Harvesting and Silvicultural Practices in Maine, 1982-2008, Trends, Multiresource Impacts, and Some Implications

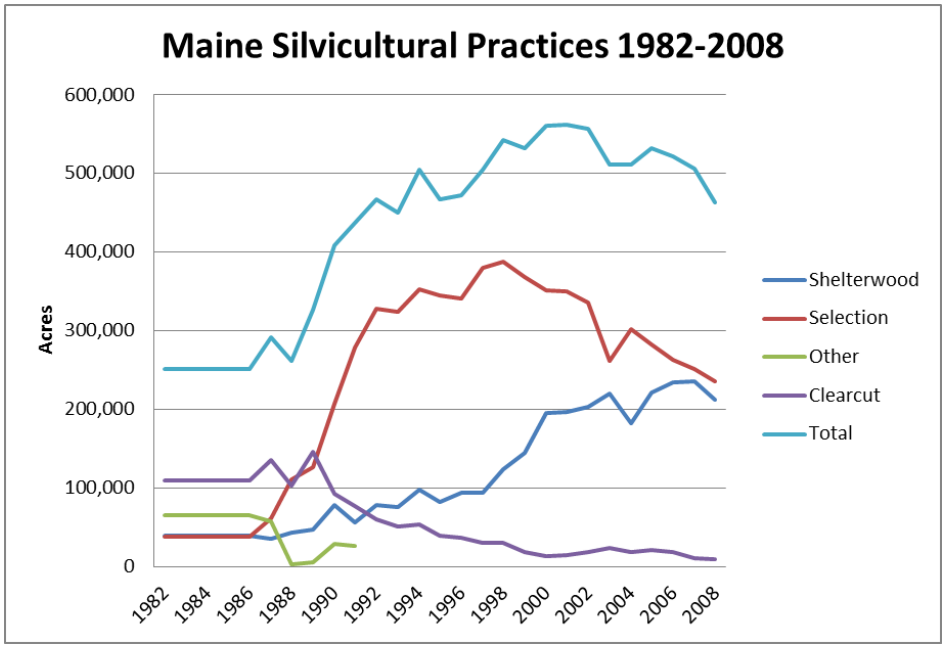
Lloyd C. Irland

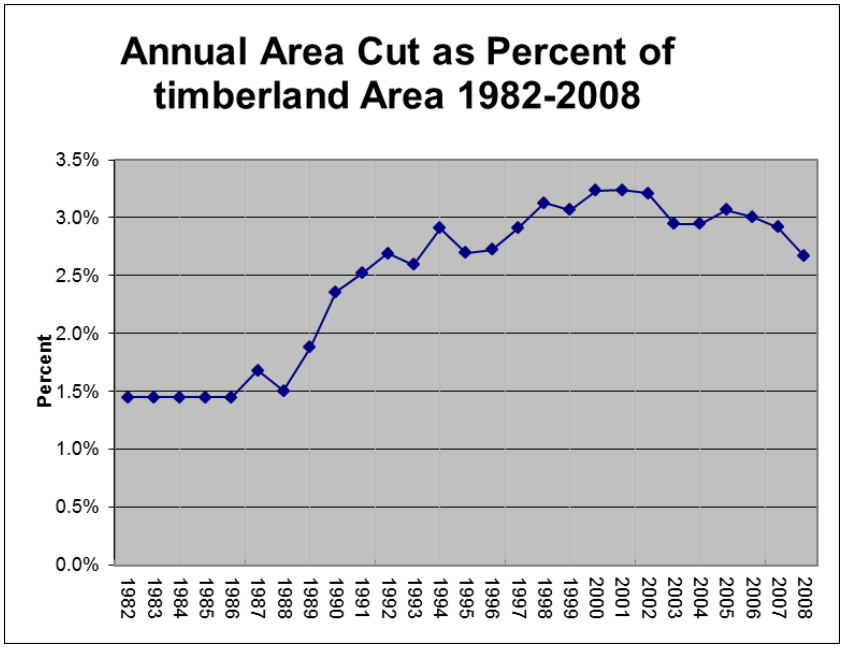
Yale SF&ES & The Irland Group

Contents

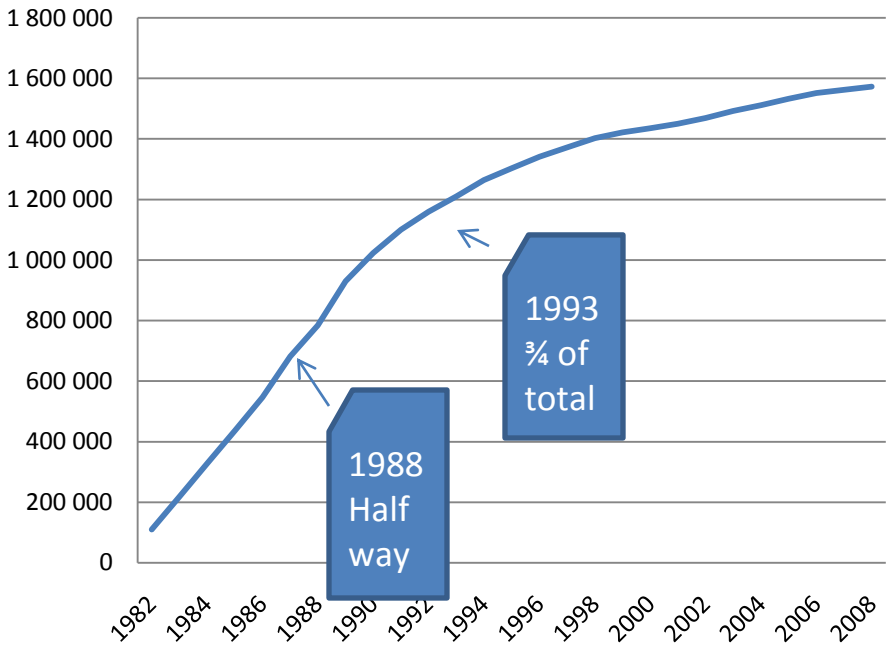
- What Happened?
- Why? Some drivers
- Impacts on Forest Productivity and Values
- Some Implications
- Questions for Debate

