



Independent Scientific Review Panel
for the Northwest Power Planning Council
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Final Review

of

Fiscal Year 2003 Proposals

for the

**Upper and Middle Snake,
Columbia Cascade, and
Lower Columbia and Estuary
Provinces**

**ISRP 2002-11
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ISRP Final Review of Fiscal Year 2003 Proposals for the Upper and Middle Snake, Columbia Cascade and Lower Columbia and Estuary Provinces

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I. Index of Upper and Middle Snake Proposals Sorted by Project ID

I. Index of Upper and Middle Snake Proposals by Project ID

ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
Middle Snake Province								
32001	Evaluate the Feasibility Artificial Production Facility DVIR	SPT-DVIR	Owyhee	\$300,000	Not Fundable	High Priority	Disagree - Not Fundable	26
32002	Implement Best Management Practices to improve riparian habitat and upland conditions within the Billingsley Creek watershed.	GSCD	Snake Upper Middle	\$114,635	Fundable	Recommended Action	Agree - Fundable	29
32003	White Sturgeon put, grow, and take fishery feasibility assessment, Oxbow/Hells Canyon reservoirs.	NPT	Snake Lower Middle	\$356,800	Fundable	High Priority	Agree - Fundable, High Priority	28
32004	Effects of culverts on fish population persistence: tools for prioritizing fish passage restoration projects in the Middle Snake Province	RMRS	Boise	\$23,600	Fundable	Recommended Action	Agree - Fundable, Low Priority	30
32005	Burns Paiute Fish and Wildlife Mitigation Coordinator	BPFW	Malheur	\$53,978	Not Applicable	Recommended Action	Not Applicable	37
32006	Compare the parr-smolt transformation of nonanadromous and anadromous populations of <i>Oncorhynchus mykiss</i>	IDFG	Weiser	\$90,530	Fundable	Recommended Action	Agree - Fundable	20
32007	Bull trout habitat restoration/protection program - Bruneau Subbasin	SPT-DVIR	Bruneau	\$218,374	Fundable	High Priority	Agree - Fundable	21
32008	Wildlife Inventory and Habitat Evaluation of Duck Valley Indian Reservation	SPT-DVIR	Owyhee	\$127,461	Fundable	High Priority	Agree - Fundable, High Priority	24
32009	Squaw Creek Cooperative Fisheries Restoration Project	RC&D	Payette	\$43,750	Fundable in Part	Recommended Action	Partially Disagree - Fundable in Part	17
32010	Lookout Mountain Road Decommissioning	BLM	Snake Lower Middle	\$49,150	Fundable	Recommended Action	Agree - Fundable	29
32011	Mitigation of marine-derived nutrient loss in the Boise-Payette-Weiser subbasin.	IDFG, WSU, UI, PNW, OS	Boise	\$354,789	Fundable	High Priority	Agree - Fundable	18

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
32012	Implement Best Management Practices to improve riparian habitat and upland conditions within the Clover Creek watershed.	BRSCD	Bruneau	\$44,500	Fundable	Recommended Action	Agree - Fundable	22
32013	Fishery Restoration of the Gold Fork River, Idaho	IDFG and IOSC	Payette	\$344,500	Fundable in Part	High Priority	Agree - Fundable in Part	19
32014	Feasibility Study of Transporting Salmonids Through a Translucent Fish Passage System	SPT-DVIR	Owyhee	\$102,050	Not Fundable	Do Not Fund	Agree - Not Fundable	27
32015	Deadwood River and Clear Creek Drainages Roads Analysis and Repair	USFS	Payette	\$105,800	Fundable	Recommended Action	Agree - Fundable	20
32016	Assess the feasibility of the Upper Malheur Watershed to support the reintroduction of anadromous populations above the Beulah & Warmsprings Reservoir	BPT	Malheur	\$168,896 (Adjusted \$49,000)	Fundable in Part	High Priority	Agree - Fundable in Part	35
32017	Suppress Brook Trout Populations in the Upper Malheur Subbasin.	BPT	Malheur	\$221,473	Not Fundable	Do Not Fund	Agree - Not Fundable	36
32018	Williams Ranch Fish and Wildlife Acquisition Project	BPT	Malheur	\$2,259,392	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	34
32019	Logan Valley Fish and Wildlife Project- Stanbro Ranch Acquisition	BPT	Malheur	\$1,355,286	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	33
32020	Inventory and Assessment of Stream/Riparian Resources, upper Boise and upper Payette River Subbasins, Idaho	WHA	Boise	\$176,000	Fundable	Recommended Action	Agree - Fundable, Low Priority	16
32021	Lower Boise River Wetlands Restoration Project	Pioneer Irrigation District	Boise	\$164,500	Fundable	Recommended Action	Agree - Fundable, Low Priority	16
198815600	Implement Fishery Stocking Program Consistent With Native Fish Conservation	SPT - DVIR	Owyhee	\$211,688	Fundable	High Priority	Agree - Fundable	25
199405400	Tools for Managing Bull Trout Populations Influenced by Nonnative Brook Trout Invasions	ODFW	Powder	\$555,981 (Adjusted \$329,581)	Fundable	High Priority	Agree - Fundable	37
199501500	Lake Billy Shaw Operations and Maintenance and Evaluation	Sho-Pai DVIR	Owyhee	\$293,000	Fundable	High Priority	Agree - Fundable	25

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
199505701	Southern Idaho Wildlife Mitigation - Middle Snake	IDFG & IOSC	Boise	\$3,889,703	Fundable (Qualified - see comments)	High Priority	Agree - Fundable (Qualified)	15
199505703	Southern Idaho Wildlife Mitigation - Shoshone-Paiute Tribes	SPT-DVIR	Owyhee	\$1,813,746	Fundable	High Priority	Agree - Fundable	23
199701100	Enhance and Protect Habitat and Riparian Areas on the DVIR	SPT - DVIR	Owyhee	\$344,696	Not Fundable	High Priority	Disagree - Not Fundable	24
199701900	Evaluate The Life History Of Native Salmonids In The Malheur Basin	BPT	Malheur	\$324,401	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	35
199800200	Snake River Native Salmonid Assessment	IDFG and IOSC	Snake Lower Middle	\$346,375	Fundable	High Priority	Agree - Fundable, High Priority	27
200000900	Logan Valley Wildlife Mitigation Project/ O&M	BPT	Malheur	\$146,842	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	32
200002700	Malheur River Wildlife Mitigation Project	BPT	Malheur	\$694,880 (Adjusted \$426,880)	Fundable in Part as Amended (Qualified - see comments)	High Priority	Partially Disagree - Fundable in Part as Amended (Qualified)	31
200007900	Assess Resident Fish Stocks Of The Owyhee/Bruneau Basin, D.V.I.R.	Sho-Pai Tribes - DVIR	Bruneau	\$232,000	Not Fundable	High Priority	Disagree - Not Fundable	21
Total Request for Middle Snake				\$15,528,776	CBFWA adjusted:	\$14,914,480		
Upper Snake Province								
33001	Assessment of genetic population structure and risk of introgression and hybridization to native trout in the Mid and Upper Snake River Provinces	IDFG and IOSC	Upper Snake	\$228,458	Fundable	High Priority	Agree - Fundable, High Priority	42
33002	Establish Instream Flow and Reservoir Pool Habitat for Native and Other Trout in the Upper Snake River/American Falls Fragment Area	IDFG	Upper Snake	\$104,100	Not Fundable	Recommended Action	Disagree - Not Fundable	44
33003	Sage Grouse Distribution and Habitat Use in the Upper Snake River Basin, Blackfoot and Willow Creek Drainages.	IDFG	Upper Snake	\$211,716	Not Fundable	Recommended Action	Disagree - Not Fundable	46

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
33004	Survival of adfluvial Yellowstone cutthroat trout in the upper Blackfoot River drainage	IDFG	Upper Snake	\$137,500	Fundable	Recommended Action	Agree - Fundable	43
33005	Monitoring Avian Productivity and Survivorship in Sensitive Habitats in the Upper Closed Basin	TREC	Upper Closed Basin	\$76,233	withdrawn			40
33006	Monitoring Avian Productivity and Survivorship on Mitigation Lands and Sensitive Habitats in the Upper Snake Headwaters	TREC	Headwaters	\$56,789	withdrawn			39
33007	Implement Best Management Practices to improve riparian habitat and upland conditions in the Medicine Lodge watershed.	Clark SCD	Upper Closed Basin	\$98,902	Fundable	Recommended Action	Agree - Fundable, Low Priority	40
33008	Assessing effects of Columbia River Basin anadromous fish flow management on the aquatic ecology of the Henry's Fork watershed	HFF	Upper Snake	\$211,596	Fundable	Recommended Action	Agree - Fundable	44
33009	Improve Yellowstone cutthroat trout recruitment and survival in the South Fork of the Snake River	IDFG	Headwaters	\$264,700	Fundable	High Priority	Agree - High Priority	39
33010	Shoshone-Bannock Tribes Fish Production Program	SBT	Upper Snake	\$90,000	Not Fundable	High Priority	Disagree - Not Fundable	45
33011	Implementing land use for resource and community sustainability at the county and regional level.	IDFG, U of I, MSU, OSC	Upper Snake	\$243,051	Fundable	High Priority	Agree - Fundable	46
33012	Flow Augmentation In The Upper Snake River Sub-Basin To Benefit Anadromous, Resident Fish And Wildlife Species.	USBWU	Upper Snake	\$1,117,911	withdrawn			45
33013	Evaluation of Pisces Fish Protective Water Intake System	BPI	Upper Snake	\$273,500	Not Fundable	Do Not Fund	Agree - Not Fundable	45
199201000	Habitat Restoration/Enhancement Fort Hall Reservation	SBT	Upper Snake	\$175,000	Fundable (Qualified - see comments)	High Priority	Agree - Fundable (Qualified)	40

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
199505700	Southern Idaho Wildlife Mitigation - Upper Snake	IDFG & IOSC	Headwaters	\$4,068,153	Fundable	High Priority	Agree - Fundable	38
199505702	Southern Idaho Wildlife Mitigation Program	SBT	Upper Snake	\$3,592,141	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	41
Total Request for Upper Snake				\$10,949,750				

II. Index of Columbia Cascade Proposals Sorted by Project ID

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	Adjusted FY03 Budget (CBFWA)	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
29001	Evaluation of 1872 Water Rights to Supplement Flows Between Basins	CCT	Okanogan	\$77,000	\$39,000	Fundable	High Priority	Agree - Fundable	74
29002	Conjunctive Use and River Enhancement (CURE) for Habitat Improvement in the Upper Methow River	CBC	Methow	\$500,000		Fundable in Part	Recommended Action	Partially Disagree - Fundable in Part, Low Priority	64
29003	Acquire Property for Partial Wildlife mitigation	CTCR	Okanogan	\$1,500,000	\$1,000,000	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	93
29004	Control Okanogan Weeds -Invasive Species Project	CTCR	Okanogan	\$299,933		Not Fundable	Recommended Action	Disagree - Not Fundable	92
29005	Validate Occurrence and Assess Abundance of Wildlife Species	CTCR	Okanogan	\$194,136		Fundable (Qualified - see comments)	Recommended Action	Agree - Fundable (Qualified)	90
29006	Supplement Spring Chinook in Early Winters Creek	MSRF	Methow	\$231,000		Fundable	Recommended Action	Agree - Fundable	71
29007	Okanogan Kelt Reconditioning	CCT	Okanogan	\$151,387		Fundable	High Priority	Agree - Fundable	87
29008	Adult Passage Counting and Trapping at Zosel Dam	CCT	Okanogan	\$108,474		Fundable	High Priority	Agree - Fundable, High Priority	85

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	Adjusted FY03 Budget (CBFWA)	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
29009	Acquire Dole-Beebe Property and Associated Water Rights	WDFW	Columbia Upper Middle	\$896,500	\$396,500	Fundable (Qualified - see comments)	High Priority	Agree - Fundable (Qualified)	49
29010	Restore Passage on Private Lands in Beaver Creek Drainage to Benefit Spring Chinook, Steelhead and Bulltrout	WDFW	Methow	\$239,774	\$0	Fundable (Qualified - see comments)	High Priority	Agree - Fundable (Qualified)	61
29011	Sharp-tailed Grouse and Mule Deer Habitat Restoration and Enhancement on Sinlahekin Wildlife Area	WDFW	Okanogan	\$0		withdrawn	withdrawn	withdrawn	94
29012	Replace Rockview Diversion with Groundwater Withdrawal and Restore Instream Habitat	WDFW	Methow	\$141,954	\$91,954	Fundable	High Priority	Agree - Fundable	67
29013	Acquire Land Adjacent to Chiliwist Creek and Develop Summer Chinook and Summer Steelhead Acclimation Pond	WDFW	Okanogan	\$823,952	\$447,470	Fundable	High Priority	Disagree - Fundable, Medium Priority	88
29014	The Effects of Impoundment on Fish and Amphibian Habitat Use in Eastern Washington	WDFW	Entiat	\$106,187		Fundable	Recommended Action	Disagree - Fundable, High Priority	54
29015	Thermal Imaging of the Okanogan and Wenatchee Watersheds	CCT	Okanogan	\$196,654	\$111,904	Fundable	High Priority	Agree - Fundable	76
29016	Return of Okanogan Sockeye Salmon to their historic range.	CCT/ ONFC	Okanogan	\$175,000	\$175,000	Fundable	High Priority	Agree - Fundable, High Priority	86
29017	Prepare a Master Plan for Protecting and Restoring Salmon Habitat in Okanogan River	CCT/ ONFC	Okanogan	\$59,000		Fundable	Recommended Action	Disagree - Fundable, High Priority	72

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	Adjusted FY03 Budget (CBFWA)	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
29018	Analyze ground-water and surface-water exchanges influencing anadromous salmonid habitat in the Methow River and its major tributaries	USGS	Methow	\$188,937		Fundable	High Priority	Agree - Fundable, High Priority	69
29019	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Okanogan sub-basin	NHI, CCT	Okanogan	\$27,907		Fundable	High Priority	Agree - Fundable	91
29020	Beaver CR Campground Rehabilitation	OCD	Methow	\$60,445		Not Fundable	Recommended Action	Disagree - Not Fundable	61
29021	Develop a Physical Processes Method (PPM) to Supplement Habitat Conditions Analysis and Subbasin Planning	Golder Assoc. Inc.	Okanogan	\$295,229		Not Fundable	Recommended Action	Disagree - Not Fundable	73
29022	Omak Creek Water Temperature Model	CCT	Okanogan	\$245,000		Not Fundable	Recommended Action	Disagree - Not Fundable	82
29023	Restoration/Protection of Kartar Creek In-stream, riparian, and Wetland Habitats	CCT	Okanogan	\$437,823	\$86,729	Fundable	High Priority (Objective 1)	Agree - Fundable	84
29024	Analysis of multiple land uses and their effects to shrub-steppe habitat and wildlife species, such as roads, patterns of development and agriculture.	DCTLS	Columbia Upper Middle	\$320,000		Not Fundable	Do Not Fund	Agree - Not Fundable	50
29025	Columbia Cascade Province Pump Screening	WDFW, YSS	Methow	\$218,918		Fundable	High Priority	Agree - Fundable	66
29026	Hanan-Detwiler Passage Improvements	WDFW, YSS	Entiat	\$85,000		Fundable	High Priority	Agree - Fundable	55

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	Adjusted FY03 Budget (CBFWA)	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
29027	Comprehensive Inventory and Prioritization of Fish Passage and Screening Problems in the Wenatchee and Entiat Subbasins	WDFW, YSS	Wenatchee	\$361,585	\$277,436	Fundable	High Priority	Agree - Fundable	58
29028	Fabricate and Install Three New Fish Screens on Wenatchee River Diversions	WDFW, YSS	Wenatchee	\$235,000	\$184,976	Fundable	High Priority	Agree - Fundable	59
29029	Perform Range Forage Inventory for Large Ungulates	CTCR	Okanogan	\$159,704		Fundable (Qualified - see comments)	High Priority	Agree - Fundable (Qualified)	92
29030	Early life history and survival of spring chinook salmon and steelhead in the Methow River Basin	PNNL	Methow	\$382,939		Fundable	Recommended Action	Agree - Fundable	63
29031	Out Year Operations and Maintenance Costs Required to Implement/Carry out MVID Rehabilitation Project	YIN	Methow			Not Fundable	Recommended Action	Disagree - Not Fundable	70
29032	Okanogan Basin Water Strategy Development and Pilot Projects	CCT	Okanogan	\$191,920	\$166,920	Fundable	High Priority	Agree - Fundable	75
29033	Design and Conduct Monitoring and Evaluation Associated With Reestablishment of Okanogan Basin Natural Production	CCT	Okanogan	\$770,152	\$480,152	Fundable	High Priority	Agree - Fundable, High Priority	72
29034	Life History Study of Salmonid Rearing In The Upper Methow River	YIN	Methow	\$273,710 (\$365,250)		Not Fundable	Recommended Action	Disagree - Not Fundable	64
29035	Okanogan River Riparian and Upland Fish and Wildlife Habitat Aquisition	SP	Okanogan	\$2,957,000		Fundable (Qualified - see comments)	Recommended Action	Disagree - Fundable, High Priority (Qualified)	94

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	Adjusted FY03 Budget (CBFWA)	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
29036	Ali Long Rearing Channel Habitat Improvements- Upper Methow River	YIN	Methow	\$58,500		Not Fundable	Recommended Action	Disagree - Not Fundable	65
29037	Ecosystem Diagnosis and Treatment in the Columbia Cascade Province	WDFW, YN, CCT	Methow	\$925,563	\$500,000	Not Fundable	High Priority	Disagree - Not Fundable	62
29038	Supplement Summer Steelhead Eightmile Creek/Chewuch River	MSRF	Methow	\$205,000		Fundable	Recommended Action	Agree - Fundable	71
29039	The effects of fine sediment on the hyporheic zone: monitoring and evaluating the influence of hyporheic exchange flows on stream temperature.	USFS	Wenatchee	\$102,039		Fundable	Recommended Action	Disagree - Fundable, High Priority	57
29040	OK-11 Develop and Propagate Local Okanogan River Summer/Fall Chinook	CCT	Okanogan	\$602,000	\$402,000	Fundable	High Priority	Agree - Fundable	88
29041	Evaluate Distribution, Abundance, Genetic Structure, and Habitat Use of Bull Trout Populations in the Columbia Cascade Province	USFWS	Columbia Upper Middle	\$186,366		Fundable	High Priority	Agree - Fundable	51
29042	Selective Fish Collection and Harvesting Gear	CCT	Okanogan	\$231,000	\$166,000	Not Fundable	High Priority	Disagree - Not Fundable	81
29043	SSHIAF - Columbia Cascade Province	WDFW	Columbia Upper Middle	\$390,000		Fundable	Recommended Action	Agree - Fundable	52
29044	Protecting Habitat on Private Lands in the Methow Watershed	N/A	Methow	\$1,153,100	\$200,000	Fundable (Qualified - see comments)	High Priority	Agree - Fundable, High Priority (Qualified)	66

