**Chesapeake Bay Program's Brook Trout Workgroup**
**Guidance for Determining Brook Trout Extirpation**

This document serves as guidance for Chesapeake Bay Program Partners within the Brook Trout Workgroup for determining Brook Trout extirpation within previously occupied catchments of the Chesapeake Bay Watershed. Use of this document is intended to provide partners with general spatio-temporal sampling guidelines to improve confidence when deciding to designate a previously occupied catchment as extirpated.

**Note**: Partners are not expected to routinely provide current brook trout occupancy records for all known catchments. This document is intended only to advise partners when scheduled surveys occur and brook trout are not collected in previously documented locations. All historically occupied catchments that are not sampled within occupancy reporting windows will be assumed present until subsequent sampling following this guidance confirms extirpation.

Decisions made from this document will inform annual progress monitoring towards the **Brook Trout Outcome Occupancy Goal:** *By 2035, the goal is to increase brook trout occupancy by 1% in watersheds currently supporting healthy ("stronghold" or "persistent") populations, while ensuring no net loss in other occupied habitats*.

***Whereas***: Providing current occupied vs. extirpated designations within catchments will maintain our baseline for tracking brook trout occupancy through annual reporting via program partners.

***Whereas***: Determinations by program partners should be based on a combination of spatial and temporal monitoring occasions utilizing both backpack electrofishing and eDNA sampling.

**Guidance**:

1. Failure to detect brook trout at historically present monitoring sites should be followed up by identifying suitable habitats within the catchment in order to maximize detection probabilities via backpack electrofishing. Depending on catchment size, 3-5 100m spatially distributed surveys should be conducted within the sampling season under ideal flow conditions for maximizing detection probability.

2. Additional eDNA samples should be collected at each of the survey sites. If no brook trout are detected via backpack electrofishing or eDNA, partners should sample a second year using the same protocols. If no fish are collected or detected by the end of year two, then partners may designate the catchment as extirpated.

3. If eDNA equipment is not available to partners, then a third year of backpack electrofishing survey work should follow utilizing the same monitoring protocols. In this

case, if no brook trout are collected within three years, then partners may designate the catchment as extirpated.

4. *Informed Judgement Clause*: In the absence of backpack electrofishing and/or eDNA surveys, partners (i.e. trained fisheries biologists) may also make informed judgements on extirpations from other data collected such as, temperature and/or water quality, local knowledge of habitat suitability, or land use changes that are deemed uninhabitable by brook trout.