Appendix 3-D:

Dungeness Watershed Proposed Project List 2002-2005

DUNGENESS WATERSHED PROPOSED PROJECT LIST 2002-5

Project	Description	Science Review	Benefit	*Limiting Factors	Match Source	Sponsor/ Contact	Timing/ Duration	Status and/or Additional Comments
STRATEGIC ELEMENT #1: Restoration of Lower River Floodplain and Delta (up to RM 2.6)								
a. Land Purchase from Willing Sellers	Pursue the purchase of conservation easements and/or outright purchase from willing sellers of key riparian/floodplain parcels in lower 2.6 miles of Dungeness for the protection and/or restoration of limited salmonid habitat. Optimal parcels for protection include those that would accomodate the ACOE dike setback to the west side of Meadowbrook Creek and the private dike (Olympic Game Farm levee) setback to Ward Road.	DRRWG DRMT BOR	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Dikes; degraded floodplain; bank erosion; channel aggradation; off-channel habitat; riparian habitat conditions; p. 87, 88,105-107	ALEA, IAC, other State Private, CCD	Multiple: Tribe, County, NOLT, DRMT, WDFW	On-going, multiple years	County received SRFB grant April 2002 to purchase parcels from willing landowners on River's End Road, and to begin restoration activities in the estuary. Grant implementation in process.
b. Flood Plain Reconstruction	As described in an ACOE study of the Dungeness River Levee (ACOE dike), the 1963 dike no longer meets design criteria for flood protection. It poses negative effects on channel stability, lower river pink salmon spawning success, as well as spawning and rearing habitat for spring chinook. ACOE and BOR have made recommendations for dike and channel reconfiguration. The next phase in the project would be to develop and implement a plan for dike removal/setback/reconfiguration, taking into consideration the Schoolhouse Bridge expansion analysis completed by Clallam County (January 2002).	ACOE DRRWG BOR	**Chinook** Lower R. Pink Coho **Chum** Steelhead **Bulltrout**	Degraded floodplain; Dikes; p. 87, 91; Constrictions; p. 105, 107	County Road Fund, State Enhance-ment Fund, ACOE (?)	County	2002-5	Funding for flood plain reconstruction of the River's End area is included in the SRFB grant (April 2002).
STRATEGIC ELEMENT #2: Protection of Existing Functional Habitat								
a. Land Purchase from Willing Sellers	Priority parcels proposed for purchase (either outright or via conservation easements) from willing landowners would include those areas containing critical riparian habitat and side channels, as well as parcels linking areas which are currently protected from timber harvest and/or development. Potential areas meeting this description include: the Severson property, the Dawley Side Channel/Spring Creek (eastern side, upstream of Highway 101), and other areas recommended by the DRRWG (Land Protection Strategy).	DRRWG LFA	**Chinook** **Chum** Coho Steelhead Pink	Riparian protection and restoration; p. 98, 105	State, Fed, Tribe, Others	WDFW/ TPL, Fed, State, Tribe, Others	2002-5	Some purchases are currently in progress (2002). Partial funding is available. Match funding is being sought (2002).
STRATEGIC ELEMENT #3: Floodplain Restoration / Constriction Abatement (River Mile 2.6 - 11.3)								
a. Land Purchase from Willing Sellers	Priority parcels proposed for purchase from willing landowners (either outright or via conservation easements) would include those areas located within the floodplain that negatively impact natural river processes and ultimately degrade habitat. Areas to consider may include: ~ Kincade Island ~ Haller Dike area ~ Ward Road ~ Other areas	DRRWG LFA BOR	**Pink** **Chinook** Coho **Chum** Steelhead	p. 91		County	On-going; Multiple years	County recently applied for but was denied FEMA funds for land purchases on Kincade Island (September 2002).
b. Dike/Road Removal/ Setback	Analyze potential to improve floodplain function in areas that are constricted by roads, dikes, or bridges. Implement projects as feasable. Examples of areas to improve include: ~ Ward Road ~ Kinkade Island ~ Haller Dike area ~ Railroad Bridge Dike ~ Dungeness Meadows ~ Hatchery area ~ Other areas	DRRWG LFA	**Pink** **Chinook** Coho **Chum** Steelhead	LWD constrictions; p. 105				Comprehensive Flood Plan update in process. County received small grant from Ecology for Kinkade Island stream reach study (September 2002).
STRATEGIC ELEMENT #4: Dungeness Water Conservation/ Instream Flow Protection								
a. Piping/ Lining/ Other Conservation Plan Strategies	Projects have been identified in the Dungeness Agriculture Water Users Association Water Conservation Plan to replace leaking ditches/pipes. Pending completion of an EIS (late 2002), these projects are expected to result in an additional 5-10% usable chinook spawning area.	DRRWG DOE LFA	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Low flows, temps., fish access; p. 86, 99-104, 107	Tribe, WUA	Tribe, WUA, CCD	Next 5-10 years	Irrigation consumption reduced by 1/3 in last 5 years; Water Conservation Plan completed 1999. EIS pending; CIDMP in process (2002). CCD has funding for water quality projects that also provide water conservation.
b. Re-regulating Reservoir Project	Pending EIS completion, this project would include construction of a re-regulation reservoir in the lower river, piping approximately 16,000 feet of irrigation laterals, and installation of a low-pressure watering system. The project would save an estimated 3.0cfs of instream water, increase useable fish habitat, and improve water quality by lowering river temperatures.	DRRWG LFA Water Conserv-ation Plan	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Low flows, temps., fish access; p. 86, 99-104, 107		WUA		SRFB application submittal expected in 2002, pending EIS completion for Water Conservation Plan.

