

Southeast Alaska Herring Fisheries

Report to the Alaska State Legislature House Fisheries Special Committee February 6, 2009

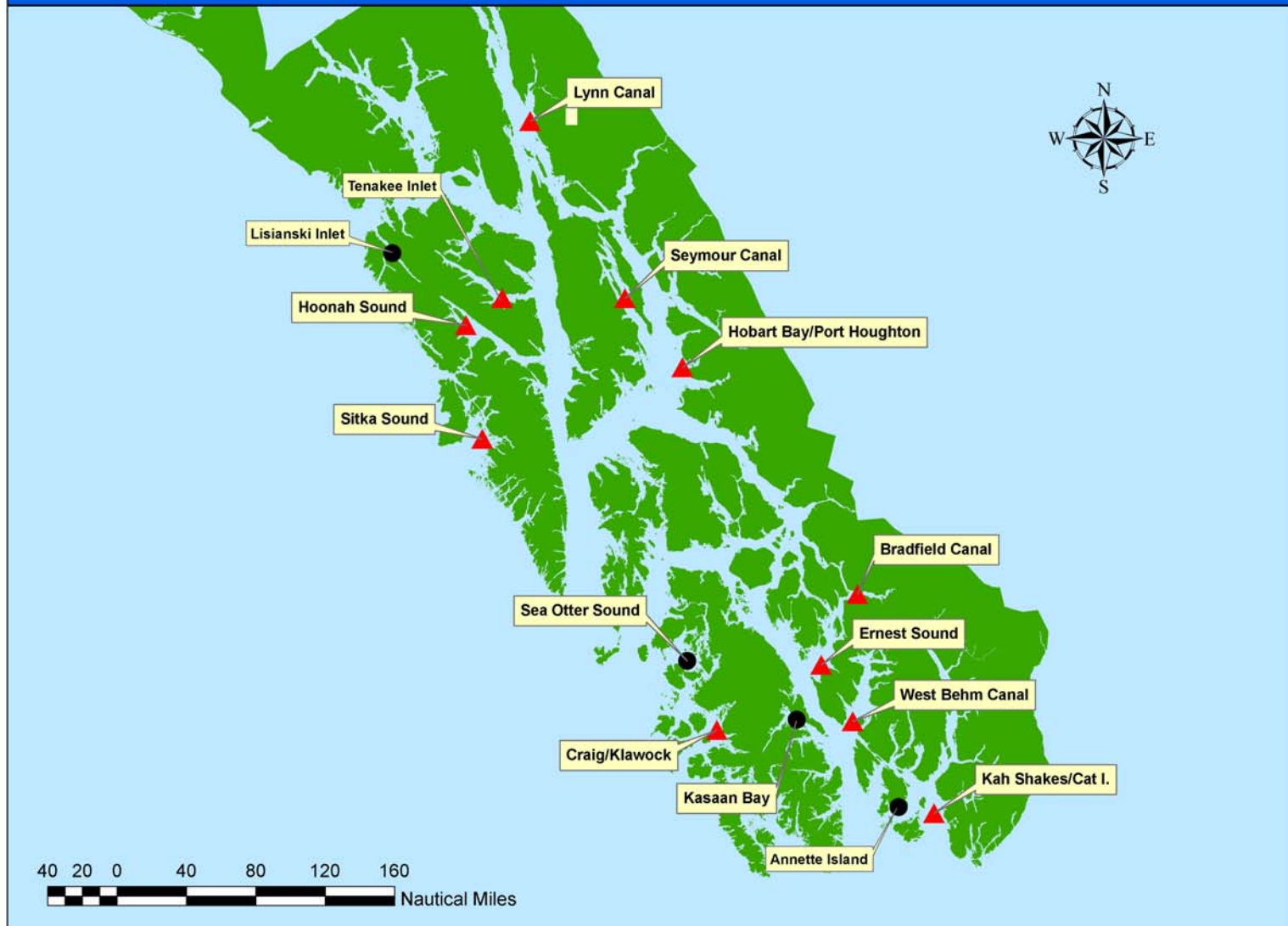
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Fish and Game



