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Aleutian Islands Pacific cod

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AI Pacific cod: current approach

- Pacific cod in the BSAI are managed on a combined BS-and-AI basis
- The age-structured model has always been just for the BS
- BSAI catch and biomass values are computed by “inflating” values from the BS model
- Inflation factor (=1.10) based on ratio of endpoints from smoothed survey biomass estimates from BS and AI
  - BSAI = BS_model×(BS_survey+AI_survey)/BS_survey
- BSAI Pacific cod are at $B_{46\%}$, above $B_{40\%}$ reference level and therefore Tier 3a

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AI Pacific cod: moving toward split from Bering Sea

- Dec. 2003: SSC finds that ABC should be split by area
- Apr. 2004: Council initiates analysis for splitting
- Oct. 2008: SSC renews call for splitting, Council tables action on splitting pending further analysis
- Dec. 2010: SSC calls for AI assessment by 2011
- Sep. 2011: AI assessment (Tier 5) completed
- Dec. 2011: SSC declines to recommend split specs, calls for age-structured model by Oct. 2011
- July 2012: Age-structured model under development

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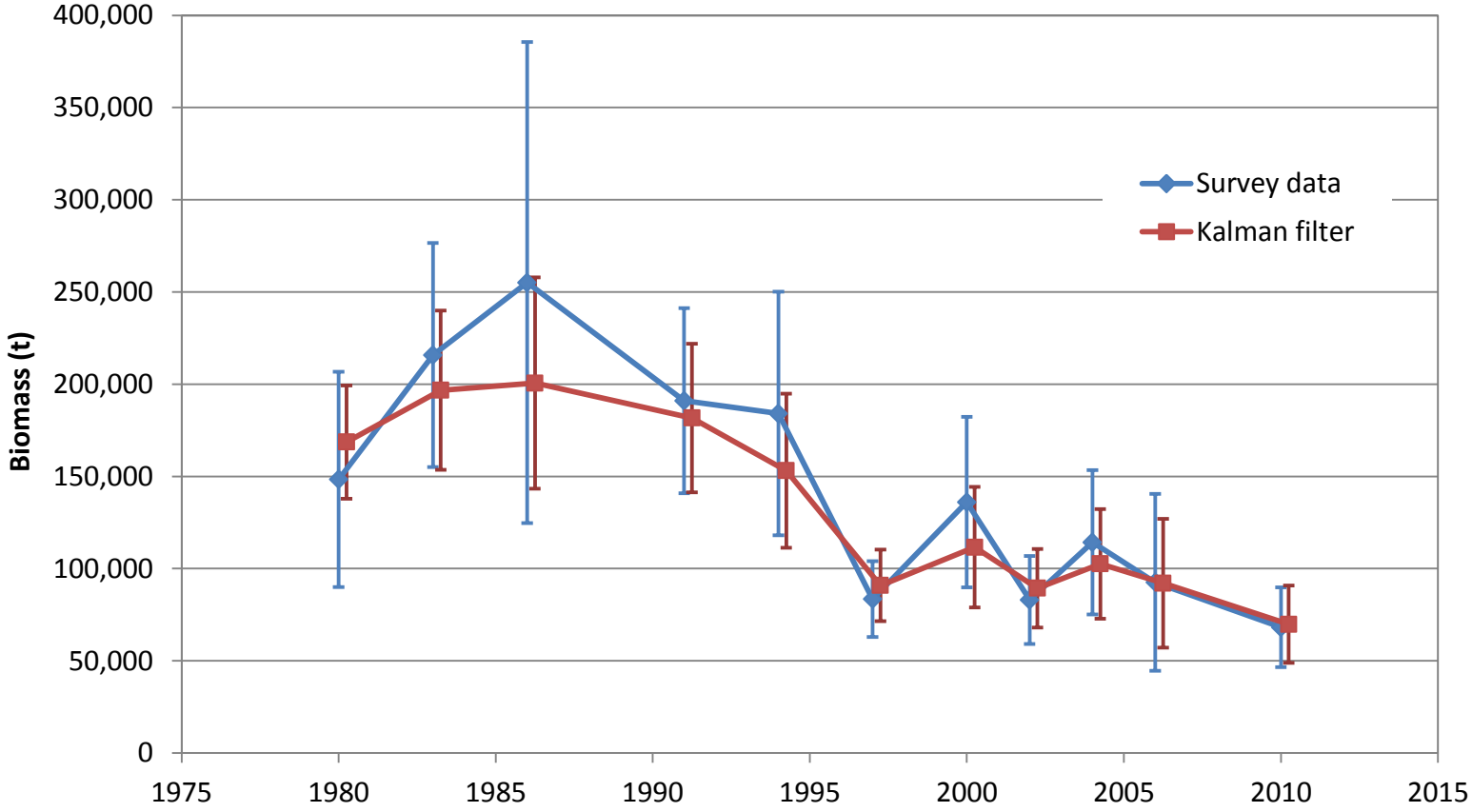
AI Pcod: survey biomass time series



