Maryland's Pilot to Assess All DO Criteria in Fishing Bay Mesohaline (FSBMH)

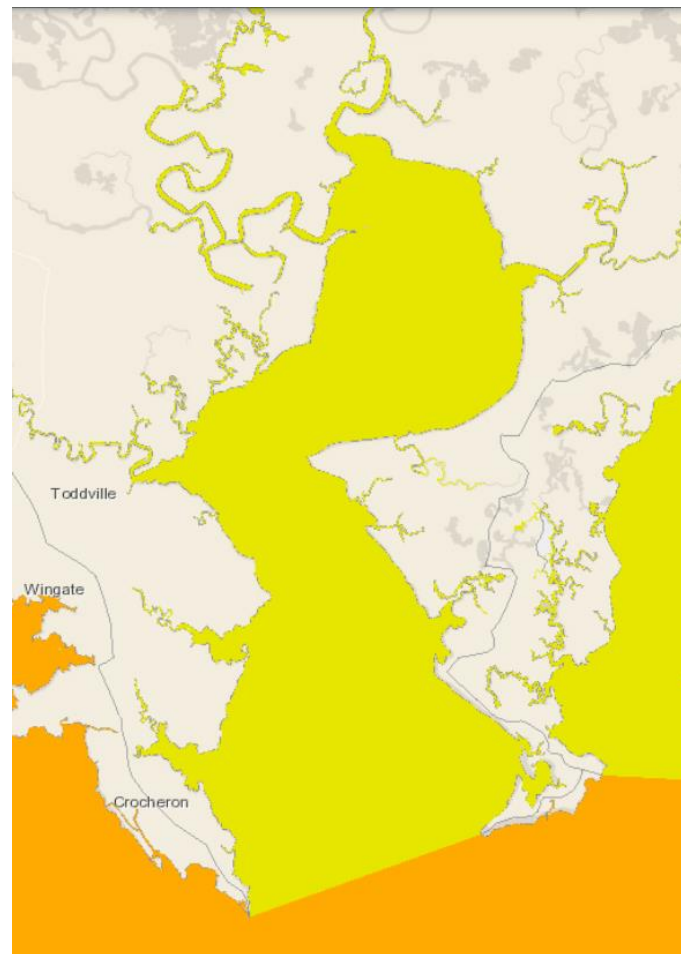Matt Stover, Tom Parham, Becky Monahan, Mark Trice

CAP Workgroup

February 4, 2021

Brief Recap

- Pilot: Collect sufficient data and Assess all applicable DO criteria in Fishing Bay Mesohaline (FSBMH)

- Hopefully delist FSBMH but, at the very least, assess all criteria

- Will dovetail with Peter's STAC proposal and hopefully provide some data or lessons learned for investigating Theme 2 of the STAC proposal: Integrated New Data and Tools (specifically option 1 and 3)