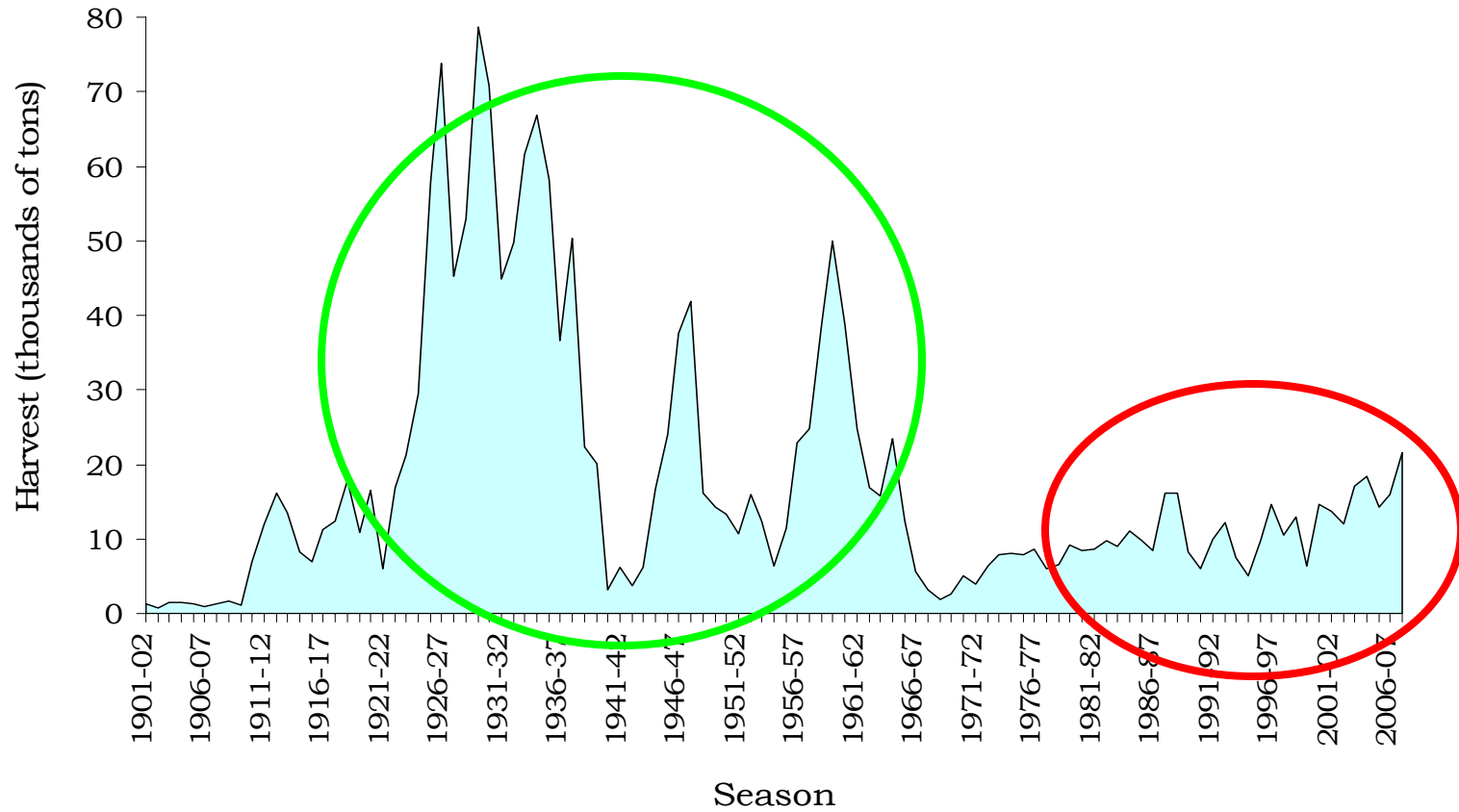
Outline

- Historical review of herring fisheries
- Review of herring management plan
- Stock assessment and harvest rate approach

