

# 2009 IPHC Workshops

# IPHC Workshops

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The Commission held two workshops in 2009:

- ❖ Biomass Apportionment Workshop April 29-30, 2009
- ❖ Halibut Bycatch Workshop September 30, 2009

# Biomass Apportionment Workshop

## April 29-30, 2009

### ❖ Goals of Workshop

- ❖ Workshop offered means to evaluate policy, not provide short-term forecasting
- ❖ Outlined criteria and basis for evaluation
- ❖ Identified candidate methods and simulated their use
- ❖ Scored methods relative to evaluation criteria
- ❖ Provided staff with additional suggestions for investigation
- ❖ **Not a decision-making meeting**

# Agenda and Process

- ❖ Background on policy performance evaluation
- ❖ Interactive staff presentations and open discussions.

## Day 1

- ❖ Staff presentations
  - ❖ Widget evaluation tool – Juan Valero
  - ❖ Performance evaluation and candidate methods – Steven Hare and Bruce Leaman
  - ❖ Evaluation process – Bruce Leaman
- ❖ Interactive simulation of dynamics and harvest
  - ❖ Baseline zero harvest scenarios
  - ❖ Target harvest rate (i.e. survey apportionment)
  - ❖ Historical catch shares
  - ❖ Other
- ❖ Iteration and refinement

# Agenda and Process

## Day 2

- ❖ Review of Day 1
- ❖ Discussion of alternative scenarios and additional simulations
- ❖ Building the report card
- ❖ Evaluation of alternatives

# Characteristics of Candidate Apportionment Methods

- ❖ Should address coastwide and area stock management
- ❖ Should have apportionment 'Sum to 1', i.e., be consistent across all regulatory areas of the coast
- ❖ Should achieve target harvest rate and provide protection for area-specific spawning contributions
- ❖ Should be sensitive to stock changes, i.e., provide feedback for ongoing apportionment
- ❖ Should be precautionary and robust to uncertainty about stock structure and stock status

# Initial Apportionment Scenarios Investigated

- ❖ Survey WPUE x Bottom Area
- ❖ Survey WPUE x Bottom Area, hook competition adjustment applied
- ❖ 2008 Closed Area (CA) Assessment proportions applied to Coastwide Total
- ❖ 2008 CA Assessment proportions applied to CA Total
- ❖ Historical age-eight recruitment proportions from CA Assessments
- ❖ Share of total removals (3-year average)
- ❖ Share of total removals (10-year average)
- ❖ **Share of total removals (15-year average)**
- ❖ Share of Bottom area (0-300 fathoms, excluding EBS shelf outside 4C and 4D Edge)
- ❖ Commercial WPUE x Bottom Area

# Additional Investigations Suggested During Workshop

- ❖ Adding an adjustment to accommodate differences in timing of the survey among areas
- ❖ Hook competition
- ❖ Weighted combination of surveys and historical shares (2:1)
- ❖ Dynamic blending of survey data and historical shares
- ❖ Methods to reduce the variance in Area 2A survey data
- ❖ The form of averaging of survey data (simple average vs. reverse weighted average)



# Performance Metrics

- ❖ Spawning biomass relative to unfished spawning biomass
- ❖ Realized harvest rate
- ❖ Percentage change from historical catch shares
- ❖ Relative yield
- ❖ Age composition
- ❖ Alternative performance metrics: average age of females; % <11yr; % 11-16 yr; % >16 yr; % >20 yr
- ❖ Report cards based on harvest reference points and changes from baseline scenario

# Simulation Widget Features

- ❖ Migration: Simple eastward movement; matrix based on tag recoveries
- ❖ Fishing options: trended harvest rate (HR); balanced HR; unbalanced HR; historical harvest shares
- ❖ Size at age: common growth among regions; area-specific growth
- ❖ Recruitment: averages from 1996-2005 closed-area assessments; 1998-2004 survey average; share of bottom area; juvenile projection

