

Webinar Work Session for the Economic Subcommittee of the Pacific Council's Scientific and Statistical Committee

February 9, 2017



REVIEW OF DRAFT METHODOLOGY TO DEVELOP SOCIOECONOMIC ANALYSIS



Objectives of the Webinar

1. Discuss the qualitative approach and the quantitative info that informs the analysis. Is the overall approach logical?
2. Decide the appropriate period of years to use for the analysis? (1994-1998, 1998-2001, 2002-2005, 2011-2014)
3. SSC Subcom to provide feedback through Q&A, verbal feedback; a full report will be provided to the full SSC at March Council meeting (Vancouver, WA)



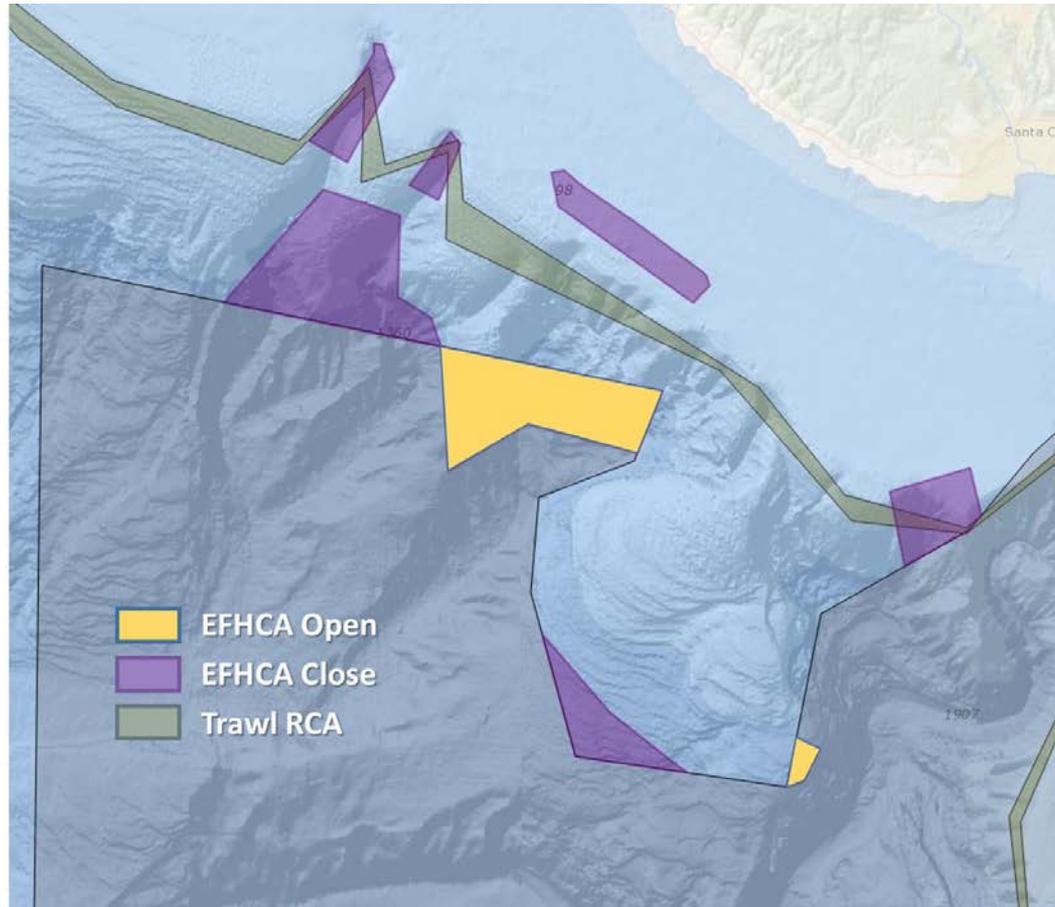
Amendment 28

Amendment 28 proposes to:

1. Revise the current bottom trawl EFH Conservation Areas (EFHCAs), using updated information, to minimize adverse effects of fishing on EFH; and
 - Focus is habitat protection
2. Modify the groundfish trawl RCA to provide greater access to target species while continuing to minimize catch of overfished groundfish species and other non-groundfish species.



Example of EFHCA and RCA Areas



DATA



Overview

- Logbooks are the only spatially precise data source to assess areas proposed for reopening prior to 2002
- WCGOP retained catch and discards available for 2011-2014 in areas outside the RCA and EFHCAs proposed for closure
- Trip spatial data matched to fish tickets to obtain prices (adjusted with FRED implicit price deflator)
- See Table 2, pg. 8 in report for more information.