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29045	Protect and Restore Salmon and Steelhead Habitat at the Similkameen/Okanogan River Confluence	Upper Col. RFEG	Okanogan	\$239,700	\$0	Fundable	High Priority	Agree - Fundable, High Priority	84
29046	Develop a Coordinated Resource Management Plan for Beaver Creek and plan and implement habitat restoration activities.	OCD	Methow	\$51,783	\$24,458	Fundable (Qualified - see comments)	Recommended Action	Agree - Fundable (Qualified)	60
29050	Phase I Okanogan River Spring Chinook Production	CCT	Okanogan	\$112,000		Not Fundable	High Priority	Disagree - Not Fundable	87
29051	Develop Local Okanogan River Steelhead Brood Stock	CCT	Okanogan	\$192,000	\$122,000	Fundable	High Priority	Disagree - Fundable, Low Priority	89
29052	Spatial and Temporal Occurrence of Salmonid Pathogens in the Upper Middle Mainstem Subbasin of the Columbia Cascade Province	WSU	Columbia Upper Middle	\$220,832		Fundable (see ISRP innovative review - ranked in top 10)	Recommended Action	Agree - Fundable	53
29053	Icicle/Wenatchee Habitat Acquisition	CDLT	Wenatchee	\$1,547,750	\$257,500	Fundable (Qualified - see comments)	High Priority	Agree - Fundable, High Priority (Qualified)	59
29054	Stream Gaging Installation and Operations	Ecology	Okanogan	\$395,000	\$150,000	Fundable	High Priority	Agree - Fundable	78
29055	Columbia Cascade Water Rights Acquisition	Ecology	Okanogan	\$554,875	\$154,875	Fundable	High Priority	Agree - Fundable	78
29056	Establish a Water Cleanup Plan (temperature TMDL) for the Okanogan subbasin	Ecology	Okanogan	Combined with 29015		NA	NA	NA	77

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	Adjusted FY03 Budget (CBFWA)	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
199604000	Evaluate The Feasibility And Risks Of Coho Reintroduction In Mid-Columbia	YN	Wenatchee	\$2,412,000	\$2,195,191	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	56
199604200	Restore and Enhance Anadromous Fish Populations and Habitat in Salmon Creek	CCT	Okanogan	\$4,091,366	\$1,300,000	Not Fundable	High Priority	Disagree - Not Fundable	79
199609400	Increase sharp-tailed grouse and mule deer populations and enhance shrubsteppe/riparian habitats on the Scotch Creek Wildlife Area.	WDFW	Okanogan	\$461,401	\$408,401	Fundable	High Priority	Agree - Fundable	90
200000100	Improvement of Anadromous Fish Habitat and Passage in Omak Creek	CCT	Okanogan	\$122,717		Fundable	High Priority	Agree - Fundable, High Priority	81
200000200	Final Phase of the Chumstick Culvert Replacement and Habitat Restoration Enhancement	CCCD	Wenatchee	\$326,750	\$0	Fundable	High Priority	Disagree - Fundable, Low Priority	55
200001300	Evaluate An Experimental Re-introduction of Sockeye Salmon into Skaha Lake	CCT	Okanogan	\$18,096		Fundable	High Priority	Agree - Fundable, High Priority	86
Total Request Columbia Cascade				\$27,512,058	\$17,754,414				

III. Index of Lower Columbia and Estuary Proposals Sorted by Project ID

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ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
Columbia Estuary								
30001	Historic habitat opportunities and food-web linkages of juvenile salmon in the Columbia River estuary: Implications for managing flows and restoration	NWFSC/ NMFS	Columbia Estuary	\$597,559	Fundable	High Priority	Agree - Fundable, High Priority	105
30002	Optimization of FCRPS Impacts on Juvenile Salmonids: Restoration of Lower-Estuary and Plume Habitats	OHSU	Columbia Estuary	\$435,192	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	106
30003	Evaluation of Two Captive Rearing Methods for Assisting with Recovery of Naturally Spawning Populations of Steelhead and Coho Salmon	USFWS	Elochoman	\$446,101	Fundable	High Priority	Agree - Fundable, High Priority	97
30004	Blind Slough Restoration Project - Brownsmead, Oregon	CREST	Columbia Estuary	\$173,550	Fundable (Qualified - see comments)	Recommended Action	Agree - Fundable (Qualified)	116
30005	Grays River Watershed and Biological Assessment	LCFRB; PSMFC; PNNL	Grays	\$474,734	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	100
30006	Effectiveness monitoring of the Chinook River estuary restoration project.	Sea Resources	Columbia Estuary	\$124,804	Fundable	High Priority	Agree - Fundable	99
30007	An Acoustic Tracking Array for Studying Ocean Survival and Movements of Columbia River Salmon	Kintama Research Corporation	Columbia Estuary	\$2,930,535	Fundable in Part	Do Not Fund	Disagree - Fundable in Part	109
30008	Instream evaluation of populations, migration timing, individual adult return rates, and wild-hatchery interactions of 3 naturally produced salmonids	USFWS	Elochoman	\$238,740	Fundable	High Priority	Disagree - Fundable, Medium Priority	97
30009	Coastal Cutthroat Movements in the Columbia River Estuary	USFWS	Columbia Estuary	withdrawn				111

III. Index of Lower Columbia and Estuary Proposals Sorted by Project ID

ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
30010	Canada-USA Shelf Salmon Survival Study	DFO	Columbia Estuary	\$418,800	Fundable in Part	Do Not Fund	Disagree - Fundable in Part	107
30011	Preserve and Restore Columbia River Estuary Islands to Enhance Juvenile Salmonid and Columbian White-tailed Deer Habitat.	USFWS & CLT & USGS	Columbia Estuary	\$719,437 (Adjusted 585437)	Fundable	High Priority	Agree - Fundable	117
30012	Compare Bacterial Fish Pathogen Populations in Hatchery Water and in Adjacent Creek Water and Evaluate Possible Disease Transfer Between Them.	USFWS	Elochoman	\$71,678	Not Fundable	Recommended Action	Disagree - Not Fundable	98
30013	Role of Bacteria as Indicator Organisms for Watershed Assessment and in Determining Fish Pathogen Relationships with Fauna of Abernathy Creek	USFWS	Elochoman	\$71,100	Fundable (Qualified - see comments)	Recommended Action	Agree - Fundable (Qualified)	98
30014	Map Subtidal Large Woody Debris and Other Habitat Features in Relation to Fish Distribution in the Lower Columbia River Estuary	Battelle Marine Sciences Laboratory	Columbia Estuary	withdrawn				111
30015	Lower Columbia River and Columbia River Estuary Ecosystem Monitoring and Data Management	LCREP	Columbia Estuary	\$472,000	Fundable (Qualified - see comments)	High Priority	Disagree - Fundable, Low Priority (Qualified)	112
30016	Implement the Habitat Restoration Program for the Columbia Estuary and Lower Columbia River	LCREP, CREST	Columbia Estuary	\$5,236,200	Fundable (in Part)	Recommended Action	Agree - Fundable	113
30017	Columbia River Tidewater Assessment for Recovery Planning	UP	Columbia Estuary	\$137,338	Not Fundable	Recommended Action	Disagree - Not Fundable	107
30018	Salmonid Population and Habitat Monitoring in the Oregon Portion of the Columbia Estuary	ODFW	Columbia Estuary	\$528,913	Fundable	High Priority	Agree - Fundable	111
31001	Artificial production facilities improvements to support Lower Columbia chum salmon reintroduction into the Chinook River	Sea Resources	Columbia Estuary	\$41,865	Fundable (Qualified - see comments)	Recommended Action	Agree - Fundable (Qualified)	100

III. Index of Lower Columbia and Estuary Proposals Sorted by Project ID

ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
199801400	Survival and Growth of Juvenile Salmonids in the Columbia River Plume	NMFS	Columbia Estuary	\$2,092,855	Fundable	High Priority	Agree - Fundable (some elements are high priority, other are medium to low priority)	103
Lower Columbia								
31002	Wildlife Habitat Protection, Lower McKenzie Watershed (Jaqua)	TNC	Willamette	\$2,321,025	Fundable	Recommended Action	Agree - Fundable, Low to Medium Priority	137
31003	Distribution and life history characteristics of lampreys in tributaries of the lower Columbia River Basin	USFWS	Columbia Lower	\$173,281	Fundable	Recommended Action	Agree - Fundable, Low Priority	95
31004	Salmon Carcass Enrichment -- Willamette (Clackamas) & Sandy Subbasins	USFS	Willamette	\$509,858	Fundable	Recommended Action	Agree - Fundable, Low Priority	131
31005	Incorporating Pit Tag Technology to Evaluate and Monitor the Reintroduction Effort for Anadromous Salmonids in the Upper Cowlitz Watershed	WDFW	Cowlitz	\$257,130	Not fundable (Qualified - see comments)	Recommended Action	Disagree - Not Fundable (Qualified)	127
31006	Protect Wood's Landing Chum Spawning Site	City of Vancouver	Columbia Lower	\$1,352,360 (adjusted 765,810)	Not Fundable (Qualified - see comments)	High Priority	Disagree - Not Fundable (Qualified)	102
31007	Distribution and seasonal habitat use of ESA-listed salmonid species in City of Portland tributary streams	COP	Willamette	\$62,000	Fundable	High Priority	Agree - Fundable	138
31010	Re-open Off-channel Habitat for Lower Columbia ESU	ESA Program	Willamette	\$449,000	Not Fundable	Do Not Fund	Agree - Not Fundable	126
31011	Renaturalize Functional Floodplain Habitat within the Portland Reach of the Lower Willamette River	COP	Willamette	\$524,500	Not Fundable	Do Not Fund	Agree - Not Fundable	126

III. Index of Lower Columbia and Estuary Proposals Sorted by Project ID

ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
31012	Leveraging Conservation Easements for Fish and Wildlife in the Willamette Basin	CPRC&D	Willamette	\$68,090	Fundable	Recommended Action	Agree - Fundable	132
31013	Investigate Re-establishing Anadromous Fish Populations Above man-made Barriers	ODFW	Willamette	\$221,977	Fundable	Recommended Action	Agree - Fundable, Low to Medium Priority	123
31014	Evaluate juvenile salmonid use of restored floodplain wetlands in the Lower Columbia River Estuary	DU	Columbia Lower	\$150,000	Not Fundable	Recommended Action	Disagree - Not Fundable	117
31015	Sturgeon Lake/Dairy Creek Restoration	WMSWCD	Columbia Lower	\$121,000	Not Fundable	Recommended Action	Disagree - Not Fundable	118
31016	Calapooia River Flow Acquisition and Fish Passage Assessment	ODFW	Willamette	\$53,500	Fundable	High Priority	Agree - Fundable	123
31017	Monitor and evaluate the success of hatchery salmonid reproduction for reintroduction of anadromous salmonids to the upper Cowlitz Basin	WDFW	Cowlitz	\$183,661	Not fundable (Qualified - see comments)	High Priority	Disagree - Not Fundable (Qualified)	127
31018	Willamette Basin Riparian Project	Marion SWCD	Willamette	\$784,765	Fundable	High Priority	Agree - Fundable, High Priority	135
31019	Fish Passage Assessment and Prioritization Program	DLUT	Columbia Lower	\$72,432	Fundable	Recommended Action	Agree - Fundable	119
31020	Monitor Coweeman River Salmonid Populations	WDFW	Cowlitz	\$277,962	Fundable	Recommended Action	Agree - Fundable, but potentially High Priority	128
31021	Reduction of gravel road sediment production & interruption of sediment delivery to streams	DLUT	Columbia Lower	\$238,436	Not Fundable	Do Not Fund	Agree - Not Fundable	119
31022	Establish a Water Cleanup Plan (temperature TMDL) for the East Fork of the Lewis subbasin	Ecology	Lewis	\$118,000	Fundable	Recommended Action	Agree - Fundable	130

III. Index of Lower Columbia and Estuary Proposals Sorted by Project ID

ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
31023	Stream Gaging Installation and Operations in the Lewis, Salmon/Washougal, and Gray/Elochoman Subbasins	Ecology	Cowlitz	\$395,000	Fundable	Recommended Action	Agree - Fundable	130
31024	Protect, Enhance and Maintain Wetland, Riparian and Upland Habitat on the Shillapoo Wildlife Area	WDFW	Columbia Lower	\$0	Fundable	High Priority	Disagree - Fundable, Low to Medium Priority	120
31025	Construct Fish Screen and Fish Passage Improvements at Lebanon Diversion Dam on South Santiam River	City of Albany, Oregon	Willamette	\$420,000	Not Fundable	Do Not Fund	Agree - Not Fundable	133
31027	Movements and Survival of Juvenile and Adult Bull Trout	USFWS	Lewis	\$207,585	Fundable	High Priority	Agree - Fundable, High Priority	96
31028	Replace Upper and Lower Bennett Dam Fish Ladders in the North Santiam River at Geren Island (Stayton Island)	City of Salem, OR	Willamette	\$200,000	Fundable	Do Not Fund	Disagree - Fundable	134
31029	Clark County ESA Outreach Program	Clark County, WA	Columbia Lower	\$205,000	Not Fundable	Do Not Fund	Agree - Not Fundable	129
31030	Santiam Water Control District Fish Screen and Passage Project	SWCD	Willamette	\$350,000	Fundable	Do Not Fund	Disagree - Fundable	134
31031	Clatsop County Fisheries Restoration Project	CEDC Fisheries	Columbia Lower	\$455,250	Not Fundable	Do Not Fund	Agree - Not Fundable	115
31032	Develop a Well Water Supply System for the Hardy Creek Chum Salmon Spawning Channel	USFWS	Columbia Lower	\$152,500 (adjusted \$69,800)	Fundable	High Priority	Agree - Fundable	102
31033	Restoration of Columbia River Floodplain Functions to Steigerwald Lake	USFWS	Columbia Lower	\$373,000	Fundable	High Priority	Agree - Fundable, High Priority	121
31034	Salmonid Population and Habitat Monitoring in the Oregon Portion of the Lower Columbia Province	ODFW	Columbia Lower	\$532,648	Fundable	High Priority	Agree - Fundable	112

III. Index of Lower Columbia and Estuary Proposals Sorted by Project ID

ProjectID	Title	Sponsor	Subbasin	FY03 Request	ISRP Recommendation	CBFWA Category	ISRP Comparison with CBFWA	Page
199107800	Burlington Bottoms Wildlife Mitigation Project	ODFW	Willamette	\$110,000	Fundable	High Priority	Disagree - Fundable, Low Priority	125
199205900	Amazon Basin/Eugene Wetlands Phase Two	TNC	Willamette	\$60,650	Fundable	High Priority	Agree - Fundable	124
199206800	Implement Willamette Basin Mitigation Program	ODFW	Willamette	\$1,567,500	Fundable	High Priority	Disagree - Fundable, Low Priority	122
199306000	Select Area Fishery Evaluation Project	WDFW, ODFW, CEDC	Columbia Lower	\$2,290,844	Fundable in Part	High Priority	Partially Disagree - Fundable in Part	114
199405300	Middle Fork Willamette River Bull Trout Re-introduction and Basinwide Monitoring	ODFW	Willamette	\$159,400	Not Fundable	High Priority	Disagree - Not Fundable	96
199607000	McKenzie River Focus Watershed Program Coordination and Habitat Restoration	MWC	Willamette	\$325,000	Fundable	High Priority	Agree - Fundable	136
199902500	Sandy River Delta Riparian Forest, Wetlands, and Anadromous Estuary Restoration	USFS-CRGN SA	Sandy	\$162,000	Fundable	High Priority	Agree - Fundable, High Priority	121
200001200	Evaluate Factors Limiting the Columbia River Gorge Chum Salmon Populations	USFWS	Columbia Lower	\$255,212	Fundable	High Priority	Agree - Fundable	101
200001400	Evaluate habitat use and population dynamics of lampreys in Cedar Creek	USFWS	Lewis	\$197,742	Fundable	High Priority	Agree - Fundable	95
200001600	Protect and Enhance Tualatin River National Wildlife Refuge Additions	USFWS/USGS	Lower Columbia	\$256,000	Fundable	High Priority	Agree - Fundable	125
200105300	Re-introduction of Lower Columbia River Chum Salmon into Duncan Creek	PSMFC, WDFW	Columbia Lower	\$381,671	Fundable	High Priority	Agree - Fundable, High Priority	101
Total Request for Lower Columbia and Estuary Proposals				\$32,341,450	CBFWA adjusted:	\$31,404,130		

ISRP Final Review of Fiscal Year 2003 Proposals for the Upper and Middle Snake, Columbia Cascade, and Lower Columbia and Estuary Provinces

Introduction

This report provides final comments and recommendations of the Independent Scientific Review Panel (ISRP) and Peer Review Groups on projects submitted for Fiscal Year 2003 funding in the Columbia Cascade, Upper and Middle Snake, and Lower Columbia and Estuary Provinces. In addition, a programmatic section with identification of general issues that cut across subbasins and provinces is provided. It is included in this report to provide useful reference for proponents and the Council in the project selection process and upcoming subbasin planning effort.

