Alaska Marine Mammal Stock Assessment Reports

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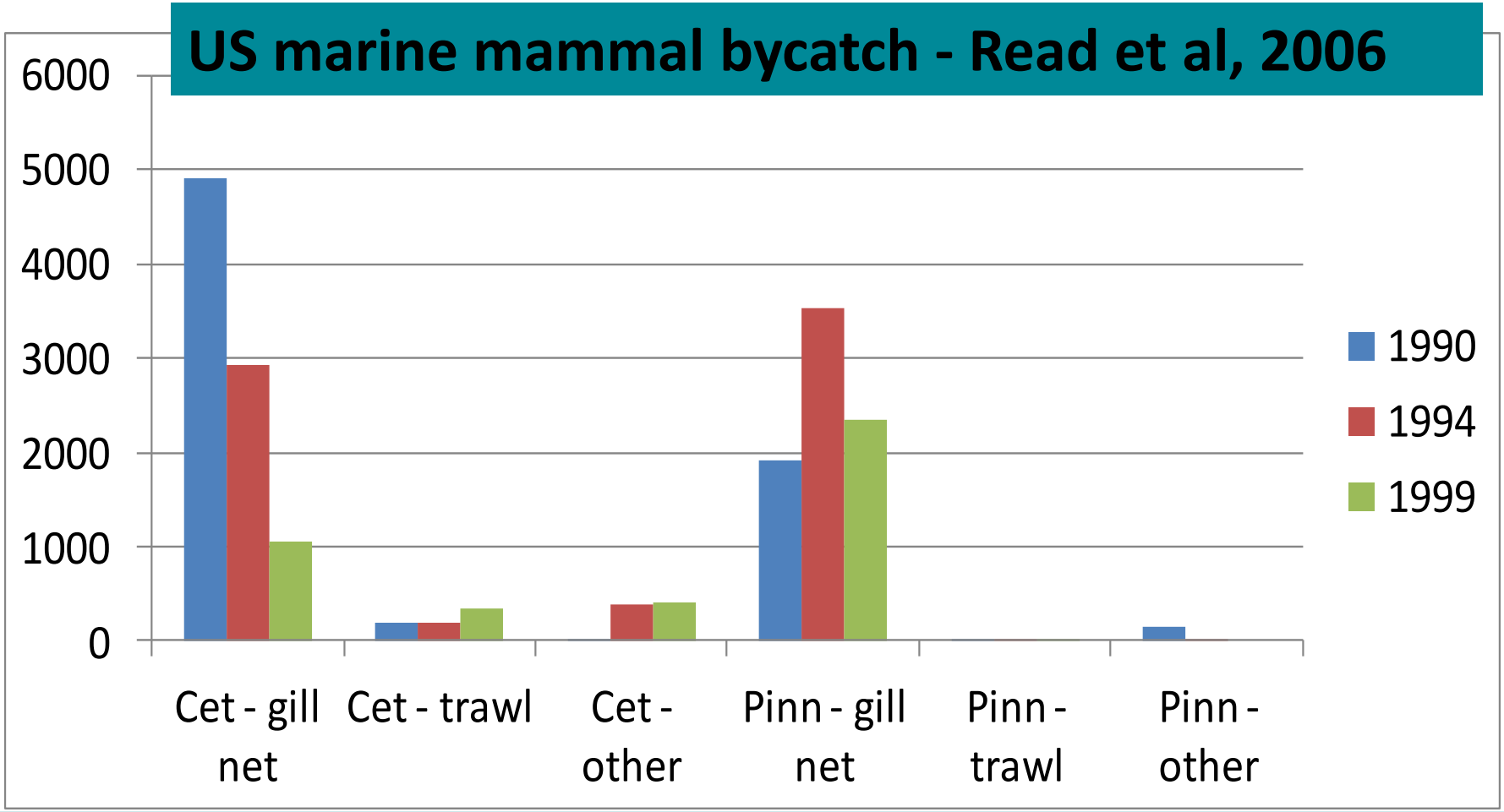
Bycatch in commercial fisheries: Major threat to some marine mammal species



Reduction of bycatch (serious injury and mortality) is a key goal of the MMPA

- Reducing "serious injury and mortality" of marine mammals incidental to commercial fishing to insignificant levels is a key goal of the Marine Mammal Protection Act
- Sections 117 and 118
  - 117 → Develop stock assessment reports
  - 118 → Use the data in the stock assessment reports to rank fisheries based on level of serious injury/mortality relative to each stocks' Potential Biological Removal level

