

Forest Practices Stewardship Memo

Historic Columbia River Highway State Trail (Segments E
and F) Columbia River Gorge National Scenic Area

Hood River County



Prepared for:



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Federal Highway Administration

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Introduction.

This Stewardship Plan outlines how the proposed project will utilize forest practices to restore oak woodlands at three sites: Viento Maintenance Site, Stepped Cut Site and Chetwoot Trail Site. These sites were selected to mitigate impacts to oak woodlands associated with the construction of Segments E and F of the Historic Columbia River Highway State Trail (HCRHST). Since the mitigation goals will not initially meet the prescribed forest opening requirements for Oak Woodlands set forth in Table 1 (CRGC 2016) prior to project completion, this stewardship report has been written to document the goals, practices and long term management of the aforementioned sites.

Location

All three sites are currently owned and operated by Oregon Department of Parks and Recreation (OPRD) and are generally managed for trail recreation (Figure 1). The Viento Maintenance site sits on a north slope abutting the Viento Park Maintenance facility and campground. The Chetwoot and Stepped Cut site are located on North facing slopes on top of cliffs abutting I-84. All three sites either contain healthy oak trees, are adjacent to healthy oak woodland communities, or contain remnant understory dominated by elk sedge. The three sites are also within a historic 'oak band' along the north facing cliffs/slopes in this section of the Columbia Gorge.

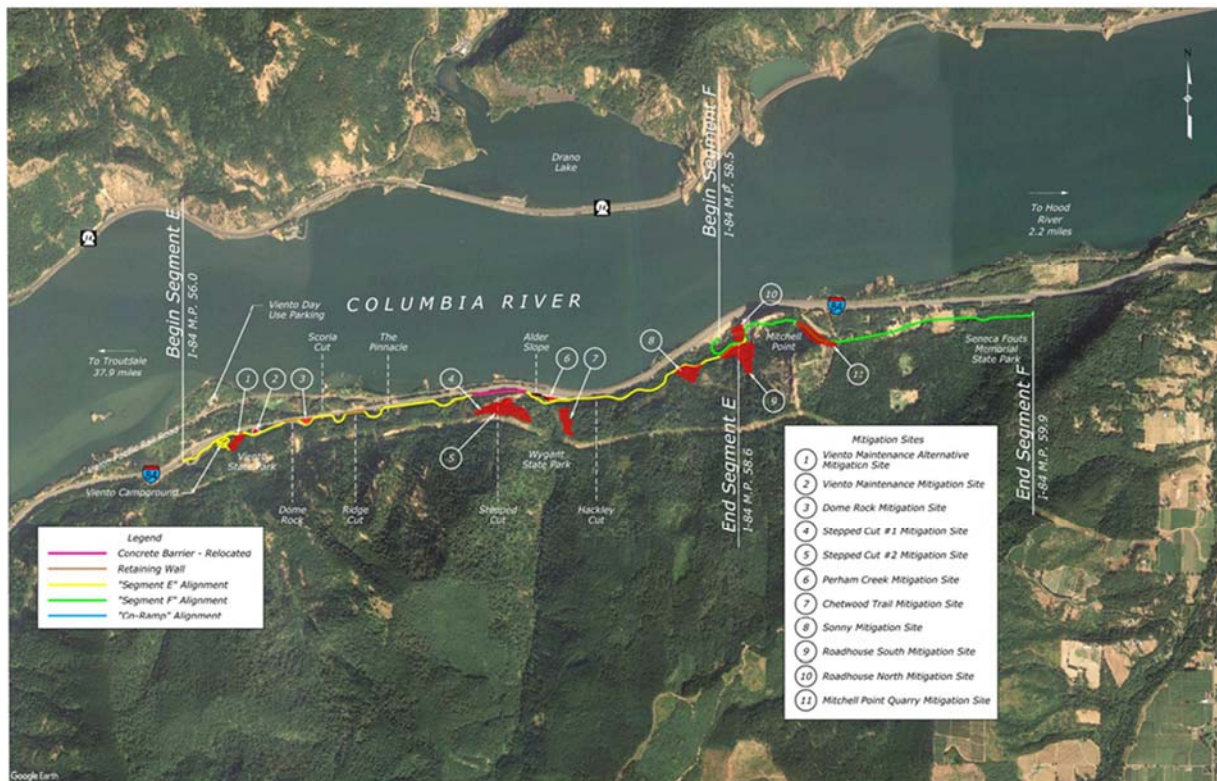


Figure 1. Mitigation sites along the HCRHT alignment. Viento Maintenance (#1), Stepped Cut (4&5) and Chetwoot Trail sites (#7) will utilize forest practices and are discussed in this memo.

