



Marine  
Resources

# Conservation plan adaptive management strategy



CaselD: 20150703Mn  
NMFS MMHSRP Permit #: 18786

**Crab industry public meetings**  
October 8, 2020

# Agenda

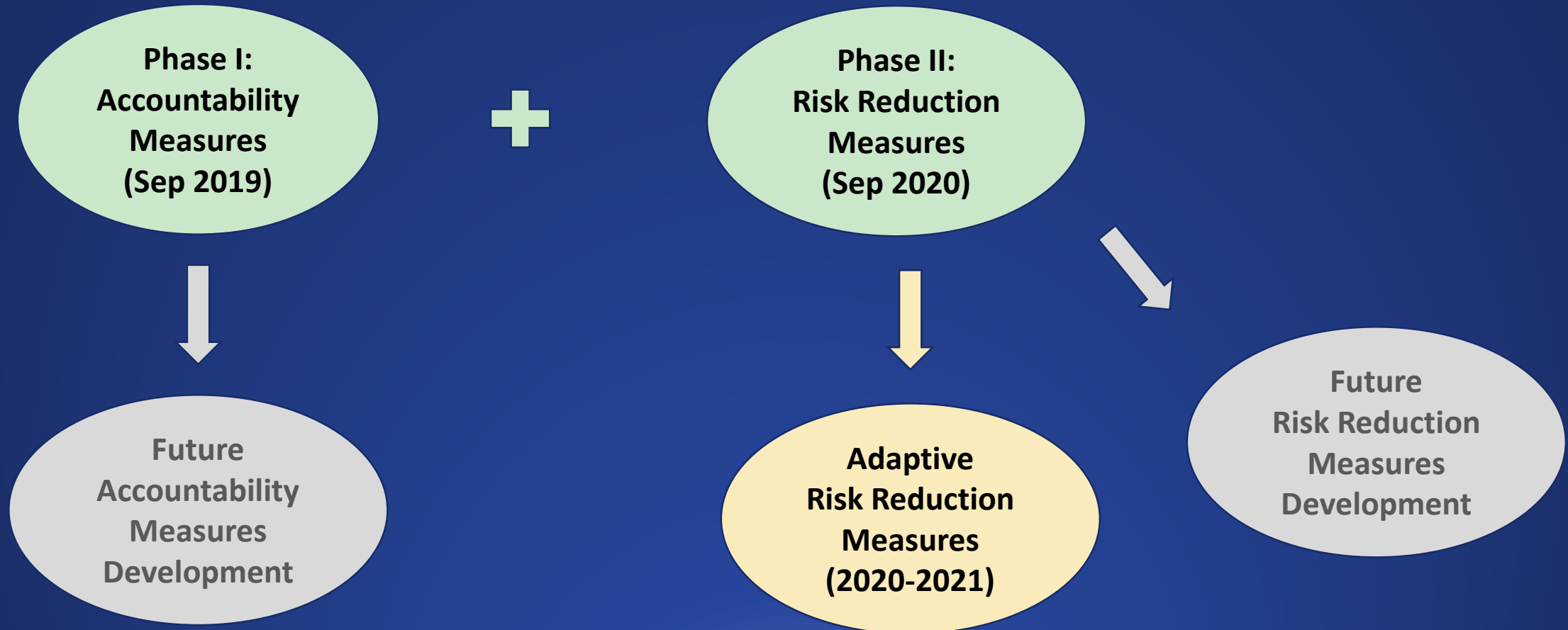
## Meeting 1 (today)

- Describe:
  - **Adaptive management overview**
    - Conservation Plan elements - requested take, triggers, adaptive measures
- Solicit input on:
  - What is an appropriate management response
  - How to phase adaptive measures

