

# Breakout Group Products

Fisheries GIT Meeting

December 2, 2014

# Forage Outcome

WHAT ABOUT PLANKTON?

## Forage Key Elements

→ SET HISTORICAL REF. POINT AS BASELINE BASED ON W.G. STANDARDS? (NEED TO LOOK AT STATUS OF FISHERIES AT THAT TIME)

### Objectives

③ - WHAT DO WE HAVE THE TOOLS TO MANAGE (DEVELOP NGT. TOOLS)

① - DEFINE "FORAGE SPECIES" (ROLE)  
- FOOD SOURCE VALUE } ALLOCATION  
- ECONOMIC VALUE }

② - DETERMINE STATUS ON FORAGE BASIS

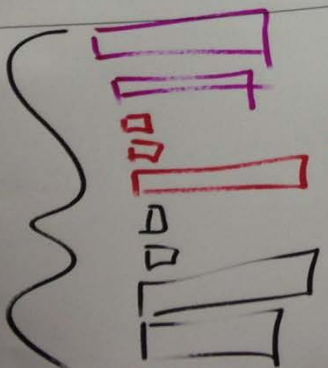
### #2 Baseline - SPECIES BY SPECIES?

- ESTIMATES OF HISTORICAL "PRISTINE"
- STOCK ASSESSMENTS FOR PREDATORS
- BIOMASS TARGETS " IN FMPs

### #3 Participating Stakeholders

- Reduction + Bait fisheries for menhaden
- ASAPC } HAB. MANAGERS
- ACFNP } INCL. STATES, ACOE
- Sportfish Groups - CCA, MESA
- Commercial Harvesters
- MWA - VMA
- Charterboat Assoc
- MCA - VCA
- CHES. BAY ECOLOGICAL FOUN.
- General Public
- MD Sea Grant

3 OF MOST IMPT. WE KNOW LEAST ABOUT



PREYATOR SPECIES?  
\* STRIPED BASS  
BLUISH WEAK FISH  
SEE AGMFC  
+ 3 ARE MANAGED SPECIES  
• STR FLOWEIR  
• CP...  
• ...  
⇒ CRUEL LIMITS ON SIZE FOR THESE

SHOULD HAVE APPLICATION BUT DON'T LIMIT TO THESE

# Forage Outcome

\* OUTCOME NOT LIMITING  
⇒ NEED TO APPLY TO MGT.

- CONSIDER YEAR CLAS  
STRENGTH AND TEMPORAL  
NEEDS OF FORAGE SPECIES  
⇒ LOOK FORWARD

#4 Factors Influencing natural system factors
human system factors
sufficient knowledge
monitoring/ survey capacity
data synthesis/ analysis
metric development
benchmark current status
effective policy in place for achieving goals
Political will to sustain necessary monitoring and research
Jurisdictional cooperation
adequate financial resources (administration and incentives)
adequate extension infrastructure (outreach and tech assistance)
Access to expertise

#5 Current Efforts and Gaps

WHAT IS W. Q. NEEDED TO SUPPORT FORAGE SPECIES

- SEDIMENT
- NUTRIENTS
- TOXINS (INK. ENDOR. DISR.)
- UNDERSTANDING OF PLANKTON
- GIZZARD SHAD?
- FOOD WEB INTERACTIONS

#6 Management Approach

- SUITE A INDICATORS

- MONITORING PROGRAMS - MAX. EFF. OF EXISTING/BUILD ON

- LOWER SIZE LIMIT ON TOP PREDATORS

- PROCESS TO INCORPORATE FORAGE INDICATORS INTO MGT (SYRS)  
(o.g. bluefish/ predator/prey rel.)

CONSIDER GROUPINGS SUITE OF FORAGE SPECIES SEE \*PERUVIAN ANCHOVY FISHERY "KELLY WAY"

- DITCHES / FOREST TO SUPPORT FORAGE SPECIES

#7 Monitoring Progress

#8 Assessing Progress

#9 Adaptively Manage & BE READY TO SUB AN INDICATOR

RESTORE HABITATS THAT SUPPORT FORAGE SPECIES

LINKAGE TO ENVIRON. CONDITIONS THAT AFFECT FORAGE EX

- INC. CLIMATE

DECLINE OF BAY ANCHOVY IN OCEAN

AVAILABILITY OF HABITAT

"FLIP" MULTI-SPECIES MODELS FOR PREY SPECIES



# Forage OBJECTIVES

objectives we are trying to achieve with this outcome?

What does this outcome mean to you?

How much do we have, how much do we need?

What are the tangible actions that this outcome calls for?