The review process to develop these recommendations and comments included several steps. On March 1, 2002, the ISRP released a preliminary review of proposals for these five provinces (ISRP 2002-2; www.nwcouncil.org/library/isrp/isrp2002-2.htm). The review process for that report included several elements that are the foundation of the provincial review process. Each proposal was reviewed by several reviewers and discussed by the full review team. Proponents of each proposal gave presentations to the ISRP. Each presentation was followed by a question and answer session. The ISRP review teams visited most of the subbasins in the provinces, during which the teams engaged in informal discussions with project leaders. The site visits and presentations were well organized and informative. The combination of the discussions and oral presentations was invaluable in identifying potential issues and clarifying the nature of the proposed projects.

These site visits were the last for the first round of provincial reviews, which began in August 2000. The only remaining review is for Mainstem and Systemwide projects and will not include site visits. The site visits for these final five provinces highlighted the need to include field visits as a part of the scientific review process. Experiencing the relationship of fish and wildlife habitat across the highly varied geological, hydrological, and agricultural landscapes provided a valuable context that is not possible with a paper review. For example in the Columbia Cascade, the reviewers witnessed the unique dewatering phenomena of the Arrowleaf reach of the Methow River, the highly degraded state of Salmon Creek, and the productive spawning habitat of the Similkameen River.

With the release of the ISRP's preliminary report, project sponsors were provided several weeks to respond to the ISRP's comments. The ISRP received about 134 responses. The ISRP reviewers who had reviewed the original proposal reviewed the response related to that proposal, and the ISRP review teams as a whole discussed the responses. The ISRP received Columbia Basin Fish and Wildlife Authority's (CBFWA) Draft FY 2003-2005 Work Plans for the final five provinces, as scheduled on May 17, 2002 (see www.cbfgwa.org), and compared the ISRP review team recommendations with CBFWA's recommendations and comments. Consequently, each ISRP recommendation includes a comparison with CBFWA's prioritization and takes into account project sponsor responses to the ISRP's preliminary review.

Specific recommendations and comments on each of the 168 proposals submitted, with some general comments on sets of proposals, are provided in three different sections of the report: 1) the Upper and Middle Snake Provinces, 2) the Columbia Cascade Province, and 3) the Lower Columbia and Estuary Provinces.

Recommendation Categories

ISRP recommendations are split into three basic categories: 1) fundable (108 proposals), 2) fundable in part (17 proposals), and 3) not fundable (35 proposals). Eight proposals were considered not amenable to scientific review, withdrawn, or combined with other proposals.

ISRP recommendation categories are based on the criteria provided in the 1996 amendment to the Northwest Power Act. The amended Act directs the ISRP to review projects in the context of the Council's program and in regard to whether they:

1. are based on sound science principles;
2. benefit fish and wildlife;
3. have clearly defined objectives and outcomes; and
4. have provisions for monitoring and evaluation of results.

Pursuant to the 1996 amendment, the Council fully considers the ISRP recommendations when making its recommendations regarding funding, and provides an explanation in writing where its recommendations diverge from those of the ISRP.

The ISRP uses "fundable," "not fundable," and variations to summarize the extent to which a proposal meets the ISRP review criteria and to capture the level of ISRP confidence in a proposal. After its Fiscal Year 1999 review, the ISRP began using "fundable" rather than "adequate proposal," because funding recommendations are the common currency between the Council, CBFWA, and BPA. As such, the "fundable" categories enable a ready comparison with CBFWA's recommendations, which is part of the ISRP review.

Fundable is assigned to a proposal that substantially meets each of the ISRP criteria. Each proposal does not have to contain tasks that independently meet each of the criteria but can be an integral part of a program that provides the necessary elements. For example, a habitat restoration proposal may use data from a separate monitoring and evaluation proposal to measure results. The proposal must demonstrate this integration. "Fundable" is not an ISRP endorsement to fund the project or an opinion on the proposal's priority.

Fundable in Part is assigned to a proposal that includes work that is scientifically supported, but also work that is not. In this case, the ISRP specifies which objectives or tasks are not scientifically sound and recommends that these parts of the proposal not be funded. Examples are proposals that include objectives that are not scientifically supported, for instance a proposal for both background assessment work and concurrent major on-the-ground implementation that could not be supported before results of the assessment were known, and proposals that included use of unsound methods to meet a particular objective.

Not Fundable is assigned to a proposal that is significantly deficient in one or more of the ISRP review criteria. One example is a research proposal that is technically sound, but does not offer benefits to fish and wildlife because it substantially duplicates past efforts and does not offer new insights. Another example is a proposal for an ongoing project that may offer benefits to fish, but does not include provisions for monitoring and evaluation or report past results. Usually a deficiency in one area is a symptom of overall deficiency in the proposal. In most cases, proposals that receive "Not Fundable" recommendations lack detailed methods, provision for monitoring and evaluation, or have the potential for deleterious effects on native populations. The ISRP notes that numerous projects rated "not fundable" propose needed actions or are an integral part of a watershed effort, but the proposed methods, tasks or objectives are not scientifically sound. The ISRP comments are intended to indicate areas where serious remedial

effort, such as significant revision and review, is needed before funding continues. In some cases, an RFP is warranted to address the needed action.

Within these categories, some recommendations are “qualified,” meaning that the proposal needs to meet certain conditions or address outstanding concerns before the project is funded. Some of these conditions may call for additional ISRP review, but most require minor clarifications and adjustments to methods and objectives by the sponsor in consultation with the Council and BPA in the final project selection process.

In addition to these basic categories, the ISRP compares its recommendations with CBFWA’s. CBFWA uses three recommendation categories: 1) High Priority - these projects or tasks within a project are high priority within the subbasin and address a specific need within the subbasin summaries; 2) Recommended Action - these are good projects that cannot demonstrate a significant loss by not funding this year. These projects should be funded, but under a limited budget could be delayed temporarily without significant loss; 3) Do Not Fund - these projects are either technically inadequate or do not address a need within the subbasin summaries. These projects may not be appropriate for BPA funding.

ISRP comparisons with CBFWA’s recommendations result in numerous combinations of agreement and disagreement. CBFWA’s “high priority” and “recommended action” categories are equivalent to the ISRP’s “fundable” recommendation. For many proposals the ISRP comparison with CBFWA is “Agree - Fundable.” This recommendation infers tacit agreement with CBFWA’s priority recommendation, although the ISRP is not making a specific “priority” recommendation with such agreement. When the ISRP makes a recommendation on priority, the comparison with CBFWA notes the ISRP’s priority, e.g. “Agree - Fundable, High Priority” or “Disagree - Fundable, Low Priority.” Certainly, the ISRP scientific review does not consider all the factors CBFWA does in making a management recommendation. However, the ISRP’s priority recommendations are based on the likely benefits to fish and wildlife and contribution to the FWP that will result from a proposal considering the proposal in the context of other proposals submitted, the subbasin summary, the FWP, and importantly, the technical quality of the proposal as evidence that it will be successfully implemented. Again, benefits to fish and wildlife and technical quality are the core of the 1996 amendment review criteria for the ISRP.

ISRP comments also include observations on budgetary, *in lieu*, and other issues that are not central to the scientific review. These observations do not dictate whether a project received a “fundable” or “not fundable” recommendation. Instead, these comments are intended to flag issues for the Council, BPA, CBFWA, and the public that require further inquiry.

Programmatic Issues

This programmatic section is a work in progress that has been developed iteratively over the course of provincial reviews. The ISRP anticipates that a final report on overarching programmatic issues will be issued in 2002 upon completion of the mainstem and systemwide review.

Stock Assessments

A basinwide salmonid stock assessment program is required as the basis for management and research of fish and fisheries in the Columbia Basin. The ISRP notes a lack of consensus among fisheries managers and scientists over a uniform stock assessment protocol. Salmonid stock inventory is key, in particular, to the management decisions on appropriate tools for recovery.

For anadromous salmonids, key variables required in an assessment include harvest, adult escapement, smolt yield to determine smolts per spawner as a function of spawner density, adults per smolt, and trends in these statistics over time periods that define the productivity and capacity within a climatological and/or ecological regime. A standardized, uniform index management system is required, where sites are selected to represent a particular geographic location (province), where detailed life stage monitoring may be required, usually at a fish enumeration facility. Other watersheds or reaches selected by a probabilistic sampling plan are tracked to determine relative abundance, via harvest records, spawner surveys, redd counts, fry abundance, or other means that have been calibrated to the index site results. Such a program is rare, if non-existent, in the Columbia Basin, but examples of its use may be found in British Columbia for several different salmonid species, and on the eastern seaboard for Atlantic salmon. A program of stock assessment is briefly described on the Fisheries and Oceans Canada website (www.pac.dfo-mpo.gc.ca/ops/fm/Salmon/stock.htm). The site includes a listing of crucial information needs, and example cases.

From an adequate stock assessment and stock status analysis (e.g., healthy, critical, depressed, or endangered), a list of management tools appropriate to the stock's recruitment level may be selected. These tools include choices within harvest, habitat, and hatchery management. In the recovery projects reviewed in the Columbia Basin Provinces, we rarely encountered a project justification that provided a solid reference to such a stock assessment framework. Projects need to coordinate their efforts towards a solid stock assessment framework, and indicate the linkage of stock assessment and stock status to their proposed work within project applications.

Stock assessment and watershed assessment are consistent with the required elements of a subbasin plan. Careful selection of index sites will be necessary, since these sites will become the standard for comparison, i.e. controls, for randomly selected sites in Tier 2 level monitoring and evaluation, or Tier 3 level research, as described below. Careful coordination of subbasin activities and effectiveness evaluation is thus centered on the stock assessment and index stream system.

Watershed Assessments and Analysis

Watershed analysis is a procedure used to characterize the human, aquatic, riparian, and terrestrial features, conditions, processes, and interactions (collectively referred to as "ecosystem elements") within a watershed. Watershed analysis is an issue-driven stage-setting process that establishes the context for subsequent project decision steps, as well as project prioritization within the watershed. It simplifies and shortens the preparation of project environmental analyses. It enhances the ability to estimate direct, indirect, and cumulative effects of management activities and guide their general type, location, and sequence within a watershed.

Watershed assessment protocols used in the Columbia River Basin include:

1. Federal Guide to Watershed Analysis.

www.southernregion.fs.fed.us/gwj/lrmp/plandocs/r8r9_water_assess_attach.htm

2. Washington Department Natural Resource Guide to Watershed Analysis.

www.wa.gov/wdfw/hab/sshiap/

3. Oregon Watershed Assessment Manual, by the Oregon Watershed Enhancement Board (OWEB). www.oweb.state.or.us/

4. The Ecosystem Diagnosis and Treatment (EDT) model is being applied throughout the Columbia River Basin and elsewhere (www.mobrand.com).

The U.S. Forest Service and others have also used the protocol of Ecosystem Analysis at the Watershed Scale (EAWS). It is used to provide a systematic way to understand and organize ecosystem information. In its preliminary review of these five provinces, the ISRP provided both positive and cautionary statements on the use of EAWS, which apply to most watershed assessments. Specifically, watershed assessments as the basis of fish restoration objectives must be able to prioritize stream reaches based on actual vs. potential natural fish production. The prioritization should rely on assessments of relative survival by life-stage (such as egg-to-fry and parr-to-smolt for anadromous species) for each reach. The ISRP observes that developing such a watershed assessment approach is one of the biggest challenges in the provinces. The ISRP has noted significant progress toward an adequate assessment in some provinces (such as in the Yakima system, using EDT). Under data-poor conditions, an effective watershed assessment will be more difficult to produce and funding requests for an assessment should be carefully scrutinized.

Standard protocols for watershed assessment, prescription, rehabilitation, and evaluation in the Columbia River Basin are lacking, but needed. A useful example and resource can be found in Canada. On forested lands in British Columbia, the Watershed Restoration Program has developed guidelines for condition assessment, starting with overview assessments (Johnston and Moore 1995), which serve to indicate where stable conditions do not warrant further work and where more intensive levels of assessment are required on hill slopes, and in gullies, riparian areas, stream channels, and fish habitat. More information on these manuals may be obtained from the Ministry website: srmwww.gov.bc.ca/frco/programs/wrp/procedures.html.

The next phase that requires a similar science-based approach is in the rehabilitation work. In British Columbia, Slaney and Zaldokas (1997) "Fish Habitat Rehabilitation Procedures" (srmwww.gov.bc.ca/frco/bookshop/tech.html) is frequently referenced. Similar guidelines are in development for Washington State (www.wa.gov/wdfw/hab/ahg/).

After assessment, prescription, and rehabilitation, comes the task of monitoring and evaluation. Keeley and Walters (1994) provided recommendations for monitoring, using smolts as the response variable in numerous paired (treated and untreated) watersheds, but the program never evolved towards their recommended level of evaluation. Other frameworks have emerged for tracking project effectiveness (Gaboury and Wong 1999). The ISRP expands upon monitoring and evaluation in the "Monitoring, Evaluation, and Reporting of Results" section below.

The ISRP offers a further general observation about watershed restoration. Many watershed projects are based on a general assumption that the sponsors can conclude from the literature or from their personal experience how to improve conditions for salmonids and achieve some (undefined) concept of watershed health. If watershed restoration projects are to be credible, they should include physical criteria by which the relationship between "watershed health" and fish production will be measured. For example, when a rancher says "show me that if I leave 10% of my water in a stream, and keep my livestock X number of feet from a creek that the fish run will be significantly increased," data need to be available to demonstrate this relationship. Additionally, a systematic monitoring and evaluation approach to watershed restoration will generate knowledge about the success and failures of alternative approaches and the appropriate incentives to achieve effective landowner cooperation.

Reasonable and Prudent Alternative 183 of the 2000 Biological Opinion for the Columbia River Hydrosystem emphasizes the need to address the ISRP concern about linking “watershed health” to fish production and calls for the initiation by 2003 of at least two studies focusing on each major management action. These management actions include irrigation diversion screens, barrier removals, sediment reductions, water quality improvement, nutrient enhancement, restoration of instream flows, riparian function restoration, stream complexity restoration, and nutrient enhancement.

Restoration Recovery Estimates

Projects proposing to do habitat restoration should attempt to estimate the expected contribution to fish runs and to relate these expectations to the historical and current runs in the subbasin. The expected costs of restoration should be placed in the context of dollars per expected adult return, for purposes of comparing among potential restoration projects (a relative measure). They should also compare alternative restoration strategies for the site on the same yield and cost basis, again for comparative purposes.

Exotic Species and Stocks

Proposals should identify how the presence of exotic (introduced non-native) species or stocks in the proposal's subbasin or watershed will affect intended habitat restoration projects and the re-establishment of intended species/stocks. Most restoration projects target the historically abundant salmonids, yet other species now co-occur in many locations. Also, native stocks occur with other stocks of the same species that are not native to the waterbody (e.g., those introduced from other locations, often in hatchery programs). Species/stock interactions should be estimated – the mere presence of introduced species/stocks is not necessarily bad and may be an unchangeable feature of the landscape.

Prioritization of Habitat Protection and Restoration Projects

Productive habitat for fish and wildlife provides complex structural diversity in space and time. The quality of habitat for different life-stages varies across and between watersheds, and from year-to-year, depending on factors such as flood frequency, snowpack, and fire. Populations persist under these variable conditions because they have a complex structure of sub-populations, some strong and some vulnerable, distributed across a wide array of habitats. Extinction in one area can be compensated, in time, by emigration from an adjacent sub-population that was not decimated. Similarly, low production in one area may be compensated by above average production in adjacent areas.

Scientists can make educated guesses regarding the optimal population structure and habitat patterns for a successful fish or wildlife population. Projects to halt disruption of, or to restore, watershed processes that produce productive natural habitat for fish and wildlife probably are beneficial in most situations, but by themselves, likely to make only minor contributions to restoration of the structure in space and time needed by a successful population of wildlife or fish. Our confidence in the “gardening approach” (piecemeal improvement of the appearance of habitat) to restoring the complexity needed for protecting fish and wildlife populations is low. For these reasons, we recommend that administrators and scientists participating in the Council’s Fish and Wildlife Program focus attention on identifying, as soon as possible, the overall spatial array of watersheds and habitat units needed to protect important populations. The ISRP believes that the best long-term strategies for protecting fish and wildlife habitat and restoring viable populations are to purchase lands, conservation easements, and water rights for instream flow. The greatest scientific confidence for protecting the needs of populations resides in protecting as many areas maintained by natural processes as possible, at least until specific needs are better

understood (e.g., ISG, Return to the River 2000; www.nwcouncil.org/library/return/2000-12.htm).

In September 2001, the ISRP reviewed the Confederated Salish and Kootenai Tribes' Habitat Acquisition and Restoration Plan (19910600) to determine whether it provided scientifically sound criteria and protocol to prioritize habitat acquisitions. The ISRP found that document described a good plan for habitat acquisition and restoration of wildlife habitat in mitigation for lost aquatic and riparian habitat due to the Kerr Project No. 5 located on the Flathead River and could serve as a useful model to other habitat and restoration proposals with some minor revision of the monitoring and evaluation (M&E) component of the plan.

Planning and Implementation

Planning and implementation proposals for some watersheds need to be combined and clearly phased over time. Multiple organizations are sometimes proposing planning exercises for the same watershed. Such duplication is unlikely to be funded. It is to the advantage of watershed planners to join forces to come up with a single, coherent strategy and plan. Most importantly, the Council is about to undertake a subbasin planning effort for the entire Columbia Basin. Planning proposals should be clearly linked to and not duplicate the Council's effort.

Supplementation as an Experiment

At the conclusion of the Blue Mountain, Mountain Snake, Upper and Middle Snake, Columbia Cascade, and Lower Columbia and Estuary provincial reviews, the ISRP has an increasing concern that the Columbia Basin's suite of large-scale supplementation projects (Hood River, Yakima, NEOH [Northeast Oregon], NPTH [Nez Perce Tribal Hatchery], ISS [Idaho Supplementation Studies], LSRCP [Lower Snake River Compensation Program] and others) do not add up to a complete coherent test of the major hypotheses associated with supplementation as a rebuilding and recovery tool. If so, critical uncertainties may remain unresolved indefinitely.