DUNGENESS WATERSHED PROPOSED PROJECT LIST 2002-5

Project	Description	Science Review	Benefit	*Limiting Factors	Match Source	Sponsor/ Contact	Timing/ Duration	Status and/or Additional Comments
c. Water Right Leases and/or Purchases	Purchase and or lease water rights from irrigators for conservation purposes.		**Chinook** Lower R. Pink Coho **Chum** Steelhead **Bulltrout**	Low flows, temps., fish access; p. 86, 99-104, 108	WUO, landowners	DOE		Between August 1 and September 15, 2001, 13 landowners agreed to forgo irrigation on 1,030 acres (20% of the total commercially irrigated land in the Dungeness Watershed) through Trust Water Leasing Agreements.
d. McDonald Creek Conveyance Assessment	Conduct assessment to evaluate impacts to Dungeness salmon caused by the use of McDonald Creek for conveyance of irrigation water. Assessment to include an exploration of alternatives/solutions to conveyance of Dungeness River Water through McDonald Creek if warranted.	DQ LFA	Chinook Coho Pink	Fish passage; water quantity; p. 122-124				
STRATEGIC ELEMENT #5: Restoration of Functional Riparian and Riverine Habitat								
a. Restoration of Dungeness River Tributaries	Restore functional riparian habitat to tributary streams (Matriotti, Hurd, Bear) of the Dungeness River. Projects would contribute to habitat improvements, pollution prevention, and better bay water quality. Projects may include: ***Matriotti*** - increase woody and vegetative riparian buffers throughout, with special emphasis on the reaches between Highway 101 and Old Olympic Highway, and between Cays Road and Ward Road. This would expand upon restoration work already completed on this stream. **Hurd and Bear** - projects need scoping	DRRWG LFA	**Chinook** Coho Steelhead	Degraded conditions; temps., water quality; p. 109,111		CCD; NOSC; landowners; others		Landowner participation in the CREP program may be an option to help project success. CREP pays the cost to have wided riparian buffers established with five years of maintenance to assure survival. It also pays rent to participating landowners. Currently, one landowner in the Matriotti area of concern has signed up for CREP.
b. Revegetation Activities	Reforest riparian parcels with indigenous conifer and deciduous vegetation to ultimately restore old growth riparian forest conditions.	LFA	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Degraded riparian conditions. p 97, 105			On-going	Technical assistance to property owners necessary.
STRAGIC ELEMENT #6: Large Woody Debris Placement								
a. Railroad Bridge Area LWD Project	A conceptual plan for a large scale LWD project in the Railroad Bridge area is complete. Upon approval from DRMT/DRRWG, phase 2 of this project would include engineering and construction in the reach beteween Highway 101 and the RR Bridge.	DRRWG LFA	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Lack of habitat, diversity, bed instability, armored substrate; p. 93, 105		Tribe		Presentations to DRMT/DRRWG & public meetings will occur prior to engineering/ construction phase. Cost estimate: $750,000 plus.
