# Oregon Fishermens' Input on Ways to Reduce the Risk of Whale Entanglement

## Important Questions for Oregon's Dungeness Crab Industry

Participation is Voluntary and All Responses Are Confidential

**Please Complete This Survey. Thank You For Your Cooperation**

Postage-Paid Return Envelope Provided

or

**Take the survey online.**

http://oregonstate.qualtrics.com/jfe/form/SV_1ETLaudGEUwGb3f

**Enter Access Code:**

**1111**

For more information:

http://extension.oregonstate.edu/clatsop/oregon-whale-entanglement-working-group

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A survey conducted cooperatively by:


Sea Grant Oregon

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**The Oregon Whale Entanglement Working Group**

Oregon State University

### Background on Whale Entanglement

- The number of reported West Coast **whale entanglements** has recently increased, with **42 humpback entanglements confirmed in 2016**. Most entanglements were reported in California, but **entanglements have also been reported in Oregon and Washington**.

- **The main concern is about increasing humpback whale entanglements.** Humpback whales off Oregon include **threatened and endangered** populations. Grey whale entanglement numbers have remained steady.

### Why should you care?

- There is **increasing pressure** on NOAA and the State of California **to reduce entanglements**. In October 2017, the Center for Biological Diversity **filed a lawsuit** against the state of California. If successful, this lawsuit could result in significant changes to the way the fishery is managed in California and **may have implications throughout the West Coast**.

- **NOAA has expressed** that they view the humpback whale entanglement issue as a **West Coast wide issue**, not just limited to California.

- **Oregon fishermen want to be proactive in finding solutions that work for the fleet and for whales.** Members of the Oregon Whale Entanglement Working Group **feel it is imperative that we take action now** to ensure that **management remains in Oregon's hands.**

### About the Working Group

- The Oregon Whale Entanglement Working Group started meeting in May 2017. The group has 20 members, **including commercial and recreational fishermen and the science and environmental community**. You can find more information at: http://extension.oregonstate.edu/clatsop/oregon-whale-entanglement-working-group

- **The Working Group does not have the authority to change fisheries management**. It can make voluntary recommendations to the fleet, and/or to the Oregon Department of Fish and Wildlife (ODFW). ODFW would then do their due diligence and work with the fleet to get additional input. The Oregon Fish and Wildlife Commission or the legislature would make any necessary changes through their normal rulemaking process.

### What have we done so far?

- The group has focused on **1) ways to reduce overlap between fishing gear and whales**, and **2) ways to improve lost and derelict gear recovery efforts.**

- The group developed an Oregon Dungeness Crab Best Practices Directive (enclosed) to provide industry with best known practices to reduce interactions with whales.

- The working group will meet again in late February or March 2018 to review results of this survey and continue discussions.

# Your input is important.

The Oregon Whale Entanglement Working Group has some ideas on how to reduce the risk of whale entanglement, but **we need your help**. Please answer this survey to **tell us what you think** and **add your ideas** on how to reduce the risk of interacting with whales.

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## EXPLANATION OF SURVEY

**Project Title:** Oregon Fishermens' Input on Ways to Reduce the Risk of Whale Entanglement

**Principal Investigator:** Amanda Gladics

**Co-Investigator(s):** Kaety Jacobson

**Sponsor:** Oregon Sea Grant

**Version Date:** 12/17/2017

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**Purpose:** We want to know what members of the Oregon Dungeness Crab fleet know about whale entanglement and what you think about potential management responses. Your input will inform the discussions of the Oregon Whale Entanglement Working Group and will be shared on the working group's website.

**Time Commitment:** The survey should take about 15 minutes, and optional follow-up phone or in-person interviews will take about 30-45 minutes.

**Confidentiality:** Your participation in this study is **completely anonymous and responses will only be shared in aggregate form**. We will not include your name or any other identifying information.

If you choose to provide your name, other people may learn that you participated in this study but we will keep the information you provide confidential to the extent permitted by law. **Records will be stored securely, and your responses will be stored separately from your name and any other information that personally identifies you.** If we publish the results of this project, your identity will not be made public.

**Voluntary:** Participation in this study is voluntary. You can skip any questions that you do not want to answer.

**Questions?** If you have any questions about this project, please contact: Amanda Gladics, Amanda.gladics@oregonstate.edu, (503) 325-8573.

For More Information, please go to our website:

http://extension.oregonstate.edu/clatsop/oregon-whale-entanglement-working-group

## Tell us about you:

**(Please answer one survey per person)**

1. **What category best describes your role in the industry? (Circle all that apply)**

| |
|---|
| Crab Permit Owner |
| Skipper/Fishing Vessel Operator |
| Deckhand |
| Processor |
| Live Buyer |
| Retailer |
| Other: _____ |

2. **What is your home port? _____**

3. **How many permits do you hold? _____**

4. **What is/are your vessel length(s)? _____**LOA.

5. **What tier permit(s) do you fish?**

| Tier | Number of Permits |
|---|---|
| 200 | |
| 300 | |
| 500 | |

6. **In the last 5 years, what months did you typically crab?**

| | Yes | No |
|---|---|---|
| December | Y | N |
| January | Y | N |
| February | Y | N |
| March | Y | N |
| April | Y | N |
| May | Y | N |
| June | Y | N |
| July | Y | N |
| August | Y | N |

## Perceptions about whale entanglement

7. **Before receiving this survey, did you know that humpback whales have been entangled off the Oregon Coast? (Circle one)**

| |
|---|
| Yes |
| No |

8. **Before receiving this survey, did you know that humpback whale entanglement could result in increased federal regulation of West Coast crab fisheries? (Circle one)**

| |
|---|
| Yes |
| No |

9. **Rank your concern about the following issues**:

| | Not at all concerned | Slightly Concerned | Somewhat Concerned | Very concerned | Not sure/ Not applicable |
|---|---|---|---|---|---|
| Whale entanglement is a potential threat to the *Oregon* Dungeness Crab industry | 1 | 2 | 3 | 4 | 5 |
| Whale entanglement is a potential threat to the *West Coast* Dungeness Crab industry | 1 | 2 | 3 | 4 | 5 |
| Consumer perception about the industry will change because of whale entanglements in the news | 1 | 2 | 3 | 4 | 5 |
| Management decisions may be made by federal managers rather than ODFW | 1 | 2 | 3 | 4 | 5 |
| Missing an opportunity to be proactive on whale entanglement solutions | 1 | 2 | 3 | 4 | 5 |

10. **What questions do you have about the whale entanglement issue?**

## Feedback on the Directive to Minimize Whale Entanglement Risk

The working group developed the 2017-2018 Directive to Minimize Whale Entanglement Risk. The Directive has guidance on fishing practices believed to reduce the risk of whale entanglement.
**We want to know what the Oregon Dungeness fleet is already doing to protect whales.**

11. **In 2016-2017 fishing season**, how frequently did you do the following things when you had the opportunity? (Please circle one number for each action)

| | Not Applicable | Never or Rarely (0-10%) | Some of the time (11-50%) | Most of the time (51-90%) | Almost always (91-100%) |
|---|---|---|---|---|---|
| Adjust the length of pot lines when changing depth | 0 | 1 | 2 | 3 | 4 |
| Remove fishing gear you are not actively fishing | 0 | 1 | 2 | 3 | 4 |
| Avoid setting gear in the vicinity of whales. | 0 | 1 | 2 | 3 | 4 |
| Communicate locations of high whale activity to other fishermen | 0 | 1 | 2 | 3 | 4 |
| Maintain gear in good working order | 0 | 1 | 2 | 3 | 4 |
| Remove derelict gear during the season | 0 | 1 | 2 | 3 | 4 |
| Participate in the post-season derelict gear recovery program | 0 | 1 | 2 | 3 | 4 |
| Report entangled whales you see to a state or federal agency | 0 | 1 | 2 | 3 | 4 |

The best practices outlined in the Directive may not always be reasonable for Dungeness fishermen to implement. **We want to know how well you think these best management practices work in reality.**

12. **When or how would these practices be difficult to implement?**

13. **Do you have any recommendations on how to make the Best Practices Directive better?**

## Feedback on Management Options

The best, known way to **reduce the risk of whale entanglement** is to have **less gear in the water when whales are most likely to be in the area**.
The Working Group has come up with some ideas (listed below) that would reduce the risk of whale entanglement in Oregon, especially for humpback whales. The working group does not have the authority to change fisheries management, but will make recommendations. **Before making any recommendations, the group wants input from the fleet.**

| Management Option | Description |
|---|---|
| Summer buoy tag | Establishing a summer buoy tag would make it easier to identify gear that is actively fished during the summer months. This would allow for better in-season clean-up of lost gear, and potentially make it possible to tell when a whale got entangled with gear (winter vs. summer). |
| Transferable summer endorsement | Establishing a transferable summer endorsement for Dungeness crab permits would allow current summer fishermen to continue with their business strategy, but limit the amount of participation in the fishery during the summer. |
| Non-transferable summer endorsement | Establishing a non-transferable summer endorsement for Dungeness crab permits would allow current summer fishermen to continue with their business strategy, but would result in reduction of summer fishing effort over time through attrition. |
| Summer closures around humpback whale hotspots | Closing certain depths or areas with known humpback whale activity hotspots during the summer months would reduce the overlap of fishing gear with humpback whales. |
| Lower pot limit after June 15th | A lower pot limit during summer months would reduce the amount of gear in the water when humpback whales are most likely to be present. |
| Eliminate lost pot tag replacement program | Eliminating the lost pot tag replacement program would reduce the overall amount of gear in the water. |
| Close the fishery on June 15th | Closing the Dungeness crab fishery on June 15$^{th}$ would reduce overlap with humpback whales during the summer. |

