

APPENDIX C

Example of Prioritized Action Table for MSAs

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MSA 13 – ASOTIN CREEK SPRING/SUMMER CHINOOK SALMON

The following is an example of the tables used to formulate and prioritize the actions proposed for the Major Spawning Aggregations. The table contains a description of prioritized habitat elements, associated objectives, and prioritized strategies. Actions to implement the strategies, the feasibility of the actions, the implementation schedule, and the associated costs are also presented. Feasibility is a subjective assessment of the social acceptability and cost benefit of each action.

Habitat elements were ranked based on each element’s impact on productivity as determined by EDT, i.e., the habitat factor which has the greatest effect on productivity in the MSA is the considered to have the highest priority. Ranking values for the four highest priority elements are presented. The strategies were ranked by the RTT based on the ability of the strategy to mean the habitat objective.

Geographic Area	Habitat Element	Objective	Habitat Element Priority ^a	Strategy Categories ^b	
Mouth to headwaters including George Creek	Large Woody Debris	1 to 2 pieces per channel width	1	Improve channel and floodplains	1
				Improve riparian areas	2
				Improve instream habitat	3
	Substrate Embeddedness	10% to 20%	2	Improve riparian areas ¹	1
				Improve uplands ²	2
				Improve channel and floodplain function	3
				Improve instream habitat	4
				Improve water quantity	5
	Confinement	10% to 40% streambank length	3	Improve channel and floodplain	1
				Improve riparian areas	2
	Riparian Function	50% to 90% of maximum	4	Improve riparian areas	1
				Improve channel and floodplain function	2
				Improve water quantity	3
	Maximum Temperature	Decrease summer daily maximum temperatures to less than 4 days above 75F, and less than 12 days above 61F.	4	Improve riparian areas	1
Improve water quantity				2	
Improve channel and floodplain				3	
Improve instream habitat				4	
Pools	12% to 25% or more surface area		Improve channel and floodplain	1	
			Improve riparian areas	2	
			Improve instream habitat	3	
			Improve water quantity	4	

Strategy Categories	Suite of Actions	Lead Agency	Feasibility	Schedule	Implementation Cost
Improve uplands (by implementing actions to decrease erosion and increase water infiltration)	CRP or CRP-like action if CRP cap exists	FWA/USDA	High	200 acres/yr	\$65/acre
	Direct Seed	CD	High	500 acres/yr	\$27/acre
	Reforest timber lands	USFS, Tribes, WDFW	High	50 acres/yr	\$30/acre
	Convert annual crops to perennial crops	CD	High	1,000 acres/yr	\$30/acre
	Maintain roads and ditches to minimize sediment delivery (slope road away from stream, haul ditch spoils off-site, etc.)	County Road Dept	High	Unknown	Unknown
	Install grass water ways in fields and ditches.	CD	High	30 acres/yr	\$70/acre
	Install water control structures in fields, draws, ditches, etc.	CD	High	5 structures/yr	\$1,500/structure
	Install sediment basins at end of canyons.	CD	High	5/yr	\$4,000
	Control noxious weeds.	County Weed Board	High	100 acres/yr	\$50/acre
	Develop dispersed water sources and cross fences to improve range conditions.	CD	High	5,000' fence, 2 water sources per year.	\$3.20/foot for fence and \$50,000 for well/trough/pipe
	Protect and restore state and county road right-of-ways with perennial vegetation.	County Road Department.	High	10 acres/yr	\$1,000/acre
	Relocate roads where feasible.	County Road Dept, WSDOT	Low	0.4miles/yr	\$10,000 / mile to relocate plus \$1,000,000 / mile to pave.
	Pave roads with funds other than salmon recovery.	County Road Dept., WSDOT	High		\$100,000/mile
	Uphold and strengthen land use ordinances.	County Planning Dept.	High	Increase	Unknown increase
	Uphold and strengthen forest practices act.	DNR, USFS	High	Increase	Unknown increase
Uphold and strengthen building permit requirements to minimize soil erosion.	County building dept.	High	Increase	Unknown increase	

