

***Resampling Guidance:
When Should Field Crews Resample
Water Quality at a Site?
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Issues

- Sites in a compliance network may be sampled at varying frequencies to meet other programmatic requirements
- Some sites have more frequent data than is required for compliance purposes
- A small minority of stations were resampled because samples were compromised
- **This analysis addresses only the resampling issue**

Context for Resampling

- For the small minority of samples that are compromised, District staff have no guidance on when a station should be resampled
- Recent experiences in the Refuge and Park point to the need to clarify when resampling is needed

Resampling Guidance

- Identify influencing factors and needs
- Provide guidance on:
 - causes
 - when resampling should be approved
 - when resampling should be denied

How are samples compromised?

- Field Issues
 - Samples not collected, lost/damaged or improperly preserved/handled
 - A rare occurrence
 - Focus of audits and process improvements
- Laboratory Issues
 - Samples lost/damaged or improperly preserved/handled
 - A rare occurrence
 - Focus of audits and process improvements
 - Laboratory can detect some improperly preserved/handled samples
 - Developing process to communicate such detections to sampling staff for quick response if needed

Do All Events Need Resampling?

- No, routine water quality compliance of parameters can tolerate the occasional loss of data (e.g. Class III compliance)
- Only a few compliance tests are highly sensitive to data losses
- Need to identify critical stations, parameters and co-factors that may require resampling in the event samples are compromised

Sensitive Compliance Tests

- Settlement Agreement
 - ENP Inflows
 - TPO4
 - Flow
 - LNWR Marsh
 - TPO4
 - Stage
- TP Rule
 - Not a TOC concern
 - Is addressed by the guidance policy

Settlement Agreement ENP Inflows

- S12A, B, C, D
- S333
- S334 & S356
- S332D
- S18C
- Only TPO4 is subject to the compliance test
- Flow through the structure is a critical co-factor

Guidance for Resampling Structures

- For structures flowing into ENP that are part of the Settlement Agreement compliance test --
- If TP samples are compromised
 - Regardless of flow conditions, all the affected station(s) should be resampled if feasible
 - For TP only
- Logistical limit
 - The compromised sample must be detected within 72 hours of the sample time
 - Qualified field crews must be available and resampling must be within the same week as the original sample

Factors for consideration in sampling marshes

- The sampling of marshes presents a greater logistical challenge than sampling structures
- Complete sampling with no QA issues is the goal
- In the event some samples are compromised, how many should trigger a resampling?
 - 10% for LNWR 2/14
 - 20% for LNWR 3/14
 - 25% for LNWR 4/14

Settlement Agreement LNWR Marsh

- 14 Marsh Stations
- Only TPO4 is subject to the compliance test
- Stage Sensitive (15.42 feet NGVD)
 - Stage data availability has a lag
- Total clear water depth is a co-factor

Guidance for Resampling LNWR Marsh Stations

- If TP samples or the measurement of total clear water depth are compromised, the impacted station(s) must be resampled for all trip parameters
 - If four or more stations (with depths >10 cm) are impacted
 - If stage is above 15.42
 - This condition will be assumed unless current data is available
- Logistical limits
 - The compromised sample must be detected within 48 hours of the sample time
 - Resampling must be within 72 hours of the original sample
 - Resampling is contingent on available flight resources

What Happens if Stages Drop?

- As water levels drop, the number of marsh stations collected for the compliance test will decrease
- The compromised stations needed to trigger a resampling in LNWR will be adjusted with relation to the number of wet stations

<u>Wet Stations</u>	<u>Resampling Trigger (25%)</u>
13-16	4
9-12	3
5-8	2
1-4	

Historically, less than five wet stations usually indicates a stage under 15.42 ft

How does this help?

- This document provides monitoring staff with guidance on how to determine if a particular compromised sample is of concern and how to respond
- This document provides the TOC with assurances that the SFWMD monitoring staff have guidance that should result in a consistent response to compromised samples

Discussion

