2023 SRS Biennial Meeting
May 11-12, 2023

Chesapeake Bay Café Day 1 Summaries (EC Charge #4)

★ *Denotes multiple tables or persons at the same table repeating or prioritizing the same item.*

(#) *Denotes the table number(s) that addressed that question.*

Challenge #1 Key Takeaways
To be more effective at centering people in the Bay conservation/restoration efforts for the future

- There has to be a **shift in mindset from creating things** (tools, data, etc.) that we believe will serve our stakeholders, and then figuring out how to distribute them. Needs should be identified first and then data collected, tools created, etc. to meet needs. (1)
- To center people, we need to **understand their values and motivations** so that we can create programs and opportunities that align with them. (1)
- We need to have **focused listening sessions, and a broader inclusion of groups** such as the agriculture community ad developers. (11)

1.0 To be more effective at centering people in Bay conservation/restoration efforts for the future

1.1 What tools and resources do we currently have that can be applied?

Tools

- **EJ Screen.** (1) (11) ★

Resources

- **Student/teacher resources** (MWEEs). (1)
- **Education.** (1) (11) ★
- Experience with process used to devise **PA county-wide action plans.** (11)

Staff

- **Facilitation/communication** expertise. (11)
- Chesapeake Bay **storytellers.** (11)
- **CRC Staffers/Interns.** (11)
- **Advisory Committees.** (11)
- **NGO practitioners** and community engagement. (11)

Communications

- **Social media** engagement. (1)
- **Testimonials.** (11)
- **CBP websites** (Bay Backpack, Wetlands Watch, etc.). (1)
- Expert **facilitation tools/structured decision making.** (1)

Reports and Data

- **STAC reports** (rising water temp). (1)
- **Indigenous culture landscape reports.** (11)
- **Access to data.** (1)
- **Community monitoring** groups/data. (1)
- **Fish advisories** (bilingual). (1)

- **UMCES report card EJ indicator.** (11)
- **Community science** that elevates pollution issues. (11)
- **Citizen science.** (11)
- **Surveys.** (11)

Funding

- **Social subsidies/investments.** (11)
- **Economic incentives.** (11)

Policy, Regs, Enforcement

- **Policy creation.** (11)
- **Harvest regulations/food resource management** for sustainability. (11)
- **Enforcement actions.** (11)

1.2 What might we need to address the challenge that we do not have?

Communications

- Generate data relevant to needs of stakeholders (those who want to take action). (1) ★
- More **ground truthing of local data**, what are **preferred methods of communication.** (1) ★
- **Science and data translations** into themes that resonate with the public (local technical assistance). (1)
- Communication of **how Bay is currently centered on people.** (11)
- **Two-way communication** between CBP and stakeholders. (11)
- Knowledge re: does **communicating actually make a difference**? (11)
- Focused **listening sessions.** (11)

Social Science

- **Social science surveys** at appropriate scales, e.g., watershed specific or project-specific. (11) ★

Stakeholders Engagement

- Understand **who our audiences are and how to reach them** based on their values, motivations, etc. (1) ★
- Are community members **receptive to our messages**? Willing to work with government? (1)
- Identification of **local minority ag producers.** (11)
- **Ag community** not represented. (11)
- Not **engaging developers** in conversations. (11)
- Time for development of **relationships and understanding.** (11)
- **Connections between agencies** that offer different dimensions. (11)

Analysis of Information

- Taking advantage of **existing surveys.** (11) ★
- **Socio-economic analyses for water quality standards.** (11)
- Identification of **intersectional interests across cultural and socioeconomic sectors.** (11)
- **Revised policy on catfish** processing outlined in the 2008 Farm Bill (catfish only species with USDA oversight versus FDA). Eliminate the niche policy to allow for greater option and opportunity for reducing the impacts of expanding blue catfish populations in the Bay. (11)
- Appropriate **valuation of all expertise.** (11)
- Metric to match the use of the term **"sustainability" in the vision statement.** (11)
- Shake the anchor of the **CBP model**. Not all about the model. (1)

- **Resiliency hubs.** (11)
- Reporting on **people outcomes.** (11)

1.3 What is the next step we can take in implementing recommendations we already have on these topics?

Communications and Outreach

- Additional **social science capacity** to understand audience needs. (1) ★
- Build **outreach network** (for specific audiences, e.g., farmer advisories). (1)
- **Start conversations** re: why/how people are the center of Bay restoration. (11)
- Focused **listening sessions.** (11)
- Understand **public recreation interest** and promote them together with land conservation. (1)
- Incorporate messages and information into **existing plans and programming.** (1)
- Make good on **promises and accountability.** (e.g., grants, etc.) (11)
- Engage **developers.** (11)
- Create "gaming" modules for surveys, for data collection. **Make it fun**, create competitions, have prizes, pay people for participation, use app software, other gaming tools. (1)
- Reframe **water quality standards into visual representation.** (11)
- Change **approach based on needs.** (1)
- Certification of **"people-centered" efforts.** (11)

Tools and Resources

- Evaluation of current **tools/resources** on their use, effectiveness and understandability. (1) ★

Staffing

- Expand **workforce/job programs.** (11)
- Create **Ag Advisory Committee.** (11)
- Apply **CB Storytellers to Ag.** (11)

Challenge #2 Key Takeaways
To develop and apply the necessary decision-science tools to allow effective and appropriate assessment of tradeoffs

- We have a lot of tools, especially mapping tools, at our disposal. It's about the **application of these tools in our decision-making process** through things like cost-benefit analyses and comparing tools across different resources to get a more holistic picture when creating decision-making tools. (2)
- We have these all these goals and outcomes, but **there has never been discussion on priority or balance of resources**. Putting resources towards one action is going to result in tradeoffs, but it would be easier to make decision on tradeoffs/where to put resources if we could assign value and prioritization to our goals. (12)
- There needs to be recognition that **everyone's priorities are not going to be the same, but there will be some that overlap**. For those that don't come to the top, there will still be people working on it because they are the experts in that field, and it is their priority. (12)

2.0 To develop and apply the necessary decision-science tools to allow effective and appropriate assessment of tradeoffs

2.1 What tools and resources do we currently have that can be applied?

Tools

- **Habitat tracker**/projects for increasing benefits/function that are not counted as BMPs. (2) ★
- **CAST.** (2) ★
- **Ecosystem browser** on CAST. (12)
- **EJ targeting tools.** (2)
- **SAV prediction** with climate tool (Coastal Atlas?) (2)
- **Proximity analysis tools** to prioritize where work is done for multiple benefits (e.g., public access within a certain distance for everyone). (2)

Data

- **High-res land use data.** (2) (12) ★
- **Stewardship survey.** (2)
- Apply **targeting portal.** (12)
- **Structured Decision Matrix** (e.g., oyster aquaculture vs. natural habitat regarding resource economics, Implan) (e.g, marine planning using Marxan). (12)

Staff

- **Experts** (STAC) (2)

Marketing, Outreach

- **Community-based social marketing.** (2)
- **Co-benefit factsheets.** (12)

2.2 What might we need to address the challenge that we do not have?

Tools

- Tools with **climate sensitivity.** (2) ★
- Better way to deal with **shallow water use conflicts** (e.g., SAV versus living shoreline or aquaculture). **Need a structural decision support tool and communication tools for stakeholders** when making these decisions. (2)

Data and Analysis

- Info to support **urban infrastructure overlay.** (2)
- Better way to quantify **environmental benefits** (e.g., cost-benefit analysis). (2)
- Understanding of **community-level willingness to implement BMPs**, not being over-reliant on mapping/targeting tools. (2)
- **Measure ecosystem accountability** not just population/abundance. Decision should not be made by just the CBP, need CBP and community, we are the community too. (12)
- Pair with **network science-based evaluation of CBP organizational structure and health** (12)
- Consider **criteria for grants.** (12)

Tradeoffs

- Quantification analysis of **tradeoffs.** (2) ★
- Tools to **evaluate trade-offs at high levels** (e.g., oysters versus brook trout). (2)
- Consider what are the **unintended consequences**. Look at negative at same perspective as positive. Consider if we are willing to live with the consequences. (12) ★

