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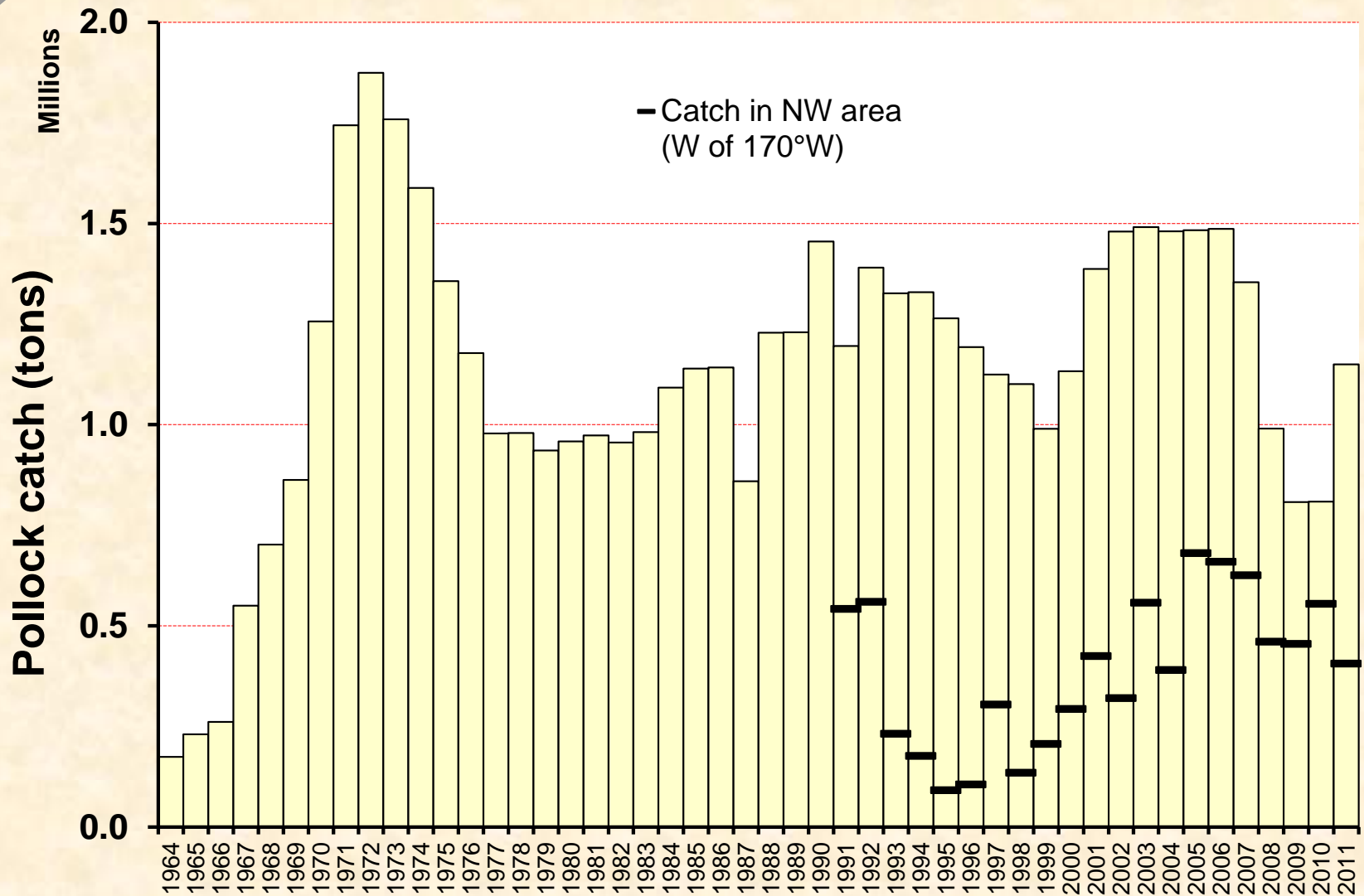
# North Pacific resource trends—Alaska pollock

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Science Center  
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Oct 12<sup>th</sup> 2011

# Three goals

- Identify issues facing the fishery
- Update on stock status
- Management actions

# EBS pollock catch history



## Fishery catch-at-age



Scientific fishery  
observers monitor  
in-season catch to  
ensure catch < TAC

Pollock catch  
0 thous. tons reported

Jun 10 - Jun 10, 2008

2008

0.0 0.2 0.4 0.6 0.8 1.0  
Relative catch

60°N

58°N

56°N

54°N

Pollock catch  
0 thous. tons reported

Jun 10 - Jun 10, 2010

2010

0.0 0.2 0.4 0.6 0.8 1.0  
Relative catch

# Observed fishery catch patterns—summer

Pollock catch  
0 thous. tons reported

Jun 10 - Jun 10, 2009

2009

0.0 0.2 0.4 0.6 0.8 1.0  
Relative catch

60°N

58°N

56°N

54°N

Pollock catch  
1 thous. tons reported

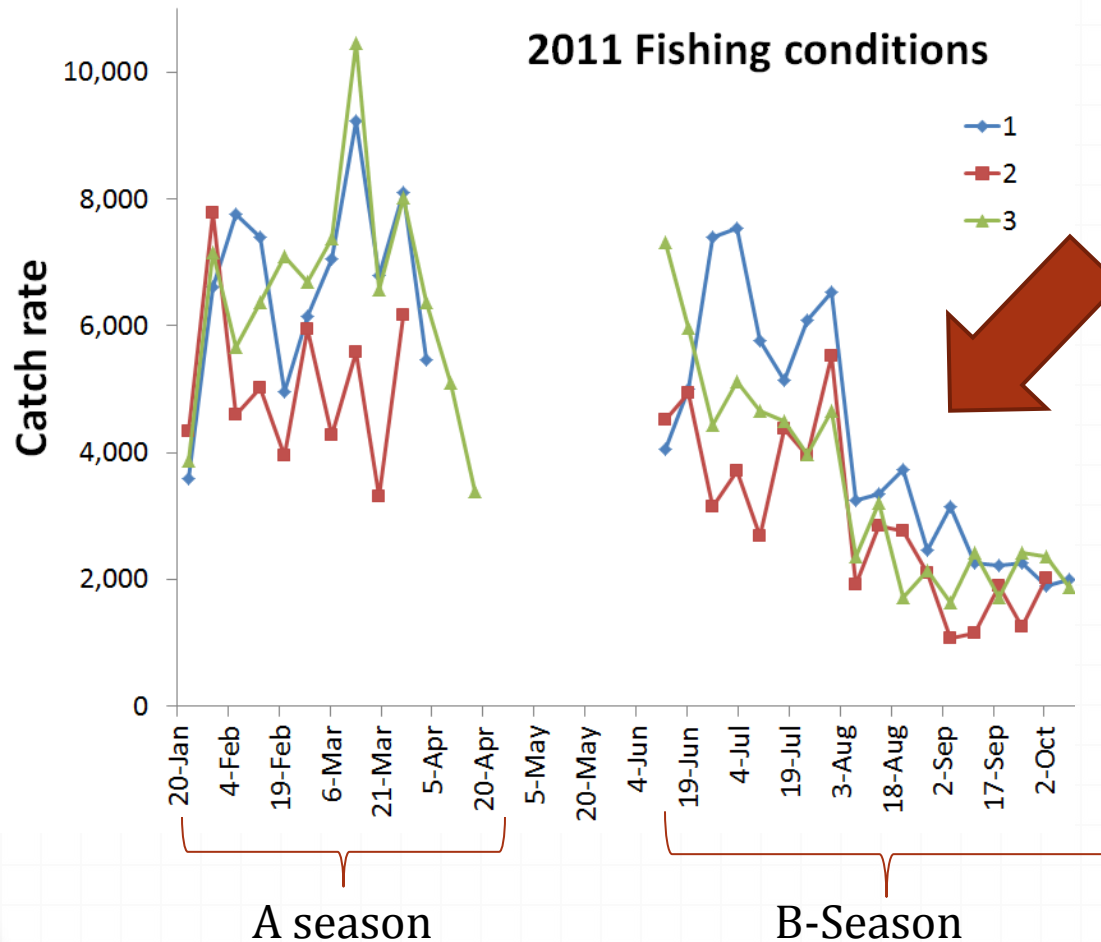
Jun 10 - Jun 10, 2011

2011

0.0 0.2 0.4 0.6 0.8 1.0  
Relative catch



# Pollock catch rates



## Despite High Hopes, Slow Fishing for Pollock

By Alexandra Gutierrez



(NOAA Fisheries)

[Enlarge image](#)

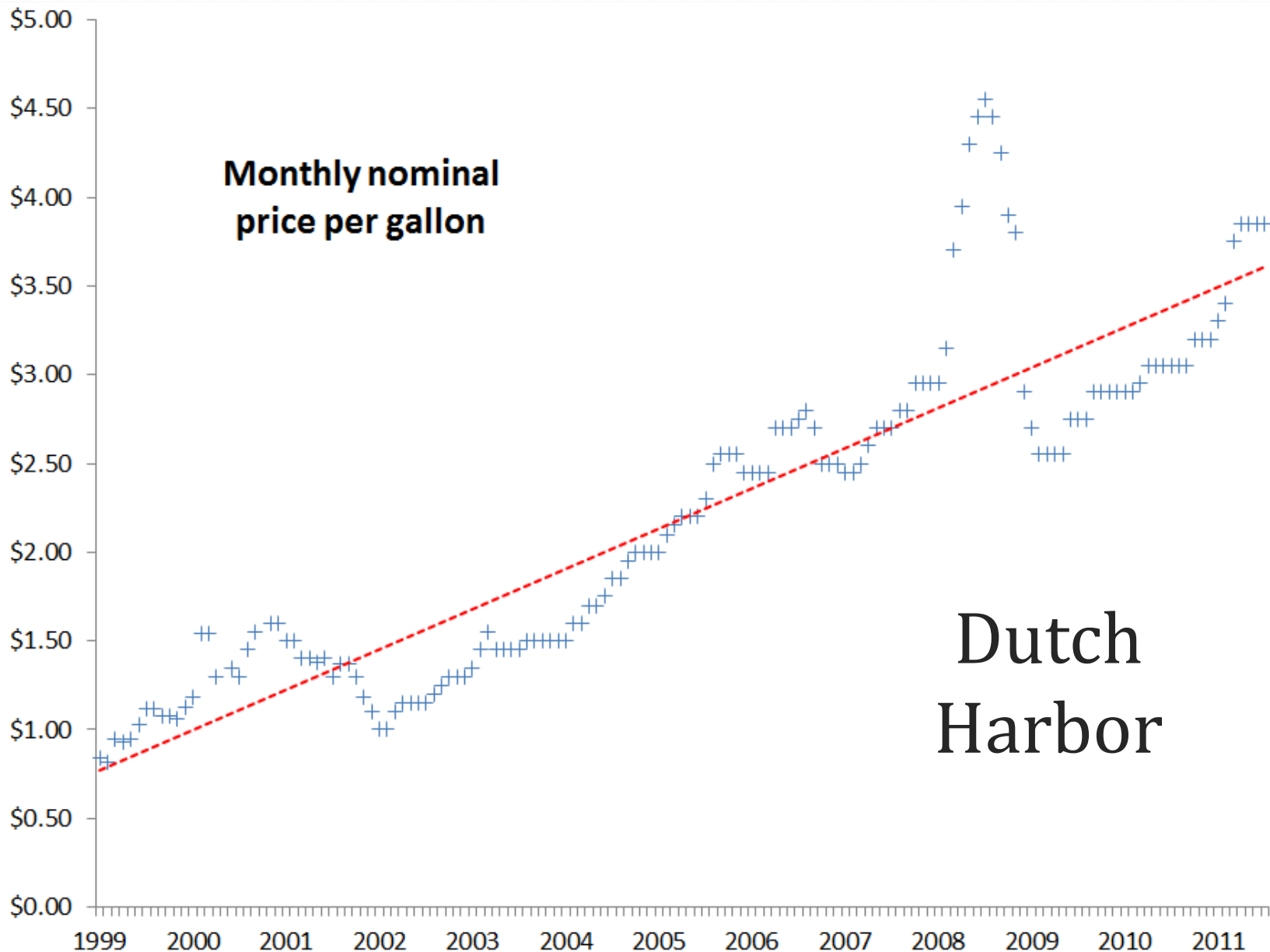
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Unalaska is home to the busiest fishing port in the world. And the fish that fuels that distinction is pollock. But this pollock season has been a bust so far. And many boat owners have started sending crews home.

