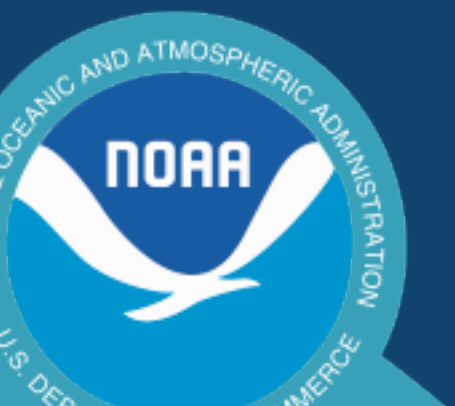


# A BALANCING ACT FOR HARBOR SEALS ON ICE:

## Weighing Long-term Protection for Seals with a Growing Interest in Vessel-based Tourism



NOAA  
FISHERIES

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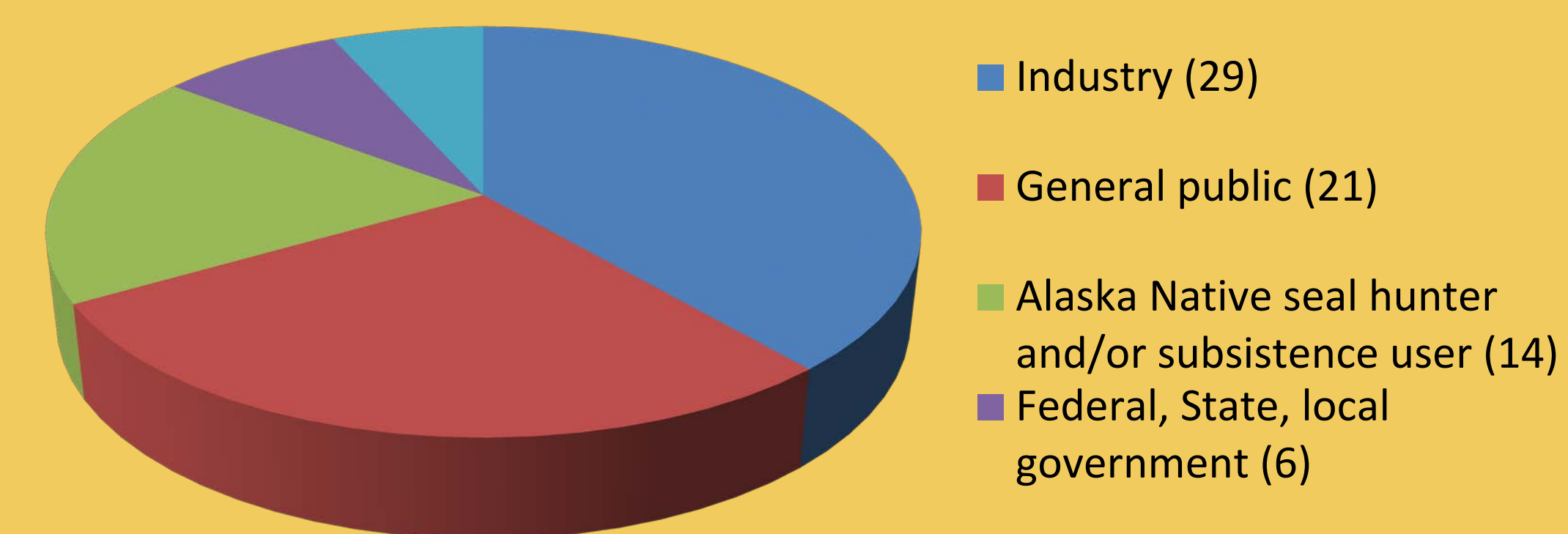