What are your expectations of the outcome?

Decide what the metrics are (w/status quo, des. lim.)

→ DITTO TO 1st 2

- TON OF INFO, MAKE IT USABLE

Outline

How does information from this morning's presentations fit into this?

- NUTRITIONAL MONITORING PROGRAM - LIFE FORAGE IN DAY?

What other elements can we fill out? Where could this information come from?

- DO WE KNOW WHAT THEY EAT, DO WE KNOW WHAT THEY NEED? (AT ALL LIFE STAGES)

Existing information?

Baseline/Outcomes (Element 2)

Factors Influencing (Element 4)

Current efforts/gaps (Element 5)

Management Approach (Element 6)

- TROPHIC BALANCE  
- UNDERSTAND DYNAMICS & TOOLS TO ADJUST/PREVENT IMBALANCE

- ECONOMIC ROLE OF FORAGE RISK

- CONSISTENT PROTOCOLS FOR ASSESSMENT

- IMPACT OF ENV. COND. ON BAY FORAGE

- TOOLS THAT MGRS. CAN USE (A LOT OF DATA, BUT NEED TO FILL GAPS - SHALLOW WATER)  
- UNDERSTAND WHERE & WHY PREY ARE - NOT JUST PREY AVAILABLE.

# Fish Habitat Outcome

## Objectives

1. Identify threats to fish habitat (both manageable and unmanageable). Consider Baywide vs. local/regional threats.
2. Compile and identify available data on habitats and fish utilization at <sup>+ habitats</sup> different life stages.

what we lose?

Challenges  
Opportunities

3. Prioritize for protection/restoration, management, decision-making. Different priorities depending on species, location, etc. Improve awareness. <sup>of positive & negative actions</sup> ~~not~~ impacts of actions

(public activism)  
policy-makers

Local

(trade offs)

- sense of place; community

## #2 Baseline

What do we need to characterize/identify key habitats?

What tools currently have or need to inform decisionmaking?

None

Need to define? what baseline?

- Stock assessments
- suite of indicators
- Map what we have (aerial extent)
  - % threatened
- set threshold
- connectivity
- imperilousness threshold

## #3 Participating Stakeholders

- VASG analysis  
bridging organizations  
→ reach decisionmakers
- ACFHP (Lisa Havel)

species  
MULTI-SPECIES  
FOR  
EPA  
FOR  
INDICATORS  
TO  
MANAGE



# Fish Habitat Outcome

human decisions vs  
human as part of system  
(coupled social-natural systems)

which can  
be  
influence?

- water  
flow /  
with natural  
Toxic > /  
Endocrine

MM

Improvements  
%

## #4 Factors Influencing

### natural system factors

- conditions/structure
- fish passage strategies, coordination with other (e.g., habitat & WO outcomes)
- community composition, changes in species assemblages (e.g., carp, catfish, phragmites, hyd)
- Climate Change
- sea level rise
- meteorology (rainfall intensity/freq., storm intensity/freq.)
- physical: temp, salinity, DO, turbidity

### human system factors

- sufficient knowledge
- Ability to characterize critical spawning areas
- Ability to characterize critical nursery areas
- Ability to characterize critical forage areas
- Critical areas for critical life stages
- data availability (fish pop. & habitat use, distr)
- data analysis
- continued monitoring
- Shoreline & land use conversion
- effective policy in place for achieving goals
- Jurisdictional coordination
- Watershed land use
- adequate financial resources (administration and incentives)
- adequate extension infrastructure (outreach and assistance)
- regulations and policies

- dollars & jobs (development)

- Short vs long term outcome

## #5 Current Efforts and Gaps

- Habitat mapping -> Airports AREAS
- Monitoring
- integrating existing info. + what tools - HAVE + Need + How to decide + Act
- Local vs. Regional vs State
- Economic valuation comprehensive
- Land/H2O - watershed Level
- Ecosystems services
- protection vs. Restoration costs
- SERC - Land-water interface
- Climate/SLR/Temp.

- MAFMC - Habitat Pilot Project

- Local life action plan (SWAPs)

- Multiple agency coordination Fish gap

## #6 Management Approach

- use tool to inform mgmt.
- improve AWARENESS +/- Actions toward fish habitat outcomes
- Outreach to public
- political savvy
- Empower people - Influencers - Public Relations
- Be specific i) hardened shorelines
- focus on things we can influence
- Broad overview/ Review Threats, challenges, opportunities
- identify key habitats + spp
- Regulatory Review inventory of all regulations

- WQ benefiting

WQ  
POLAR  
SPRINT  
ID  
WIDER