OPRD-Fitchett Tract Revegetation Proposal

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Background and Justification

The Oregon Parks and Recreation District's (OPRD) Fitchett Tract encompasses nearly 20 acres located along the Willamette River upstream from the Calapooia River confluence. Historically, the site likely supported riparian forest, forested wetland, shrub-scrub and emergent wetland plant communities that were part of the largely forested Willamette River floodplain (Oregon Biodiversity Information Center 2013). It now supports remnant riparian and floodplain forest along Fitchett Slough and the Willamette as well as a mix of common weeds, native shrubs and a variety of planted and naturally recruited trees. The site's inherent ecological value is further enhanced by its location between private residential land and Bowers Rock State Natural Area. The proposed project stems from recognition by the Calapooia Watershed Council, OPRD, several restoration practitioners, and the private landowner leasing the land of the benefits of expanding high priority Willamette Valley habitats and enhancing educational and recreational opportunities on public lands. Pending availability of funding, the proposed restoration activities would begin in 2014.

Proposed Areas and Activities

Existing Forest Enhancement Area

The topography of this roughly 8.7-acre area (Figure 1) is varied and includes Fitchett Slough as well as associated wetland depressions. Existing forest cover includes a canopy of medium and large trees, but the edges and portions of the understory are dominated by Himalayan blackberry (*Rubus armenicus*), reed canary grass or RCG (*Phalaris arundinacea*) and common agricultural weeds. The area is bordered to the south by agricultural fields and by highly disturbed vegetation to the north and east. Vegetation management and revegetation in the slough is both feasible and worthwhile, but any activities should be carried out in the context of plans to modify or replace several undersized culverts. Currently, connectivity with the Willamette is unnaturally restricted and opening the slough would likely result in more frequent and more extensive inundation. However, this would likely also result in earlier and more frequent drying during the summer months, which has implications for the establishment and persistence of native plant communities. With the caveat that the final extent of revegetation and weed control in and around the slough should be determined by hydrologic conditions and that such conditions are likely to be markedly different following a culvert replacement project, the higher wetland fringe and slough banks should be planted primarily to *Spiraea* and seeded with

Figure 1. OPRD-Fitchett Project Boundary

an *Agrostis exarata*/*Deschampsia elongata* mix. *Leersia oryzoides* seed and *Carex interrupta* and/or *C. obnupta* and *Scirpus microcarpus* plugs should be planted from the lower extent of the Spiraea plantings to the lowest areas occupied by RCG prior to treatment. Areas that typically experience prolonged summertime inundation should be left as open water/seasonal mud flats. The goal of this approach is to establish native woody cover in areas considered to be ideal habitat for RCG, to establish competitive herbaceous cover in areas considered marginal (i.e., nearly too wet) for RCG, and to allow for the continued existence of mudflats and/or the natural recruitment of obligate wetland plants such as Wapato or Alisma in areas too wet for RCG.

Activities in the rest of the forest should focus on releasing native vegetation from weed completion, the reestablishment of a multilayer canopy and the reduction of forest edge effects. Site preparation could be completed with a heavy duty flail mower, with a chainsaw crew or through a combination of the two. However, in light of the current availability of goats, managed browsing could also be used in site preparation beginning in 2014. The preferred blackberry control method employs a broadcast herbicide treatment in the fall prior to the first hard frost followed by cutting during the winter. This ensures adequate leaf area and the best timing for herbicide translocation while eliminating the need to cut the canes twice, as is commonly necessary when canes are cut during mid-summer prior to treatment. Cutting during the winter also avoids disturbance to nesting birds. In some cases, use of a flail mower during freezing weather can reduce soil disturbance.

The southern edge of the forest should be planted with several rows of thicket forming shrub species to create transitional habitat between forest and field to reduce the level and extent of reinvasion by shade intolerant weeds. Livestock fencing will be necessary to exclude all livestock from the project area prior to planting.