14. To what extent would each of the following possible management options impact **your individual fishing business**? (Please circle one number for each management option)

| | Very Negatively | Negatively | No Effect | Positively | Very Positively | Need more Information |
|---|---|---|---|---|---|---|
| Summer buoy tag | 1 | 2 | 3 | 4 | 5 | 6 |
| Transferable summer endorsement | 1 | 2 | 3 | 4 | 5 | 6 |
| Non-transferable summer endorsement | 1 | 2 | 3 | 4 | 5 | 6 |
| Summer closures around humpback whale hotspots | 1 | 2 | 3 | 4 | 5 | 6 |
| Lower pot limit after June 15th | 1 | 2 | 3 | 4 | 5 | 6 |
| Eliminate lost pot tag replacement program | 1 | 2 | 3 | 4 | 5 | 6 |
| Close the fishery on June 15th | 1 | 2 | 3 | 4 | 5 | 6 |

15. **How much do you support or oppose** each of the following possible management responses as a way to reduce the risk of whale entanglement off Oregon? (Please circle one number for each management option)

| | Strongly Oppose | Somewhat Oppose | Neither oppose nor support | Somewhat Support | Strongly Support | Need more Information | Comments |
|---|---|---|---|---|---|---|---|
| No Change | 1 | 2 | 3 | 4 | 5 | 6 | |
| Summer buoy tag | 1 | 2 | 3 | 4 | 5 | 6 | |
| Transferable summer endorsement | 1 | 2 | 3 | 4 | 5 | 6 | |
| Non-transferable summer endorsement | 1 | 2 | 3 | 4 | 5 | 6 | |
| Summer closures around humpback whale hotspots | 1 | 2 | 3 | 4 | 5 | 6 | |
| Lower pot limit after June 15th | 1 | 2 | 3 | 4 | 5 | 6 | |
| Eliminate lost pot tag replacement program | 1 | 2 | 3 | 4 | 5 | 6 | |
| Close the fishery on June 15th | 1 | 2 | 3 | 4 | 5 | 6 | |

16. Do you have any suggestions for other ways to reduce entanglement risk for whales, especially humpback whales?

**Thank you very much for doing this survey**. On behalf of all the working group members, we really appreciate your time and input.

We may be interested in talking with you to get clarification about your responses. If you are willing to answer clarifying questions or do follow-up interview, please provide your name and contact information.

**Your responses to this survey will be kept confidential**. We will not share your name with the Whale Entanglement Working Group or any other party.

17. First and Last Name: _____

18. Phone Number: _____

19. Email: _____

# Your Opportunity to Provide Input on Management Options to Reduce the Risk of Whale Entanglement in Oregon

## Important Questions for Oregon's Dungeness Crab Industry

(PRELIMINARY) RESULTS ROUND 2

## What did we do?

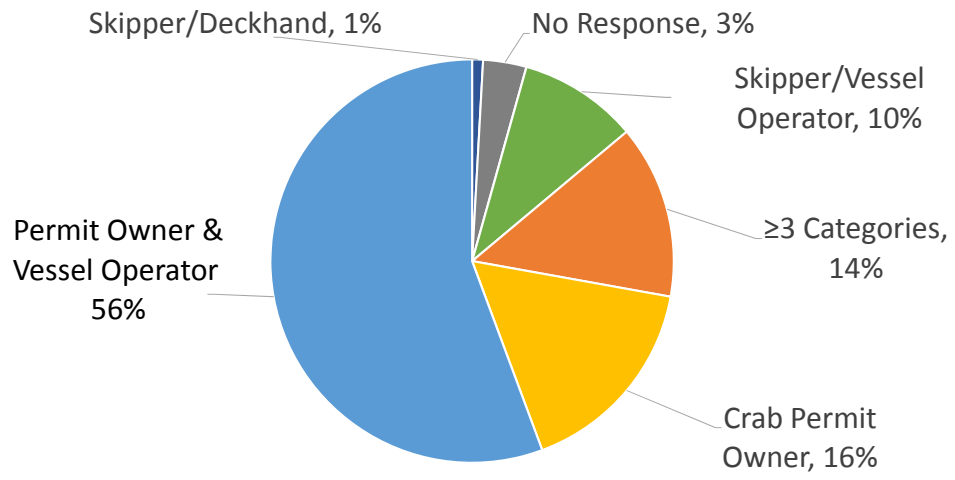
| | |
|---|---|
| Late Oct | Decided to do a survey |
| Nov | Drafted survey, consulted with OSU IRB, applied for oversight determination. |
| Dec | Received oversight determination (not research), revised survey based on feedback. |
| Late Dec | Mailed survey to all permit owners (424) |
| Early Jan | Began receiving mailed surveys |
| Mid Jan | Start of crab season |
| Jan – Apr | Group members conducted follow up to encourage participation |
| Apr | Reported prelim results to working group. Decided to seek addl participants. |
| May | Mailed survey to ODCC mailing list (344) |
| Late June | Reported results to the Working Group |

## Survey Responses – Needs to be updated

- Mailed 424 (Dec) + 344 (May) surveys
- Received 111 responses
- Response rate = 26.2% (of 424 permits)

- 89 (80%) of the survey respondents provided contact information

## 1. What is your role in the industry?

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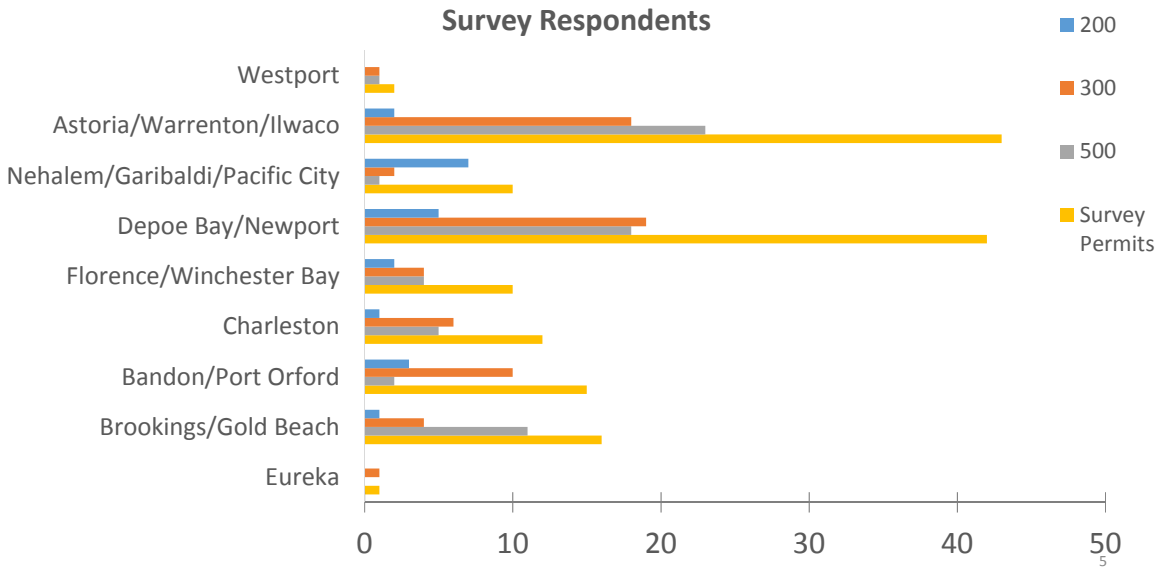
# 2. What is your home port?

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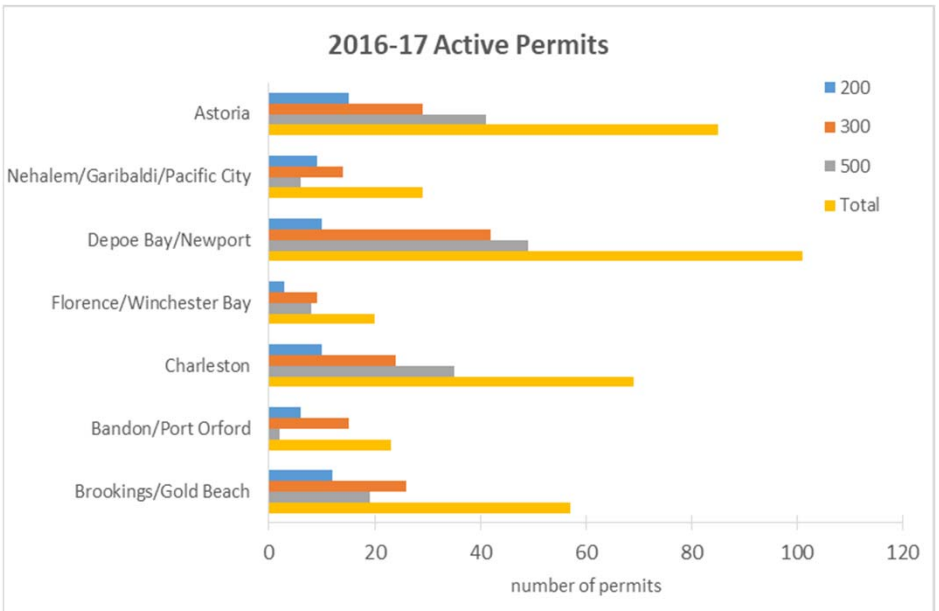