# Pressures

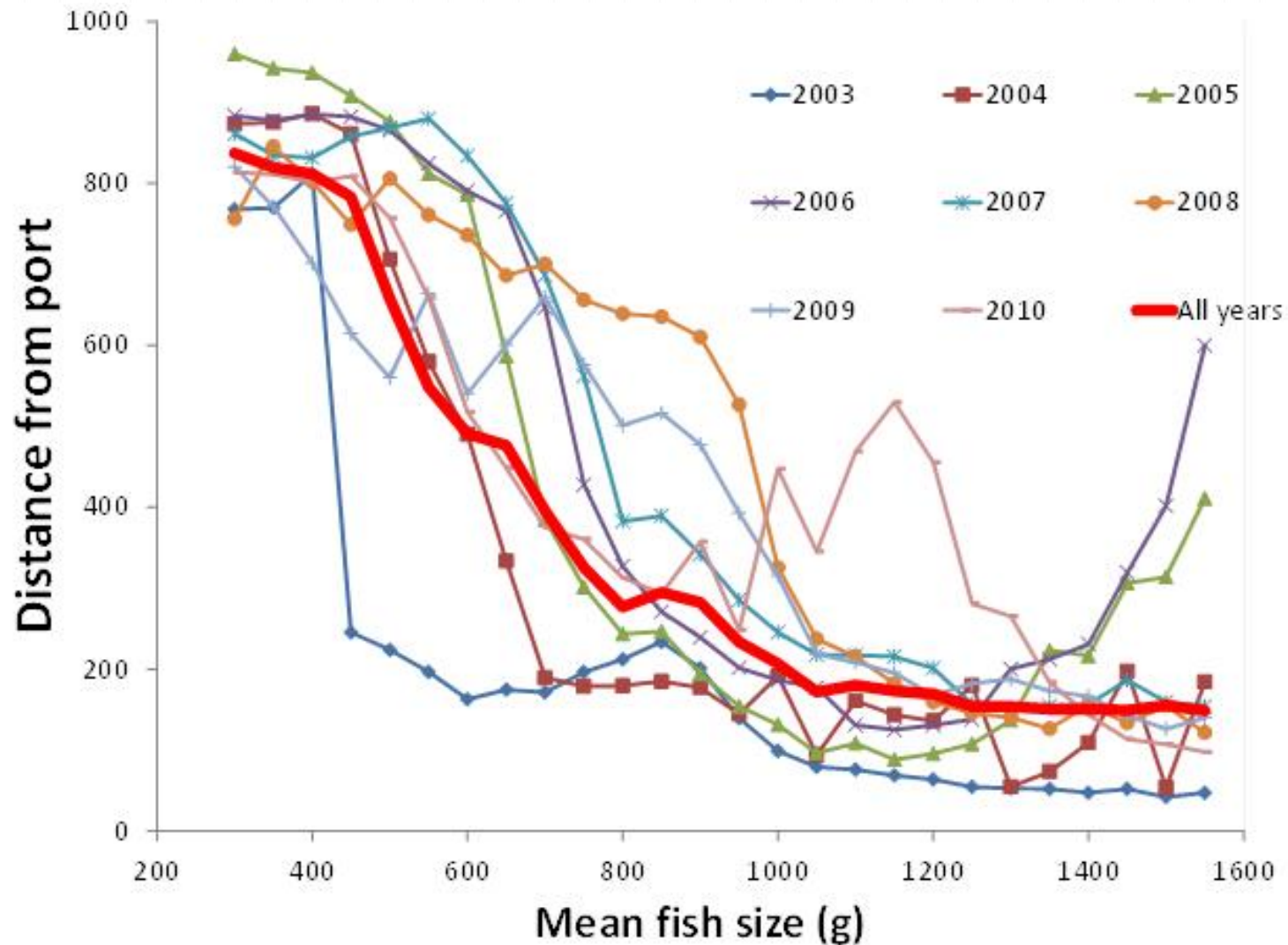
- Pollock population variability
  - “Young” versus older population
  - Increased distance from port
- Salmon bycatch
  - New regulations w/ individual accountability
  - Two species of concern (Chinook and chum salmon)
  - Closures in effect

# Pressure: fuel prices and pollock fishing

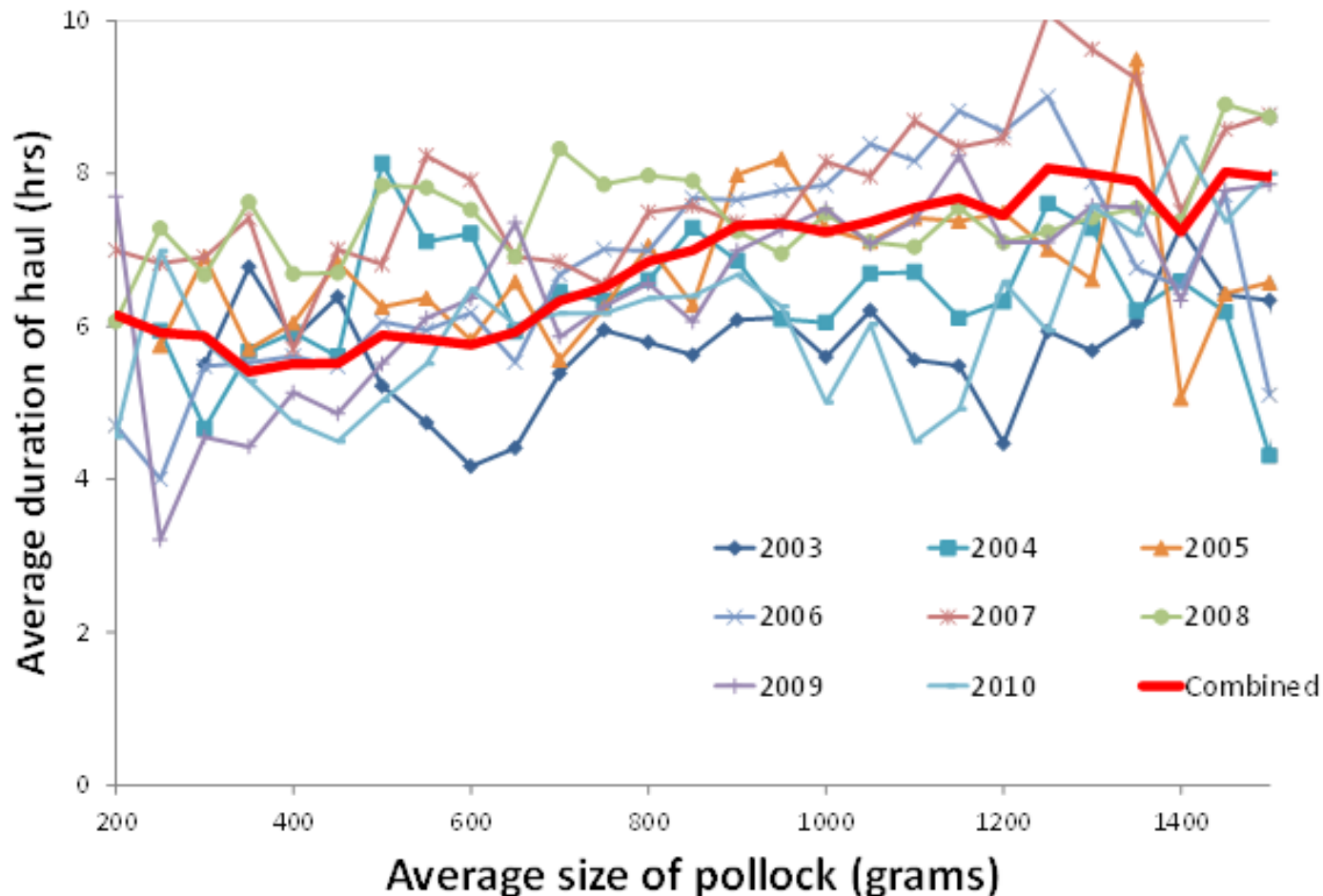




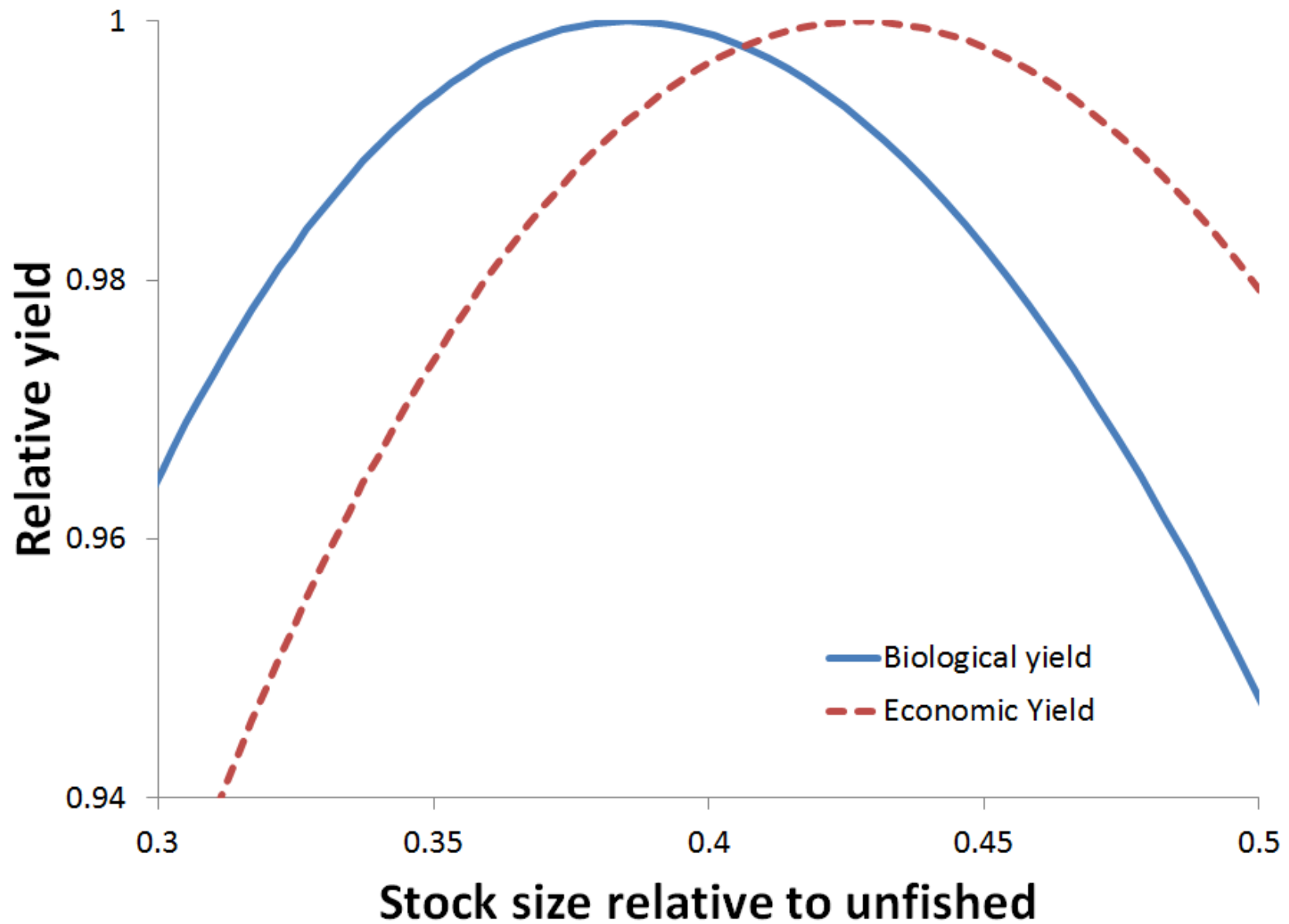
# Bigger fish closer to port...