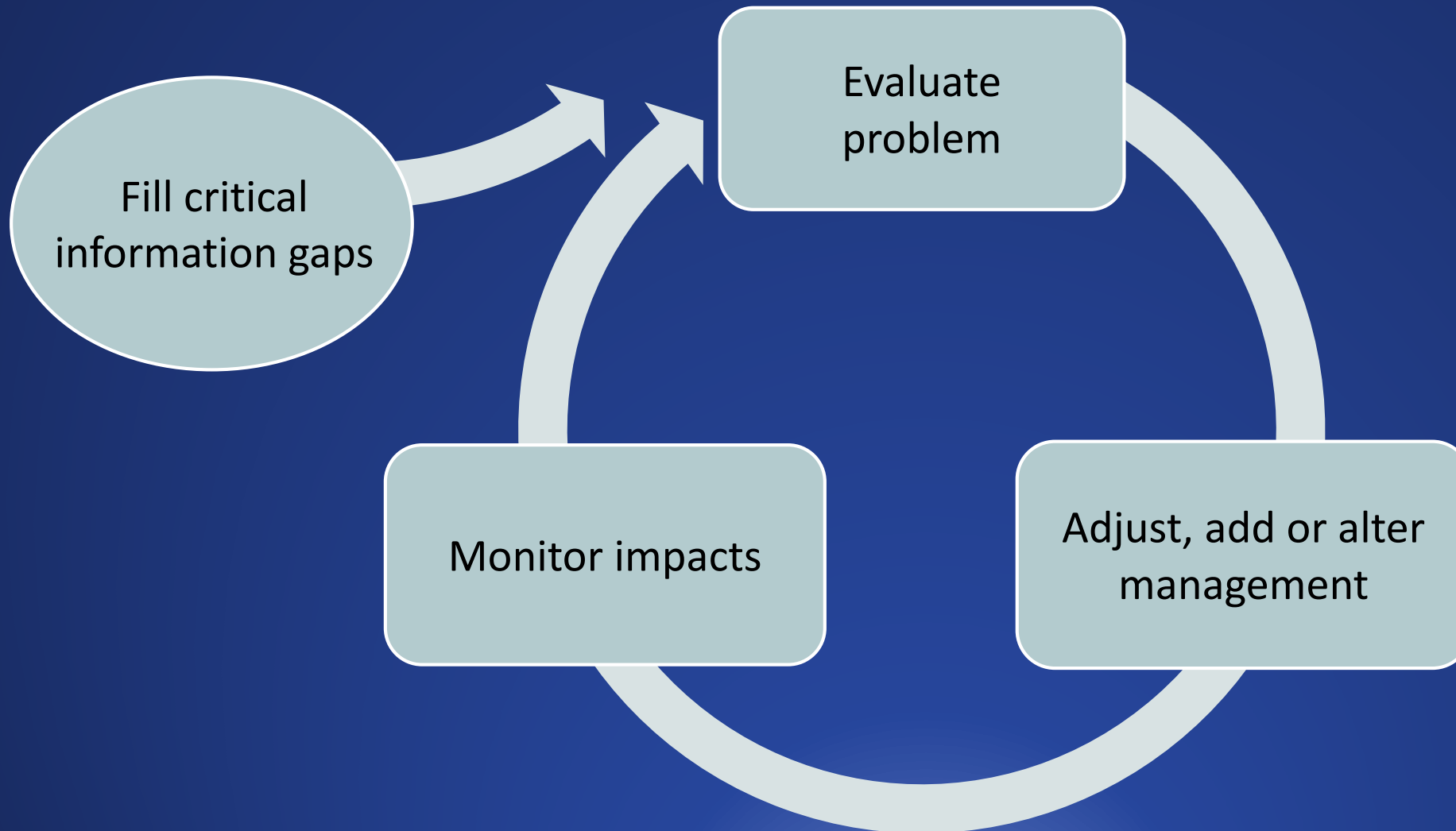
## Meeting 2 (Oct 22)

- Solicit input on:
  - Feedback from ports on today's meeting
  - Additional or alternative management measures
  - Priorities for future development