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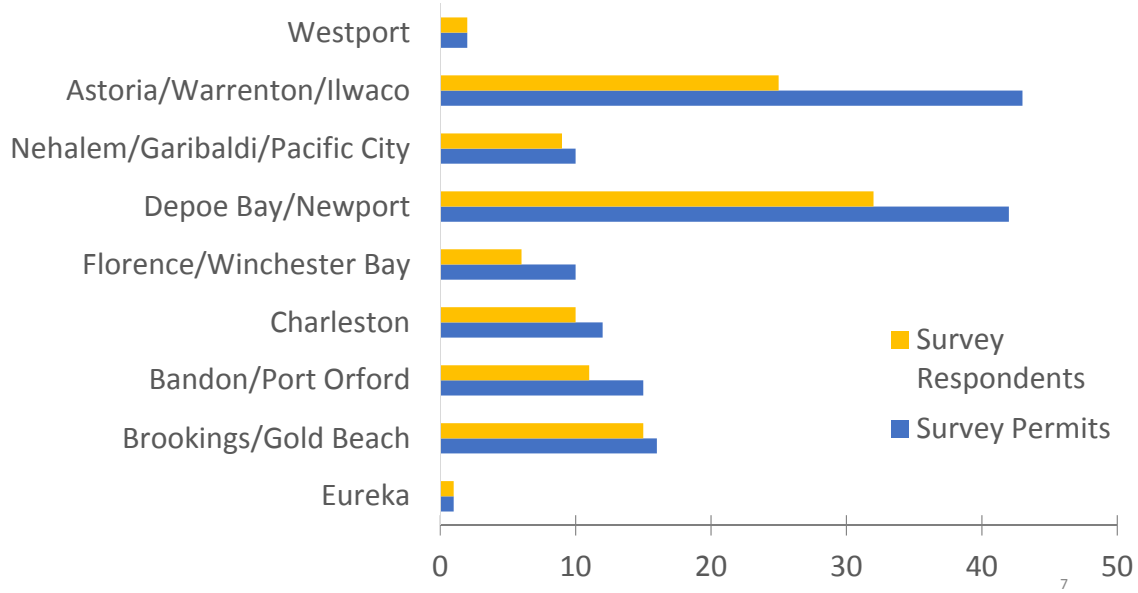


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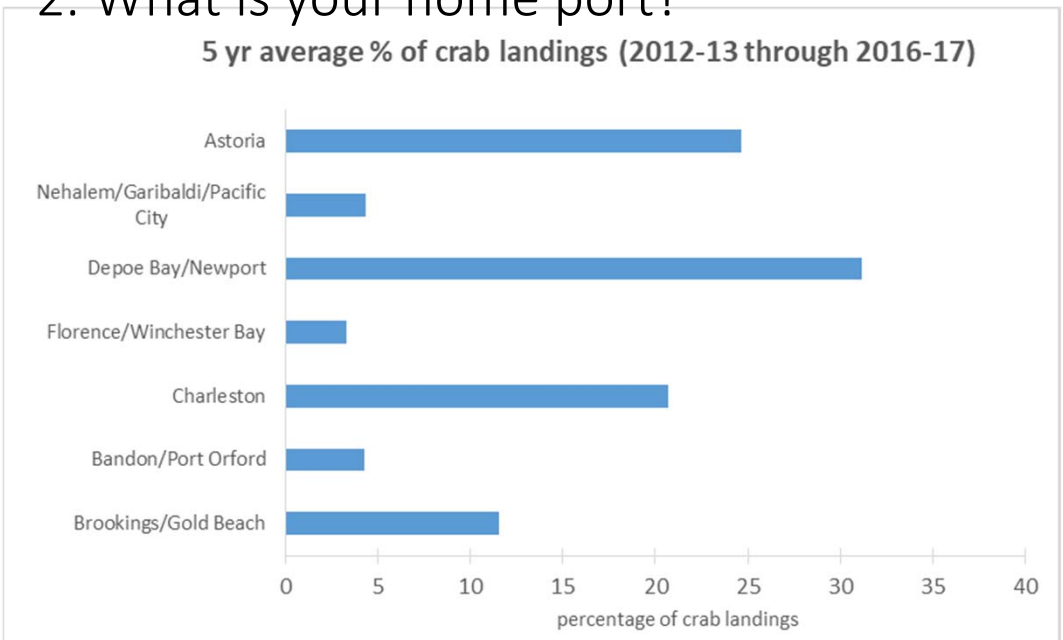


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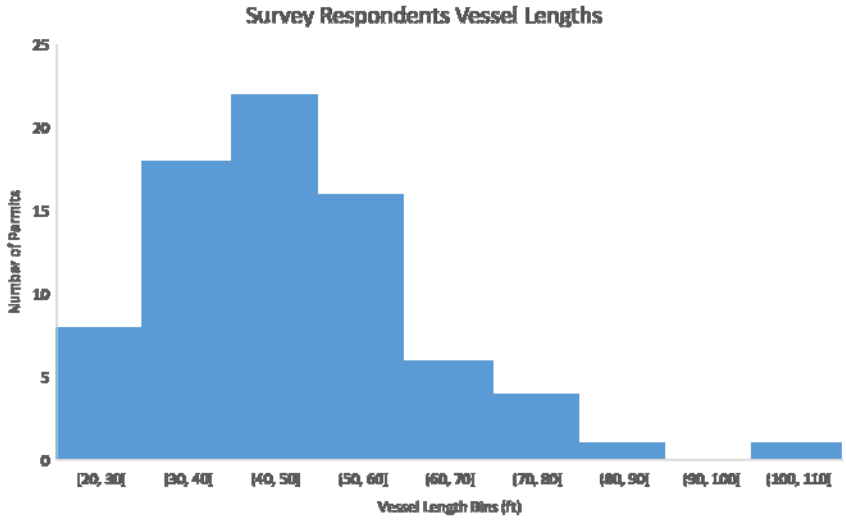
# 4. What is/are your vessel lengths?

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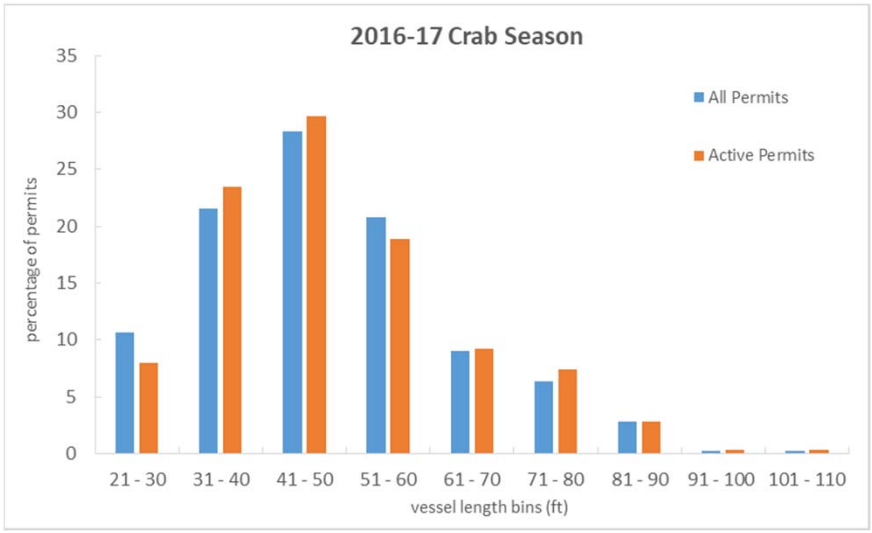


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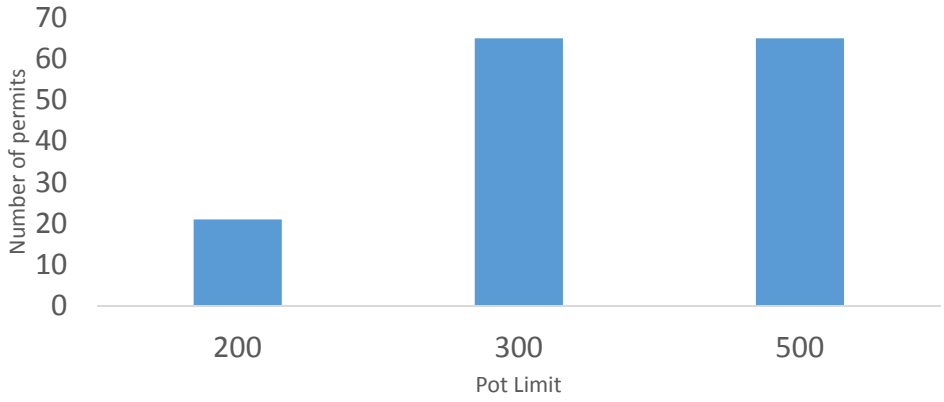
# 5. What tier permit(s) do you fish?

Survey respondent permits by pot limit

111 Survey Respondents
151 Permits

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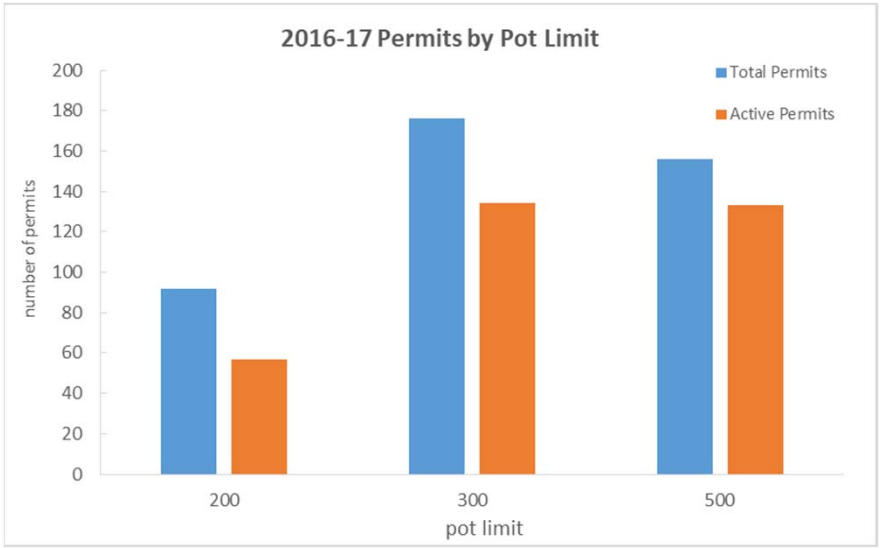
# 5. What tier permit(s) do you fish?

