

Appendix H

MONITORING REPORT INFORMATION

The goal of monitoring wetland mitigation sites is to prove that quantitative success criteria for hydrology and vegetation have been met and the target acreage claimed for mitigation is fully functional jurisdictional wetland. As soon as deficiencies are noted, remediation should be undertaken and reported. Monitoring may need to be lengthened to attain success criteria.

Monitoring frequency will be dictated by total number of years of monitoring. For large mitigation sites, such as mitigation banks, 10 years of monitoring is recommended, but frequency of monitoring can be lessened (Example: Year 1, 3, 5, 7, 10). If only 5 years of monitoring are planned, on-site data collection should be done once a year, starting at the end of the first growing season after planting. **Monitoring measurements should be directly linked to mitigation site goals.** Monitoring reports must be sent to all IRT agencies that participate in review and approval of a mitigation bank. In the event that the approved milestone timetables are not met, a revised monitoring schedule is mandatory. The new schedule will not commence until hydrological and vegetative milestones are met.

Monitoring should include documentation of hydrology; vegetation survival, density, composition, and measurements; and evidence of wildlife usage.

A plan view and map should be provided showing “as built” contours and “as planted” conditions. These should also show locations of sample plots/transects, wells/staff gauges, and photo points with arrows pointing to direction taken. Fixed point wide angle color photographs should be included in each monitoring report for comparison purposes.

Documentation of hydrology: Should include information such as the source(s) of hydrology, measurements (well data, staff gauges), comparison to baseline data and/or reference site, use of a functional assessment or a Drainmod model, and observations, such as:

- Evidence of overbank flooding, floodplain ponding, stains on trees
- Sediment scour and recent deposition
- Redistribution of detritus, presence of drift lines, debris dams and wrack
- Structural integrity of stream channel modifications for restoration, water quality

Vegetation sampling: Permanent vegetation sample plots should be set up with markers. All types of wetlands on the site should be sampled. For large sites, greater than 500 acres, a 1% sample should be sufficient. For smaller sites, a 5% or greater sample would be reasonable. Measurements of woody vegetation have already been discussed under “Success Criteria”. As soon as problems are noted, remedial measures should be taken and replanting should take place in the next planting window and reported in the monitoring report.

Documentation of wildlife utilization: Done by reliable observers during the correct season, time of day, and over a sufficient number of events for the type of wildlife. Evidence of wildlife can be based on direct observation or wildlife “sign”, bird calls, etc. Are wildlife corridors and

buffers to the site in use to access the site by birds and terrestrial wildlife?

Particularly for stream mitigation projects, fish species and macroinvertebrate species composition and diversity should be recorded before and after the restoration.

- A narrative discussion of the key elements of the proposed monitoring and contingencies plan.
- Names of party(s) responsible for the monitoring and contingencies plan.
- A description of the baseline conditions (e.g., soils, hydrology, vegetation, and wildlife).
- A schedule for monitoring activities and reporting.
- A listing of measurable success factors with quantifiable criteria for determining success.
- Definitions for success factors and other terms used in the plan.
- Descriptions of equipment, materials, and methods to be used.
- Proposed protective measures (e.g., restrictive covenants or conservation easements).
- Vegetation monitoring and contingency plan.
- Hydrological monitoring and contingency plan.
- Designation of reference site.

For stream mitigation, monitoring of physical parameters.