

Biomass Apportionment Workshop

April 29-30, 2009

- Introductions
- Goals of Workshop
 - Not a decision-making meeting
 - Workshop offers means to evaluate policy, not provide short-term forecasting
 - Outline criteria and basis for evaluation
 - Identify candidate methods and simulate their use
 - Score methods relative to evaluation criteria and if possible identify preferred alternative

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, Ray Webster, 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 alternate 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
- Note: we have looked at several modifications of the apportionment methods at request of harvesters, although we are not necessarily recommending any of the modifications

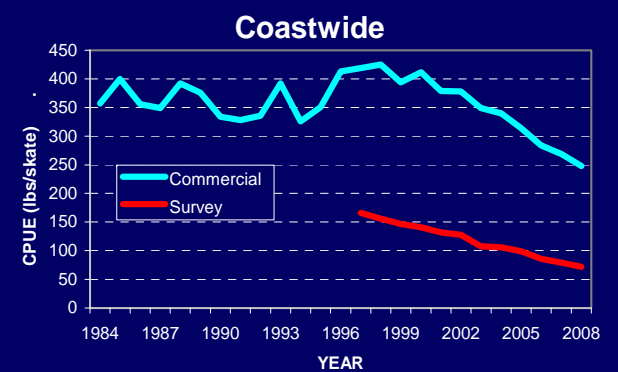
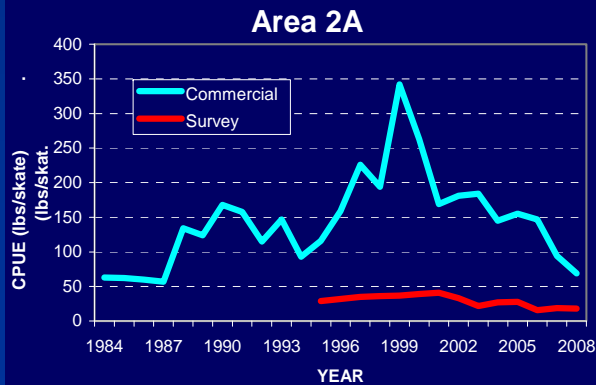
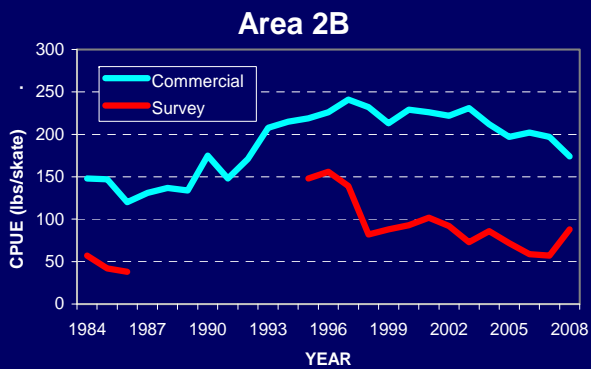
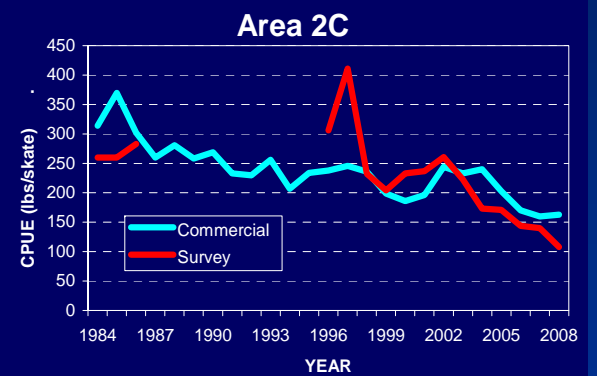
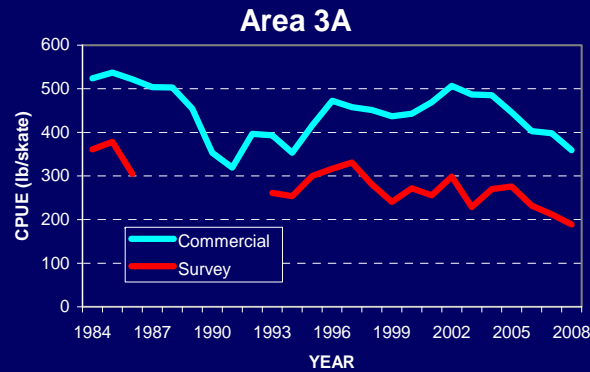
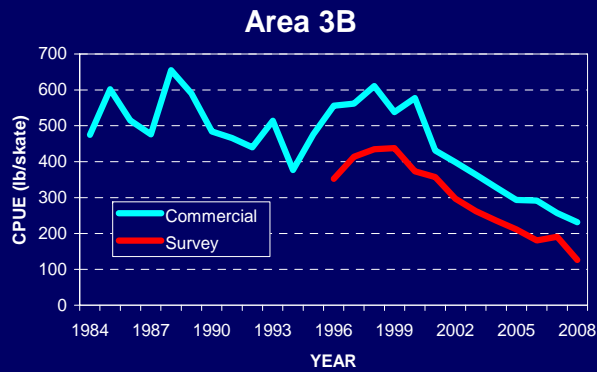
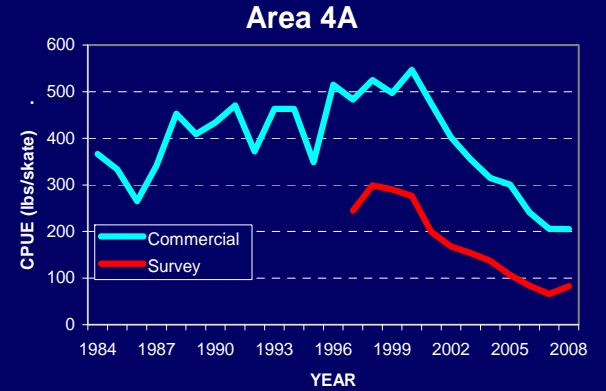
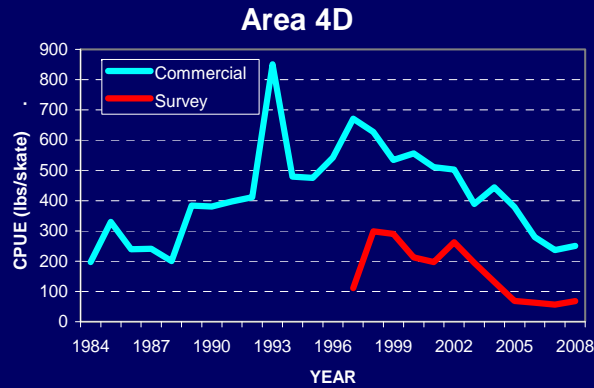
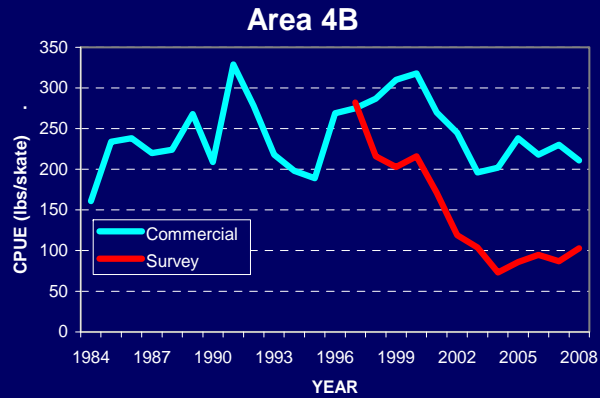
Workshop Output