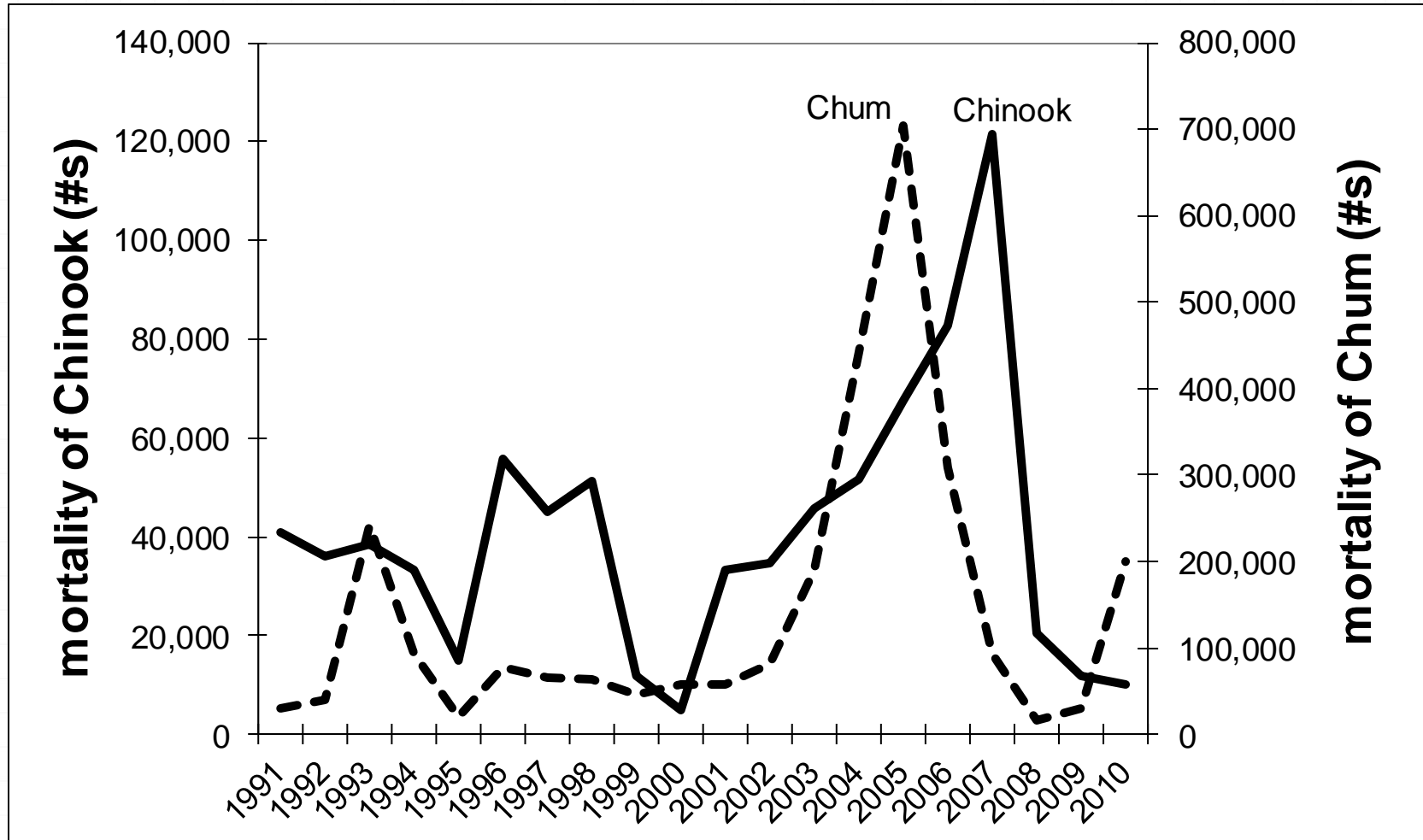
# But bigger fish from longer tows...



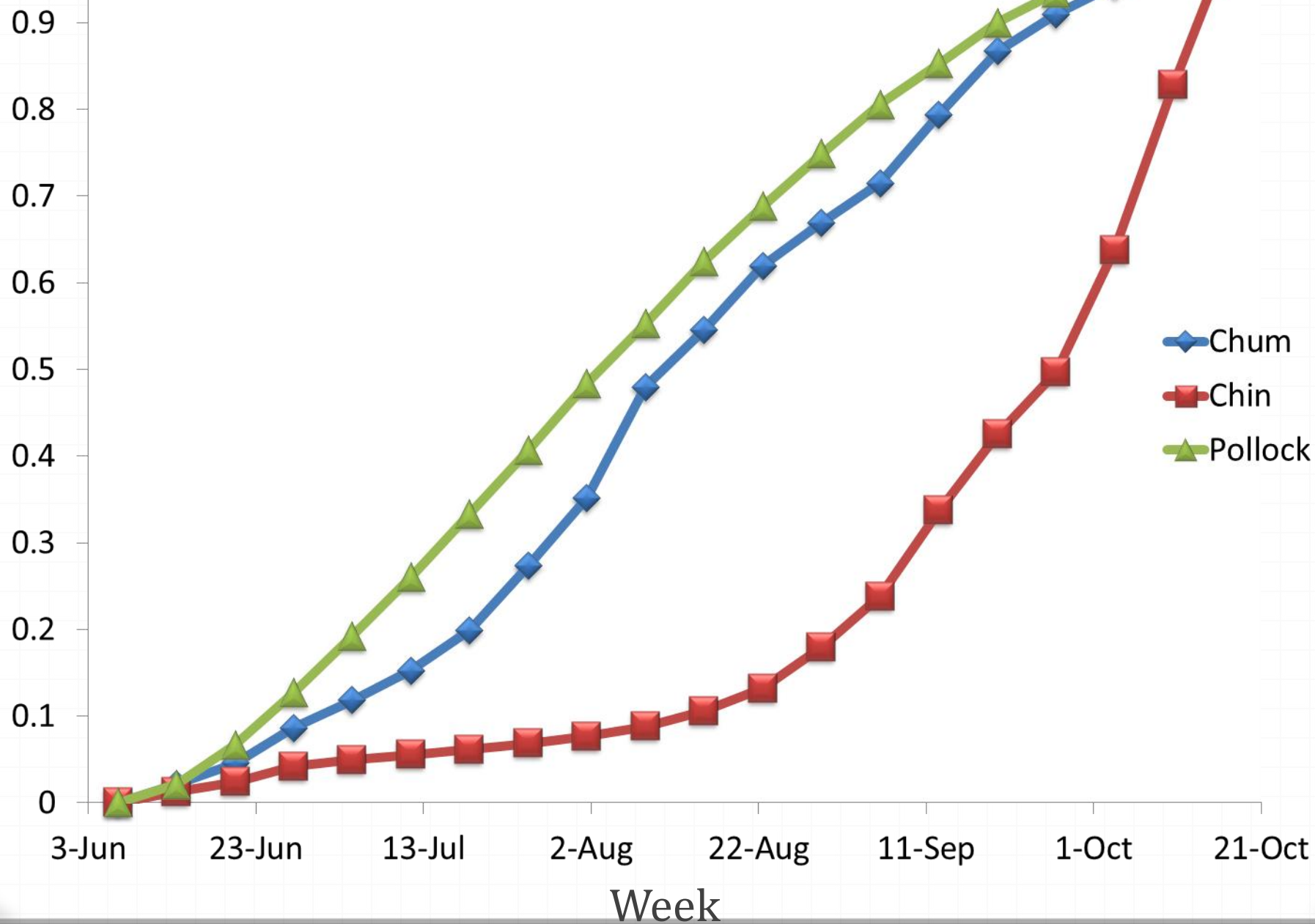
# Resolution



# Pressure: salmon bycatch



# <sup>1</sup>Cumulative catch by week



# Resolution

- Actively analyze bycatch data
- Evaluate bycatch impact on communities dependent on salmon
  - To date, impacts small compared to other forces
  - Political sensitivity led to current regulations