- Need tools to understand **tradeoffs of conservation versus restoration**. Need to understand loading rates better (i.e., do we have hierarchy right?) (12)
- Include **understanding tradeoffs in grants.** (12)
- Develop mechanisms to **assess natural infrastructure strategies and tradeoffs** to maximize benefits and ensure longevity. (12)
- Give attention to social science, assess community value, develop tools to help local government to **assess tradeoffs with their values and outcomes**. (12)

Assistance

- **Assistance to local governments** in evaluating land use ordinances to encourage sustainable development/decrease tree loss. (2) ★
- Need to bring in **more social science experts** into the partnerships and workgroups. (12)
- Need to **implement SDM** more – trainings. (12)

Prioritization

- Assign and agree on values, recognizing that even if something is not a priority that others will still work towards it because it is their priority. Allow for public health to be included. Not everyone needs the same priority, but it helps to know an **overall assessment of value and priority the partnership should follow.** (12) ★
- Need to **prioritize habitats and push actions** (i.e., BMPs). (12)
- Need **transparency of prioritization**, assigning values. (12)
- Geographic **prioritizing by land cover.** (12)
- **First identify what are priorities** before adding more. Right now, it is just too big of a job, too lofty, where do we put our energy and passion? (12) ★

Assessment of Outcomes

- Map out **dependency of outcomes** on one another. (12)
- What if the **goal and outcome is qualitative**? Is that so bad? (12)

2.3 What is the next step we can take in implementing recommendations we already have on these topics?

Communication and Coordination

- Put people in the room together on common issues to **facilitate discussions on overlaps, opportunities, and tradeoffs**. How can you discuss tradeoffs if you don't consider them all? (12)
- Communicate **community interests and existing tools to decision-makers.** (2) ★
- Support local planners through **communication of targeting tools.** (2)
- Determine **where current consensus/agreement exists to allow for more efficient focus on value/priority** discussion. List out by organization and then do cross walk. (12)
- **Decision science** to establish shared alignment. (12)

Assessment of Outcomes

- **Inventory of personnel and resources by outcome** to assess needs and tradeoffs. (12)
- **Mapping of influencing factors by outcome** could shed light on where there might be alignment and not tradeoffs. (12) ★
- Connect water quality to living resource response. (12)
- Money-to-money comparisons between BMPs, conservation options. **Prioritize BMPs by living resource outcomes**. (12)

Challenge #3 Key Takeaways

To express and illustrate the benefits to society of watershed and Bay conditions at a relevant spatial scale and how human activities, interventions, and climate change affect it

- We shouldn't try to convince people of the benefits of the Bay but **understand what they care about in an ideal world and what their concerns are and align these with our (CBP) goals**. We should assess where there are overlaps and use the tools to help upstream populations that will hopefully positively impact downstream communities. (3)
- We need to **meet people where they are.** Some community members aren't very open to always having these dialogues. Some people don't have technology to meet, for example. We need to bring it down to a scale of **how it will impact you and talk about local waters** rather than the Bay. The Bay can be overwhelming, but your own creek could be more manageable. (3)
- There are a lot of ways that community needs, and **environmental needs can overlap and be mutually beneficial**. (3)
- At **what scale should we be modeling and mapping** things? (3)
- We have to **care about the resource before caring for the resource**. The knowledge about the resource is the start of it. (3)
- It's one thing to say that sea level rise is going to be two inches, but **what does that mean at the local level**? More flooding. Or warmer ocean temps (which sounds nice but not in actuality). (3)
- We need to **make the Bay goals and outcomes relevant to local communities**, and recognized **we have tools and expertise** within the Partnership to help make this happen. The abundance of resources available for the next few years with IIJA and IRA may allow us to accelerate our activities toward 2025. (13)
- **Marry the overall regional/watershed needs with meeting the needs of local communities** by connecting what we are trying to do for the Bay with the needs of local communities and people. We would encourage more action in support of Bay-wide goals at the local level if those actions are relevant to local communities to meet their needs (e.g., flooding, recreation, local jobs, local water quality, local habitat, and biodiversity, etc.). For example, quantifying and monetizing the benefits that communities receive from Bay protection and restoration activities. The MD DNR Accounting for Ecosystem Services (AMES) report is valuable in this regard and covers all of MD. It could be replicated but currently not available for the entire Bay watershed. (13)
- There was agreement that the **CBP has created a lot of tools** and has a wealth of information. But there were **some questions about their utility and whether we could do better** to make them more accessible and used more throughout the watershed. (13)
- There was acknowledgement of **the role of local watershed groups and continuing to work with them** as a resource and potential local delivery mechanism for action toward Bay Outcomes and Goals. Capacity building of these groups may be needed and linking together groups working within a local watershed (e.g., linking restoration-oriented groups with land protection groups or linking urban groups with upstream groups working in rural areas). (13)
- Perceptions of the CBP changed with the Bay-wide TMDL and that the program may now be perceived as more of an enforcer of the TMDL than a partner in proactive conservation. The reality going forward may be that it is a bit of both and that we need to **emphasize the proactive and flexible nature of the partnership with the backstop of the TMDL**. (13)

3.0 To express and illustrate the benefits to society of watershed and Bay conditions at a relevant spatial scale and how human activities, interventions, and climate change affect it

3.1 What tools and resources do we currently have that can be applied?

Outreach and Communications

- Habitat GIT – **targeted outreach for green infrastructure project**. Satisfied community needs and benefited the environment. (3)
- **Riverkeeper network** is really important with connecting local watershed issues to the people who live there and communicating those issues. (3)
- Huge **confusion about what all these organizations do** (CBF, CCP, CBP, CBPO). The name Chesapeake gets so dissolved. (3)
- Using **language that resonates with people you're talking to** (e.g., fewer acronyms). For instance, the Bay conditions terminology doesn't resonate much. Instead, crab populations, swimmability of waters could work better. (3)
- Need a **new strategy or new message**. The message isn't getting down to the local level effectively. (3)
- Half the country doesn't believe in climate change so it's going to be a hard sell in the watershed for folks that don't believe it. People want some kind of **answer as to why the Bay isn't in better condition**. (3)
- **Work and communications need to be more specific to local conditions**. Case study examples that could be applicable to other communities. (3)
- Envision the Choptank (or similar models) which **engage locally over time to garner support** for action. (13)
- **Local watershed groups** in general are a key resource. (13)

Tools and Data

- **Local Government Guide to the Bay.** (13)
- **Chesapeake Bay Preservation Act.** (13)
- Existing local policies and programs that may be implemented to help strategically achieve Bay goals (e.g., stream protection/designations, land use planning, land protection programs, etc.)
- It was also suggested that maybe **we have too many tools**. (13)
- **Tree Canopy local data** recently made available. (13)
- The TMDL is a strong tool, but it has muddied the waters of perception between **CBP as a trusted source vs. an enforcer**. (13)

Incentives

- You may need to **change the incentives** (carrot and/or stick) and revisit any strings that are attached. (3)

3.2 What might we need to address the challenge that we do not have?

Communications and Building Relationships

- Some of the modules that LGAC is developing is very useful. They are **resources to put in plain language the work we're doing and how it relates to different communities**. (3)
- A significant amount of time is needed to **build relationships**. Trying to find the best way to talk with people and meet them where they are. We could benefit form **more social science expertise** and getting the experts to weigh in. (3)
- Gap in language – the way we're used to communicating to each other – no normal person is going to pick up the STAC report and read it – **there needs to be a translator**. (3)
- **Trusted sources→translators** for local communities. (3)

- The structure is there but getting the message down to the local level can fizzle out, especially if the incentives aren't there. **It's about trust and incentives**. (3)
- Need to be able to **answer more detailed questions** that may go along with a blanket statement (e.g., bulkheads are bad for SAV). (3)
- **Need more credibility**, especially at the federal government level. (3)
- More focus on **conversations versus communication** (so it's two way). (3)
- **People capacity** is an issue. (3)
- **Boots on the ground**, working with private landowners, trusted sources, translators. (13)
- **Flip the script** to make outcomes relevant to locals. (13)
- **Social marketing** leading to personal responsibility. (13)
- With **DEIJ** issues, might need something similar to communicate with. (3)