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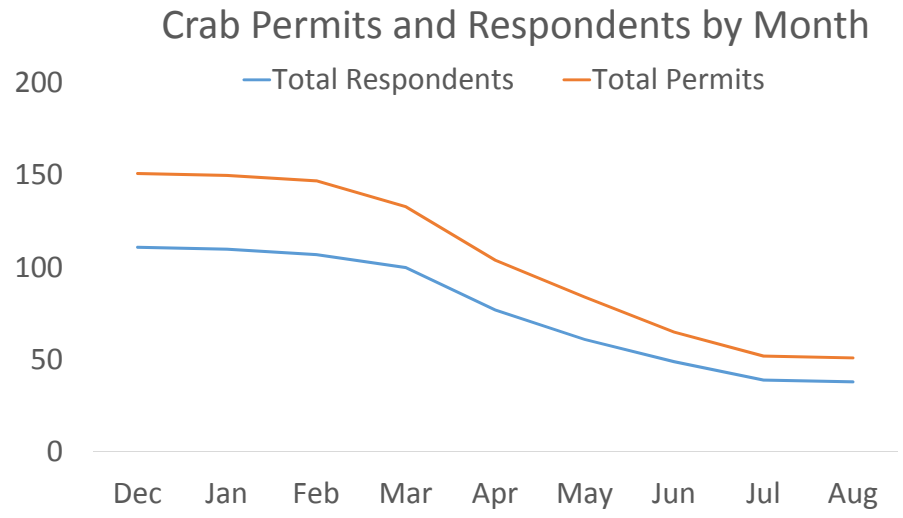
# 6. In the last 5 years, what months did you typically crab?

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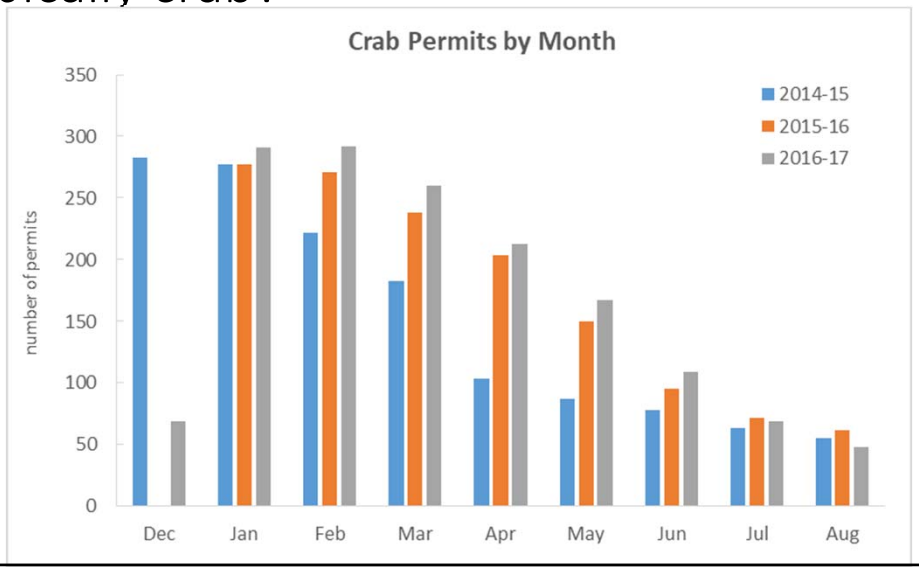
# 6. In the last 5 years, what months did you typically crab?

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# Perceptions about Whale Entanglement

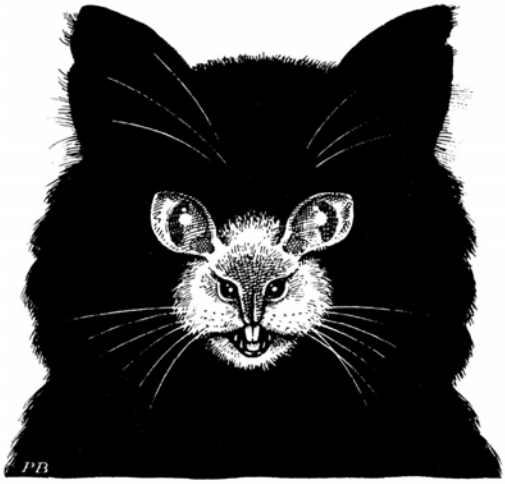
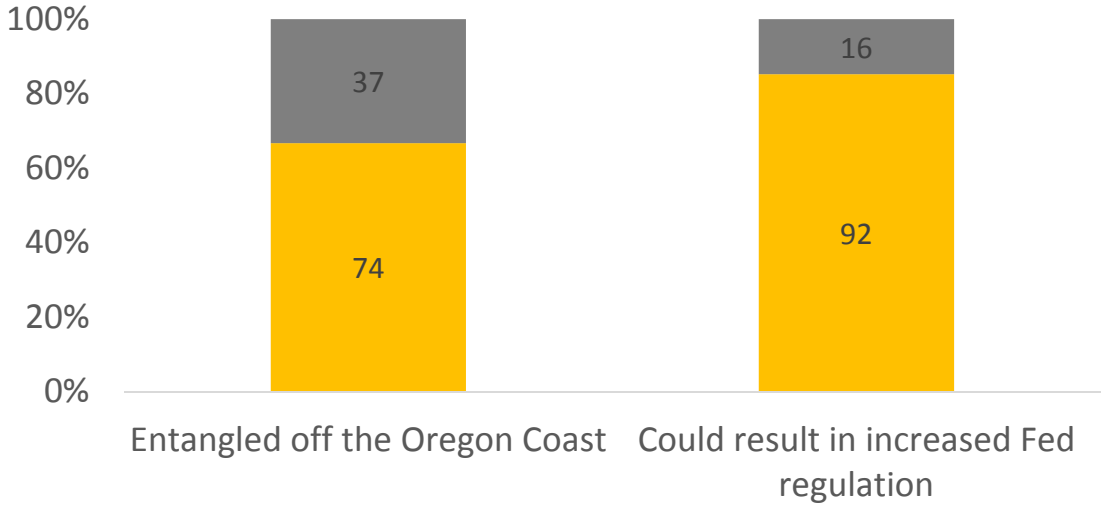


Image courtesy of http://brainden.com/scary-optical-illusions.htm

# 7,8. Before survey, did you know?

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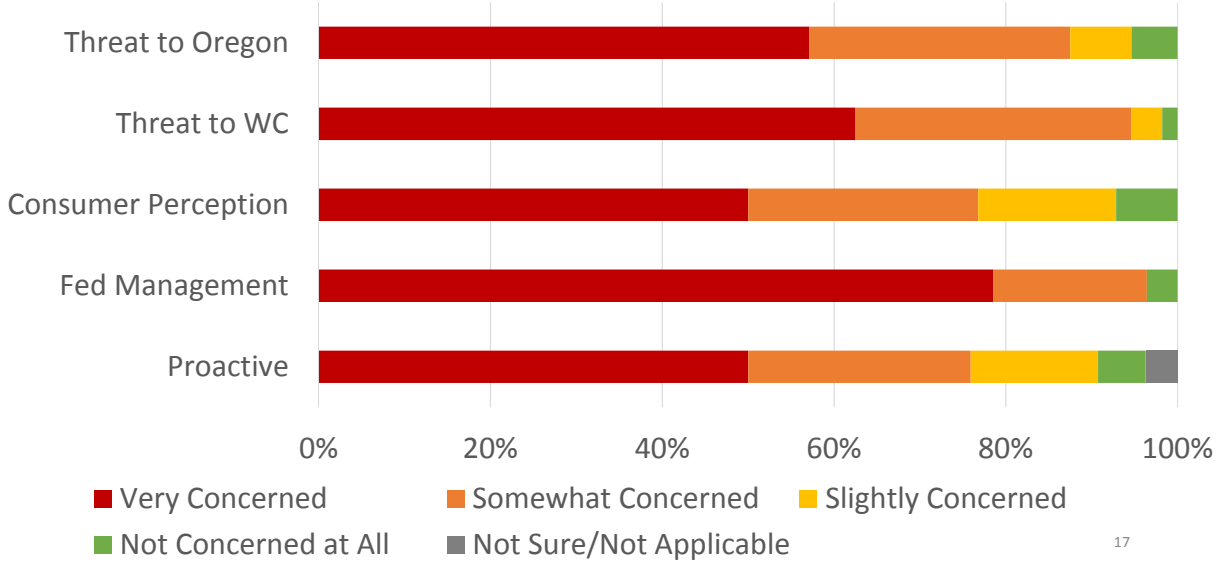
# 9. Rank your concern about the following issues:

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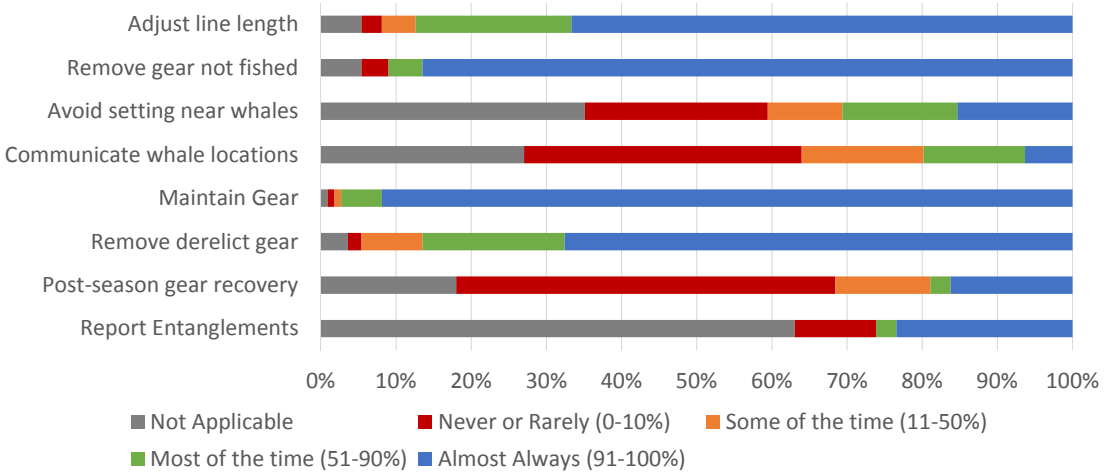
# 10. What questions do you have about whale entanglement issues?