What Happened? Trend in cutting practices

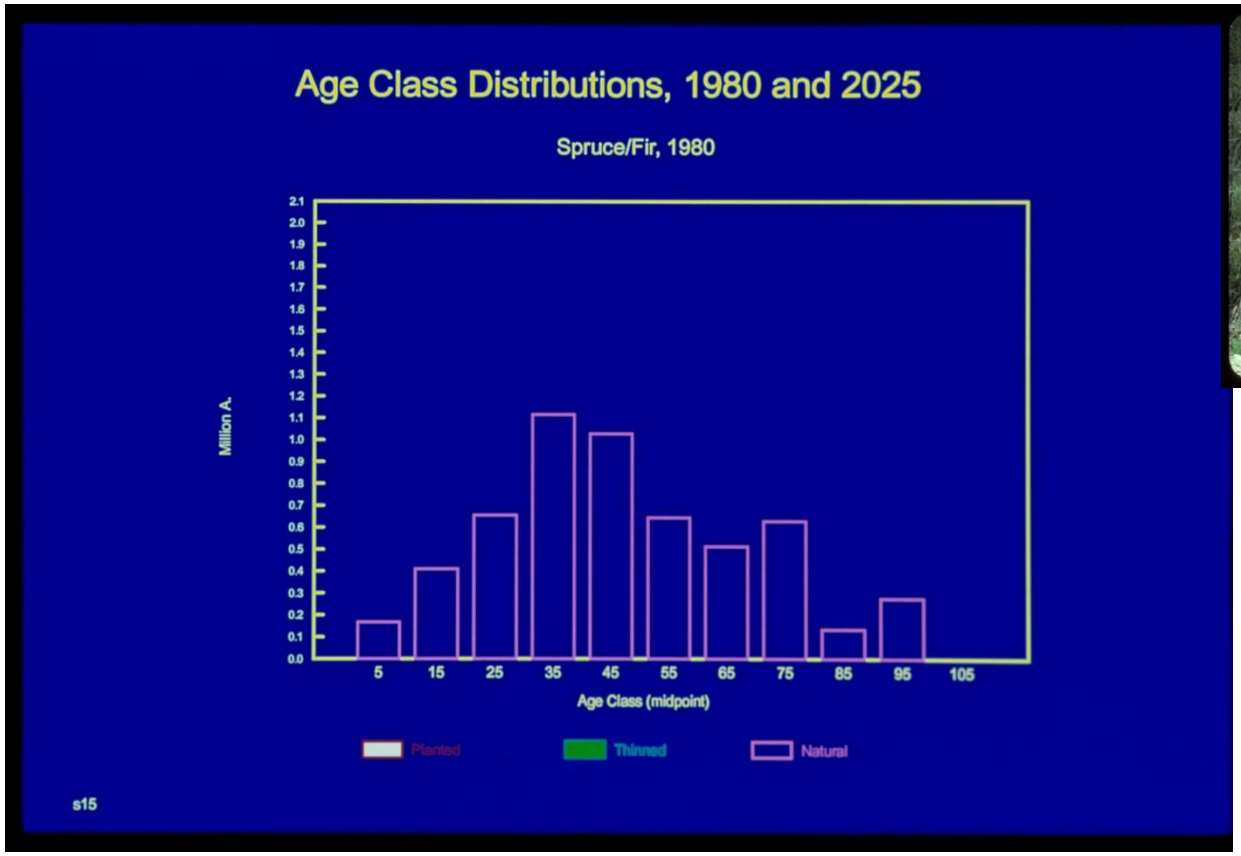




Cumulative Clearcut acreage

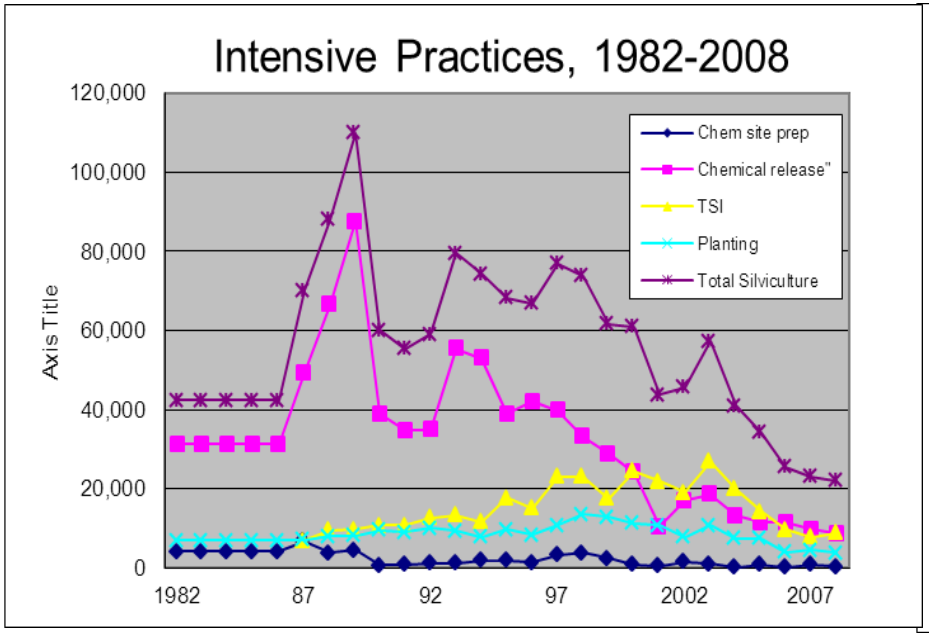


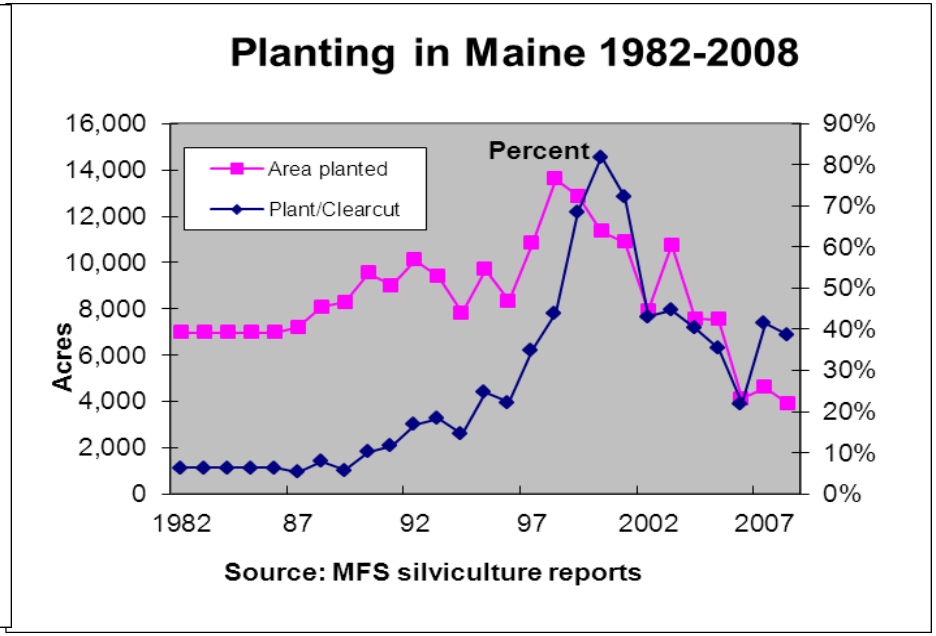
How long does fir live?