<u>Support and Staffing</u>

- When we work with a community, we're often consultants and can only pick a couple communities and focus on a few things. Super expensive and takes many years. We talk about **scaling it up but that doesn't always happen**. While we may not have the financial resources to do that, we do have the people. (3)
- There **needs to be organizations and leadership to assist these communities so they can make progress**. To know where that exists across two hundred counties, is very difficult. (3)

<u>Funding</u>

- **Need capacity funding** for local governments and other conservation partners (NGOs, etc.). (13)
- **Funding and strategy for long-term engagement.** (13)

<u>Tools</u>

- **Local parcel scale tools** - the relevant scale for many is very localized. Planning assistance to facilitate green infrastructure investment (both protection, restoration, and retrofits). (13)
- Current tools are hard to use or require expertise. **Find local priorities and bring the tools to help** rather than designing tools and launching them into space. (13)

<u>Support</u>

- **Give benefits to locals**, rather than take from locals to meet Bay goals. (13)
- All for the **local government modules**. At least for local gov planners, these modules do a good job of expressing those benefits that they hear about. (3)
- **Ask for help** without assigning blame. (13)
- WIIFM – **what's in it for me.** (13)
- **Access to habitats and living resources** – "You can't love what you don't know." (13)
- CBP partners have tools and expertise. Should we invest more in **getting that into the hands of local decisionmakers and practitioners** (e.g., circuit riders or other coordination)? (13)
- Diminished work force but there are **so many Bay committees** that we're expected to participate in, even if the work affects just a small portion of the state (e.g., DE). (3)

3.3 What is the next step we can take in implementing recommendations we already have on these topics?

<u>Communications</u>

- The translators need to have their **"translator" role in their job description**, or they are hired for that specific purpose. (3)
- We need help **packaging and communicating the information and need to pass it to a trusted source**. The best thing we can do is post it to the website. (3)

- Information is empowering – the Bay Program has a lot of information. You can tell anyone living anywhere in the watershed a lot of where they live. At some point, if we knew someone was interested, that person would have all that information at their fingertips. **Empower locals with information**. Need to move beyond just posting information on the web. Also, learn from the local communities – not just us passing along information. (3)
- **How are people most receptive to this information**? (3)
- Simplified facts. **Understand the language of the communities** – not a TMDL but do you want your children to be able to swim in the creek in their backyard? Lowest common denominator of scientific information. (3)
- **How to communicate the Bay Program publications** into something that resonates? (CESR report). (3)
- **More tailored communications** for the jurisdictions. (3)
- What gets the most engagement? What catches people's attention? Need to **get the right hook**. (3)
- **Making scientific information more relatable**. (3)

<u>Building Trust and Engagement</u>

- **Building trust and credibility** - not skipping over the harsh truth. It's helpful to know the day and the life of a city planner or farmer. (3)
- **More support and engagement with local governments/communities**. (13)

<u>Tools</u>

- **Better use and availability of existing tools**. (13)
- Using our tools and resources to make **Bay goals and actions mesh with local needs**. (13)
- CBP → Data/Tools → Local Governments/Watershed Groups/other partners →**Local Action.** (13)

<u>Focus and Process</u>

- Instead of focusing solely on BMPs, people at the local level in the community want **more focus on results** (rather than bean counting). That's a big direction to be moving in. When we're a slave to the model, we're defeating ourselves. (3)
- Need to **make the permitting process easier** (especially since we have all this land use information). Streamline permitting. (3)

<u>Challenge #4 Key Takeaways</u>:
To estimate what the future Bay and its watershed will look like under different scenarios of management

- There is a need for **strong communication channels within the partnership and with external stakeholders**. We can create fact sheets and tools, but if they aren't resonating, that is a problem. (4)
- We need to accept that the Bay is changing, for better or worse, and we need to **allow for outcome target shifts to reflect rising populations, temperatures, waters**, meaning we need to shift from very fixed targets to using "response functions" as targets with envelopes of uncertainty (probability-based management). (14)
- **Do we need all 31 outcomes?** (14)
- **We have lots of needs**: community collaboration, communication tools, finer scale modeling/monitoring (maybe for non-water quality outcomes), tools to evaluate uncertainty,

analytical tools for living resources, better understanding of behavior change, intermediate stability model, etc. (14)

- **Sandboxing is needed to foster institutional innovation**. Need incentives. (14)
- Look at **alternatives to BMP counting** (i.e., manage to outcomes not the number of BMPs put in place). (14)

4.0 To estimate what the future Bay and its watershed will look like under different scenarios of management

4.1 What tools and resources do we currently have that can be applied?

Tools, Models, Resources

- **Land change model and land use metrics indicator** and two resources already in place. (4)
- Tools/resources – **NOAA sea level rise viewer**. (14)
- There was a poster in the gallery walk that shows all the different tools. There is **access to the tools and webinars when new a tool launches**. (4)
- **Chesapeake Progress** - Data center that publications refer to. However, that data may be open to misinterpretation, which is an issue for us. (4)
- We have **tree canopy fact sheets** for every county in the watershed. (4)

Data

- **Good data** (mostly), models. (14)
- **Need baseline data**. What should we use to estimate? (14)
- We have priorities for conservation and implementation, but the data is telling us we aren't doing a good job. As a result, we're losing forests faster than we can plant trees. Is it because we're **looking at the data the wrong way?** (4)

How We Work

- **Cross-GIT meetings**. Come together on an issue and try to find solutions. Need these more regularly. (4)
- A resource we have – the **18 million people who live in the Bay. We have to engage them**. Have to appeal to multiple self-interests. (14)

Agreement and Goals

- **Actual buy-in on the agreements** by the governors is an important tool. Can't get rid of signatories. Can't be fully voluntary or the partnership won't work. (4)
- Need to **continue to have a structured agreement with specific goals**. This is what folks buy into.

4.2 What might we need to address the challenge that we do not have?

Tools

- Participants noted that people that need to use tools aren't necessarily going to use them. Find a way to **direct them to the tools and ensure they are accessible/easy to use** by diverse stakeholders. (4) ★
- We have a lot of tools and a lot of time they **lack even the metadata**. (4)
- **Tools can be intimidating** if you don't know how to use them. Is there a point of contact that people can reference. (4)
- **Tools to assess/evaluate uncertainty**. (14)
- **Intermediate stability model**. Address the response and choose the best-case scenario. (14)
- Analytical tools to **evaluate/assess living resources impacts** to management actions. (14)
- **Communications tools. Behavior change**. (14)
- **Finer scale modeling/monitoring** (NPS). (14)

- **Marsh migration pathways**. (14)
- **Green space equity dashboard** – – under certain circumstances. (14)

Communication and Engagement

- Need **social scientists that can communicate down** and talk more about human impacts. (4) ★
- Need to be able to **communicate scenarios**. Some of us aren't scientists, so we need ways to communicate to the general public. (4)
- Communicate the best available knowledge about if we do XYZ, here's what we expect. Making sure the **community partners understand tradeoffs**. If they are engaged, they are more likely to implement changes. (4)
- **Dedicate funding to communicating** these things. Paying for more people. PA example of its county coordinators. People that connect the dots. Need to diversify. (4)
- Needs to be more at the planner level. Communicator at Bay Program that can commute to communities in **meetings at the local level**. (4)
- Management Board only includes signatories. At the top levels, heavily focused on states and federal agencies. How do we better **engage community organizations** (nonprofits)? Nonprofits are very different. Not sufficient to just have one representing them all. Nonprofits are often only involved at the workgroup level. (4)
- **Community collaboration**. (14)
- Toxics – lead pipes, fishing resources. **What does water quality mean to communities**? (14)
- A lot of people in the same science pots that interact regularly. Find a way to help **bring scientists and non-scientists to the table** to talk about issues. (4)
- In many organizations, you **can't get your foot in the door if you don't have a science degree**. (4)
- Groups like Choose Clean Water Coalition out there as advocates, but they get no input into things like Beyond 2025, etc. We couldn't do that we do without them, so what do we do to **incorporate those voices**? (4)