- Majority (69%) did not answer
- More info about reported entanglements
- Ways to reduce risk of entanglements
- Whale Biology
- Other stressors
- Process

- Comments:
  - Not a problem
  - Haven't personally seen any entanglements

# Feedback on the Directive

# 11. How frequently did you do the following things?

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## 12. How or when would these practices be difficult to implement?

Concerns:

- Avoiding setting in the vicinity of whales will be difficult
- Early season, time constraints, human safety
- Reducing scope will lead to more lost gear
- Needed?
- Measures don't solve problem, and could be used to disenfranchise the industry

- Many thought measures sounded generally reasonable.

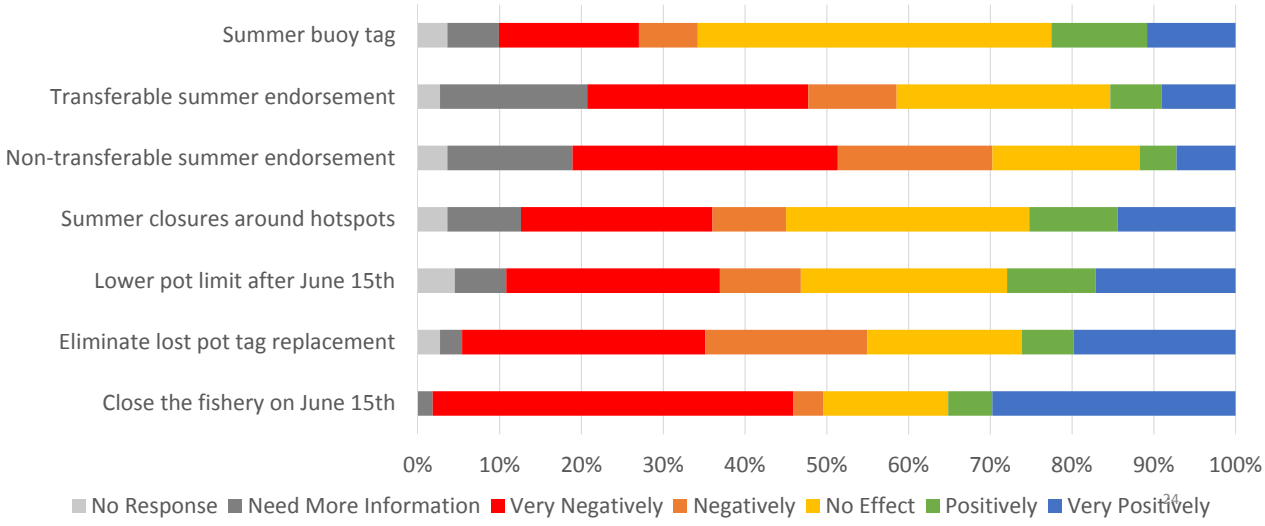
## 13. Do you have recommendations to make the Best Practices Directive better?

- Gear: Sinking Lines & Trailer length reductions & scope
- Area & Seasonal restrictions
- Derelict gear program improvements
- Education & Enforcement
- Seasonal recommendations
- Pot reduction
- No changes needed

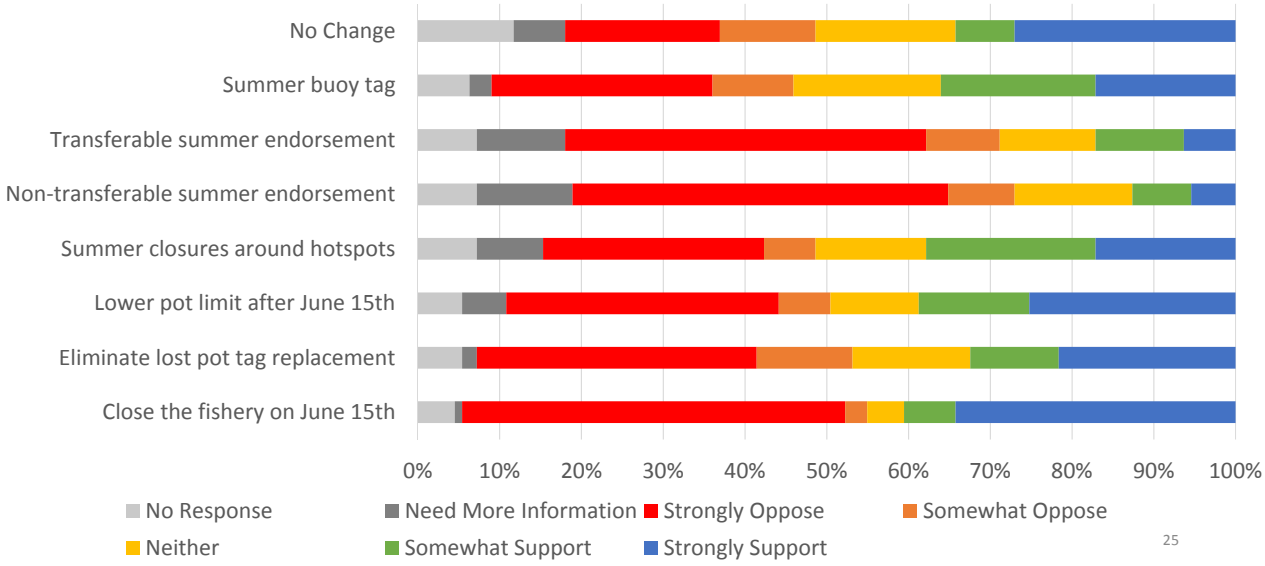
# Feedback on Management Recommendations

Photo courtesy of http://mentalfloss.com/article/93244/12-scientifically-cute-facts-about-puppies

# 14. Management options impacts on your fishing business?



## 15. How much to support or oppose?

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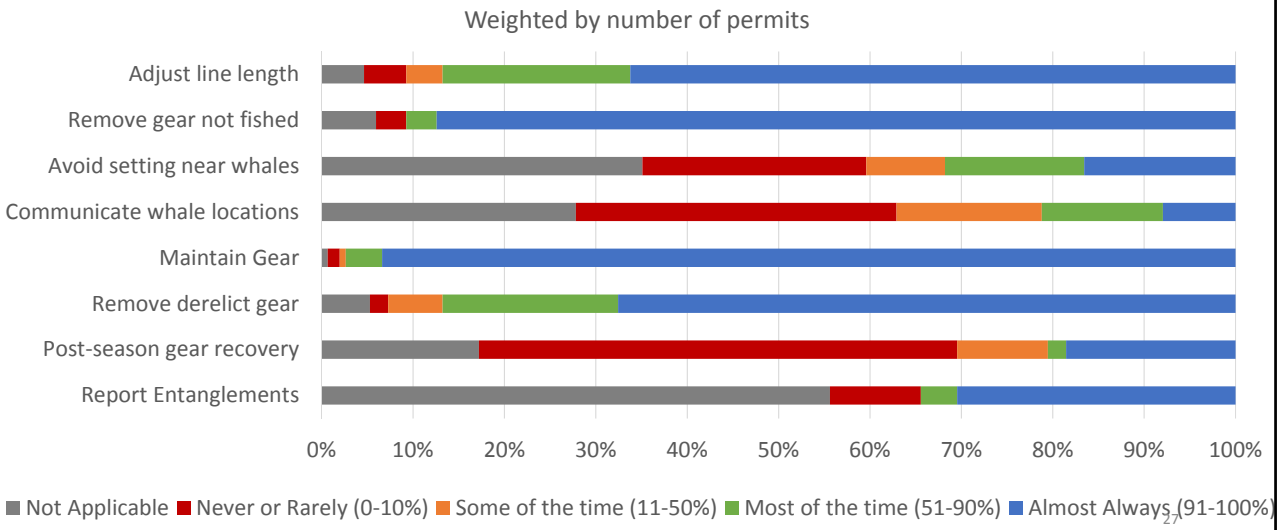
# 11. How frequently did you do the following things?