The basin is investing very large amounts of money and resources into supplementation, both as an experimental test of the technique and as a rebuilding tool to achieve the FWP's goals. Chief among the supplementation programs reviewed to date are the Yakima Cle Elum projects, the ISS suite of projects, and the NEOH projects. Numerous other proposals have smaller levels of implicit and explicit supplementation built into the projects, e.g., Proposal #29007 "Okanogan Kelt Reconditioning" and #29006 "Supplement Spring Chinook in Early Winters Creek." The ISRP has provided extensive critical comments on these projects, including many suggestions on how to increase the experimental rigor of these projects toward addressing critical uncertainties about supplementation. The ISRP is concerned that without a larger experimental framework that links all supplementation projects in the basin together specifically to test the major hypotheses and reduce uncertainties, the huge investment presently being made will not resolve the issues to any real degree. If so, the present often-acrimonious debates about supplementation will likely continue unabated.

The ISRP is aware of ongoing efforts of three scientific advisory groups to provide advice to the Council on "supplementation": the Council's Artificial Production Review, the Independent Scientific Advisory Board's (ISAB) recently initiated review of supplementation, and the present and continuing ISRP review of project proposals within Provinces. The ISRP recommends that ongoing review efforts on artificial production and supplementation be more closely linked together to try to reach consensus among the scientific advisory groups on whether the basin's investment in testing supplementation is likely to be successful at resolving critical uncertainties. If not, then consensus on an overall basinwide experimental framework and design is needed.

Reintroductions

Numerous projects throughout the basin are focusing on the reintroduction of salmonid species to systems where they have been extirpated. In the Columbia Cascade Province for example, these include Project 199604000 (*Evaluate the Feasibility and Risks of Coho Reintroduction in the mid-Columbia*), Project 200001300 (*Evaluate an Experimental Re-introduction of Sockeye Salmon into Skaha Lake*), and Project 29016 (*Return of Sockeye Salmon to their Historic Range*). Many of these projects appear to offer promising initial results that, if coupled with strong monitoring and evaluation components, may yield new insights into restoration potentials elsewhere in the basin.

It is important that reintroduction projects not be lumped with supplementation projects, as this has the potential to confound the region's needed assessment of the efficacy of supplementation as a recovery tool. Supplementation and reintroduction projects share many common aspects (use of artificial production facilities and techniques, goal of increasing naturally occurring fish, etc.) and concerns (carrying capacity, impacts on non-target species, different selection pressures for naturally spawning and artificially produced fish, and the potential for conflicting restoration, production, and harvest goals). However, they differ in the constraints under which they operate. Many of the issues that necessarily constrain supplementation activities, such as minimizing genetic and fitness risks to an indigenous depressed stock, are of smaller or little concern in reintroduction programs.

Monitoring, Evaluation, and Reporting of Results

As specified in the 1996 Amendment to the Power Act, a primary review function of the ISRP is to determine if projects are based on sound scientific principles and are likely to benefit fish and wildlife. Integral to this determination is whether projects monitor and evaluate progress and report results that allow measurement of benefits. Project proposals often lack detailed description of the kind of monitoring and evaluation that is necessary in sound scientific programs; however, significant improvement has been observed in some recent cases.

Monitoring has been categorized in a hierarchical sequence (Tier 1, Tier 2, or Tier 3) in the NMFS All-H document (*Conservation of Columbia Basin Fish: Final Basinwide Salmon Recovery Strategy, Volume 1, Table 4*). These guiding principles for a hierarchical monitoring program are being further developed and pilot programs are proposed in the federal Research Monitoring and Evaluation effort (RME effort) for the 2000 FCRPS Biological Opinion by the Action Agencies (Bonneville Power Administration, United States Army Corps of Engineers, and the Bureau of Reclamation) and the National Marine Fisheries Service (NMFS).

Four hierarchical levels of monitoring have been recognized and recommended by the ISRP in review of project proposals. These levels are in close agreement with the three tier hierarchical sequence described in the NMFS All-H document (with the addition of implementation monitoring) and the RME effort. However, some discussion is warranted here because the objectives and scale of individual projects is sometimes different from the overarching Columbia basinwide objectives of the Action Agencies and the NMFS. Also, we have modified our jargon somewhat from earlier ISRP reports to make the terms more consistent with the All-H document and the relatively new RME effort.

Four levels of monitoring should be considered: 1) implementation and/or compliance monitoring, 2) trend monitoring of project results (corresponds closely and may contribute to NMFS Tier 1 - Landscape Scale Status Monitoring), 3) statistical monitoring of habitat and fish and wildlife populations (NMFS Tier 2 – Population Scale Status Monitoring), and 4) research monitoring in experiments (NMFS Tier 3 – Action Effectiveness Monitoring).

Implementation/Compliance Monitoring is used as a term to describe monitoring of task completion or monitoring of compliance with regulations. For example, miles of stream fenced, number of culverts removed, completion of reports, irrigation diversions maintained, number of smolts released, etc. might be reported in project proposals. Implementation/compliance monitoring data are often given in ongoing project proposals to the Council's Fish and Wildlife Program and are often proposed to be collected for future projects. Implementation/compliance monitoring results must be presented, but sound science requires that project results also be measured in terms of benefits to fish and wildlife using one of the following levels of monitoring.

Tier 1 Trend (or routine) monitoring of project results obtains repeated measurements, usually representing a single spatial unit over a period of time, with a view to quantifying changes over time. Changes must be distinguished from background noise. This is usually a low level of monitoring that corresponds closely in philosophy or contributes data to the NMFS Tier 1. Tier 1 trend monitoring on individual project sites does not provide statistical inductive inferences to larger areas or time periods (e.g., does not establish status of populations over time) and does not establish cause and effect relationships (i.e., is not experimental research). However, Tier 1 trend monitoring on similar projects replicated over time and space can provide compelling evidence for general conclusions. An example of Tier 1 trend monitoring would be repeat visits to a tributary habitat improvement site (perhaps every 3-5 years) to verify presence/absence of adult spawners (or redds, carcasses, eggs, juveniles, non-native species, etc.) using a written protocol.

Tier 2 statistical monitoring of habitat and fish and wildlife populations (Population Scale Status Monitoring) provides statistical inferences to larger areas and longer time periods and requires both probabilistic selection of study sites and repeated visits. A good model for statistical monitoring of aquatic habitat and fish population parameters is the Oregon Plan for Salmon and Watersheds Monitoring Program (Nicholas 1997a, 1997b, 1999) as implemented in the Oregon coastal coho streams and in the John Day Basin of the Columbia Plateau Province. The Oregon Plan, successfully implemented for estimation of coho distribution and abundance, applied a rigorous design for probabilistic site selection to answer key monitoring questions. Individual proposals to the Council's Fish and Wildlife Program can support larger Tier 2 statistical monitoring projects such as the Oregon Plan by using the same field methods and methods to select study sites that contribute information to Tier 2 statistical monitoring. Most large projects should implement sampling designs that allow Tier 2 statistical monitoring or contribute data to statistical monitoring.

Tier 3 research monitoring in experiments (Action Effectiveness Monitoring) is for those projects or groups of projects whose objectives include establishment of mechanistic links between management actions and salmon or other fish or wildlife population response. Bisbal (2001) defines this level of effort as *effects* or *response monitoring*; the repeated measurement of environmental variables to detect changes caused by external influences. The key words here are "establishment of mechanistic links" and "detect changes caused by external influences." Generally, the results of Tier 3 research monitoring qualify for publication in the refereed scientific literature. Examples of Tier 3 monitoring would include: 1) projects to evaluate the effects of different levels of fertilization on growth and survival of juvenile salmonids with streams selected randomly for reference and treatment; 2) projects to evaluate the survival rates of

adult salmonids caught and released from tangle nets; 3) projects to evaluate the survival rates of juveniles migrating past a dam at different levels of spill and turbine passage; 4) projects to evaluate the swimming ability of lamprey during upstream migration; 5) projects to evaluate the effectiveness of various land restoration or management techniques, etc.

The Council's Fish and Wildlife Program calls for monitoring and evaluation of biological and environmental conditions at the scale of provinces and subbasins. Tier 2 statistical monitoring for population status (habitat, fish and wildlife populations) will be required to provide inductive inferences to entire provinces, subbasins, and many watersheds, because it is impossible to survey every square foot of every stream bottom, riparian zone, and uplands area in these large regions every month of every year for decades. Many of the Columbia Basins' projects for "*monitoring*" fish and wildlife species (redds, spawners, juveniles, etc.) currently limit surveys to "*index sites*" selected by professional judgment in past years. Use of such data for inferences to larger areas is problematic, and requires additional data obtained from a special design in order to calibrate the relation between the index sites and the larger area as considered from the perspective of Tier 2 statistical monitoring. The proponents of such projects should plan their monitoring programs to allow for valid inductive inferences to the target areas. To maintain consistency of calibration, sites and methods used in the past should be continued along with the new sites (and possibly new methods) in a new Tier 2 statistical monitoring program for at least enough time to obtain an adequate sample for calibration. Depending on the original reasons for selecting the index sites, there may be good reason to continue monitoring at those locations, which would henceforth be treated as a special, defined stratum in the design.

We offer the further following suggestions for implementation/compliance, trend (routine), statistical, or research monitoring in projects funded under the Council's Fish and Wildlife Program. For some projects, monitoring is made difficult by the localized nature of the project compared to the larger spatial scale on which the ultimate ecological responses (e.g., increased populations of fish or wildlife) can be expected. This is particularly true of many proposals for which the target species to be benefited are anadromous fishes. For such projects, monitoring can in part be addressed at the level of the subbasin plan and in part with separate larger-scale Tier II statistical monitoring projects. These parts need to be coordinated, and the overall plan needs to describe and explain the coordination. Monitoring of ecological conditions and fish stock status in a subbasin as a whole must be sufficient to reveal whether the initial diagnosis of the subbasin was correct and whether the ecological problems are being solved by the cumulative effects of the projects in that subbasin. The large-scale aspects of monitoring may best be addressed by separate Tier II projects that have the explicit objective of monitoring ecological conditions and stock status for a large area (e.g., a subbasin, basin, or region). Eventually the adequacy of the monitoring for an individual project would be judged in terms of the combined project-specific monitoring in the proposal and the linkage (which also should be described in the proposal) to the larger scale monitoring and cumulative impact assessment in the subbasin.

At the level of individual projects, monitoring should test for the proximate effectiveness of the project's activities. Each project should propose the level of monitoring that is needed, should justify the adequacy of this level of monitoring for determining success of the project, and should outline the sampling design and methods that will be applied to attain monitoring goals. The monitoring plan may be provided directly as part of a project proposal (thus included in its background, methods and budget) or may be provided by specific reference through other parallel or larger scale (e.g., subbasin level) project proposals. In the latter case, it will be necessary that the project proposal for the parallel or larger scale monitoring project provide enough detail that the adequacy of the monitoring for purposes of the lower level project can be evaluated. Tier II monitoring and evaluation at the basin, province, or subbasin scale may realize additional savings

if proponents of related projects collectively design and implement their monitoring and evaluation activities.

Proposals must indicate plans for monitoring and evaluation of project effectiveness, and, for ongoing projects, include summaries of monitoring data, figures and tables, even if the monitoring is conducted by another project. Reviewers look for a monitoring and evaluation plan or a project link to a larger monitoring and evaluation program that can help determine whether an action provides biologically measurable results, ultimately in terms of fish or wildlife numbers. The ISRP is not necessarily recommending major research-level data collection for projects. Most Tier I and II monitoring does not provide strong evidence of cause and effect, which requires an explicit experimental framework. Rather, we envision use of cost-effective, consistent, written procedures that can be easily replicated by new personnel.

Monitoring provides the information that will be used to evaluate the success or failure of a project to contribute to the ultimate goals of fish and wildlife recovery, preservation, or mitigation. Thus, each project should explicitly state its local, specific, and short-term goals as well as the ways in which these contribute to the larger longer-term goals of fish and wildlife remediation and mitigation. These goals should be cast in the form of measurable biological results and criteria for success, such as habitat parameters and fish and wildlife numbers or performance measures. This level of biological monitoring with direct ties to goals is required under the 1996 Amendment to the Power Act. Bisbal (2001) provides some useful guidelines for fish and wildlife evaluation plans, including choice of indicators to monitor, management needs, planning of the evaluation component, the importance of sampling design, consideration of the statistical analyses that are anticipated, and the value of pilot studies to test techniques and performance standards.

MONITORING FOR SURVIVAL AND SAR USING PIT-TAGS

Much has been learned about survival and return rates of salmonids based on PIT-TAG technology. Undoubtedly, PIT-TAGS will continue to play a central role in design and analysis of individual research programs and scientific observational studies. However, the ISRP believes that a coordinated annual operations and management project is needed for application and detection of PIT-TAGS in support of long term monitoring and evaluation of out-migration survival of juveniles and return rates of adults.

SPECIFIC COMMENTS ON AQUATIC MONITORING AND EVALUATION

The ISRP emphasizes its support of the proponents of projects in the Columbia Cascade, Upper and Middle Snake, and Lower Columbia and Estuary Provinces to work with all Idaho, Oregon, Washington, and Montana Provinces to develop compatible aquatic monitoring and evaluation procedures with common field procedures and probabilistic site selection for the entire Columbia River Basin.

Principal Investigators of aquatic monitoring projects should interact closely with Project No. 199801600 in the Columbia Plateau (Jim Ruzycski and Richard Carmichael, ODFW, "Monitor Natural Escapement and Productivity of John Day Basin Spring Chinook Salmon"). ODFW revised this proposal to create a comprehensive plan to include all monitoring and evaluation for all anadromous salmonid life-stages and habitats in the John Day portion of the Columbia River Plateau Province. The M&E program in the John Day Basin is apparently developing as a model

for the Oregon section of the Columbia Basin and is being carefully reviewed by agencies in Washington.

The ISRP recommends that the Council endorse and support these efforts to develop standard sampling and data collection protocols within the Columbia Basin. It is extremely difficult to change a monitoring plan once it is in place. With the increased emphasis on monitoring and evaluation in ISRP project reviews, this may represent a one-time opportunity to make progress on this difficult task. We also recommend that the proponents of all aquatic habitat monitoring consider using aquatic habitat data collection protocols recommended in Johnson et al. (2001).

SPECIFIC COMMENTS ON TERRESTRIAL MONITORING AND EVALUATION

In response to the ISRP's comments and the Council's recommendations, the Albeni Falls Workgroup prepared a Draft Monitoring and Evaluation Plan for the Albeni Falls Wildlife Mitigation Project, dated August 2001 and submitted it for Council and ISRP review. The ISRP review suggested that the plan be revised to include systematic sampling (see www.nwcouncil.org/library/isrp/isrp2001-4AlbeniFalls.pdf). Apparently, the draft plan is being further revised. Although the revision and subsequent review are not complete, it seems likely that this plan will be recommended as a model for terrestrial (including riparian) monitoring in the Columbia Basin. We encourage the proponents of terrestrial monitoring projects in all provinces to work closely with the Albeni Falls Workgroup and the Confederated Salish and Kootenai Tribes to develop common site selection procedures and data collection protocols for terrestrial monitoring within the Provinces of the Columbia Basin. In the Upper and Middle Snake Provinces, the Southern Idaho Wildlife Mitigation projects (199505700 through 03) have adopted the Albeni Falls M&E Plan for use in southern Idaho in wetland cover types and are in the process of expanding that plan to include techniques for monitoring upland habitat and wildlife species.

In particular we have suggested that an intensification of the National Resources Inventory (NRI) survey sites and data collection protocols would serve the Columbia Basin well. See the Proposals #200002300 and #200020116, the ISRP reviews in the Columbia Plateau, and the NRI web site www.nhq.nrcs.usda.gov/NRI/. The Council's Fish and Wildlife Program includes objectives for fish and wildlife habitat in subbasins and in fact for the entire Columbia Basin. It is our understanding that subsets of data collected in the NRI could be utilized at the present time to make statistical inferences (to variables currently measured by the NRI) in the Columbia Basin and in some of the larger subbasins. See Oregon and Washington results from the NRI on the sites: www.or.nrcs.usda.gov/nri/index.htm, and www.wa.nrcs.usda.gov/NRI. Monitoring of habitat and other land uses on the scale of subbasins (e.g., the Salmon or Methow subbasins) and the Columbia Basin will require development of a system wide probabilistic sampling plan similar to the NRI or use of the NRI with appropriate variables measured. The ISRP believes that a coordinated "top-down" plan that can be intensified to make inferences to "small areas" (e.g., the size of projects in the Albeni Falls Dam Wildlife Mitigation Projects) is the best long-term strategy for the Columbia Basin.

HABITAT EVALUATION PROCEDURES AND HABITAT SUITABILITY INDICES

In reviewing the Albeni Falls plan for wildlife monitoring and evaluation and Habitat Evaluation Procedures (HEP), the ISRP noted that the proposal includes provision for long-term HEP evaluations. We suggest that effort put into long-term repetition of HEP analyses may not be very useful and that use of HEP analyses and their associated Habitat Units (HUs) to guide land

management may lead to counterproductive management practices. HEP is based on the assumption that habitat suitability for a species can be described by a Habitat Suitability Index (HSI). These indices vary in quality and many are based on limited information. Measures of uncertainty in the form of confidence bounds on HSIs are rarely given, but have been found to be very broad. Management to produce or maintain habitat that is predicted by an index of untested quality to provide good habitat for a particular species is not warranted when better and more direct information on wildlife is available. We urge the program away from continuing emphasis on HEP evaluation as a tool for long-term evaluation or management planning.

We have noted before that the HEP procedure was a reasonable way to assess loss and mitigation initially. The Wildlife Program developed with the expectation that Habitat Units (HUs) could provide a proxy for direct wildlife measures and so an increase in HUs could be expected in a well-managed program and could provide a yardstick for measuring recovery. However, the development of good-quality direct monitoring programs will make this coarse approximation obsolete as an evaluation tool. The Albeni Working Group is prudent in allowing that they expect to at least maintain baseline HUs and they will allow a 20% decrease in this before invoking a management response.

Management Relevance of Scientific Proposals

Proposals with a strong scientific/technical background section often are not well linked to the management strategies for the subbasin and to other projects underway or planned for the subbasin. The ISRP encourages those proponents with primarily academic backgrounds to make concerted efforts to learn about, and to connect with, the fish and wildlife management infrastructure at the subbasin and province levels. Inquiries are encouraged from potential proponents of a project to the Council staff, CBFWA staff, or the relevant state or tribal fish and game agencies.