Funding

- We know there are **needs but can't get funding**; need more cross pollination. (4)

Focus

- **Lack of people focus**. Metrics don't include human impacts. How much are we influencing people to change their behavior? (4)
- Big data centers, **politicians looking to make more economic impact**. Do they understand the trajectory and what needs to happen to change the trajectory? (4)

Incentives

- **New Incentive systems** (NPS). (14)
- Related to incentives > **additional incentives**/structure on outcomes (water quality, living resources). (14)

Change How We Work

- **Sandbox** – institutional innovation. (14)
- Better understanding of **behavior change**. (14)
- **Alternative to BMP counting**. Count differently. (14)
- **Struggle with our boxes**. Happens at the local level and within the partnership. (4)
- Needs – future for whom? **Needs to be diverse and see the most valuable**. Trusted sources.
- What management BMP? **Best people management**. (14)

Outcomes

- Change structure (network of networks) to break down silos. We **need to be talking across outcomes**. (4)★
- **Do we need 31 outcomes?** (14)
- **Resilience**. (14)

4.3 What is the next step we can take in implementing recommendations we already have on these topics?

Tools, Models, Data

- Demo video that **walks people through new tools**. Good example is NOAA sea level rise viewer. (4)
- **No more models**? (14)
- **Next steps – climate change**. Abundance and good data mostly, models. (14)

Communications

- Communications team is small. Truly need a **science communicator**. Someone dedicated to going out a meeting with local governments, planners, nonprofits, farmers. community members, etc. Requires staffing capacity and funding. Someone like Kelly Shenk whose job it is to build trust and relationships. (4) ★

CBP Assessment

- **Look at what we have** and figure out whether it's accessible and usable. Tighten up our existing resources. Are they in the best share possible? (4)
- Need an **independent assessment of the partnership structure**. There was a box for independent evaluation in early versions of the org chart when we moved to the new structure, but it didn't come to fruition. (4)
- Changing perspective – **expand beyond the BMP box**. (14)
- How to **define "needs and wants incentives**"? Multiple types. (14)

Partnership Structure

- Management Board is heavily WQ people. The mindset becomes WQ above all else. **Need more diversity in the MB to represent priorities other than WQ**. (4)
- **Inviting local partners to join the Bay Program partnership** makes them run. Invite them to a table where they feel heard. This is more likely to happen at a lower level. (4)
- Never thoughtfully added **ag to the table**. Need key people there. (4)
- Need **flexibility in our structure and how we accept feedback**. (4)

People Focus

- **Model a "people first "approach** – what are those outcomes? Co-benefits. Economic social and environmental – triple bottom line. (14)
- Open discourse on **water quality focus versus people focus**. There is a divide in the CBP about how we move forward, and it needs to be addressed head on and intentionally. Otherwise, we will lose any headway we have made. (14)

Challenge #5 Key Takeaways
To craft approaches to balance attention and efforts across all outcomes in the *Watershed Agreement*

- **Cooperation** is good. (5)
- Whenever, whatever the **vision should be expressed/characterized in terms of data, narrative, visualization**. Expect that people think and vision differently. (5)

- **Fewer and cross-cutting goals**. (5)
- **Benefits of partnership work should matter to the people**, the communities. They don't care that we have a partnership but rather that the habitats, waters, and the Bay are accessible, safe, clean. (5)
- **If you don't measure it, you can't manage it**. Needs – we have a decade of experience with the *Agreement*. (15)
- If I were a Governor, **I would never sign an agreement with outcome expectations that you cannot explain** to me. What is our target? What are we measuring to provide me with a status evaluation of where we are toward the target? What is the monitoring and analysis that I will see so we understand status change, i.e., progress toward achieving the target? (15)
- **Qualitative targets are ineffective**, diffusing resources without effective accounting to justify any and all investments and understand the return on investment. Make you goals and outcomes quantitative. (15)
- There are **issues of nexus to invite cross outcome interests to collaborate**, such as shoreline integrity. If we come together in the next iteration of the *Agreement*, include shoreline management goal/outcome with the following intersects: wetlands, black duck (community waterbird integrity), forage/benthic invertebrate integrity, fish/shellfish habitat integrity, water clarity, SAV, SAV recovery capacity, wave energy, stewardship, and crab production. (15)

5.0 To craft approaches to balance attention and efforts across all outcomes in the *Watershed Agreement*

5.1 What tools and resources do we currently have that can be applied?

Tools

- **EJScreen.** (15)
- More specific tools may include: GIS tools, Network mapping, GIT funding projects. (15)
- John Wolfe platform of **multiple tools/outcomes** (Targeting tool). (15)
- **Multi-benefit BMPs.** (virtual 1)

Data

- **Land use data.** (15)
- **Visuals.** (5)

Incentives

- **Incentivize.** (virtual 1)
- **Awards.** (5)

Staff

- **Science translators.** (5) ★
- **Champions.** (5)
- **Leadership.** (5)
- People! This includes people already engaged in the partnership, but also the potential **contributions of people not yet engaged**. (15)

Communications and Outreach

- **Accessible language**, specific language. (5) ★
- **Inter-related communication** across all members of the partnership. (5) ★
- **Communications efforts.** (15)

- **Community-level outreach.** (virtual 1)
- **Broad perspective needed** to achieve the vision; reaffirm *Agreement*. (virtual 1)
- More **accomplishment stories.** (virtual 1)
- **Communicating the TMDL** in terms of other outcomes. (5)
- More **silo-busting.** (5)
- **Know how your audience communicates**, e.g., "inspections" versus "visits" (5)
- **Stories**! To inspire, motivate and unite us! (15)
- **Connection.** (5)

Partnership

- Need to be **more balanced** (5)
- Improve decision making to make better **cost/benefit tradeoffs.** (virtual 1)
- Need **representation in decision-making**, to include NGOs. (5)
- The **power of the partnership as a network**! To distribute and magnify our stories and messages (which especially depends on LOCAL CHAMPIONS who have the networks and trust). (15)
- **Social Science.** (15)

5.2 What might we need to address the challenge that we do not have?

Communication and Outreach

- **Relationships**! We're good at this, but maybe not always with all of the right (i.e., missing) people (15)
- Connect with both the **thinking brain and the feeling brain**. (5) ★
- Consider **reframing as Healthy Environment, Thriving Communities**, (or similar), with broader appeal and applicability to people as well as to multiple science topics. (5) ★
- More **community-level outreach and engagement** uses multiple forums and approaches. (virtual 1) ★
- **Improve connections within a healthy watershed to communities**. (5)
- Need to more effectively **speak to people "where they are."** What if these champions don't come with an environmental/WQ-first mission? How do we engage them? (15)
- **Need "origin stories" about the current outcomes** - How did we arrive at the current language or targets/metrics and why? (This info might exist somewhere but it isn't well understood outside of small outcome-specific groups/silos and we should document this info as short stories). These origin stories would be very informative for narrowing the list or re-balancing. (15)
- More **forum type outreach efforts** to bring others beyond normal CBP participants into the conversation legislatures, companies, business, schools, citizens, etc. (virtual 1)
- **More good news accomplishment stories** to gain balance through wider engagement. (virtual 1)
- A **Disney movie for the Bay** [maybe joke maybe serious?] (15) ★

Water Quality

- **Need flexibility with Water Quality Standards** and applications of this vital regulatory tool. If we don't have the flexibility on Water Quality Standards, we'll continue to "rubber band" back to current status quo with WQ as "the ostrich" in the nest of baby birds. If we can't adapt our WQS or regulatory approaches to be more holistic then we'll fail to re-balance effectively. (15) ★
- **Consider water quality as a connection with different people**, e.g., coastal=kayaking, mountain=fly fishing. (5)