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Aleutian Islands Pollock

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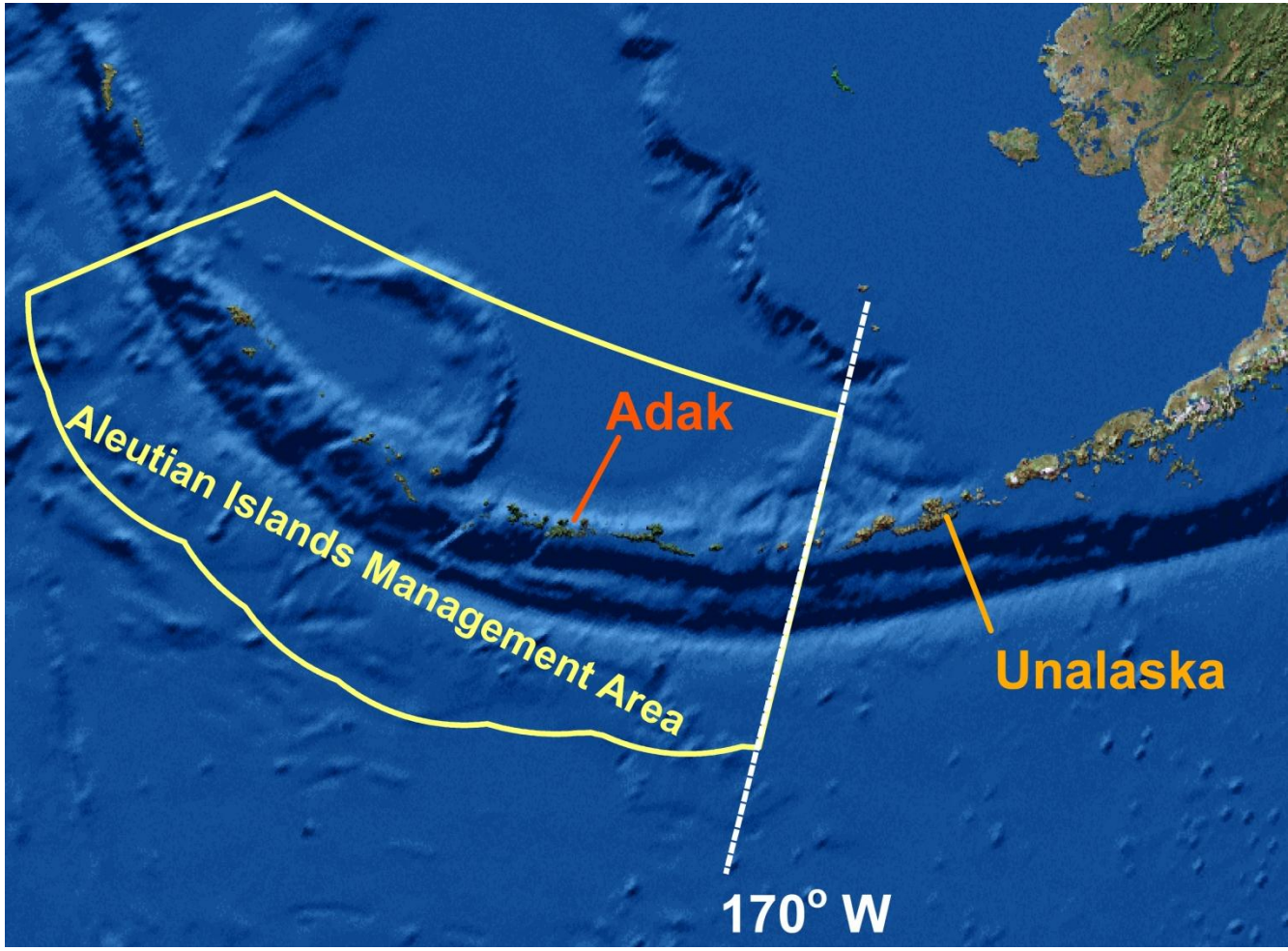
Aleutian Islands Management Area

The AI pollock TAC is restricted to 19,000 t or ABC whichever is lowest



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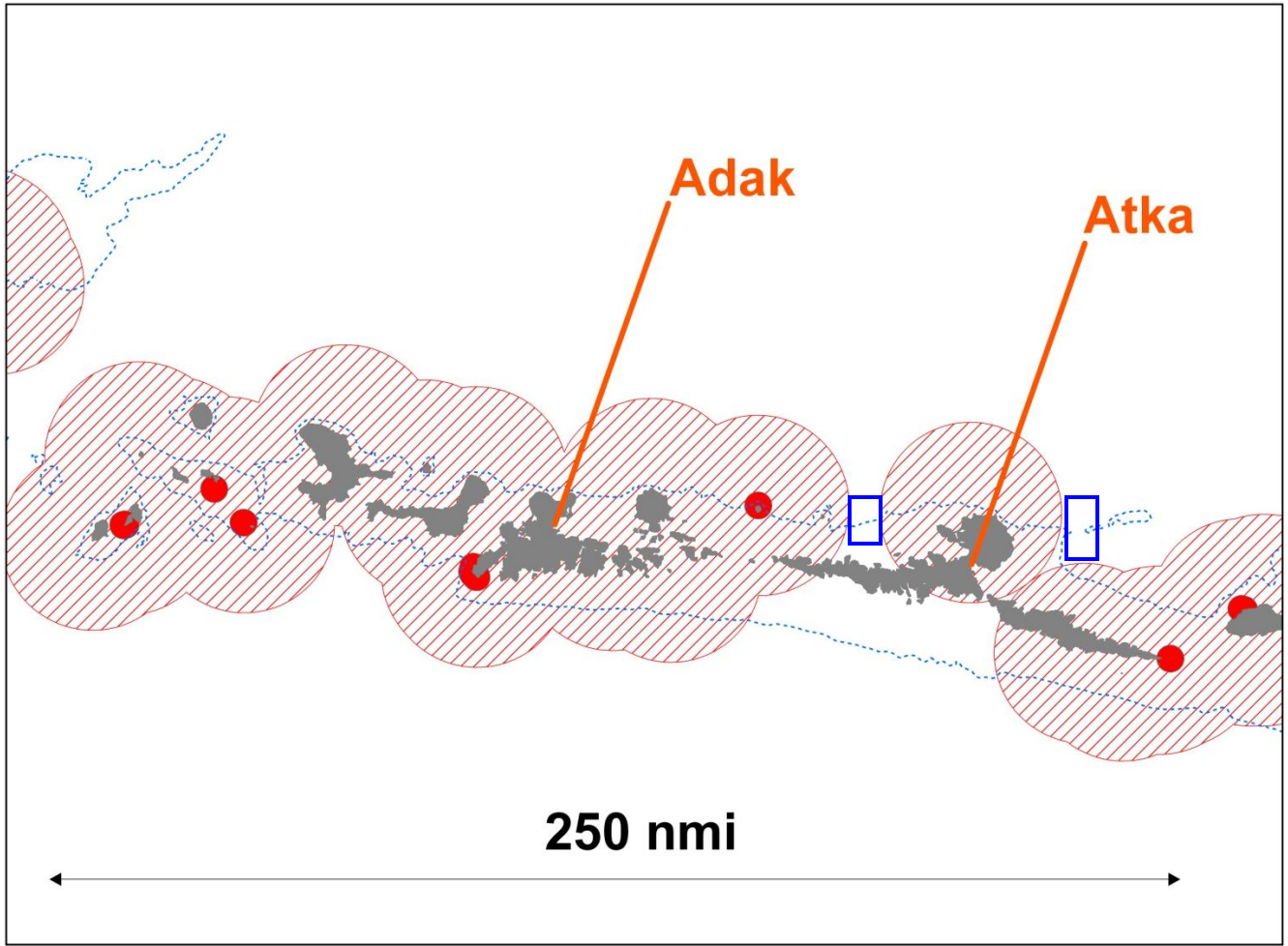
Central Aleutian Islands