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Bisbal, G.A. 2001. Conceptual design of monitoring and evaluation plans for fish and wildlife in the Columbia River ecosystem. *Environmental Management* 28(4): 433-453.

Independent Scientific Group (ISG). 2000. Return to the River 2000: restoration of salmonid fishes in the Columbia River ecosystem. Northwest Power Planning Council, Portland, Oregon.

Johnson, D. H., N. Pittman, E. Wilder, J. A. Silver, R. W. Plotnikoff, B. C. Mason, K. K. Jones, P. Roger, T. A. O'Neil, C. Barrett. 2001. Inventory and Monitoring of Salmon Habitat in the Pacific Northwest - Directory and Synthesis of Protocols for Management/Research and Volunteers in Washington, Oregon, Idaho, Montana, and British Columbia. Washington Department of Fish and Wildlife, Olympia, Washington. 211pp.

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Nicholas, J.W. (Principal Writer). 1999. Implementation of the monitoring program, Chapter 15b. The Oregon Plan: Draft steelhead supplement. State of Oregon, Salem, Oregon.
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Watershed Assessment Section

Fish Habitat Assessment procedures are now on line at
srmwww.gov.bc.ca/frco/programs/wrp/fhap/index.html. This is also the link to these documents on line:

Keeley, E.R. & C.J. Walters. 1994. The BC Watershed Restoration Program: Summary of the Experimental Design, Monitoring and Restoration Techniques Workshop. BC Watershed Restoration Management Report. 34p. 284Kb

Johnston, N.T. & Slaney, P.A. 1996. Fish Habitat Assessment Procedures, BC Watershed Restoration Technical Circular. 97p. 576Kb

Johnston, N.T. & Moore, G.D. 1995. Guidelines for Planning Watershed Restoration Projects. BC Watershed Restoration Technical Circular. 52p. 130Kb

Slaney, P.A., and Zaldokas, D. [Editors]. 1997. Fish Habitat Rehabilitation Procedures. BC Watershed Restoration Technical Circular No. 9. 341p. 7.1Mb

Gaboury, M. & Wong, R. 1999. A Framework for Conducting Effectiveness Evaluations of Watershed Restoration Projects. BC Watershed Restoration Technical Circular. 33p.

Final Recommendations and Comments on Each Proposal

PART I. Upper and Middle Snake Provinces

Comments and recommendations on proposals for the Middle Snake Province are presented first followed by those for the Upper Snake Province. Within those province sections, proposals are grouped into subbasins, and within each group, proposals are arranged in the order they were presented at the ISRP site visit workshop. In general, the CBFWA review comments for these two provinces were particularly helpful, insightful, and provided useful information for the ISRP in its final review.

Middle Snake Province

BOISE/PAYETTE/WEISER RIVER SUBBASINS

ProjectID: 199505701

Southern Idaho Wildlife Mitigation - Middle Snake

Sponsor: IDFG & IOSC

Subbasin: Boise

FY03 Request: \$3,889,703

5YR Estimate: \$21,913,421

Short Description: Protect, enhance, restore and maintain wildlife habitats to mitigate for construction losses at Anderson Ranch, Black Canyon and Deadwood dams.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable. This is one of four Southern Idaho Wildlife Mitigation proposals (199505700 through 03). All are more or less identical. Project history and some of the text are identical. Apparently the Southern Idaho Wildlife Mitigation (SIWM) project was split into Upper and Middle Snake with the IDFG/IOSC, submitting proposals in both places along with the Shoshone-Bannock and Shoshone-Paiute Tribes. The ISRP comments on each are mostly identical (except for the plant center in 199505702).

The proponents have adopted the Albeni Falls M&E Plan for use in southern Idaho in wetland cover types and are in the process of expanding that plan to include techniques for monitoring upland habitat and wildlife species. They anticipate having the draft Southern Idaho Monitoring and Evaluation Plan completed and ready for review by August 1, 2002. The plan should be reviewed by the ISRP before implementation. Also, the proponents should review the response provided by the sponsors of Proposal #32008. Their draft wildlife monitoring and evaluation plan constitutes a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

ISRP Final Review Comments for 32008:

The ISRP appreciates the proponents efforts in providing an excellent (but, understandably incomplete) draft wildlife inventory and monitoring plan. This draft provides a step toward development of a model plan for inventory, monitoring, and evaluation of wildlife that might be recommended by CBFWA to state and federal agencies and tribes in the Columbia Basin.

The draft plans for inventory, monitoring and evaluation of wildlife species is an excellent response and represents a good step toward methods that might be recommended throughout the Columbia Basin. The habitat evaluation section of the plan appears to be minimal, emphasizing the need for the region to develop common site selection protocols and data collection methods for monitoring of terrestrial habitat. The ISRP encourages the proponents to continue the association with the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat.

CBFWA Review Comments:

The proposed work provides the initiation of O&M. Project sponsors indicate credits will be applied to Anderson Ranch, Deadwood, or Black Canyon.

ProjectID: 32020

Inventory and Assessment of Stream/Riparian Resources, upper Boise and upper Payette River Subbasins, Idaho

Sponsor: WHA

Subbasin: Boise

FY03 Request: \$176,000

5YR Estimate: \$176,000

Short Description: Apply a hierarchical classification to identify complexes of stream/riparian resources with distinctive ecological potential and divide the complexes into more discrete areas based on condition relative to a progression of states.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable at low priority. This project has the potential for providing useful data to subbasin planning and the EDT modeling effort. The ISRP acknowledges that the sponsor provided an excellent response to our continuing concerns for monitoring and evaluation the accuracy of mapping projects and for use of the data in long-term aquatic habitat monitoring efforts. For example, the proponent responded that mapped points would be checked with actual field visits using a double-blind sampling scheme. If funded, the project should be focused on and integrated into EDT more closely than it is at this point in order for the product to be directly useful in future EDT applications and subbasin planning.

CBFWA Review Comments:

CBFWA found that the proposed work is similar to the mapping effort submitted by the Northwest Habitat Institute in previous provinces. This may be useful when subbasin planning begins in this province and needs to be coordinated with EDT. CBFWA questions the specific need for this project and suggests the benefits to fish and wildlife are low. The proposal states the "proposed inventory and assessment can be used to enhance both completed and ongoing TMDL efforts, and as a basis for remediation to achieve TMDLs." CBFWA expressed concern regarding the appropriateness of funding TMDL's through the NWPPC Program.

ProjectID: 32021

Lower Boise River Wetlands Restoration Project

Sponsor: Pioneer Irrigation District

Subbasin: Boise

FY03 Request: \$164,500

5YR Estimate: \$3,852,000

Short Description: Restore wetlands in the Lower Boise River watershed in order to mitigate the inundation of wetland habitats caused by the construction of Anderson Ranch Dam. Improvements in water quality will be an integral part of restoration of the wetlands.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable at low priority. Quoting from the proposal, the proposal would create a wetland to eventually be a part of the "dynamic trading of pollutant loading" to the lower Boise River, principally involving phosphorus and sediment. The Council should carefully review this project to ensure that it qualifies for

offsite mitigation responsibilities. The project would likely have some minimal wildlife benefits, but benefits were not well articulated in the proposal or response. The ISRP agrees with CBFWA that sensitive species would not benefit. The proposal lacks a fully developed monitoring and evaluation plan for data, both for water quality and fish and wildlife benefits.

CBFWA Review Comments:

This project will provide for the removal of phosphorous and sediment from the lower portion of the Boise River. The IDEQ has identified phosphorous and sediment as having negative effects on the white sturgeon population in the Hells Canyon reach of the Snake River. Although the sponsors suggested the project would provide for sensitive species, the reviewers question the benefits to sensitive species. Reviewers indicated that there are nine target species in this area and that the proposed work would provide habitat only for mink and waterfowl. CBFWA found that this proposal does not provide enough detail to determine if the construction phase should be funded and suggest that the proposal be reviewed after the design phase is completed. Wildlife would likely benefit from the wetland creation, but dredging and removal of vegetation to remove accumulated silts and nutrients would cause disturbances approximately every five years. It is unclear if fisheries benefits would result. In fact, CBFWA suggests that thermal heating in the settling cells and wetlands could lead to elevated water temperatures downstream. CBFWA suggests that the proposed project is primarily a water quality project, with potential side benefits to wildlife. Monitoring and evaluation for water quality was included in the original proposal, but monitoring and evaluation for wildlife resources was not. A wildlife monitoring and evaluation plan still is yet to be developed.

The project would benefit from cost-share arrangements for funding from other sources. All listed cooperators are shown to contribute “in-kind” services or funds. Although the benefit of this project, combined with others throughout the basin, could have lasting benefits, impacts addressed are not entirely attributable to the Federal Columbia River Power System (FCRPS). CBFWA was unclear as to how this project qualifies as offsite mitigation for impacts caused by the FCRPS. Due to the relatively minor impacts associated with power operations, it seems the Corps of Engineers, Bureau of Reclamation, State of Idaho and the counties would have greater responsibilities to provide funding to mitigate for these impacts, rather than BPA.

The proposed conservation easements or land acquisitions appear to be very high cost at \$5000/acre and \$10,000/acre, respectively. The proposal does not describe how wildlife benefits will be calculated and credited.

CBFWA found that coordination with BPA and the fish and wildlife managers appears to have been inadequate.

ProjectID: 32009

Squaw Creek Cooperative Fisheries Restoration Project

Sponsor: RC&D

Subbasin: Payette

FY03 Request: \$43,750

5YR Estimate: \$790,250

Short Description: Assess and ameliorate the significant factors that have resulted in a severely depressed bull trout metapopulation within the major streams of the Squaw Creek drainage.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part to support stream inventory and to improve planning and coordination efforts with IDFG and other parties. This is a program that involves a lot of groups and interests in the community, but needs further collaboration with state and federal land managers. The proposal would work to bolster bull trout in one of the five key watersheds in the Payette drainage as identified in the Idaho Governor's bull trout

recovery plan. Basic building blocks appear to be in place for a watershed level program, but it seems to be in the initial planning stage. The ISRP supports funding objective 1, tasks a and b, for stream inventory and data integration and objective 3, tasks a and b, for streams surveys to identify fish passage barriers. Reviewers suggest holding off on supporting all or part of the diversion screening and fish passage improvements at this time.

CBFWA Review Comments:

Due to the weakness of the proposed methods and the apparent lack of coordination with IDFG, CBFWA suggests that this project should be reclassified as a “Recommended Action” until the following comments are answered in a satisfactory manner. Are all culvert replacement activities occurring on private lands? Are bull trout present in Squaw Creek above the mouth of Poison Creek? What is the current population status of the Squaw Creek bull trout population compared to other populations within the Subbasin? How will the sponsor “characterize channel condition” during downstream migration of post-spawning adults? In addition, CBFWA expressed concern relative to the lack of information pertaining to the type of poison that would be used by the sponsors. CBFWA suggests that until the status of the bull trout population is identified, poisoning activities should not be implemented.

ProjectID: 32011

Mitigation of marine-derived nutrient loss in the Boise-Payette-Weiser subbasin.

Sponsor: IDFG, WSU, UI, PNW, OSC

Subbasin: Boise

FY03 Request: \$354,789

5YR Estimate: \$1,072,548

Short Description: The project replaces marine derived nutrients using salmon analogs and salmon carcasses in the Boise-Payette-Weiser subbasin. Aquatic and terrestrial effects of nutrient treatments will be monitored using isotope and lipid analysis.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is a research project: of the first year budget, approximately \$306K is for research (4 graduate students from 2 schools) and about \$40K is to actually distribute the nutrients. It is a technically well-designed effort. It does go beyond ongoing BPA-funded studies by evaluating terrestrial effects; however, its long-term benefits to resident fish are uncertain, and the potential application of results to anadromous fish is not described. Because, as the response states, this is a management action to mitigate for nutrient loss related to anadromous fish loss in these subbasins, the critical issue is how practical and feasible is annual fertilization in the blocked areas (unlike that in areas currently occupied by anadromous fish, where results of fertilization studies indicate a value of restoring those runs). Unfortunately this study might not directly include bull trout responses to fertilization and that weakness should be corrected if at all possible. Reviewers were supportive of the basic research aspects of the proposal, but concerned that long-term management applications were not more developed in the proposal and response.

CBFWA Review Comments:

The loss of marine derived nutrients has been identified as a factor limiting the productivity of bull trout in Idaho and Oregon and is viewed as an issue that should be a region-wide concern/investigation. Reviewers believe that results from this study could likely be applied throughout the range of distribution for bull trout where anadromous fish have been removed. Reviewers suggested that the proposed work, as it relates to bull trout, should be implemented in a basin-wide approach; however, reviewers questioned whether the work should be initiated now or wait until results become available from some of the nutrient projects that were funded through the 2001 Innovative process. The reviewers suggested that pursuing this work is a High Priority; however, review of data from the innovative projects may be useful before the implementation of this project thus coordination with ongoing projects is essential.

ProjectID: 32013

Fishery Restoration of the Gold Fork River, Idaho

Sponsor: IDFG and IOSC

Subbasin: Payette

FY03 Request: \$344,500

5YR Estimate: \$2,429,500

Short Description: Fish populations in the Gold Fork River can be recovered by reconnecting the habitat and expanding the range of bull trout and redband trout populations. By creating fish passage in the drainage we will reconnect 44 miles of resident fish habitat.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. The proposal would work to strengthen the bull trout population in one of the five key watersheds in the Payette drainage as identified in the Idaho Governor's bull trout recovery plan. Some uncertainty remains regarding the future potential of Cascade Reservoir to support bull trout given its suboptimal physical and chemical conditions, but reviewers agree with the response of project proponents that the risk is relatively low. The ISRP notes the thorough technical review provided by CBFWA-RFC and agrees with support for Objective 1 (brook trout removal, stabilization, and enhancement of bull trout populations). Funding for Objective 2 (removal of all man-made passage barriers) should be delayed and contingent on successful completion of Objective 1 components. The proponents are also referred to this report's programmatic section on monitoring and evaluation.

CBFWA Review Comments:

CBFWA suggests that this anadromous substitution project will benefit bull trout if brook trout can be successfully removed; however, the proposed methodology to eradicate brook trout is vague. CBFWA suggests that Antimycin combined with selective electrofishing has the best track record for removing nuisance species from running water. Lakes can be successfully treated with rotenone during late fall, just prior to ice formation. The sequential strategy for removing brook trout in stages between temporary barriers has merit and should be funded and assessed for effectiveness before initiating Objective 2. The narrative states that bull trout will not be stocked until brook trout are reduced to acceptable levels. Unfortunately, because the stream habitat has been degraded by excessive sedimentation, CBFWA believes that brook trout are likely to rebound if not removed entirely. Instream habitat should be repaired to reduce the amount of fine sediments and protect riparian vegetation for thermal cover. Bull trout require cool water temperatures and clean substrates, whereas brook trout can tolerate degraded stream conditions. Barriers isolating the remnant population of bull trout should not be removed if brook trout can invade from elsewhere in the system. CBFWA questions the current population status of the Gold Fork population compared to other populations within the Subbasin. Funds are allocated in FY 2003 to relocate bull trout and native fish assemblages into renovated stream sections. After removing brook trout from selected stream reaches, what is the duration and sampling frequency that will conclude that all brook trout have been removed? It is mentioned in the abstract that "No stocking will occur until brook trout abundance is reduced to acceptable levels in treatment stream sections". Is this acceptable level zero? The proposal mentions that "lower river reaches are frequently dewatered to satisfy irrigation demands". Would the creation of passage facilities and more efficient water transfer to the irrigators guarantee water will be left instream? The RFC proposes that the project should be funded in stages. Objective 1 should be completed first with the initiation of Object 2 dependent on the RFC review/approval of the results from Objective 1.

ProjectID: 32015

Deadwood River and Clear Creek Drainages Roads Analysis and Repair

Sponsor: USFS

Subbasin: Payette

FY03 Request: \$105,800

5YR Estimate: \$1,088,800

Short Description: Inventory, analyze, identify and repair road problems (road segments contributing sediment, culverts blocking fish passage, or culverts at high risk of failure) in the Deadwood River and Clear Creek drainages.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This would provide some definite long-term reductions in sediment delivery, but benefits to fish may be difficult to assess. The response indicated that a watershed analysis has been completed.

CBFWA Review Comments:

CBFWA believes that analyzing and correcting problems with roads, culverts and such seem to be reasonable approaches to improving conditions for bull trout; however, CBFWA believes that BPA funds should not be used for this work which is sponsored by the US Forest Service on Forest Service administered land to correct previous Forest Service sponsored actions.

The potential actions to address listed bull trout needs is extensive. CBFWA questions where BPA's responsibility to mitigate for hydrosystem impacts end and the responsibilities of others begin.

ProjectID: 32006

Compare the parr-smolt transformation of non-anadromous and anadromous populations of *Oncorhynchus mykiss*

Sponsor: IDFG

Subbasin: Weiser

FY03 Request: \$90,530

5YR Estimate: \$286,287

Short Description: Determine if *O. mykiss* populations that were historically accessible to the ocean but are now blocked by dams can produce smolts.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable, in the sense that this is a well-designed study and it would be interesting to know the answer to the question posed in the proposal. If passage problems in the Hells Canyon reach can ever be solved, this information would be of value. The lab component monitoring physiological attributes, however, seems very low priority. The response adequately addressed the questions of whether the sample size of PIT-tagged fish in tasks a and b is large enough for detection of possible differences and also the specific hypotheses that would be tested in tasks a-c.

BRUNEAU RIVER SUBBASIN**ProjectID: 32007**

Bull trout habitat restoration/protection program - Bruneau Subbasin

Sponsor: SPT-DVIR

Subbasin: Bruneau

FY03 Request: \$218,374

5YR Estimate: \$1,658,413

Short Description: Work collaboratively with the USFWS, BLM, NDOW and IDFG to implement habitat enhancement/restoration/protection measures in the Bruneau Subbasin to assist in recovery of threatened bull trout populations in the Jarbidge and Bruneau River systems.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response indicated that the proposal is now changed to only support work proposed in the Dave Creek component of the original project. The budget is greatly reduced accordingly. Proposal and response remain very rough, and preliminary data are very hard to decipher. However, the proposed work would protect and enhance critical bull trout along 4 miles of stream for at least several years. The response included additional information on M&E that was barely adequate. Monitoring should also include estimates of fish abundance.