- **Build water quality into every outcome** but it is a piece of the story. Will not recover living resources alone with water quality. (5)
- **Plan integration for hazard mitigation and flood hazard reduction** is a great way to balance water quality improvements. (virtual 1)
- **Clean water**. (5)

Goals and Outcomes

- Put **goals/outcomes in plain language so it reflects/aligns with what people care about**. (5) ★
- Create larger, broader themes that force **cross-outcome work**. (5) ★
- Fishable, swimmable relies on many, many outcomes. **Water quality is just a step to get there**. (5) ★
- **Ability and flexibility to drop outcomes** – maybe transition certain outcomes to outside orgs/coalitions that can be more effective shepherds or champions? If done right, wouldn't lose a step on the mission or outcome. (15) ★
- **People first outcomes**. (15) ★
- Do we need to **balance attention across outcomes** or do some outcomes need more attention? (5)
- Do we **need all of the outcomes**? Are they still the most important ones in light of new data and climate impacts? Prioritize outcomes, based on those that impact the most people. (15)
- Regular check-ins with each goal to **see whether priority should be reassigned**, adaptive management and structured decision making. (virtual 1) ★
- **Make it simpler/easier!** (or reorganize). (15)
- Need **ability to adapt our outcomes and evolve them with new information** (we have this but maybe better ways to do it). (15)
- Need to remember that **some outcomes are irrelevant to certain partners or agencies**, and that's okay or to be expected. (15)
- Identification of **actions slash efforts needed for progress** toward multiple outcomes. (virtual 1)
- **Monetary incentives** to achieve all outcomes. (virtual 1)
- This is the **role of the decision sciences**; formalize review of value of outcomes versus cost/probability of achievement. (5)

Multiple Benefits

- Talk about **multiple benefits** to the things people want. (5) ★
- **"Co-benefits" or "multiple benefits"** - some partners already do this (USACE) and in some cases the efforts to broaden programs to include new considerations or criteria is hard and takes dedicated champions and regulatory/legislative change depending on the program. Map outcome connections to each other. (15) ★
- Increase emphasis on practices that provide multiple benefits **prioritize climate mitigation, human health**. (virtual 1)

Partnership Organization

- More **cross-GIT collaboration** (like Healthy Watershed Assessment) and silo-busting, breakdown silos. (15) ★
- At the largest scale we're more effective, but at a sub-watershed-wide scale (i.e., regional or local) the task is much more nuanced and difficult, we are much less effective and **depend on local champions**. (15) ★

- **Not top-down only but also promote the bottom up** with geographically-specific information that engages locals. (virtual 1) ★
- **Leadership and prioritization** that can be done through that leadership, i.e., say what you mean and mean what you say as you lead us and participate in meaningful efforts to prioritize and establish balance. (15) ★
- If realigning or prioritizing or dropping outcomes, key question is **who gets to decide**? Who is listened to? What voices are heard (genuinely, not just pretend). (15)
- A lot of the most effective partners and entities are so local-focused they aren't driven or informed at all by our CBP models. We **need network or landscape mapping to better understand who these partners** are and what we as a partnership could learn from them (and their stories). Where do people interact with environment (e.g., parks, boating, kayaking, dog parks, bike trails - shallow water and living resource response). (15)
- Executive level leaders need to **reaffirm commitment** to the full breadth of needed outcomes: land protection and conservation balanced with restoration efforts. (virtual 1)

How We Think

- **Inter-disciplinary mentality**. (15) ★
- Opportunity to **apply Both/And versus Either/Or thinking** on these challenges. (15)
- **The CBP partnership cannot fulfill its vision of a healthy Bay and watershed addressing NP&S only**. (virtual 1) ★
- **Less focus on modeling progress and verification** more on implementation and monitoring results. (virtual 1)
- **Structured Decision Making is a must**, potential inevitable NEED for any sort of effective and collaborative balancing at the partnership scale. (15) ★
- Reorganization may be necessary to **reinforce a new balance and realignment** - must be open and receptive, but also, we would need inspiration/models to draw from and seek to emulate. (15)
- **Network-mapping and inventory** - maybe as a match-making approach. (15)
- Address specific topics like **food system reform** with a wider audience. (virtual 1)
- Continually improve our ability to **use cost effectiveness as a common metric** to ensure the best and broadest use of available resources. (virtual 1)
- Data need some idea of overall population and land use **changes over the next 50 to 100 years plus scenarios** on land use. (virtual 1)

5.3 What is the next step we can take in implementing recommendations we already have on these topics?

Outcomes and Goals

- How do you **consolidate the goals to there are fewer**, leading to stronger leadership? For example, fewer goals and outcomes Healthy Ecosystems; Thriving Communities → these overlap with Sustainable Socio-Environmental System (ven diagram). (5) ★
- Chesapeake Healthy Watershed serves as a good example for **looking across outcomes**: could be improved by connecting to community needs. (5) ★
- **Bundle outcomes**. (5)
- Start with describing scenarios of what the Chesapeake Bay will look like into the future and **build outcomes to achieve the future we want**. (5) ★

- Stop using the word "restoration" We won't get the old Bay back. **Focus on recovery and improvement**. What does that look like? (5) ★

Partnership

- **Who are the real decision-makers/implementers**? How do we engage them and where? Might not be possible for all goals – some are more complex. Make tighter goals to do this. (5)
- Outside partners: **expand partnerships.** (5)

Marketing, Outreach, Training

- **Marketing → targeted to audiences.** (5)
- **Connect outcome attainment with benefits to people**. Missing partners, e.g., HUD (5)
- Habitat GIT has done some **Structured Decision Making (SDM) trainings/sessions** and we could use more examples in the CBP's efforts, especially for complex questions where consensus will prove the most difficult. (15)

Challenge #6 Key Takeaways
To efficiently monitor to assess progress on all ten goals of the *Watershed Agreement*

Monitoring

- **More monitoring is needed for all goals and outcomes** and additional monitoring resources are needed. (6)
- Engage to encourage **more community science and monitoring** and expand the scope of community monitoring and make better use of the information gathered by community scientists. (6)
- Focus more on **explaining what our monitoring data tells us**. More resources need to be allocated to communications. (6)
- Allocate time, effort, and energy to **understand the impact of rising temperatures**. This includes but it not limited to monitoring. (6)
- Inject **more social science into our monitoring efforts**. Engage with people to understand what is important to them and make sure our monitoring efforts reflect that. (6)

Collaboration

- We are trying to do too much and understand way too much for a large geographic area. We don't **understand how these different pieces work together across the watershed**. An action team should concentrate on a specific area (e.g., sub-catchment or community) and focus on what we can "wring' out of the area (e.g., BMP implantation, toxics, water quality). We would use a systems-based approach with a focus on geographic area of interest and the people. (virtual 3)
- **Strong collaborations** within jurisdictions between state/local/government agencies, academia, and Federal partners has been helpful and to keep this going. (virtual 3)

6.0 To efficiently monitor to assess progress on all ten goals of the *Watershed Agreement*

6.1 What tools and resources do we currently have that can be applied?

Tools

- A few examples were listed (e.g., Chessie BIBI, Chesapeake Progress) and partners that put out tools (e.g., USGS, CBP Land Use) however, the conversation quickly turned to the **overwhelming**

number of modeling and mapping tools and questions about **how much the tools are used by jurisdictional partners**. (virtual 3)

- Another issue about **time and bandwidth to incorporate these tools into daily work** was discussed, along with **difficulty in aligning individual state priorities with tools.** (e.g., WV)
- Questions arose about **how to get the tools in front of the right audiences**. (virtual 3)
- Number of **dashboards** available – EJ, healthy watershed, watershed data dashboard, temp, sediment. (6)

Data and Information

- **Satellite data for SAV.** (6)
- **Chesapeake monitoring network** – 5 core networks plus Land use (tidal, non-tidal, benthic, SAV, Community Science, Land use/land cover). (6)
- **Community monitoring** – get engagement from stakeholders – may need better communication on the opportunities available. (6)
- **Healthy watershed assessment.** (6)
- **Hypoxia network.** (6)
- **Living resources monitoring.** (6)
- **National level data sources** can be used to supplement our Bay focused information. (6)