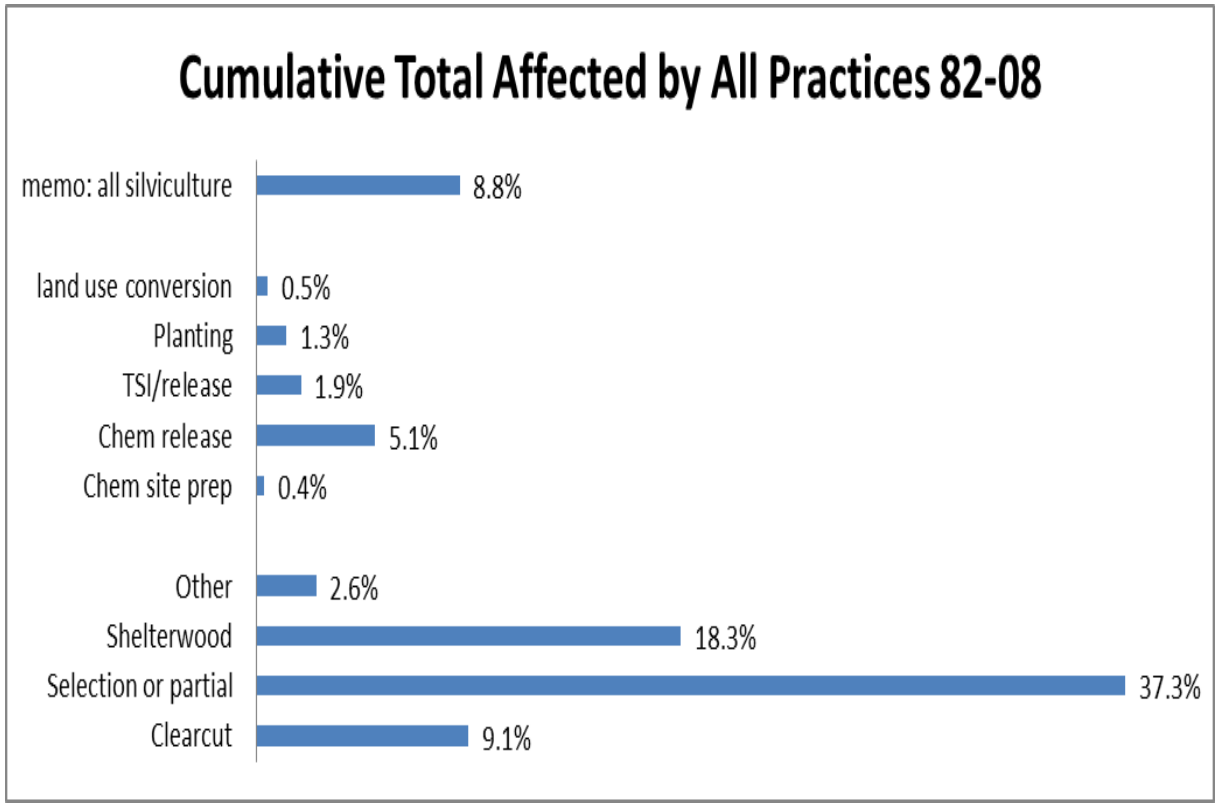
Fir thicket, mid 70's

Intensive Practices

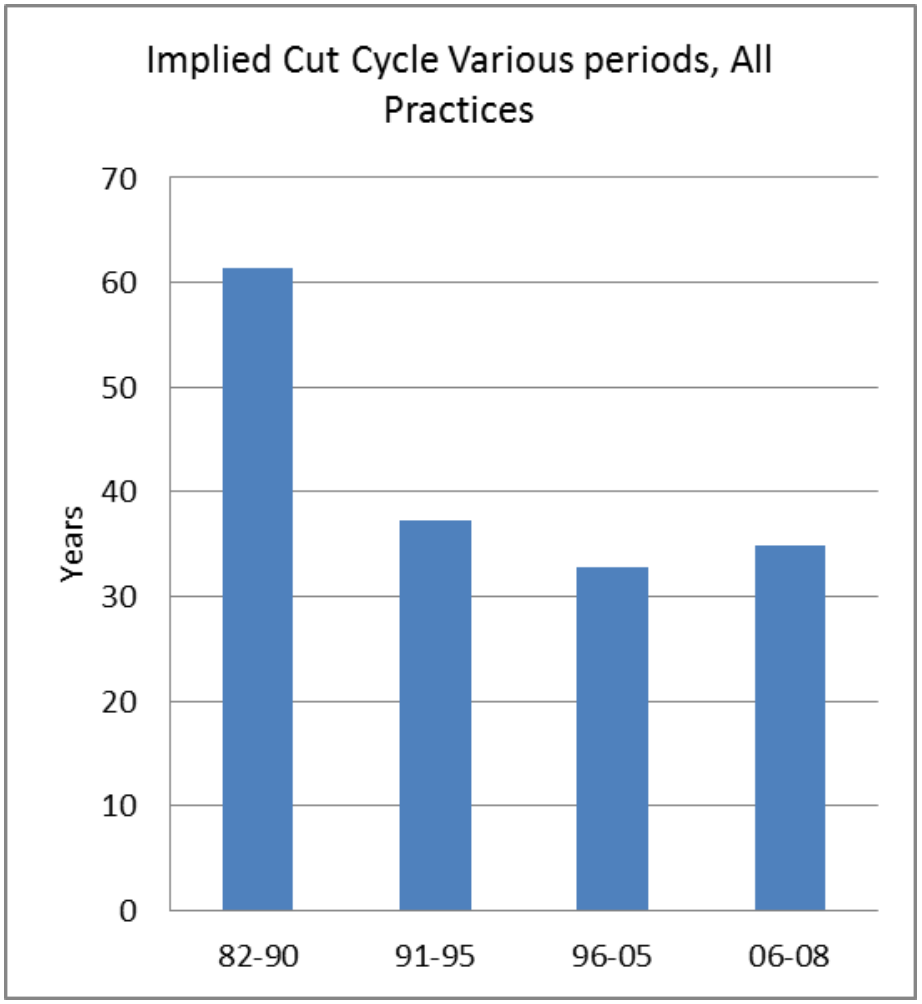




Cumulative Effects



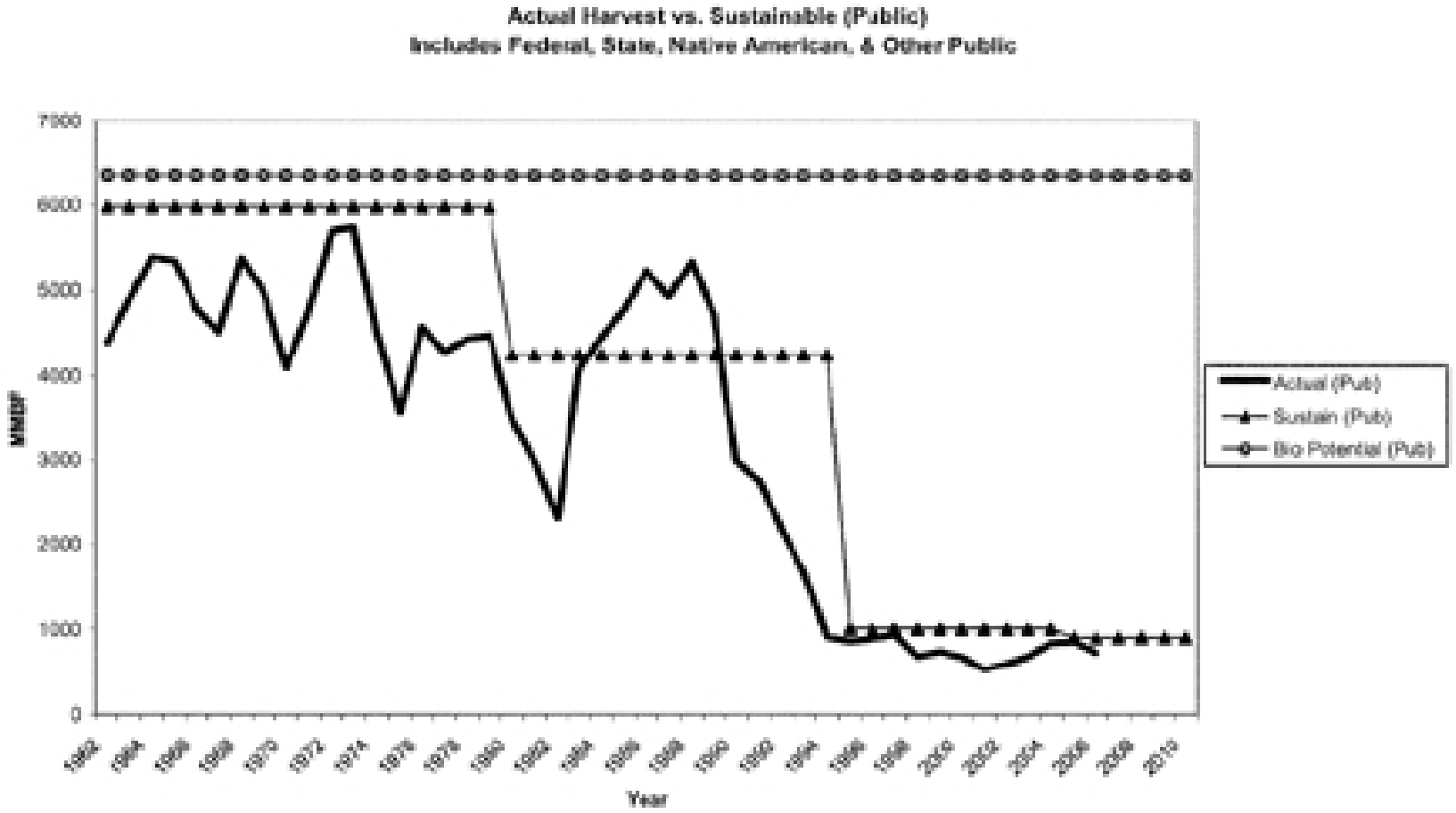
Implicit Cut Cycles



