

Sustainable Fisheries GIT Executive Committee Meeting Minutes

September 23, 2019 from 1:00pm – 2:30pm

Participants

Lynn Fegley
Morgan Corey
Marty Gary

Nancy Butowski
Rob Latour

Sean Corson
Mike Wilberg

Bruce Vogt
Pat Geer

➤ Proposal for funding to estimate abundance for key species

- Background:
- NOAA Chesapeake Bay Office will fund one or more projects to fill science needs for fisheries in FY2020. Mike Wilberg (UMCES) and Rob Latour (VIMS) have proposed a project idea to use modeling with existing monitoring data to estimate Chesapeake Bay specific abundance for key fish species. Currently, only the blue crab fishery has reliable abundance estimates.
- Presentation:
Population estimates to improve understanding of habitat effects on Chesapeake Bay
- Opportunity to move forward Chesapeake Bay science with population estimates for important species to understand population dynamics and ecosystem drivers
- Objectives
 - Estimate abundance of important populations
 - 2 species per year process until comprehensive species list is complete
 - Use abundance estimates to evaluate population drivers
 - Ex. land use, community level changes, etc.
 - Develop spatial assessment models
- Background
 - Interactions drive community dynamics
 - Heed to understand why populations changing over time, ex. climate change
 - How does the environment affect different species?
 - Top down vs. bottom up
 - Habitat impacts
 - Ex. SAV, hypoxia reduction, oyster restoration
 - How do changes cascade through ecosystem?
 - Currently lack understanding of how changes in environment change populations
 - Major changes in benthic habitats and forage communities – unclear impacts to fish communities
 - Why? Lack abundance estimates for most species
 - In past ecosystem modeling, Ecospace with Ecosim (EwE) and the Chesapeake Atlantis Model (CAM), neither models were built on estimates of abundance like normal procedure
 - Many species in Chesapeake have extensive migrations and only use the Bay for part of life cycle

- Assume emigration and immigration have small impacts to population
 - Aspects of complex life history are challenging
 - Most hypoxia studies use commercial landings as a proxy for abundance estimates
- What has changed now? Investments over past 20 years in having more data on fish community
 - ChesMMA and NEAMA data
 - Time series of relative abundance across entire mainstem not restricted to MD or VA like past surveys
 - Stock assessment modeling tools are better than ever, especially for complicated spatial models
 - Previously developing spatial models was hard, fit at finer spatial scales
 - Abundance estimates would build on spatially explicit models for oysters and menhaden
- Approach
 - Develop models estimating abundance and mortality rates over time for 1-2 species per year, new stock assessment approaches for Bay-wide focus instead of stock-wide
 - Jointly developed by Wilberg and Latour groups
 - Train 2 students from CBL and VIMS
 - 4 in person modeling meetings per year
 - \$200K per year, costs grow with time but no more than \$250K per year
- Benefits
 - Understand how Chesapeake Bay fish community responds to habitat changes
 - Forecast what might happen under different scenarios
 - Abundance estimates alone can be helpful
 - Ex. blue catfish discussions
 - Understanding how environmental factors affect population dynamics
 - Potential to leverage whole research community
 - Research projects possible for the whole research community, estimates can be used for different interests on many different projects
 - Estimates would be openly available
 - Train multiple students in SA methods and quantitative fisheries
- Provides potential interactions with management
 - Envision complimentary efforts to improve methods
 - Ex. If developing model for Atlantic Croaker, ASMFC might consider using model for stock assessment later on
 - Would choose species so as not to conflict with regular stock assessment schedule
 - Ex. Menhaden coming up in November for benchmark assessment
 - Avoid confusion over having 2 sets of results
 - Goal is to estimate abundance – would not plan to develop biological reference points in initial project or give management advice
- Why the need for broad partnership?