# Assessment update

Identify issues facing the fishery

**Update on stock status**

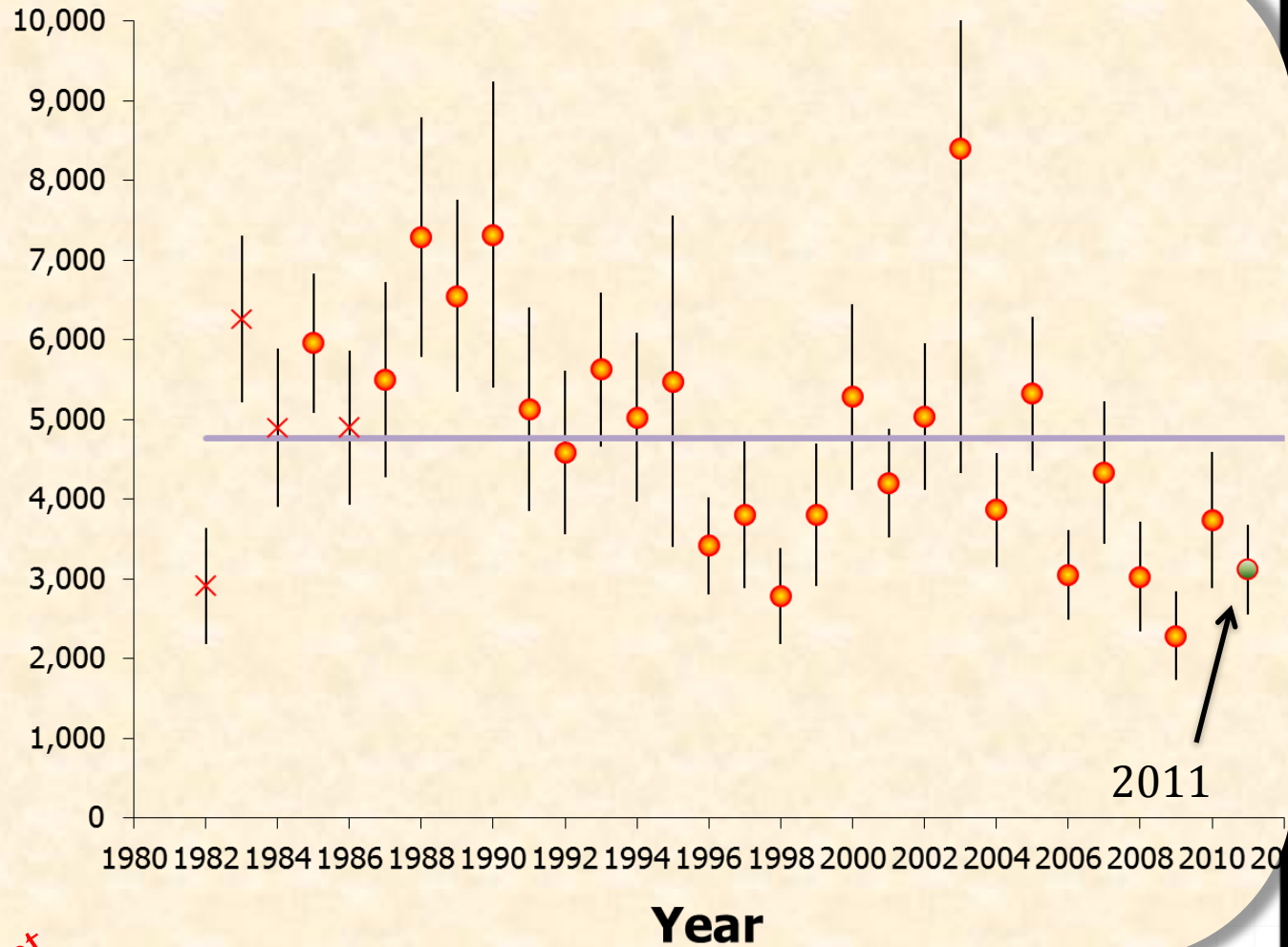
Management actions





# Bottom trawl survey biomass

**Survey biomass estimate**  
(thousands of t)

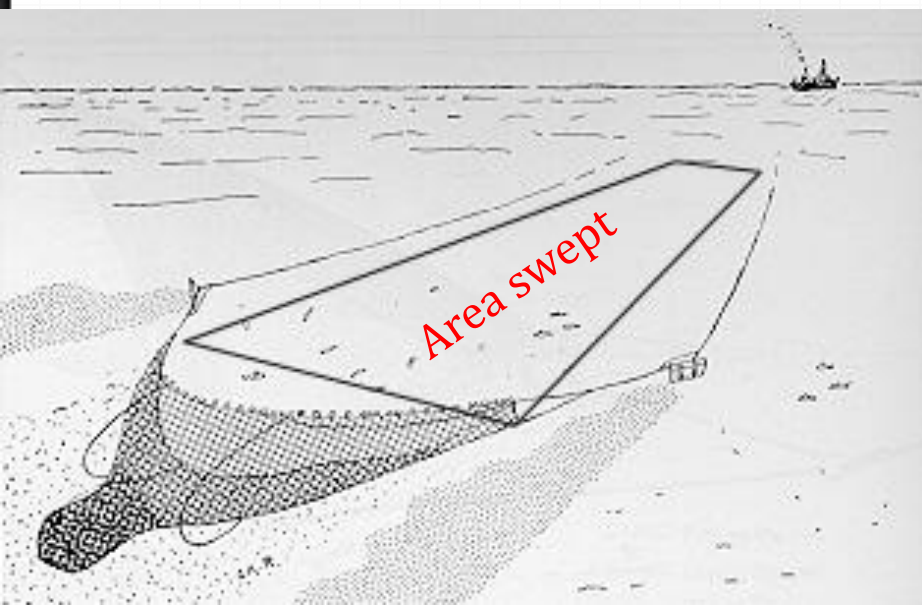
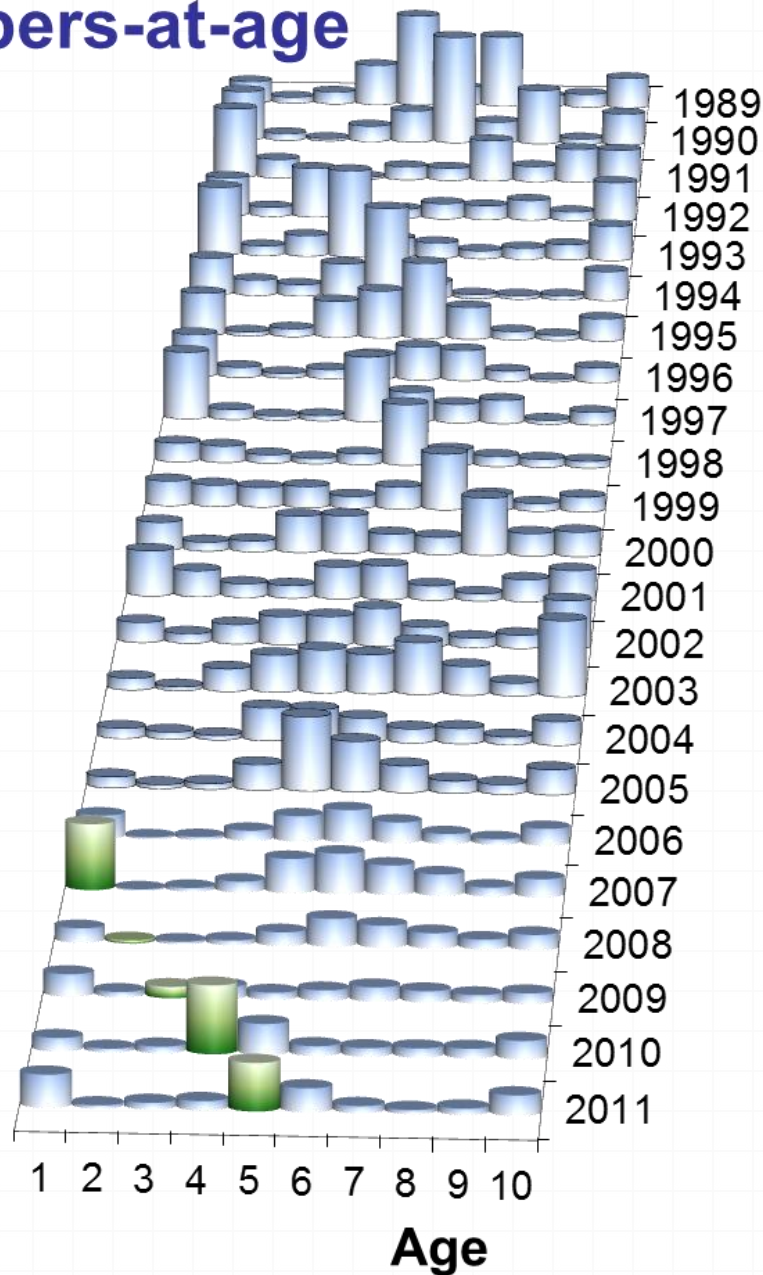


Area swept



## Bottom trawl survey numbers-at-age

# Generally older pollock



# Dedicated Acoustic Survey

No  
2011  
survey

Relative tons (thousands)

6,000

4,000

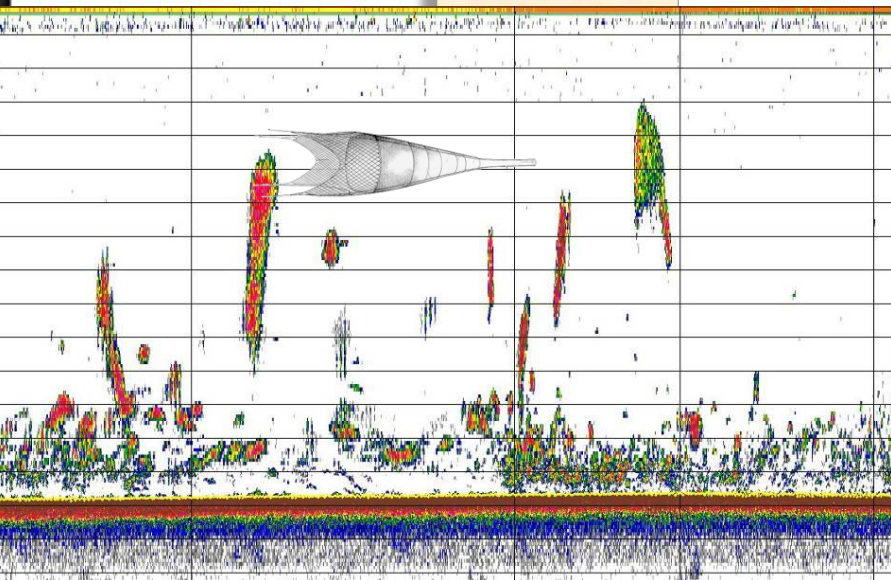
2,000

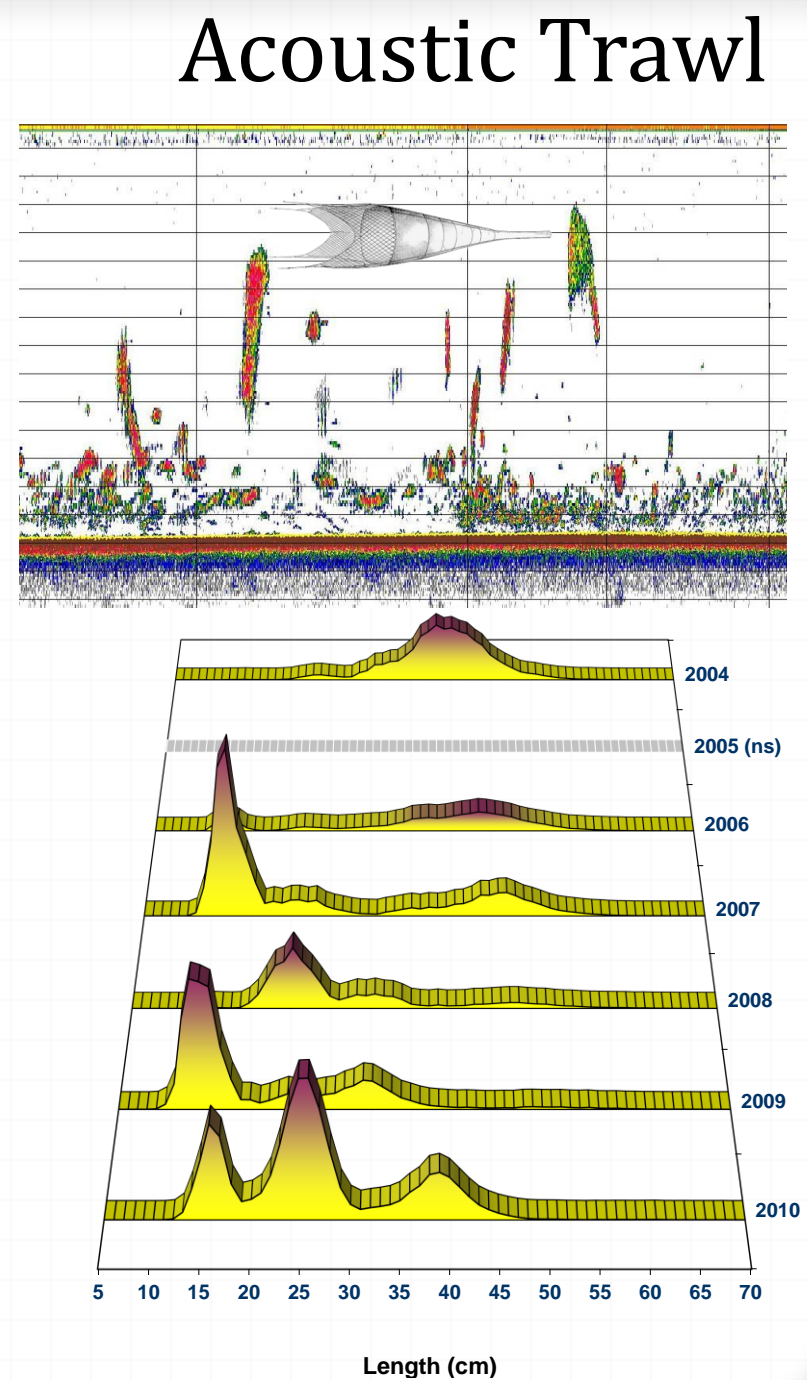
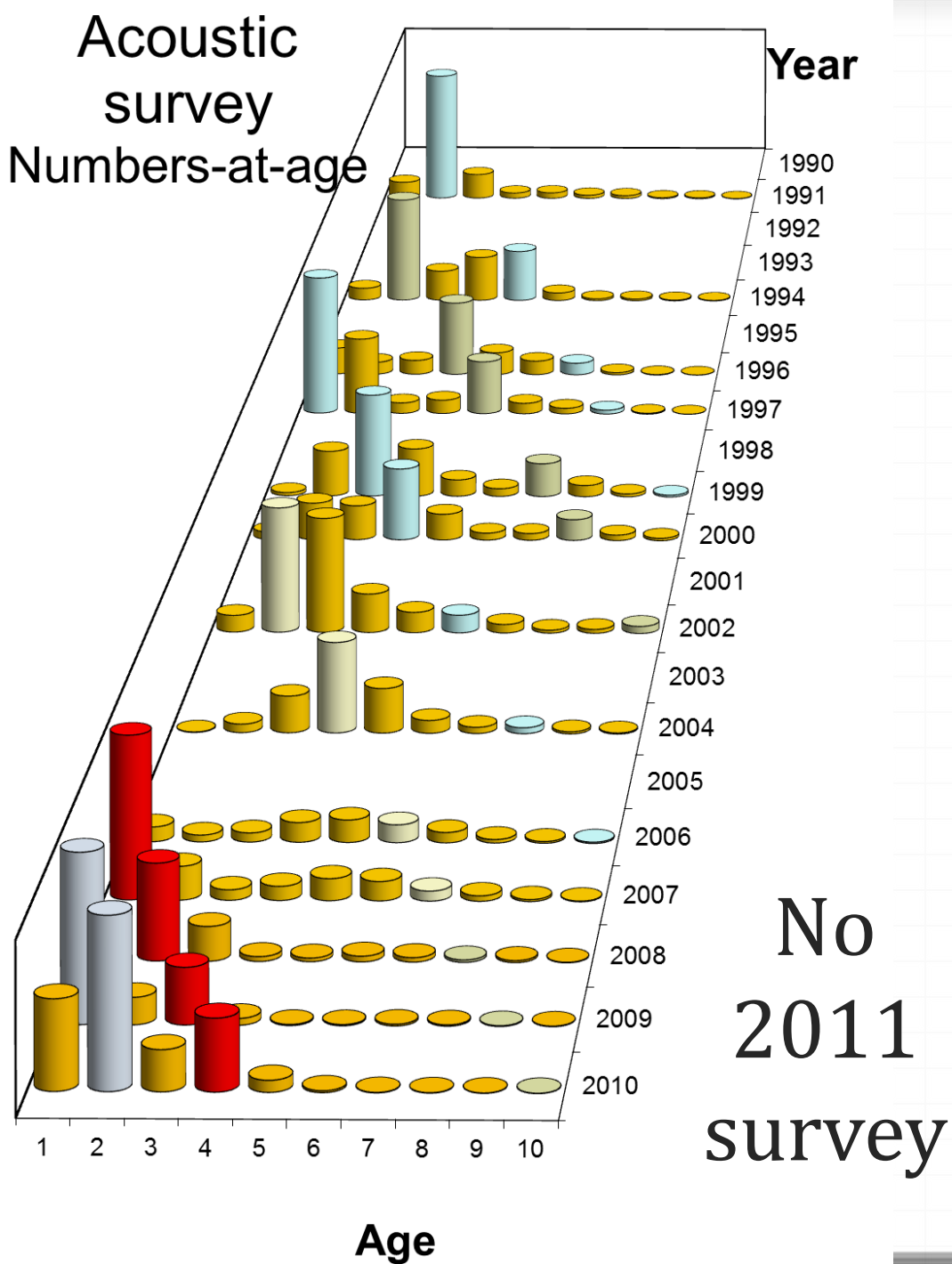
● Mid-water acoustic survey estimate