- Reporting of workshop: summary will be drafted and presented to Commission, pertinent results incorporated in fall recommendations.
- Proceedings, presentations, and output will be posted on IPHC website: www.iphc.washington.edu
- Proceedings and presentation will be made available on DVD.
- Reminder that comments on 2010 staff Recommended Catch Limits can be made with Catch Limit Recommendations form by December 31, 2009 via IPHC website. Catch limit recommendations normally posted in first week of December.

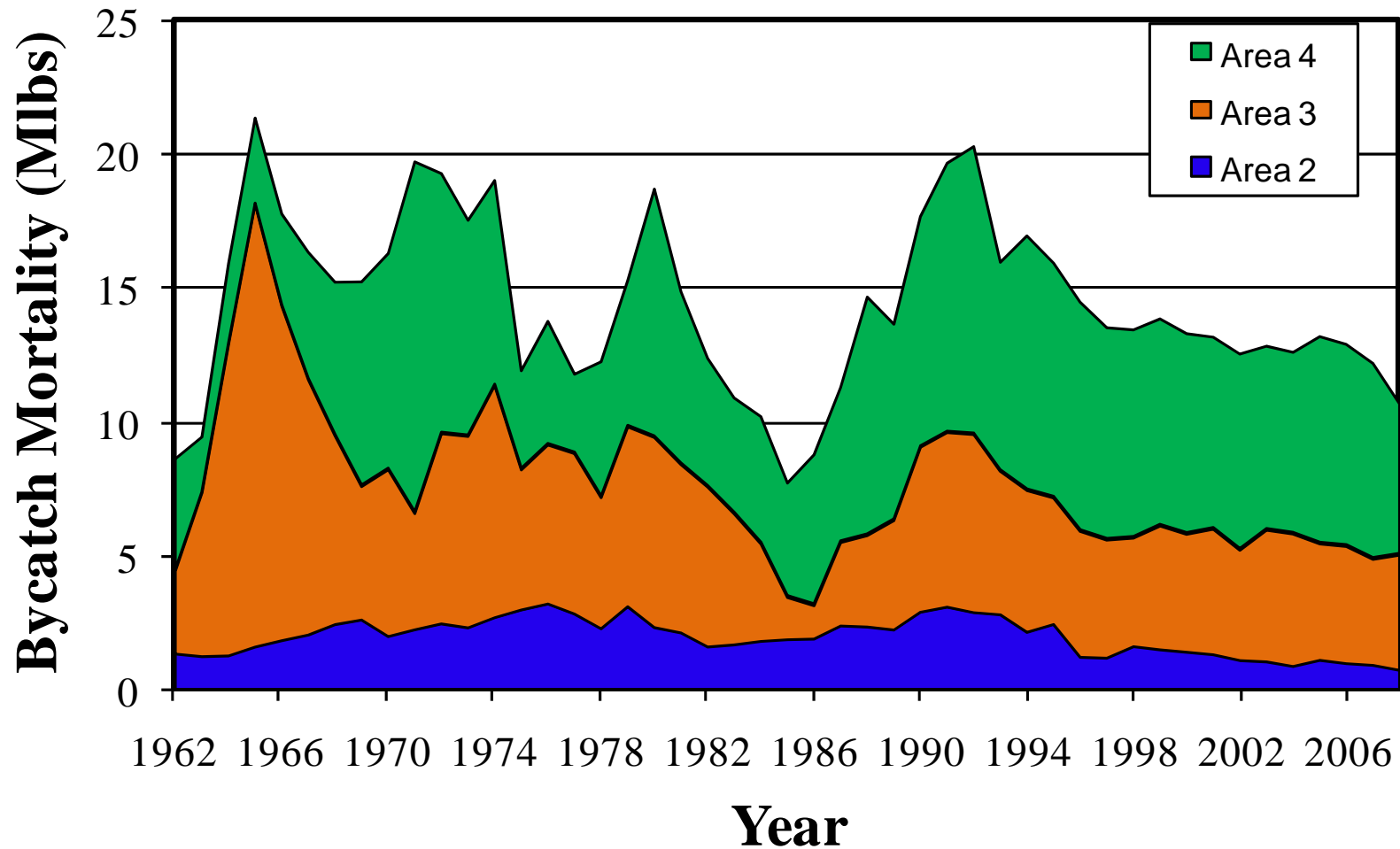
Present state of stock

- Recent trajectories of stock condition indices
 - Generally downward, irrespective of anything to do with apportionment
 - Decreases began about 1999-2000
 - Decreases, in large part, natural and exacerbated in some areas by previous view of historical biomass distribution
 - Not a result of increases in bycatch mortality