### Abstract

Recently, the National Marine Fisheries Service (NMFS) published an Advance Notice of Proposed Rulemaking (ANPR) to consider regulations to protect tidewater-glacier habitats of harbor seals in Alaska, and limit vessel disturbance of seals using floating ice in those habitats. Despite vessels regularly operating within these habitats, they receive no specific protection other than voluntary guidelines to help provide seals a buffer from human activities. The ANPR was precipitated by numerous factors: stakeholder concern; the essential role of habitats for seals to rest, birth, nurse, and molt; a dramatic increase in vessel-based tourism over several decades; broadly-defined protections in the Marine Mammal Protection Act (MMPA) that are difficult to enforce; and recent findings suggesting that voluntary guidelines were inadequate to prevent disturbance. The scope of the ANPR encompassed activities of any person or vessel that may diminish the value of glacial habitats for harbor seals, result in unauthorized take under the MMPA, or cause detrimental individual- or population-level impacts. While the ANPR did not propose specific measures, public comments were solicited as to whether regulations are needed, and if so, what type of measures would be appropriate to protect seals. During the 60-day comment period, the agency convened public meetings to provide background on this action. NMFS received seventy-five comments in response to the ANPR, from industry(29), general public(21), Alaska Native seal hunters and/or subsistence users(14), federal, state and municipal agencies(6), and non-profit organizations(5). Thirty-six of the commenters opposed regulatory action, thirty-two favored such action, and seven were neutral/undecided. Comments opposing regulation expressed the need for further study, a lack of information for adopting regulations, the adequacy of existing MMPA protections, the lack of evidence for population-level impact, concern over economic impact, and the effectiveness of voluntary guidelines. Comments favoring regulation expressed the inadequacy of existing guidelines to protect seals, scientific findings that vessel disturbance negatively affects seals, concern over cumulative impact of repeated disturbance, non-compliance with MMPA take provision, lack of effectiveness of voluntary guidelines, recommendations for enhanced enforcement and time-area closures/speed limits/approach distances. NMFS is taking these responses under consideration as it proceeds with its decision-making process.

### ANPR Comment Analysis

Origin of comments received during 60 day comment period March to May 2013.



Public Comment on Harbor Seal Disturbance ANPR

Response	Count
Oppose	36
Maybe/Neutral	7
In favor	32
<b>Total comments</b>	<b>75</b>

### Frequently Cited Comments

#### OPPOSE NEW RULE

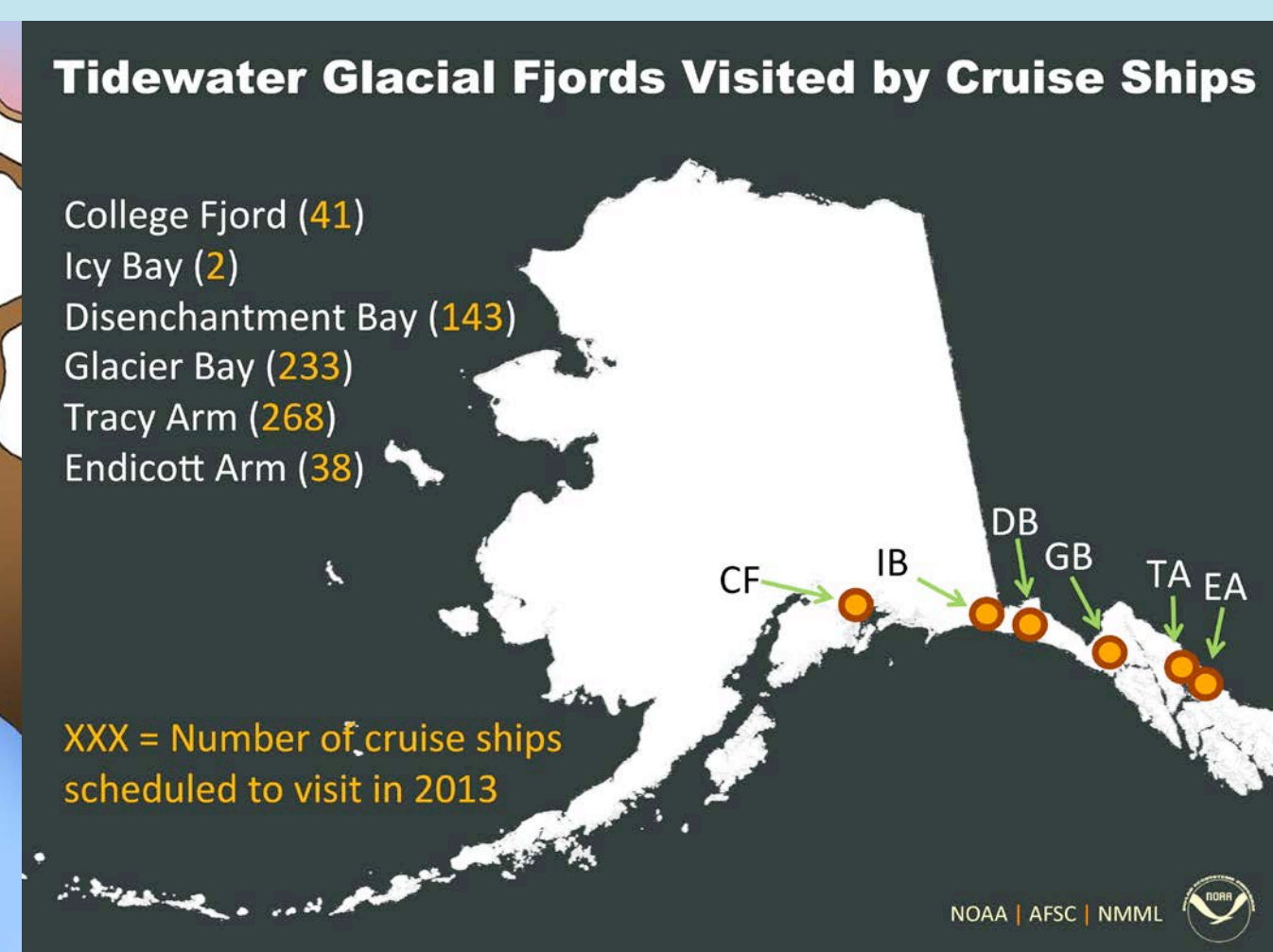
- Further study necessary (19)
- Insufficient information for adopting regulations (10)
- No evidence to suggest population-level impact (8)
- No evidence that vessel traffic causing a decline (7)
- Other factors may be at work (disease, prey, ocean health, natural flushing) (8)
- Concern over economic impact (16)
- Seals are already adequately protected, more regulations are redundant (19)
- Harbor seals are not a threatened or endangered species (6)
- Voluntary guidelines are effective (16)
- Self-monitoring is already practiced and is working (12)
- Avoid one-size-fits-all approach (12)