# Survey:Historical (15 yr) shares of total removals (2:1)

Fixed Survey proportions as of 2009

| APPORTIONMENT METHOD          |     | RECRUITMENT SCENARIO     |        |      |                   |                    |      |                   |        |                   |                   |        |      |
|-------------------------------|-----|--------------------------|--------|------|-------------------|--------------------|------|-------------------|--------|-------------------|-------------------|--------|------|
|                               |     | CA Estimates (1996-2005) |        |      |                   | Survey (1998-2004) |      |                   |        | Juvenile movement |                   |        |      |
|                               |     | Area                     | SB/SB0 | HR   | CHCS <sup>1</sup> | SB/SB0             | HR   | CHCS <sup>1</sup> | SB/SB0 | HR                | CHCS <sup>1</sup> | SB/SB0 | HR   |
| Survey                        | ALL | 33%                      | 0.20   |      | 33%               | 0.20               |      | 33%               | 0.20   |                   | 33%               | 0.20   |      |
|                               | 4A  | 41%                      | 0.20   | -68% | 51%               | 0.20               | -4%  | 47%               | 0.20   | -37%              | 47%               | 0.20   | -37% |
|                               | 3B  | 33%                      | 0.20   | 32%  | 35%               | 0.20               | 56%  | 29%               | 0.20   | -20%              | 29%               | 0.20   | -20% |
|                               | 3A  | 34%                      | 0.20   | 19%  | 32%               | 0.20               | 1%   | 34%               | 0.20   | -10%              | 34%               | 0.20   | -10% |
|                               | 2C  | 37%                      | 0.20   | -53% | 37%               | 0.20               | -51% | 38%               | 0.20   | -42%              | 38%               | 0.20   | -42% |
|                               | 2B  | 29%                      | 0.20   | 2%   | 29%               | 0.20               | 1%   | 32%               | 0.20   | 80%               | 32%               | 0.20   | 80%  |
|                               | 2A  | 33%                      | 0.20   | -19% | 33%               | 0.20               | -29% | 33%               | 0.20   | 115%              | 33%               | 0.20   | 115% |
| Survey:HCS (2:1) <sup>3</sup> | ALL | 34%                      | 0.20   | -1%  | 33%               | 0.20               | 0%   | 34%               | 0.19   | -1%               | 34%               | 0.19   | -1%  |
|                               | 4A  | 18%                      | 0.90   | 120% | 49%               | 0.24               | 12%  | 31%               | 0.50   | 74%               | 31%               | 0.50   | 74%  |
|                               | 3B  | 32%                      | 0.20   | -1%  | 39%               | 0.15               | -17% | 8%                | 0.90   | 39%               | 8%                | 0.90   | 39%  |
|                               | 3A  | 34%                      | 0.19   | -3%  | 28%               | 0.26               | 12%  | 16%               | 0.51   | 27%               | 16%               | 0.51   | 27%  |
|                               | 2C  | 21%                      | 0.52   | 54%  | 23%               | 0.46               | 48%  | 31%               | 0.30   | 27%               | 31%               | 0.30   | 27%  |
|                               | 2B  | 39%                      | 0.11   | -30% | 39%               | 0.11               | -30% | 62%               | 0.04   | -60%              | 62%               | 0.04   | -60% |
|                               | 2A  | 42%                      | 0.14   | -12% | 33%               | 0.20               | 0%   | 79%               | 0.03   | -67%              | 79%               | 0.03   | -67% |

<sup>1</sup> % Change from Historical Catch Shares (15 yr: 1993-2007 average proportion of total removals)  
<sup>2</sup> % change in Yield from Method A  
<sup>3</sup> Apportionment based on blending 2 parts Survey proportions (fixed as of 2009), and 1 part 15 yr (1993-2007) average

# IPHC Bycatch Workshop

# IPHC Bycatch Workshop Goals

- ❖ Review history and treatment of halibut bycatch and treatment of fish < 32 inches (U32).
- ❖ Changes in understanding and potential treatment of bycatch impacts, based on new understanding of halibut movements
- ❖ Investigate options for future treatment of bycatch in halibut management
- ❖ **No changes planned for 2010 management year**