CBFWA Review Comments:

The objective of this project is to improve stream and riparian habitat conditions for the Jarbidge bull trout population. CBFWA agrees with the sponsor's decision to consider only the Dave Creek project under the project request. The objectives are clearly defined and attainable in the stated time frame. The habitat analysis was comprehensive and nicely demonstrated the benefit of acquiring a Temporary Conservation Easement on critical bull trout spawning habitat to restrict livestock grazing and other streamside development and the need for habitat improvements. Although the proposal lacks an M&E plan, the plan is being developed with the BLM. The sponsors indicated that the BLM plan would be adopted when completed.

ProjectID: 200007900

Assess Resident Fish Stocks Of The Owyhee/Bruneau Basin, D.V.I.R.

Sponsor: Sho-Pai Tribes - DVIR

Subbasin: Bruneau

FY03 Request: \$232,000

5YR Estimate: \$1,288,000

Short Description: Conduct a systematic resident fish species inventory & stock assessment in the Owyhee/Bruneau River Basin, DVIR component. Using established protocol to evaluate the genetic composition / introgression of native trout populations on the DVIR.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Do not fund. The ISRP was not convinced that information generated from this project will be of significant benefit to resident fish management in the southern Idaho region. The review package (proposal, presentation, and response) did not provide the ISRP assurance that the project sponsors are up-to-date on current literature, methods, and applications for managing native resident fish populations. The proposal as outlined is not a systematic resident fish species inventory and stock assessment in the Owyhee/Bruneau River Basin, DVIR component. In the response, the lab protocol description is adequate.

The proponents are apparently unaware of the need to use a probabilistic sampling procedure for selection of sampling sites in this project. The ISRP requested that the proponents use the same sampling procedures as currently being implemented in Project 199800200 “Snake River Native Salmonid Assessment.” The proponents countered that they were using a similar sampling procedure, but did not give any details for review.

The response did not describe a scientifically sound plan as recommended in the ISRP’s FY00 review and in the preliminary review of this proposal. Project performance to date appears to be minimal.

CBFWA Review Comments:

CBFWA recommends that this project should be closely coordinated with Project 199800200 “Snake River Native Salmonid Assessment”. CBFWA was unable to determine if much coordination is taking place. CBFWA believes that this project is a High Priority and should be completed as soon as possible as results of this project are needed for other projects.

ProjectID: 32012

Implement Best Management Practices to improve riparian habitat and upland conditions within the Clover Creek watershed.

Sponsor: BRSCD

Subbasin: Bruneau

FY03 Request: \$44,500

5YR Estimate: \$91,999

Short Description: Enhance riparian and upland habitat and reduce nonpoint source pollution within the Clover Creek watershed through the development of a Coordinated Resource Management Plan on private, state, and federal land, focusing on private land improvements.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This generally well-written proposal would continue and expand a commendable and relatively low cost cooperative effort to enhance riparian habitat on a portion of Clover Creek that in the long run should be capable of sustaining bull trout. Reviewers from ISRP and CBFWA agree that the demonstration function for surrounding landowners is significant. Monitoring plans seem adequate.

CBFWA Review Comments:

Proposed work will cover 1/3 of all the private acres on Clover Creek, a location that has been identified as a TMDL stream segment. Reviewers suggest that due to the respect that other landowners have for the individual that has volunteered his land, this project could serve as a demonstration project that could lead other landowners, that are currently reluctant, to become willing to participate in similar activities.

Although the proposed concept is valid, CBFWA questions the priority status of this project since the perception is that the ongoing work will continue regardless of whether BPA funds are secured. CBFWA found that most of the monitoring activities are being completed through various processes (e.g., TMDL) as well as general fish, wildlife and habitat monitoring by IDFG. CBFWA questions the appropriateness of allocating BPA funds to this proposal.

OWYHEE RIVER SUBBASIN**ProjectID: 199505703**

Southern Idaho Wildlife Mitigation - Shoshone-Paiute Tribes

Sponsor: SPT-DVIR

Subbasin: Owyhee

FY03 Request: \$1,813,746

5YR Estimate: \$7,683,164

Short Description: Acquire, enhance and protect wildlife habitat to mitigate for the construction of Anderson Ranch, Deadwood, and Black Canyon hydroelectric facilities.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is one of four Southern Idaho Wildlife Mitigation proposals (199505700 through 03). All are more or less identical. Project history and some of the text are identical. Apparently the Southern Idaho Wildlife Mitigation (SIWM) project was split into Upper and Middle Snake with the IDFG/IOSC, submitting proposals in both places along with the Shoshone-Bannock and Shoshone-Paiute Tribes. The ISRP comments on each are mostly identical (except for the plant center in 199505702).

The proponents have adopted the Albeni Falls M&E Plan for use in southern Idaho in wetland cover types and are in the process of expanding that plan to include techniques for monitoring upland habitat and wildlife species. They anticipate having the draft Southern Idaho Monitoring and Evaluation Plan completed and ready for review by August 1, 2002. The plan should be reviewed by the ISRP before implementation. Also, the proponents should review the response provided by the sponsors of Proposal #32008. Their draft wildlife monitoring and evaluation plan constitutes a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

ISRP Final Review Comments for 32008:

The ISRP appreciates the proponents efforts in providing an excellent (but, understandably incomplete) draft wildlife inventory and monitoring plan. This draft provides a step toward development of a model plan for inventory, monitoring, and evaluation of wildlife that might be recommended by CBFWA to state and federal agencies and tribes in the Columbia Basin.

The draft plans for inventory, monitoring and evaluation of wildlife species is an excellent response and represents a good step toward methods that might be recommended throughout the Columbia Basin. The habitat evaluation section of the plan appears to be minimal, emphasizing the need for the region to develop common site selection protocols and data collection methods for monitoring of terrestrial habitat. The ISRP encourages the proponents to continue the association with the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat.

ProjectID: 32008

Wildlife Inventory and Habitat Evaluation of Duck Valley Indian Reservation

Sponsor: SPT-DVIR

Subbasin: Owyhee

FY03 Request: \$127,461

5YR Estimate: \$271,340

Short Description: Conduct wildlife surveys to determine species composition and relative abundance on the Duck Valley Indian Reservation. HEP analyses will be conducted to determine habitat suitability index for target wildlife species.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable with high priority. The ISRP appreciates the proponents efforts in providing an excellent (but, understandably incomplete) draft wildlife inventory and monitoring plan. This draft provides a step toward development of a model plan for inventory, monitoring, and evaluation of wildlife that might be recommended by CBFWA to state and federal agencies and tribes in the Columbia Basin.

The draft plans for inventory, monitoring and evaluation of wildlife species is an excellent response and represents a good step toward methods that might be recommended throughout the Columbia Basin. The habitat evaluation section of the plan appears to be minimal, emphasizing the need for the region to develop common site selection protocols and data collection methods for monitoring of terrestrial habitat. The ISRP encourages the proponents to continue the association with the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat.

ProjectID: 199701100

Enhance and Protect Habitat and Riparian Areas on the DVIR

Sponsor: SPT - DVIR

Subbasin: Owyhee

FY03 Request: \$344,696

5YR Estimate: \$1,879,696

Short Description: This project increases critical riparian areas of the Owyhee River and its tributaries as well as preserves the numerous natural springs located on the Duck Valley Indian Reservation. Provides a clean pure source of water for the fish and wildlife.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. The response provided no new information to suggest the project activities significantly protect or enhance fish and wildlife resources. The ISRP noted in its preliminary review the lack of necessary detail on quantifiable biologically measurable objectives, methods, and M&E; however, the response did not provide any additional substantive detail on these deficiencies. The ISRP remains concerned that the project has too limited a focus. Fencing of the springheads only, without also fencing adjacent stream riparian areas, will not lead to significant habitat protection and fisheries benefits.

Earlier ISRP reviews (FY 2000) recommended funding to the DVIR in order to support development of refined sampling protocols, project designs, and project descriptions. Detailed plans for M&E should be developed and reviewed by the ISRP before funding would be recommended. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of ISRP's four primary review criteria from the 1996 Power Act amendment directs the ISRP to review and recommend only projects that "have provisions for monitoring and evaluation of results."

CBFWA Review Comments: An M&E Plan needs to be completed for this project.

ProjectID: 198815600

Implement Fishery Stocking Program Consistent With Native Fish Conservation

Sponsor: SPT - DVIR

Subbasin: Owyhee

FY03 Request: \$211,688

5YR Estimate: \$1,102,688

Short Description: To enhance fisheries on the DVIR we will stock three reservoirs (closed systems) with rainbow trout. This project will support a sustainable (put-and-take) harvest by Shoshone-Paiute tribal members and non-Indian anglers without impacting native trout.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response addressed the ISRP concerns in a thoughtful and thorough manner. Details on the creel survey and analytical methods are presented. The CBFWA review raised concerns about increasing outyear budget increases that may warrant Council attention; however the review information provided to the ISRP did not note such increases.

CBFWA Review Comments:

CBFWA recommends that the sponsor should consider combining this project with Project 199501500 since they are essentially the same but occur in different lakes. If this project was combined with Project 199501500 administrative, M&E, and O&M costs could be reduced without reducing the quality and deliverables of these projects.

Stocking rates for these waters seem excessive considering that temperature and oxygen profiles indicate they are marginal for trout. CBFWA questions how they are determined and adjusted annually? During the next 2 years the project costs will increase from \$110,000 to \$420,000. CBFWA questions why are project costs increasing so much over prior years?

If the goal of the project is to produce more and bigger fish for anglers, [CBFWA] suggests the proponent should consider using net-pens or rearing ponds to reduce transportation and fish costs. Equipment maintenance seems excessive for what is needed to do this project, most of the equipment is owned by sub-contractors. See project 199501500 for additional issues that also relate to this project.

ProjectID: 199501500

Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)

Sponsor: Sho-Pai Tribes DVIR

Subbasin: Owyhee

FY03 Request: \$293,000

5YR Estimate: \$1,326,000

Short Description: The purpose of this Operation and Maintenance (O&M) project is to enhance and develop the Billy Shaw fishery area as a premier fishery in the Northwest U.S. Stocking with native fish (or suitable species) shoreline and water quality enhancement/monitoring.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response addressed the ISRP concerns adequately. It provides assurance that riparian edge habitat improvements will be protected through increased education of tribal members and through increased monitoring by enforcement personnel. The response noted that maintenance of lake levels was

being addressed through an MOU with the DVIR Irrigation district; consequently that issue was not yet resolved.

CBFWA Review Comments:

This is a fundable project; however, CBFWA suggests that the following concerns should be addressed. Although many tasks (e.g., planting projects, fencing, signage, and public relations) have been in progress for multiple years, when will they be finished? Much of the work seems repetitive and once baseline data has been established, implementing select tasks (e.g., water quality monitoring) on a yearly basis may have limited value. Monitoring could be conducted on a rotating basis with other lakes from Project 198815600. CBFWA suggests that data for each lake could be updated every three years and this would provide adequate information for assessing changes over time. In addition, monitoring riparian plants should be conducted one year after planting and then every five to ten years. Furthermore, CBFWA believes that hook and line sampling is redundant if creel surveys are conducted. CBFWA recommends that the sponsors consider combining this project with Project 198815600 resulting in an annual budget of \$250,000.

ProjectID: 32001

Evaluate the Feasibility Artificial Production Facility DVIR

Sponsor: SPT-DVIR

Subbasin: Owyhee

FY03 Request: \$300,000

5YR Estimate: \$2,823,000

Short Description: To provide a sustenance fishery for the Tribal of the Duck Valley Indian Reservation (DVIR). This will be accomplished through the Feasibility, Construction, and Operation of an Artificial Production Facility.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Do Not Fund. The response does not adequately address ISRP concerns. The response pins its technical assertions on opinions of un-named experts who speculate that raising redbands in culture will be no more difficult than cutthroat trout or other salmon. The response also suggests that unspecified advances in technology and understanding will make redband culture more feasible in a few years (when DVIR would be ready to undertake redband culture) than it currently is. The response fails to provide adequate details on planning, risk assessment, and technical details on fish culture that raise questions about the planning and technical development process for this project.

As noted in the ISRP Final 3-Step review of the now-terminated Joint Culture Facility, it is premature to consider an artificial production facility for the DVIR until an inventory of stock status and genetic status is completed for resident salmonids in DVIR streams and watersheds. These results would provide direction about the scale and sophistication of the production facility, as well as insights as to whether the facility is needed at all.

CBFWA Review Comments:

CBFWA recommended that Objective 1 (Tasks a-d) be categorized as “High Priority.” Although not included in the proposal, a cost benefit analysis will be performed. CBFWA suggests that Objective 1 be extended for a three-year period at a total cost of \$450,000. CBFWA questions whether 170,000 lbs. of annual production is appropriate for the DVIR? In addition, CBFWA suggested that other options (e.g., net pen program, using shaker boxes, continued fish purchases, or developing a rearing facility) may be more cost effective. Regardless of how the fish are obtained, CBFWA recommends that monitoring and evaluation continue after stocking.

ProjectID: 32014

Feasibility Study of Transporting Salmonids Through a Translucent Fish Passage System

Sponsor: SPT-DVIR

Subbasin: Owyhee

FY03 Request: \$102,050

5YR Estimate: \$977,050

Short Description: Test the biological response of fingerlings/smolt to transportation in a translucent fish passage system

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not fundable. ISRP FY00 comments described the idea presented as not scientifically well justified, and that position is unchanged in the current review. The proposal does not provide a reasonable plan to test this concept. Convincing evidence was not presented that this approach provides a feasible alternative to in-river fish passage.

LOWER MIDDLE SNAKE RIVER SUBBASIN

ProjectID: 199800200

Snake River Native Salmonid Assessment

Sponsor: IDFG and IOSC

Subbasin: Snake Lower Middle

FY03 Request: \$346,375

5YR Estimate: \$1,877,375

Short Description: Investigate population status and trends, life histories, habitat needs, limiting factors, and threats to persistence of native salmonids in the Snake River and tributaries upstream of Hell's Canyon Dam in Idaho, and implement recovery/protection plans.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable, with high benefits to fish. This is an excellent proposal and response in virtually all respects. The proposal is well written; provides excellent and compelling links to the FWP, including an emphasis on assessing and restoring native fish populations in native habitats; and substantial review of results to-date. The section on presentation of results for ongoing projects is truly exemplary and could serve as a useful model for other ongoing proposals. The track record for a project that is only three years old is impressive and has resulted in numerous reports and publications even at this early stage of the project. The response addresses the ISRP concerns in a thoughtful and thorough manner. The response details how Conservation Management Units may be identified and provides examples of how differing genetic results would lead to different management units and actions.

ProjectID: 32003

White Sturgeon put, grow, and take fishery feasibility assessment, Oxbow/Hells Canyon reservoirs.

Sponsor: NPT

Subbasin: Snake Lower Middle

FY03 Request: \$356,800

5YR Estimate: \$848,800

Short Description: The goal of this proposed project is to determine the feasibility of a put, grow, and take white sturgeon fishery in Oxbow and Hells Canyon reservoirs.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable, high priority. The response addresses most of the ISRP's concerns. The NPT adequately makes a case for BPA support for the project, but failed to address why Idaho Power Company does not bear some of the financial responsibility for the proposed mitigation actions. NPT makes the case that development of the FCRPS has negatively impacted white sturgeon populations because the hydrosystem inundated critical habitats, disrupted juvenile and adult movements, fragmented populations, and impacted food resources. Surely construction of the three hydroelectric facilities in the Hells Canyon Complex (Hells Canyon, Oxbow, and Brownlee dams) has had similar detrimental effects on white sturgeon populations in the Snake River. Therefore, it seems logical that Idaho Power Company should share the cost of the project, in spite of the FWP's support for off-site mitigation efforts. The proposal response fails to recognize and adequately discuss these issues.

CBFWA Review Comments:

Although CBFWA found the proposal to be technically sound, the proposal would benefit from the inclusion of additional information. For example, CBFWA suggests that the proposal needs further documentation of the sample sizes needed and analytical methods needed to determine survival and diet. To estimate survival, CBFWA suggests the release of a larger number of fish. In addition, although the number of radio tags to be implanted seems reasonable, CBFWA is unclear as to how the sample size was determined. CBFWA suggests that estimation of abundance is key to describing the survival of these fish and recommend that investigators describe what precision they are targeting, how many fish they will need to capture and how many fish they will need to examine for marks.

CBFWA suggests that diet objectives need to either be modified to allow lethal sampling of the fish using an unbiased gear (gill nets not set lines) or eliminated from the proposal. CBFWA suggests that modified methods should include a description of sample size required and the methods that will be used to characterize the stomach contents (e.g., volume, weight, count, taxonomic order, preservation techniques, etc.). CBFWA applauds the proposed coordination with ODFW and IDFG.

ProjectID: 32010

Lookout Mountain Road Decommissioning

Sponsor: BLM

Subbasin: Snake Lower Middle

FY03 Request: \$49,150

5YR Estimate: \$75,150

Short Description: Decommission a portion of the Sisley Creek and Fox Creek roads totaling approximately two and a half miles, resulting in a reduction of sedimentation, enhancement of riparian vegetation, and reducing the number of stream and spring crossings in the area.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable, however the proposal and response do not make strong ties to fish benefits in the two subbasins. The ISRP agrees with point raised in the CBFWA technical review: "In the Snake River tributaries, the limiting factor to tributary habitat is also degraded riparian habitat. Road related activities are contributory to on-going negative impacts to resident fish and their habitats. CBFWA suggest that decommissioning of roads along riparian areas with reclamation seems like a reasonable approach to improve habitat conditions for native resident fishes."

CBFWA Review Comments:

The sponsor indicates that the project proposal can help alleviate some of the limiting factors identified in the subbasin summaries. Loss of quality habitat and habitat degradation are among the overriding factors limiting fish and wildlife populations in the Burnt and Lower Middle Snake subbasins. In the Snake River tributaries, the limiting factor to tributary habitat is also degraded riparian habitat. Road related activities are contributory to on-going negative impacts to resident fish and their habitats. CBFWA suggest that decommissioning of roads along riparian areas with reclamation seems like a reasonable approach to improve habitat conditions for native resident fishes; however, CBFWA questions prioritizing BPA funding for this type of work sponsored by the US BLM on BLM administered land to correct previous BLM sponsored actions. Potential actions to address native fish habitat needs are virtually endless. Where does the BPA responsibility to mitigation for hydrosystem impacts end and the responsibilities of others begin?