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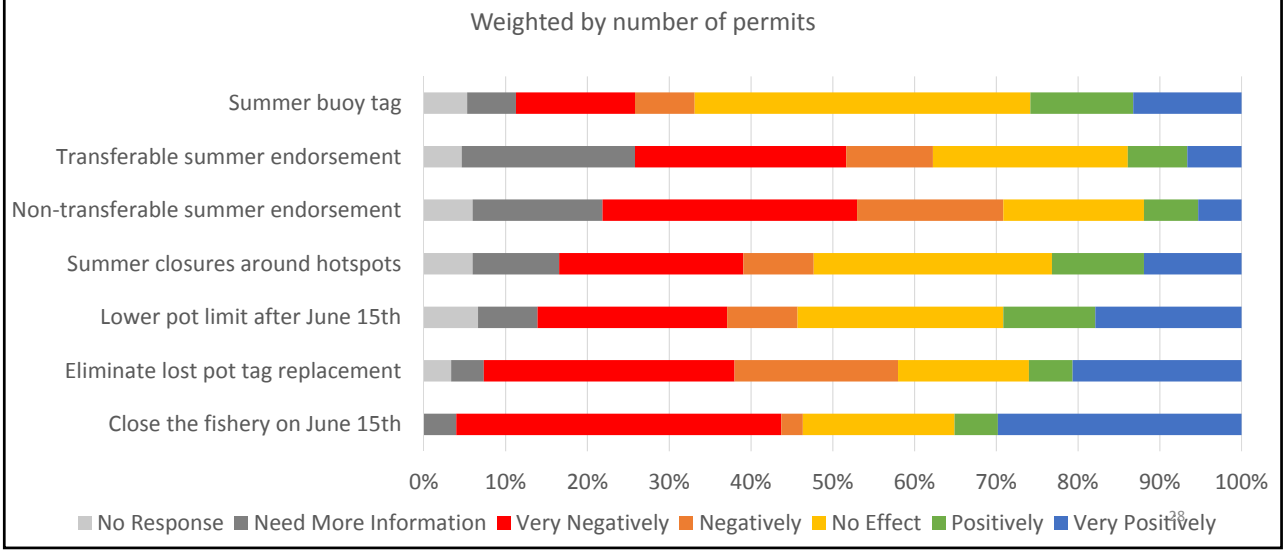
# 14. Management options impacts on your fishing business?

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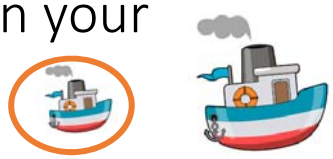
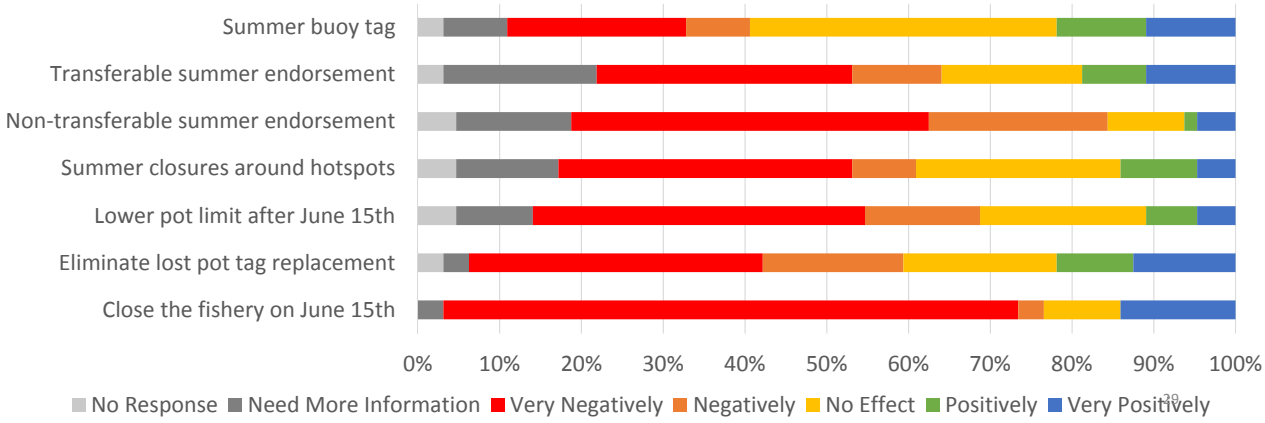
# 14. Management options impacts on your fishing business?



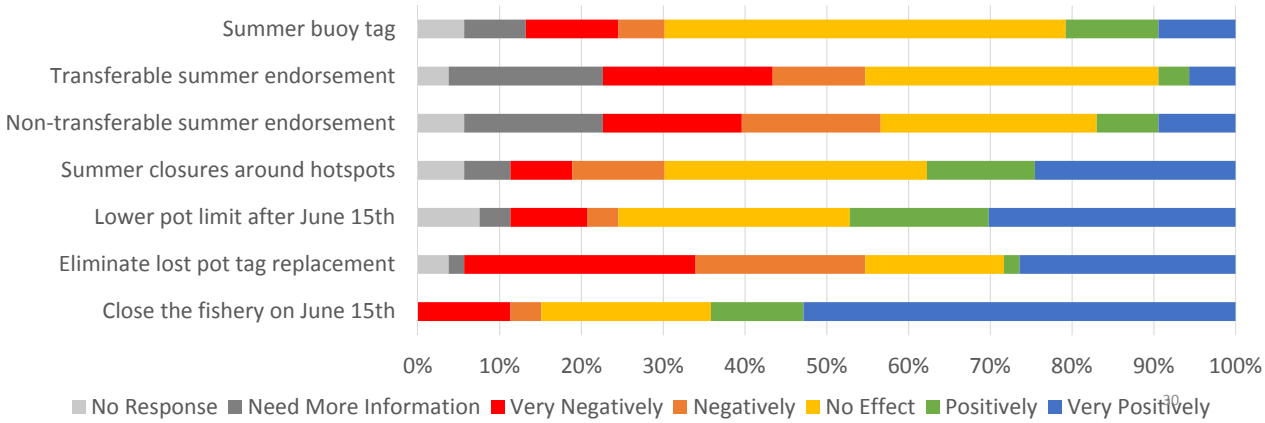
**Vessel length <50'**
**n = 64**






# 14. Management options impacts on your fishing business?

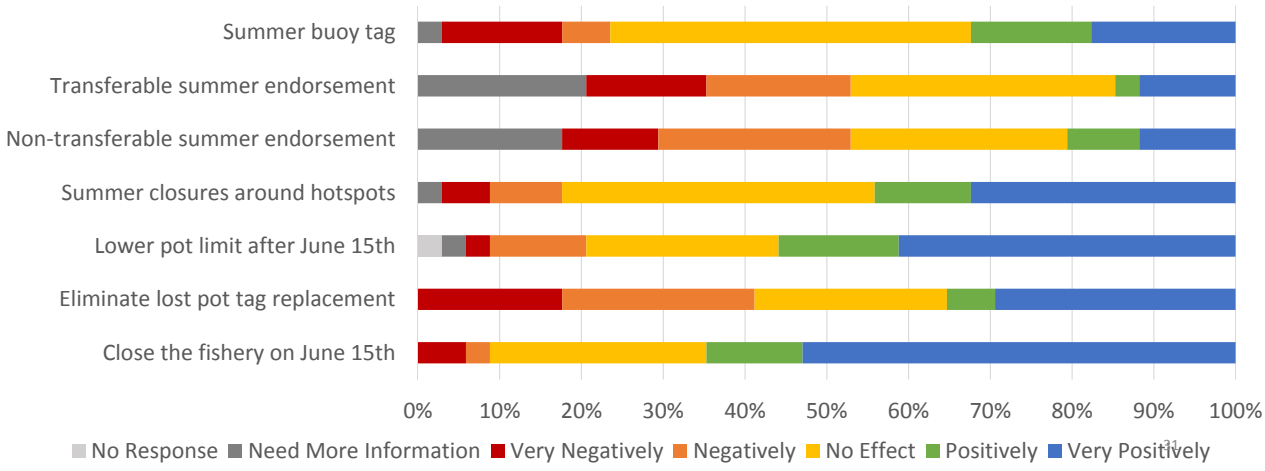
**Vessel length >=50'**
**n = 53**



# 14. Management options impacts on your fishing business?

Dec - Mar

Respondents that typically fish Dec-Mar
n = 34

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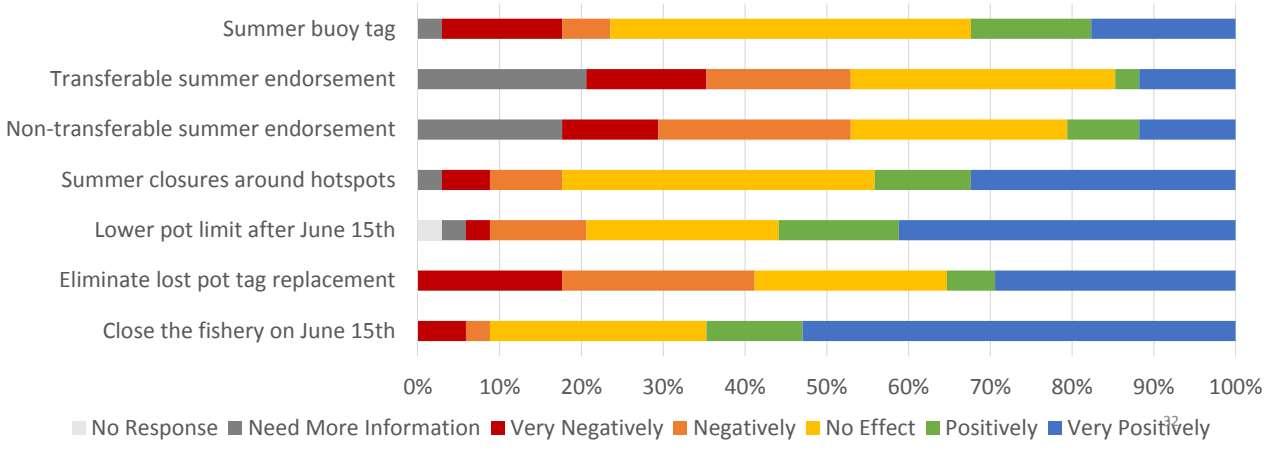
# 14. Management options impacts on your fishing business?