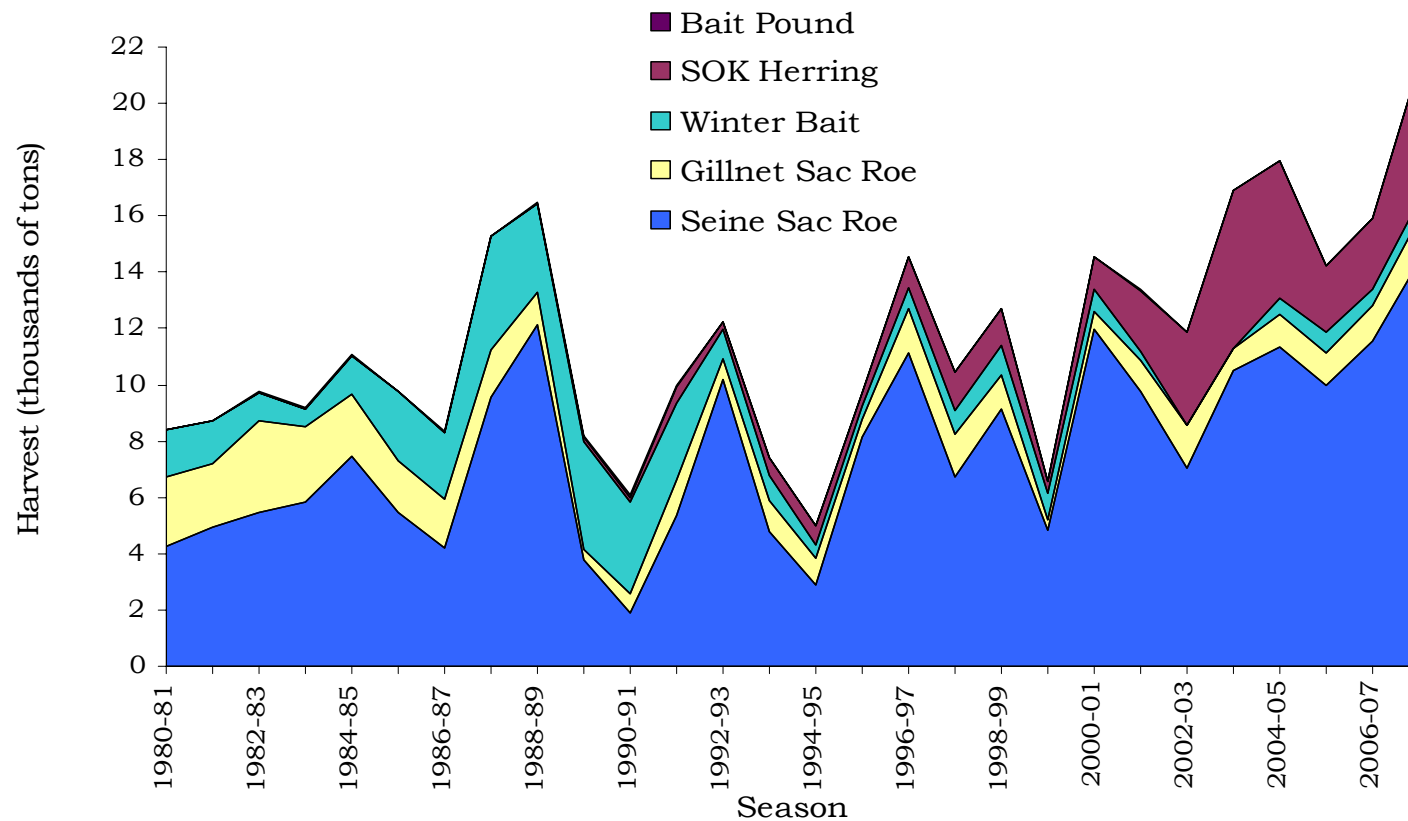
Southeast Alaska Herring Spawning Areas



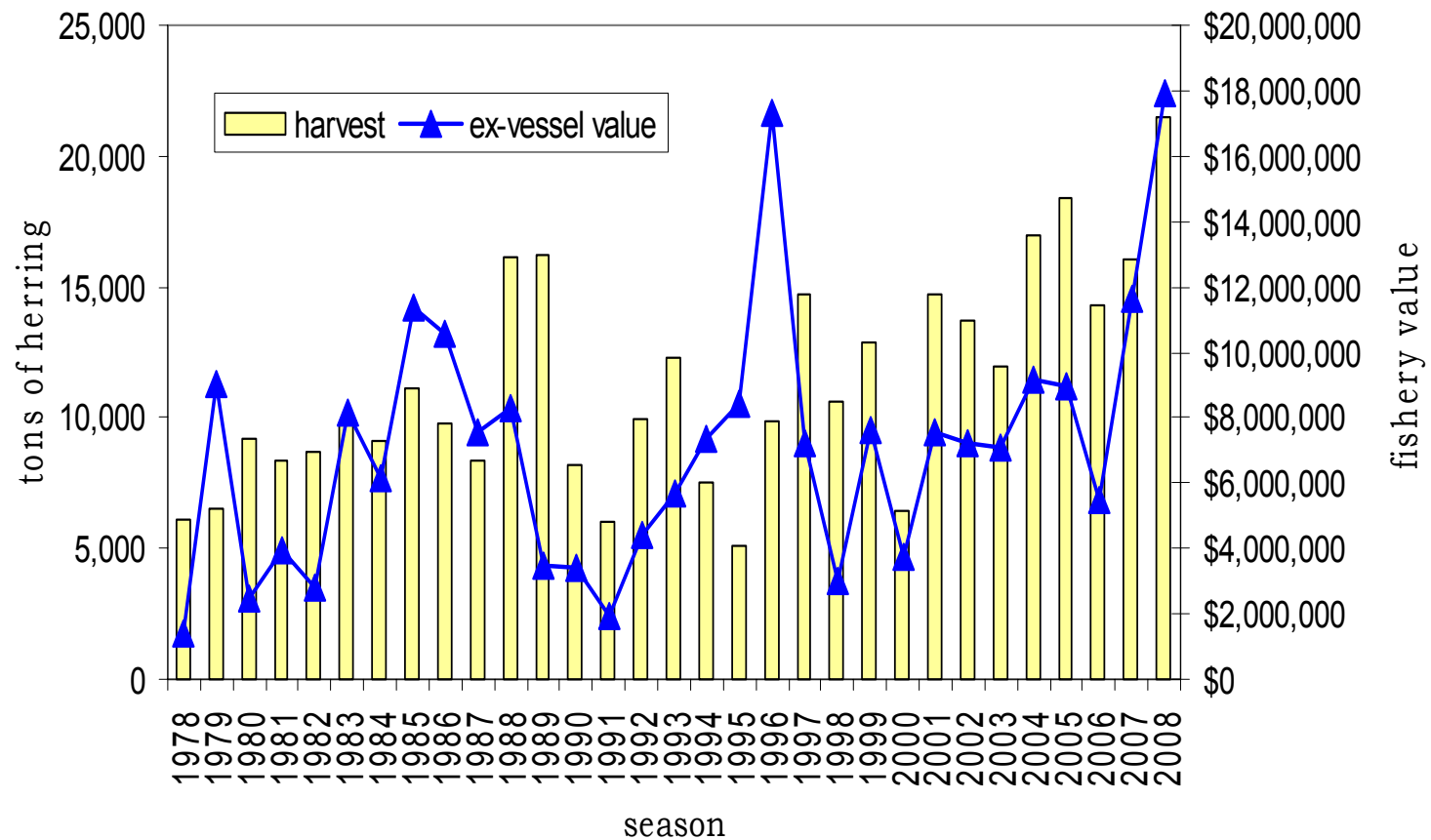
Historical Total Herring Harvest in Southeast Alaska



Southeast Alaska Herring Harvest by Fishery



Historic Harvest and Ex-vessel Value



5 AAC 27.190. HERRING MANAGEMENT PLAN FOR SOUTHEAST ALASKA AREA

1. Shall identify stocks of herring on a spawning area basis;
2. Shall establish minimum spawning biomass thresholds below which fishing will not occur;
3. Shall assess the abundance of mature herring for each stock before allowing fishing to occur;
4. Except as provided elsewhere, may allow a harvest of herring at an exploitation rate between 10 percent and 20 percent of the estimated spawning biomass when that biomass is above the minimum threshold level;
5. May identify and consider sources of mortality in setting harvest guideline;
6. By emergency order, may modify fishing periods to minimize incidental mortalities during commercial fisheries.