Recent changes in CPUE

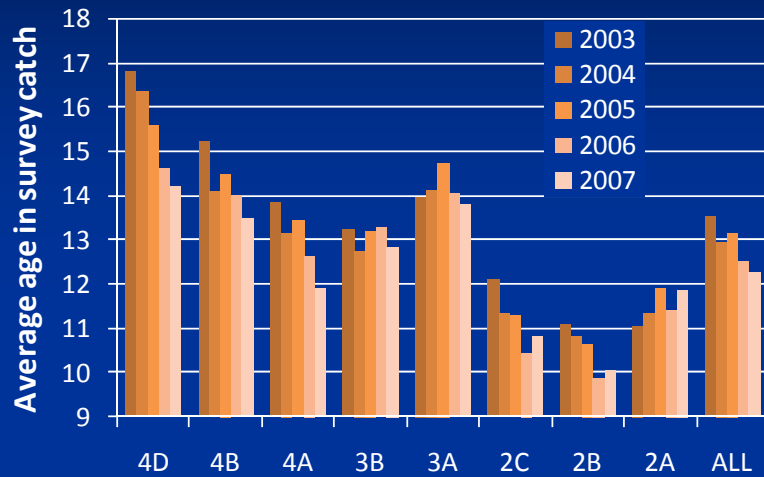


Bycatch Mortality 1962 - 2008

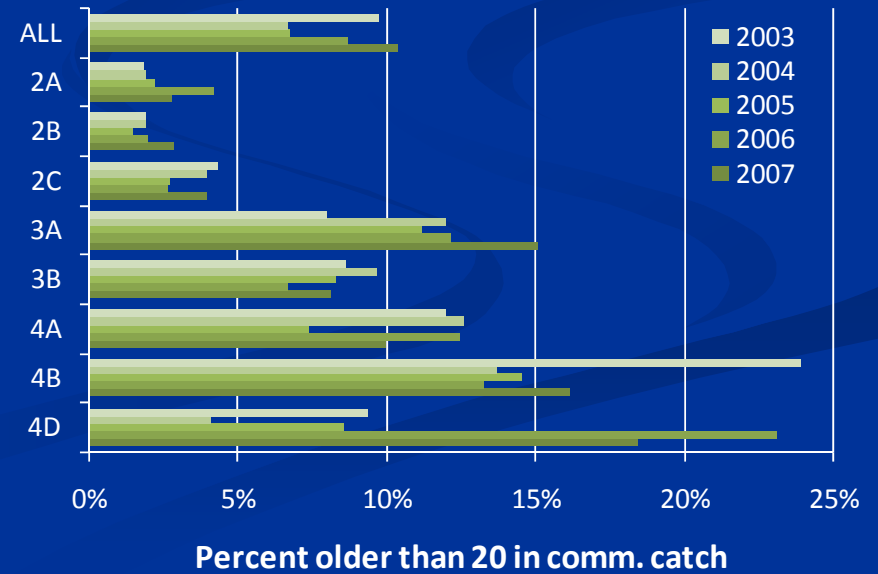
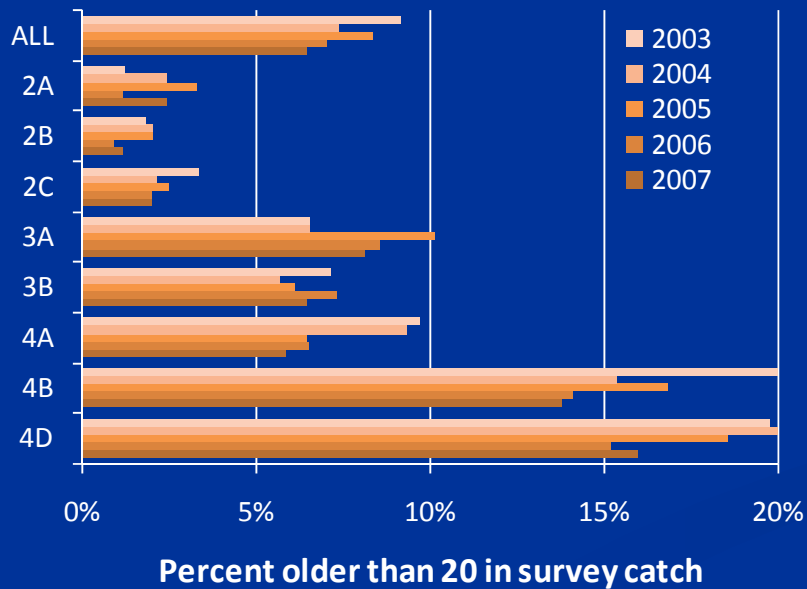
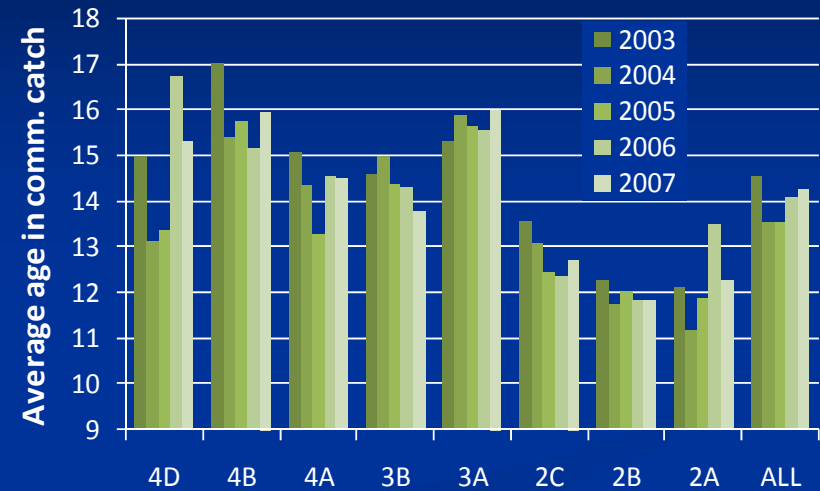


