

- **State the Outcome:** Maintain and improve soil health, the foundation for healthy ecosystems and productive working lands. By 2035, develop and implement an approach to assess and incentivize actions to improve soil health, including modeling the soil health impacts of current water quality BMPs and identifying additional BMPs and other priority actions that support both soil health and water quality.

- **Background-Current Condition:** Based on the jurisdictional and Conowingo Phase III WIPs, the majority of the remaining nutrient and sediment reductions needed to attain the 2025 planning targets and ensure water quality standards for the Chesapeake Bay are expected to come from agriculture. Although there is an agricultural workgroup and a newly forming agricultural advisory committee, the Watershed Agreement did not establish any outcomes directly related to agriculture. In order to sustain agricultural production and improve water quality in the context of changing environmental conditions, increasing human population, agricultural intensification and declining farm profits, a new holistic approach is needed. This approach will focus on improving agricultural sustainability and production from the ground up by prioritizing efforts to improve soil health—the foundation for healthy, productive ecosystems and working lands.
- **Outcome alignment with administrative goals and legislative mandates of signatory jurisdictions:**
 - ✓ **Signatory jurisdictions:**
 - WIP Goals:** Supports/aligns with WIP soil health initiatives (all states)
 - Legislative Initiatives:** supports/compliments state level healthy soils, food resiliency and sustainable/regenerative agricultural legislative initiatives, passed and pending
 - State Agencies:** supports programmatic implementation of state climate action plans, agricultural conservation efforts and local water quality improvement efforts
 - ✓ **Federal agencies:** Supports multiple agency recommendations and action plans that promote soil health as key for achieving beneficial agricultural outcomes while promoting ecosystem services and producer livelihoods.
- **Value of devoting CBP resources to this Outcome in helping signatory jurisdictions achieve their administrative goals and legislative mandates:**
 - ✓ **CBP** focuses significant resources towards water quality and agricultural conservation efforts. Establishing a new outcome would support, enhance and expand these existing efforts.
 - ✓ **CBP** could expand capacity and resources for soil health improvements by evaluating needs, coordinating stakeholder resources, focusing attention on the outcome, and facilitating collaborative ways to achieve progress (please see management strategies below).
- **Outcome Importance:** Soil health directly determines the capacity of soil to perform essential functions such as nutrient cycling, water regulation (infiltration, availability), filtering and buffering (of pollutants/toxics), and sequestering and storing carbon. Improved soil health results in improved water quality, air quality, water management, climate resiliency and adaptation, working lands productivity and profitability, and reduced GHG emissions, pesticide and fertilizer use. Changing environmental conditions have increased agricultural production risks and made water quality protection more difficult and expensive. Soil health improvements simultaneously improve environmental and economic outcomes and improve the resilience of working lands to weather extremes.
- **Source of the Outcome:** Derived during Phase 1 of the Beyond 2025 process, specifically from the Beyond 2025 Small Climate Group
- **Partners (state, federal agencies, goal teams, committees) involved in creating Outcome:** Members of the Climate Small Group included representatives from: EPA CBPO, USFS, NOAA, FFAR, Habitat GIT, STAR, Modeling WG, AgWG, Choose Clean Water Coalition
- **Partners needed to achieve the Outcome:** Partners at every agency level, universities, nonprofits, private sector and CBP entities: Agricultural, Forestry, Toxics, Modeling Team/WGs, STAR, all CBP Advisory Committees, Water Quality GIT, Communications Team

- **Major factors influencing ability to achieve Outcome:** Ability to achieve the management strategies below with existing CBP resources when possible, and to identify and implement the changes in organization and structure needed to achieve others.
- **Basis for the target:** The target would provide the foundation for the partnership to determine how best to leverage water quality improvement efforts to improve and maintain soil health now and into the future.
- **Key Management Strategies for meeting the outcome:**
 - ✓ Facilitate CBP stakeholder/partner participation in assessing existing resources and approaches: identifying needs/gaps/barriers, areas of overlap, and potential to expand resources and capacity through coordination and collaboration by 2027
 - ✓ Develop a set of metrics to evaluate the impacts of agricultural conservation and management practices on soil health by 2027
 - ✓ Identify key practices (BMPs) and approaches that provide maximum return on investment in terms of efficacy, cost and multiple benefits- support those programmatically by 2030
 - ✓ Improve and expand soil health education (include strategic planning, demonstration sites, field days, mentoring opportunities), communication and outreach to key stakeholders by 2033
 - ✓ Explore opportunities to incentivize the incorporation of soil health standards in soil related management activities including food, fiber, and forestry production. Other incentives may include pay for outcomes (include ecosystem service markets), cost support, direct market support, corporate investment, and transitional risk abatement by 2035
- **Measuring Progress (SMART: Specific, Measurable, Achievable, Realistic, Timebound)**
 - ✓ **What to measure:** Implementation of key practices with multiple benefits, consider soil metrics (organic carbon, aggregate stability, microbial respiration, infiltration capacity) measures
 - ✓ **How to measure:** Track practice implementation & management approaches associated with soil health improvements- 6 principles of soil health, (living roots, covered soil, minimize disturbance, animal integration, consider context/geophysical properties in production planning decisions; “whole farm planning” approach), make use of existing soil health metric data, explore modeling options
 - ✓ **Implementation partners:** Corporate partners, NGOs, nonprofits, universities, state agencies, federal agencies, agribusiness organizations, ecosystem service buyers, institutional and tribal entities
 - ✓ **Funding sources:** Many actions can be accomplished with existing resources, explore additional funding strategies with implementation partners listed above
 - ✓ **Incentives/rewards:** Decreased reliance on agricultural inputs/improved profits, improved farm health and land productivity, ecosystem/human/animal health, grants, cost-share, payment for outcomes, direct market rewards