6.2 What might we need to address the challenge that we do not have?

Monitoring

- Long-term **monitoring of fish in nearshore habitat.** Need this for marsh restoration strategies. (6)
- Long-term monitoring to **assess for near-short living resources.** (6)
- Better determination and make connections to living resource response based on management. activities. Need monitoring to **evaluate success of the natural resource projects** to understand if they are working. (6)
- Augment monitoring with **metadata and research analysis/synthesis.** (6)
- Increased **dedicated funding for monitoring** – need injection into 117e funds, other dedicated funds. (6)
- Target monitoring – **strategic monitoring network analysis of STAC recommendations** and science needs. (6)
- **Evaluate how monitoring is impacting DEIJ communities**, is it used to make decisions? Who can help us track diversity initiatives across GITs/Signatories? Healthy watersheds assessment could use community science data.
- How are **DEIJ tools implemented in monitoring projects**? (6)

Community and Social Science

- Need **better tools to make more use of community science data** – need to integrate high quality community science data. (6)
- Evaluate how community science is being used to **determine who (what groups) are involved**. (6)
- Monitoring should be **focused on things that impact people**. (6)
- Need more **indicators relevant to people** (specifically for DEIJ). (6)
- **Monitoring should be a reflection of what matters** – we say people are important but most of what we monitor is biophysical. (6)
- Need more social scientists **to help with DEIA investments**. (6)
- **Evaluate how grant programs are being include in DEIA communities**, how effective is it? (6)

Partnership and Organization

- **Find other partners** that can be pulled into our network. (6)
- **Decision making** - what/how/where/who participates and receives funding? (6)

Data and Tools

- More GIT-directed specific projects. (6)
- Need **better metrics to use with the equity dashboard** – equity mapper – can we go back and check to see if these things are working. (6)
- **Sustained investment in LULC data.** (6)
- Where does **ELIT (youth projects) data** go? Need to have a system for it. (6)

Communications and Outreach

- Dedicated **funding for the communication of our data to make it useful for partners** – and associated communication products – need to have this on both the front and back ends of the data source development. (6)

Prioritization

- **Better geographic prioritization** - re-think some of the concepts (MEB). (6)
- Organize **STAC workshop recommendations into sequence buckets to prioritize actions** – strategic alignment. (6)
- **Connect the TMDL to living resource response**, SAV is the example, need others. (6)

Actions on the Ground and Reporting

- There are **different priorities for the states**, be it trying to check something off for reporting purposes versus the mentality to be out there doing work with implementation. (virtual 3)
- There was quite the dichotomy between the **doing something for the sake of reporting mindset versus the "boots on the ground" mindset** to enact change. (virtual 3)
- Verification, accounting, and reporting was noted as an **area of burden or weakness**, as dedicated staff are needed, and this may take away their time from other work. More efficient ways of monitoring (and verification) were seen as a possible solution (e.g., high resolution land use to verify BMPs). (virtual 3)

6.3 What is the next step we can take in implementing recommendations we already have on these topics?

Recommendations from Reports and Workshops

- **Recommendations from the PSC monitoring report**. (6)
- **Rising Temp Workshop** results for more focused temp monitoring – look at heaters and coolers BMPs. (6)
- **Organize STAC workshop recommendations in to buckets to prioritize actions** – what feeds the sequence of events that we can build on. (6)

Approaches for Considering Recommendations

- **Organize activities as part of a network analysis**. (6)
- **Increase partner and community monitoring**. (6)
- **Sandboxing for shallow water areas** – geographic targeting. (6)
- Select areas and communicate so that can **set expectations for local projects** and monitor for success. (6)
- Don't forget to strongly **consider what monitoring and indicators that are available and adaptable to our needs** before embarking on a decades long path to create something new. This

requires a little thoughtful research and evaluation that could save millions in staff time and resources to move your work forward and address your issues. (6)

- **Prioritize?** – Is it time? (6)

SRS

- **Push the SRS into the GITs**. The MB is not representative and the process of MB is being dominated by the SRS. Focus the process and understand what needs to go to the MB. (6)
- Spend a day discussing **how to revise the SRS process**. (6)

Approaches to Indicators

- Assess multiple goals at once (saves time and money). Land use data for a proxy to assess multiple goals and outcomes all at once. (virtual 3)
- **Prioritize co-benefits**. Packaging of data and prioritization was seen as an interference. There was a call for taking a holistic view. (virtual 3)
- **Spend time on conservation than "bean counting."** (virtual 3)
- Simplify how we as a Partnership think about indicators may help. There are qualitative and quantitative aspects. (virtual 3)

Challenge #7 Key Takeaways

To develop and implement approaches accounting for the interactions of climate change with other issues (vulnerability to communities, increasing resiliency, land use/land change)

- **The "vision" for a restored Chesapeake Bay should account for the effects of climate change.** This means changing our systems of implementation, evaluation, and accountability to reflect uncertainty and the effects of multiple stressors/non stationarity. Science/information is needed to understand how climate affects this vision (what will the Bay be like in warmer climate?) and how we manage for restoration. (7)
- Communication, education, and information is needed to **address barriers for climate-adapted policy and implementation** and have a general acceptance and realization of shared vision/mission. (7)

7.0 To develop and implement approaches accounting for the interactions of climate change with other issues (vulnerability to communities, increasing resiliency, land use/land change)

7.1 What tools and resources do we currently have that can be applied?

Plans

- **Climate Action Plans** (state, county, local) - note concerning "integrated" Climate Action Plans, indicating that CAP are currently not integrated with other resource management and planning workflows. (7) ★
- **Comprehensive plans.** (local level planning) (7)

Tools

- **Sea-level rise viewer**. Some confusion about which or who's SLR viewer tool was listed. 3-2 sea level project viewer. (7) ★
- Policy tools to account for/used flexibility to **address uncertain future conditions**. Systems/ holistic approach to permitting. Example is using MS4 permitting structure to reward practices with resilience components (e.g., natural infrastructure). (7)

Data and Information

- **Climate-adapted IDF curves.** (7)
- **CHWA 2.0** (healthy watersheds assessment). (7)

Communications

- **Solution-focused communications** (as opposed to problem-focused, which can be mired in political debates). (7)

7.2 What might we need to address the challenge that we do not have?

Climate Messaging

- **Common climate messaging**, at least common language, e.g., "temp is rising" not "climate change". (7) ★
- **Normalize climate change in communication**, use climate change "synonyms" like resilience (i.e., make it easier for people to talk about without political implications). (7)
- Use **language that centers climate for educational purposes** (climate hurricanes, climate flooding) - can't adopt if you can't name it! (7)
- Put benefits of practices in community terms. (7)
- Utilize translators. (7)

Climate Science

- Incorporate **climate-adapted science** (e.g., new projections, non-linear changes) which is science that is done within the framework of a different climate (IDF curves are an example). (7) ★
- Provide **science background to support non-stationarity in systems and living resources populations** (educate). (7) ★

Climate in Vision

- Need a **shared vision (i.e., a restored Chesapeake Bay) w/ climate change incorporated**. (7) ★
- Re-envision the **future of the Bay under climate change scenarios.** (7) ★

Implement New Approaches

- Re-evaluate the basis of **water quality criteria accounting for temperature effects** that change the range of habitat conditions. (7) ★
- Establish **shoreline integrity targets** for the Bay knowing development is intersecting with sea level rise and many outcomes can be affected by shore hardening (SAV, fish, crabs, water clarity, black duck, wetlands). Synthesize threshold science on shoreline integrity for diverse resources. (7) ★
- Develop/implement approaches, but it is not just about climate. We need a **systematic approach that includes all major stressors** and climate is one of them. These approaches must also include land use, toxics, flow +temp change. Climate is just another stressor to consider. (7)
- **Technical assistance around climate** planning, projections, decision-support tools. Need better decision support tools. (7)
- Establish a **management paradigm that embraces uncertainty and probability.** Overcome sales problem (i.e., with accountability of progress). Utilize margin of safety. (7)