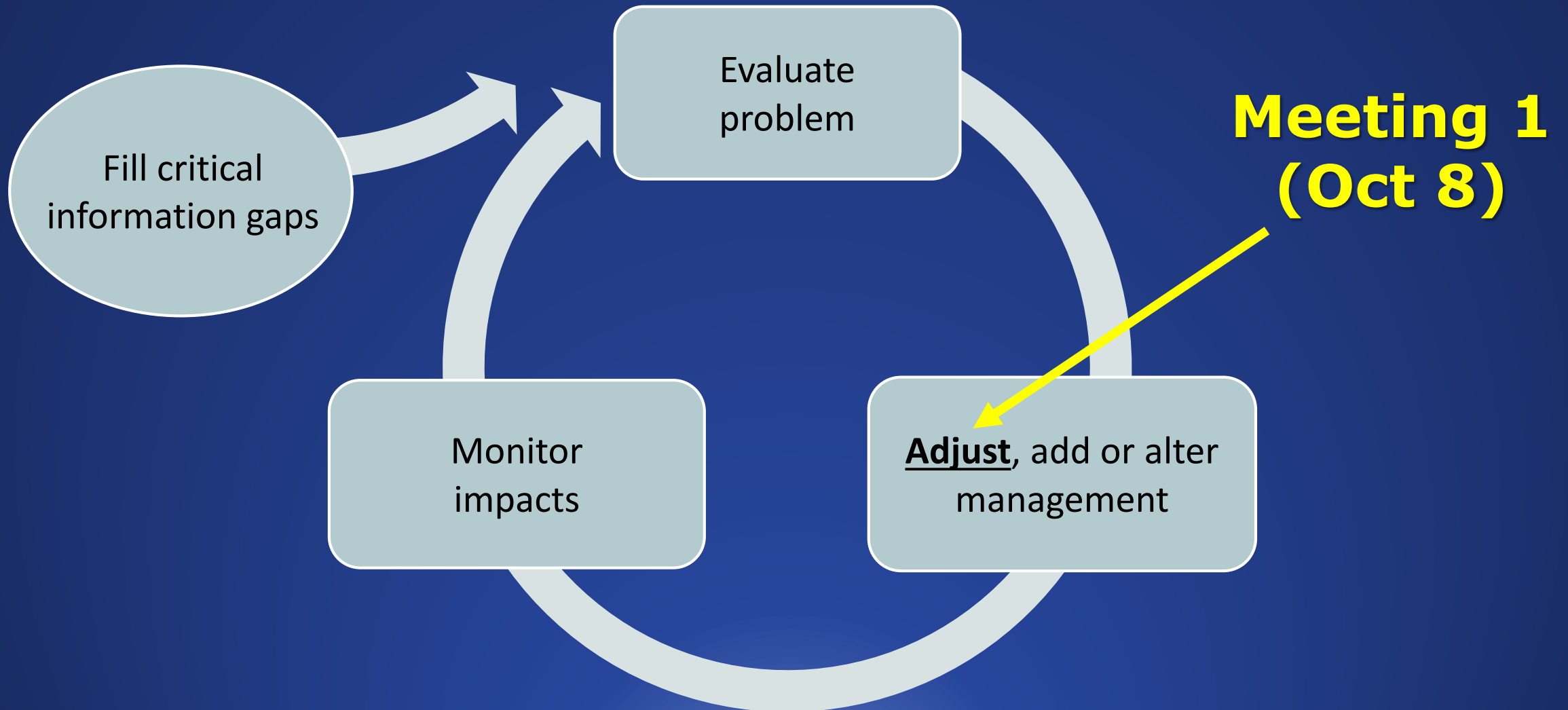
# Where does adaptive management fit?