Priority Habitat in RCA

Oceana Closure

Collab. Opening

Collab. Closure

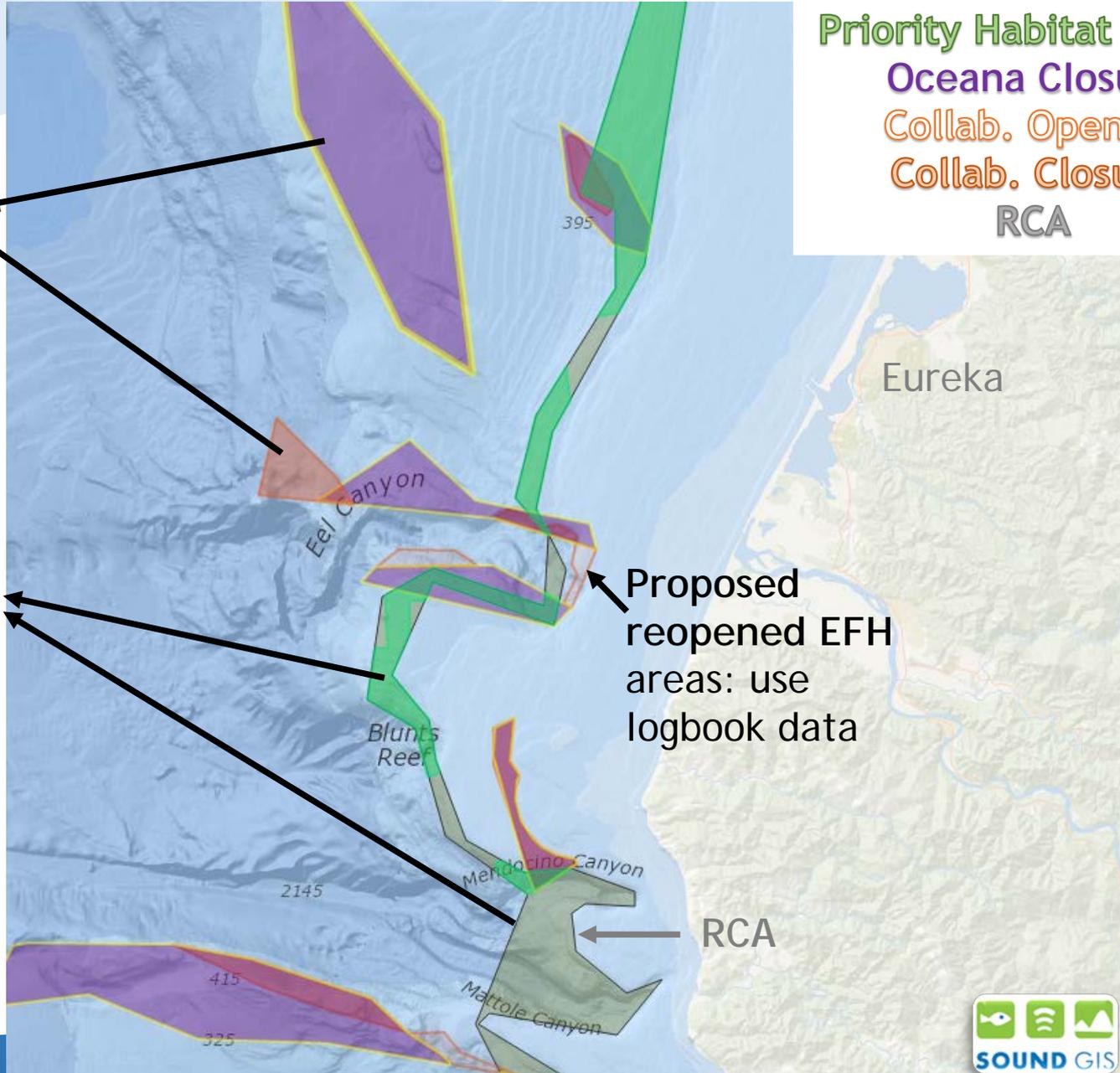
RCA

Proposed closures: use WCGOP data

Proposed reopened RCA areas, and new EFHCAs to remain closed: use logbook data

Proposed reopened EFH areas: use logbook data

RCA



Historic Period Selection

- Original historic periods selected as four years immediately preceding closures for independent RCA and EFH analysis:
 - Prior to implementation of RCA (1998-2001)
 - Prior to implementation of EFH (2002-2005)
- We now suggest using one set of years for the analysis so as to compare across EFH/RCA alternatives. Options include:
 - 1994-1998 - GAP suggested, pre-disaster, includes roller gear, much larger fleet than today
 - 1998-2001 - Includes roller gear until 2000, OF disaster period, more recent data than '94-'98, more restrictive management measures than '94-'98, different management regime than present
 - 2000-2001 - Only years prior to RCA implementation with roller gear prohibited