Fishing is restricted to areas outside SSL critical habitat

No directed fishery catches from 2011 and 2012 to date



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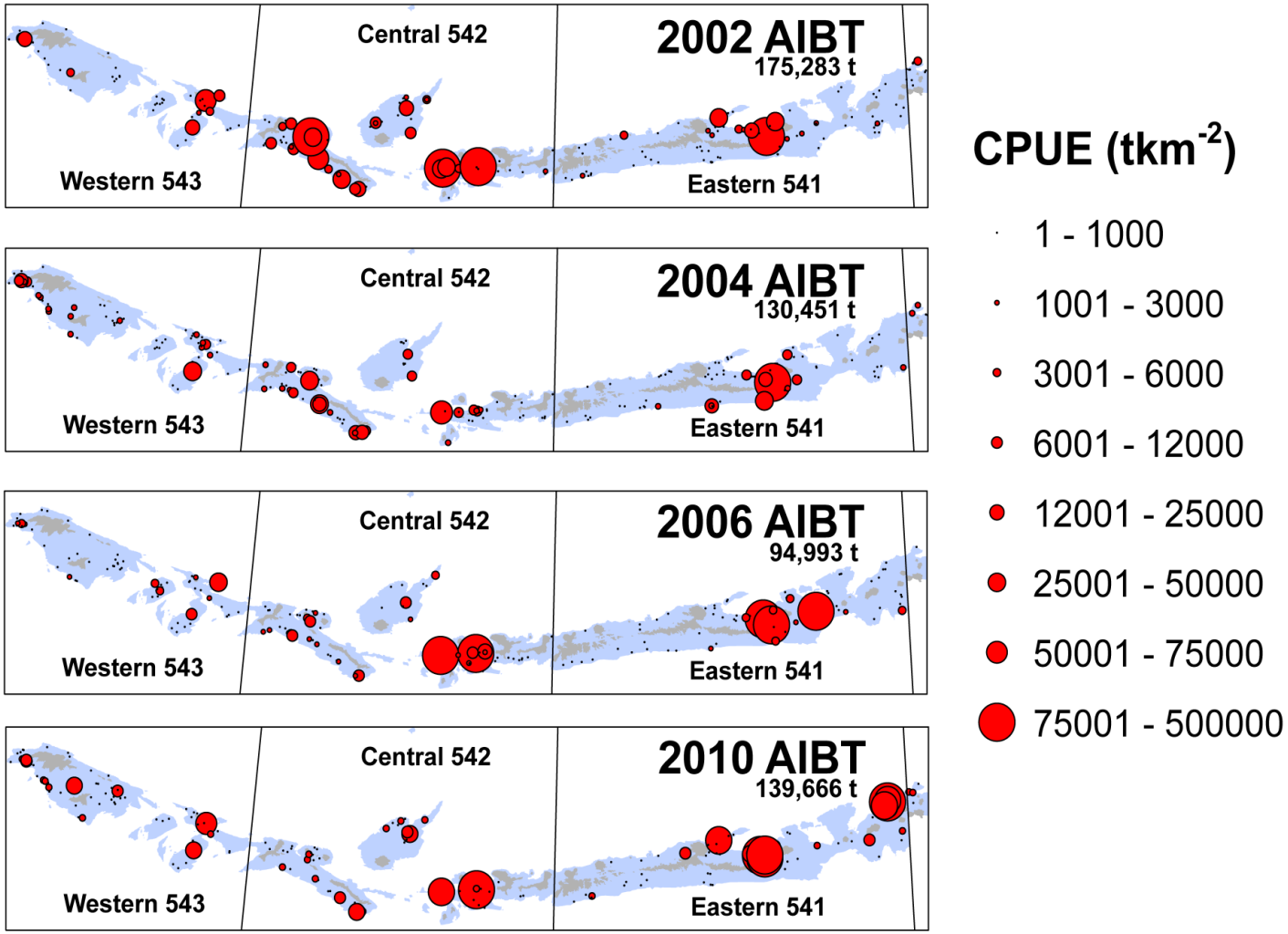
AI bottom trawl surveys – pollock CPUE

Highest abundance shifted from Central to Eastern AI in recent surveys

Shifts in abundance and high variability in the survey estimates make sub-area specific assessments problematic