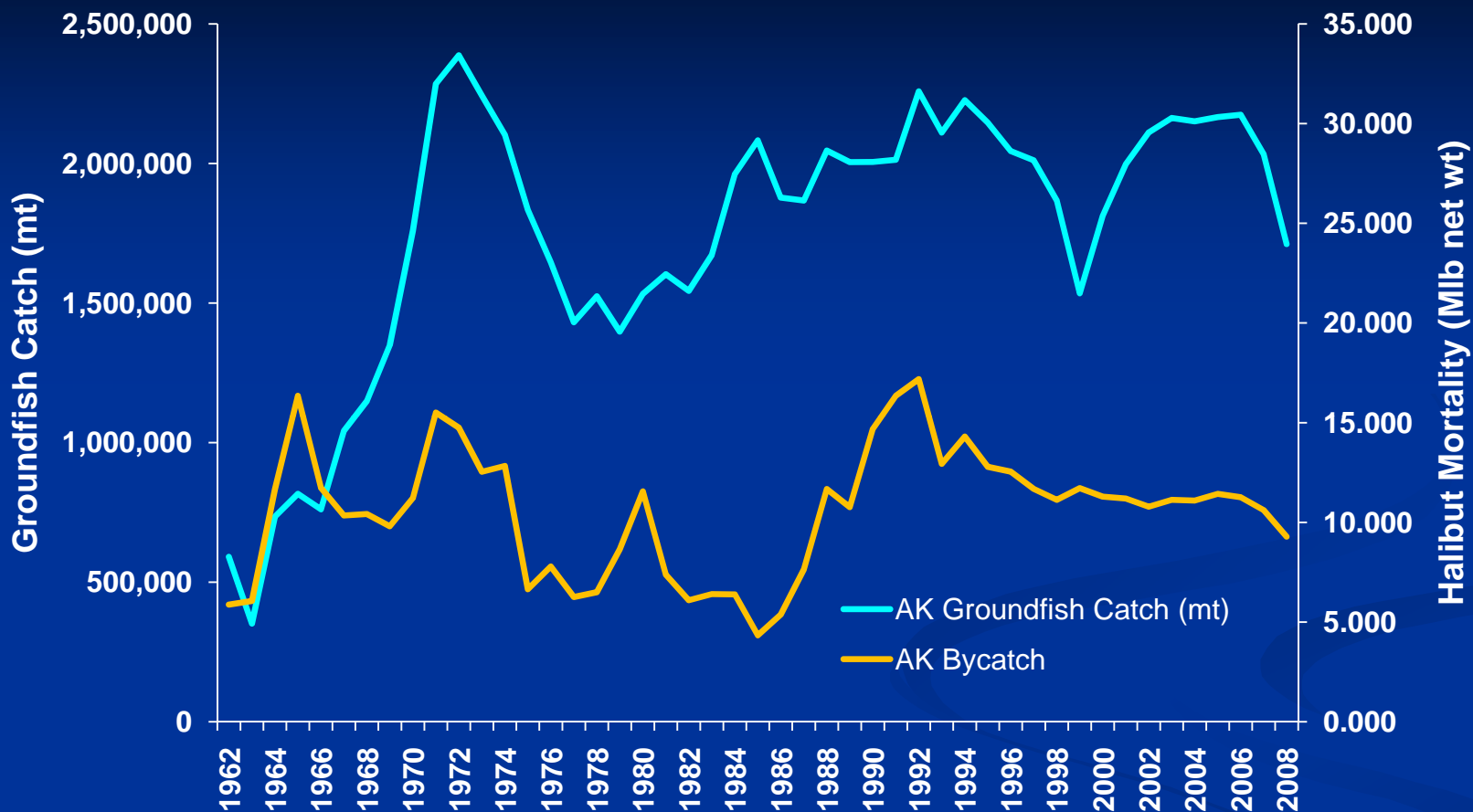
# IPHC Bycatch Workshop Topics

- ❖ Current and historical levels of halibut bycatch mortality
- ❖ Historical methods by which the Commission has accounted for bycatch mortality in management of the halibut stock
- ❖ Methods of estimation of bycatch mortality in other fisheries
- ❖ Incorporation and impacts of bycatch mortality estimates and non-commercial removals on halibut productivity and yield
- ❖ Impacts of non-local bycatch mortality on fisheries yield of individual IPHC Regulatory Areas
- ❖ Progress on halibut bycatch control and management in other fisheries
- ❖ Methods employed to reduce halibut bycatch mortality in the northeast Pacific Ocean
- ❖ Future of halibut bycatch management

# Major Issues Arising from Workshop

- ❖ Present bycatch estimates separately for Bering Sea and Gulf of Alaska
- ❖ Re-examine validity of historical estimates of bycatch in the Bering Sea and Gulf of Alaska
- ❖ Examine bycatch levels in relation to halibut abundance
- ❖ Reconvene the 1991 Halibut Bycatch Work Group and re-examine recommendations and progress
- ❖ Change in the estimated impacts of non-local bycatch on local yield