× Model prediction

1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009

3 m off bottom to  
near surface







# AVO—Acoustic Vessels of Opportunity

- **New** abundance index
  - Fill gap off-years of Research Vessel
  - 2006-2011
  - Industry-based charters

*R/V Oscar Dyson*



Odd years

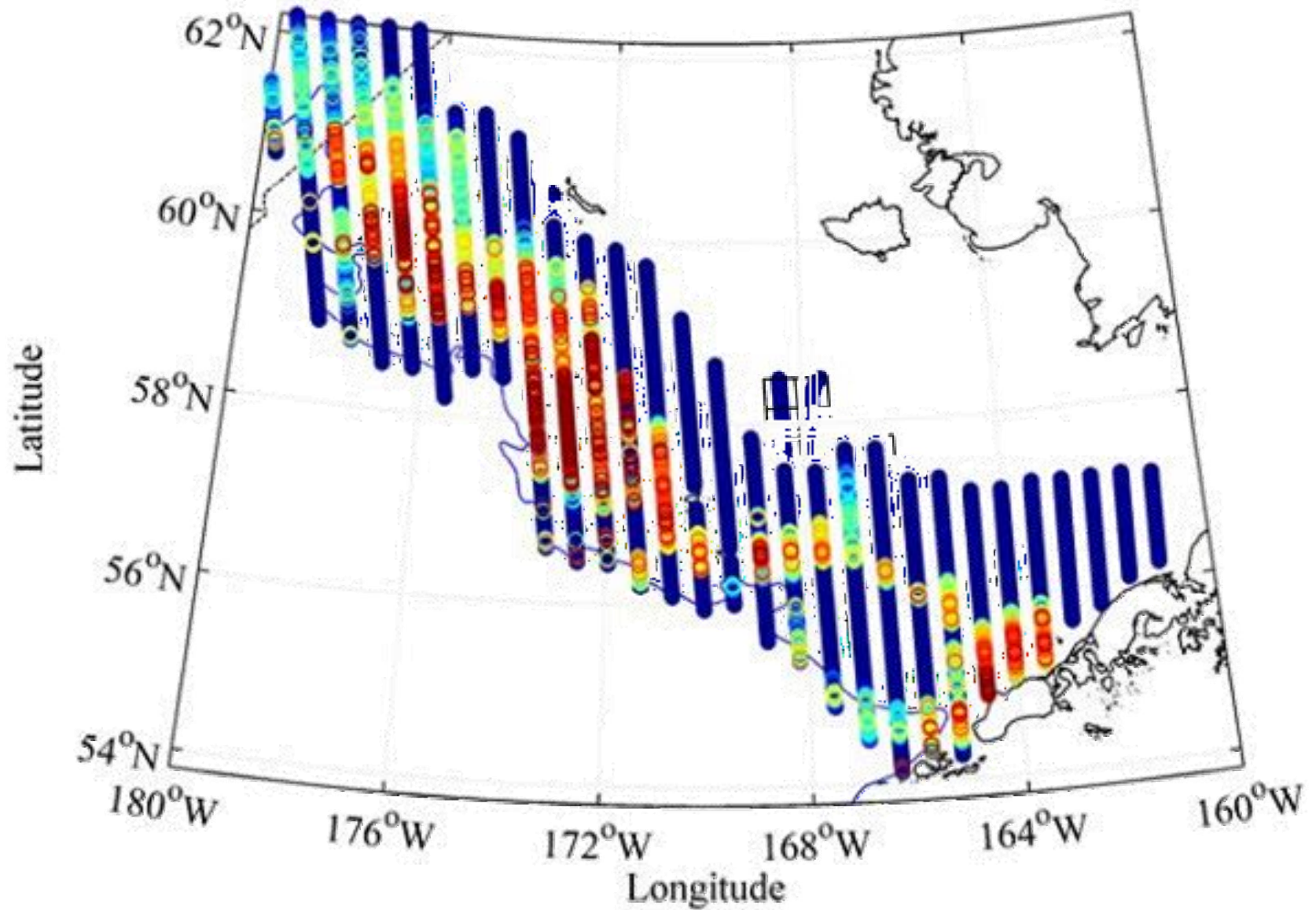
Vessel working outside  
of EBS

*F/V Arcturus*

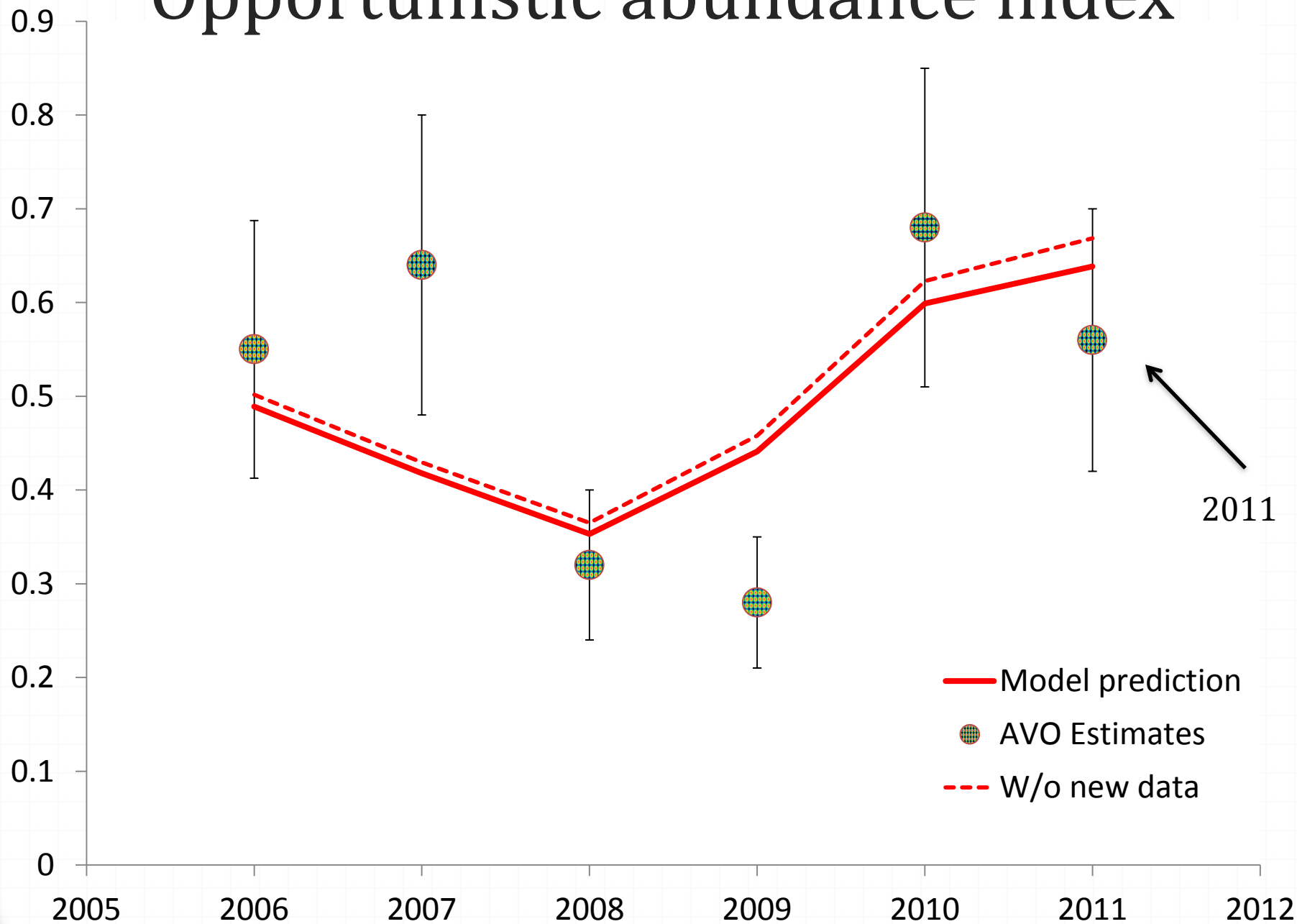


2009

Acoustic trawl (Oscar Dyson)