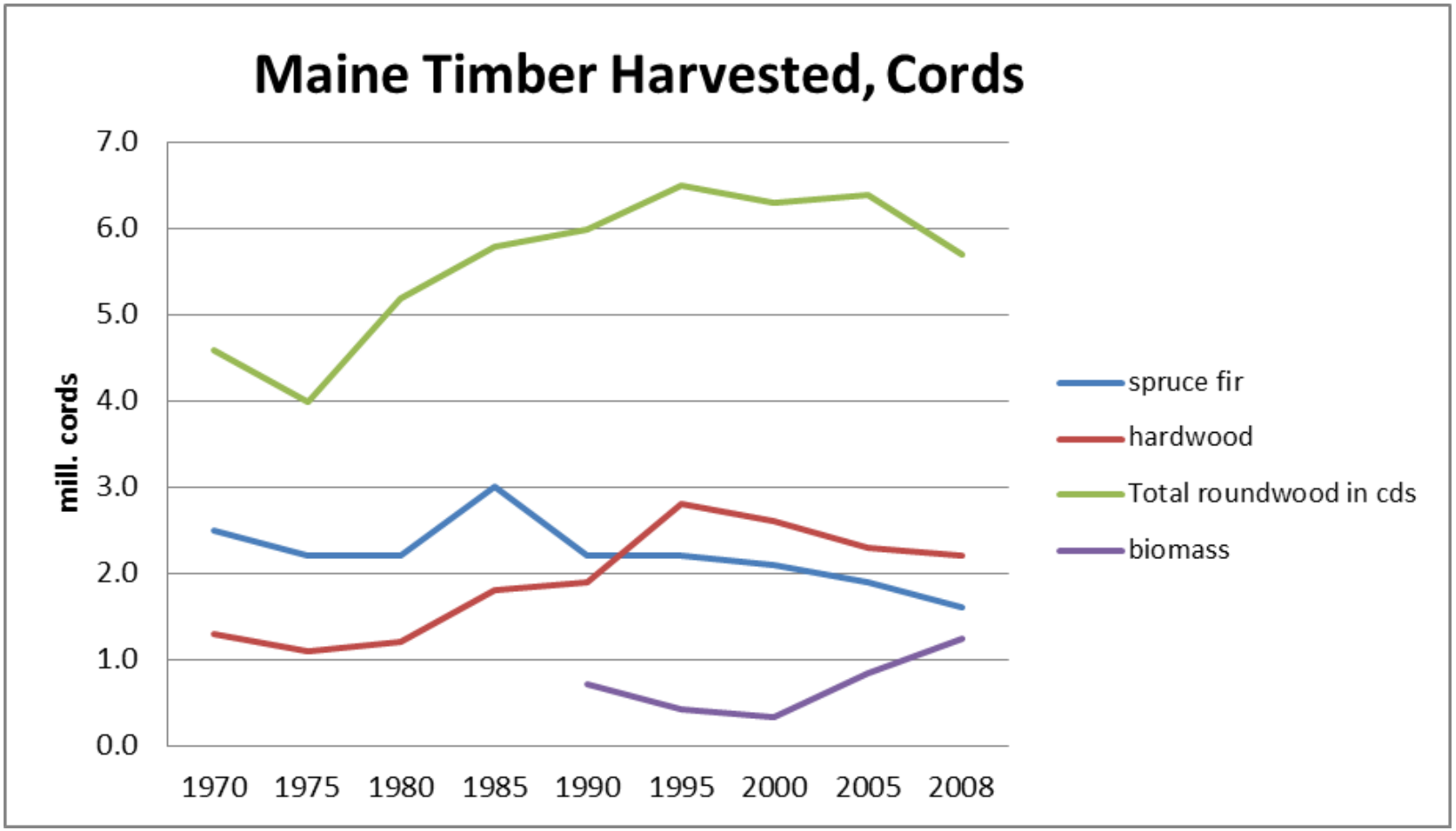
- Statewide data – overestimate cycle in wildlands
- Previous pubs based on “eye in sky” overestimate cycles
- Current capabilities improved,
- Should directly match paper vs eye in sky