Applicable Designated Uses, DO criteria, and open water zones (per 2017 Addendum)
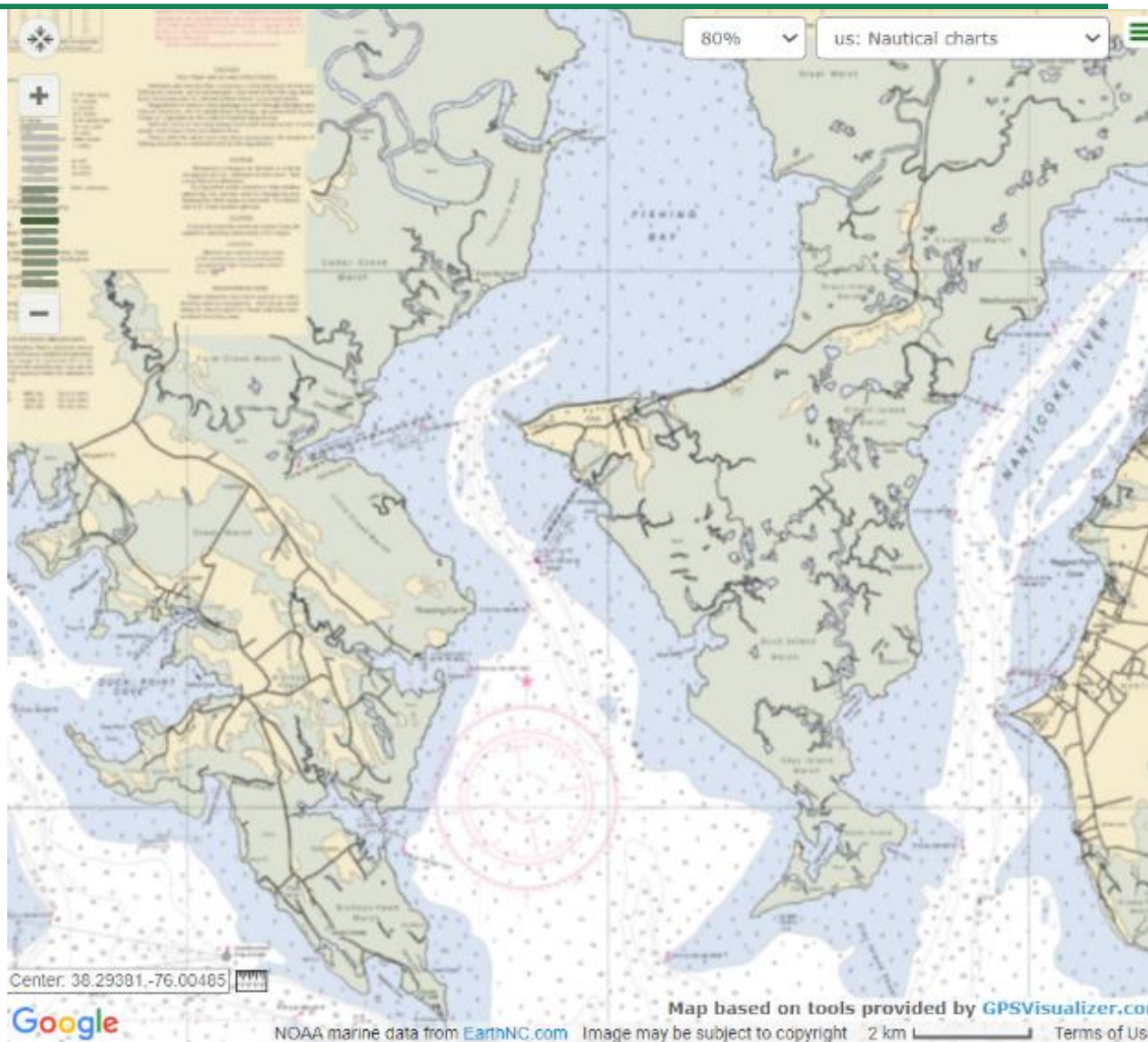
Fishing Bay (FSBMH)

Temporal Components		Geospatial Component		
		Subsegment of Bay Segment		
Designated Use	**DO - Duration Criterion**	**Zone 1: Open water**	**Zone 2: Shallow water (<2m depth)**	**Zone 3: Isolated waters aka: Tributary of a Tributary**
Open Water	30 day Mean	☑	☑	☑
	7 day Mean	☑	☑	☑
	Instantaneous Minimum	☑	☑	☑
Migratory Fish Spawning and Nursery	7 day Mean	Not applicable b/c segment has average salinities generally in the mesohaline range (5-18ppt) and this criteria only applies to tidal fresh zones		
	Instantaneous Minimum	☑	☑	☑