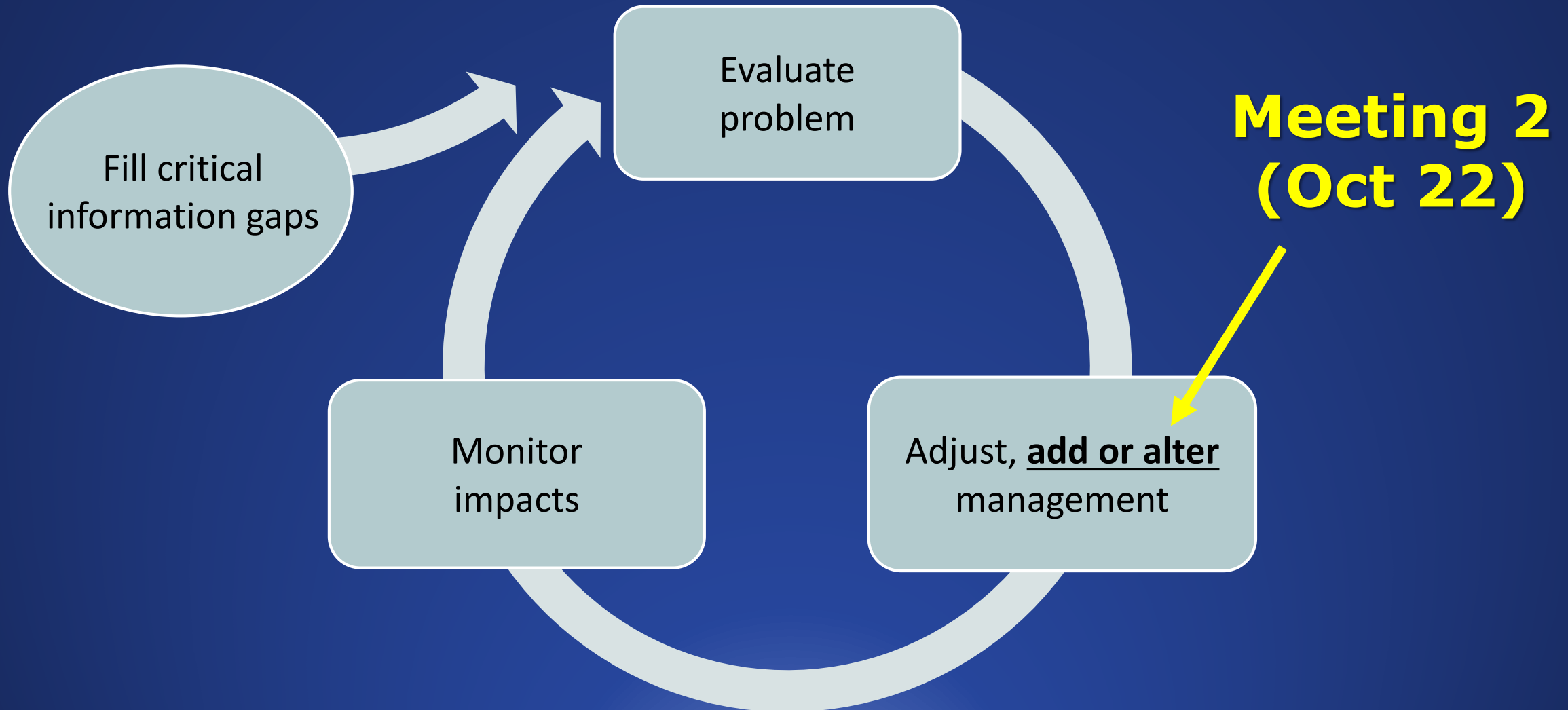
# Adaptive management is cyclical



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# Adaptive management is cyclical



# Agenda

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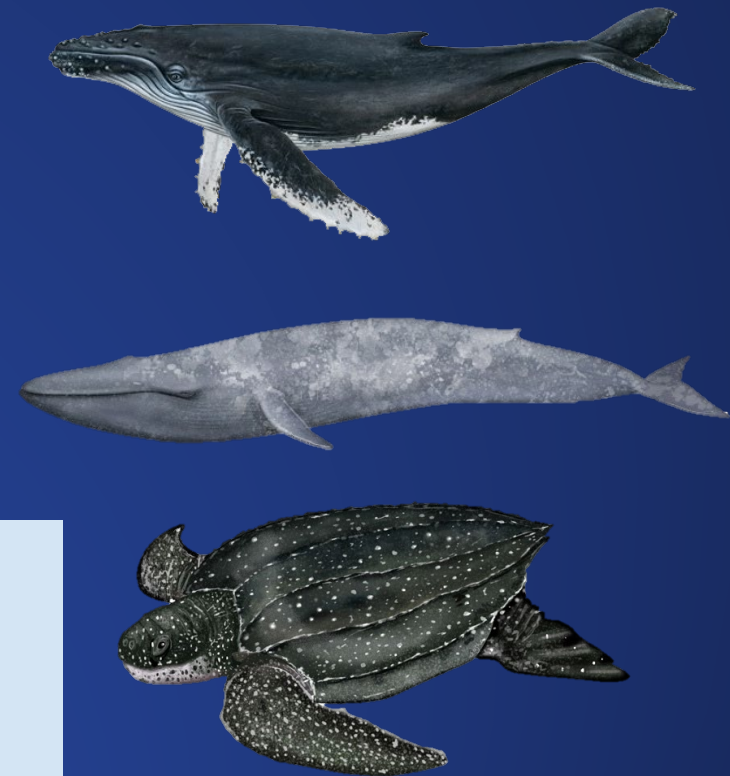
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# Requested take of ESA-listed species

| Species/stock                      | Requested take (entanglements) |
|------------------------------------|--------------------------------|
| Humpback whale<br>(CA/OR/WA stock) | Up to 2 animals per year       |
| Blue whale                         | Up to 1 animal every 5 years   |
| Leatherback sea turtle             | Up to 1 animal every 10 years  |



**What do we do if we meet or exceed  
our requested take?  
(that's the trigger for considering  
adaptive management)**

Images from NOAA Fisheries



# Adaptive management for risk reduction

## ADJUST

### Adaptive measures (Meeting 1)

- Preventative risk reduction:
  - Fleet advisory
- Entanglement-triggered risk reduction:
  - Adjust implementation date of pot limit reduction &/or depth
  - Adjust percentage of pot limit reduction
  - Adjust depth restriction
  - Adjust season closure earlier