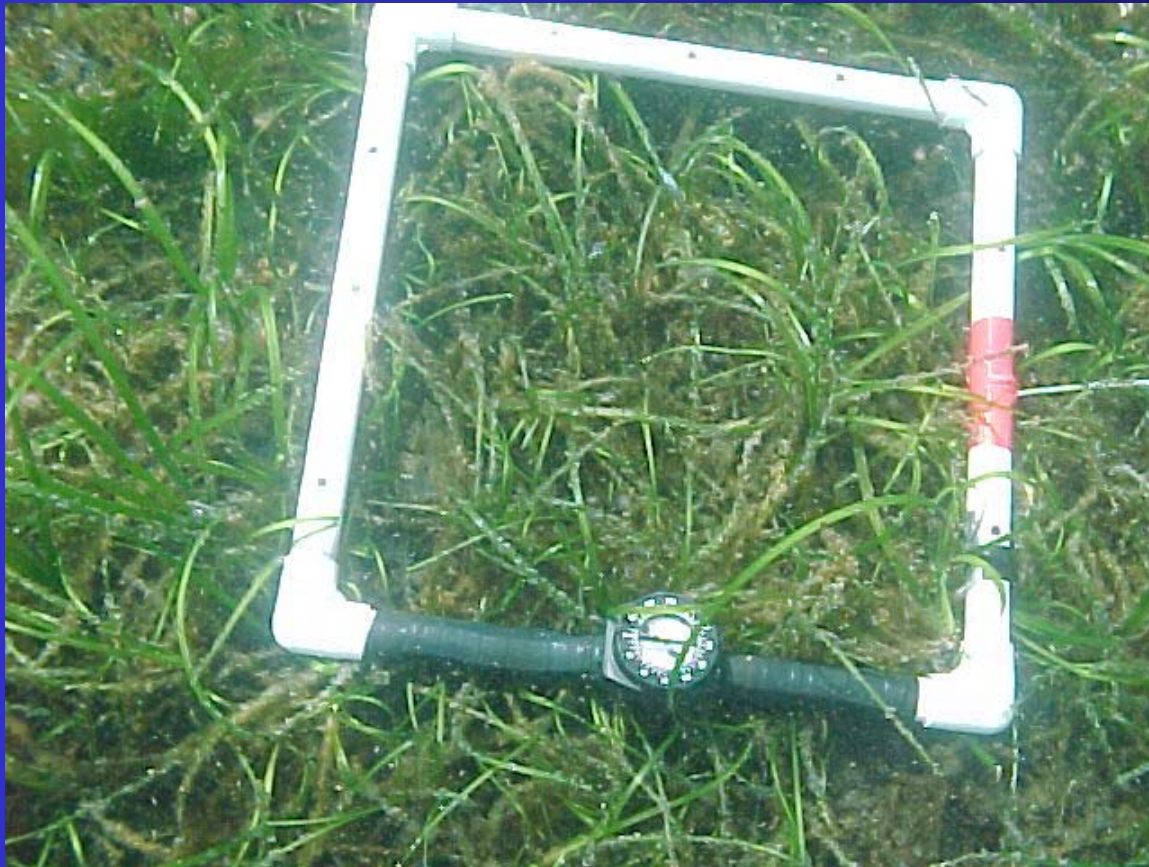
Thresholds

- If forecasted below, no fishery
- Goals of thresholds
 - Protect herring stocks from sharp reductions due to recruitment failure
 - Maintain adequate forage for predator species