The age of captured halibut

Survey

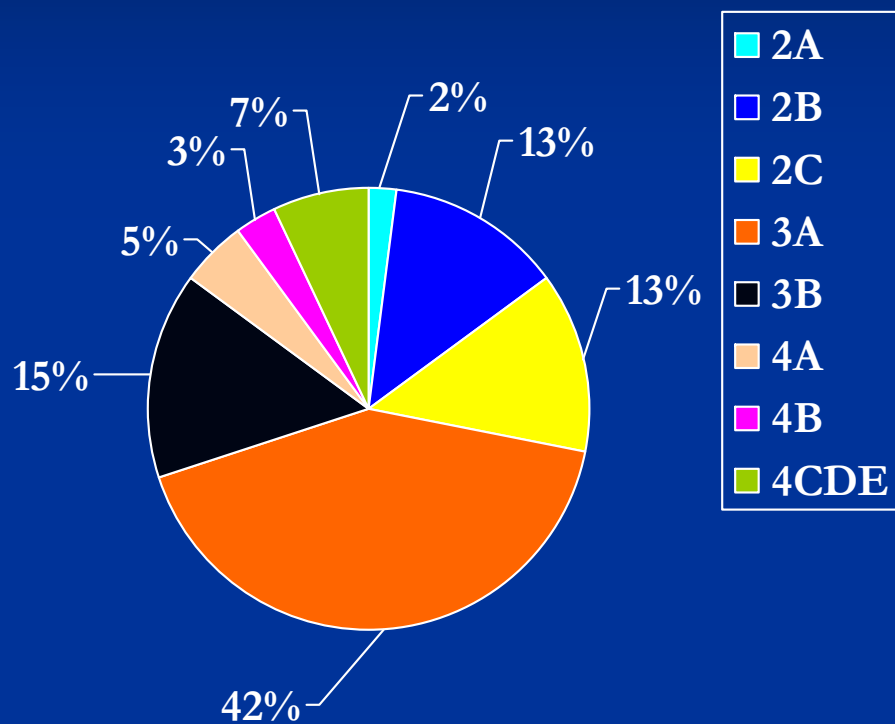


Commercial

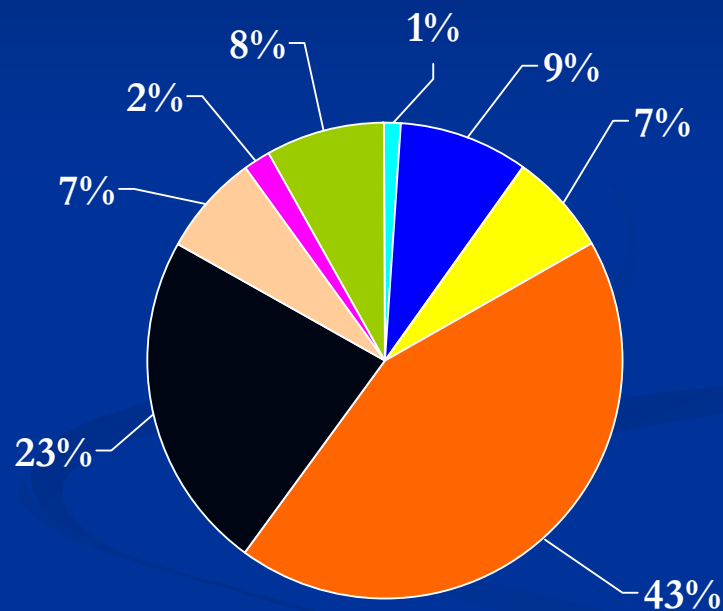


Percent of Removals 2008

(not including sub-legal bycatch and wastage)