b. Small-scale LWD Projects	Several smaller LWD projects are recommended and described in the Blue Book to improve and create salmon habitat and refugia. Projects with the most potential for success and least liability should be considered first.	DRRWG	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Lack of habitat, diversity, bed instability, armored substrate; p. 93, 105				Current focus is on more large-scale projects such as RR Bridge project or ACOE dike removal, but smaller LWD projects will be considered as opportunities present themselves.
STRATEGIC ELEMENT #7: Nearshore Habitat Protection and Restoration								
a. Dungeness Bay Restoration	Nutrient loading to the Dungeness River and Bay has resulted in habitat degradation through formation of algae mats, loss of oxygen, loss of eelgrass, etc. Irrigation water that returns directly to the Dungeness Bay may not meet water quality standards, and so it may contribute to some of the bay problems. Projects which would improve habitat and/or water quality conditions in the bay include: ~ irrigation tailwater treatment through constructed wetlands; ~ farm plans and Best Management Practices (BMPs); ~ removal of structures and septic systems in Dungeness River estuary ~ restore eelgrass beds	Clean Water Strategy; TMDL (DOE)	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout** Sturgeon	Access/connect-ivity, estuarine processes (develop & implement a strategy to restore estuarine functions & habitat), p. 77		County CCD JSKT WDFW DOH DOE	2002 until shellfish upgrade.	SRFB funding for land purchase from willing sellers at River's End obtained 2002. CCD currently doing farm plans. EPA funding available for septic upgrades. Removal of structures and septic systems in Dungeness River estuary will be initiated only after land purchase from willing sellers. Projects will benefit shellfish as well as salmon habitat.
b. Graysmarsh Restoration	Restore over 100 acres of high-quality saltmarsh estuarine habitat at the Gierin Creek estuary. This would be accomplished by 1) reestablishing the historic channel patterns within Graysmarsh (requiring the rehabilitation of approximately 7,500' of creek channel and 7,000' of tidal channel), 2) opening the estuary's historical outlet, and 3) removing or plugging the existing outlet culvert. This project would provide the most effective means available to restore a significant amount of estuarine saltmarsh habitat within the Dungeness salmon ecosystem.	LFA DRRWG	**Chinook** **Chum** Coho **Bulltrout**	Lack of estuarine habitat. p. 80 (Gierin Creek) and p. 104-107 (Dungeness River); also p. 167,168				Landowner has not expressed interest or permission to pursue.
c. Washington Harbor Restoration	Remove or modify the pipeline fill to restore unimpaired fish passage and tidal flux to 27 acres of saltmarsh and former eelgrass beds. Restore upstream and riparian areas on Bell Creek.	LFA	**Chinook** **Chum** Coho **Bulltrout**	Lack of estuarine and nearshore habitat. p 169, 171 (marine habitat) and p 104-107 (Dungeness R.)				

