BIENNIAL STRATEGY REVIEW SYSTEM
Chesapeake Bay Program

Logic and Action Plan: Pre- Quarterly Progress Meeting

Black Duck Outcome – 2021-2022

Long-term Target: By 2025, restore, enhance, and preserve wetland habitats that support a wintering population of 100,000 black ducks, a species representative of the health of tidal marshes across the watershed.

Two-year Target: 60,508 acres

Action has been completed or is moving forward as planned.	
Action has encountered minor obstacles.	
Action has not been taken or has encountered a serious barrier.	

Factor	Current Efforts	Gap	Actions	Metrics	Expected Response and Application	Learn/Adapt
What is impacting our ability to achieve our outcome?	*What current efforts are addressing this factor?*	*What further efforts or information are needed to fully address this factor?*	*What actions are essential (to help fill this gap) to achieve our outcome?*	*What will we measure or observe to determine progress in filling identified gap?*	*How and when do we expect these actions to address the identified gap? How might that affect our work going forward?*	*What did we learn from taking this action? How will this lesson impact our work?*
Use Conflict/ Habitat Condition (including loss, degradation, & fragmentation)	-State and partner agencies (DU, NRCS, etc.) participate in restoration, enhancement, and protection activities vital to sustain black duck habitat: • Wetland hydrology restoration • SAV restoration • Mudflat plantings • Land acquisition -BDJV and partners are researching the influence of winter habitat and conditions on black duck	- Need for further development and implementation of Black Duck DST at state level in order to focus work in priority areas. -Need for the translation of DST maps to HUC12 level in order to focus work in priority areas. - Funding for on the ground conservation work. - Need to prioritize	**3.1** Support the protection of key black duck habitats via long term protection actions such as fee title acquisition, conservation easements, cooperative agreements or leases.	- A more complete bioenergetics model/DST. - Monitor acres of black duck habitat (coastal land, etc.) protected. - Key areas Black Duck habitat restoration/protection defined	-2 years from start of Living Resource Data Manager position	DST update complete. Still need more resources for on the ground conservation and restoration as identified by the DST prioritization scheme.

	population dynamics.	land protection to preserve quality wetland habitat.				
Biota: Food availability	-ACJV's Black Duck bioenergetics model and DST are being refined to include USGS refuge and food availability (incl. SAV) data.	-Need to consider SAV as black duck food resource.	**4.3** Support scientific research efforts to remain up to date on black duck habitat needs	- A more complete bioenergetics model/DST. - Report on the exploration of including SAV habitat in the development of new Outcome indicator.	- 2 years for update of bioenergetics model	Bioenergetics modeling for refuges complete. USGS working to expand to other waterbirds and throughout the Bay. Still need to explore including SAV habitat in the development of a new indicator.
Partner Coordination/ Scientific and Technical Understanding: Monitoring efforts	- A new habitat based (using bioenergetics model/DST) indicator is being developed to monitor Black Duck Outcome progress. -USGS will perform in depth wetland stressor modeling using monitoring data to elucidate areas for black duck management efforts, potentially showcase changes over time.	- Need technical assistance to implement bioenergetics model/DST as new outcome indicator. -Need for formal method with which to track/monitor partner outcome progress.	**4.1** Improve methods of monitoring outcome progress. **4.2** Partner coordination; review and refine black duck guiding documents with new restoration/ monitoring knowledge.	- Development of habitat-based indicator. - Development of outcome progress reporting/monitoring method. - BDAT partners meet and coordinate on indicator, workplan actions. - Workplan, Logic Table, and Management Strategy updates as necessary	- Habitat based indicator is developed. - 2 years from start of Living Resource Data Manager position	Development of prioritization is complete. USGS continuing research on wetland stressors and their impacts on black duck and other waterbird habitats throughout the Bay.
Climate Change: Climate impacts (SLR, flooding, marsh migration, large storms, migration shifts)	-USGS research on risks to coastal habitats by forecasting vulnerability and resiliency of coastal systems to future change. -WWG and CRWG FY20 GIT-funded project "Synthesis of Shoreline, Sea Level Rise, and Marsh Migration Data for Wetland Restoration Targeting."	- Need to prioritize land protection to allow for habitat migration as SLR progresses.	**3.1** Support the protection of key black duck habitats via long term protection actions such as fee title acquisition, conservation easements, cooperative agreements or leases.	- Monitor acres of black duck habitat (coastal land, etc.) protected.	-2 years from start of Living Resource Data Manager position	Being considered under wetlands action plan from wetlands workshop. Minor obstacle is monitoring actual quality black duck habitat. USGS research continues on coastal habitats.