Dec - Apr

Respondents that typically fish Dec-Apr
n=16

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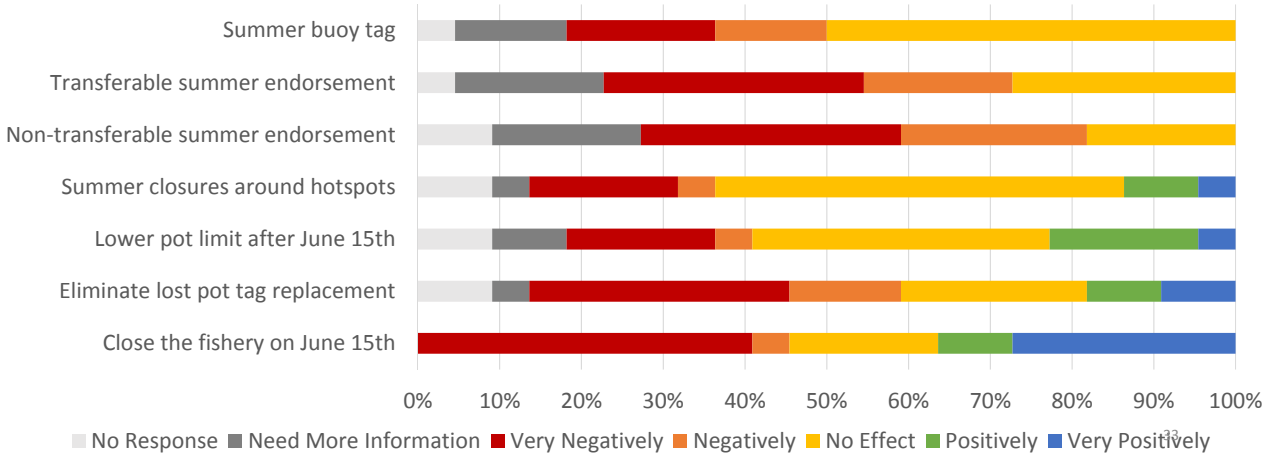
# 14. Management options impacts on your fishing business?

**Dec – May/ June**

Respondents that typically fish Dec-May/June
n = 22

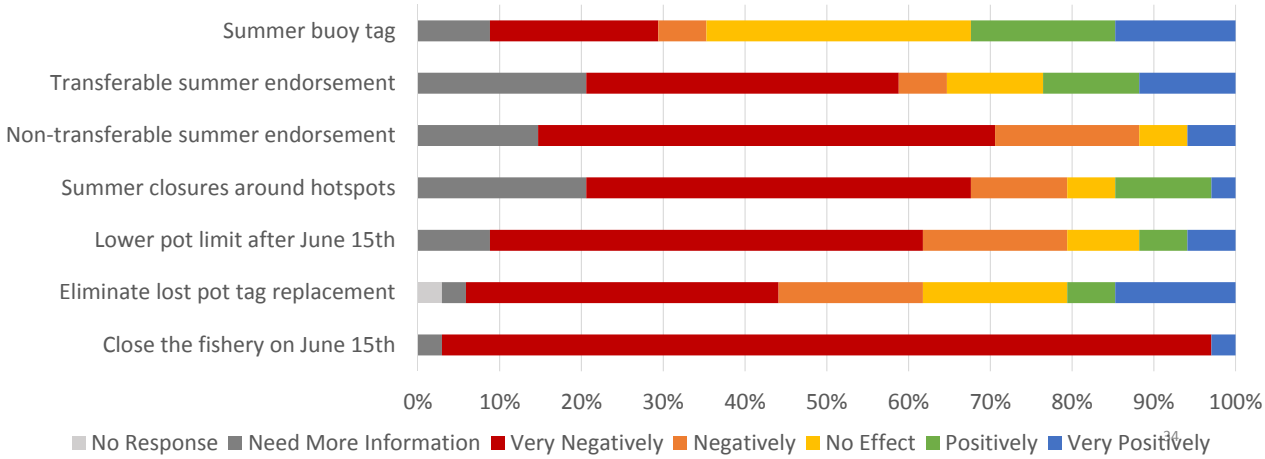




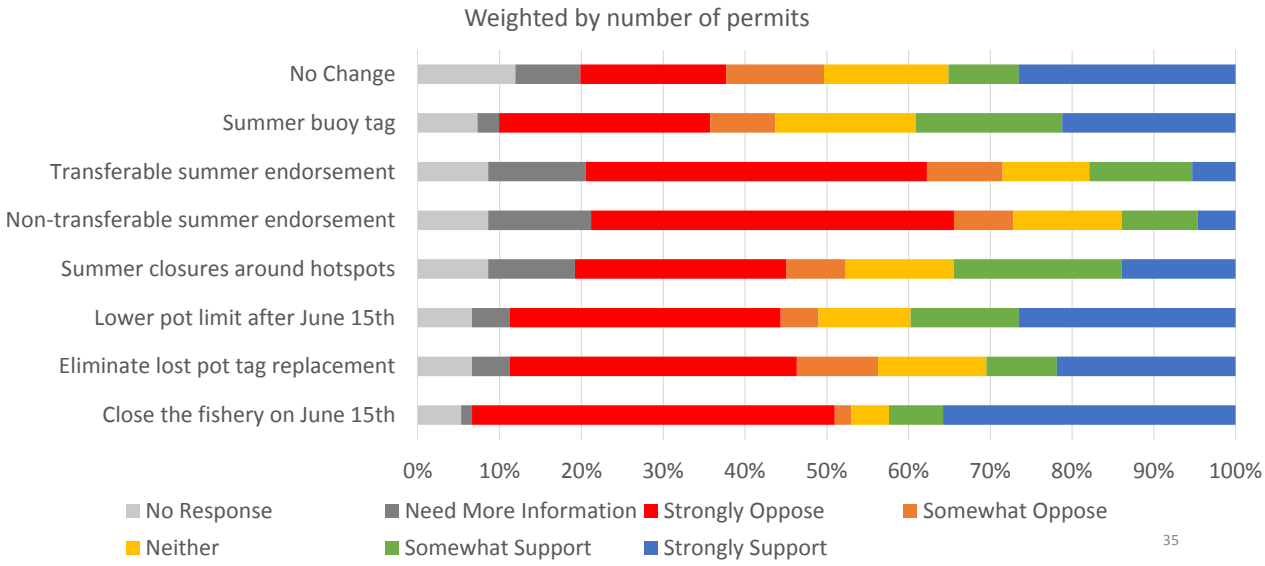

# 14. Management options impacts on your fishing business?

**Dec – Jul/Aug**

Respondents that typically fish Dec-Jul/Aug
n=39



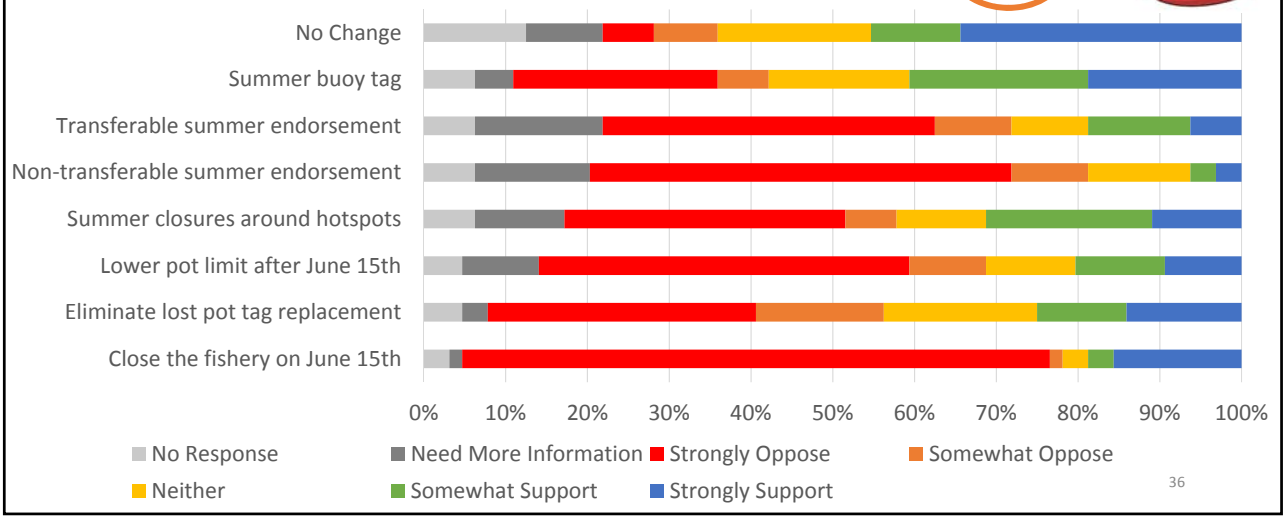
# 15. How much to support or oppose?




35

# 15. How much to support or oppose?

**Vessel length <50'**

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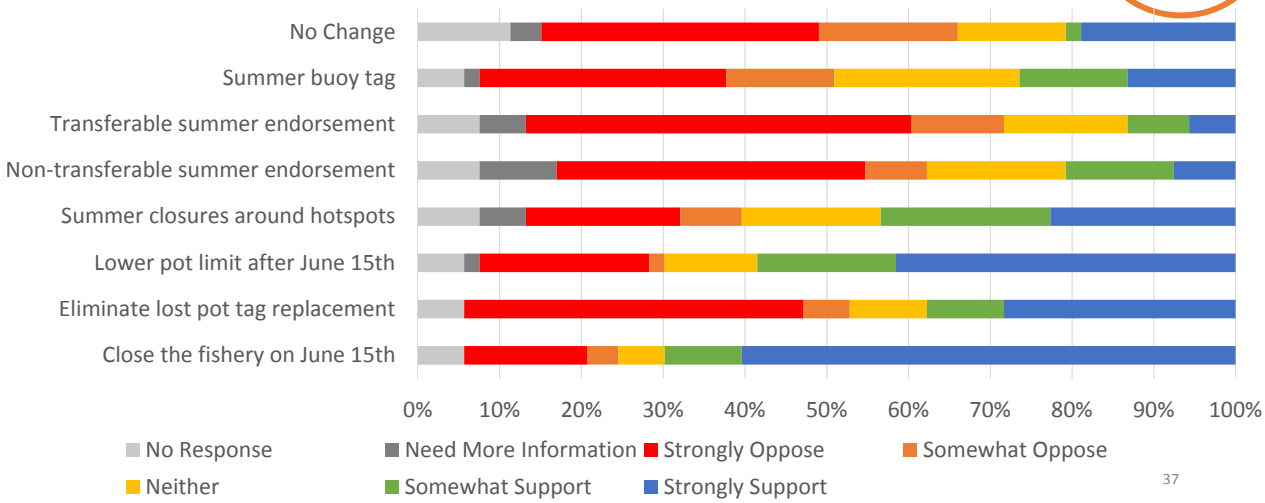
# 15. How much to support or oppose?