Percent of 2009 Spawning Biomass





4a. Criteria for consideration

Criteria for consideration

- Level of exploitable biomass and spawning biomass
- Age composition – average age, proportion of older fish, sex ratio
- Impact of exploitation rate on reproductive value of recruiting fish
- Proportional contribution of regulatory areas to spawning biomass and removals

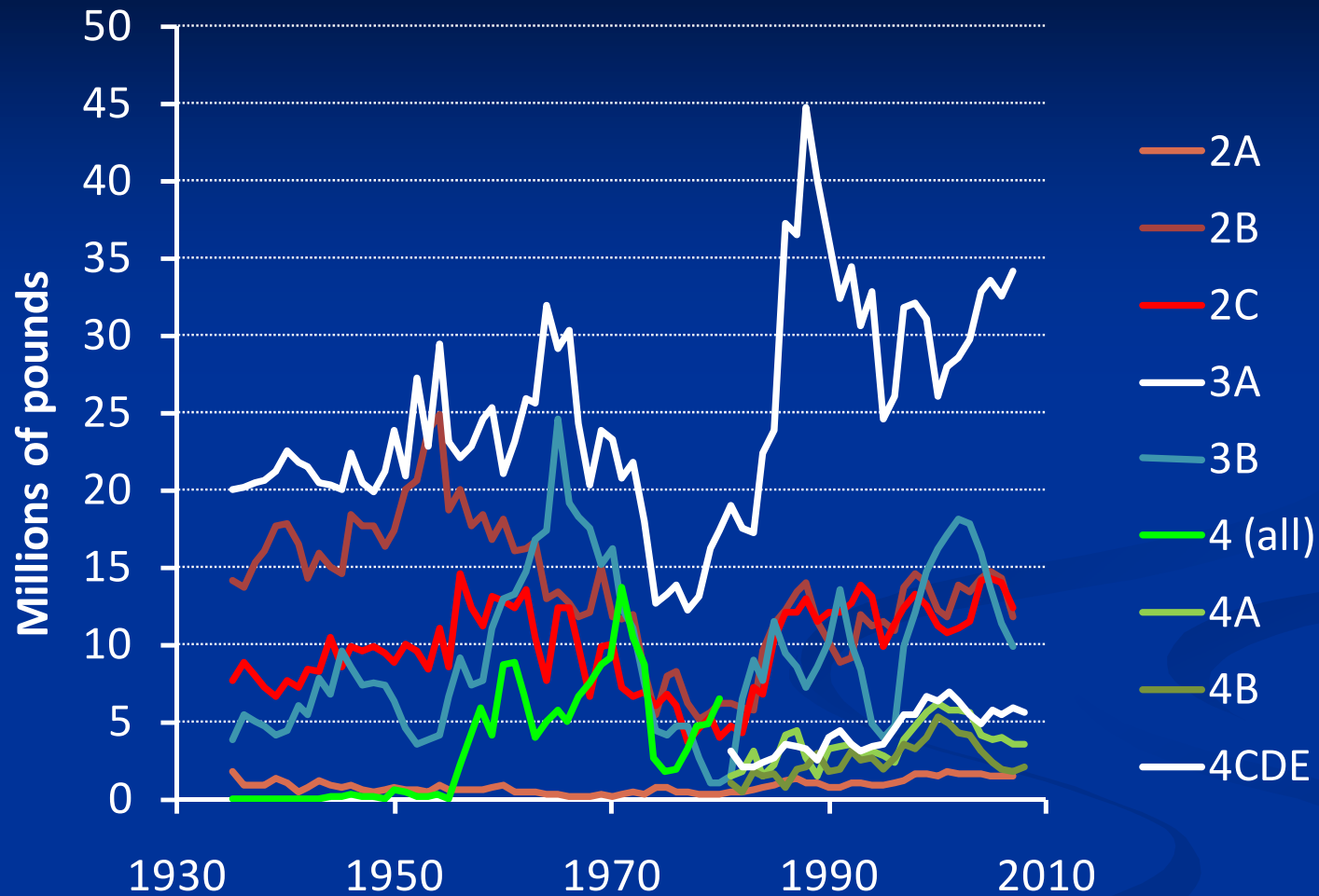


5b. Historic Catch Shares: characteristics and assumptions

Historic Catch Shares

- Simple and straightforward, no modelling involved