#### IN FAVOR OF A NEW RULE

- Happy to see NMFS progress and proactive effort on this issue (9)
- Studies show vessels can disturb seals and flush them from haulouts (14)
- Existing guidelines and regulations are not adequate to protect seals (9)
- MMPA take provision not being adhered to by all users (6)
- Cruise ships do affect pupping (5)
- Cumulative impacts of repeated disturbance may have energetic costs for seals, leading to stress and impacting survival and reproduction (10)
- Must ensure that aboriginal rights to hunt marine mammals are not lost or overlooked in this process (5)
- Voluntary compliance rarely effective around wildlife (5)
- Regulations must be enforceable, need enhanced monitoring and enforcement (12)

### Comments on Management Measures

- Support for time-area closures (14), speed limits (18), approach regulations (11), vessel quotas/licensing (5)
- Creating corridors and/or vessel movement parameters relative to ice neither feasible nor safe (10)



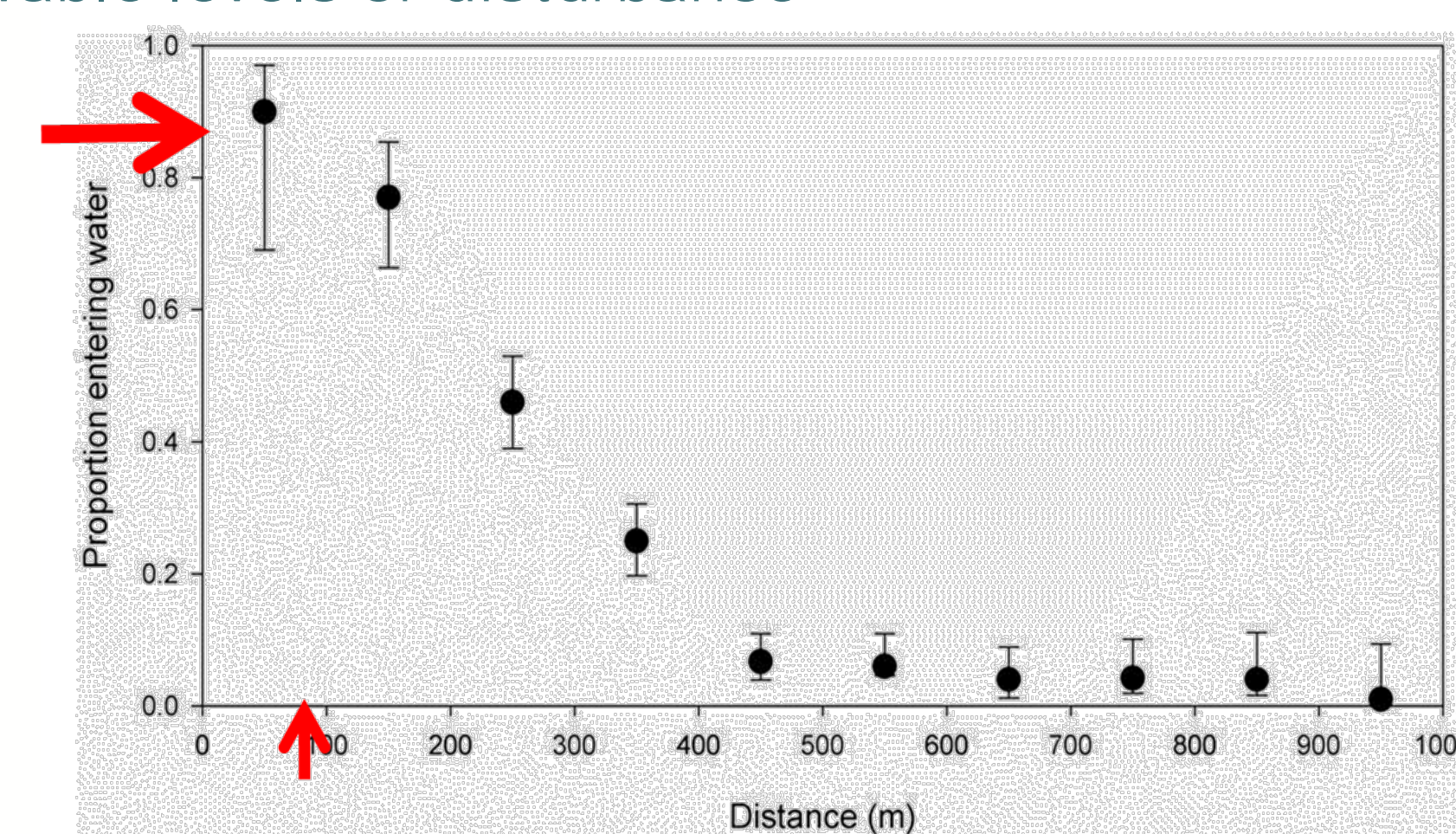
### Harbor Seals and Ice

- Ice calved by tidewater glaciers provides a platform for seals during critical periods of pupping and molting
- Ice habitats represent 10-15% of the Alaska harbor seal abundance
- Aggregations of seals can number up to 6000
- Glacial sites are important nursery areas with high productivity
- All cruises to Alaska include a stop at a tidewater glacier causing daily visits of up to four ships at some sites

### Background and Need for Action

- Vessel-based tourism in Alaska has markedly increased since the 1980's, including cruise ships, mid-size vessels, and small tour boats.
- Jansen et al. (2010) showed that seals < 500 m (1,640 ft) from ships entered the water with increasing frequency. Cruise ships caused seals to spend more time in the water.
- Alaska Native Organizations have expressed concern about vessel impacts to harbor seals and requested that NMFS exercise authority to pass regulations. Harbor seals are an important subsistence resource for Alaska Natives in many coastal communities and are used for food and traditional handicrafts.
- No specific measures exist to protect sensitive seal habitats in four of the five most heavily visited glacial fjords in AK: Tracy Arm, Endicott Arm, College Fjord, and Disenchantment Bay.