*The three zones only discussed for the open water designated use but shown here for the migratory fish spawning and nursery use as well.
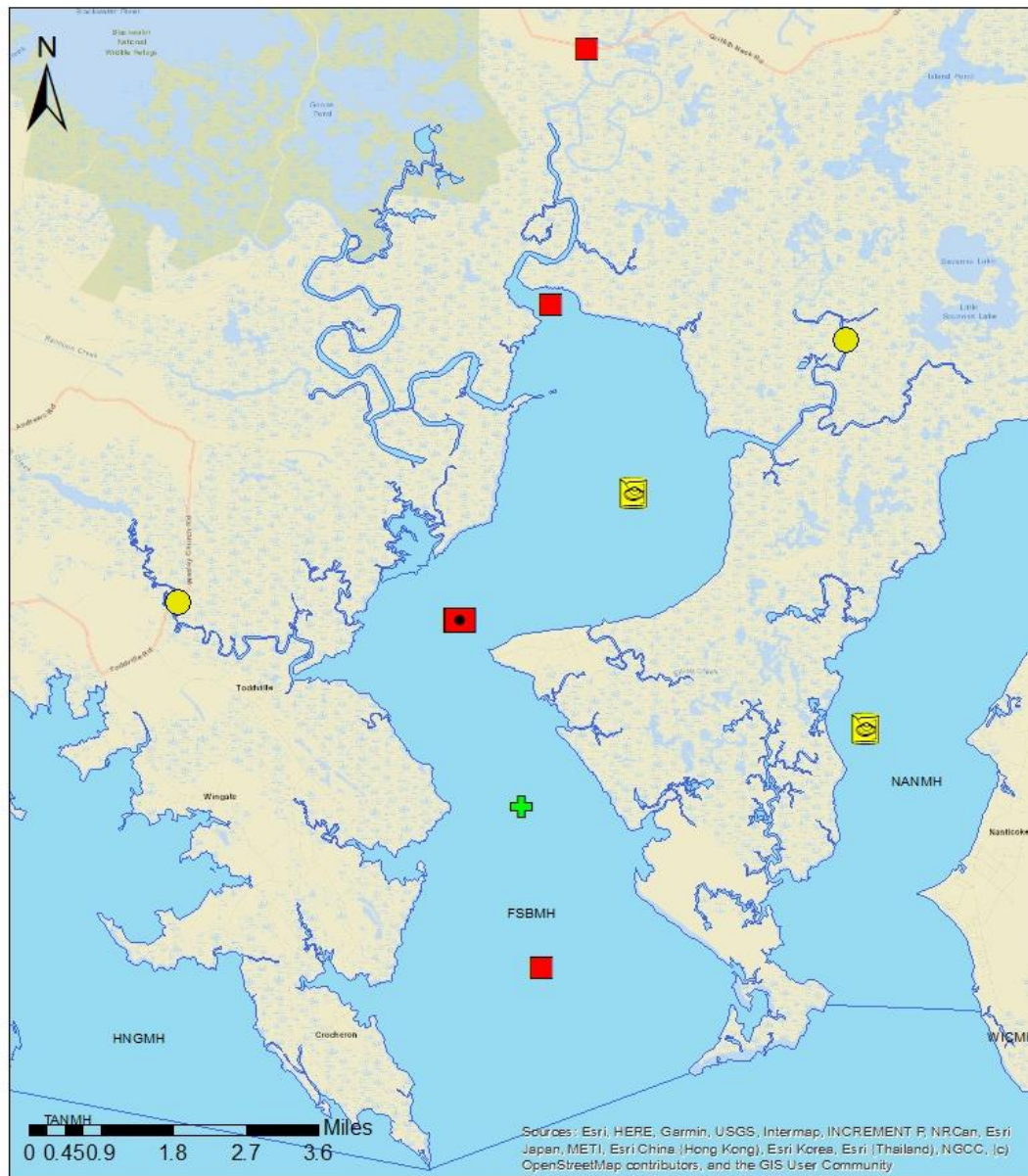
Fishing Bay Zones and Depths

- Several narrow tidal tribs – often have depths >5ft

- Lots of shallow water (<2m) in Fishing Bay proper

- Limited channel-like area in middle segment with depths 20-29ft

- Broad area near mouth with depths of 7-11ft

Monitoring Proposed and Rationale

- All 3 zones covered (open, shallow, tribs of tribs)

- Depths covered (<2m, between 2 and 4m, and >4m)

- Temporal – have at least one ConMon in each depth and zone

Do we have adequate spatiotemporal coverage?

Temporal Components		Geospatial Component		
		Subsegment of Bay Segment		
Designated Use	**DO - Duration Criterion**	**Zone 1: Open water**	**Zone 2: Shallow water**	**Zone 3: Isolated waters aka: Tributary of a Tributary**
Open Water	30 day Mean	1 Profiler, 1 ConMon, 1 Discrete (monthly)	1 ConMon, 1 Discrete (monthly)	2 ConMons, 2 Discrete (monthly)
	7 day Mean			
	Instantaneous Minimum			
Migratory Fish Spawning and Nursery	Instantaneous Minimum			

Challenges

- Access
  - Not a lot of roads that cross over the segment, remote=more opportunities for vandalism
  - Marsh that will swallow you whole!
  - Many shallow areas

- Cost $ and Staffing losses - Could/should we mitigate this by partnering with NGO for some discrete sample collection?

- Integrating non-traditional datasets (e.g. MDE-shellfish) with established datasets

- Integrating data of different collection frequencies - both low and high frequency (e.g. ConMons and profiler)

Questions, Comments, and Suggestions Welcome!

- Monitoring Coverage
  - Is there adequate monitoring for sufficient spatial coverage?
  - Is there adequate monitoring for sufficient temporal coverage?
  - Is there compelling reason to co-locate discrete samples with ConMons/Profiler
  - Could we do with less monitoring?

- Issues of Timing
  - What if we can't start monitoring until this summer?