## ADD or ALTER

### Future measures (Meeting 2)

- Surface gear requirement
- Longlining/duplexing requirement
- Hot spot closures
- Permit stacking
- Late-season limited entry
- Authorization of “weak links”
- Authorization of “pop-up” gear
- License buyback
- Tri-State coastwide pot limit

# Considerations for determining an appropriate management response

- Consultation with industry advisors, whale biologists, NMFS
- Management measure effectiveness (or conservation benefit)
- Economic impact to the fishery
- Data availability
- Historic information on species distribution, migration, etc.
- Fishing season dynamics
- Ocean/forage conditions
- Patterns of confirmed entanglements
- Marine life concentrations

# Preventative: fleet advisory

## Potential conservation benefit:

- Preventative measure which is information-triggered
- Minimize/eliminate gear in a certain area when species are present

## Potential impacts to the fishery:

- Expected to be low as action is voluntary & limited to a specific time/place

## Other considerations:

- Dependent on reliable, real-time information that risk is elevated
- Effectiveness is dependent on voluntary participation
- Potential for shifting effort and unintended consequences

# Adjust: implementation date of pots/depth

## Potential conservation benefit:

- Reduce vertical lines earlier in the season
- Move gear inside 40 fathoms earlier in the season

## Potential impacts to the fishery:

- Reduce economic revenue to late-season participants
- Limit access to deeper fishing grounds earlier in the season
- Safety concerns about limiting harvest during months when weather can be poor

## Other considerations:

- Greatest conservation benefit (reduction in pot-days) is achieved by early implementation (versus increasing the percent of reduction)
- More fine-scale whale distribution data off Oregon will allow for more targeted management

# Adjust: percentage of pot reduction

## Potential conservation benefit:

- Further reduce vertical lines after May 1

## Potential impacts to the fishery:

- Reduce economic revenue to late-season participants

## Other considerations:

- Alternate enforcement mechanisms have been identified
- Alternative option: flat pot limit reduction across all permits (for example, 200 pots)

# Adjust: depth restriction

## Potential conservation benefit:

- Minimize/eliminate vertical lines in a portion of habitat where humpback whales are observed off Oregon (critical habitat: 27 fa; aerial survey observations: 27-546 fathoms)

## Potential impacts to the fishery:

- Limit access to deeper fishing grounds after May 1

## Other considerations:

- Potential for fishery ground crowding
- Conservation benefit is expected to be less for blue whales which typically occupy deeper waters
- Alternative option: Rolling depth restriction moving closer to shore through the end of the season

# **Adjust: season closure earlier**

## **Potential conservation benefit:**

- Eliminate gear in the late-season when ESA-listed whales are more abundant off Oregon

## **Potential impacts to the fishery:**

- Greatest reduction in economic revenue (relative to other options) for late-season participants

## **Other considerations:**

- Effectiveness is dependent on implementation date

# Input needed: Potential management responses

## Management response\*

Adjust implementation date of  
pot limit reduction &/or depth  
restriction

Adjust percentage of pot limit  
reduction

Adjust depth restriction

Adjust season closure earlier

\*May be in-season or next season

**What is the least impactful or  
most preferred response?  
How would you adjust it?**

What are other potential fishery  
impacts for each response?

Are there other considerations or  
variations for each response?

Are there other information sources  
that should be used when determining  
a response?



# Adaptive management for Risk Reduction

## ADJUST

### Adaptive measures (Meeting 1)

- Preventative risk reduction:
  - Fleet advisory
- Entanglement-triggered risk reduction:
  - Adjust implementation date of pot limit reduction &/or depth
  - Adjust percentage of pot limit reduction
  - Adjust depth restriction
  - Adjust season closure earlier

## ADD or ALTER

### Future measures (Meeting 2)

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# Fleet prioritization for development?

| Measure                        | Readiness for development | Primary barriers to implementation  |
|--------------------------------|---------------------------|---|
| Surface gear requirement       | High                      | Requires precise, effective language  |
| Longlining/duplexing           | High                      | Gear conflict and enforcement concerns  |
| Hot spot closures              | Medium                    | Requires real-time data; concerns about “curtain” effect  |
| Late-season limited entry      | Medium                    | Requires development of a LE program  |
| Permit stacking                | Medium                    | Requires development of a stacking plan   |
| Authorization of “weak links”  | Medium                    | Requires gear testing   |
| Authorization of “pop-up” gear | Low                       | Technology is not ready (reliability, affordability, effectiveness) and requires extensive gear testing |
| License buyback                | Low                       | Funding mechanism has not been identified/secured   |
| Tri-State coastwide pot limit  | Low                       | Requires buy-in from CA and WA, and development of a pot limit program                                  |