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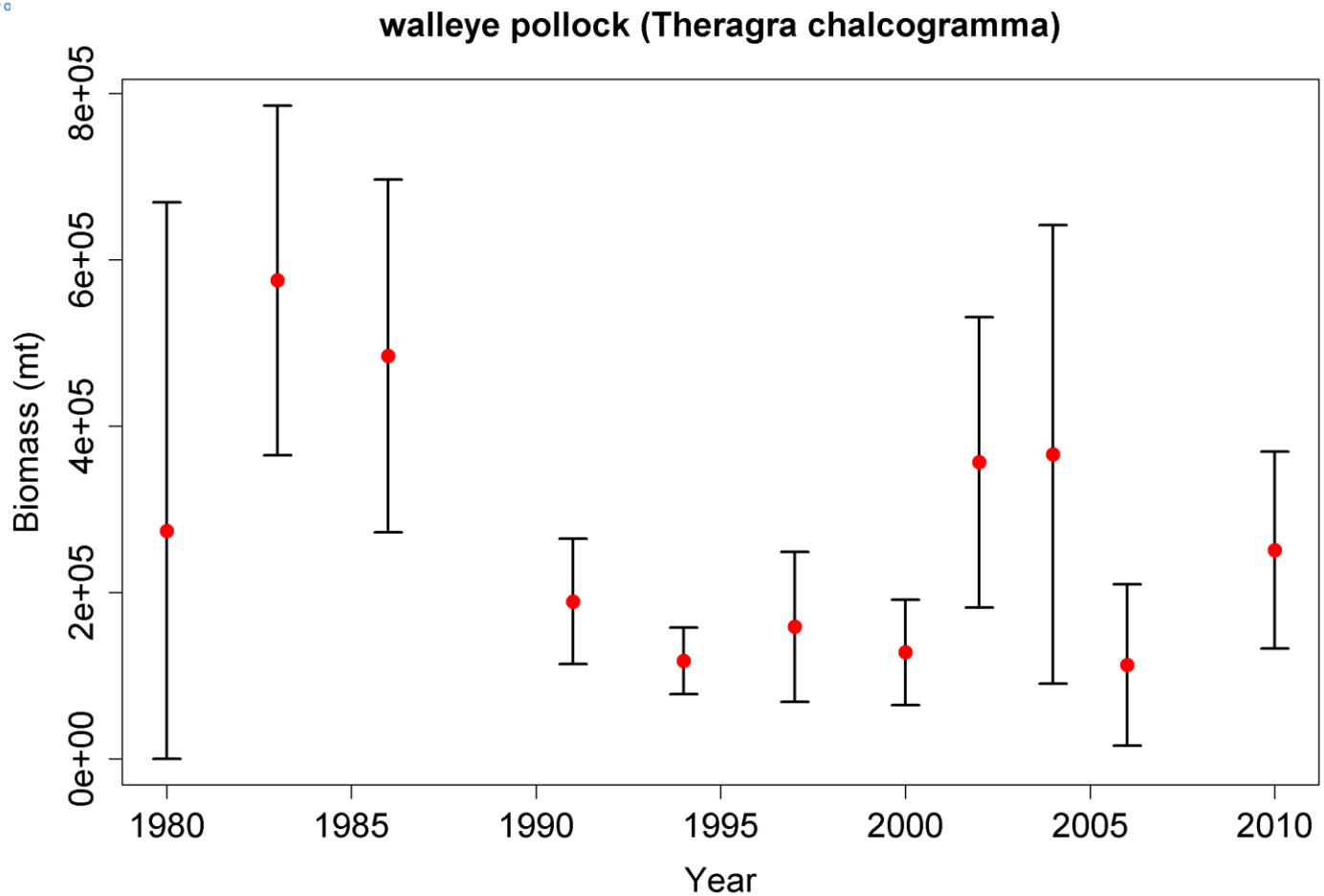
AI survey estimated biomass



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2011 AI pollock assessment summary

- **Age-structured stock assessment model framework the same as 2008 through 2011**
  - All NRA (west of 170° W) fishery and BT survey data (does not include "Basin" fishery data)
  - Aleutian Islands Cooperative Acoustic Survey Study (AICASS) 2006, 2007, and 2008 in CAI

- **AI pollock are at $B_{30\%}$, below $B_{40\%}$ reference level and therefore Tier 3b**

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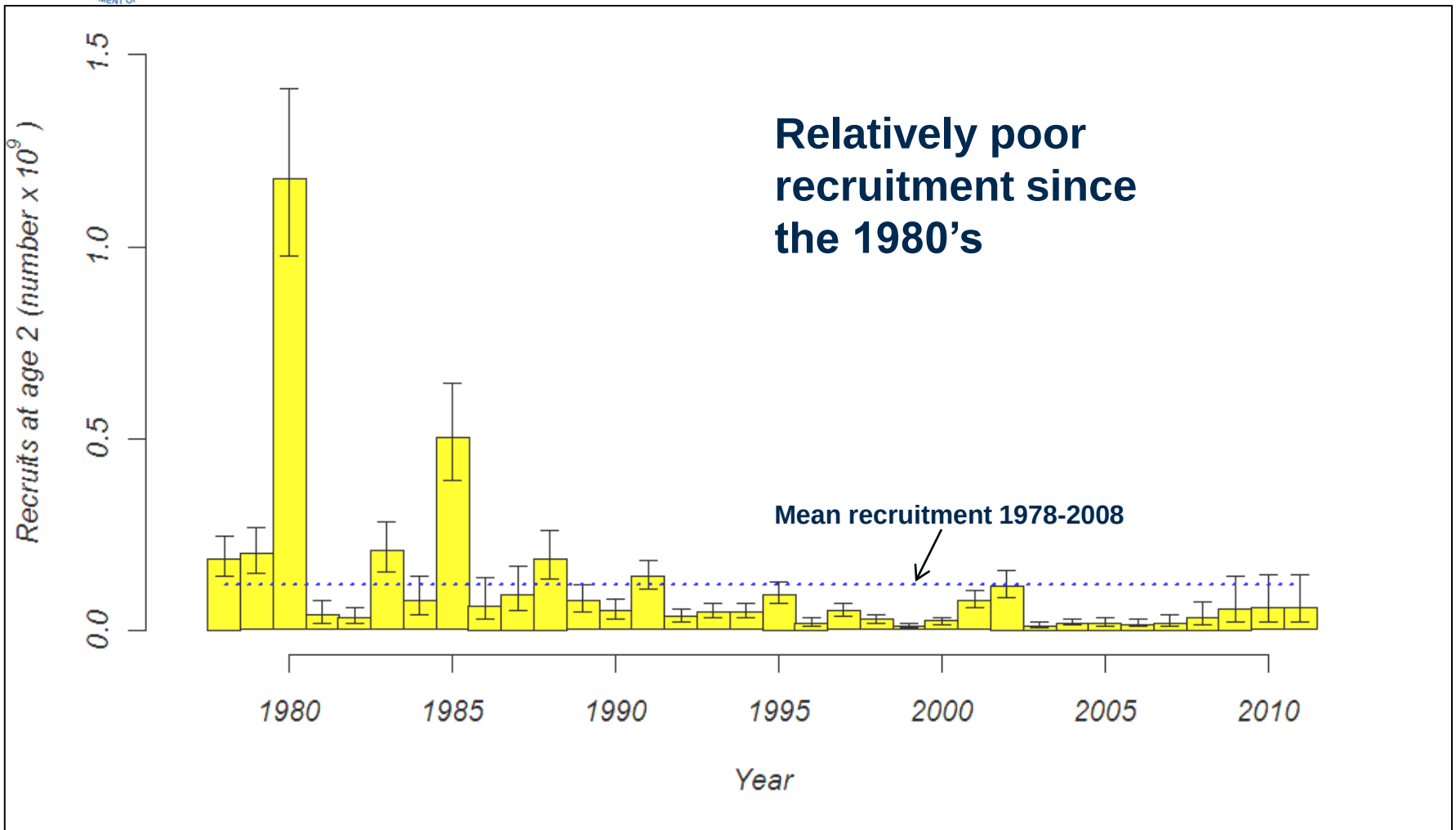
2011 assessment model estimates of AI pollock recruitment