Prescriptions and Timelines

Due to decades of fire suppression, Douglas fir has encroached on the community and is slowly choking out the Oregon oak trees, in areas killing all oaks, and slowly converting the forest to a Conifer woodland. The project will utilize forest management practices to restore these sites through removing Douglas fir, opening the forest canopy and oak planting. Within the site boundaries, all conifers will either be cut and removed, or left onsite as downed wood and snag habitat, per Table 1, except ponderosa pine which will be retained wherever found. Additional snag habitat will also be created within these sites to mitigate project impacts to snag habitat. Oak and native associated understory plant will be planted as needed, to supplement the oak community and accelerate the overall community establishment and dominance.

DESIRED FOREST STRUCTURE AND PATTERN								
1	2	3		4		5	6	7
Vegetation Type [#]	Forest Structure (Average % total canopy closure (cc))	Typical Forest Opening s Size Disturbance caused		Percent Openings at One Time		Leave Trees Includes all available remnant old forest	Average Down Wood Pieces 30 ft long per acre (scattered)	Average Snags (Conifers) No. per acre Snags are 20-40 ft in height
		Historic (Natural)	Desired	Historic (Natural)	Desired			
West Conifer	60-80% canopy closure Understory layer variable (0-60% of total cc)	Variable sizes with mosaic pattern, irregular shapes Mosaic fire 1-100 acres Catastrophic fire over 100 acres	Retain forested character Allow openings up to 15 acres (up to 5 acres in the foreground of KVAs) All openings 1 acre or less on National Forest land and all Open Space LUD Openings retain 15 - 40 % canopy closure.	10% (mosaic fire) up to 55% (catastrophic fire) Intense fire return interval is 300 yrs	Not to exceed 8% for West Coniferous Woodland Landscape Setting and not to exceed 4% for Gorge Walls, Canyonlands and Wildlands Landscape Setting Widely dispersed, variable sized mosaic of irregular shapes blending with existing openings	Leave 15% of existing trees per acre throughout opening and in clumps Include 3 trees per acre of the largest size trees available	18 - 25 pieces greater than 20" dbh	10 snags at 10" -20" dbh, and 7 snags greater than 20" dbh
East Conifer (Ponderosa Pine/Douglas fir)	40-80% canopy closure Understory layer less than 25% of total cc	Few Openings due to low intensity fires W¼ to 2 acres	Openings less than 1 acre Openings have 0 - 40% canopy closure Openings widely dispersed	1 -10%	1 - 10% (% by vegetation type)	No leave trees required	3 - 6 pieces greater than 20" dbh	5 snags at 10" -20" dbh and 3 snags greater than 20" dbh
Ponderosa Pine/Oregon Oak	25-60% canopy closure Understory layer greater than 25% of total cc.	Most natural openings due to poor soil Disturbance openings few	Openings less than 1 acre Openings have 0 - 25% canopy closure Openings widely dispersed	1 -10%	1 - 10% (% by vegetation type)	No leave trees required	1 - 3 pieces greater than 20" dbh	5 snags at 10" - 20" dbh and 3 snags greater than 20" dbh Oak snags can be counted if already dead or partially dead

Map available at the Forest Service National Scenic Area Office

* Does not apply to openings.

Dbh: Diameter at Breast Height

Clearing and plantings will occur within one year of construction of the HCRHT and sites monitored for 5 years to ensure successful establishment of the restoration. Oaks will be over planted to account for natural mortality and allow the stand to develop a more natural structure and spacing. Once monitoring is complete, site management will then return to OPRD. OPRD will continue to manage the area as an oak forest and for recreation. Ongoing management activities of the oak woodland by OPRD could entail removal of conifer seedlings at 5 year increments to maintain the plant community trajectory.

Long Term goals

The goal at the end of this project is to remove all douglas fir within the oak communities, create an over story of Oregon white oak, and a sustainable oak associated understory by year 5. In many places, mature oaks have been choked out already and will need to be completely replanted. This will result in a mosaic young seedlings with occasional older trees through the sites. Because of this, these areas will likely not meet the canopy cover requirements of 25-60% for an oak woodland by year 5. This will be temporary and as the oak mature, canopy closure is expected will reach the 25% threshold in approximately 20-30 years.

Mitigation Site	Item	Benchmark	Timeframe
Chetwoot, Bench Cut, and Viento Maintenance Sites	Oregon white oak density	≥ 50 stems per acre	By Year 5

References

Columbia River Gorge Commission (CRGC), and USDA Forest Service. 2016. *Management Plan for the Columbia River Gorge National Scenic Area*. CGRC, White Salmon, WA, and USFS, Hood River, OR.

URL: <http://www.gorgecommission.org/managementplan.cfm>.