# Fish GIT Meeting Breakout Sessions

Day 2: March 26, 2025

Chesapeake Bay Program

*Science. Restoration. Partnership.*

# Breakout Session Agenda:

**10:00am** Outcome language

**11:00am** Outputs

**11:15am** Indicators

**11:30am** Adjourn

# Guidelines:

- Make any changes to pre-written language in RED
- Add additional outputs/indicators to the list in RED as well
- Add major discussion points/thoughts/ideas to the notes slide that follows each section

# Definitions:

**Outcome =** The change in state we aim to influence or the future state we aspire to reach as a result of our actions.

**Output =** Actions we plan to take as partners to achieve the outcome

**Indicator =** Metrics used to track desired change in the system and/or to track progress toward the outcome.

**Factors Influencing =** Current or future factors (e.g. environmental, political, social) that are likely to affect the achievability of the outcome and the actions we take to meet the outcome goal.

**SMART Goal =** A **S**pecific, **M**easurable, **A**chievable, **R**elevant, and **T**ime-bound target, used to guide restoration and protection efforts

# Blue Crab Sustainability Breakout Session

Facilitator: Ingrid Braun-Ricks

# Outcome Language:

10:00am - 11:00am

~~Maintain~~ Manage for a sustainable bay wide blue crab fishery through cross jurisdictional coordination that supports fishing communities by achieving abundance and harvest rate targets as determined by the benchmark stock assessment. Assess and communicate ~~progress~~ stock status ~~toward achieving abundance and harvest rate~~ based on target~~s~~ rates through the annual blue crab advisory report, and refine targets, as needed, through the next stock assessment. ~~20xx based on best available science.~~

**Guiding questions:**

1. Is this outcome language SMART?
2. Is the outcome clear?
3. Will this outcome influence the change we want to see?
4. Who might be impacted by this outcome?

# Outcome Language Notes:

- Maintain versus Manage: Stock is currently sustainable under 2011 stock assessment with updated reference points in 2020
  - New SA may have different stock determination
- Assess: to portray the action of the CBSAC to measure the annual stock status
- End date of goal: prefer to have a stock assessment every 3-5 years

# **Outputs:** What are the key outputs that need to be included to achieve the outcome?

11:00am - 11:15am

- Benchmark stock assessment every 3-5 years
  - Develop protocols for updating reference points in between assessment periods
- Annual Blue Crab Advisory Report
- Research (climate change, predator-prey relationships, habitat, etc.)
- Amendments to Fishery Management Rules

# Output Notes:

- In the event stock assessments are delayed develop protocols for updating reference points in between assessment periods
- Further expand upon what research will be impactful
- Added Amendments to Fishery Management Plans
    - Acknowledge that by performing the Stock Assessments, creating the advisory report and learning more through research all lead to an action needs to be taken by the jurisdictions- without the cross jurisdictional coordination and management we may not be able to reach the outcome.

# **Indicators:** What would we use to measure progress towards our outcomes and outputs?

11:15am - 11:30am

- Blue crab abundance (adult female, adult male, juveniles)
- Exploitation rates (harvest ~~catch, landings~~)
- ~~Economic Value~~ Socioeconomic factors

# Indicator Notes:

- Economic value may not represent a negative stock status
  - Lower price may mean more abundant fishery
- Socioeconomic factors: number of participants, dockside value, impact to local and regional economies

# Factors Influencing:

- Changing environmental conditions ~~within the Chesapeake Bay and along coastal waters can influence the habitat quality and population of blue crabs. In response to such changes, continue research to better understand impacts to blue crab populations and continue the application of adaptive management practices within the review of annual winter dredge survey results.~~
  - Water quality (hypoxia, nutrient loading, etc.)
  - Rising water temperatures (e.g. changes to growing season, overwintering mortality, survey efficiency)
  - Shifting ocean currents (recruitment issues)
  - SAV habitat loss (juvenile development)
  - Disease rates (more prevalent under higher salinity conditions)
  - Predator-prey interactions (Blue catfish, Red drum, Cobia, etc.)

- ~~Overwintering mortality~~

# Factors Influencing Notes:

- Created more specific examples of how environmental factors are changing
- Decreased redundancy from Outputs - Benchmark Stock Assessment/Research
- Provided a list of specific known factors

# Pulse Check

1. Are you comfortable with the direction the outcomes are going?
2. Do you have any specific concerns or suggested changes that we should be working on?
3. Are there other groups/individuals that we should be sharing these with?
    a. To what extent have you discussed these outcomes internally?

# Pulse Check Continued…

- Reflects the current process

# Fish Habitat Breakout Session

Facilitator: Chris Moore

# Outcome Language:

10:00am - 11:00am

Achieve and Maintain suitable shallow water habitat area* for key species through focused water quality, conservation** and restoration*** improvements informed by a synthesis of fisheries science and habitat assessments completed by xxxx.

