Checklist for BMP Monitoring

Date: _____ Location: _____

1. Define the monitoring objective:
   - ☐ Regulatory compliance for NPDES permit
   - ☐ Educational purposes
   - ☐ TMDL or BMP effectiveness
   - ☐ Baseline data collection
   - ☐ Other: _____

2. Pollutant(s) of concern: _____
   - ☐ Physical
   - ☐ Chemical
   - ☐ Biological

3. Pollutant properties:
   - ☐ Dissolved
   - ☐ Particulate

   - ☐ Moves through groundwater
   - ☐ Moves through subsurface flows
   - ☐ Utilized by plants
   - ☐ Adsorb to soil particles

4. Pollutant characteristics:
   - Are there natural seasonal variations in the pollutant of concern? ☐ Yes ☐ No ☐ Maybe
   - Are concentrations affected by temperature? ☐ Yes ☐ No ☐ Maybe
   - Are concentrations affected by flow? ☐ Yes ☐ No ☐ Maybe

5. Water flow: ☐ Perennial ☐ Intermittent ☐ Ephemeral

6. Pollutant enters the stream: ☐ Subsurface flow ☐ Overland flow ☐ Stream Channel ☐ Other: _____

7. The pollutant is transported during: ☐ Base flow ☐ Snow melt ☐ Storm events

8. The pollutant concerns are likely to occur during (check all that apply):
   - ☐ Spring
   - ☐ Summer
   - ☐ Fall
   - ☐ Winter

9. What BMP(s) will be implemented: _____

10. How long is expected before the BMP will become effective for the pollutant of concern:
    - ☐ Within 1 year
    - ☐ 2 - 4 years
    - ☐ 5 or more years

11. For what distance of stream is the BMP expected to be effective:
    - ☐ Less than a mile downstream of the BMP
    - ☐ Up to 5 miles downstream of the BMP
    - ☐ Greater than 5 miles downstream of the BMP

12. Are there problems directly monitoring the pollutant of concern:
    ☐ Expensive ☐ Difficult (procedure) ☐ Other _____

13. Should a surrogate or related parameter be monitored: ☐ Yes ☐ No ☐ Maybe

14. Would the use of a model enhance the sampling approach: ☐ Yes ☐ No ☐ Maybe

15. Are there existing data for this sampling site or water quality concern:
    ☐ Federal (USGS, USFS, BLM, NRCS, USEPA)
    ☐ State (environmental quality)
    ☐ University (research and Extension)
    ☐ Local Government (County, City, Conservation District, Water Utility)
    ☐ Private or Other

16. Which sampling design best fits the pollutant and project area:
    ☐ Upstream and downstream monitoring
    ☐ Reference site comparison (Before and after implementation – BACI)
    ☐ Downstream before and after monitoring
    ☐ Historic data comparison
    ☐ Monitoring site runoff

17. Do sampling locations have any special challenges or constraints:
    ☐ Safe and legal access
    ☐ Nearby roads or hike-in only
    ☐ Time consuming to sample the site
    ☐ Bridge accessibility during high flows
    ☐ Access to electricity for equipment
    ☐ Canopy clearance for remote access to data

18. What type of samples will be collected (check all that apply):
    ☐ Water column: ○ grab sample of water column ○ integrated sample of water column

    ☐ Biological Monitoring: ○ macroinvertebrates ○ periphyton ○ fish

    ☐ Habitat Monitoring: ○ streambed properties ○ stream bank properties

    ○ stream morphology ○ riparian conditions

    ☐ Monitoring outside the water body: ○ land use ○ TMDL/watershed management plan

19. How many samples should be taken and at what frequency:
    ____ Samples a day / week / month / quarter / year (indicate # of samples and circle time frame)

20. Are standardized methods being used: ☐ Yes ☐ No
    If not, define the method and explain why standard methods are not being used:
    _____

21. Is a certified lab required for analysis: ☐ Yes ☐ No

22. Are there State credible data requirements that must be met: ☐ Yes ☐ No

23. Should there be separation of duties between sample collection and analysis: ☐ Yes ☐ No

24. If contracting with the lab, have the analytical methods been verified: ☐ Yes ☐ No

25. How will data be recorded:
    Field Data: _____
    Lab Data: _____
    Equipment Calibration/Maintenance: _____

26. Who will review the data for errors:
    ☐ Sampler ☐ Staff ☐ Independent third party

27. What type of data analysis will be conducted:
    ☐ Trend Data ☐ Before & After ☐ Paired Watersheds
    ☐ Time Series ☐ Other: _____

28. Will any statistical analysis be performed:
    ☐ Descriptive & Summary Statistics
        - ○ Arithmetic Mean
        - ○ Geometric Mean
        - ○ Median
        - ○ Distributions
        - ○ Measures of Variability

    ☐ Exploratory Data Analysis
        - ○ Histograms
        - ○ Time Series
        - ○ Comparisons
        - ○ Pie Charts

    ☐ Comparative Statistics
        - ○ Correlations
        - ○ Regressions
        - ○ Student T-tests
        - ○ Other_____

29. What is the intended length of the sampling project: _____

30. How often should the sampling objectives and sampling design be reviewed and updated:
    _____
    _____
    _____

31. Any additional information:
    _____
    _____
    _____