Worksheet 1A.Examine Category 1 Climate-Smart Design Considerations: *Climate change effects on Target stressors*

*Black Ducks-Wetlands*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **A1** | **A2** | **A3** | **A4** | **A5** | **A6** | **A7** |
| **Action number** | **Existing Management Action** | **Target Stressor(s)** | **Climate change effects on stressor(s): (direction, magnitude, mechanism, uncertainty)** | **Timing of climate change effects** | **Implications for effectiveness metrics and how to measure them** | **Notes** |
| 1 | **Chesapeake Rivers Conservation Phase II**: Conservation easements and habitat protection & restoration. | Loss of habitat due to:   * Residential development & habitat fragmentation * Drainage of wetlands for agriculture | * There is little direct effect of climate changes on human residential development & habitat fragmentation, but the projected increase in frequency and intensity of rainstorms could increase effects of development, e.g.:   + Flashier runoff from impervious surfaces.   + Increased runoff of sediments from disturbed land (including agricultural lands contained within the project area). * There is little direct effect of climate change on agricultural drainage in this area. | * Climate changes in precipitation, runoff, and severe storms are already occurring. | **Effectiveness metrics:**  Acres of wetland habitat remaining undeveloped. Some measure of wetland function or quality, e.g species diversity, sediment accretion. Number of nesting or feeding waterfowl.  **Targets for metrics:**  **Implications for how to measure metrics**: Monitoring protocols with fixed timing or locations may need to be modified to account for shifts in habitat use or changes in phenology. |  |
| 2 | **Nanticoke Watershed Improvement Project (Maryland**): *Phragmites* eradiation. | * Invasion by *Phragmites australis* |  |  | **Effectiveness metrics:**  **Targets for metrics:**  **Implications for how to measure metrics:** |  |
| 3 | **Rappahannock River Conservation Partnership Phase I**: Conservation easements & habitat management. | * Development and habitat fragmentation; the Davis property may be sold for further development if not purchased for conservation easement. |  |  | **Effectiveness metrics:**  **Targets for metric:**  **Implications for how to measure metrics:**. |  |
| 4 | **Dragon Run, Phase I (Virginia)**: Conservation easements. | Loss of black duck habitat due to:   * Residential development & habitat fragmentation * Hardwood harvesting | . |  | **Effectiveness metrics:**.  **Targets for metric:**  **Implications for how to measure metrics:**. |  |
| 5 | **Chesapeake Rivers Conservation Phase I**: Conservation easements & habitat protection. | * Development * Intensive sylviculture |  |  | **Effectiveness metrics:**  **Targets for metric:**  **Implications for how to measure metrics**: |  |