7.3 What is the next step we can take in implementing recommendations we already have on these topics?

- **Share local success stories**. (7)
- **Evaluate outcomes w/ a look toward DEIJ** and vulnerable communities. (7)

Challenge #8 Key Takeaways
To maximize the impact of management efforts for living resource response

Tools

- **Continued funding commitment to Habitat Tracker**: If we don't have wetlands and buffers, we don't have living resources. SAV has always received financial and academic data commitment. (8)

Communications

- Establish clear, easy-to-digest, easy-to-explain **definition for living resource response**. (8)
- Important to now **continue shifting of messaging based on what data is saying this week**. We can't always be showing that we are changing gears and have the locals react to that and then we return and change our minds three years later. (8)
- **Citizen/Community Science awareness**: Identify and share best practices that result in living resource response. How do we use social diffusion to get to this point? Have a town hall to share what is going on in their city. (8)

Incentives

- Coolers and heaters – **need incentives for more trees and riparian forest buffers**. (8)
- The TDML is the only thing we give incentives for because it is regulated. The TMDL process is taking us away from other focus areas. **Temperature needs to be added as a water quality standard attainment element in the TMDL**. (8)

Change of Focus

- **Focus water quality impacts beyond just nitrogen, phosphorus, and sediment**. There are other factors that influence living resources. (8)
- Most effected basins are focused on the deep trench, we are **missing the focus on the shallow waters**. (8)
- There are **opportunities to improve how we work**, such as communicating in simpler language, building relationships with relevant entities beyond the CBP, and improving our feedback loops (e.g., ecosystem responses, environmental monitoring, targeting our work/ management decisions, and organizational action). (virtual 2)

8.0 To maximize the impact of management efforts for living resource response

8.1 What tools and resources do we currently have that can be applied?

Tools

- Army Corps of Engineers **Habitat Tracker**. (8)
- Existing SCHISM. Rethink models for **Habitat Tracker**. (8)
- **Monitoring tools**: Water Quality and SAV Monitoring Program and Macroinvertebrate monitoring. (virtual 2)
- **Technology tools**: Data Dashboard, Land Use Viewer, Co-Benefit and Forest cover online tools. (virtual 2)
- Current and enhanced targeting and modelling tools. (8)

Data

- **High Resolution Land Use**. (8)
- **Water Resource Registry** (WRR) to use or enhance because local. (8) ★

- **Individual based models and bioenergetic models**. Look at parsing out the influence of water quality from all other stressors on survival and growth. Habitat suitability modeling. (8)

Funding

- Chesapeake Bay Implementation Grant (CBIG) and SWG/INSR funding goes to states. Existing tool should be rejiggered or recommunicated; **redirect funding to living resource outcomes** not just to water quality but to other resources. (8)
- Unprecedented **funding through BIL.** (virtual 2)

Living Resource

- Shifting **most effected basins (MEBs) toward shallow water/living resources**. How does this impact geographic isolation runs that allow you to say where "X" is affecting a specific area of water? Section 319 Reporting – Is there capacity to show living resource response by leveraging of existing programs. (8) ★
- **Diffusion of information**. Use for living resource actions for local governments. Streamline and prioritize issues. (8) ★

8.2 What might we need to address the challenge that we do not have?

Living Resource

- Use **high resolution land use for living resource** modeling and wetland status and trends. (8)
- **Artificial intelligence** machine learning for living resource applications. (8) ★
- Build/expand **citizen (community) science for living resource** tracking. (8) ★
- Creating an **integrated metric for living resource response**. (8)
- **Living resource sensitivity profiles** to diverse stressors in order to understand which factor(s) can be targeted for the greatest response on investment. (8)
- Define **what is meant by living resource response** (i.e., sub-cellular, cell, organ, individual species, population community)? (8)
- Design the TMDL for living resource response as a **"silo-busting" approach**. (8)
- **Modify most effected basins**. (8) ★
- **Add temperature as a water quality standard attainment element in the TMDL**. (8)

Tools, Resources, Models, Data

- Continued **funding commitment to Habitat Tracker**. (8)
- **Economic and hydrodynamic model analysis of dredging** to improve ocean water exchange with Bay to decrease hypoxia. (8)
- Develop **sub-models for SCHISM**. (8)

Better Collaboration

- Have resources/capabilities but can get in our own way. **Get out of our of silos** - CESR Report reflects this. (virtual 2)
- How do we create a **systems-based approach that effectively develops feedback loops** of ecosystem response/management decisions/organization action. (virtual 2)
- Consider **standard versus style of the work.** Standard is meeting some sort of living response condition or optimal condition. Style to get there may need to be different based on the locale, etc. (virtual 2)

Funding

- BIL is a great opportunity, but **lack of long-term sustained funding can limit on-the ground implementation**. (virtual 2)

- Much **funding has been driven to implementation, but not as much with monitoring** (pooled monitoring in Maryland). Learn from monitoring data as well, for example, is it better to do stream restoration in dry channel versus wet channel? (virtual 2)

Monitoring Tools

- Have the capacity, have the data, but the **synthesis component is lagging**. (virtual 2)
- Use data and targeting tools to **ID and prioritize places/habitats where recovery (benefits) will be greatest**. (virtual 2)

8.3 What is the next step we can take in implementing recommendations we already have on these topics?

Water Quality

- **Focus on water quality management actions that create habitat.** Where do protected lands meet high value habitat or meet most effected basins? (8)
- **Focus water quality impacts beyond just nitrogen, phosphorus, and sediment**. There are other factors that influence living resources. Need to drive this planning as early in the process as possible – no as a "co-benefit" to be included at the end. (8)
- **Credit land conservation as a water quality BMP** in the Bay TMDL, need incentives for more trees and riparian forest buffers. (8) ★
- **Research on factor influences for target responses** (i.e., cell level, species, population, community) considering opportunities to turn a management knob more than nitrogen, phosphorus, and sediment (e.g., toxics, shoreline development, salt to freshwater and streams). (8)

Communications and Outreach

- **Feedback at the local level through an engagement and support system** (Environmental Workforce Programs - DC (GZEP); Conservation Core and Master Naturalist). (virtual 2)
- **Simplify messaging of living resources and "maximizing" "impact"**. More direct outreach beyond CBP members- schools, corporations, farmers, artists, efforts to we engage public at local level private market in this effort, non-profits, NGOs etc. (virtual 2)
- **Collaboration and coordination**: Watchmaker with funding sources. We should be expanding adaptive management approaches to allow work approaches to move forward. (virtual 2)

Best Management Practices

- **Explore 4 R's for nutrient stewardship for habitat** to focus on important best management practices. Right fertilizer source at the right rate, at the right time and in the right place. (8)
- Create and fund a **scenario assessment for strategic adjustment** of lower mid-bay bathymetry that enhances high oxygen ocean waters with typically low summer oxygen waters of the mid-bay as a potential BMP. (8)
- **Address heaters and coolers** as BMPs and the impact on living resource by emphasizing the coolers. (8)
- **Monitoring**: Macro-monitoring - deployed to areas of BMPs pre/post response. (virtual 2)

Other Approaches

- **Artificial intelligence** for living response assessment/tracking of wetlands and submerged aquatic vegetation. (8) ★
- **Connecting wetlands and other national land cover priorities** with land conservation efforts and land trusts (considering climate change impacts). (8)

- **Subsidize effective actions** in shallow Bay water habitat and dam removal to reconnect watershed and Bay and ocean habitats. (8)

Challenge #9 Key Takeaways
To incorporate learnings effectively and efficiently into all levels of decision-making across the partnership