The proposed schedule and primary activities are as follows:

Year	Season	Activity
2014	All	Optional - pre-site prep using goats, as directed by PM
2015	July	Site prep mow RCG
2015	Oct	Site prep spray RCG and blackberry
2015/2016	Winter	Cut treated blackberry
2016	Feb/March	Seed blackberry treatment areas
2016	Feb/March	Install plants
2016	Spring	Ring spray
2016	Summer	Maintenance spot spray, treat RCG in confluence swale

2016	Fall	Maintenance spot spray, treat RCG in confluence swale
2017	Feb/March	Inter-plant as necessary
2017	Spring	In slough planting areas seed bare ground and install wetland plugs at 6" to 12" on center
2017-2019	Spring-Fall	Ring spray and 2-3 maintenance spot sprays per season as needed

Reforestation Area

Relatively flat and covering roughly 12.5 acres, this area supports extensive Himalayan blackberry and RCG, particularly at the western end (Figure 2), as well as other common agricultural weeds. Although these invasive species are extensively intermixed through much of the site, approximately 3.0 acres are dominated by RCG and approximately 3.5 acres are dominated by blackberry. Activities should include extensive site preparation using the methods described above followed by seeding with native grasses and woody plant installation. Planting should follow subtle variations in topography and soils, with wetland plants concentrated toward the western end of the site. The forest margins along the east and north boundaries should be planted using shrubs in the manner described above.

The proposed schedule and primary activities are as follows:

Year	Season	Activity
2014	All	Optional - pre-site prep using goats, as directed by PM
2015	Fall	Site prep spray blackberry and RCG
2015/2016	Winter	Cut all planting areas
2016	Feb/March	Seed blackberry treatment areas
2016	Feb/March	Install plants
2016	Spring	Ring spray
2016	Spring	Maintenance spot spray
2016	Summer	Maintenance spot spray
2016	Fall	Maintenance spot spray
2017	Feb/March	Inter-plant as necessary
2017-2021	Spring-Fall	Ring spray and 2-3 maintenance spot sprays per season as needed

Figure 2. View to south of Reforestation Area with Existing Forest Enhancement Area in background

General Approach and Methods

The proposed revegetation approach is Rapid Riparian Revegetation (Guillozet et al., in review) which seeks to reestablish canopy cover as quickly as possible through the use of woody plants planted at densities derived from nearby reference sites. The proposed plant list reflects species currently growing in the area and includes many that provide excellent forage and cover for birds and other wildlife. The revegetation approach employs a high ratio of shrubs to establish 'trans-successional' assemblages that support late-seral species and do not require thinning. A primary objective is to increase the overall resilience of vegetation communities to multiple sources of disturbance (D'Antonio et al. 2004, Miller et al. 2007). Development of a multi-layer canopy will create conditions far less favorable to shade intolerant invasive species. Although shade tolerant weed species such as English ivy, holly and false brome will likely pose a threat to the forest, we propose to establish a cost-effective monitoring and stewardship program to minimize reinvasion of the restored forest. To further minimize future maintenance

costs, all work areas will be managed to logical boundaries to minimize edge effects and unmanaged areas.

Plant materials, planting layout and maintenance practices will be geared toward maximizing efficiency. Site preparation will involve mowing, chainsaw cutting and spot and broadcast herbicide application by licensed contractors. Seeding with native grasses and, to a lesser extent, native wetland plug planting will also be used as a means of establishing effective ground cover to compete with weeds. The plant stock will include one to two-year old bare root seedlings. Plants will be installed during February or March in curving, evenly spaced rows to facilitate access for maintenance and help create natural looking forests. Final species selection and row spacing will determined by target stem densities and intended maintenance methods and will account for both low level (e.g., weed introduction, trampling) and high level (e.g., scour, aggradation, tree falls) disturbances associated with river processes during high flows.

Seasonal maintenance treatments tailored to varying conditions across the site will continue for approximately five years depending upon site conditions. Generally, an early season ring spray around each plant will be used to minimize grass competition for soil moisture and prevent damage by voles. Summertime maintenance treatments will typically focus on maintaining beneficial cover while controlling problem weeds. No plant protection tubes, weed mats or irrigation will be used in the project. The Calapooia Watershed Council's Project Manager will complete site visits throughout each year to guide and asses weed control and revegetation practices and timing. The herbicides and surfactants to be used are not on *Salmon Safe* watch lists.

References

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