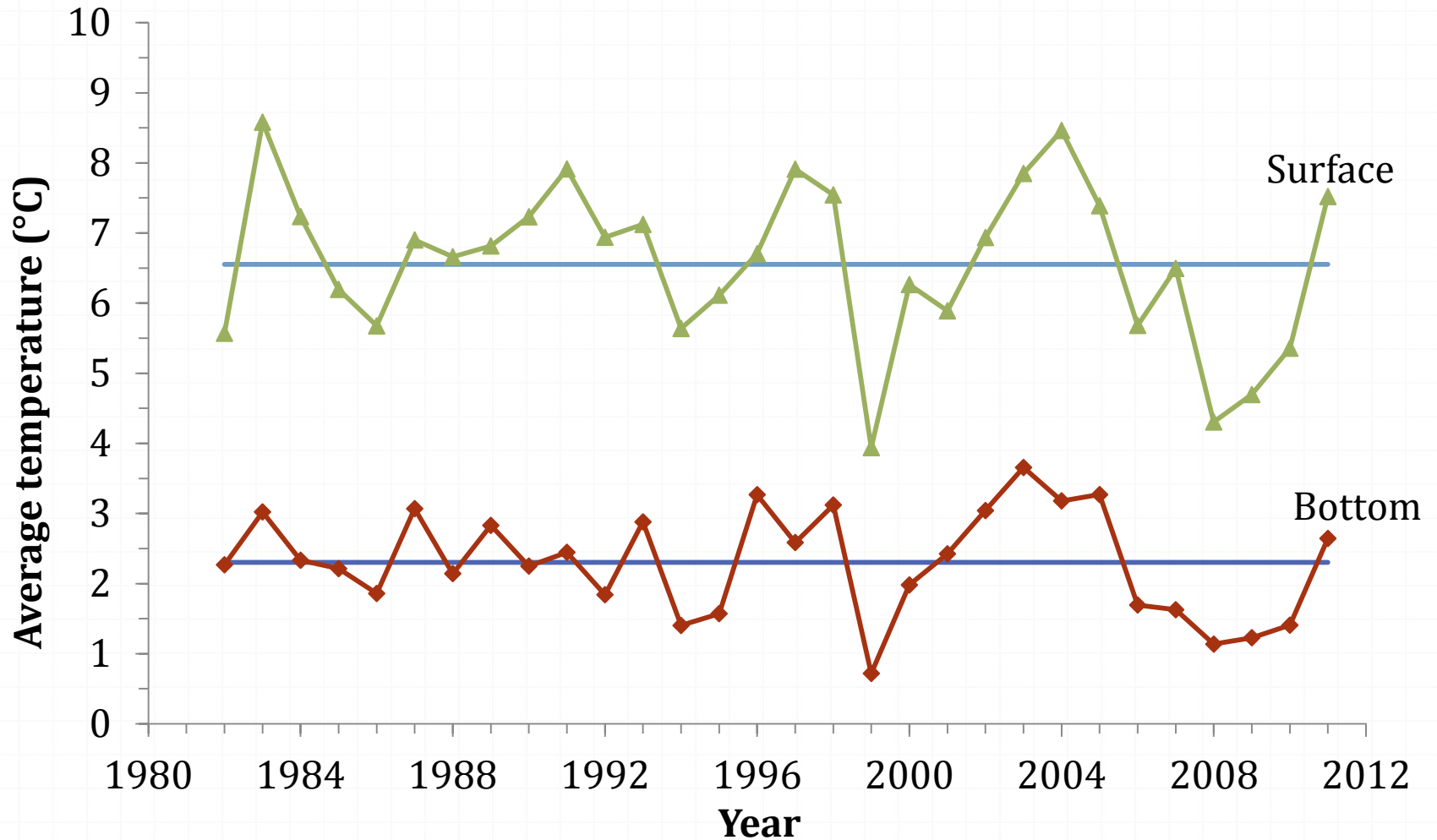


# Opportunistic abundance index





# Temperature conditions

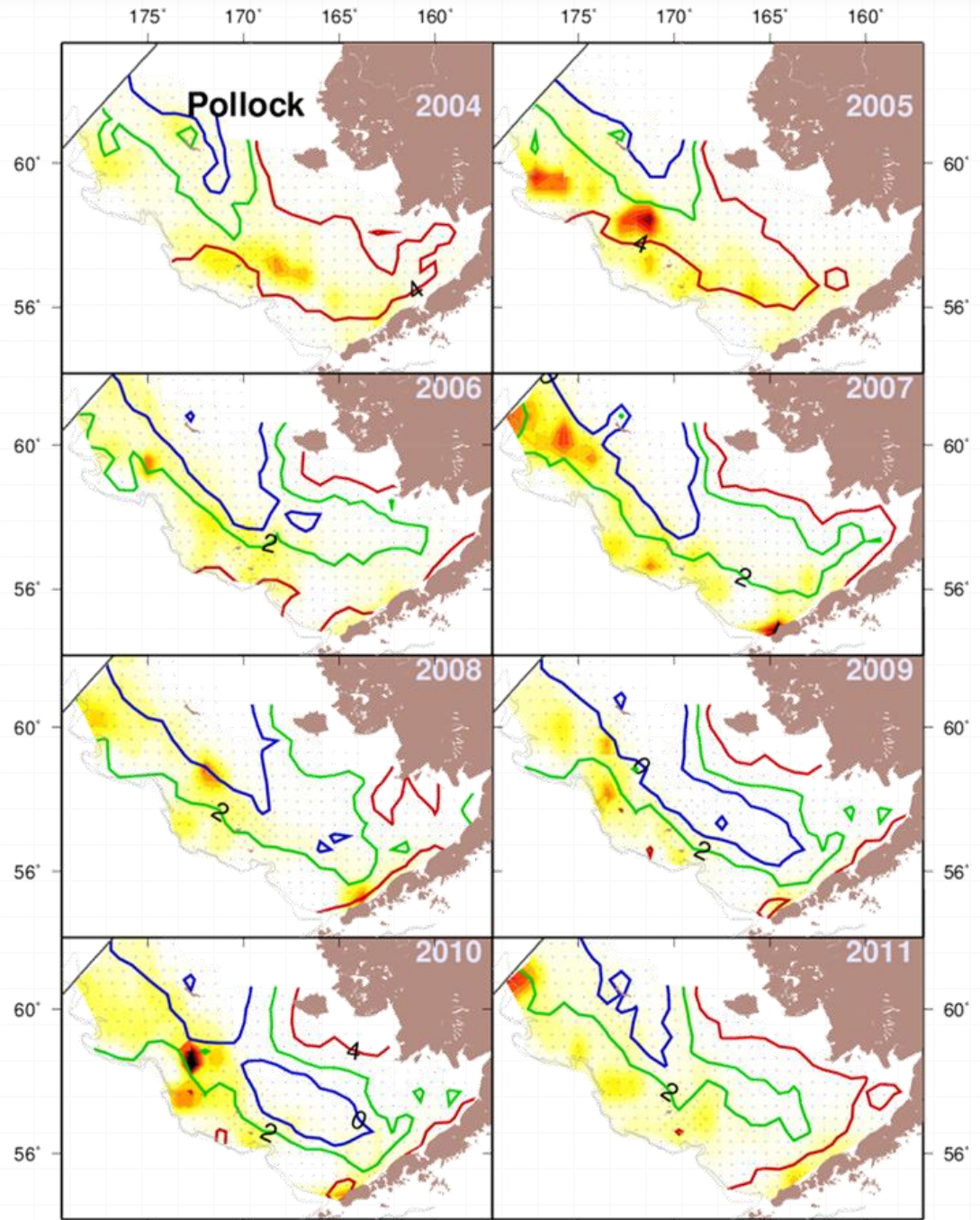


**Warmer (slightly) after 5 cold years (on bottom)**

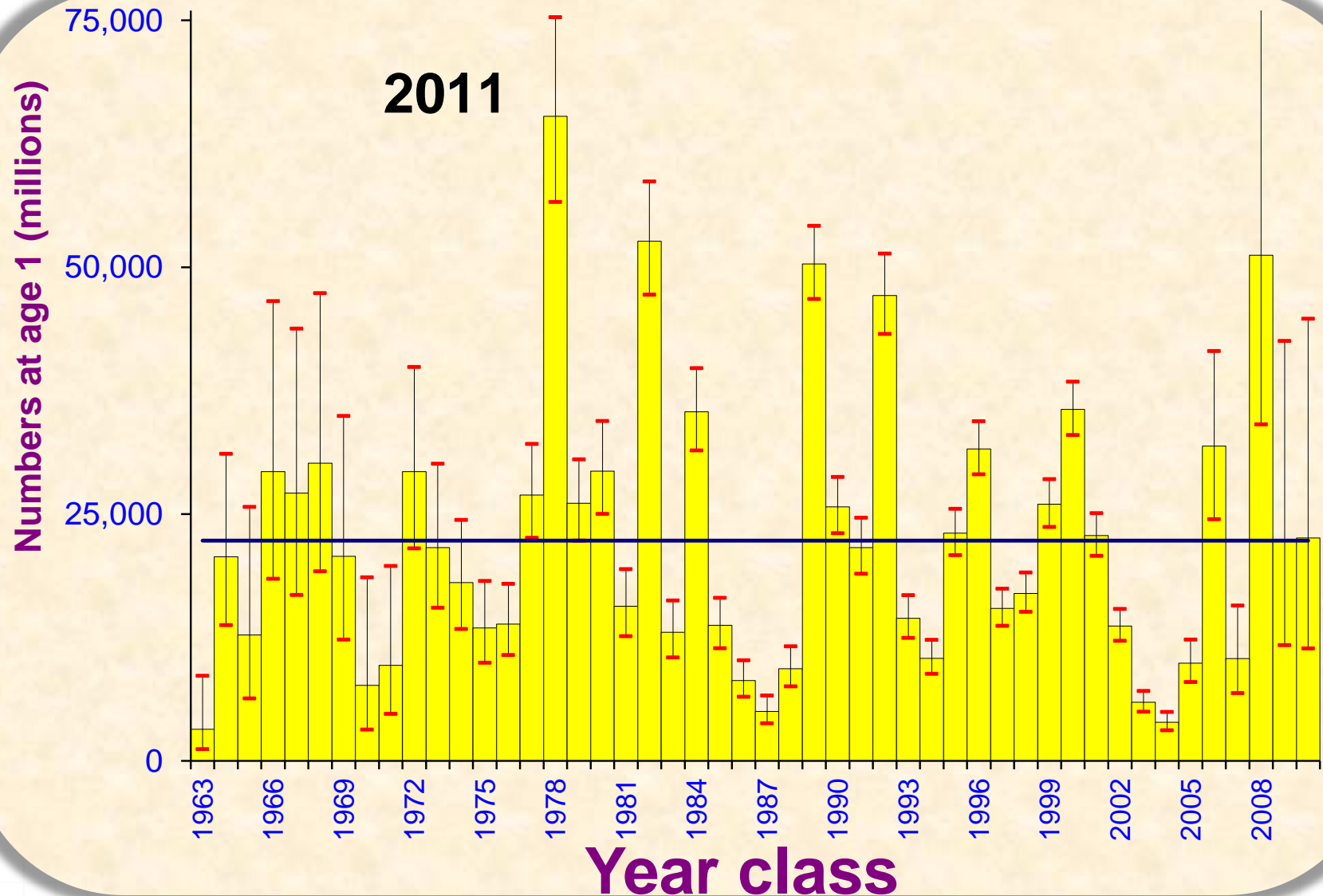
# Pollock survey densities and temperature

2011 is warmer  
...but not “warm”

Fish distribution more  
dispersed



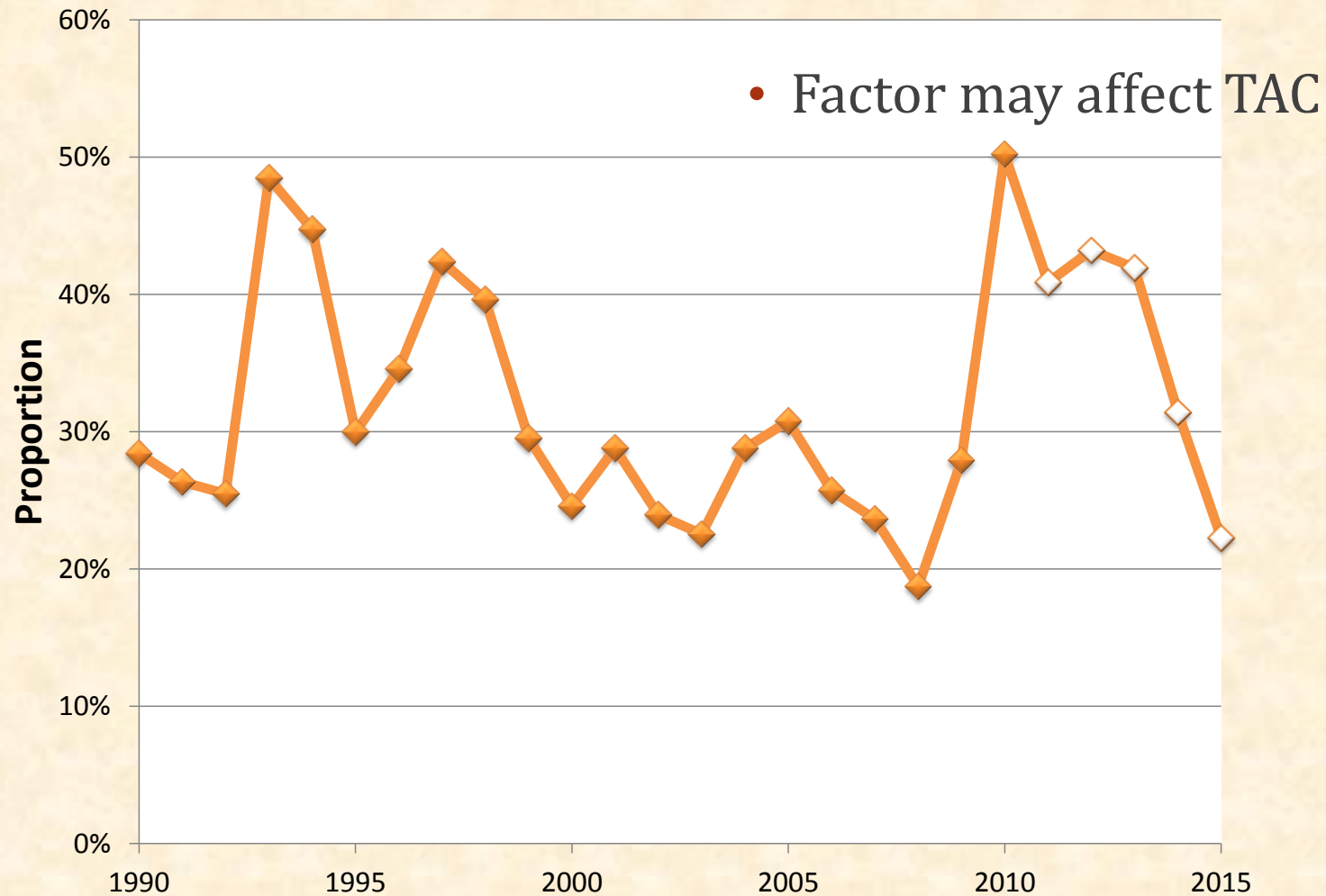
# Recruitment estimates



# Spawning biomass outlook



# Proportion single age group in spawning biomass



...