### Allowable levels of disturbance



This figure shows an increasing proportion of seals entering the water with shorter approach distances. Given that the current ships' sighting protocols precludes maneuvering to avoid seals, and that NOAA's policy allows for approaches down to 91m (shown by the red arrow), this level of disturbance is considered allowable. This illustrates the need to take account of the sensitivity of individual populations to disturbance. Current approach guidelines may be inadequate to protect ice-hauling harbor seals from chronic disturbance. **Figure: data from Jansen et al. (2010)**

### Thermal Stress in Pups

Results from Harding et al. (2005)

- Increased costs of thermoregulation have been linked to reductions in survival in harbor seal pups
- Cost of thermoregulation was greatest in the smallest pups
- Smaller pups have lower probability of survival
- Authors concluded that costs of thermoregulation were a constraint on the population's vital rates

### Challenges and Outstanding Questions

- What type of management will be enforceable?
- If an area is regulated, will that displace vessel traffic and viewing pressure into another glacial habitat for seals?
- What is the population level impact of disturbance to harbor seals in AK?
- What is the impact to an individual seal from repeated/cumulative bouts of disturbance?
- How much will vessel-based tourism continue to grow in AK in the future?
- Will ice loss from tidewater glacial retreat make harbor seals more vulnerable to the effects of disturbance?

### Next Steps

- Further communication with Alaska Native Tribes, tour industry members, State and Federal agencies, and other affected parties.
- Additional education and outreach to encourage responsible viewing practices.
- Decision-making as to 1) whether additional measures are necessary, 2) where they would occur, 3) what type of measures would be pursued, 4) how to implement measures, 5) whether a voluntary or regulatory structure is warranted.
- If regulations are pursued, both an economic analysis and NEPA analysis would be performed.

### Acknowledgements

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Photos by: John Jansen, Peter Boveng, Jamie Womble, and Dave Withrow

Cartoon by: Ian Colvert (ianink.com)

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