- As an apportionment method catch shares function the same as any other fixed-value approach
- Unresponsive to stock changes – no penalties (in short term) for errors and no benefits for change in stock status
- Historic shares contain any embedded errors of contemporary assessments

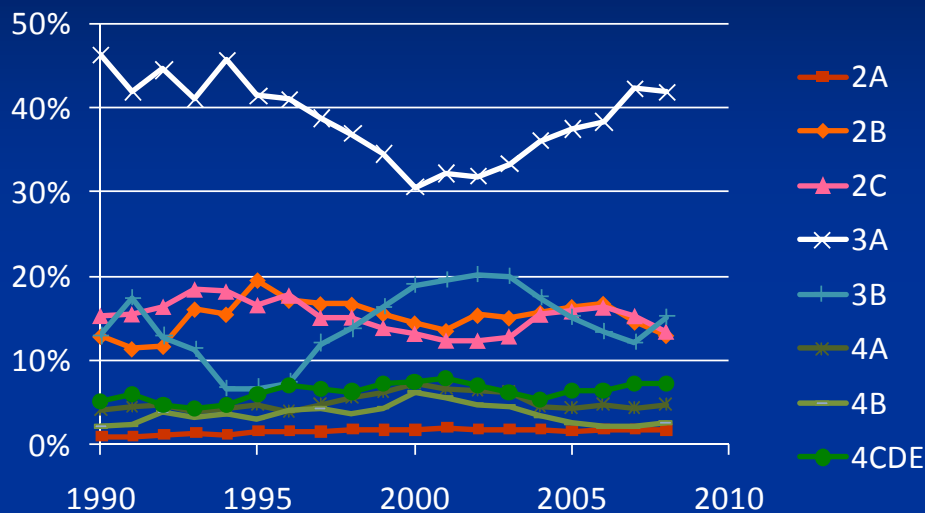
Historical total removals



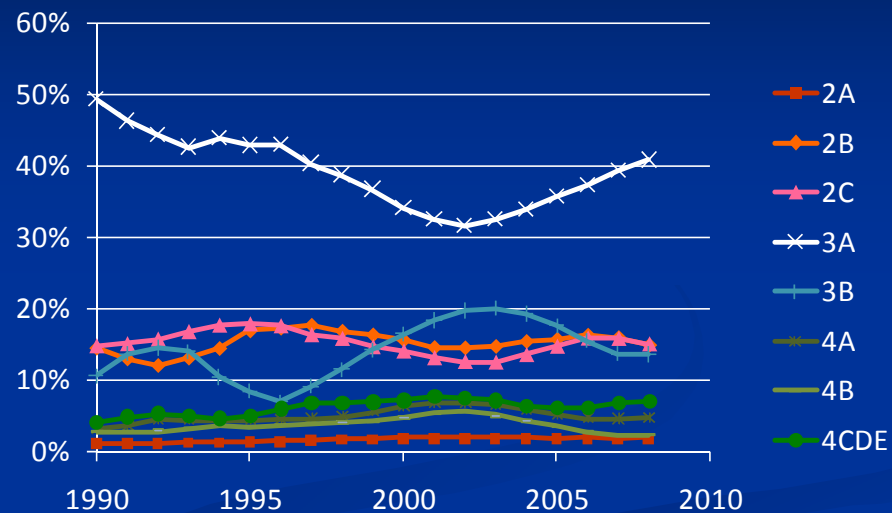
Note: Total removals = commercial catch + legal-sized bycatch mortality + sport catch + personal use + wastage