Partner Coordination/Scientific and Technical Understanding: Habitat restoration	- ACJV modeling team is working to develop an enhancement/restorati on prioritization scheme for HUC12 watersheds.	- Ability to choose appropriate sites. - Lack of capacity (funding, personnel) for restoration efforts.	**1.1** Support efforts to restore tidal wetland hydrology and restore key habitat for breeding, migration routes and wintering grounds.	- Key areas Black Duck habitat restoration/protecti on defined. - Monitor acres of black duck habitat enhanced and/or restored.	-2 years from start of Living Resource Data Manager position	Development of prioritization scheme is complete. Being considered under wetlands actions plan from wetlands workshop. Minor obstacle is monitoring acres of quality black duck habitat.
Partner Coordination/ Scientific and Technical Understanding: Habitat enhancement and management	- ACJV modeling team is working to develop an enhancement/restoration prioritization scheme for HUC12 watersheds. -USGS will perform in depth wetland stressor modeling using monitoring data to elucidate areas for black duck management efforts, potentially showcase changes over time.	- Ability to choose appropriate sites. - Lack of capacity (funding, personnel) for management/ enhancement efforts.	**2.1** Support partner efforts to improve water level management on managed wetlands (replace compromised water control structures, leaking levees, etc. to improve management capability), restore SAV or converted wetlands, manage open marsh (to restore non-tidal waters back to salt marsh, for example), restore and manage riparian buffers, etc.	- Key areas Black Duck habitat restoration/ protection defined. - Monitor acres of black duck habitat enhanced and/or restored.	-2 years from start of Living Resource Data Manager position	Development of prioritization is complete. USGS continuing research on wetland stressors and their impacts on black duck and other waterbird habitats throughout the Bay. Will continue to support partner efforts to improve water level management on wetlands.
Partner Coordination/ Scientific and Technical Understanding: Habitat protection	- A GIT Funding Project currently underway will increase NRCS capacity, land conservation program outreach efforts on Delmarva. - NFWF grant to USFWS and DU to implement private land protection.	- Ability to choose appropriate sites. - Need for sustained capacity (funding, personnel) for protection efforts.	**3.1** Support the protection of key black duck habitats via long term protection actions such as fee title acquisition, conservation easements, cooperative agreements or leases.	- Key areas of Black Duck habitat restoration/ protection defined. - Monitor acres of black duck habitat (coastal land, etc.) protected.		Being considered under wetlands action plan from wetlands workshop. Minor obstacle is monitoring actual quality black duck habitat.

| Government Agency Engagement: Adequate financial resources (administration, for incentives, etc.) | Funding is made available through the NFWF-Chesapeake Bay Stewardship Fund, NAWCA grant programs, USFWS Coastal Wetland grants, USFWS Partners for Fish and Wildlife Program grants, and Cooperative agreements and NRCS Farm Bill incentives. | - Need for increase in capacity funding, personnel, etc.) support for adequate black duck habitat restoration, enhancement, and protection measures. | **3.1** Support the protection of key black duck habitats via long term protection actions such as fee title acquisition, conservation easements, cooperative agreements or leases. | - Examples of funding partners prioritizing use of Decision Support Tool
- Monitor acres of black duck habitat (coastal land, etc.) protected.
- Number of local decision makers engaged.
- Informational communication materials created | | Being considered under wetlands action plan from wetlands workshop. Minor obstacle is monitoring actual quality black duck habitat. |

ACTIONS – 2018-2019

Action #	Description	Performance Target(s)	Responsible Party (or Parties)	Geographic Location	Expected Timeline
Management Approach 1: Support efforts to restore Degraded Wetlands or Vegetation in Areas Where Black Ducks Have Historically Bred or Wintered.					
1.1	Support efforts to restore tidal wetland hydrology and restore key habitat for breeding, migration routes and wintering grounds.	a. Support restoration efforts in known black duck areas. b. Continue to use DST to identify new priority locations for habitat restoration.	USFWS, State Agencies, DU, NRCS, etc.	Tidal areas of Chesapeake Bay	Ongoing
Management Approach 2: Support efforts to Enhance and Manage Wetlands or Vegetation in Areas Where Black Ducks Have Historically Bred or Wintered.					
2.1	Support partner efforts to improve water level management on managed wetlands (replace compromised water control structures, leaking levees, etc. to improve management capability), restore SAV or converted wetlands, manage open marsh (to restore non-tidal waters back to salt marsh, for example), restore and manage riparian buffers, etc.	a. Support efforts to enhance and manage priority habitats as identified by the DST (how many water control structures replaced or installed, acres of habitat made available/enhanced, etc.)	USFWS, State Agencies, DU, etc.	Bay-wide	Ongoing

ACTIONS – 2018-2019					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
Management Approach 4: Support Other Conservation Actions Benefitting Waterfowl Habitats					
4.1	Improve methods of monitoring outcome progress. Make recommendations to improve the form and process of inputting NEIEN wetland data collection for each State, as well as confirm the accuracy of information reported.	a. Develop and formally adopt habitat-based indicator using bioenergetics model/DST. b. Develop and adopt progress reporting/monitoring process. c. Work with Living Resource Data Manager (LRDM) (assuming proposed position is funded) to: 1. Identify where data, already captured on NEIEN, could be used as part of the measures of progress toward the Black Duck outcome. 2. Identify and implement modifications to NEIEN to maximize existing data reporting processes towards Black Duck outcome. 3. Develop a training module and streamline processes that helps organizations, localities, states, and the federal government report data that could be accommodated with NEIEN to better track the associated data.	USFWS, State Agencies, DU, etc.	Bay-wide	Two years from start of LRDM position
4.2	Partner coordination; review and refine black duck guiding documents with new restoration/monitoring knowledge.	a. BDAT holds regular meetings and meets at least annually to revise Workplan, Logic Table, and Management Strategy as necessary.	Black Duck Action Team	Bay-wide	Ongoing

ACTIONS – 2018-2019					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**

4.3	Support scientific research efforts to remain up to date on black duck habitat needs.	a. Explore including SAV habitat in development of new Outcome indicator.
		b. Support USGS research on waterbirds including:
		    Assess the role of benthic and SAV abundance and tidal water quality in determining waterbird distribution and carrying capacity.
		      a. This is analyzing historical data of bird and food resource data to identify any trends that will help us forecast changes in food and, therefore, bird distributions.
		2. Model potential for avian influenza transmission risk at the wild-domestic interface in the CB region.
		3. Impacts of HABs on wildlife (mainly focuses on Poplar right now)
		1. Engage stakeholders to address science needs and inform decisions.
			Black Duck Action Team, USGS	Bay-wide	2022