- Bay-wide focus to understand change over time is a data-intensive approach
 - Needing jurisdictions data requires broad buy in
 - Going in with understanding of current fisheries management structures, to avoid conflicts and work in tandem
- Side benefits to management agencies
 - Prototypes of models that can be put to use alongside current management process
- Important for unmanaged species like Bay anchovy, that do not rise to priority level for management but are important to whole ecosystem
- Chesapeake Bay is a portion of entire coast-wide stock
 - Start to answer questions at management-relevant scale
- Additional Comments
 - Now at a point to leverage value of Bay-wide data
 - We also have diet data at long temporal scale
 - Envisioning dynamic effort to understand rates of survival and abundance
 - State of the Bay efforts linking to management actions
 - Abundance begins to put indicator framework in place
 - Augmentation of ecosystem modeling efforts
 - No negative feedback from science community
- Discussion:
- Particularly interested for species like anchovy and smaller forage fish, important but never managed
 - Biomass estimate inputs would help improve existing ecosystem models CAM and EwE
 - Set up to track stock assessment biomass
 - Abundance and mortality over time – Z? F and M separately?
 - Depends on species, aim to break into separate parts, elaboration on stock assessment models for species with migratory life history
 - More traditional model for resident species year round,
 - Ex. blue catfish better meets assumptions of model
 - For species like Bay Anchovy, might break natural mortality in predation and background environmental
 - Time variant mortality tried for some species
 - Hope that Council or Commission would make use of inputs – great! Useful addition, estimates of abundance out of Bay on different scale
 - Need to carefully consider how to project message and be careful with major species results
 - Previous efforts for American Eels in Potomac, considered for ASMFC stock assessment, but data required not available coast-wide
 - Both Mike and Rob well prepared to work with NMFS and Council
- Suite of species to focus on?
 - Bay Anchovy definitely
 - Mysids not sampled, but high biomass important for forage
 - Scaled up for estimates of total biomass
 - Manage expectations on mysids
 - Consumption rates of predators can start to move toward

- Removals from consumption data first
- Managed: spot, croaker, trout, white perch, flounder, striped bass, and others
- Could easily list 10-12 species with data available
 - Rob's student working on coastal exchange linking environmental process to understand why higher utilization of the Bay under different conditions
- Sandnose shark, skate
- Sturgeon? Possibility
 - Time series of gill net data in York, caught in NEAMAP, may involve developing collaborations to use additional data sources
- Cobia not a lot of information, but could be candidate? Unfamiliar with data, 99% recreationally harvested in lower Bay, MRIP data
- Alosines not on the list because of early life history, but could be on the list
- mainly based list on species seen in ChesMMA easiest to start building,
 - ASMFC has worked to pull together data
- Start by prioritizing species within the context of a broader group
 - Negotiate species important under specific time frame, most beneficial immediately to managers, most practical from feasibility side
 - Consider those more sensitive to climate broad changes or land use change localized changes
 - Choose those we can establish relationships
- If Bay-wide estimate, can we tease out local info around Bay?
 - Ex. Potomac River watershed or just one number for whole Bay?
 - Different for individual species
 - Estimates at smaller spatial scale in Bay are more difficult, are require more data
 - Aim for smallest spatial scale supported by data
 - Potomac particularly challenging, less data surveys
 - Some representative species may self-define smaller scale regions
 - Alosines tributary specific, Blue Catfish within one tributary
- Abundance for present day or looking back in time? Look at relationship between large environmental events?
 - Would develop historical time series of abundance estimates
 - How far back depends on data
 - Ex. blue crabs data far back in time vs. recreational species or unmanaged species data go only as far back as ChesMMA
 - Aim for historical time series to understand environment changes
 - Look at interactions and how species are moving later
 - Could update every year depending on interest and resources, or update every 5 years, and look back as far as possible
- How many years for how many species? Aim for 8 species with \$1M investment
- Output would be a toolbox to run abundance estimate models again with data available? States could re-run or NCBO staff?
 - If others are running models, requires developing difficult data sharing arrangements
 - Traditionally each agency maintains control over their own data