Driving Forces:
I. Budworm

II. Spotted Owl



http://www.swofire.oregon.gov/ODF/RESOURCE_PLANNING/docs/Timber_Harvest_Public.pdf

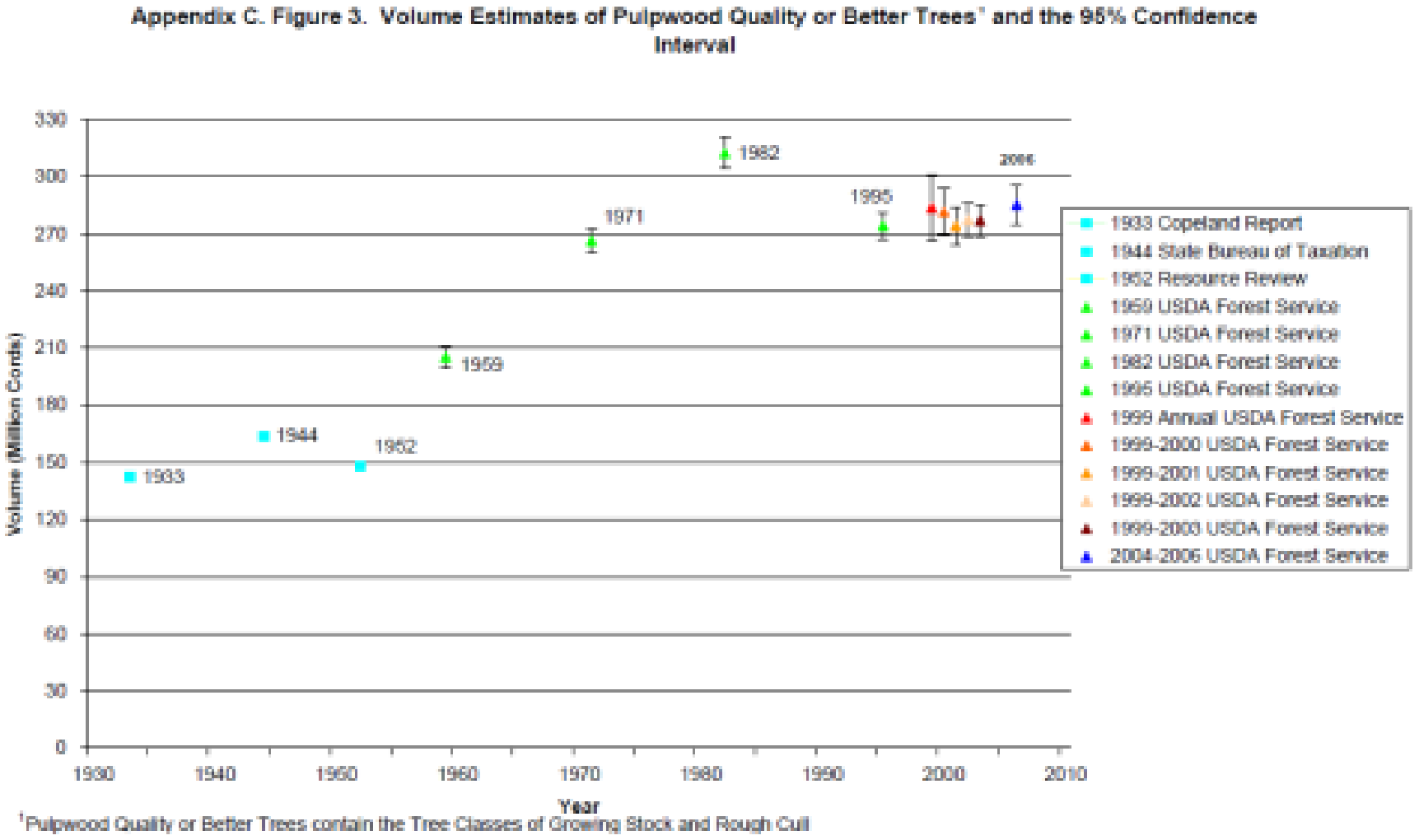

Maine Timber Harvested, Cords
mill. cords
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1970
1975
1980
1985
1990
1995
2000
2005
2008
spruce fir
hardwood
Total roundwood in cds
biomass

III. Timber resource impact: Type Change

	Core SF Type Gp		Change	
	1982	2006	Acres	Percent
balsam fir	2129	2036	-93	-4%
white spruce	164	187	23	14%
red spruce	1429	810	-619	-43%
red spruce/balsam fir	1624	907	-717	-44%
black spruce	274	357	83	30%
tamarack				
n. white cedar				
total core spruce-fir	5620	4297	-1323	-24%
total timberland	17123	17344	221	1%
percent spruce fir	33%	25%		

