

Elements of the HCP

The contents of an HCP are in part prescribed by federal regulations (16 USC 1531-1544). An HCP also includes descriptive information to provide context and rationale. This executive summary does not attempt to list and summarize each and every element. The key elements are the habitat conservation measures, the measures defined to monitor the effectiveness of the HCP and adapt to change as necessary, and the analysis of the biological outcomes likely to result from implementing the HCP.

Habitat Conservation Measures

The HCP includes 49 measures to protect and improve habitat and to avoid or minimize the impacts of the Bull Run water supply system. As a whole, these measures were designed to address the flow, temperature, and habitat impacts described above. Specific performance criteria dealing with timing, location, quantity, and procedures are prescribed for each measure. The measures are listed in Table ES-1.

Table ES-1. Habitat Conservation Measures

Category	Identifying Codes ^a	Watershed Location	Measure Names ^b
Bull Run River Flow	F-1	Bull Run	Minimum Instream Flows, Normal Water Years
	F-2	Bull Run	Minimum Instream Flows, Water Years with Critical Seasons
	F-3	Bull Run	Flow Downramping
	F-4	Bull Run	Little Sandy Flow Agreement
Bull Run River Temperature	T-1	Bull Run	Pre-Infrastructure Temperature Management
	T-2	Bull Run	Post-Infrastructure Temperature Management
Bull Run River Habitat	H-1	Bull Run	Spawning Gravel Placement
	H-2	Bull Run	Riparian Land Protection
	P-1	Bull Run	Walker Creek Fish Passage
	R-1	Bull Run	Reservoir Operations
	R-2	Bull Run	Cutthroat Trout Rescue
	R-3	Bull Run	Reed Canarygrass Removal

Table continued on next page.

Table ES-1. Habitat Conservation Measures, continued

Category	Identifying Codes^a	Watershed Location	Measure Names^b
Water System Operation and Maintenance	WS O&M-1	Bull Run	Bull Run Infrastructure Operation and Maintenance
	WS O&M-2	Bull Run	Bull Run Spill Prevention
Offsite Sandy Basin Aquatic and Riparian Habitat	H-3	Bull Run (Little Sandy)	Little Sandy 1 and 2 Large Wood Placement
	H-4	Lower Sandy	Sandy 1 and 2 Log Jams
	H-5	Lower Sandy	Gordon 1A and 1B Large Wood Placement
	H-6	Lower Sandy	Trout 1A Large Wood Placement
	H-7	Lower Sandy	Trout 2A Large Wood Placement
	H-8	Lower Sandy	Sandy 1 Reestablishment of River Mouth
	H-9	Lower Sandy	Sandy 1 Channel Reconstruction
	H-10	Lower Sandy	Turtle Survey and Relocation
	H-11	Lower Sandy	Sandy 1 Riparian Easement and Improvement
	H-12	Lower Sandy	Sandy 2 Riparian Easement and Improvement
	H-13	Lower Sandy	Gordon 1A/1B Riparian Easement and Improvement
	F-5	Middle Sandy	Cedar Creek Purchase Water Rights
	H-14	Middle Sandy	Sandy 3 Riparian Easement and Improvement
	H-15	Middle Sandy	Cedar 2 and 3 Riparian Easement and Improvement
	H-16	Middle Sandy	Alder 1A and 2 Riparian Easement
H-17	Middle Sandy	Cedar 2 and 3 Large Wood Placement	
P-2	Middle Sandy	Alder 1 Fish Passage	
P-3	Middle Sandy	Alder 1A Fish Passage	
P-4	Middle Sandy	Cedar Creek 1 Fish Passage	

Table continued on next page.

Table ES-1. Habitat Conservation Measures, continued

Category	Identifying Codes^a	Watershed Location	Measure Names^b
Offsite Sandy Basin Aquatic and Riparian Habitat	H-18	Upper Sandy	Sandy 8 Riparian Easement and Improvement
	H-19	Salmon	Salmon 1 Riparian Easement and Improvement
	H-20	Salmon	Salmon 2 Riparian Easement and Improvement
	H-21	Salmon	Salmon 3 Riparian Easement and Improvement
	H-22	Salmon	Boulder 1 Riparian Easement and Improvement
	H-23	Salmon	Salmon 2 Miller Quarry Acquisition
	H-24	Salmon	Salmon 2 Miller Quarry Restoration
	H-25	Salmon	Salmon 2 Carcass Placement
	H-26	Salmon	Boulder 0 and 1 Large Wood Placement
	H-27	Zigzag	Zigzag 1A Channel Design
	H-28	Zigzag	Zigzag 1A and 1B Riparian Easement and Improvement
	H-29	Zigzag	Zigzag 1A, 1B, and 1C Carcass Placement
	H-30	Multiple	Habitat Fund
Terrestrial Habitat	W-1	Multiple	Minimize Impacts to Spotted Owls
	W-2	Multiple	Minimize Impacts to Bald Eagles
	W-3	Multiple	Minimize Impacts to Fishers

^a The code letters refer to flow (F), temperature (T), habitat (H), passage (P), reservoir operations (R), water system operation and maintenance (WS O&M), and wildlife (W).

^b The numbers in the measure names refer to the river “reach” where the measure will be implemented. See Appendix B for definitions of these river reaches.