

Healthy Watershed GIT Tracking Needs

- Healthy Watersheds – goal of maintaining 100% of state-identified healthy watersheds

Tracking needs: healthy watershed location; **vulnerability** – which healthy watersheds are threatened by, e.g., energy or urban development; what is being done to ensure that healthy watersheds are protected, e.g., local land policies, easements, citizen stewardship); health and viability of watersheds over time, e.g., landscape characteristics, changes in **land use**;

- Land Use Methods and Metrics – goal of developing a methodology and metrics for characterizing the rate of farmland, forest and wetland conversion

Tracking needs: rate of conversion of forests, **wetlands and farmland** to impervious surfaces

- Land Use Options Evaluation – goal of evaluating policy options, incentives and planning tools that could assist local governments in improving their capacity to reduce the rate of conversion, as well as developing strategies for supporting local governments' and others' efforts

Tracking needs: metrics for **characterizing land conversion** rates, which will come from the Land Use Methods and Metrics Outcome;

Habitat GIT Tracking Needs

- Black Ducks – goal of restoring, enhancing and preserving wetland habitats that support a wintering population of 100,000 black ducks

Tracking needs: **vulnerability** to development; vulnerability to climate change/seal level rise; black duck food availability; **public lands** layer; Black Duck **habitat** (wintering and breeding locations); Black Duck population

- Brook Trout – goal of 8% increase in occupied habitat by 2025

Tracking needs: Brook Trout location/habitat/population (Wild Brook Trout only patches - the effective number of individual Brook Trout (regardless of age) contributing to a year class or cohort will also be monitored to estimate the entire “patch” or population); **vulnerability** to climate change; priority focal areas for Brook Trout Conservation;

Habitat Tracking needs Cont.,

- Stream Health - goal of improving health and function of ten percent of stream miles above 2008 baseline

Tracking needs: Chesapeake Bay-wide Indicator of Biotic Integrity (Chessie-BIBI); **ecological stressors** and factors that impair or limit stream health recovery, as well as other factors that affect critical stream functions (such as lateral stability, bedform diversity, floodplain connectivity...); a **suite of metrics** to measure the multiple facets of stream health

- Fish Passage – goal of opening 1,000 additional stream miles

Tracking needs: prioritization for dam removals and fish passage projects; **miles of stream opened**; presence of **target species**

Habitat Tracking needs Cont.,

- Submerged Aquatic Vegetation - goal of achieving and sustaining 185,000 acres of SAV Bay-wide

Tracking needs: **SAV distribution**; abundance acreage

- Wetlands - goal of creating or reestablishing 85,000 acres and enhancing function of an additional 150,000 acres of degraded wetlands. Also tracking for the wetland protection goal of 225,000 acres by 2025 (part of the Protected Lands Outcome).

Tracking needs: wetland restoration, **protection** and enhancement; regularly updated **National Wetland Inventory** or equivalent maps for each state; accumulated **sediment** in riparian wetlands from historic land clearing and/or dams (legacy sediments); ditched streams; artificial levees along streams; incised stream channels that are disconnected from floodplains

Fisheries Tracking Needs

- Blue Crab Abundance and Management – goal of maintaining a sustainable population of 215 million adult females; also, evaluating the establishment of Bay-wide, allocation-based management framework

Tracking needs: accurate harvest and effort reporting, winter dredge survey abundance estimates, summer abundance data, recreational harvest and effort, natural mortality estimates, reproductive limitations and success, and other factors; available **habitat**, **bottom temperatures** and **DO** levels

Fisheries Tracking Needs Cont.,

- Forage Fish – goal of continually improving capacity to understand role of forage fish populations, and developing a strategy for assessing the forage fish base available as food for predatory species

Tracking needs: forage indicators to identify forage and predator status, data gaps, and monitoring needs→possible indicator needs include tracking **abundance of forage species** and their predators, predator diet studies; plankton/zooplankton monitoring

- Oysters – goal of restoring native oyster habitat and populations in 10 tributaries by 2025 and ensure protection

Tracking needs: existing data sets that help describe the current and past **state of the river's oyster population**, spat set, water quality, **land use**, benthic habitat conditions, management policy; number of **acres restored**, past restoration projects location and area

Fisheries Tracking Needs, Cont.,

- Fish Habitat – goal of continually improving effectiveness of fish habitat conservation and restoration efforts
- Tracking needs: location and area of high quality fish habitat; data on habitats, **habitat vulnerabilities**, and fish utilization at different life stages; **land use**

locations vulnerabilities determine
vulnerability annual factors Management enhancement
restoration abundance existing
Bay level requirements diversity data stock conservation climate
wetlands reporting harvest status
waterfowl Prioritization policy streams strategy Wetland priority
floodplain forage prioritize population effort black duck lands dam rise
habitats removals high SAV intact wild projects Downstream
different survey change aquatic utilization local protection efforts
water groups acreage life public monitoring uses sea decision
catchments Watersheds BIBI year stages size assist limit actions
restored recovery impair
Healthy watersheds patches health maps working species acres wintering
application threats distribution food indicators tools resources Riparian Chessie watershed
notes jurisdictions breeding spatial presence Chesapeake
patch target surveys developed state Fisheries land Passage
within Strategies identify development available indicator
approach progress quality layer
sub-watersheds support stream habitat needs
model developing

habitats rate estimates policies Chesapeake effort Workgroup
priority vulnerability passage metrics identify surveys
development duck stream restoration layer water high
areas public protection health Tracking forage number Fisheries
status streams Bay wetlands lands spatial
ducks projects data fish Brook using level landscape
annual watershed support
existing forest species habitat goal quality well tool SAV
approach state maps used rise watersheds food
protected patches land Trout Current Climate harvest
assist conversion wetland monitoring threats
model miles black information working intact
location survey local population acres improving policy
yields Wild strategy healthy conservation riparian tools characterizing
Bay-wide following

STAR – Scientific, Technical Assessment and Reporting

- Agreed to form and help lead a interim workgroup to explore cross-GIT tracking needs.
- Each GIT coordinator and a handful of experts from each team will participate.
- Timeline: This summer and into fall (short term) to assess needs, develop recommendations and create a work plan. Members may be called upon in the future to assess progress or review interim tools.

Next Steps

- Work with STAR to identify Cross-GIT tracking workgroup members
- Convene experts from different disciplines
- Work together to review existing models
- Determine if a collective “tracking tool” is possible to meet multiple objectives
- Develop timeline, cost and plan of action for Bay Program Tracking.
- Contact: Renee Thompson, rthompson@Chesapeakebay.net
410-267-5749