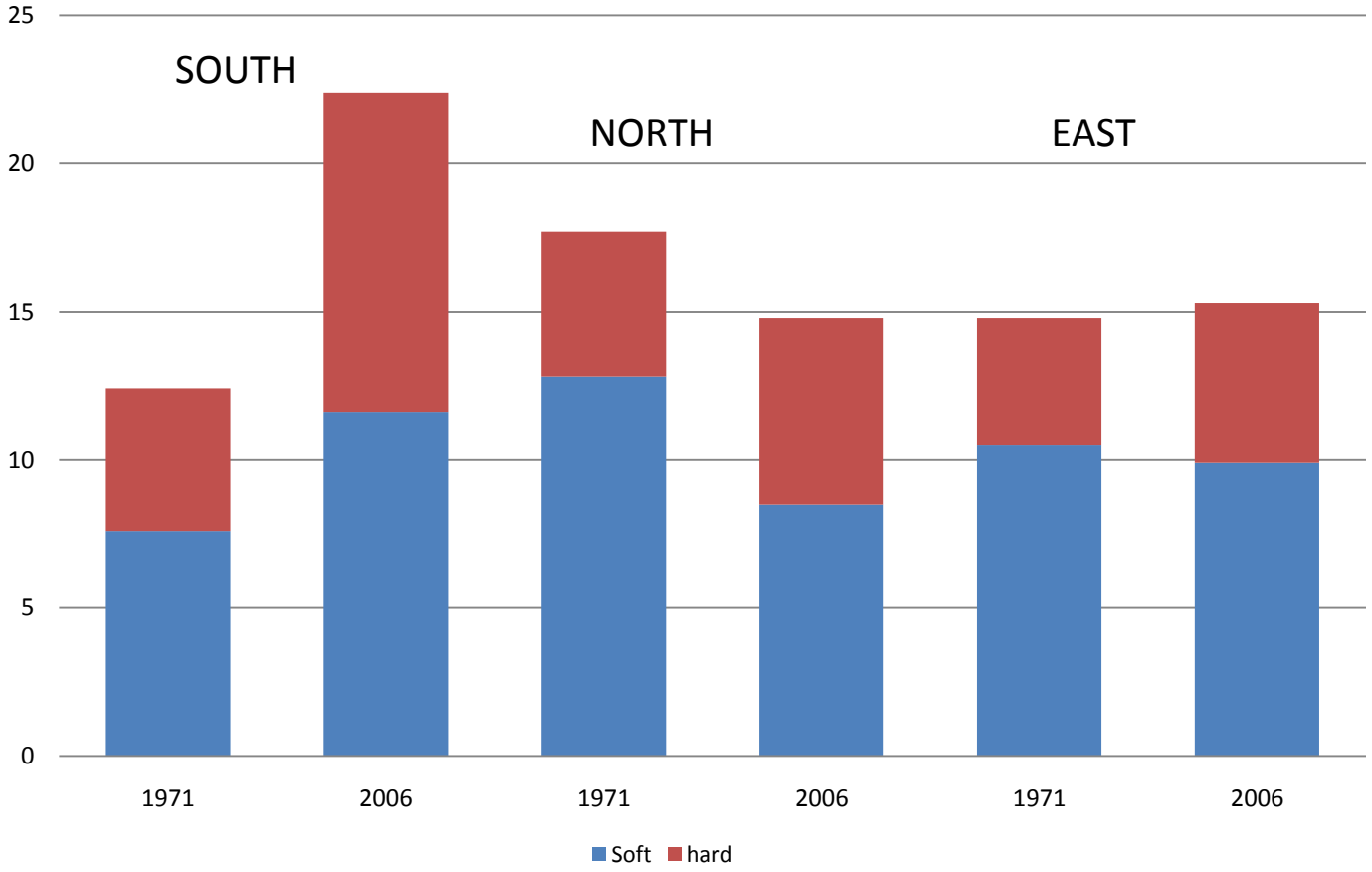
Laustsen 2006, Table 6-2, RB NE-164, p. 169

Timber Inventory



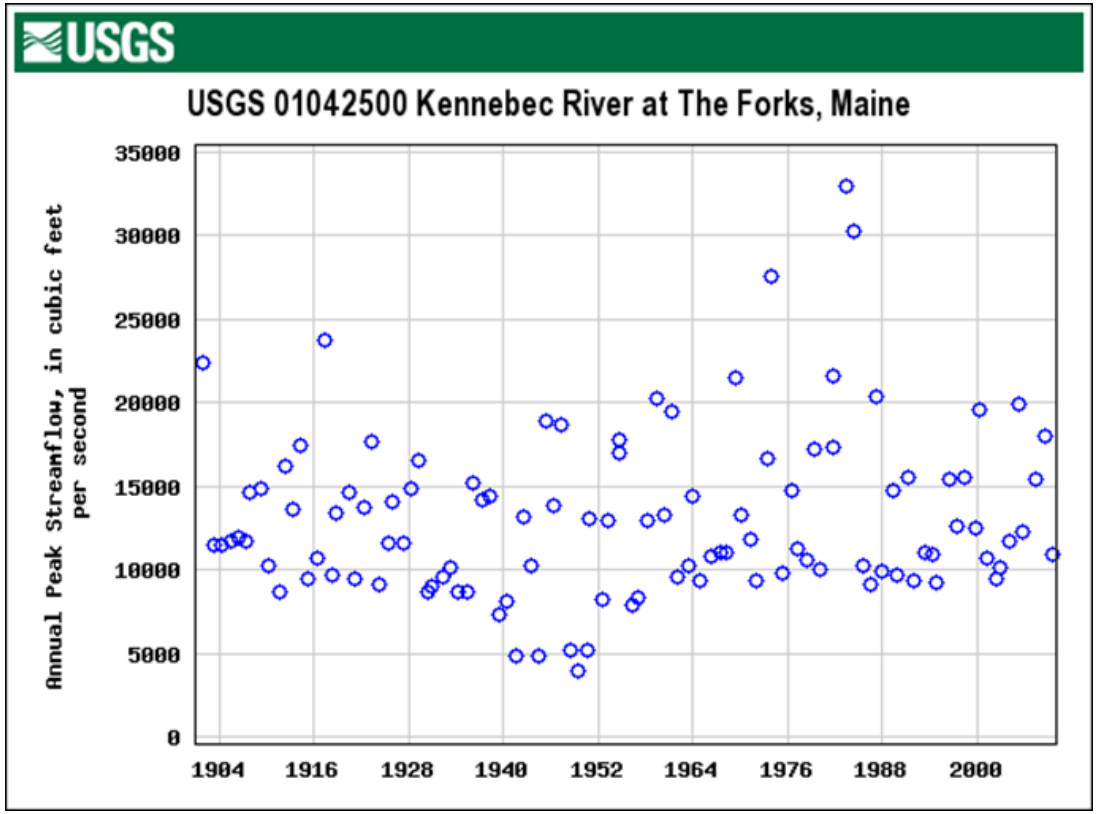
Laustsen, 2009, appendix.