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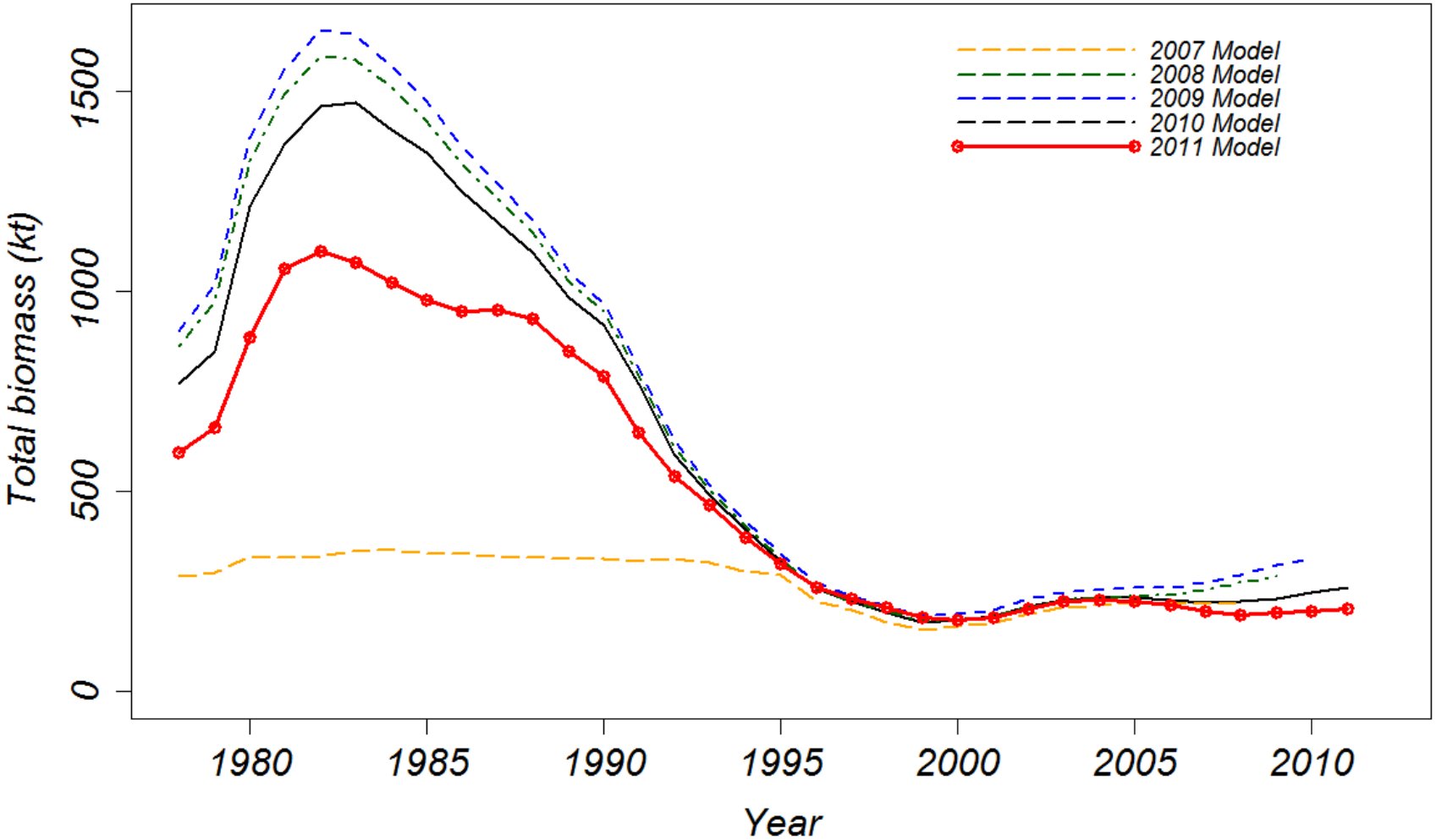
2011 assessment model estimates of total AI pollock biomass (age 2+)



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Aleutian Islands Atka Mackerel

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2011 BSAI Atka mackerel assessment summary

Model and data

- BSAI = Aleutian Islands + Southern Bering Sea
- No changes in assessment methodology
- Age-structured stock assessment model framework the same as 2008 through 2011
- Fishery age composition updated, 2010 survey biomass and age data incorporated

Results

- Recruitment estimates increased (2006 and 2007 year classes)
- BSAI Atka mackerel are at $B_{50\%}$, above $B_{40\%}$, therefore in **Tier 3a**

2012 projections

- Age 3+ biomass down ~7% relative to 2010 est. 2011 biomass
- Yield at $F_{40\%}$ down ~4% relative to 2011 ABC
- OFL at $F_{35\%}$ down ~4% relative to the 2011 OFL