UPPER MIDDLE SNAKE RIVER SUBBASIN**ProjectID: 32002**

Implement Best Management Practices to improve riparian habitat and upland conditions within the Billingsley Creek watershed.

Sponsor: GSCD

Subbasin: Snake Upper Middle

FY03 Request: \$114,635

5YR Estimate: \$459,175

Short Description: Enhance riparian habitat and reduce nonpoint source pollution within the Billingsley Creek watershed through the development and implementation of conservation plans on private lands, coordinated with state owned and managed lands within the watershed.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. Billingsley Creek is one of the largest spring creeks in the southern Idaho-Hagerman area and because of its natural high productivity offers one of the most promising opportunities for restoration of fisheries habitat and benefits, albeit for non-native rainbow and brown trout. Billingsley Creek has suffered from long-term habitat degradation from development of agriculture and aquaculture practices, such that

restoration of the primary stream corridor will be expensive and may be intractable with current approaches and smaller-scale restoration projects. Previous small-scale restoration activities have largely failed.

The response provided good indication of coordination with, and active support from, the Idaho Department of Fish & Game. Also encouraging are the signs of nascent activities to reverse a long and gradual history of man-caused change to Billingsley Creek. However, until those activities are better proven and private landowners are more involved, it remains risky to invest BPA funds here.

CBFWA Review Comments:

Concerns expressed relative to Proposals 32012 and 33007 also apply to this project. In addition, CBFWA found that some of the work would be performed in a State Park and question whether it should be a BPA responsibility. CBFWA also found that there is a lack of coordination with the Tribes.

ProjectID: 32004

Effects of culverts on fish population persistence: tools for prioritizing fish passage restoration projects in the Middle Snake Province

Sponsor: RMRS

Subbasin: Boise

FY03 Request: \$23,600

5YR Estimate: \$310,340

Short Description: This project seeks to develop quantitative tools to evaluate risks that stream culverts pose to fish populations. Products from the research would be used in prioritizing fish passage restoration projects to provide maximum benefits to fish populations.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable at low priority. The response was helpful in differentiating between the proposed approach and that of the WDFW culvert prioritization protocol. Three concerns remain. One is the possible lack of transferability to streams with anadromous fish. Two, there is some cost share (\$61.5K from RMRS) but most of the study presumably will deal with Forest Service lands; however, no other funding is contributed by USFS and the proposal makes little reference to USFS and its needs. Third, outyear funding for FY04 and 05 is dominated by \$122K/yr for construction and implementation, but no activities are detailed.

CBFWA Review Comments:

Reviewers question whether it is a BPA responsibility to pay for the removal of culverts. CBFWA found that the proposed work is potentially interesting; however, CBFWA questions whether it is needed. CBFWA found that the methods are more of a discussion and that specific methods for fieldwork and modeling are lacking. In addition, CBFWA is uncertain if this approach would provide additional information beyond the WDFW protocol manual (i.e., Fish Passage Barrier and Surface Water Diversion Screening Assessment and Prioritization Manual).

MALHEUR RIVER SUBBASIN**ProjectID: 200002700**

Malheur River Wildlife Mitigation Project

Sponsor: BPT

Subbasin: Malheur

FY03 Request: \$694,880 (Adjusted \$426,880)

5YR Estimate: \$2,484,180 (Adjusted \$2,216,180)

Short Description: Restore and enhance critical fish and wildlife habitat, maintain BLM allotments, enhance historic home range and wintering habitat for resident and migratory species, control weeds, and improve water quality along the Malheur River.

ISRP Final Recommendation: Fundable in Part as Amended (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part as Amended (Qualified)

ISRP Final Review Comments:

Fundable in part and as amended. Operation and management plans appear to be adequate, while monitoring and evaluation plans were not. Funding should support only the O&M component at this time. Plans for management of the property appear to be sound, but unfortunately, the long term monitoring and evaluation plans are not adequate and should not be implemented. Detailed plans for M&E should be developed and reviewed by the ISRP before funding is recommended. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the ISRP's four primary review criteria (from the 1996 Power Act Amendment) is that we review and recommend only projects that "have provisions for monitoring and evaluation of results."

Communication has been received from the project sponsor on 4/10/02 that they wish to amend the proposed elk study from the 2003-2005 budget for project #200002700. Specifically, the communication that we reviewed indicated that they propose to drop the elk study and substitute their standard M&E efforts. The ISRP assumes that this means that they are now proposing to drop both the elk and deer radio tagging study and substitute their standard M&E efforts for both elk and deer. The ISRP would, at this time, continue to recommend against a radio tagging study of deer distribution and behavior.

Plans for management of the property appear to be sound, but unfortunately, the long term monitoring and evaluation plans are not adequate and should not be implemented. The ISRP suggests that the proponents work with the interagency work group supporting Proposal #1992-06100 "Albeni Falls Wildlife Mitigation," to develop plans for terrestrial monitoring and evaluation. These plans were reviewed by the ISRP in the addendum to report ISRP 2001-4 "Review of Draft Albeni Falls M&E Plan." The proponents should review the response provided by the sponsors of the four wildlife mitigation project proposals in southern Idaho (199505700-03). Also, the draft wildlife monitoring and evaluation plan provided by the sponsors of Proposal #32008 is a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

Long-term monitoring for habitat must have some probabilistic procedures for site selection with economical data collection procedures. Intensive procedures for subsampling a few subjectively selected macroplots or clumps of willows, i.e., "index" sites, do not provide the coverage necessary to evaluate long-term trends and changes in habitat over large areas. The ISRP encourages the proponents to join the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat and to review the Draft Albeni Falls M&E Plan. While we recognize this is a wildlife project, habitat improvement projects on the tributaries should also address remnant redband trout population status in these locations.

CBFWA Review Comments:

The elk study component has been removed (M&E objectives 1,2, and 3 as well as the elk objectives of objectives 4 and 5) thus the budget has been reduced to \$426,880

ProjectID: 200000900

Logan Valley Wildlife Mitigation Project/ O&M

Sponsor: BPT

Subbasin: Malheur

FY03 Request: \$146,842

5YR Estimate: \$555,974

Short Description: Restore and enhance critical fish and wildlife habitat, enhance historic home range and seasonal habitat for resident and migratory species, control weeds, and improve water quality for headwaters of the Malheur River Basin.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. Operation and management plans appear to be adequate, while monitoring and evaluation plans were not. Funding should support only the O&M component at this time. Detailed plans for M&E should be developed and reviewed by the ISRP before funding is recommended. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the ISRP's four primary review guidelines (from the 1996 Power Act Amendment) is that we review and recommend only projects that "have provisions for monitoring and evaluation of results."

The ISRP agrees with Goal 3 (maintain historic wet/dry meadow distribution), but notes that the goal may conflict with instream water needs for fish benefits. This issue deserves further consideration as final details of the implementation plan are developed.

Plans for management of the property appear to be sound, but unfortunately, the long term monitoring and evaluation plans are not adequate and should not be implemented. The ISRP suggests that the proponents work with the interagency work group supporting Proposal #1992-06100 "Albeni Falls Wildlife Mitigation," to develop plans for terrestrial monitoring and evaluation. These plans were reviewed by the ISRP in the addendum to report ISRP 2001-4 "Review of Draft Albeni Falls M&E Plan." The proponents should review the response provided by the sponsors of the four wildlife mitigation project proposals in southern Idaho (199505700-03). Also, the draft wildlife monitoring and evaluation plan provided by the sponsors of Proposal #32008 is a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

Long-term monitoring for habitat must have probabilistic procedures for site selection with economical data collection procedures. Intensive procedures for subsampling a few subjectively selected macroplots or clumps of willows, i.e., "index" sites, do not provide the coverage necessary to evaluate long-term trends and changes in habitat over large areas. The ISRP encourages the proponents to join the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat and to review the Draft Albeni Falls M&E Plan.

CBFWA Review Comments:

Proposed work will provide for habitat improvements for bull trout. Reviewers suggest that the budget tasks need to be related strictly to O&M and that construction and implementation activities need to be reevaluated and reclassified.

ProjectID: 32019

Logan Valley Fish and Wildlife Project- Stanbro Ranch Acquisition

Sponsor: BPT

Subbasin: Malheur

FY03 Request: \$1,355,286

5YR Estimate: \$1,965,286

Short Description: Acquisition will expand, restore, and enhance habitat for the purpose of fish and wildlife management and will replace critically important habitat for the persistence of T&E, sensitive, and culturally important fish, wildlife, and plant species.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. This project is fundable as an acquisition; however, the long-term monitoring and evaluation plans are not adequate and should not be implemented at this time. Detailed plans for M&E should be developed and reviewed by the ISRP before funding is recommended. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the ISRP's four primary review guidelines (from the 1996 Power Act Amendment) is that we review and recommend only projects that "have provisions for monitoring and evaluation of results." This purchase is adjacent to other tribal land and US Forest Service land; it is the last private land in the Strawberry Mountain Wilderness Management Area. This area will likely recover with passive restoration.

The ISRP suggests that the proponents work with the interagency work group supporting Proposal #1992-06100 "Albeni Falls Wildlife Mitigation," to develop plans for terrestrial monitoring and evaluation. These plans were reviewed by the ISRP in the addendum to report ISRP 2001-4 "Review of Draft Albeni Falls M&E Plan." The proponents should review the response provided by the sponsors of the four wildlife mitigation project proposals in southern Idaho (199505700-03). Also, the draft wildlife monitoring and evaluation plan provided by the sponsors of Proposal #32008 is a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

Long-term monitoring for habitat must have probabilistic procedures for site selection with economical data collection procedures. Intensive procedures for subsampling a few subjectively selected macroplots or clumps of willows, i.e., "index" sites, do not provide the coverage necessary to evaluate long-term trends and changes in habitat over large areas. The ISRP encourages the proponents to join the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat and to review the Draft Albeni Falls M&E Plan.

CBFWA Review Comments:

The BPT has provided the following information regarding the crediting questions that CBFWA had: MOA between the Burns Paiute Tribe and BPA. Page (1) C. The Tribe has developed the Logan Valley and Malheur River Projects, collectively called the Malheur River Basin Project (Project), to assist BPA in fulfilling its wildlife mitigation obligation. A legal description of the Project is in Attachment A of this Agreement. In addition, at some future date the parties may wish to expand the scope of the Project to include other property. If the other property is added to the Project, its acquisition and management shall be pursuant to this Agreement (the "in addition" wording pertains to the Williams and Stanbro proposals as far as the Tribe is concerned whether or not BPA as one of the parties to the MOA agrees is another issue, but one would think that a funding of either project is in fact BPA's stamp of approval of where the credits [past, future] will be applied since there is a mechanism for that built into the MOA).

BPA CREDIT page (7)(c) BPA shall receive full credit for all HUs, including those from both the acquisition of real property interests and from habitat improvement and management activities that are a direct result of BPA funding. BPA may credit these HUs toward its mitigation duty for wildlife habitat losses at the Lower Monumental, Lower Granite, Little Goose, and Ice Harbor Projects or any other Federal Columbia River Power System project (i) agreed to by BPA, the Tribe and the Council, or (ii) adopted by

BPA consistent with the Northwest Power Act and applicable law (that covers where our HU's for the current project will be credited to and the areas where future credits will be assigned. The MOA is a binding legal document agreed to in whole by both parties The Burns Paiute Tribe and Bonneville Power, no outside input was sought or needed).

ProjectID: 32018

Williams Ranch Fish and Wildlife Acquisition Project

Sponsor: BPT

Subbasin: Malheur

FY03 Request: \$2,259,392

5YR Estimate: \$3,194,992

Short Description: Acquisition will expand, restore and enhance habitat for the purpose of fish and wildlife management and will replace critically important habitat for the persistence of T&E, sensitive and culturally important fish, wildlife and plant species.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. This project is fundable as an acquisition; however, the long-term monitoring and evaluation plans are not adequate and should not be implemented at this time. Detailed plans for M&E should be developed and reviewed by the ISRP before funding is recommended. The The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the ISRP's four primary review guidelines (from the 1996 Power Act Amendment) is that we review and recommend only projects that "have provisions for monitoring and evaluation of results." This is valuable wildlife habitat that borders the Warm Springs Reservoir and 16.6 miles of South Fork Malheur River.

If this property is purchased, the long term monitoring and evaluation plans are not adequate and should not be implemented. The ISRP suggests that the proponents work with the interagency work group supporting Proposal #1992-06100 "Albeni Falls Wildlife Mitigation," to develop plans for terrestrial monitoring and evaluation. These plans were reviewed by the ISRP in the addendum to report ISRP 2001-4 "Review of Draft Albeni Falls M&E Plan." The proponents should review the response provided by the sponsors of the four wildlife mitigation project proposals in southern Idaho (199505700-03). Also, the draft wildlife monitoring and evaluation plan provided by the sponsors of Proposal #32008 is a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

Long-term monitoring for habitat must have probabilistic procedures for site selection with economical data collection procedures. Intensive procedures for subsampling a few subjectively selected macroplots or clumps of willows, i.e., "index" sites, do not provide the coverage necessary to evaluate long-term trends and changes in habitat over large areas. The ISRP encourages the proponents to join the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat and to review the Draft Albeni Falls M&E Plan.

CBFWA Review Comments:

Proposed work is located in "core" bull trout habitat as identified by the USFWS. Sponsors will provide information regarding what facility mitigation would be credited to during the CBFWA review. The BPT has provided the following information regarding the crediting questions that CBFWA had: MOA between the Burns Paiute Tribe and BPA. Page (1) C. The Tribe has developed the Logan Valley and Malheur River Projects, collectively called the Malheur River Basin Project (Project), to assist BPA in fulfilling its wildlife mitigation obligation. A legal description of the Project is in Attachment A of this Agreement. In addition, at some future date the parties may wish to expand the scope of the Project to include other property. If the other property is added to the Project, its acquisition and management shall be pursuant to this Agreement (the "in addition" wording pertains to the Williams and Stanbro proposals as far as the Tribe is concerned whether or not BPA as one of the parties to the MOA agrees is another issue, but one

would think that a funding of either project is in fact BPA's stamp of approval of where the credits [past, future] will be applied since there is a mechanism for that built into the MOA).

BPA CREDIT page (7)(c) BPA shall receive full credit for all HUs, including those from both the acquisition of real property interests and from habitat improvement and management activities that are a direct result of BPA funding. BPA may credit these HUs toward its mitigation duty for wildlife habitat losses at the Lower Monumental, Lower Granite, Little Goose, and Ice Harbor Projects or any other Federal Columbia River Power System project (i) agreed to by BPA, the Tribe and the Council, or (ii) adopted by BPA consistent with the Northwest Power Act and applicable law (that covers where our HU's for the current project will be credited to and the areas where future credits will be assigned. The MOA is a binding legal document agreed to in whole by both parties The Burns Paiute Tribe and Bonneville Power, no outside input was sought or needed).

ProjectID: 199701900

Evaluate The Life History Of Native Salmonids In The Malheur Basin

Sponsor: BPT

Subbasin: Malheur

FY03 Request: \$324,401

5YR Estimate: \$991,485

Short Description: Evaluate and determine the life history, distribution, and critical habitats pertinent to populations of bull trout and other salmonids within the Malheur subbasin.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part to complete work in progress. BPT staff have done some good work with this project, but it is time to complete tasks in progress and move on to projects elsewhere in the subbasin. Recently gathered data seem to make a strong case for the need for a conservation pool in Beulah Reservoir based on its use by adult bull trout and the process for implementation appears underway with BOR negotiations. In the proposal for new work, staff propose to continue for another cycle by tracking sub-adults. The ISRP believes there is minimal justification for this, and the response, although clear, was not convincing.

ProjectID: 32016

Assess the feasibility of the Upper Malheur Watershed to support the reintroduction of anadromous populations above the Beulah & Warm Springs Reservoir

Sponsor: BPT

Subbasin: Malheur

FY03 Request: \$168,896 (Adjusted \$49,000)

5YR Estimate: \$298,896 (Adjusted \$179,000)

Short Description: The project is broke into two phases, the first being a feasibility study on the reintroduction of anadromous fish in the Malheur Subbasin. The second phase is the development of a reintroduction plan for the Subbasin.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable in Part

ISRP Final Review Comments:

Fundable as a planning and prioritization exercise. The CBFWA technical review notes that the proposed budget has been reduced to \$49,000 to allow for a literature search and subsequent report (on habitat status and reintroduction feasibility). The response by project proponents adequately addressed the issues raised by the ISRP regarding the subcontractor and proposed methods. Although technically sound, questions remain regarding the extent to which this is appropriate for BPA funding.

CBFWA Review Comments:

The proposed budget has been reduced to \$49,000 to allow for a literature search and subsequent report. Following the completion of this effort, the product should be sent back the CBFWA for review prior to the initiation of the next phase.

ProjectID: 32017

Suppress Brook Trout Populations in the Upper Malheur Subbasin.

Sponsor: BPT

Subbasin: Malheur

FY03 Request: \$221,473

5YR Estimate: \$1,068,091

Short Description: Determine the magnitude or level of hybridization of brook and bull trout within the Upper Malheur Basin, document physical features of F1/F2 hybrids, and determine effective way to suppress or eliminate brook trout from the Malheur basin.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Do not fund. Reviewers viewed this as the worst possible ecological situation for effective brook trout suppression, with a headwater lake stronghold of brook trout. The likelihood of project efforts being successful in suppressing brook trout were felt to be minimal. The approach of using pheromone-emitting "bait" brook trout is a promising, but largely unproven concept, and this is not an appropriate setting for its testing.

