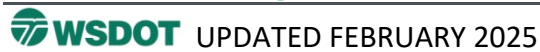


Tips for writing performance standards



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Review the U.S. Army Corps of Engineers and Washington State Department of Ecology's interagency guidance Wetland Mitigation in Washington State Part 2: Developing Mitigation Plans (<https://apps.ecology.wa.gov/publications/summarypages/0606011b.html>) Chapter 3.4.2 - Identifying Site-Specific Goals, Objectives, and Performance Standards.

This document supplements that chapter by providing tips for success from the Washington State Department of Transportation (WSDOT) Wetland Monitoring group for WSDOT compensatory mitigation sites. These general guidelines won't be appropriate for all situations. When possible, use reference sites, as described in the interagency guidance, to help inform what success might look like for a particular site. Contact the headquarters Wetlands Program to have us review the performance standards to ensure they will be realistic to monitor.

Monitoring periods may span from three years to 10 years, depending on the location and type of mitigation. Typically, on-site restoration of temporary impacts would have a monitoring period of three to five years. Other types of mitigation require longer term monitoring, not to exceed to 10 years.

Wetland Area

If you are writing a delineation performance standard, write it to apply to Year 5 as well as Year 10 (final year of monitoring). The Year 5 delineation results can be used to determine if adaptive management is needed if wetland acreage falls short of the target.

Vegetation Cover

For woody vegetation, we recommend setting a density target in monitoring Year 1. A typical native woody density performance standard for shrubs, or tree and shrub species combined, is to have at least four plants per 100 square feet (or 1,750 plants per acre).

If you need survival data for contract compliance, keep that separate from the regulatory compliance monitoring performance standards. The HQ Wetland Monitoring Team can still collect survival information for the contract plant warranty counts if needed.

After Year 1, we recommend switching to percent cover targets for woody vegetation. In some cases, it may be appropriate to keep a woody density standard through Year 3. However, keep in mind that woody density can be difficult to measure accurately beyond Year 1 if the planting palette contains species that spread rapidly through rhizomatous growth (e.g. snowberry and roses). Tables 1–3 provide suggested percent cover targets for different types of vegetation in different years of monitoring for Western and Eastern Washington.

Use these as a place to start considering what a realistic cover target is for your site. These are only suggestions based on what we found to be realistic based on data collected from WSDOT compensatory mitigation sites where monitoring has been completed.

Table 1. Wetland Native Herbaceous Cover

Year of Monitoring	Western Washington	Eastern Washington
Year 1	15 percent	10 percent
Year 3	30 percent	20 percent
Year 5	45 percent	30 percent
Year 7	60 percent	40 percent
Year 10	70 percent	50 percent

Table 2. Wetland Native Tree and Shrub Cover

Year of Monitoring	Western Washington	Eastern Washington
Year 3	20 percent	10 percent
Year 5	35 percent	25 percent
Year 7	50 percent	40 percent
Year 10	70 percent	50 percent

Table 3. Upland Native Tree and Shrub Cover

Year of Monitoring	Western Washington	Eastern Washington
Year 3	20 percent	10 percent
Year 5	30 percent	20 percent
Year 7	40 percent	30 percent
Year 10	50 percent	40 percent

Understory Plantings

For areas where you are trying to establish plantings under a mature tree canopy, specify that the survival or cover performance standard for this area only applies to the underplanted vegetation. Don't set performance standards extending beyond Year 5 because the under planted vegetation can be difficult to distinguish from the canopy after five years and measuring becomes unrealistic.

Reed canarygrass

On many sites, we don't have the resources to control reed canarygrass (*Phalaris arundinacea*) in perpetuity. Often the goal is to control reed canarygrass during the monitoring period to allow woody plantings to establish that will eventually shade out the reed canarygrass and provide better wildlife habitat.

For these sites we recommend setting a threshold of less than 20 percent cover for reed canarygrass for all monitoring years except the final year. Keeping cover of reed canarygrass below 20 percent for the first nine years is often enough to allow the woody plantings to grow to a height where they won't be outcompeted and can start shading out the reed canarygrass.

For Year 10, your performance standard could be, "Reed canarygrass will only exist as an understory component that does not outcompete native woody vegetation." This way, no matter what the cover of reed canarygrass is at Year 10, if the site is meeting the performance standard for the woody cover target, then we can request to close our monitoring permit conditions.

The Year 10 performance standard for emergent areas will need to consider that reed canarygrass won't be shaded out by woody vegetation. Therefore, maximum cover threshold should be no more than 25 percent. Proper site preparation and consideration of adjacent communities with a seed source will help inform an achievable threshold for this year 10 standard.