By weight

# EBS pollock summary

Only one standard survey in 2011

- Below expectations
- New index also showed a decline from what was expected

2011 TAC: 1,252,000 t

- Salmon bycatch closures and poorer conditions slowed fishing—total production may fall short by about 8%

2012 TAC : 1,253,000 t (last year's assessment)

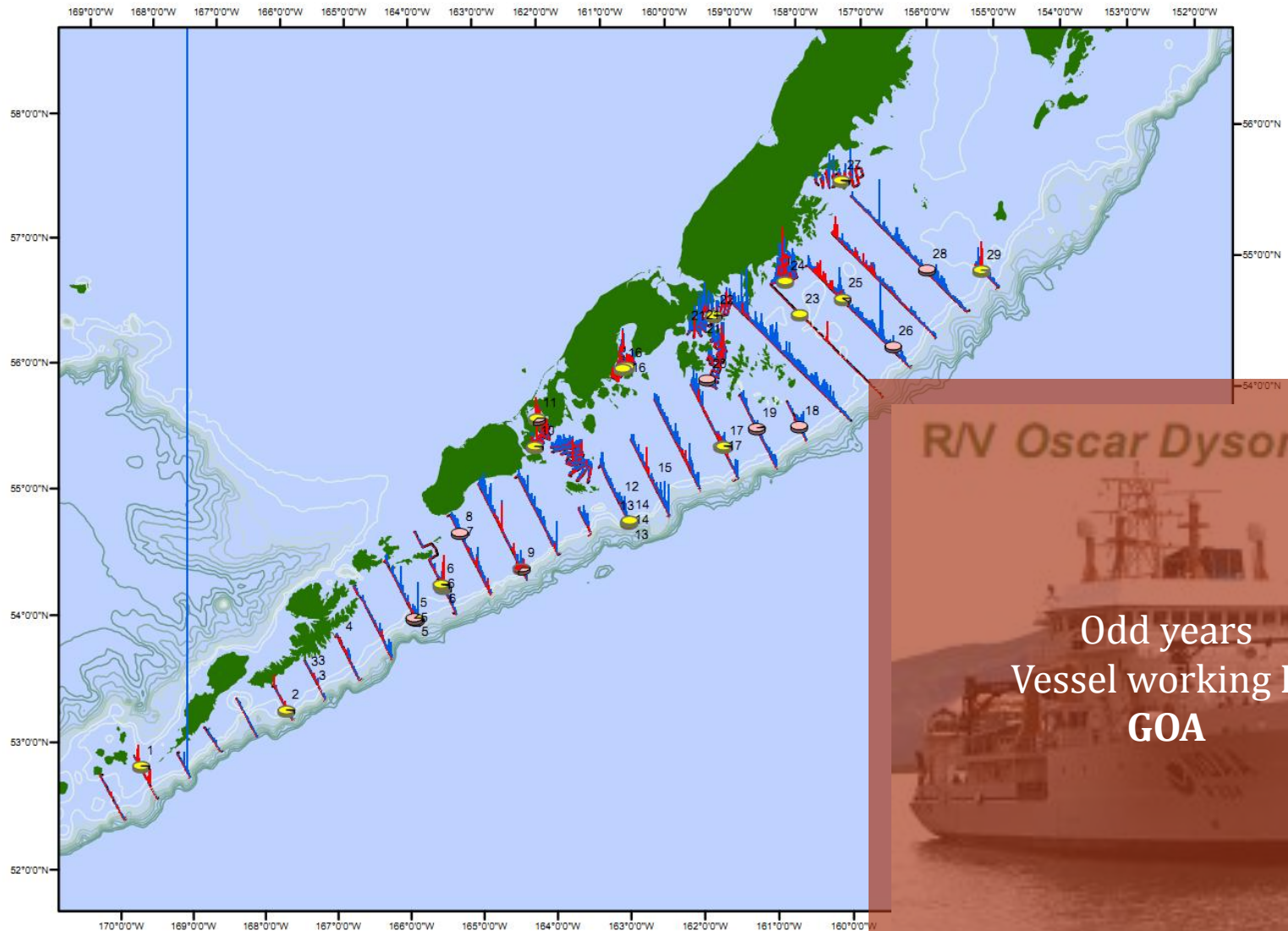
- Given updated survey indications, likely to be lower:  
**~1.0 – 1.2 million t (but TBD) because:**
  - Stabilize fishing mortality (rather than increase)
  - Surveys still below average
  - Few ages in spawning biomass

# Other Alaska groundfish outlook

- Gulf of Alaska (GOA) pollock
- Pacific cod (EBS and GOA)



