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Marsh Re-Sampling Guidelines

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Defining the Problem

- Certain compliance tests are required to collect phosphorus data at a set frequency
- Compliance tests, particularly marsh programs, are not designed to accept data from the same station on a more frequent basis
- On occasion, marsh stations have been re-sampled, generating two data points per sampling period

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Theoretical Causes of Re-Sampling

- Sampling Failure
  - Example: Samples are not properly preserved
  - Result: Samples must be discarded
- Laboratory Failure
  - Example: Samples run out of hold time
  - Result: Data must be qualified
- Project Logistics
  - Example: Frequency of sampling is greater than required for the compliance test
  - Result: More data than needed causes confusion over how to handle data
- Result Validation
  - Example: Sample results are outside expectations
  - Result: Project managers suspect sampling error

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Factors Influencing the Policy

- TPO4 is the only parameter subject to monthly compliance testing
- Total depth of the water column is a mitigating factor for sampling and compliance testing
- There are no requirements to sample the stations in a particular mandate within the same day
- There is significant value in minimizing the time between sampling of stations within a specific water body
- Re-sampling creates significant problems for regulatory enforcement

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Guidelines for Logistics

- Resolve project overlaps and eliminate associated re-sampling if possible
- For stations sampled more frequently than monthly, standardize the way data is handled by the compliance test

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Guidelines for Sampling Failure

- Only failures in TPO4 and water depth may trigger a re-sampling event
- In order to trigger automatic recollection the sampling failure must consist of at least 3 samples which amount to at least 25% of the samples required for the monthly compliance test for that water body.
- If the compliance test is time or stage sensitive, the recollection must be carried out on any other regularly scheduled trip within two days of the original event.
- If the compliance test is not time or stage sensitive, the recollection can be carried out on any other regularly scheduled trip within that month, unless ambient conditions have obviously changed.
- Recollection for sampling failure requires that all parameters associated with the original sample be recollected.

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Guidelines for Laboratory Failures

- Since lab failures are unlikely to be determined within two days of the sampling event, this condition is not likely to trigger a re-sampling and no recollection is recommended.
- In the event that a laboratory failure is discovered quickly, the guidelines for sampling failure can be implemented.

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Guidelines for Result Validation

- Triggered only by TP and depth for compliance testing
- Used only in unusual events (+-2sd)
- Requires reanalysis and QA review
- This protocol should be invoked for systematic sampling errors believed to impact the entire trip. If the error can be isolated to a specific station or stations, field sampling failure guidelines should be used.
- Must be collected within the same month, preferably within two weeks
- Requires management approval (Division/Department Director)

Guidelines for Result Validation

- Re-sampling is not station specific, the entire trip, including all parameters and stations should be re-sampled
- Field notes and sample comments should clearly identify this as a recollection.
- Results from the recollection will not automatically supersede those from the original sampling event.
- The TOC will be notified at the next scheduled meeting.