**Suitable shallow water habitat area is the measurable metric we will develop to define a current baseline of fish habitat quality and track changes over time*
*** Protecting areas with already high functioning habitat & fish productivity*
****Efforts in areas with somewhat degraded habitat where additional resources can help improve ecosystem functioning and increase species resilience*

**Guiding questions:**

1. Is this outcome language SMART?
2. Is the outcome clear?
3. Will this outcome influence the change we want to see?
4. Who might be impacted by this outcome?

# Outcome Language Notes:

What is shallow water? 2m or up to 5 m? Also what species will be included?

Three zones nontidal, tidal fresh, tidal

Species,

“Achieve and maintain” needs to be added

Support for the inclusion of conservation and restoration in the outcome

Spot, croaker, stick with species that are data rich and iconic

Should we be identifying species that are representative of habitat types and our partner interest

4D Interpolator

Make sure we take into account future projections for habitat changes - there are currently a lot of unknowns

Some questions remain about is this measurable.  Might need more emphasis on specific standards

# **Outputs:** What are the key outputs that need to be included to achieve the outcome?

11:00am - 11:15am

- Tidal segment Living resource habitat assessment to score habitat suitability in the 92 tidal segments. Apply the results of the assessment to identify areas for water quality improvements, conservation priorities and habitat restoration strategies.
- Status and trends of structured habitat (oysters, SAV, tidal wetlands, shoreline condition) linked to fish productivity if possible to define habitat objectives (how much habitat is needed to sustain x level of productivity)
- Strategies to build habitat and fish resilience as temperature increases
- Assessment of forage availability, trends and projections of change. Determining if there is enough food now and going forward for key predators. Need an defined output here.
- Evaluation of movement and behavior of fish species relative to habitat conditions.
- Achieve Bay Water Quality Standards
- Identify key habitat areas for critical life stages

# Output Notes:

Do our outputs cover both tidal and nontidal? Temperature increase does

Think about stressors other than just temperature

Achieve bay water quality standards, sav, identify key habitats - who are our partners going to be within the current Bay Program framework

Need to make sure all these have actions

What are the fish productivity thresholds for these habitats. This could be an area of expertise for this group

Forage - need a second step that is an action. Use this determination to identify habitat or species that need protection

Draft outcomes to consider

- Achieve Bay water quality standards (DO, Clarity)
- Achieve SAV goal acreage
- Identify key habitat areas for X key species
- Identify and implement conservation and restoration improvements to restore and protect and restore key habitat areas for x key species

# **Indicators:** What would we use to measure progress towards our outcomes and outputs?

11:15am - 11:30am

- Habitat suitability metrics
  - Temperature, Dissolved Oxygen, Salinity
- Forage abundance for key species
- Habitat use and movement patterns (spatial indicators at local, bay and regional scales)
- Fishery surveys
  - Red Drum, Shrimp, Cobia, Striped Bass

# Indicator Notes:

Habitat suitability - make sure we have indicators that are forward looking given changing conditions

What are habitat suitability metrics - where are we seeing in terms of land conservation to protect

Temperature, dissolved, salinity,

Species indicators (red drum, shrimp, cobia, striped bass)

Suitable for whom and when?

# Pulse Check

1. Are you comfortable with the direction the outcomes are going?
2. Do you have any specific concerns or suggested changes that we should be working on?
3. Are there other groups/individuals that we should be sharing these with?
    a. To what extent have you discussed these outcomes internally?

# Pulse Check Continued…

Generally yes, the group in comfortable

Interest in Integrating these recommendations into state water quality standards

Likely need to share with Habitat Goal Team

Can we share with the jurisdictions? If so, how do we go about that? Ex. Management Board recommendations

Share with USGS and Healthy Watersheds goal team

# Oyster Abundance Breakout Session

Facilitator: Bruce Vogt

# Outcome Language:

10:00am - 11:00am

Manage oysters to enhance their capacity to improve water quality through sustainable oyster fishery and aquaculture practices.

**Guiding questions:**

1. Is this outcome language SMART?
2. Is the outcome clear?
3. Will this outcome influence the change we want to see?
4. Who might be impacted by this outcome?

# Outcome Language Notes:

Manage oysters to enhance the capacity of oysters to improve water quality through sustainable oyster fishery and aquaculture practices

Note-abundance may not increase in a linear way and may be impacted by disease and other factors.

-what does sustainable mean? Harvest, water quality improvement, don't need same harvest every year, could be trib or area specific-really about improving water quality as a metric of success-how measure this?

-BMP-is improvement additive-what happens if it goes down?