- **Expand the communications staff to simply package messages for PSC/MB for full context decision-making**. STAC is a tool for translating the science into talking points and recommendations. (9)
- **As issues/problems increase in complexity, they require increased engagement**. Issues in the lower left of the graph require outreach of the science to stakeholders. As problems become more complex, collaboration is necessary. Finally, the most difficult or "wicked" problems require co-production. **The necessary elements to reach a solution are trust, time, facilitation, and investment**. (9)
- **Longer Management Board meetings are needed with time to discuss issues for decisions**. Longer, in-person (particularly for Quarterly Progress Meetings) with thoughtful meeting structure. Shorter virtual meetings that utilize good meeting hygiene (i.e., no multi-tasking, pay attention to the conversations). (9)

9.0 To incorporate learnings effectively and efficiently into all levels of decision-making across the partnership

9.1 What tools and resources do we currently have that can be applied?

Tools

- The **Targeting Portal ChesapeakeData dashboard**. We have tons of critical tools, but are they linked and are they intuitive/efficient? (9) ★
- **STAC is a tool for translating** the science into talking points and recommendations.
- If the Bay TMDL is a tool, should it be **opened and reconfigured for shallow water**? (9)

Collaboration

- **Director and Leadership forums.** (9) ★
- **Silo busters.** (9)
- The **Mid-Atlantic Planning Collaboration** as a place to inform. (9)

Communications and Collaboration

- Expand the Communications staff to simply **package messages for PSC/MB** for full context decision-making. (9) ★
- Communication strategy that may be including **cross decision level consistency**. (9)

9.2 What might we need to address the challenge that we do not have?

Communications and Collaboration

- **Dedicated science translators** that effectively turn technical detail into more public-friendly, manager friendly communications. (9) ★
- Create more opportunities/spaces where decision-makers interact with the folks generating the decision-support information, e.g., Biennial Meeting with MB, PSC, and EC all present.

- **Relations ship building and partnership building** spaces. Do not depend solely on the staffers to do this. (9) ★
- **As issues/problems increase in complexity, they require increased engagement**. Issues in the lower left of the graph require outreach of the science to stakeholders. As problems become more complex, collaboration is necessary. Finally, the most difficult or "wicked" problems require co-production. The nec**essary elements to reach a solution are trust, time, facilitation, and investment**. (9) ★
- Hiring **champions to lead on issues** where we have to recognize we just don't have such a person in our CBP family. (9)

Learnings

- Acknowledge that there are many steps to go from "learnings" to something that can be readily applied by managers and decision-makers. **Local application matters**. (9) ★
- **Stop calling it "learnings"**, maybe knowledge, science, or understanding. (9)

Other Approaches

- A **new Budget Steering Committee that can direct funding decisions** that arise at SRS meetings. (9)
- **Science needs database** that connects with available sources for those needs. (9)

9.3 What is the next step we can take in implementing recommendations we already have on these topics?

Partnership Organization, Process, and Management

- **Longer management board meetings with time to discuss issues for decisions**. Longer, in-person (particularly for Quarterly Progress Meetings) with thoughtful meeting structure. Shorter virtual meetings that utilize good meeting hygiene (i.e., no multi-tasking, pay attention to the conversations). (9) ★
- Expand the use of **structured decision-making**. (9) ★
- **Expand SRS Logic & Action Plans up** and down the chain. Enable/encourage all GITs/workgroups to review, to see other SRS products. (9) ★
- Tee up **topics of need with STAC** scheduling. (9)

Communications

- Changes to **how we communicate recommendation to the Management Board** and their feedback on action. (9)
- **Communicate with outside groups.** (9)
- **Translators** to those who are not a familiar. (9)
- Coordinate with Rachel Felver and team on **communication strategy**. (9)

Tools

- **Connect various tools, communicate them** and share with stakeholders, improve utility and application at the local and even parcel level. (9)
- Scale matters! **Make [tools] more granular**. (9)

Challenge #10 Key Takeaways
To develop and apply the necessary social science tools to effectively involve and serve communities in ways that are equitable, fair, and just for all

- **Expand the knowledge and capacity within our program for how to embed social science into our programs and thinking**. We have great resources for expanding social science, but we need to USE them. (10)
- **Co-develop with stakeholders**, investing in dedicated staff to keep those connections, and staying engaged after the work is done is essential and missing from our current approaches. (10)
- **Invest in community organizers and watershed organizations and conservation districts** may fill essential gaps to make us more effective. (10)
- STAC CESR and Rising Water Temps reports along with some other key lessons learned and spelled out in our retrospective for the Biennial meeting provide **clear first step opportunities to utilize social science tools to effectively engage and serve communities in a way that centers their needs but match our desired outcomes**. (10)

10.0 To develop and apply the necessary social science tools to effectively involve and serve communities in ways that are equitable, fair, and just for all

10.1 What tools and resources do we currently have that can be applied?

Surveys, Case Studies, Projects

- **Public surveys.** (10)
- **Case studies** database. (10)
- **GIT funding projects and research.** (10)

Data

- **Government data collection** can be used for baseline setting (like service requests, demographic information). (10)
- **Strategic Science and Research Framework** and database. (10)

Outreach and Communications

- **Focus groups** and roundtables. (10)
- **Participatory process in PA** – county level action plans co-developed by and in partnership with local organizations, conservation districts, underrepresented communities – invested in coordination, staffing and built shared trust. (10)
- Behavior change survey, website, tool kit and training on **how to create behavior change campaigns** under development. (10)
- **Community science network.** (10)
- **Social media/volunteer** opportunities. (10)

Education and Collaboration

- **Environmental Literacy** curriculum development and meaningful watershed education experiences (MWEEs). (10)
- **STAC workshops** (10)

Resources

- **Environmental Finance Center.** (10)

- **Cooperative Ecosystem Studies Unit (CESU) network** comprised of federal, academic and HBCU institutions doing research and leveraging technical assistance in many disciplines including social science. (10)
- Chesapeake Bay Funders Network has a pool of **technical assistance providers** we can tap into for NGO and government campaigns to inform our work. (10)
- STAC and STAR members who have **expertise in social science** disciplines including decision science and behavior change. (10)

10.2 What might we need to address the challenge that we do not have?

Social Science

- Build a pipeline of **social science experts** connecting with Chesapeake Bay Program. (10)
- Acknowledge that **social science is more than just behavior change.** (10)
- Recruit and embed **social scientists in our program to do synthesis and analysis** of the rich data we have and help define more effective programs or adjustments in our incentives. (10)

Communication, Coordination, Collaboration

- **Nurture connections** with local watershed groups – we don't have a strong connection right now. (10)
- Build a foundation of **trust and buy-in.** (10)
- Need dedicated positions and funding to **create capacity for ongoing coordination and communication** that connects all levels in the chain (using PA model above). (10)
- Need **communication tools and strategies.** (10)
- Invest in **community organizers** for durability – co develop programs and DO NOT LEAVE when the work is done. (10)
- Need to make the most **local connections** and have them do their own succession planning. (10)
- **Define equitable service/progress by outcome or goal** so we understand the gaps by outcome or goal (one broad brush is not going to help us effectively involve and serve communities. (10)

10.3 What is the next step we can take in implementing recommendations we already have on these topics?

Community/Social Science

- **Expand community science** provisioning and add new organizations, especially with community members from environmental justice locations. (10)
- Look at the STAC CESR and Rising Water Temperatures report recommendations and social science needs as implementation opportunities, particularly **where social science can help make programs more effective and where we can focus on outcomes that serve multiple benefits and multiple stakeholders.** (10)

DEIJ Focus

- **Go into DEIJ communities** intentionally. (10)
- **Tree equity implementation** (convert redline areas to greenlined areas). (10)

Equitable Incentives

- **Implement incentives equitably** with increased payments when considering community affordability versus the benefit to the landowner/customer. (10)
- Is It fair, equitable and just to **pay or build more incentives into targeting strategic areas** when property owners in non-target areas are implementing the same practices? This sparked a conversation about the fairness of benefits to individuals vs. the benefits to greater good. (10)

Other Approaches

- Use **structured decision making** to set priorities among competing interests. (10)
- Prescription outdoors – **create new green recreational space** in urban and rural areas where access does not exist. (10)