Caveats: Use of historic period

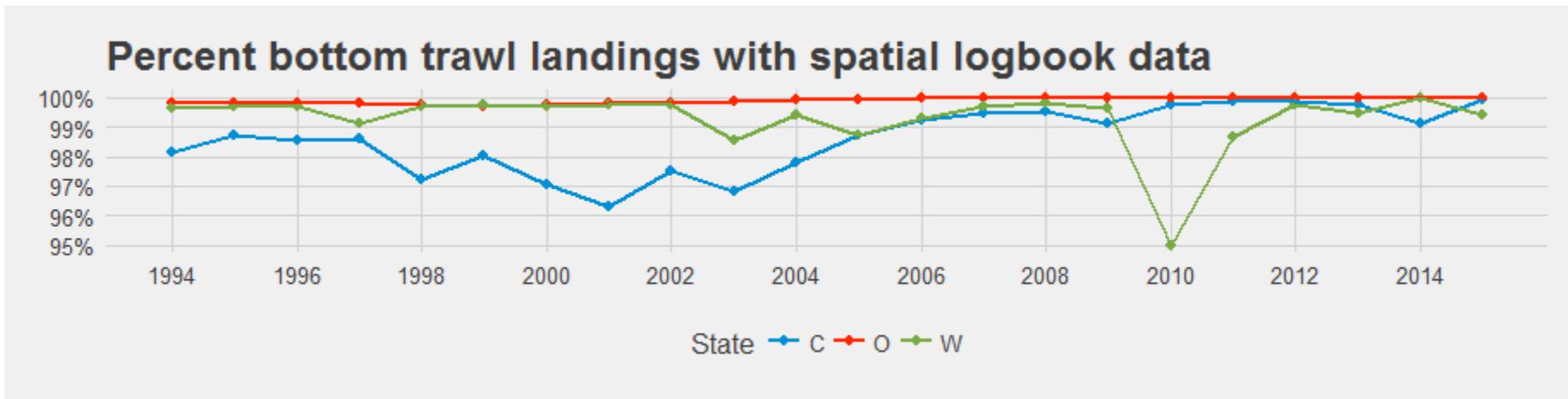
- Historic data considered for analysis from fishery 12-23 years ago, and the use of historical period(s) problematic:
 - Markets have evolved/shifted with global trends and decreased supply under disaster status and subsequent management regimes
 - Fleet size has decreased dramatically with buyback and IFQ implementation
 - Contractions not evenly distributed along coast, consolidation occurring at a faster rate in California and Washington than in Oregon
 - 1998-2001 period spans disaster declaration, during this period effort shifted off the continental shelf into deeper waters and trip limits were drastically reduced
 - Gear regulations have changed, roller gear permitted prior to 2000 allowed access to wider range of areas than allowed at present



Logbook Data

Logbooks provide the most detailed information available* for latitude and longitude of hauls prior to 100% observer coverage, however:

- Logbooks not submitted for every trip
- Spatial information not complete/missing (3.2%)/incorrect
- No information on discards



* Trawl survey only operates in summer and uses different gear than fishery, VMS not implemented until 2004