DUNGENESS WATERSHED PROPOSED PROJECT LIST 2002-5

Project	Description	Science Review	Benefit	*Limiting Factors	Match Source	Sponsor/ Contact	Timing/ Duration	Status and/or Additional Comments
d. Small Estuary Restoration	Several small creeks in the Dungeness Watershed have had their estuaries cut off in past years. Restoration of the estuary and tidal flow has been recommended, along with upstream and riparian restoration activities in each of the creeks (Cooper, Meadowbrook, Casselary).	DRRWG LFA	**Chinook** **Chum** Coho Steelhead **Bulltrout**	p. 109, 111, 122-129				
STRATEGIC ELEMENT #8: Barrier Removal								
a. Dungeness Barrier Removal (Canyon Creek)	Provide Canyon Creek intake with a new screening structure. Scope out and implement one of the following options: 1) retain the existing dam and equip with some type of fishway, 2) remove the existing dam and replace with a gravity-feed system that includes an intake placed somewhere upstream, 3) remove the dam and replace with a pump station, 4) replace the dam with a series of streambed controls that step the channel up to the intake structure.	HSRG DRRWG	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Fish access; p. 86, 117	State	State		2002 well tests found inadequate ground water supply. WDFW exploring other options and contracting for study of options (2002).
b. Fish Screen Improvements	Review and implement where appropriate recommendations in fish screen report by WDFW Yakima Screen Shop (October 2001).	WDFW	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout**	Fish access; p. 86, 117	Tribe, WUA, WDFW, DOE	WDFW		
STRATEGIC ELEMENT #9: Stock Recovery/ Rehabilitation								
a. Complementary Projects to Chinook Captive Brood Stock Program	The Chinook Captive Brood Stock Program is nearing completion (2003), and subsidiary activities will likely be necessary to continue working on maximizing the chinook's severely depleted gene pool. On-going activities include tagging (for which funding provides tags, labor, program oversight, and personnel to assist with tag recovery), evaluation, and data analysis. New activities to supplement natural production may be required.	Dungeness Chinook Technical Team HSRG	**Chinook**	Past hatchery practices	Tribe	Tribe		A few more years of tagging are necessary for evaluation purposes. Tagging project funded by Tribe and WDFW, pending additional budget cuts. Cost Estimate: $50,000/yr
b. Fall Pink Broodstock Program	Due to the 2001 winter high flows in the lower Dungeness (which are amplified due to channel constriction), it is likely that returns from the 2001 Pink Broodstock Program will be low in 2003. Therefore, a Pink Broodstock Program will likely be necessary in 2003. Funding is required for operating the weir and for the genetic stock analysis which helps distinguish fall (late) pinks from summer (early) pinks.	LFA	Fall pink	Landslides, streambed aggradation (braided channels); hatchery/coho predation; bank armoring; p. 54		WDFW Tribe Others	2003 and beyond if warrant-ed	May be necessary for additional years.
c. Chinook and Pink Life History Analysis	Smolt trapping with screw traps downstream of Schoolhouse bridge is the next step in the Chinook Life History Analysis. This project will provide migration timing and production data.	DRRWG HSRG	**Chinook** Pink Steelhead Coho	Rearing, spawning, habitat use; p. 86, 96	Tribe WDFW	Tribe WDFW	Yearly	Other juvenile studies are planned. 2003 traps under discussion.
STRATEGIC ELEMENT #10: Sediment Management/ Source Control								
a. Slide Remediation	Gold/Slide Creek - Provide evaluation and erosion control treatments to reduce accelerated mass movement and sedimentation. Refer to Watershed Analysis recommendations for potential restoration projects in upper watershed.	Watershed Analysis (USFS)	**Chinook** Pink Steelhead **Bulltrout** Cutthroat	Landslides p.54		USFS		Watershed Analysis update in 2002 completed.
b. Upper Dungeness Road Decom-missioning and Stablilization	Decommissioning consists of removing culverts, improving natural slope hydrology, stabilizing fillslopes, and erosion control measures. Stabilization and upgrading consists of replacing culverts to accommodate 100 year flows, fish passage, and reduce potential for diversions and plugging. Other road drainage improvements would be made to reduce sedimentation and impacts to aquatic habitat.	RRWG FS LFA	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout** Cutthroat	Sediment supply in upper watershed, pg. 90, 93, 95		USFS	Multi-year.	Some decommissioning and upgrades have occurred. Cost Estimate: $600,000
c. Upper River Sediment Transport Analysis	Analyze sediment transport in the upper river.	BOR USFS	**Chinook** Pink Coho **Chum** Steelhead **Bulltrout** Cutthroat	Sediment supply in upper watershed, pg. 90, 93, 95				BOR/USGS proposal. Project is pending results of Watershed Analysis.