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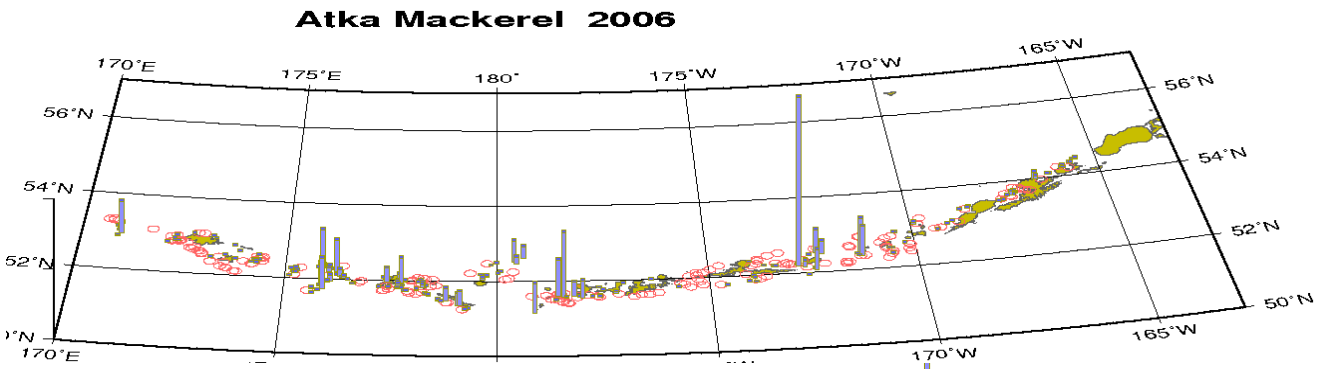
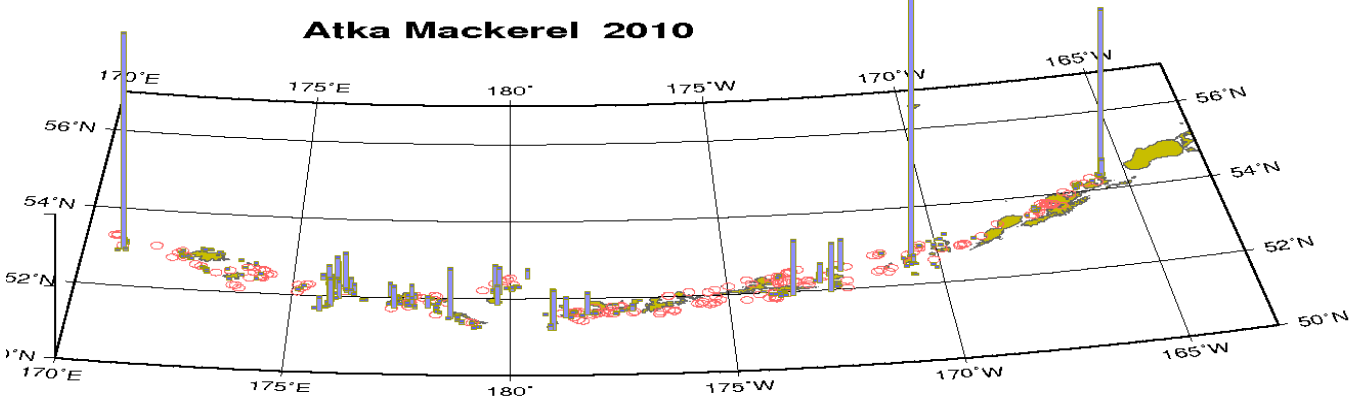
Bottom trawl survey CPUE distributions of Atka mackerel catches



2010 AI survey biomass up 16% relative to 2006



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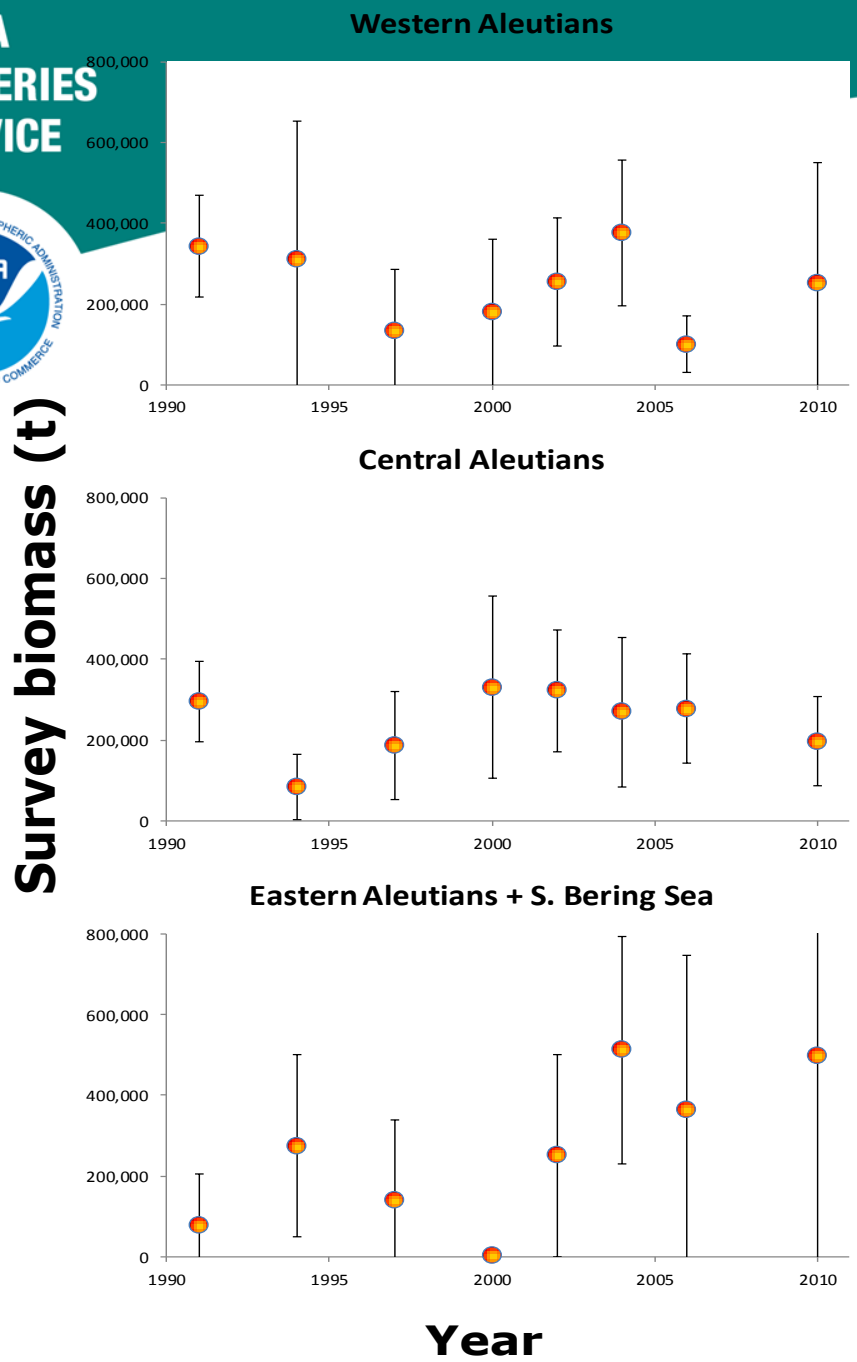
Atka mackerel