Potential Biological Removal level

Definition: The maximum number of individuals from a marine mammal stock that can be removed and still allow the stock to achieve it's optimum sustainable population level

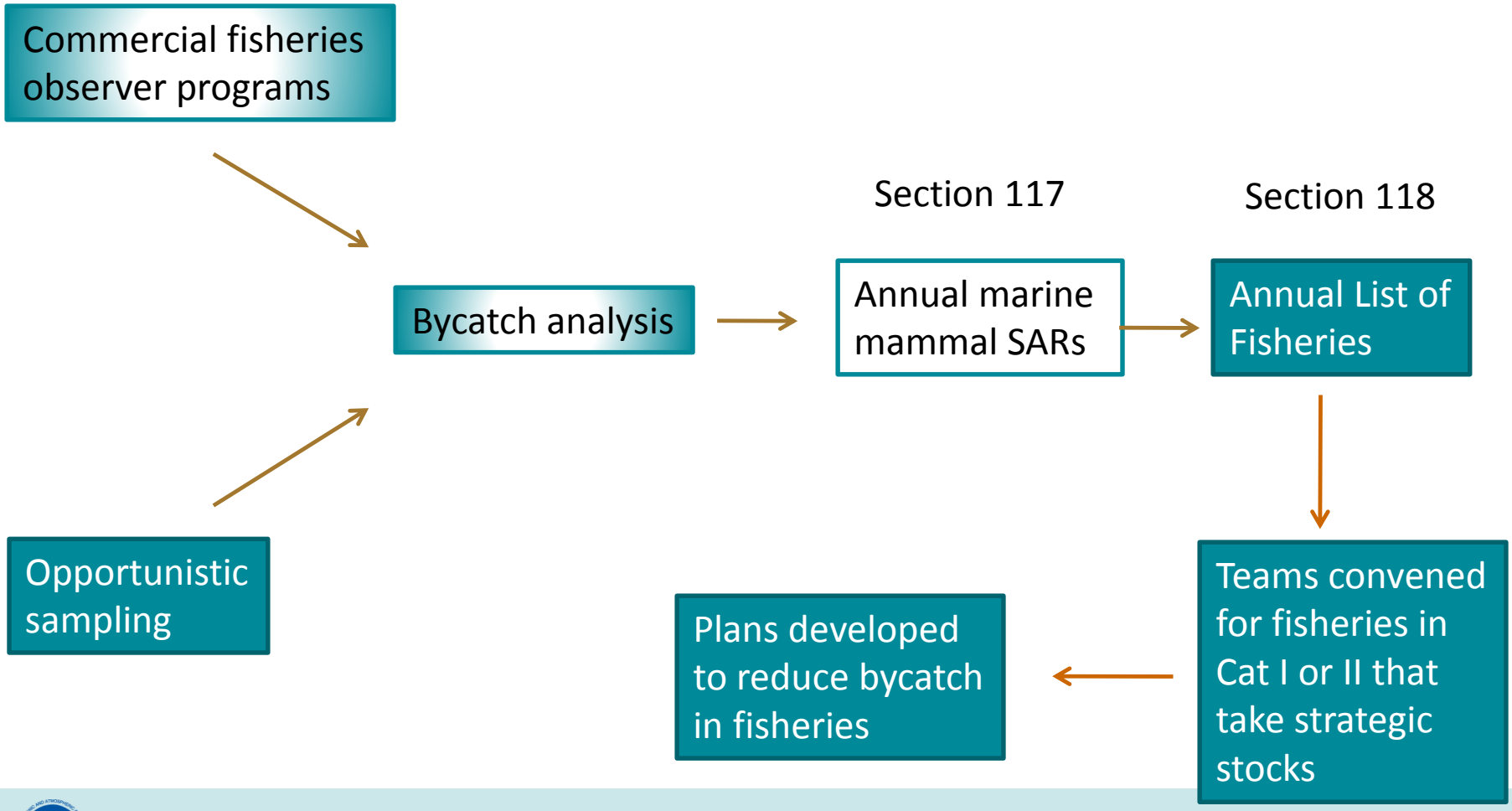
$$PBR = Nmin * 0.5 Rmax * Fr$$

Nmin = Minimum population estimate

Rmax = Maximum theoretical net productivity rate

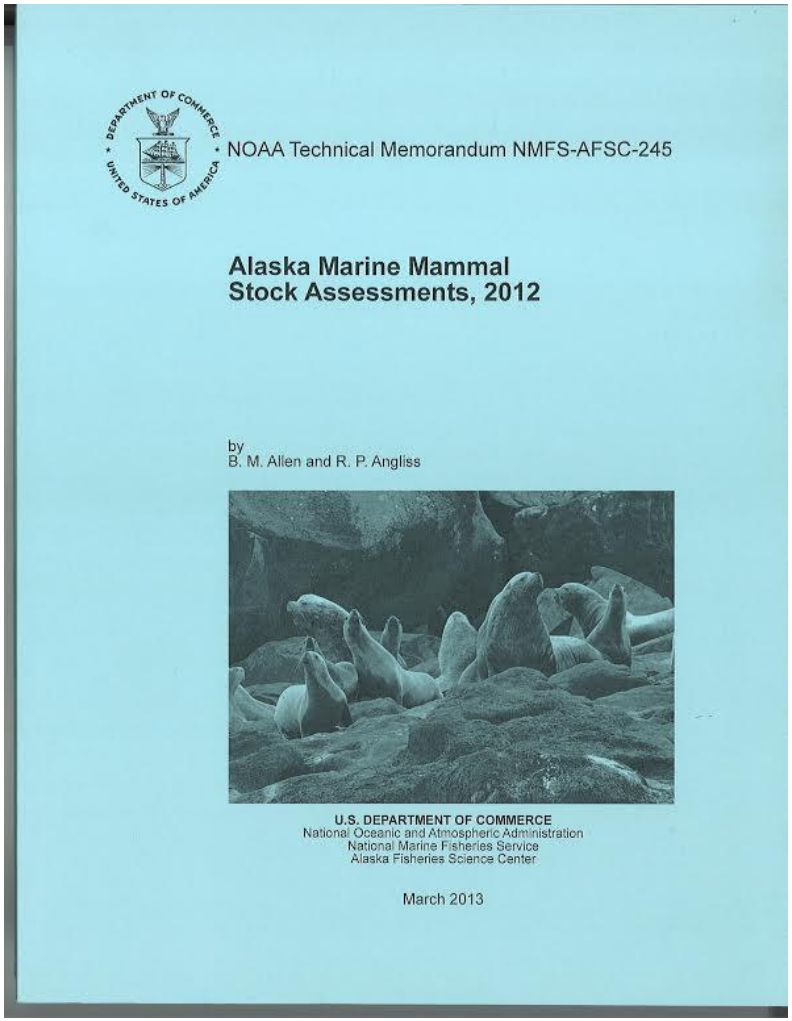
Fr = Recovery factor

NMFS regime for collecting information on SI/M, and prioritizing which fisheries require measures to reduce SI/M



Marine Mammal Stock Assessment Reports

- Includes information on. . .
  - Distribution
  - Abundance
  - Human-related mortality and serious injury
- Calculation of Potential Biological Removal (PBR) level



Marine Mammal Stock Assessment Reports
Data types

Distribution

Abundance

Stock structure

From peer-reviewed literature

Marine Mammal Stock Assessment Reports: Data types

Serious injury/mortality information

- Analysis of observer data
- Opportunistic information
  - Stranding data
  - Entanglements
- Fisher self-reports
- Research-related mortalities
- Subsistence harvest

Published in technical memoranda; administrative reports

Unpublished data

Unpublished data and data from unpublished reports

Observer programs in Alaska

	Federally-regulated fisheries	State-regulated fisheries
Methods	AFSC collects data; AKR assigns data to fishery; AFSC conducts analysis Results published in tech memos; periodic external reviews	Contractors to AKR collect & analyze data Results in contract reports; reviewed by AKR and AFSC staff
Data quality	High level of observer coverage (10-100% of catch); large variance	Low level of observer coverage (3-5%); large variance
Strengths	% observer coverage Funding is secure	Observers placed based on marine mammal management needs Ability to move program between state fisheries
Weaknesses	Observers placed based on fishery management needs	Cycling program through Cat II state fisheries would take 20+ years Funding no longer available