PROPOSED ANALYSIS

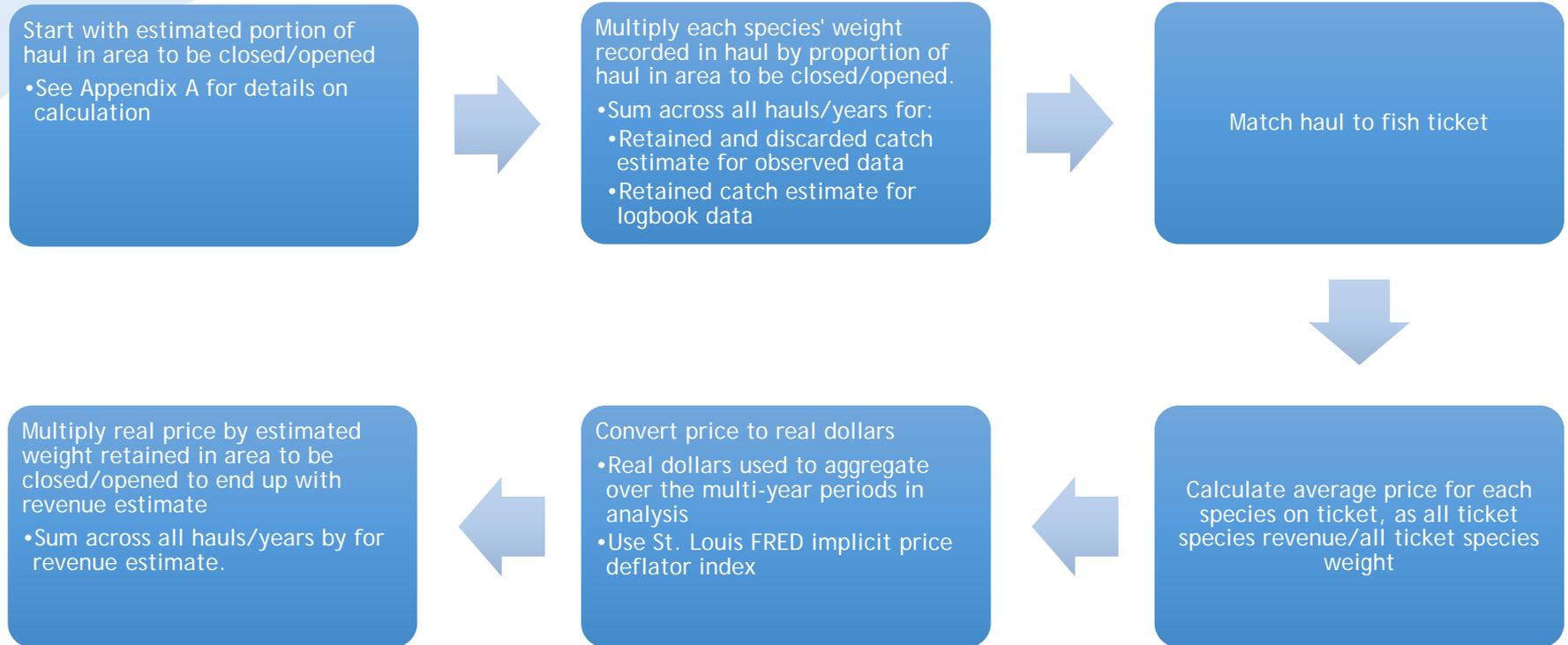


Qualitative impacts based on spatial catch and fish ticket data

- Qualitatively assess potential impacts to fishery participants
 - Discuss possible behavioral responses/shifts
 - Identify changes in geographic distributions of fishing effort over historic and current periods
 - Indicate relative importance of impacted fishing grounds
- Estimate fishing effort (as distance towed), use to estimate catch and ex-vessel revenues for each area proposed to be opened and closed under each alternative.



Estimating catch and revenue



Relative importance of fishing areas

Present effort, retained catch, and revenue in each area-unit of analysis as a percentage of:

- 1) Economically important species (target and limiting species),
- 2) Species groups (i.e. rockfish, roundfish),
- 3) Port group bottom trawl landings for the period
- 4) Coast-wide bottom trawl for the period.



Example: Port Group Impacts (mt)

