GIT	GIT Needs from STAR	Timeline	Completed Y/N	Urgency/Comments	STAR workgroup	
Climate Resiliency	4 workgroups for Climate monitoring	Dec-17	Y			
	Outline Gaps for Climate Monitoring	Dec-17	Y			
	Explore Citizen monitoring for climate	TBD	Y			
	ID Costs for climate monitoring gaps	Dec-17	Y			
	ID agencies for monitoring gaps	Dec-17	Y			
	ID overlap in monitoring and modeling efforts	Dec-17	Y			
	Assess multi-scale climate assessments	Dec-17	Y			
	synthesize research on sea level, precip, temp trends	Dec-17	Y			
	Assess climate change influence on flow, temp, WQ in streams	2016-2017	Y			
	Develop climate indicators	Dec-17	Y			
	Ocean Acidification		Y			
	Protocol support and development of indicators	Ongoing				
	Impacts of SLR, coastal storms, increased temperatures and extreme events on BMPS (maintenance, shelf life, etc)	Ongoing				
Sustainable Fisheries	ID healthy habitat criteria	Jun-17	ongoing	Fish habitat workshop April 2018		
	ID spatial tools and datasets to map ranges and stressors	Jun-17	ongoing	Fish habitat workshop 2018		
	Convert fish and habitat survey data to spatial datasets	Dec-17	ongoing	Fish habitat workshop April 2018		
	Explore options for monitoring programs to cover range of species	Early-Mid 2016	Ongoing	citizen science pilot for forage in 4 tribs; need support to continue		
	Determine feasibility of phytoplankton and zooplankton monitoring	Mid 2016	N	need clear assessment of utility from sci and managers		
	Develop shallow water monitoring survey proposal for gaps	Mid 2016	Ongoing	citizen science pilot for forage in 4 tribs; need support to continue		
	Forage fish indicator		ongoing	projects completed; part of new wrkpln		
	Pair WQ data with living resources data		N	might be part of fish habtiat workshop		
	Improved fish habitat maps		ongoing	Fish habitat workshop April 2018		
	Oyster indicator development		Y			
	Shoreline indicator development		ongoing	GIT funded project for 2018		
	Updating blue crab stock assessment		Y	CBSAC/DNR making some upodates but still determining need for benchmark assessment		
	Oyster monitoring		ongoing	GIT funded project for 2018		
Habitat	Wetland: Expand USC wetland mapping model	2017	No	Check with Melissa Yearick		
	Wetland: Wetland Acres reporting to NEIEN	Ongoing	In Progress	Check with Jeff Sweeney; Most Urgent	Status and Trends	
	Wetland: QA/QC of wetland data	Ongoing	No	On hold pending WWG leadership change		
	Stream Health: Input for indicator development beyond Chessie BIBI	2020	No	Most Urgent	Status and Trends	info coming out of workshop
	Stream Health: support for reporting progress for Chessie BIBI	ongoing	No	Most Urgent	Status and Trends and Monitoring	funding needed f
	Stream Health: interaction with Healthy Watershed GIT tracking current status of streams	2020	No		Status and Trends and Monitoring	Addressed by Renee's project
	Brook Trout: funding for brook trout monitoring	Ongoing	No	Urgent	Monitoring	
	Brook Trout: New Indicator (3-5 year occupancy census)	Ongoing	Yes, indicator chosen; EBTJV 5-year occupancy census. Might need assistance preparing #s.	Most Urgent	Status and Trends and Monitoring	Shorterm assessment; followup with Brook Trout Team
	Black Duck: Development of habitat-based indicator	2019	Needs more discussion.	Most Urgent	Indicators WG	SRS review
	Stream Health: The relations between implementing practices to reduce nutrient and sediment and improving stream health conditions.	2018-19	Ongoing	Urgent	work with epa phase 3 worktear	cobenefit; stream health protocol developed by Army Corps Engineer
	Stream Health/Fish Habitat: Relation between stream habitat, water temperature to brook trout and other important recreational species (such as small mouth and largemouth bass).	2020		Urgent	modeling and monitoring	
	Brook Trout: Expand spatial-temporal groundwater model to rest of Chesapeake Bay Watershed to predict groundwater influence in headwater streams.	2018-19, High Priority	No	Most Urgent	modeling and monitoring	
	Stream Health/Fish Habitat?: The effect of toxic contaminants, bacteria, and parasites on freshwater fish populations and implications for human consumption.	2020		Urgent	WQ GIT / Toxics	
	Stream Health: Relation of streambank stability and erosion rates and impacts on sediment loads and fish habitats	2020		Medium	work with epa phase 3 workteam under WQGIT and Emily T.	
	SAV: Climate variability and SAV habitat availability (using 1 meter resolution land cover)	2019-20		Medium	modeling and land use wg	work with rich support of staff

Healthy Watersheds	Work with STAR team to identify and incorporate key datasets related to watershed health and vulnerability indicators for incorporation into the Tetra Tech PHWA GIT funding project.	2018 - 2019	in progress		Laura Free and indicators workgroup
	Post TT PHWA GIT funding project work with HW GIT staff to assess results and begin to determine appropriate tracking framework for potential HW sustainability indicator.	2019 and behond	N		Indicators workgroup
	Compile and publish bi - annual CBP Protected Lands dataset: STAR can help to communicate the completion and availablility of the dataset as well as help to coordinate additional analysis to meet the needs of CBP teams.	Spring 2018	in progress		
	Determine a way to identify and track "mariginally healthy" waters and watersheds. Shared data gap with Stream Health workgroup		N		
ewardsh	Public access sites and potential effects from climate change (sea-level rise and flooding)				
	Use results from stewardship index to help model relations of human attitudes/behaviors toward consumption, restoration and conservation.				