## Alaska Groundfish Catch and Halibut Bycatch 1962-2008



1971 - Peak of Bering Sea Foreign Trawl Fishery

1977 - 200 Mile Limit and EEZ

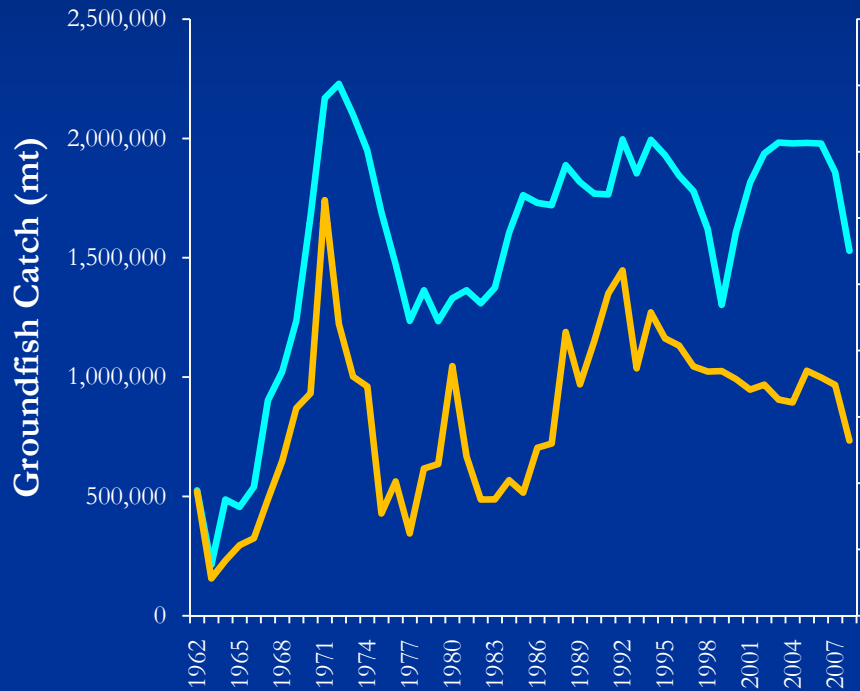
1980 - Beginning of buildup in JV fishing