Marine Mammal Stock Assessment Reports Annual process

Reviews & updates conducted by Alaska Fisheries Science Center staff

- Annual reviews for “strategic” stocks
- Reviews for other stocks every 3 years

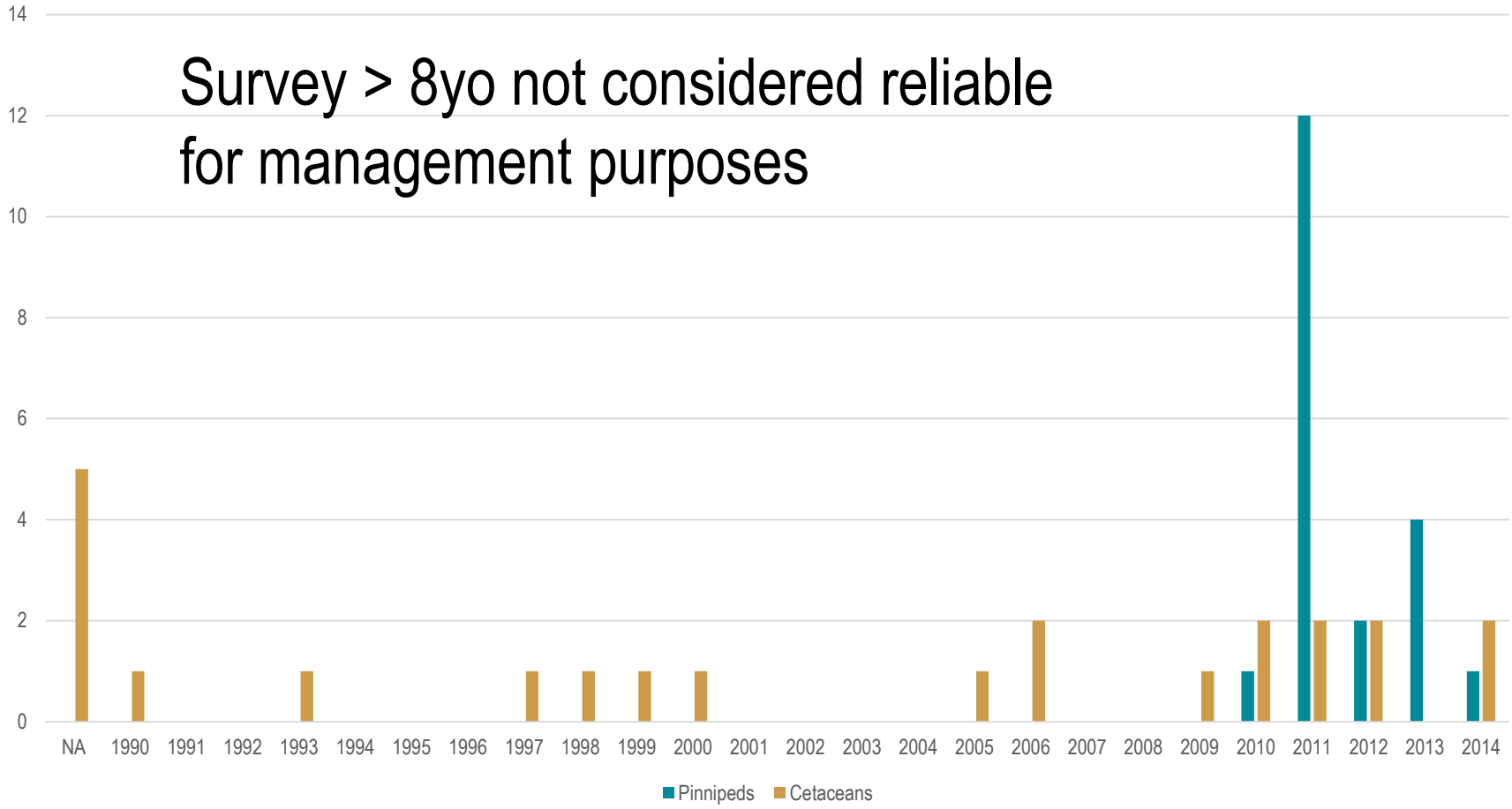
NOAA Fisheries Alaska Region

Alaska Scientific Review Group

Released as draft to the public for review

Posted on NOAA Fisheries HQ website after public comments addressed

Marine Mammal Stock Assessment
Year of Last Survey



Next steps. . .

- List of Fisheries
- Take Reduction Teams

A few take-home messages . . . . .

- Developing stock assessment reports is the first step in a data-intensive process for reducing SI/M of marine mammals when the levels are unsustainable
- Many abundance estimates for Alaska marine mammal stocks are outdated