**Vessel length >=50'**

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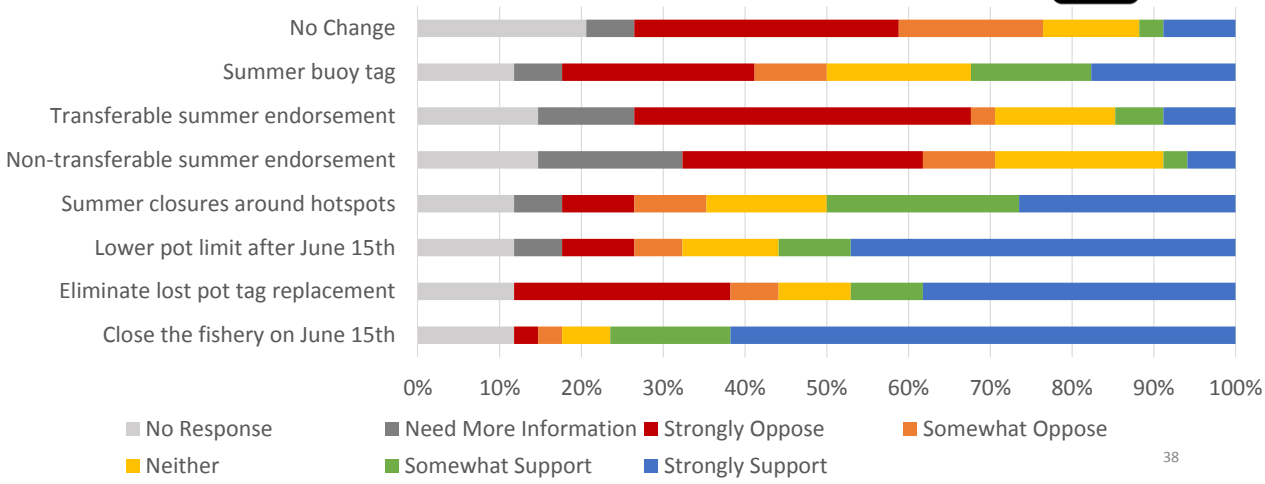
# 15. How much to support or oppose?

Respondents who typically fish Dec-Mar
n = 34

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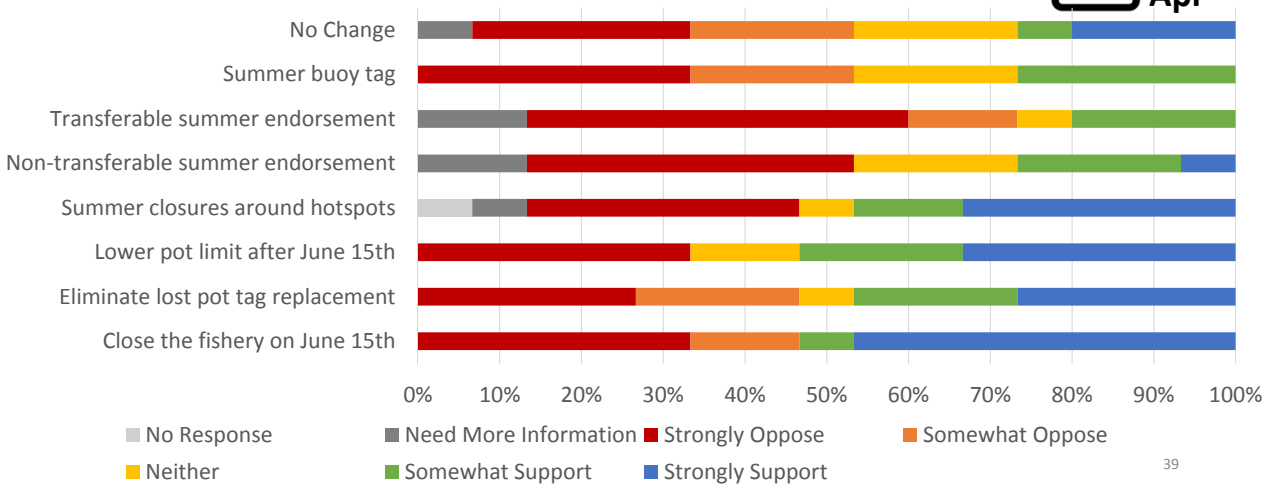
# 15. How much to support or oppose?

Respondents who typically fish Dec-Apr
n=16

**Dec - Apr**

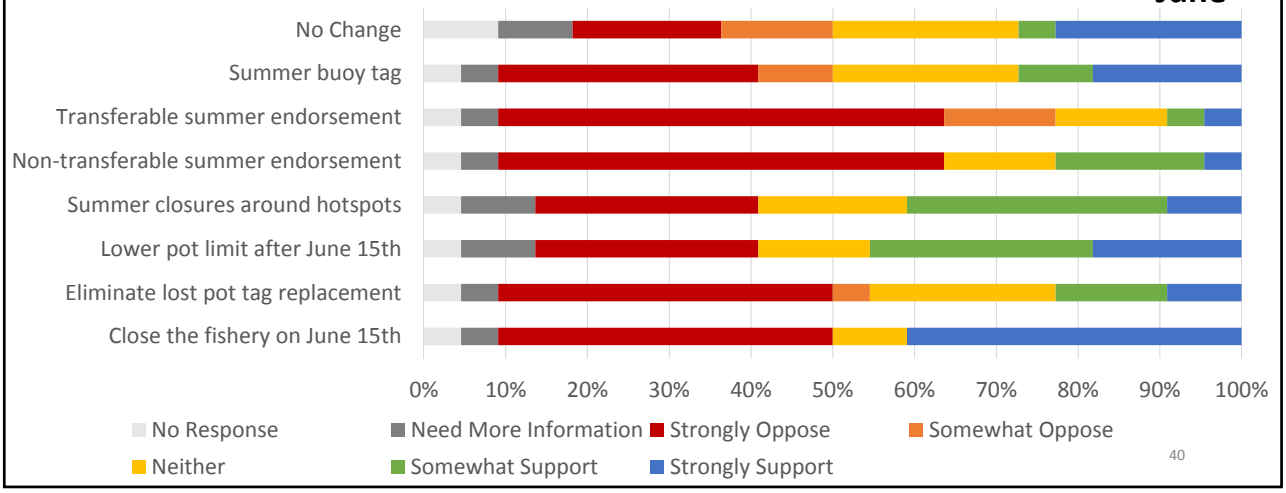



39

# 15. How much to support or oppose?

Respondents who typically fish Dec-May/June
n = 22

**Dec – May/ June**

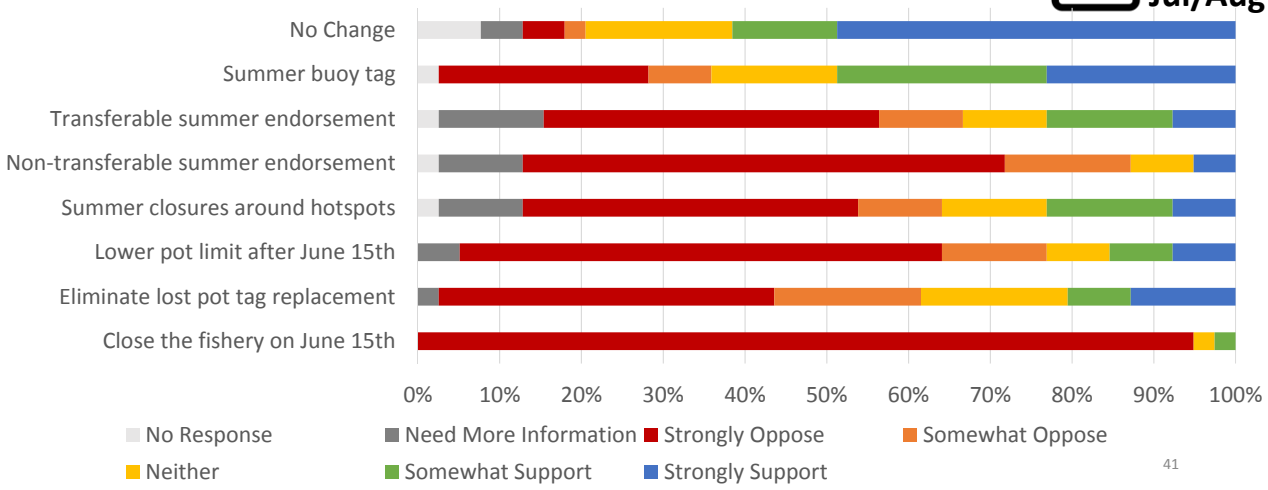



40

# 15. How much to support or oppose?

Respondents who typically fish Dec-Jul/Aug
n=39

**Dec – Jul/Aug**

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