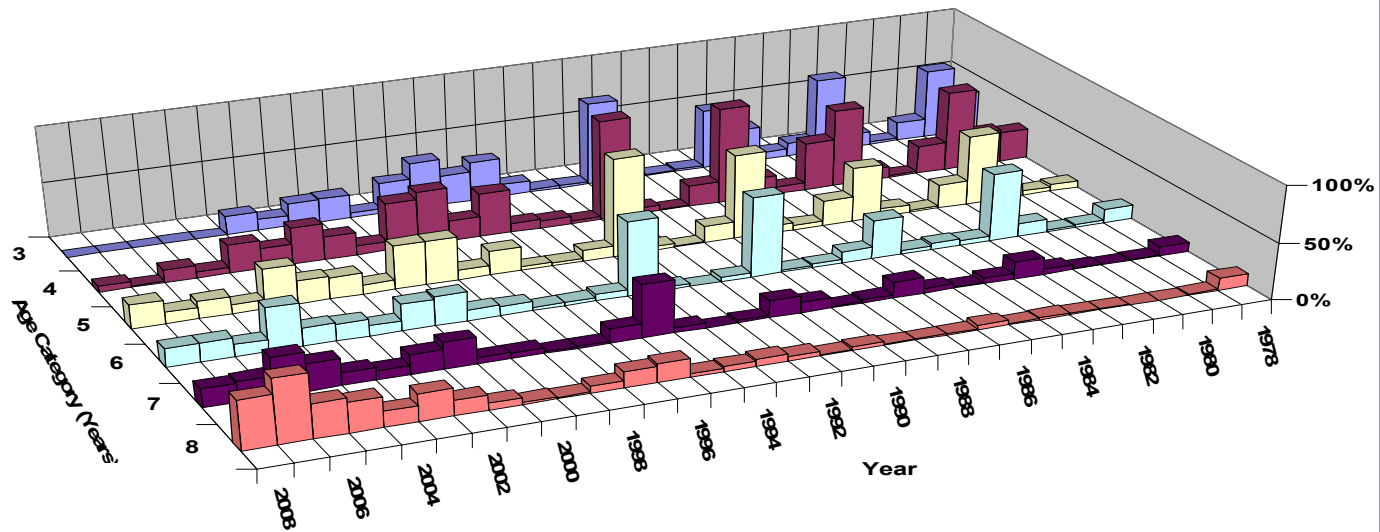
Aerial view of herring milt



Egg deposition estimates

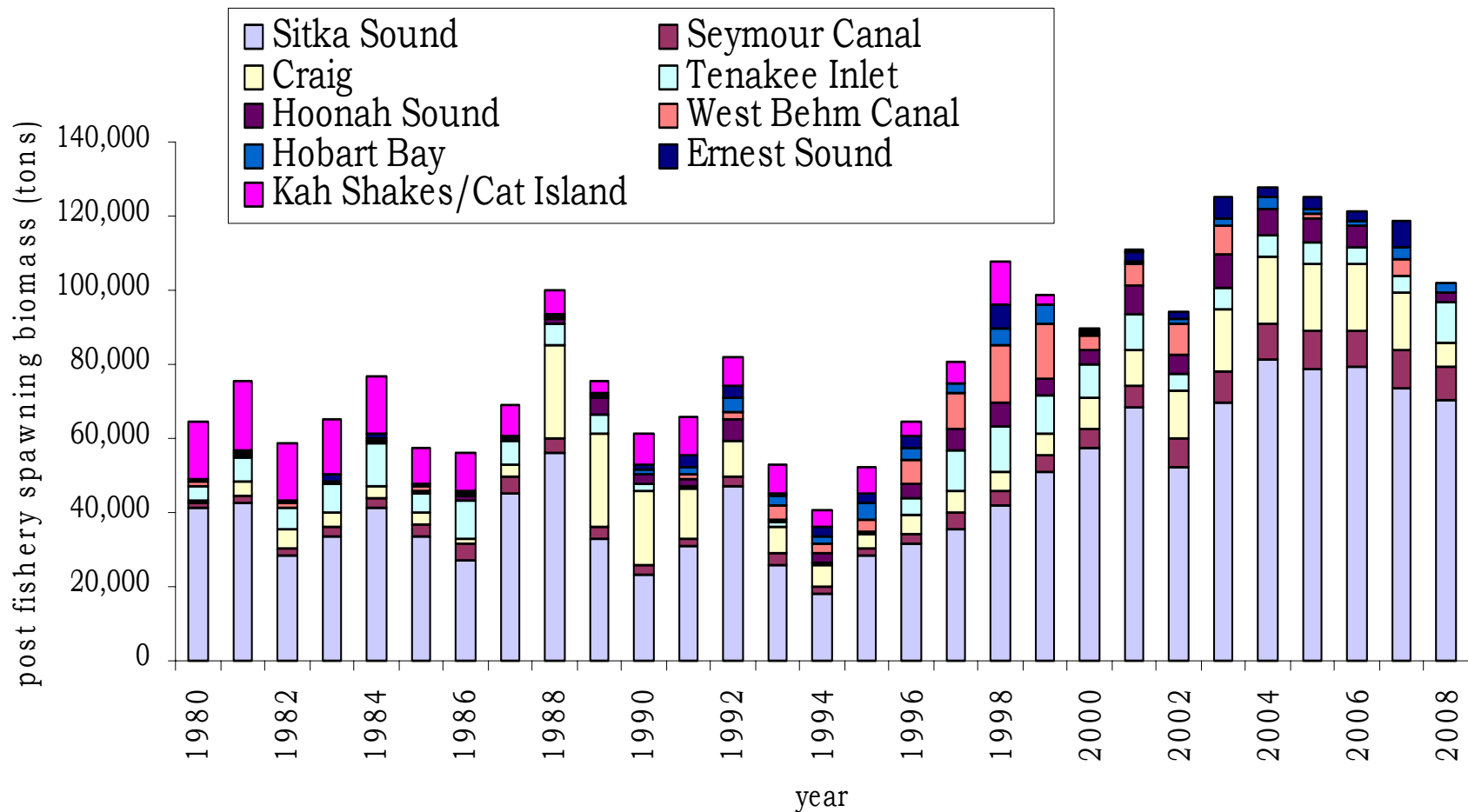


Herring Age Compositions (Sitka Sound cast net)