# NEW: Gulf of Alaska survey-

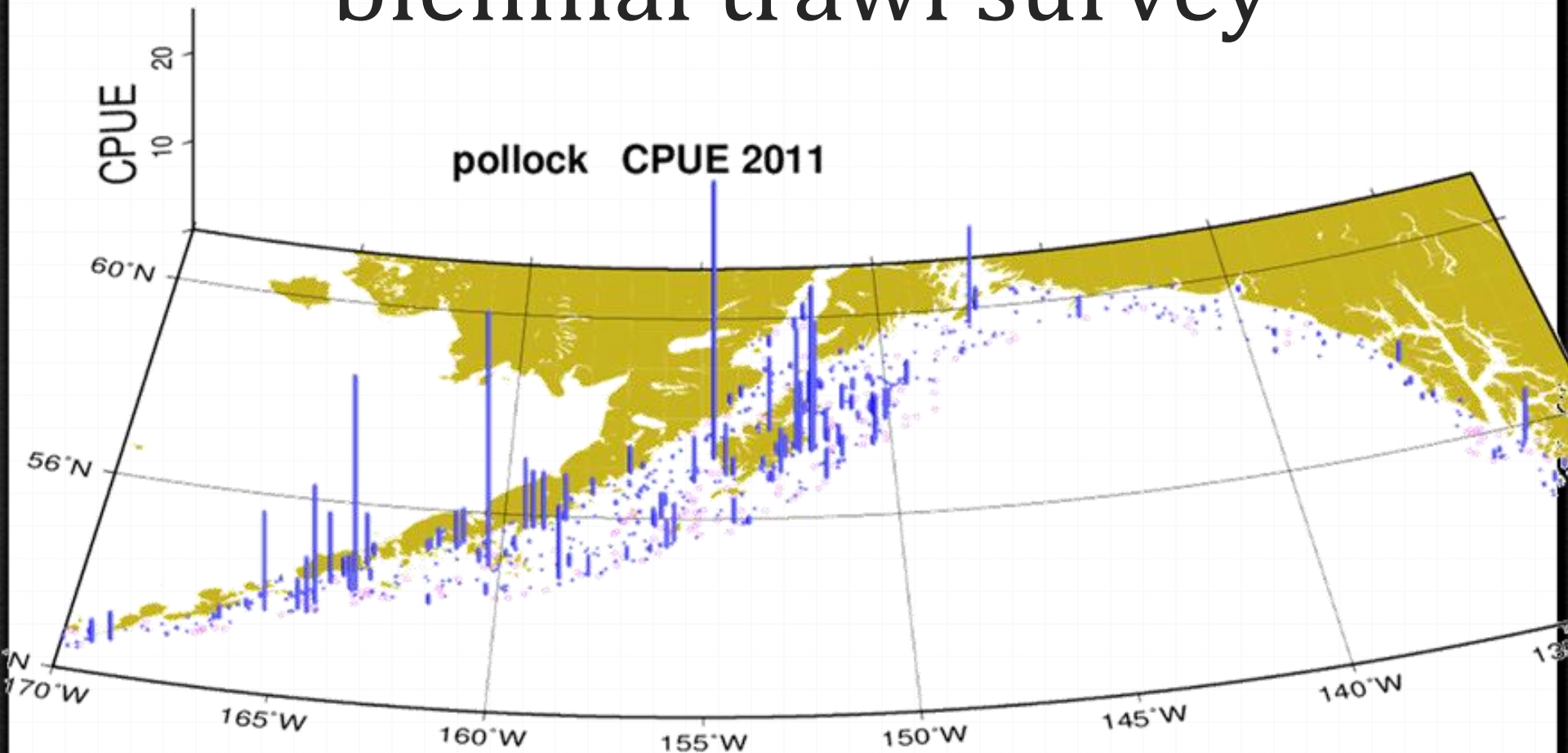


*R/V Oscar Dyson*

Odd years  
Vessel working IN  
GOA



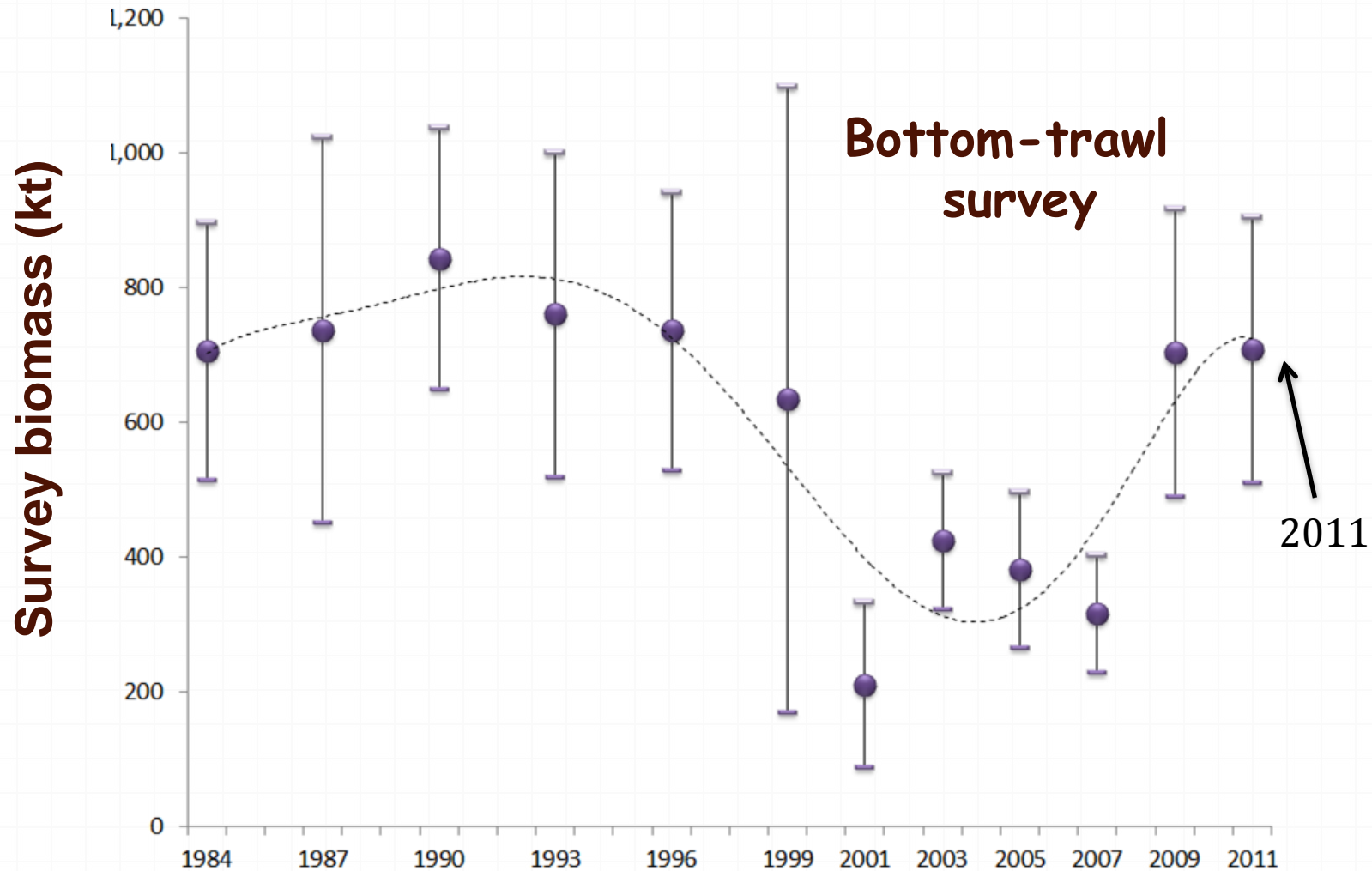
# Gulf of Alaska survey biennial trawl survey



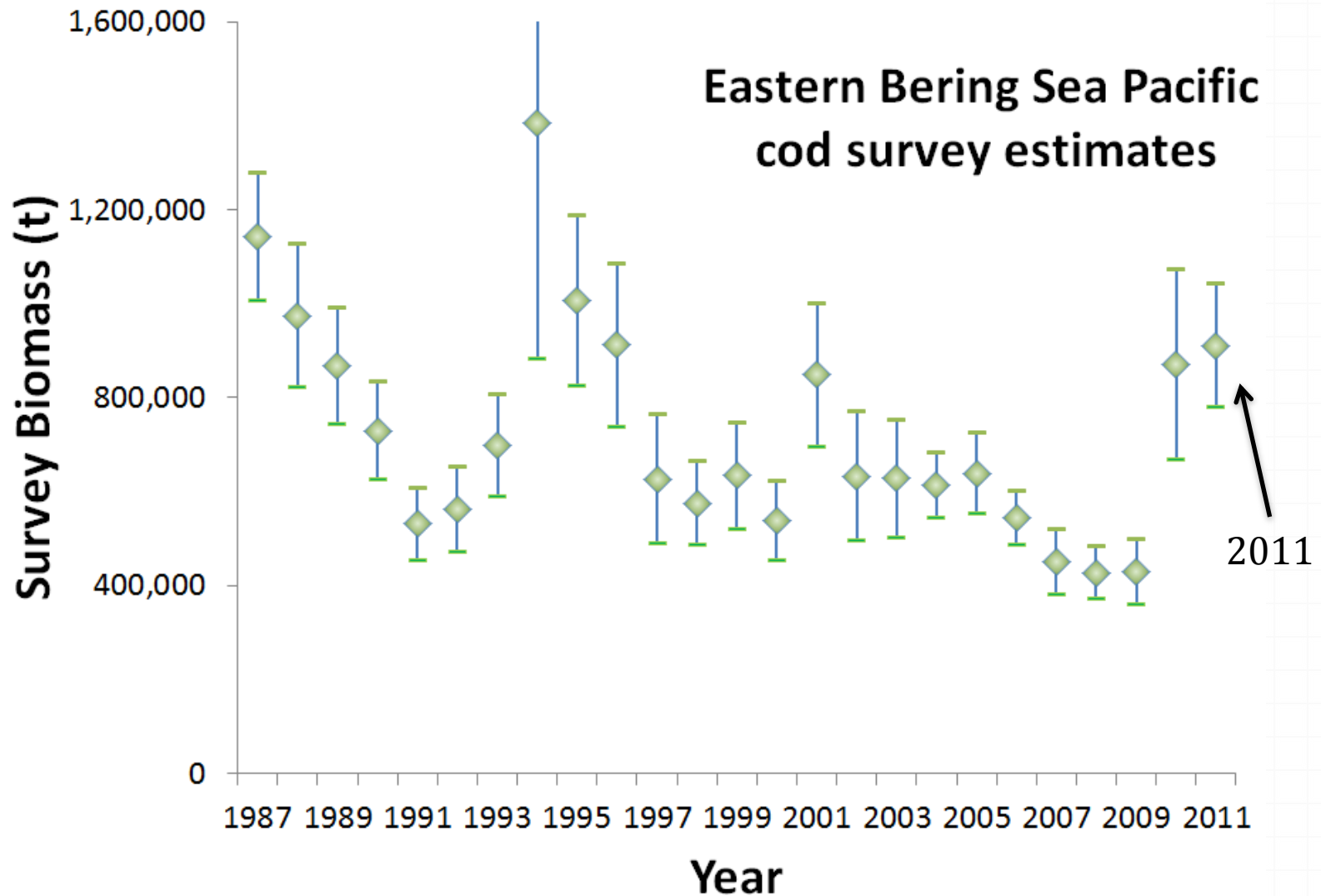
# Gulf of Alaska pollock

No 2011 winter survey,  
2011 TAC 100,000 tons

Summer survey **increased**  
2012 likely to **improve** (~120,000 t)

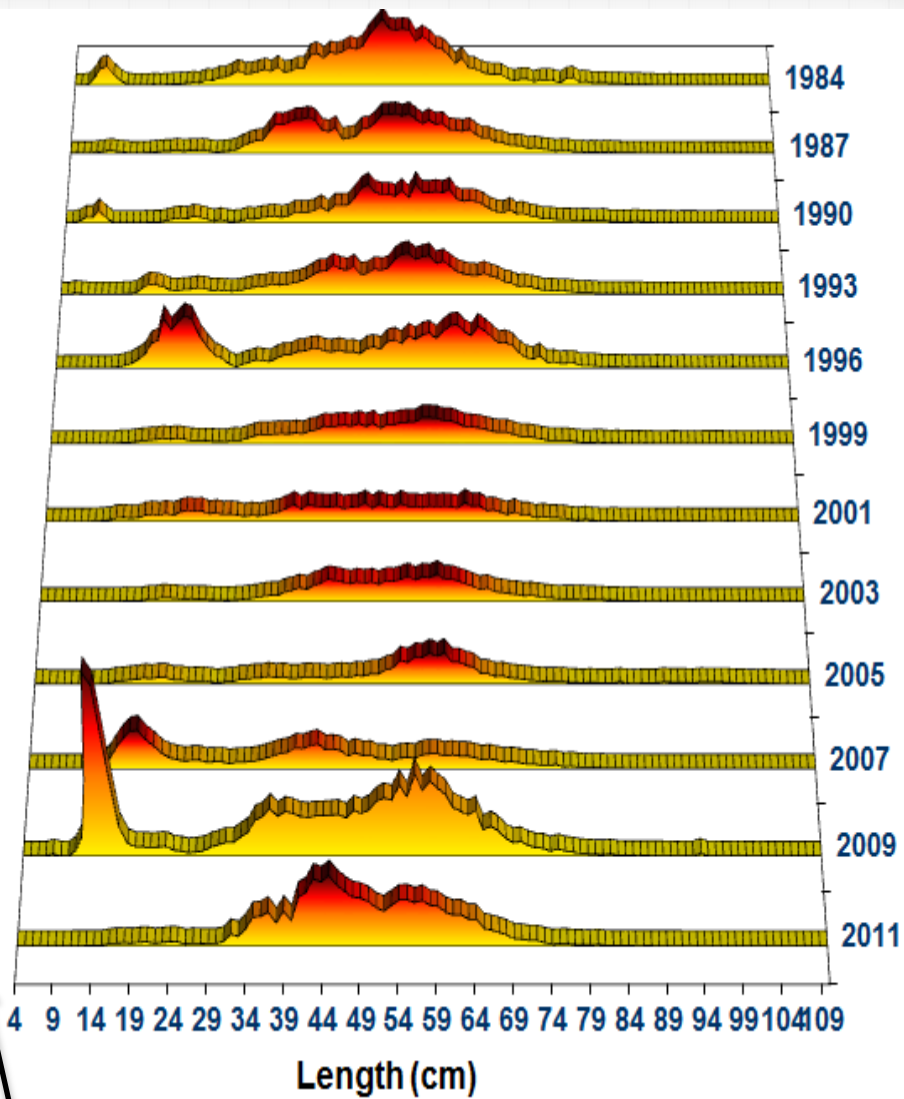
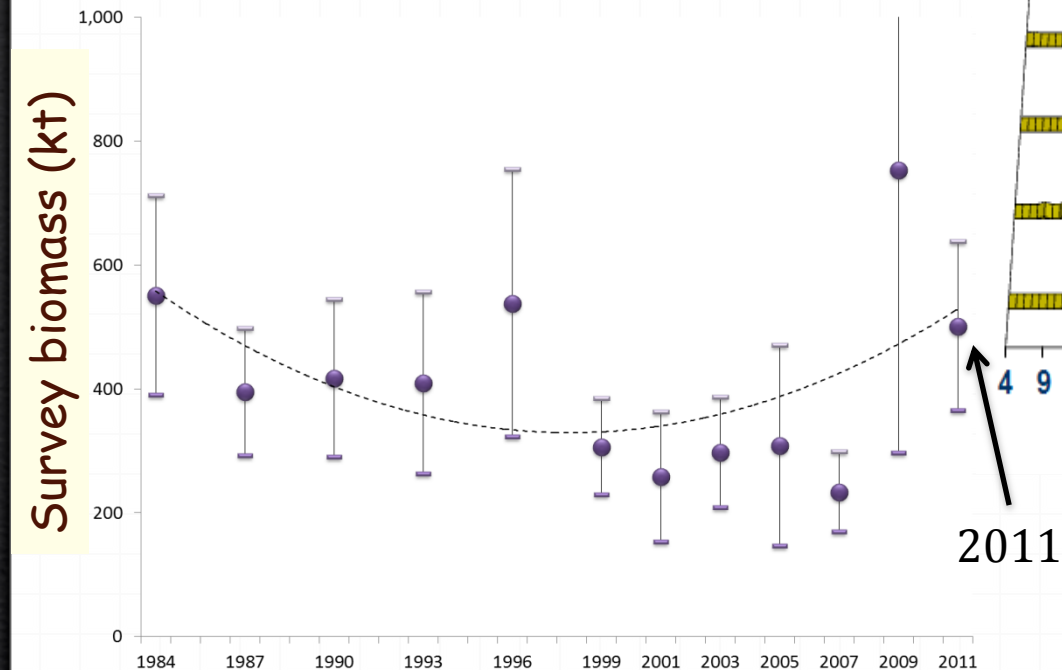


# Eastern Bering Sea Pacific cod survey biomass trend



# Pacific cod Gulf of Alaska

- 2011 survey estimate relatively high



# US Pacific cod summary

- Eastern Bering Sea
  - Survey biomass estimate **up substantively in last two years**
  - Continued positive sign of recruitment
  - TAC projections near 240,000 t
- GOA
  - 2011 bottom-trawl survey biomass estimate ~500,000 t
  - 2011 TAC 87,000 t
    - Likely to increase to around 100,000 t
    - Catches generally around 80% of TAC
      - Due to season and bycatch constraints