2010 AI survey relative to 2006



151% increase, *CV*=59% (543)

29% decrease, *CV*=28% (542)

13% increase, *CV*=75% (541)

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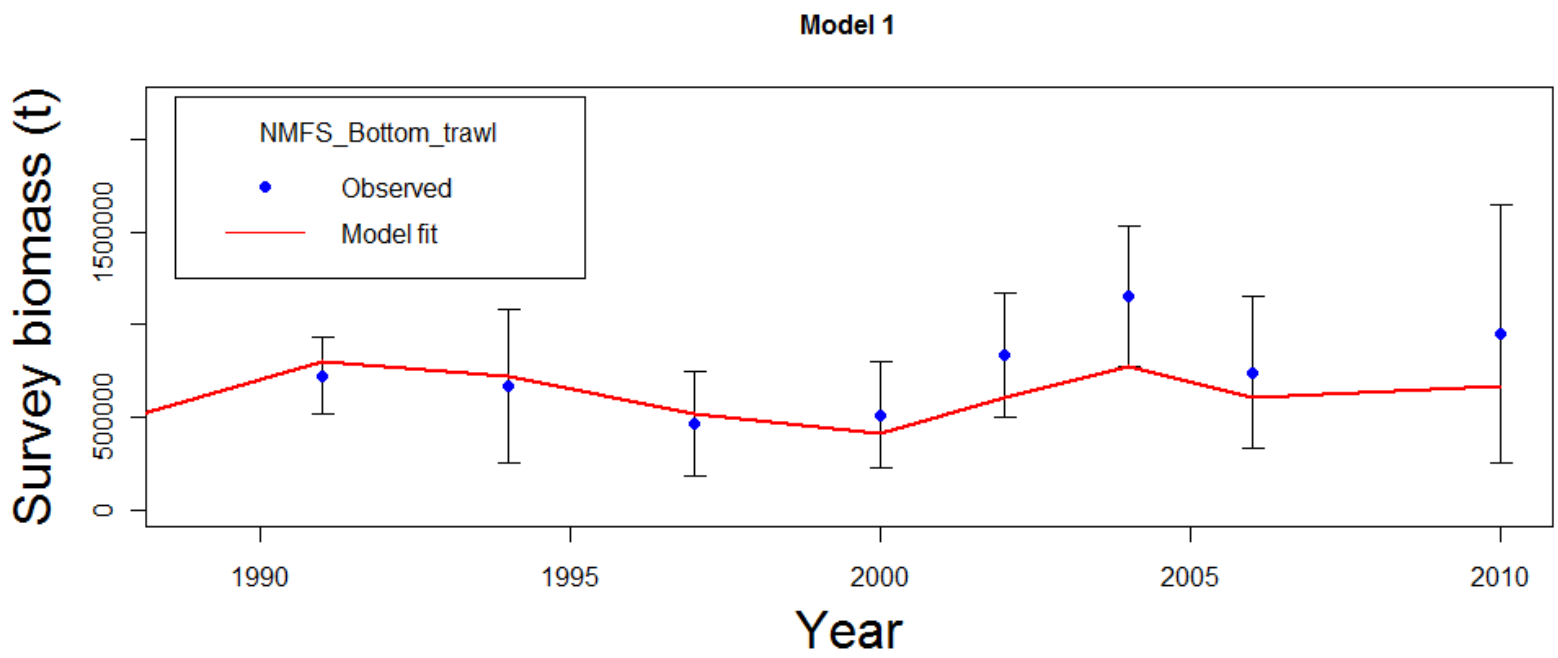
Atka mackerel AI survey biomass