Strategy Categories	Suite of Actions	Lead Agency	Feasibility	Schedule	Implementation Cost
Improve and protect riparian habitat (by implementing actions to maintain water temperature by restoring vegetation and protecting from further impacts, provide LWD, filter sediment, stabilize streambanks and allow for lateral channel migration)	Implement CREP	USDA/FSA	High	100 acres/yr	\$291 / acre
	Enhance CREP or CREP-like program with additional cost share.	CD	High	100 acres/yr	\$291/acre
	Protect riparian zone from disturbances by implementing other types of riparian protection programs (easements etc.)	CD	High	20 acres/yr	\$2,500/acre
	Manage grazing in the riparian zone to minimize compaction and erosion.	CD	High	Unknown schedule.	Unknown increase.
	Fence livestock from riparian zone and develop alternative upland water sources for livestock excluded from riparian.	CD	High	1 site/yr	\$20,000 for well/trough/pipe
	Soft bank stabilization	CD	High	300 feet/yr	\$50/foot
	Control noxious weeds.	County Weed Board	High	20 acres/ yr	\$500 /acre
	Uphold and strengthen growth management act and critical areas ordinances.	County Planning Dept.	High	On-going	Unknown increase.
	Relocate roads in the riparian areas where appropriate.	County Road Department, WSDOT	High	5 miles / yr	\$10,000 / mile

Strategy Categories	Suite of Actions	Lead Agency	Feasibility	Schedule	Implementation Cost
Improve channel and floodplain function (by implementing actions and programs to increase channel meander and access to the floodplain, facilitate streambank re-vegetation, LWD retention, sediment reduction/deposition, increase instream habitat quality, and to improve geomorphic stability)	Modify channel to reflect desired channel geometry.	CD- WDFS	High	0.5 mile / yr	\$185,000 / mile
	Stabilize stream banks and channel conditions through soft bank stabilization.	CD, WDFW	High	300/feet/yr	\$50/foot
	Install weirs, j-hooks, and other channel narrowing structures to decrease width: depth ration and improve channel conditions.	CD, WDFW	High	3 units / yr	\$3,000 /unit
	Install large wood	CD, WDFW, Tribe, USFS	High	200 feet/yr	\$50/foot
	Uphold and strengthen growth management and critical areas ordinances to protect riparian zone.	County planning department	High	On-going	Unknown increase
	Set dikes back to increase sinuosity and flood plain connectivity.	County Planning Dept.	Moderate	300 feet / yr	\$100/foot
	Remove dikes to increase sinuosity and floodplain connectivity.	County Planning Dept.	Low	Unknown	Unknown
	Add large woody debris to mimic natural formations	CD, WDFW	High	200 feet / yr	\$50 / foot
Improve instream habitat (by development of instream structures to provide short-term habitat, manage bed scour, direct deposition of sediment, stabilize streambanks, and enhance channel complexity).	Limit removal of large woody debris from channel and floodplain.	WDFW, County Planning Dept.	High	On-going	Unknown increase
	Install instream habitat structures.	CD, WDFW	High	3 units/ yr	\$3,000 / unit
	Manage beaver populations.	WDFW	High	On-going	Unknown increase
	Riparian buffer programs (CREP, easements, livestock fencing/ will aid in stabilizing banks and provide long term LWD recruitment that will improve instream habitat.				

Strategy Categories	Suite of Actions	Lead Agency	Feasibility	Schedule	Implementation Cost
Improve water quantity (by implementing actions and programs to store, conserve, protect, and transfer water for the purpose of increasing stream flow)	Develop or protect wetlands for peak flow management and retention of water for release later in the year.	Planning Unit	High	0.3 acres / yr	\$500 / acre
	Implement water storage projects.	Planning Unit	High	0	0
	Implement Shallow aquifer recharge projects.	Planning Unit	High	0.33 sites / yr	\$20,000/site
	Implement irrigation and conveyance efficiencies.	CD	High	10 acres / yr	\$2,000 / acre
	Lease water rights and place in trust	DOE	Moderate	0.5 cfs / yr	\$50,000 / cfs
	Purchase water rights and place in trust.	DOE	Low	0.1 cfs / yr	\$100,000 / CFS
	Minimize water withdrawals by Rule	DOE	High	On-going	Unknown increase.
	Eliminate illegal water diversions	DOE	Unknown	On-going	Unknown increase.
	Protect conserved water from downstream withdrawals.	DOE	Unknown	On-going	Unknown increase.
Improving upland conditions will increase water infiltration and result in increased water quantity.					
Improve water quality (by implementing actions and programs to reduce pollutants in streams and rivers)	Implement urban stormwater BMP's	County Planning/ Building Dept.	High	On-going	Unknown increase.
	Implement rural stormwater BMP's	CD	High	1 site/yr	\$30,000 per site
	Uphold and strengthen county stormwater management plans.	County planning.	High	On-going	Unknown increase.
	Uphold and strengthen NPDES permits/ requirements.	DOE	High	On-going	Unknown increase.
	Adopt TMDL and implement actions to achieve those standards.	CD, county planning	Unknown	On-going	Unknown increase.
	Uphold and strengthen building permit requirements for on site water treatment.	County building dept.	High	On-going	Unknown increase.
	Implementing the upland and riparian strategies will address non-point sources of sediment and temperature as well as biological parameters.				