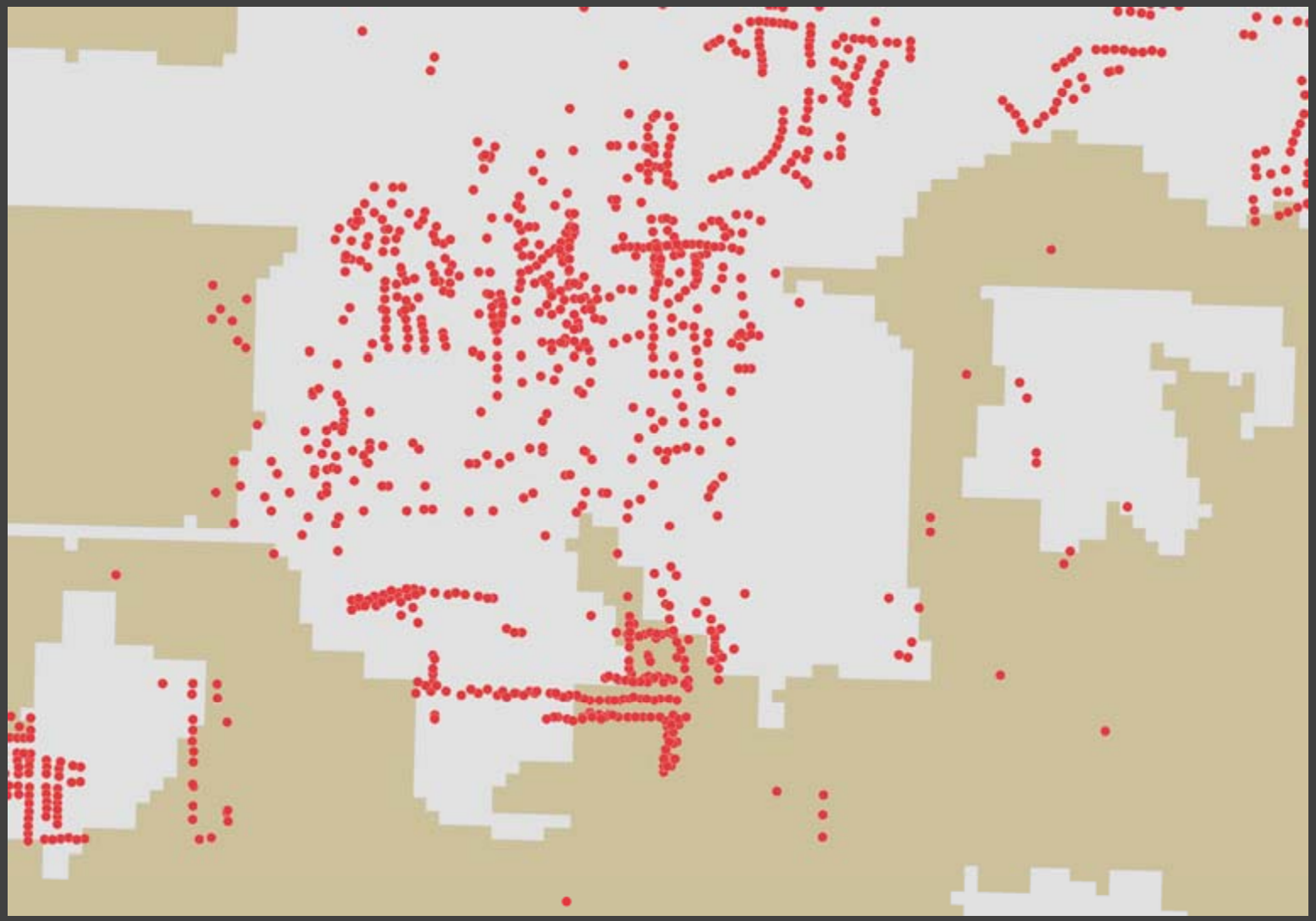
Parcelization Illustration



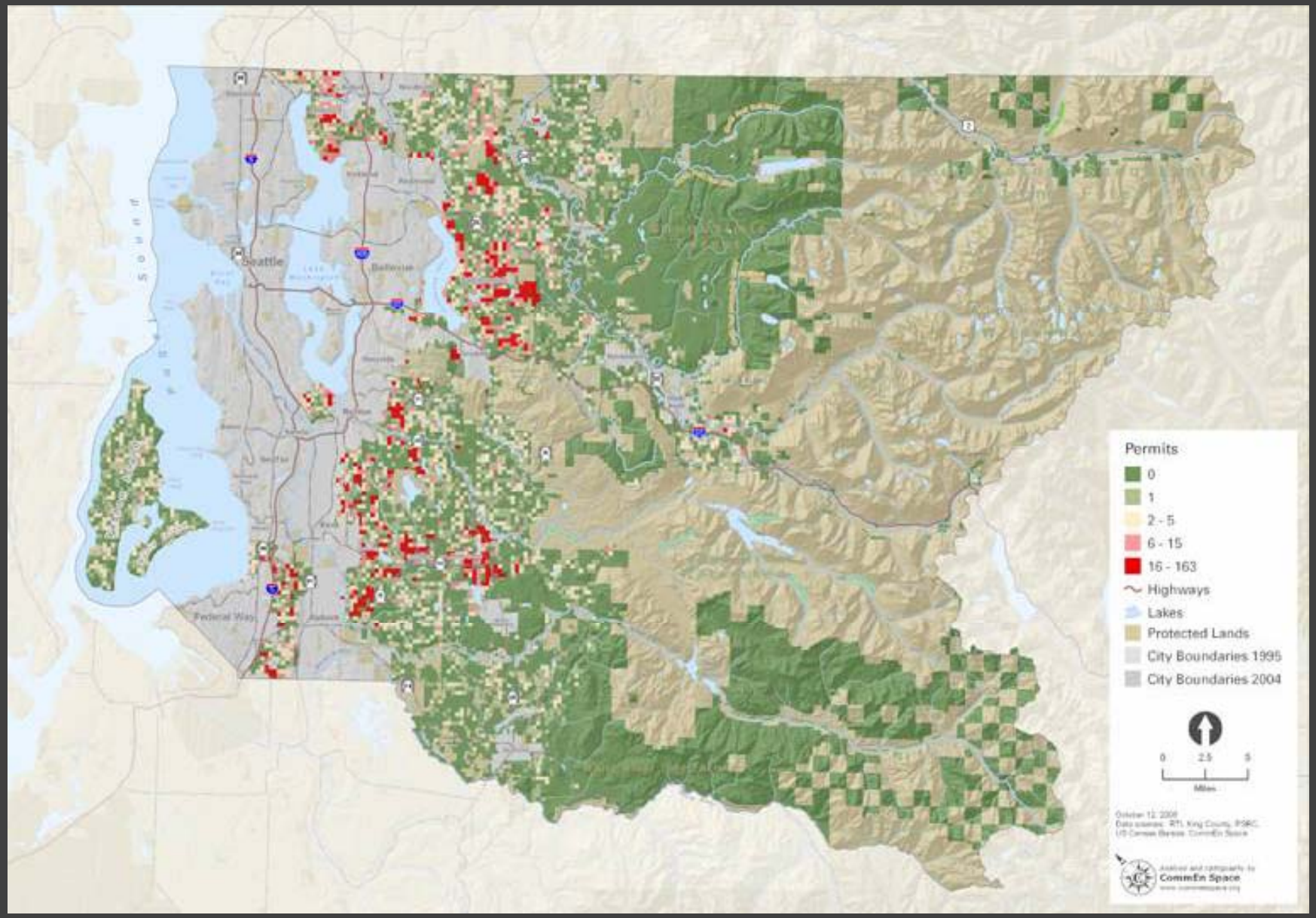
Parcelization by ¼ Mile 97-03



Permits Illustration



Permits per ¼ Mile 96-04



Results—FPAs, Parcels, and Permits (Unincorporated King County)

		Class IV General FPAs		Parcels		Permits	
	% Total Area	# of FPAs (Acres)	%	New Parcels	%	Permits	%
Changed to **non-forest** land use	11%	211 (4,618)	38% (44%)	4,463	70%	9,057	34%
Stayed in **forest land** use	73%	122 (2,228)	22% (21%)	478	7%	4,697	18%
Stayed in **other land** uses	16%	229 (3,626)	35% (41%)	1,454	23%	13,063	49%
Total		562 (10,472)		6,395		26,817	

"It is technically possible to manage urban/forest interface zones so that people and trees exist in harmony. A change in attitude will be required on the part of everyone, as well as a good deal of imagination."

~Atkinson, Crown Zellerbach, 1984