	Diversity Indicator Target/Goal for 2025 using American Community Survey Data (Overlaying state Demographic and Economic census block data over Chesapeake Bay Watershed)				
Water Quality	**WIP Outcome**				
	Provide support to develop WIPs	2017	apply tools	2018-19	Modeling WG, ITAT
	Develop land cover dataset	2016-17	Y	every 2-4 years	Land Cover WG: GIS Grantee; USGS
	Enhance watershed and SPARROW model		Y		Modeling WG: CBP modeling team
	Examine Susquehanna reservoirs' impact on N and sed transport		Y, ongoing	2018-19	Modeling WG; CBP modeling team
	Assess N and sed response to management practices		Ongoing	2018-19	ITAT/Modeling WG
	Incorporate BMP efficiencies and land cover/use	Oct. 2015 - October 2016	Y		Modeling WG; CBP modeling team
	Conduct STAC peer reviews	Winter/Spring 2016	Y		Modeling WG; STAC
	Use WQ data to assess PA's progress	2017	Ongoing	2018-19	Modeling WG
	Run scenarios and modeling tools	January 2016 - September 2016	Ongoing	2018-19	Modeling WG: CBP modeling team
	Co-benefits of nutrient and sediment practices (ranking, fact sheets)	2017	Completed; fact sheets being finalized		
	Improved mapping of Soil Phosphorus (PA)	New needs			
	Improvement of manure quality data that supports accurate characterization of manure loads, additionally how these loads are impacted by nutrient management approaches. (PA)				
	Refined BMP efficiencies - N, P, and TSS (MD)				
	Routine updates to high resolution land-cover (MD)				
	Improved estimates of streambank/bed sediment loads and floodplain deposition (co-benefit for stream health also)				
	Relation between nutrient/sediment reductions and stream condition (co-benefit for steam health also)				
	Better understanding of the causation for reaches where bank/bed erosion is a source of sediment (co-benefit for steam health also)				
	Effects of climate change on amounts of nutrients & sediment (PSC)				
	Optimization of BMPs and addressing co-benefits (WQ GIT)				
	Attainment and Monitoring Outcome				
	Update nontidal nutrient and sediment Loads and Trends (all sites)	every two years	Y	2018 and beyond	ITAT: USGS
	Update River-input loads and trends to Bay	Annually	Y	2018 and beyond	ITAT/USGS, MD DNR, VA DEQ
	expand on BEI report for add'l monitoring needs	2016-2017	Will use this process		
	Incorporate Citizen Science Monitoring for WQ standards (publication through Citizen Science Association journal)		In progress		Criteria Assessment Protocol WG; CBP monitoring team
	Approve Nontraditional Partner/Cit sci data MOU				
	develop targeted shallow water monitoring strategy		IN progress		Integrated Monitoring Networks WG
	Factors affecting loads and trends at the River Input Stations	2016-2017	In progress, 2018		ITAT; USGS
	Explaining nutrient loads and trends in the watershed	2016-2017	Synthesis report, 2018		ITAT; USGS
	Overview of sediment sources and changes in the watershed		Synthesis report, 2018		ITAT; USGS
	Improve knowledge of sed and N sources; USGS		Synthesis report, 2018		ITAT
	WQ functions of wetlands		In progress		Expert panel
	Improve understanding of tidal water response to load changes		Synthesis report, 2018		ITAT: UMCES
	Shorter Term DO Criteria Assessments (MD)	New needs			
	Using CONMON and Dataflow data for assessing standards attainment.(MD)				

	Policy and Prevention Outcome: PCBs				
	PCB trends in fish, water, sediment, air	2017	in progress	2018-19	TCW; states
	Update toxic contaminant indicator	2017	Completed	every 2 years	TCW; Status and Trends
	PCB Source tracking (need to complete guidance document)	2017	in progress		TCW;
	PCB Story Map	2017	being finalized		TCW
	Evaluate Stormwater BMP PCB Removal Effectiveness (MD)				
	Multiple-state modeling for PCBs (TCW); Ex: lower susq/upper bay	New needs			
	Science support for targeting sources				
	More quantative data on co-benefits of nutrient and sediment reduction				
Toxic Contamiants Outcomes	**Research Outcome**				
	Summarize mercury information to consider for policy	2017	not attempted	2018-19	TCW
	Effects of contaminants on fish and wildlife (EDC study)	2017	Ongoing	2018-19	TCW; USGS, FWS,
	Sources, Occurance, and distribution of contaminants (EDC study)	2017	Ongoing	2018-19	TCW; USGS, States
	Relative Risk of Contaminants (develop approach)	2017	not attempted	2018-19	TCW; EPA, USGS
	Relative Risk: BMP analysis for multiple outcomes	2017	Completed		WWQ GIT; GIT funding
	Relative Risk of Contaminants: co-benefits fact sheet	2017	being finalized		TCW
	Relative Risk: Urban and Agricutural settings (existing info reports)	2016	Completed		TCW; GIT Funding
	Relative Risk: Contaminants in Agricutural settings	2017	upcoming	2018-19	TCW: STAC
	Approaches for developing co-benefits between nutreient and sediment BMP estimates and multiple toxic contaminants	New needs			
	Toxic contamiant in urban areas (summaries and implicaitons)				