1990 - Full "Americanization" of fishery

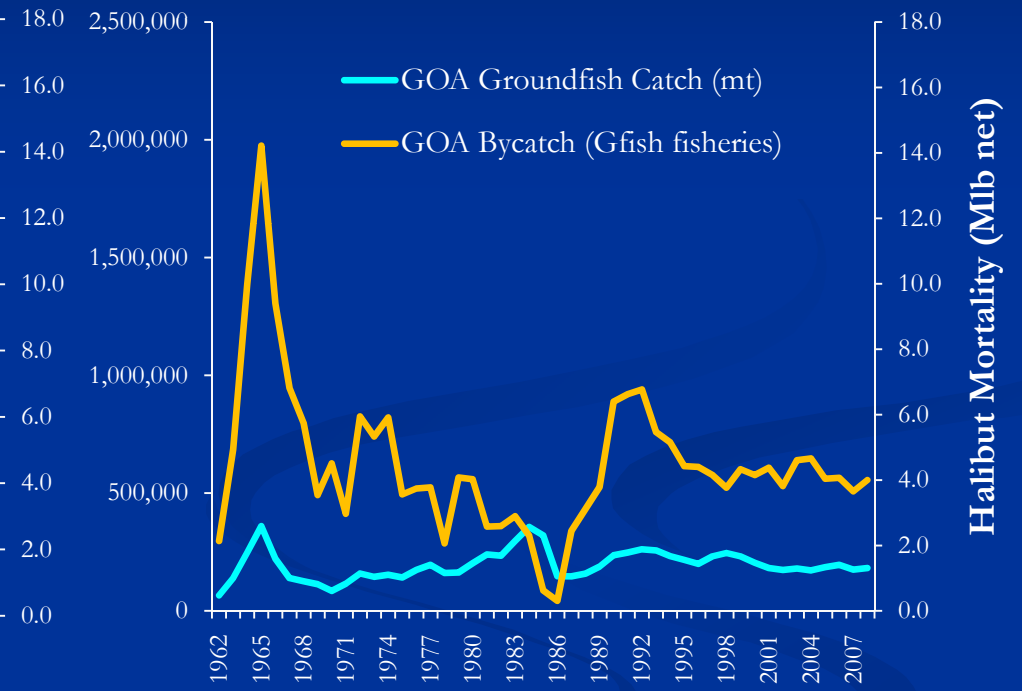


# Groundfish Catch vs. Halibut Mortality

## Bering Sea/Aleutian Is.

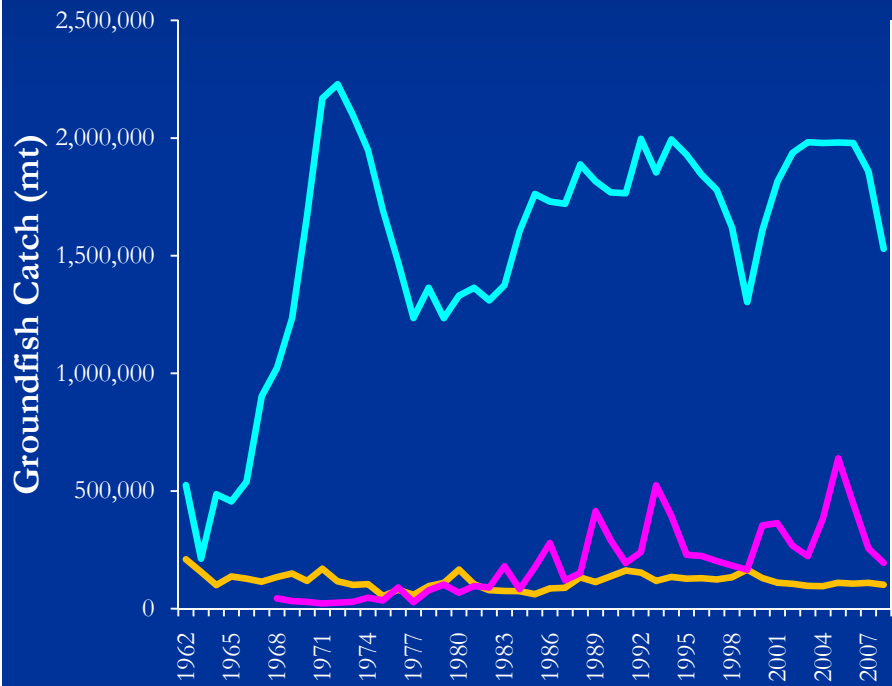