EBio apportionment using historical total removals

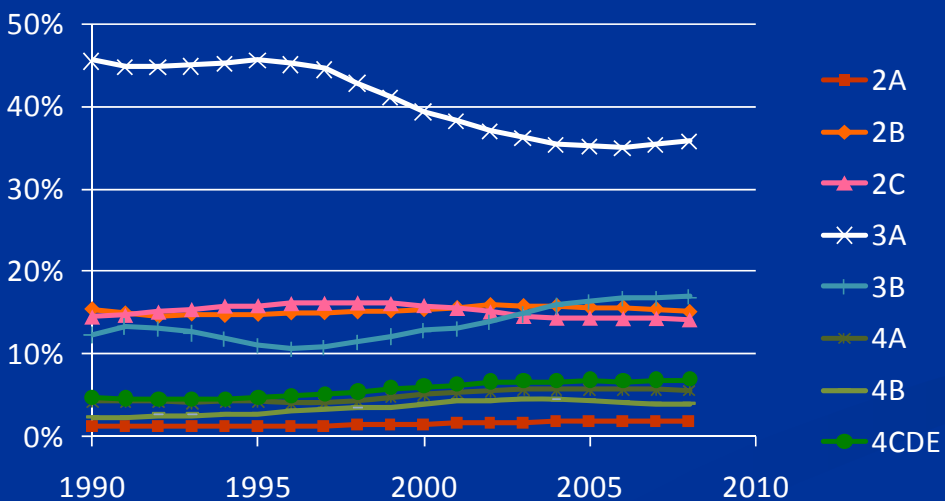
1 year shares



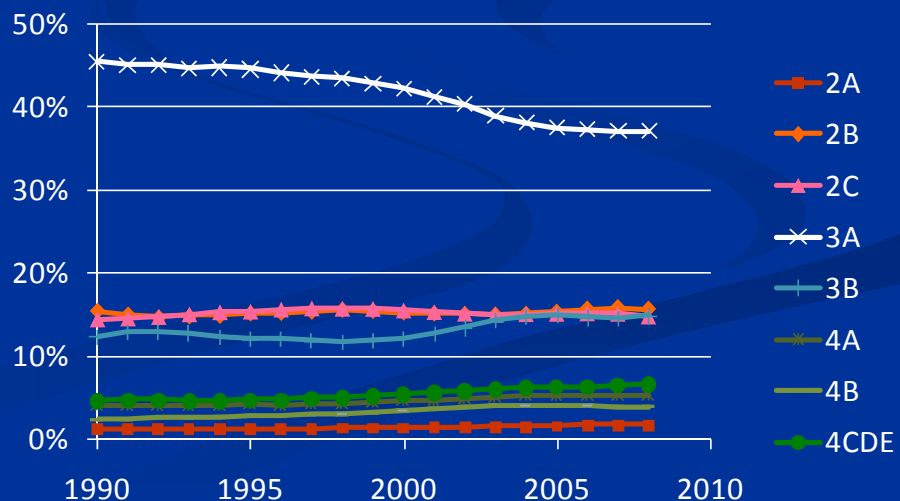
3 year average



10 year average



15 year average





6b. Evaluation process


Evaluation of Methods

- Simulation of impacts using widget
- Compiling metrics of performance
- Populating the report card for each method

Report Card I

State of Nature

Control function

METHOD	RECRUITMENT									
	CA Estimates (1996-2005)			Survey (1998-2004)			Juvenile movement			
A. Survey	Area	SB/SB0	HR	SB/SB0	HR	SB/SB0	HR	SB/SB0	HR	
	ALL									
	4A									
	3B									
	3A									
	2C									
	2B									
	2A									
	B. Alternative	Area	SB/SB0	HR	Yield*	SB/SB0	HR	Yield*	SB/SB0	HR
	ALL									
	4A									
	3B									
	3A									
	2C									
	2B									
	2A									

* % change in Yield from Method A

Report Card II

State of Nature

Control function

METHOD	RECRUITMENT						
	CA Estimates (1996-2005)			Survey (1998-2004)		Juvenile movement	
A. Survey	Area	% >20	Avg age	% >20	Avg age	% >20	Avg age
	4A						
	3B						
	3A						
	2C						
	2B						
	2A						
B. Alternative	Area	% >20	Avg age	% >20	Avg age	% >20	Avg age
	4A						
	3B						
	3A						
	2C						
	2B						
	2A						