Checklist for a wetland monitoring program survey design

1. Program objective:

2. Target Population:
   • What wetland resources are to be monitored?
   • What are the "elements" of the resource? Is the resource viewed as a collection of points, lines or polygons?
   • Be clear about the target population. Are there special considerations that a field crew should use to determine if a particular wetland is included or excluded (i.e., created v. natural wetlands)?

3. Subpopulations:
   • In addition to the overall target populations, are there other subregions and/or subclasses of the aquatic resource that information must be provided for?
   
   For example, ecoregions within a state, or wetland habitat unique/rare in the state/region (areas of special concern).

4. Sample Frame:
   • What GIS coverage will be used to represent the target population?
   • What are the limitations of the GIS coverage in terms of covering the target population?
   • Are there additional frames that can be added to the sample frame to increase the coverage of the target population?

   Note: check NWI codes (modifiers) to help “clean up” the sample frame

5. Indicators:
   • What indicators will be summarized for the target populations and subpopulations?
   • These may be field measurements or derived variables, e.g. IBI scores.
   • Every element of the target population should have a value for each indicator.
   • It must make sense to have a single value for the indicator for each element. If it doesn't, then may need to change the element.

6. Stratification or unequal probability categories:
   • In addition to subpopulations are there other characteristics that must be accounted for in the design?

   For example, it is typical to do unequal probability categories based on stream size otherwise most of sites selected are headwater streams.

   Note: subpopulations will inform how you stratify

7. Status, Trends, Change:
   • Will the monitoring be completed in a single year or will it continue over multiple years?
   • Are status estimates required for each year? For combined years 1-5?
   • Are estimates of change between two time periods required?
   • If so, is knowledge of overall change (called net change) or gross change (i.e. if bad sites are better and good sites are now bad?) needed?
   • Are trend estimates over a 10-20 year period needed?

8. Sample size:
   • What is the total number of site-visits that are possible within a single monitoring period?

   The number of unique sites visited may be less than the number of site-visits, i.e., some sites may be revisited within the same period.

   Note: limited by budget, staffing, etc.

9. Practical Constraints and Logistics:
   • For example, constrained by resources, funding, time, and access to private property.