## Gulf of Alaska

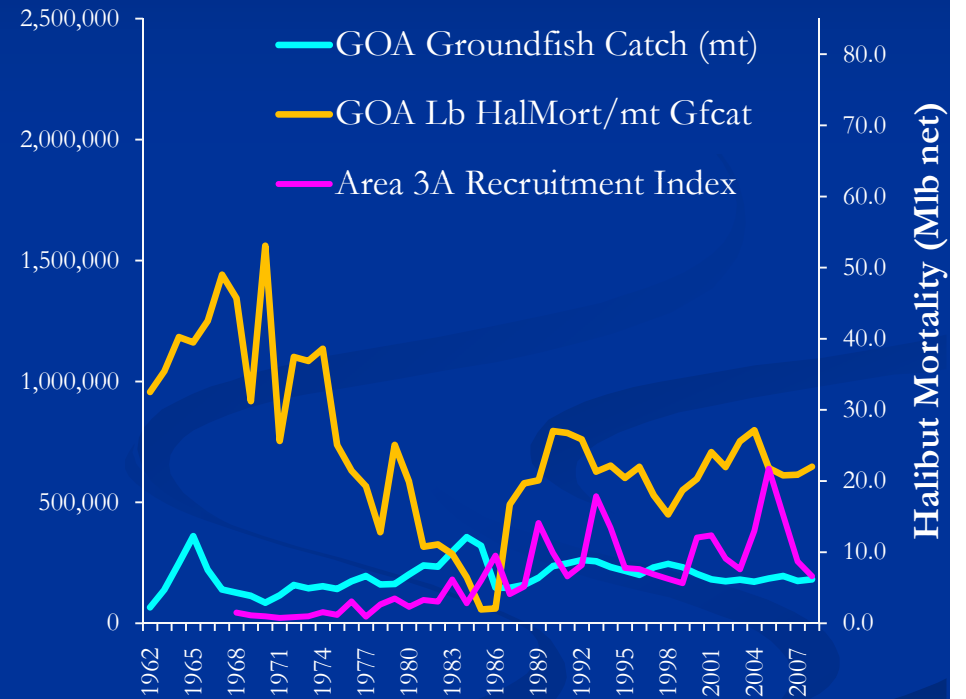


# Groundfish Catch vs. Ratio of Halibut Mortality to Groundfish Catch

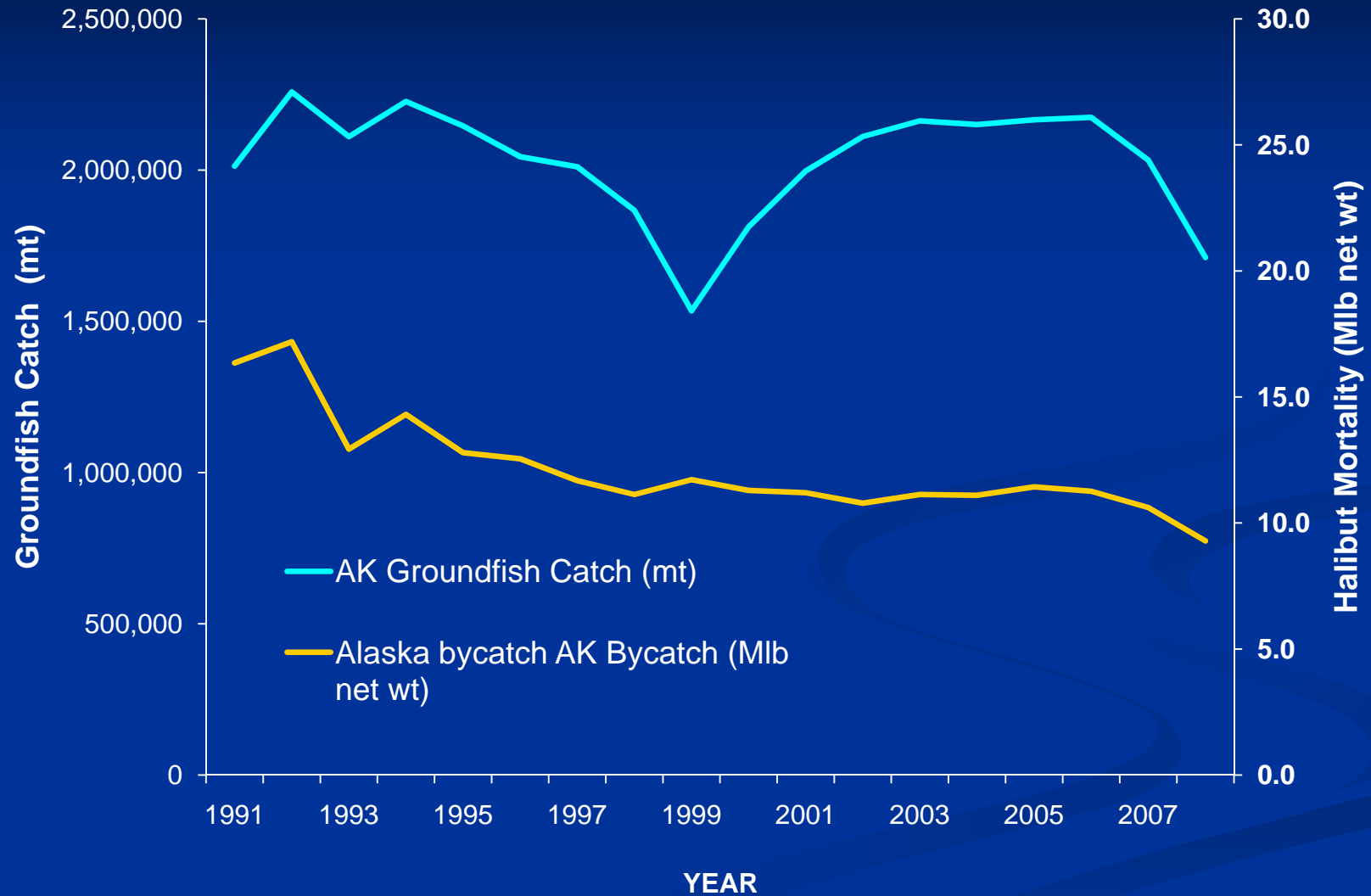
## Bering Sea/Aleutian Is.