- To re-run a model, would require collecting data from each agency, institution, all gathered together to regularly update
 - If agreement and database structures in place for access, might be able to get frequent updates at low cost
 - Requires upfront collaboration to get data structure in place
- Aim to move toward more user friendly environment
 - Through data sharing policy, applied ranking to ChesMMA and NEAMAP to filter through numerous data requests
 - Tiered by state agency for purposes of assessment first priority, followed by data to inform management actions or site placement, followed by research request
- Looking forward for species like cobia, red drum, changing abundances
 - When conditions look different, helpful to see how much change
- Not a decisional meeting, will follow up as Ex Comm and individually with questions
 - Sounds positive
 - Open to further conversation

➤ **Invasive Catfish Workgroup review objectives**

- Background: The Invasive Catfish Workgroup recently held a conference call to introduce new members and review draft objectives for the workgroup to focus on. The workgroup will convene an in-person workshop in late fall to early winter of this year to reach agreement on specific actions to take in meeting objectives.
 - New team incorporates industry, across sectors, balanced by MD and VA, includes USDA representative, economist, and NGOs
 - Diverse ideas and expertise
- Asked members what they want to achieve through this workgroup and used their inputs to draft objectives
 - Objective 1 - Coordinate, synthesize, and communicate scientific research on the ecological and economic impacts of invasive catfish in Chesapeake Bay
 - Objective 2 - Develop a science-based management strategy that balances expansion of sustainable commercial and recreational fisheries with Chesapeake Bay ecosystem health
 - Addressing roadblocks to expanding fishery
- Plan to have NCBO lead and coordinate the workgroup
- Intend to hold workshop in January to develop management strategy (not plan)
 - Spell out clear objectives and actions
 - Will connect to MD management plan, DGIF considering a future plan
 - Workgroup can be informative to jurisdictions management plan development over the longer time frame
- Discussion:
- If the goal is to reduce numbers to reduce ecological impact, spell out more explicitly
 - “sustainable” implies developing fishery managed into the future
 - Is that the objective? Revisit with workgroup
 - Stakeholders response?
- Freshwater values the trophy fishery, currently trophy numbers going down with small biomass competing and not enough food supply

- Now considering small commercial electro fishery
 - Likely to start next spring– working on size limits, fish limits
 - Maintain to avoid impact to priority species
 - Recognizing balance needed between various interests
 - Conservation wants more fish out of the ecosystem, both commercial and recreational want more fish – need balance across all 3
 - NCBO niche to coordinate, facilitate conversations, and provide material for jurisdictions management plans
 - Also have USGS interest in funding for research questions to refine for management plans
 - Relying on existing Bay Program templates for management strategy
 - Science, policy, finance gaps / factors influencing
 - Highlight key science needs
 - Lay groundwork for jurisdictions
- **Confirm Marty Gary as new Fisheries GIT Vice Chair**
- Given recent departure of Rob O'Reilly retirement
 - Nominate Marty Gary as Vice Chair
 - Ex Comm approved recommendation
 - Pat Geer formally appointed to VMRC Fisheries Director
 - Will continue to serve on Ex Comm
 - The Fisheries GIT only functions with representation from jurisdictions
- **Member Updates**
- Congrats to Sean on permanent status as NCBO Director!
 - Update on Strategic Review System (SRS) adaptive management
 - Three Fisheries GIT outcomes due for Chesapeake Bay Program Management Board review on November 14 – blue crab, forage, and oysters
 - **Action:** Morgan will send a 1 page update on key messages for each outcome to Ex Comm for awareness and opportunity for feedback

Future Meeting Dates

- October 15 joint CBSAC meeting in Colonial Beach
- November 25 (1hr)
- December GIT Meeting TBD
 - Agenda Day 1 focused on oyster restoration progress, and Day 2 focused on climate change and fisheries
 - **Action:** Ex Comm members will complete the poll marking preference for meeting dates in December and January