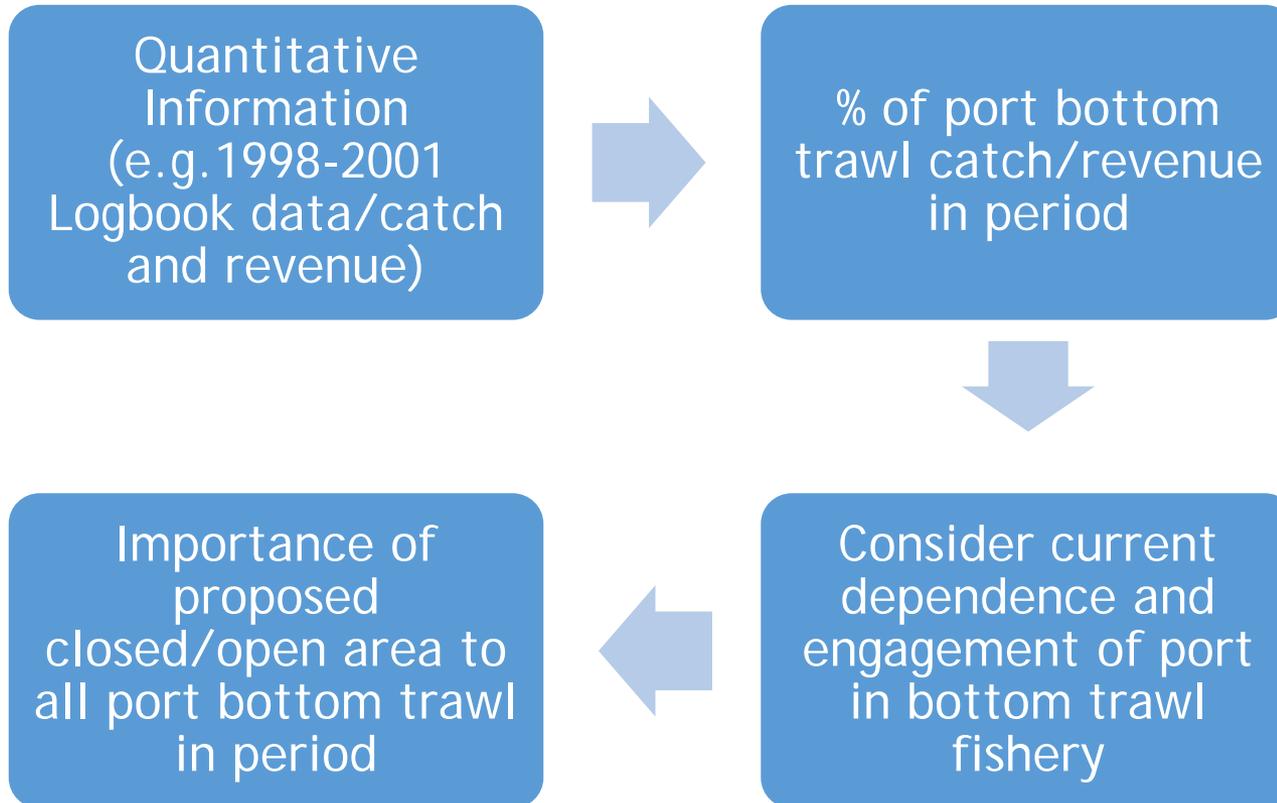
Note: Numbers are fictitious and for example only

	Baseline	Alt. 1		Alt. 2	
Port	Current	Reopened	Displaced	Reopened	Displaced
Astoria	100 mt	10% (200 mt)	15% (100 mt)	5% (200 mt)	0% (100 mt)
Bellingham					
Coos Bay					
etc.					
Coast wide					

- $$\% \text{ port catch in reopened area} = \frac{\text{Est. mt (logbook) retained in area to be reopened}}{\text{All bottom trawl trip mt landed in port}}$$
- $$\% \text{ port catch displaced by area closure} = \frac{\text{Est. mt (observed) retained in area to be closed}}{\text{All bottom trawl trip mt landed in port}}$$



Port Group Analysis Example



CPUE

- Should we use CPUE in this analysis to help reveal areas that may be economically important?
- Could be done as catch per tow hour by species or rolled up species groups.



Discussion

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Choice of Years

- Using a common time frame for the RCA and EFH analysis would allow impact analyses to be integrated. Choice of years include
 - 1994-1998 - GAP suggestion, prior to the disaster declaration
 - 1998-2001 - prior to both RCA and EFH implementation
 - 2000-2001 - Years prior to RCA and EFH implementation, no roller gear