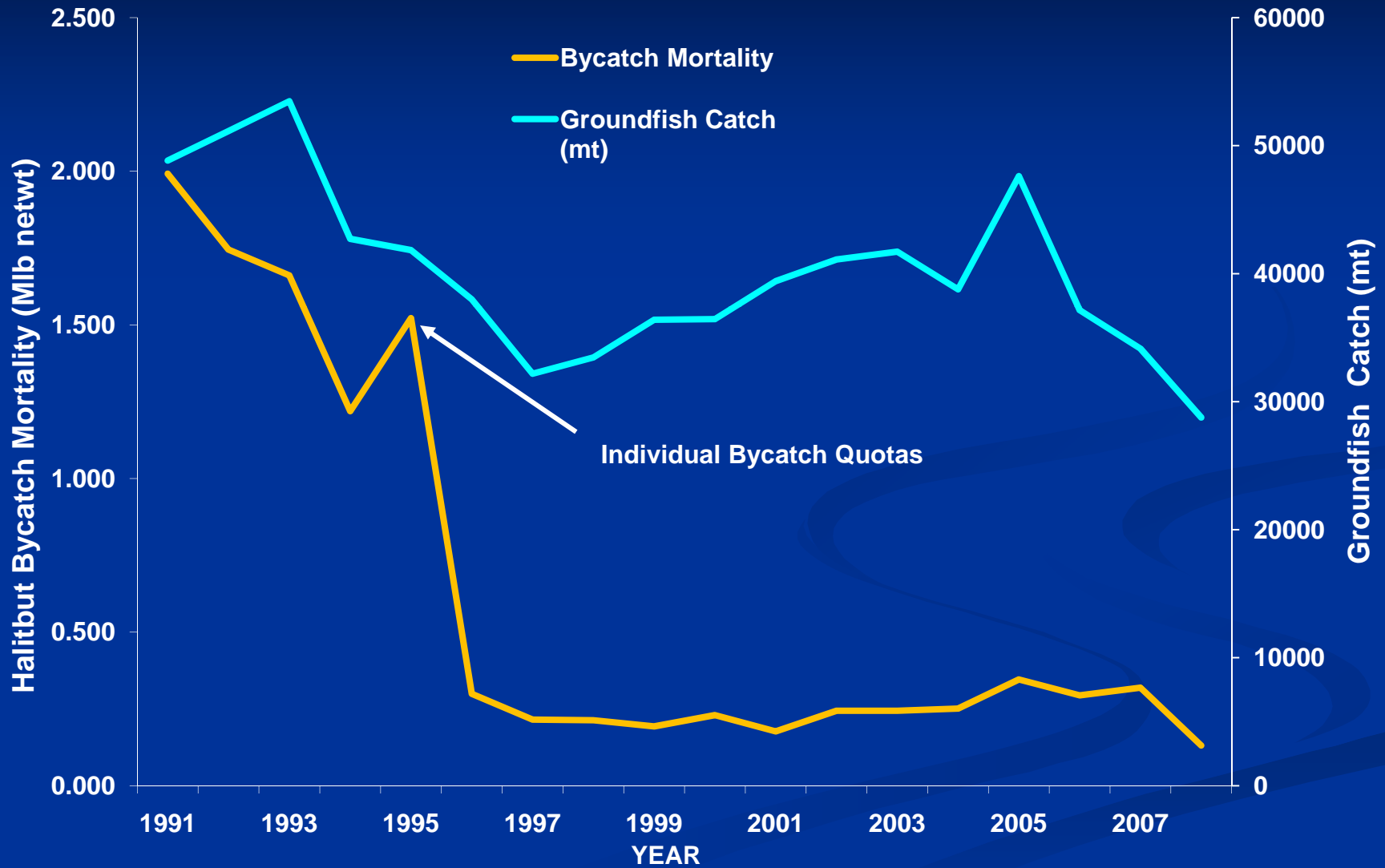
## Gulf of Alaska



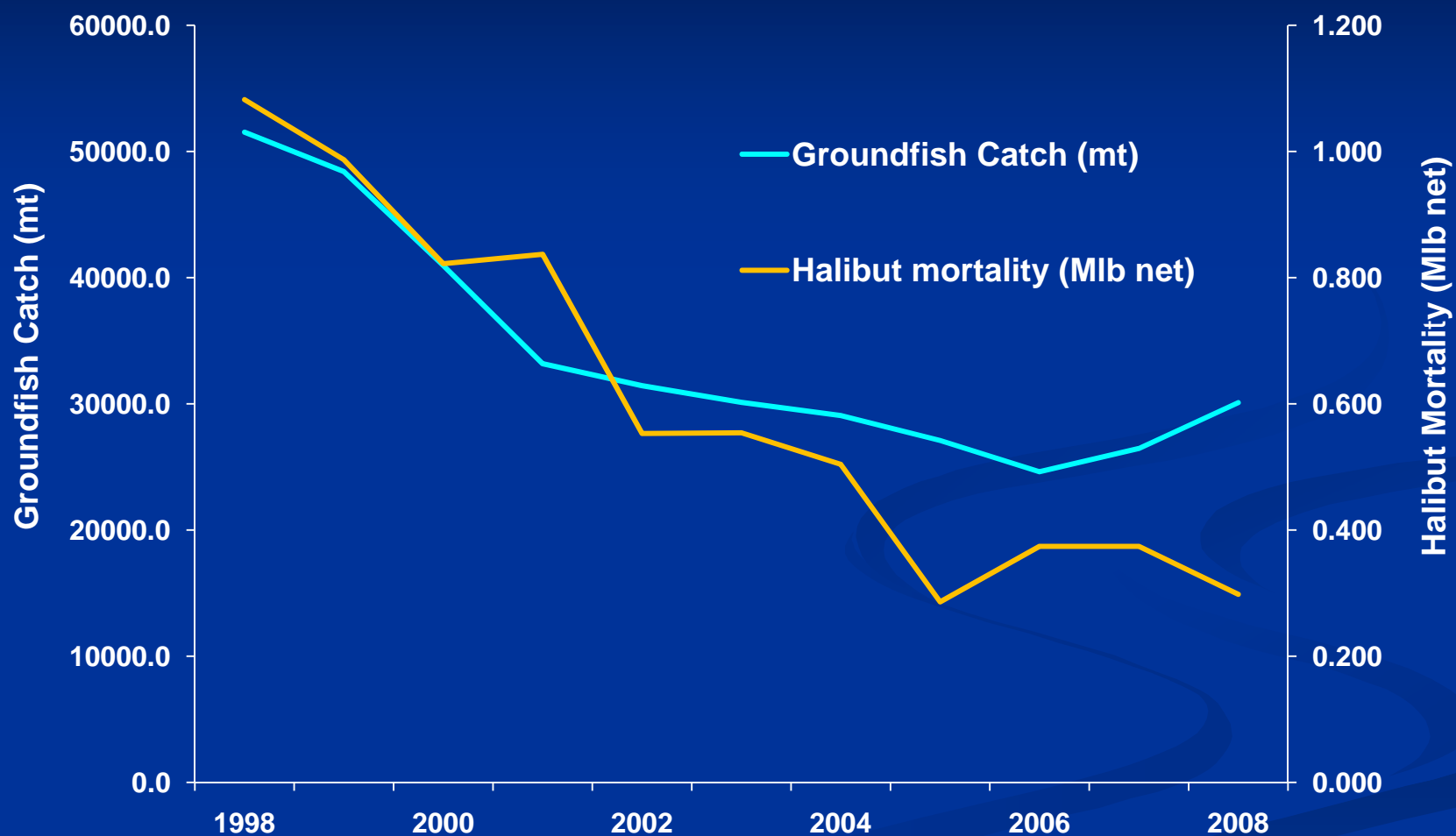
## Progress on Alaskan Halibut Bycatch Reduction Since 1991



# Progress on Canadian Halibut Bycatch Reduction Since 1991



## Progress on Area 2A Halibut Bycatch Reduction Since 1998



# Workshops Output

- ❖ Reports of workshops: presentations, summary minutes, and staff responses to major comments and questions posted on the IPHC website:

<http://www.iphc.washington.edu/halcom/meetings/workshops.htm#reports>

- ❖ Discussions from the IPHC online Forum are also posted on the website:

<https://tundra.iphc.washington.edu/iphc/blog/>

- ❖ All material from workshops on Commission annual CD