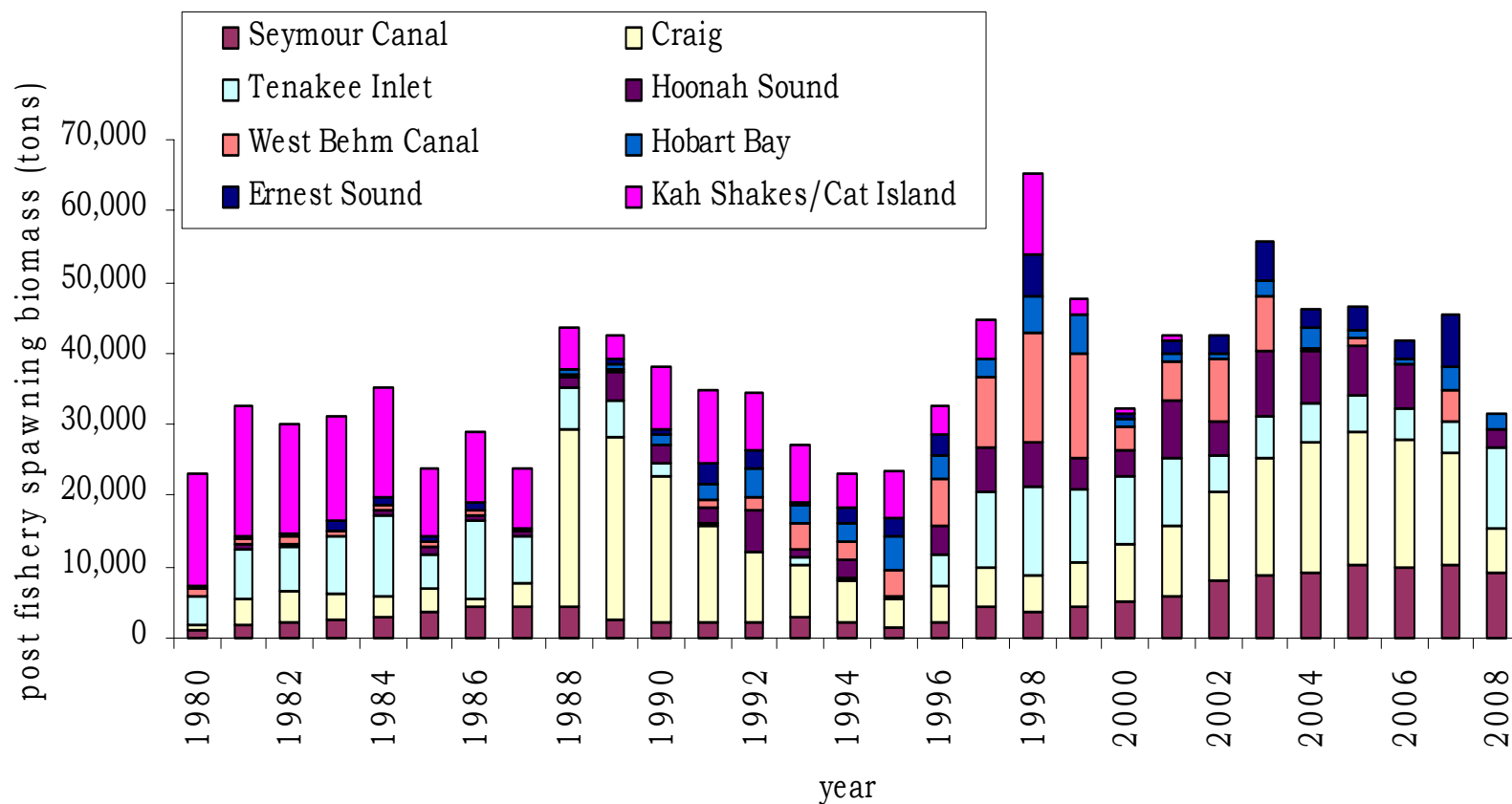


Note: Age Category 8 includes all herring age-8 and older

Southeast Alaska Herring Stock Size Estimates 1980-2008



Southeast Alaska Herring Stock Size Estimates Excluding Sitka Sound: 1980-2008



Two models used to forecast herring biomass:

1) Age Structured Analysis (ASA)

2008 Escapement - Mortality + Growth + Recruitment = 2009 biomass

data used: spawn deposition

catch age composition

spawning age composition

weight at age

fecundity at age

2) Biomass Accounting

2008 Escapement + standard growth - standard mortality = 2009 biomass

(standard growth and mortality = average values from ASA areas)