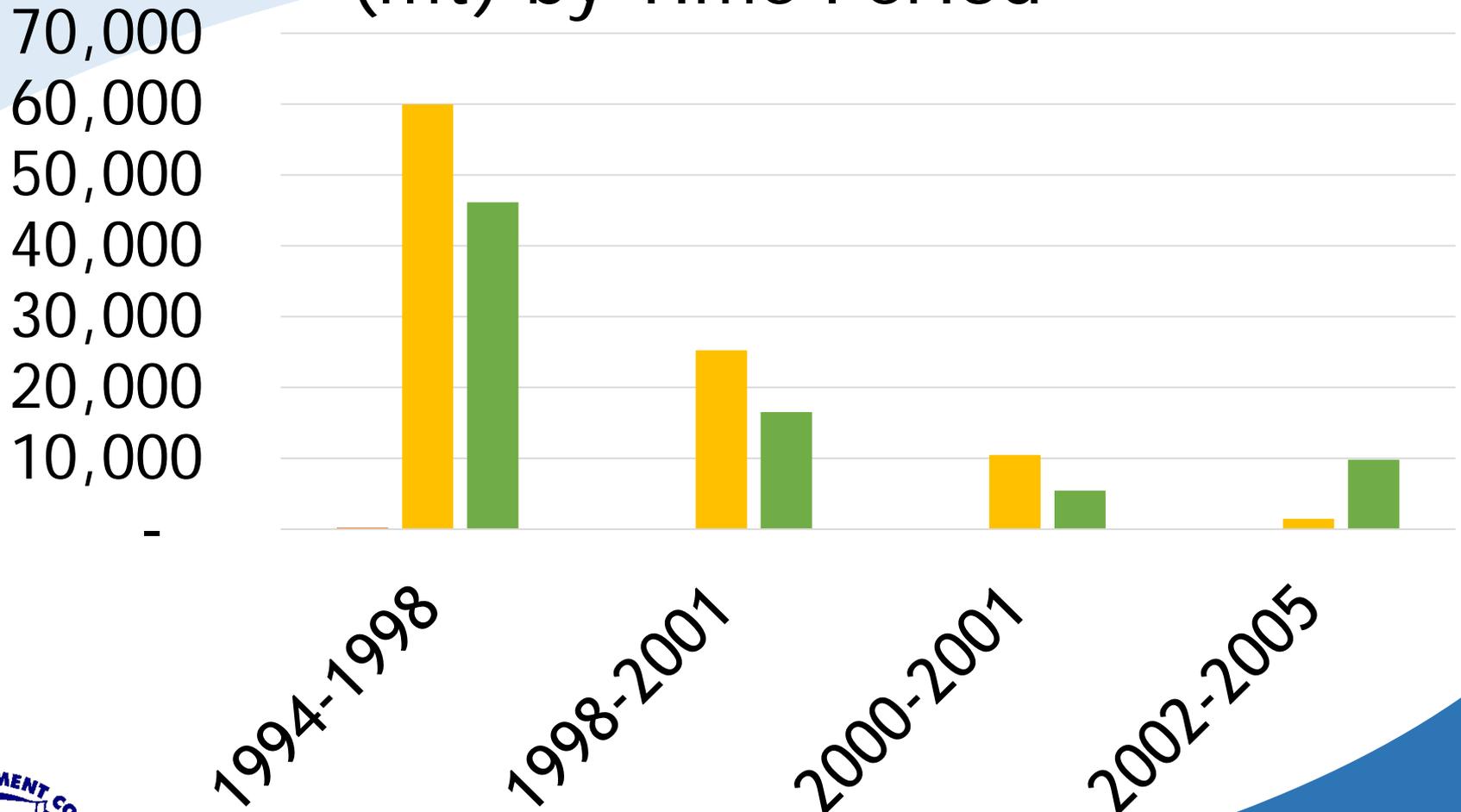


Snapshot of Historical Regulations

Year	Regulatory Milestone
1994	Limited entry permits issued
1999	Bocaccio, lingcod, and Pacific ocean perch declared overfished
2000	Groundfish disaster declaration Regulations define small and large footrope, effectively prohibiting use of large roller gear (>19 inches). Trip limits became gear specific
2002	WCGOP begins observations in the trawl fishery Coastwide RCA implemented Trip limits become area specific (e.g., shoreward RCA, seaward RCA) Large footrope prohibited shoreward of the RCA
2003	Trawl buyback program implemented, fleet reduced by 1/3
2004	Vessel Monitoring System implemented
2005	Selective flatfish trawl gear required shoreward of the RCA, north of 40°10' N. lat
2006	EFHCAs implemented



Trawl Rockfish Complex Landings (mt) by Time Period



■ Nearshore Rockfish ■ Shelf Rockfish
■ Slope Rockfish

Complex Proportion by Time Period

Years	Nearshore Rockfish	Shelf Rockfish	Slope Rockfish
1994-1998	0%	56%	43%
1998-2001	0%	60%	39%
2000-2001	0%	66%	34%
2002-2005	0%	13%	87%



Choice of Data Source

- Preferred: Logbooks contain the most precise information on the area of catch and estimate of catch
- Considered but rejected
 - Fish Tickets - Contain one PFMC area of catch for each landing. Too large (see next slide) to support the level of spatial analysis desired
 - VMS - Implemented (2004) after the RCA was implemented (2002), but before EFHCA (2006)
 - WCGOP - Coverage began in 2002, after RCA implementation, but before EFHCA (2006)



PFMC Area of Catch