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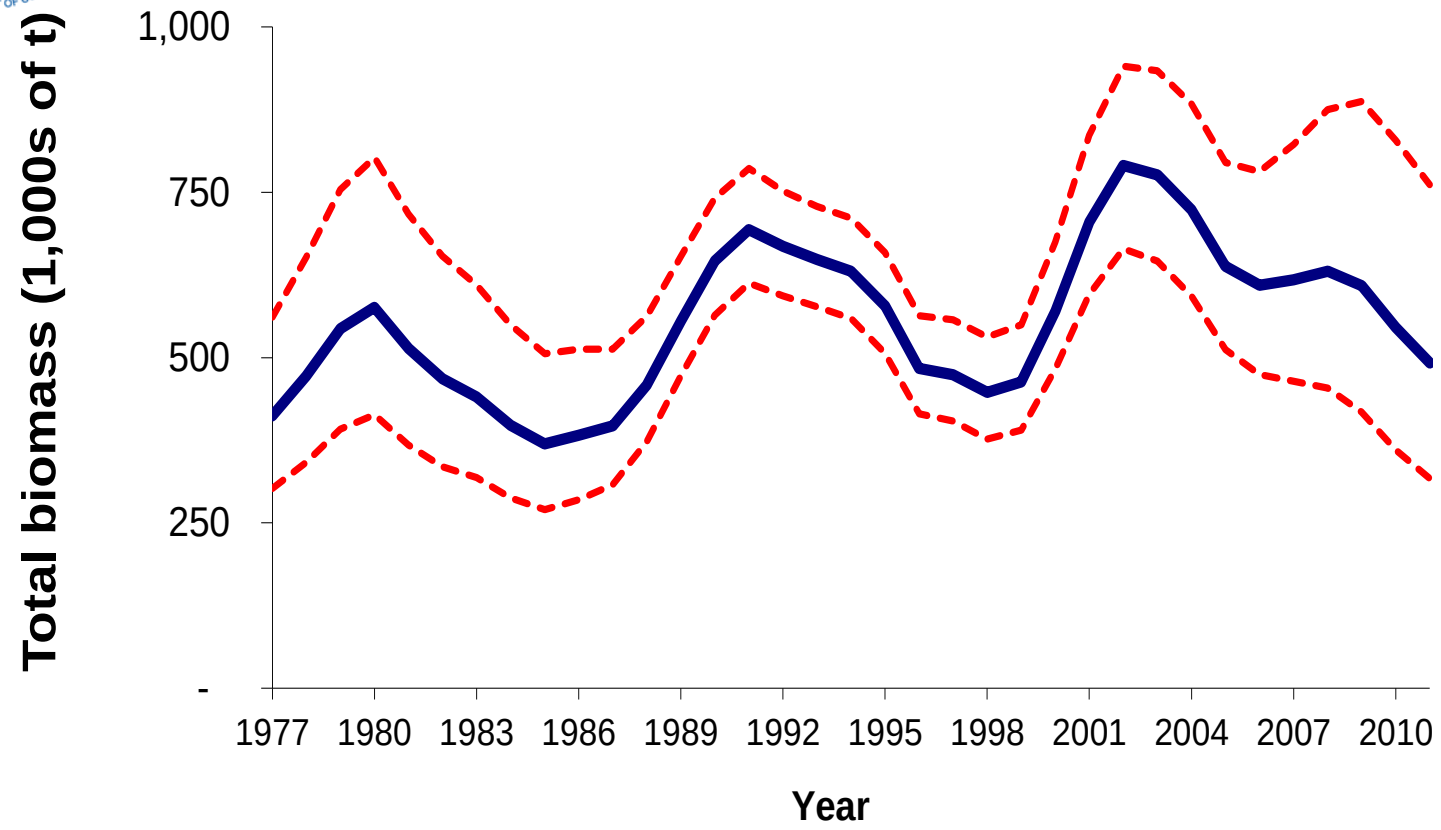
2011 assessment model estimates of BSAI Atka mackerel total biomass (age 1+)



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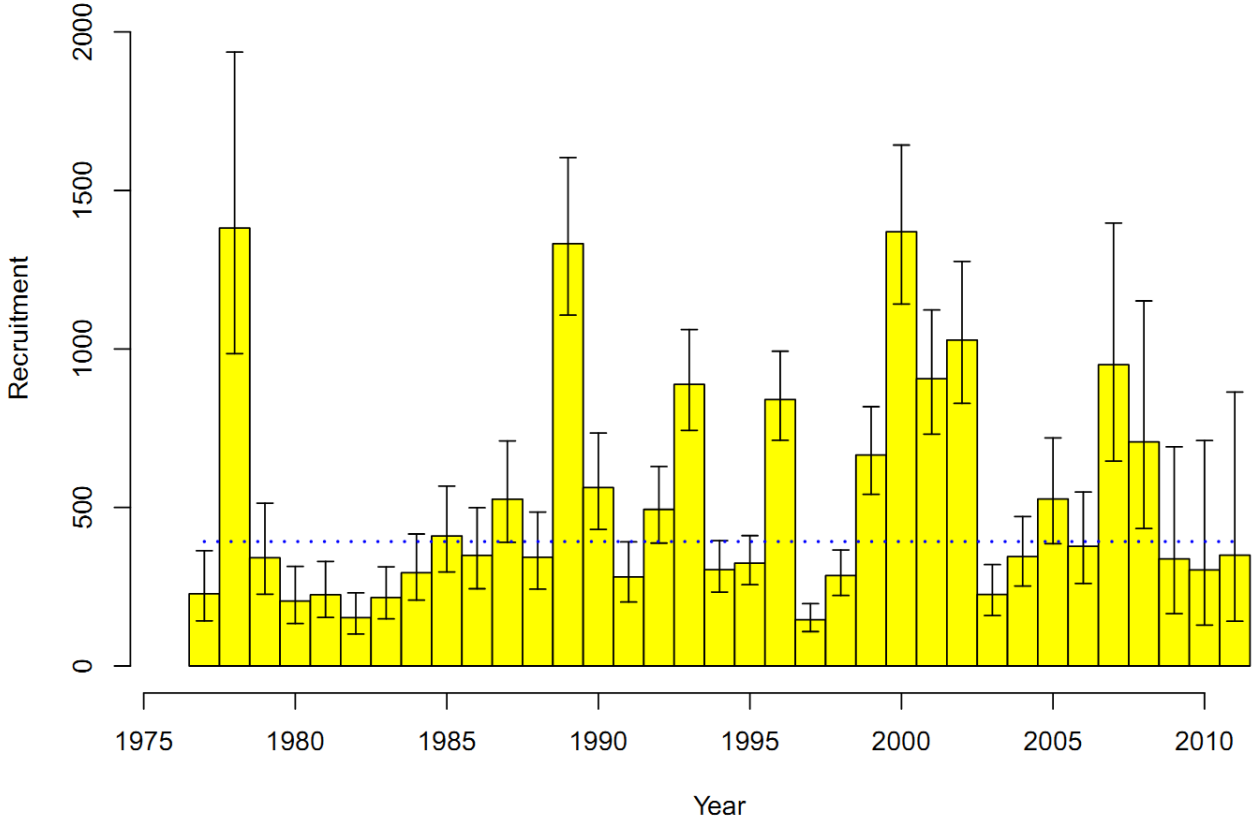
BSAI Atka mackerel age 1 recruitment as estimated from the 2011 assessment



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BSAI Atka mackerel ABC apportionment

Approved methodology based on most recent 4-survey weighted average:

	2002	2004	2006	2010	2011 Apportionment	Recommended 2012 & 2013 Apportionment
541	30.26%	44.20%	48.91%	52.57%	**47.27%**	**47.27%**
542	38.94%	23.27%	37.51%	20.74%	**28.09%**	**28.09%**
543	30.80%	32.52%	13.58%	26.69%	**24.64%**	**24.64%**
Weights	8	12	18	27		

2012 assessment: 2002 survey drops out, include 2012 survey