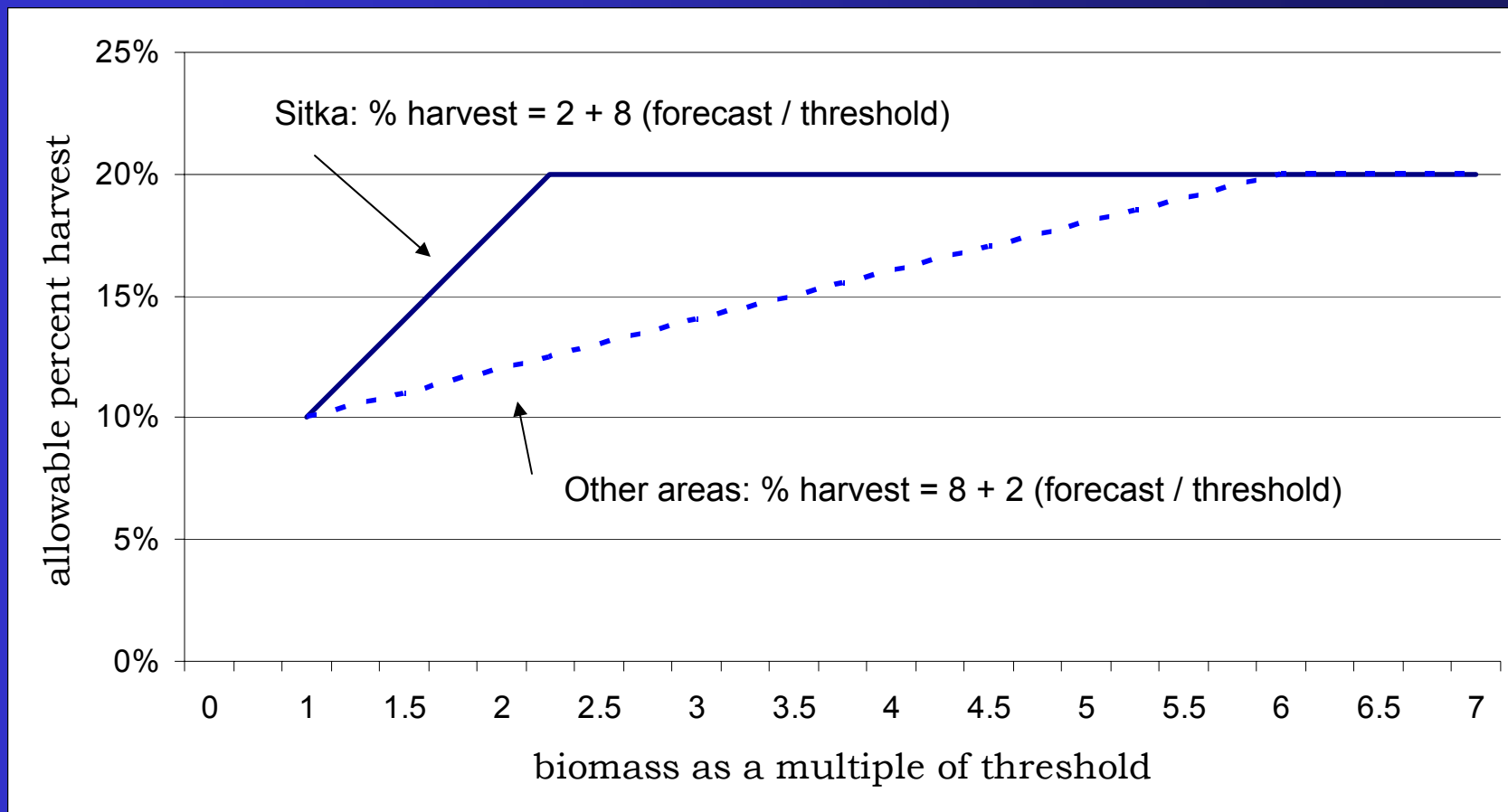
data used: spawn deposition

spawning age composition

weight at age

fecundity at age from nearest ASA area

Southeast Alaska herring harvest rate formulas



Comparison of herring maximum harvest rates

- Alaskan stocks: most 20%, some 15%
- British Columbia stocks: 20%
- Washington stocks: 20%
- California stocks: 20%
- North Atlantic: 12-16%