Apply sustainable practices such as rotational harvest in specific areas

-BMP may help get buy in from industry and all them to market oysters as sustainable and helpful to bay; inviting fishery to be a partner in bay program efforts

-130k private fishery acres in VA

# Outcome Language Notes:

- What are we saying-is this increasing abundance from some baseline?
- Track new plantings (#bushels), calculate industry plantings and WQ benefits by tributary (N,P, S credits)
- Possible use RAP to assess baseline then track new additions
- Would require defined management practices in each jurisdiction to show how this outcome is being implemented and measured
- VA already has monitoring in fishery areas for public ares but may be harder in private (aquaculture) industry
- MD also has baseline info from our Fall Survey. It feeds out Stock Assessment and shows trends. Seeding for BMP would add on top of that.
-

# **Outputs:** What are the key outputs that need to be included to achieve the outcome?

11:00am - 11:15am

- Setting benchmark and baseline is key to show going beyond (MD stock assessment, VOSARA in VA)
- Develop and apply sustainable fishery practices
- increase industry acres -public and aquaculture
- Training to develop new fishing and aquaculture capacity
- Might need a workgroup
-

# **Indicators:** What would we use to measure progress towards our outcomes and outputs?

11:15am - 11:30am

- Can the mean/median age of people engaged in the fishery (public/private) be an indicator? - Seeing the age decrease if I can paraphrase Adam's point
- % engaged in BMP program
- Economic output
- Inputs and Harvest
- Measures of nutrient reduction (BMP in some cases, tied to harvest/biomass in others)

# Pulse Check

1. Are you comfortable with the direction the outcomes are going?
    a. yes
2. Do you have any specific concerns or suggested changes that we should be working on?
    a. Need to refine what implementation looks like and outputs-more details
3. Are there other groups/individuals that we should be sharing these with?
    a. Industry buy in (OAC and blue ribbon panel)-brief MB reps
    b. To what extent have you discussed these outcomes internally?
        i. MD and VA keeping leadership informed and will continue to do so

# Oyster Restoration Breakout Session

Facilitator: Kevin Schabow

# Outcome Language:

10:00am - 11:00am

~~Continually~~ increase finfish and shellfish habitat and ecosystem ~~water quality~~ benefits from ~~restored~~ oyster reefs~~populations~~. (Protect or) Restore and conserve at least 1800 acres of new oyster reef habitat to achieve restoration success metrics while maintaining reefs established under the 2014 Chesapeake Bay Watershed Agreement

**Guiding questions:**

1. Is this outcome language SMART?
2. Is the outcome clear?
3. Will this outcome influence the change we want to see?
4. Who might be impacted by this outcome?

# Outcome Language Notes:

- 1800 acres: informed by what occurred with the last outcome (1891 acres constructed). This feels achievable
- From when to to when
  - When is the timeline? Generally 10 years feels right
  - When do we start? Do we count acreage outside the 11 tribs that's currently under construction or recently completed. Agreed that in some cases we do this
-

# Outcome Language Notes:

- Should we shoot for higher delineate between newly constructed and newly protected? We landed on “no” recognizing that some amount of the 1800 acres could be newly protected, not necessarily newly built, ultimately it’s all “new” above and beyond the 10 tribs

“Protect or restore/conserve x acres of oyster reef habitat”

  - Don’t be ambiguous about non-harvest in oyster reef restoration outcome
  - Protecting existing reefs versus restoring new reefs
  - Concern over “maintain” - need to be clear on what this means
  - *Continually* increase - not time bound/SMART

# Outcome Language Notes Continued:

- It’s important to clarify the difference between restoration and abundance outcomes so it’s clear which reefs are harvested and which aren’t. Don’t mix the two
- Stay away from the term “restore” in the abundance outcome, it’s more about management and “replenishment”
- Geographic targeting is a possibility with the abundance outcome, Tangier Sound and Eastern Bay for example

# **Outputs:** What are the key outputs that need to be included to achieve the outcome?

11:00am - 11:15am

- Review and update (if necessary) reef success metrics. Clarify this is for non-harvest reefs
- Selection of focus areas, allow for a small percentage of the acreage goal to be outside focus areas to allow for small scale community projects
- Determine the extent to which Artificial Reef Programs can contribute to this outcome
- Focus area restoration plans/blueprints
- Oyster reef construction and seeding
- Implementation progress reports
- Oyster reef performance monitoring report

# Output Notes:

Do we need an acreage for newly constructed reefs versus existing reefs that gain protection?

# **Indicators:** What would we use to measure progress towards our outcomes and outputs?

11:15am - 11:30am

- Oyster reef restoration (habitat  success metrics)
- Continued evaluation of ecosystem services

# Pulse Check

1. Are you comfortable with the direction the outcomes are going?
2. Do you have any specific concerns or suggested changes that we should be working on?
3. Are there other groups/individuals that we should be sharing these with?
    a. To what extent have you discussed these outcomes internally?