Vol/A Pulp or Btr By Megaregion & Yr. Cds



IV. Non Timber Values

Water: Flood Peaks

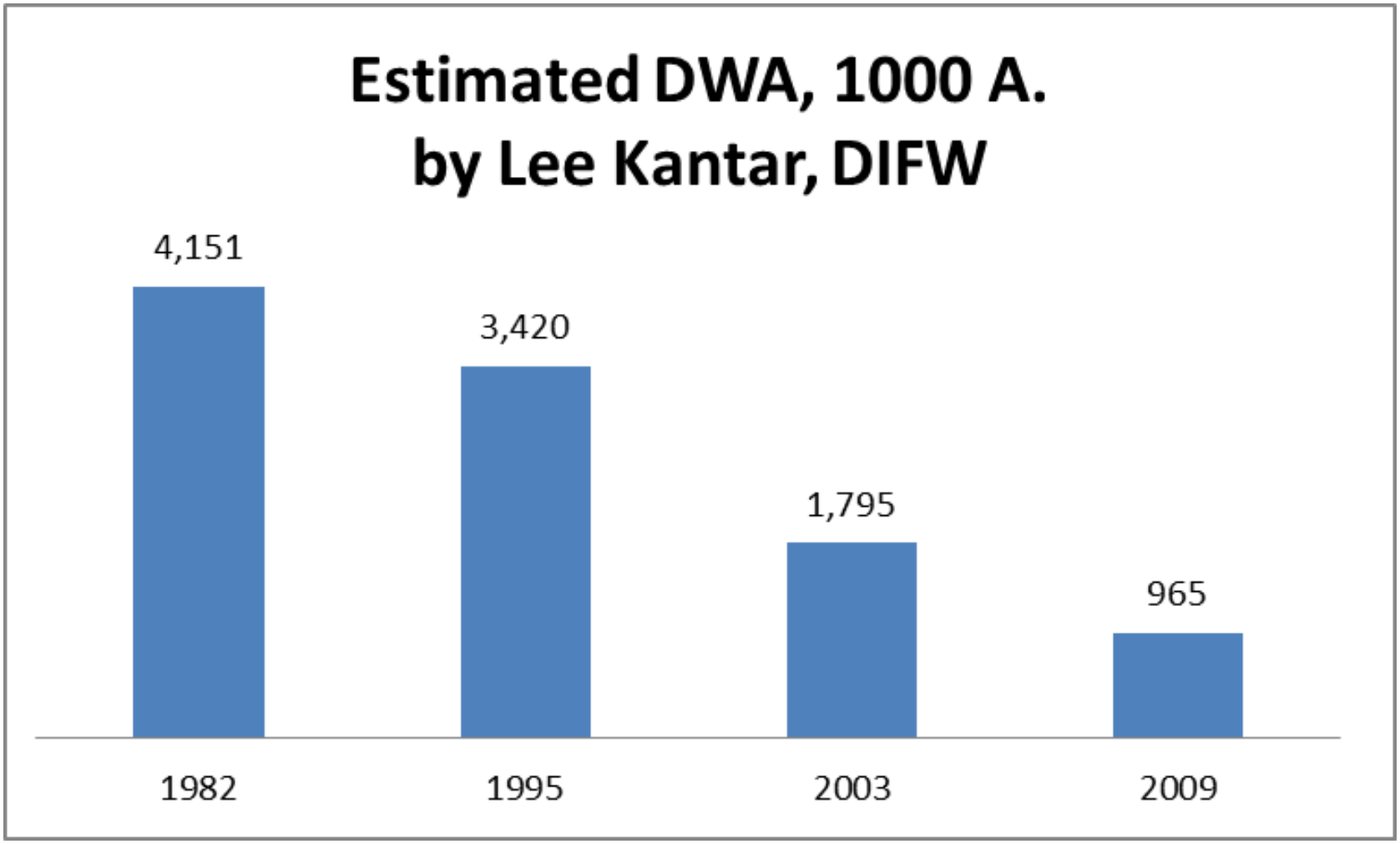


Most pronounced peak of 4 streams examined; not compelling evidence for an effect; could exist for smaller basins

Biodiversity & Key species Habitat

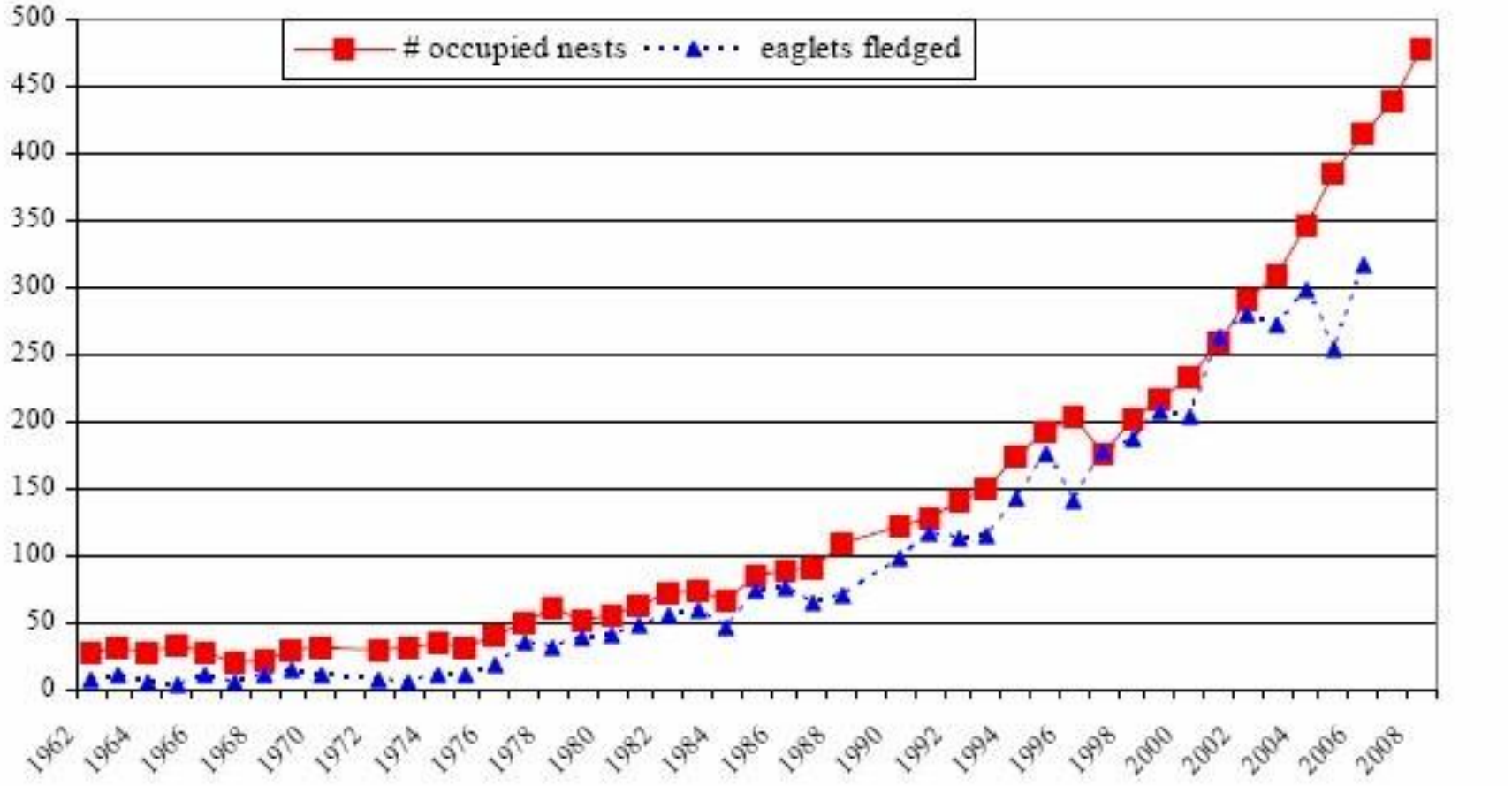
- Simons et al (2010)Adopted & measured 9 biodiversity indicators for 14 towns:
  - Marten habitat 43% of land
  - Marten occurrence (f) 10%
  - LS North Hdwd 0.3%
  - LS spruce-fir 1.4%
  - Lynx occurrence 25%
- Outlook: BAU, all 9 indicators decline
- If all cutting stopped, all decline too!

DEER HABITAT AND POPULATIONS



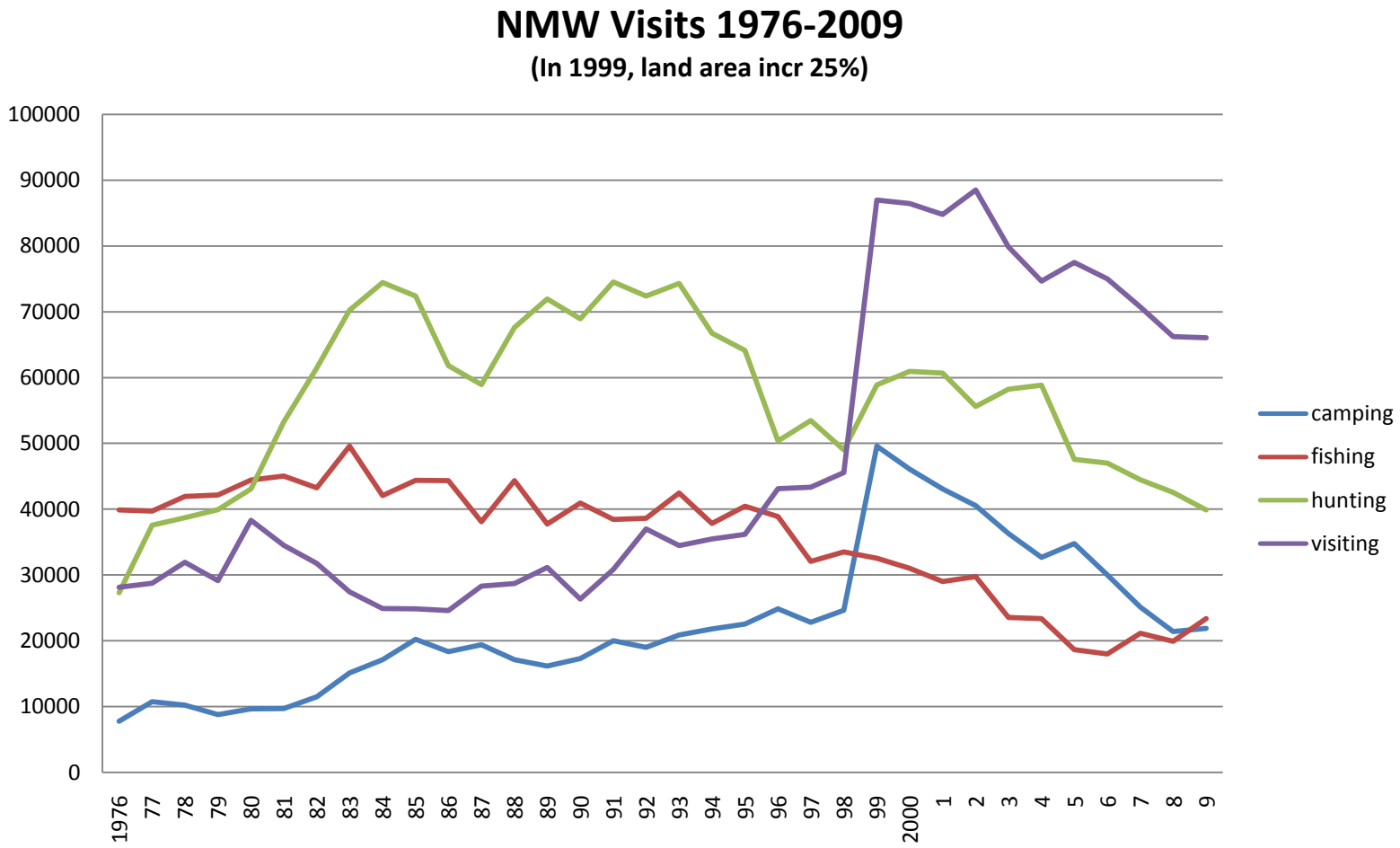
What are the underlying causes?

BALD EAGLE



http://www.state.me.us/ifw/wildlife/species/endangered_species/baldeagle_delisting.htm

OUTDOOR RECREATION



Source: Al Cowperthwaite, NMW

V. Key Points

- Major changes in landscape– attribution to single causes is slippery
- Role of intensive management has moderated
- Partial cutting more important factor than clearcutting
- Impacts on nontimber values unclear
- Perception that 1970s “golden age” was sustainable not well founded.
- Cannot go back to 1970’s: Deer or timber – or other-- goals based on forest of 70’s not realistic

Thanks for coming, Questions and discussion?