CBFWA Review Comments:

Reviewers suggest the removal of Objective 1 (\$25,000) since it is included in 199701900. In addition, the reviewers question whether complete removal is possible and expressed concern over the persistence of hybridization despite suppression activities. CBFWA recommends that this proposal, in its current state, should not be funded. Although the overall goal of the project is important to bull trout recovery in the Upper Malheur Subbasin, CBFWA believes the likelihood that the proposed suppression projects will be successful is minimal using the proposed strategies and under the existing ecological situation. The project proposal is well written and the project objectives are biologically appropriate. However, the proposal does not demonstrate that the project benefits (i.e., brook trout suppression) are likely to persist over the long term because they will be compromised by a source population of brook trout occupying the headwater lake and river system. Further, the effectiveness of the proposed suppression techniques (i.e., pheromone-based trapping, angling, and gillnetting) is questionable, especially given that the entire headwater lake (High Lake) and river (Lake Creek) system is inhabited exclusively by brook trout. Chemical eradication of the headwater lake source population of brook trout should be considered to ensure successful long-term brook trout suppression efforts.

Objective 1 will assess the basinwide level of hybridization and sympatric populations of brook and bull trout. This objective is important to document the magnitude and location of hybridization between native bull trout and non-native brook trout for future suppression and eradication programs. CBFWA suggests that the project proponents consider submitting this request as a separate project or include this objective in a modified proposal. Objective 1 is important; however, during the project review it was noted this objective is covered under another project.

Objective 2 concerns implementing brook trout suppression efforts in areas where bull trout spawning activity occurs. Pheromone-based trapping may be a promising technique to attract and remove spawning brook trout; however, CBFWA believes the study area does not appear to be an ideal setting to conduct a quantitative study to test this methodology. Research currently underway by Mike Young (USFS) and David Schmetterling (MFWP) will assess the effectiveness of pheromone "bait" trapping in tributaries of the Blackfoot River drainage, Montana, during 2002. Results of their study may provide insight in the

effectiveness of the technique. Further, the success of angling and weir trapping to suppress brook trout will be minimal in this setting.

The project proponents are strongly urged to use chemical eradication techniques (antimycin and rotenone) to eradicate the existing population of brook trout in High Lake and Lake Creek. Case histories of related projects have shown that gillnetting and spot electrofishing have a low probability of success in achieving the desired goal of the project. Further, the proposed suppression efforts throughout the system will have minimal success if this source population is not removed.

CBFWA believes that monitoring brook trout and bull trout population trends (Objective 4) and coordinating with state, federal, tribal and private landowners (Objective 5) are important elements of this project and should be considered for funding if the scope of the proposal is modified as suggested. A change in techniques and methods could make this project a high priority. CBFWA proposes that the sponsors eradicate the source population (i.e., headwater (lake) and stream). Following verification of effectiveness through M&E efforts, CBFWA proposes the sponsors could consider restocking the lake/stream with native redband trout pending approval of other cooperating fish and wildlife managers. The proposed Phase 2 of this project should not be initiated without CBFWA review/approval.

ProjectID: 32005

Burns Paiute Fish and Wildlife Mitigation Coordinator

Sponsor: BPFW

Subbasin: Malheur

FY03 Request: \$53,978

5YR Estimate: \$220,956

Short Description: Develop wildlife mitigation strategies consisting of selection, scientific analysis, implementation (acquisition, enhancement, etc.), O&M, and evaluation of wildlife mitigation projects for the Burns Paiute Tribe.

ISRP Final Recommendation: Not Applicable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Not Applicable

ISRP Final Review Comments:

Not Applicable. The employment of a coordinator-planner for the Burns Paiute Tribe is probably justified; however, the proposal is not amenable to scientific review.

POWDER RIVER SUBBASIN

ProjectID: 199405400

Tools for Managing Bull Trout Populations Influenced by Nonnative Brook Trout Invasions

Sponsor: ODFW

Subbasin: Powder

FY03 Request: \$555,981 (Adjusted \$329,581)

5YR Estimate: \$1,697,881 (Adjusted \$729,488)

Short Description: Develop models of ecological and genetic effects of nonnative brook trout on bull trout; monitor population abundance and habitat

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable at a low priority. The EMAP component (objective 4) has been deleted. The ISRP views this proposal as producing relatively low value for high cost. The response did not adequately address the ISRP's concerns from the preliminary review. Details on methods and the management application were not adequately expanded. This proposal is virtually identical with #28007 that was proposed by the same PIs in the recent Salmon River subbasin (Mountain Snake) review except that #199405400 pertains only to

bull trout - brook trout interactions and not rainbow - cutthroat interactions. That fact seems to weaken the proponent's case that this is a logical continuation of the work plan for #199405400.

ISRP final review comments on #28007 seem to be relevant here:

Fundable (low priority). This is a proposal to develop a series of models to examine causes of non-native trout invasions in the Salmon and Clearwater subbasins and to look at genetic impacts (brook trout hybridization) and ecological impacts. It is a well-written proposal by highly qualified scientists that nicely characterizes the current situation regarding the issue of nonnative trout. Reviewers agree with proposal authors that the issue is important and urgent. However, neither the proposal (and response) nor the presentation convinced reviewers that at the end of the proposed project in 2006, fishery and land managers would be better able to make decisions regarding steps best taken to rectify the situation.

The author is encouraged to develop this approach more fully and submit future proposals. To justify FWP funding the approach should make stronger ties between possible results and management options...

The ISRP does not disagree that it is important to better understand the basic causes and patterns of nonnative trout invasions, in order to, in part, predict the course of those invasions yet to occur. However, the panel (and resource managers they queried) feels that is more appropriate that the limited Bonneville resources available be used to effect a reversal of the existing legacy of invasions, and that our current understanding, while admittedly incomplete, is adequate to begin those efforts.

CBFWA Review Comments:

CBFWA recommends that Objectives 1-3 should be funded; however, concerns were expressed about changes of scope of ongoing projects and CBFWA suggests that the project sponsors be held to the flowing allocation schedule: 2003 - \$329,581, 2003 - \$293,482, 2005 - \$106,425, and 2006 - \$0.

Upper Snake Province

HEADWATERS SUBBASIN

ProjectID: 199505700

Southern Idaho Wildlife Mitigation - Upper Snake

Sponsor: IDFG & IOSC

Subbasin: Headwaters

FY03 Request: \$4,068,153

5YR Estimate: \$22,877,616

Short Description: Protect, enhance, restore and maintain wildlife habitats to mitigate for construction losses at Palisades and Minidoka dams.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is one of four Southern Idaho Wildlife Mitigation proposals (199505700 though 03). All are more or less identical. Project history and some of the text are identical. Apparently the Southern Idaho Wildlife Mitigation (SIWM) project was split into Upper and Middle Snake with the IDFG/IOSC, submitting proposals in both places along with the Shoshone-Bannock and Shoshone-Paiute Tribes. The ISRP comments on each are mostly identical (except for the plant center in 199505702).

The proponents have adopted the Albeni Falls M&E Plan for use in southern Idaho in wetland cover types and are in the process of expanding that plan to include techniques for monitoring upland habitat and wildlife species. They anticipate having the draft Southern Idaho Monitoring and Evaluation Plan completed and ready for review by August 1, 2002. The plan should be reviewed by the ISRP before

implementation. Also, the proponents should review the response provided by the sponsors of Proposal #32008. Their draft wildlife monitoring and evaluation plan constitutes a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

ISRP Final Review Comments for 32008:

The ISRP appreciates the proponents efforts in providing an excellent (but, understandably incomplete) draft wildlife inventory and monitoring plan. This draft provides a step toward development of a model plan for inventory, monitoring, and evaluation of wildlife that might be recommended by CBFWA to state and federal agencies and tribes in the Columbia Basin.

The draft plans for inventory, monitoring and evaluation of wildlife species is an excellent response and represents a good step toward methods that might be recommended throughout the Columbia Basin. The habitat evaluation section of the plan appears to be minimal, emphasizing the need for the region to develop common site selection protocols and data collection methods for monitoring of terrestrial habitat. The ISRP encourages the proponents to continue the association with the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat.

CBFWA Review Comments:

The proposed work provides for ongoing O&M activities. Project sponsors indicate credits will be applied to Palisades and Minidoka.

ProjectID: 33006

Monitoring Avian Productivity and Survivorship on Mitigation Lands and Sensitive Habitats in the Upper Snake Headwaters

Sponsor: TREC

Subbasin: Headwaters

Proposal withdrawn.

ProjectID: 33009

Improve Yellowstone cutthroat trout recruitment and survival in the South Fork of the Snake River

Sponsor: IDFG

Subbasin: Headwaters

FY03 Request: \$264,700

5YR Estimate: \$2,254,700

Short Description: Increase juvenile cutthroat trout recruitment and survival in the South Fork of the Snake River by minimizing entrainment losses and side channel stranding mortality, and by restoring tributary habitat.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - High Priority

ISRP Final Review Comments:

Fundable. The response addresses the ISRP concerns in a thoughtful and thorough manner. The project presentation was also excellent. In the presentation and response, the project sponsor's demonstrated considerable background knowledge of the issues about which the ISRP requested additional information, including prioritization, protocols, and questions about the Great Feeder. Also, an apparent contradiction between statements about flow levels and overwinter mortality in Lower and Upper River sections was clarified and resolved.

UPPER CLOSED BASIN SUBBASIN**ProjectID: 33005**

Monitoring Avian Productivity and Survivorship in Sensitive Habitats in the Upper Closed Basin

Sponsor: TREC

Subbasin: Upper Closed Basin

Proposal withdrawn.

ProjectID: 33007

Implement Best Management Practices to improve riparian habitat and upland conditions in the Medicine Lodge watershed.

Sponsor: Clark SCD

Subbasin: Upper Closed Basin

FY03 Request: \$98,902

5YR Estimate: \$564,510

Short Description: Enhance riparian habitat and reduce nonpoint source pollution within the Medicine Lodge watershed through the development and implementation of conservation plans on private lands, coordinated with local, state, and federal land managers.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable, but at a low priority. The CBFWA technical review comments are appropriate and insightful. It is clear that there is little innovative, especially timely, or particularly focused work proposed here. The response still shows little indication of involvement from fish biologists.

CBFWA Review Comments:

Although the proposal calls for instream work (e.g., rock weirs, in stream barbs, etc.), CBFWA questions whether passive restoration techniques have been considered. CBFWA found that local fish and wildlife managers view the proposed work as a good idea but question the priority of the project. The proposed work would implement BMPs, which should already be in place in the subbasin. In addition, CBFWA identified a lack of coordination with the Tribes.

UPPER SNAKE RIVER SUBBASIN**ProjectID: 199201000**

Habitat Restoration/Enhancement Fort Hall Reservation

Sponsor: SBT

Subbasin: Upper Snake

FY03 Request: \$175,000

5YR Estimate: \$923,500

Short Description: Provide conditions to maintain a self-perpetuating Tribal subsistence and trophy trout fishery through implementation of habitat restoration, enhancement and protection activities on the Fort Hall Indian Reservation.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable. The response provided valuable information and clarified several items from the proposal. In spite of the long history of the project (start date of 1992), livestock management issues still appear to be unresolved (as discussed in the response) and may be limiting the benefits of the past habitat improvement actions. These issues need to be resolved before further funding of the project can be justified from a technical perspective.

CBFWA Review Comments:

CBFWA questions the rationale used to select and prioritize the various enhancement projects. It was clear that monitoring and evaluation of projects is occurring; however, it was not clear how disturbances elsewhere in the subbasin are affecting the completed habitat projects and what strategies are being used to protect past and future investments.

ProjectID: 199505702

Southern Idaho Wildlife Mitigation Program

Sponsor: SBT

Subbasin: Upper Snake

FY03 Request: \$3,592,141

5YR Estimate: \$20,675,052

Short Description: Protect, enhance, restore and maintain wildlife habitats to mitigate for construction losses at Palisades and Minidoka dams.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. The ISRP recognizes the need for a reliable source of seeds and stock for native plants. However, funding of a plant materials center at the Deer Parks Wildlife Mitigation Unit should be postponed until a detailed operations and management plan (i.e., a business plan) is available for review. Additionally, the ISRP recommends that the Council carefully evaluate funding of the Deer Parks plant materials center to determine if it satisfies requirements for off site mitigation in the Fish and Wildlife Program.

The proponents have adopted the Albeni Falls M&E Plan for use in southern Idaho in wetland cover types and are in the process of expanding that plan to include techniques for monitoring upland habitat and wildlife species. They anticipate having the draft Southern Idaho Monitoring and Evaluation Plan completed and ready for review by August 1, 2002. The plan should be reviewed by the ISRP before implementation. Also, the proponents should review the response provided by the sponsors of Proposal #32008. Their draft wildlife monitoring and evaluation plan constitutes a significant step toward development of wildlife monitoring protocols that might be recommended to Provinces in the Columbia Basin.

ISRP Final Review Comments for 32008:

The ISRP appreciates the proponents efforts in providing an excellent (but, understandably incomplete) draft wildlife inventory and monitoring plan. This draft provides a step toward development of a model plan for inventory, monitoring, and evaluation of wildlife that might be recommended by CBFWA to state and federal agencies and tribes in the Columbia Basin.

The draft plans for inventory, monitoring and evaluation of wildlife species is an excellent response and represents a good step toward methods that might be recommended throughout the Columbia Basin. The habitat evaluation section of the plan appears to be minimal, emphasizing the need for the region to develop common site selection protocols and data collection methods for monitoring of terrestrial habitat. The ISRP encourages the proponents to continue the association with the interagency work group to develop plans for monitoring and evaluation of wildlife and terrestrial habitat.

CBFWA Review Comments:

The proposed work provides for ongoing O&M activities. Project sponsors indicate credits will be applied to Palisades and Minidoka.

ProjectID: 33001

Assessment of genetic population structure and risk of introgression and hybridization to native trout in the Mid and Upper Snake River Provinces

Sponsor: IDFG and IOSC

Subbasin: Upper Snake

FY03 Request: \$228,458

5YR Estimate: \$713,154

Short Description: Detect and quantify levels of hatchery produced *O. mykiss* introgression within, and assess genetic diversity and genetic population structure of native Yellowstone cutthroat trout and redband trout in the Middle and Upper Snake River Provinces.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable; likely to have strong benefits to the fisheries program. The response addresses the ISRP concerns in a thoughtful and thorough manner. It details how Conservation Management Units may be identified and provides examples of how differing genetic results would lead to different management units and actions. It also provides examples of sample collections outside of Idaho, but only inferentially suggests that these samples constitute adequate sampling of native trout populations in the Middle and Upper Snake provinces.

The technical review comments from CBFWA were thoughtful and should be considered by the project sponsors before project implementation.

CBFWA Review Comments:

This project would utilize samples that have already been collected. Information from this study is essential for the development of the Yellowstone cutthroat plan. Although CBFWA believes the proposed work should be categorized as a “High Priority” since management efforts would benefit from the activities, CBFWA identified four issues that need to be addressed. First, although the proposed genetic techniques are technically valid, CBFWA suggests that using existing fin clip samples to determine population structure can be problematic due to collection design (e.g., samples need to be collected over a large area of stream and samples need to represent various age classes). Typically no more than 10 fish per 100m section of stream should be collected. In addition, lengths and sometime weights need to be collected as well. This is to ensure that adults make up the majority of samples. If only juveniles are collected from a short section of stream, in essence siblings could make up the entire sample, thus providing inaccurate population structure makeup. Samples and sample locations need to be geo-referenced. In addition, samples need to be archived for future use. This and other resident fish genetic projects need to be coordinated among all labs to determine which loci are used and to ensure that methods and techniques are the same.

Second, regarding management applications of resultant genetic data, notably lacking from the discussion is the need or potential to replace the stocking of nonnative rainbow trout with progeny from broodstock developed from pure populations of Yellowstone cutthroat trout or redband. In previous reviews the ISRP has indicated that, if a management decision is made to continue stocking fish to augment fisheries in waters inhabitable to native fishes, the brood stock source for such stocking should be from the native fishes. The proposal suggests that Idaho’s stocking database may be useful in predicting hybridization and introgression levels and therefore a good predictor of genetic risks to resident trout populations from historical rainbow trout stocking. Using an historical stocking model as a guide to suggest where it may be “safe” to stock non-native rainbow trout, especially where unimpeded access (connectivity) is involved, appears to be playing with fire. Changing environmental conditions could render historic stocking/introgression risk assumptions/relationships invalid. A more comprehensive policy of using progeny from native broodstock for stocking purposes would be less risky.

Third, per the ISRP’s comments, the sponsors have modified, through the “fix-it loop”, their proposal to include the analysis of redband trout from Oregon waters. Although the proposal sponsors include a

personal communication reference (BPT personnel) with respect to the allocation of samples from Malheur Subbasin waters, CBFWA has identified an oversight. The Statement of Work that the BPT has submitted to BPA for Project 199701900 provides for the collection of samples (i.e., fin samples) and genetic analysis of salmonid species, which includes redband trout, from the locations identified in the revised Proposal 33001. CBFWA suggests that the BPT should make available, if requested by the sponsors of Proposal 33001, the results from the genetic analyses (techniques used in Project 199701900 are the same as those proposed in 33001) that have and will be obtained through Project 199701900. CBFWA believes the allocation of funds to Proposal 33001 for the analysis of samples from Oregon would result in unnecessary duplicative efforts in a province where only \$500,000 is available for new work. CBFWA suggests that funding the Oregon portion of the Proposal 33001 would create a duplication of effort and entail an inefficient use of resources. In addition, CBFWA expressed concern relative to the lack of coordination with the ODFW's staff, specifically their geneticist. Given the CBFWA concerns about duplicative efforts, the geneticists from ODFW, IDFG and MDFWG should meet to coordinate their efforts.

ProjectID: 33004

Survival of adfluvial Yellowstone cutthroat trout in the upper Blackfoot River drainage

Sponsor: IDFG

Subbasin: Upper Snake

FY03 Request: \$137,500

5YR Estimate: \$374,503

Short Description: This proposed project will identify which life stage survival is most limiting the population growth of Yellowstone cutthroat trout in the upper Blackfoot River drainage.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response, while not clearly written, does clarify some key items and improves the quality of the project. The response was illuminating: How is it possible that such a large-scale rainbow removal effort (as described in the response) could be underway in the Blackfoot and not have been adequately described in the original proposal? While the proposal has its strong points, it falls short of being a comprehensive proposal aimed at managing Yellowstone cutthroat trout (and the non-native rainbow trout) in the Blackfoot River subbasin. A more comprehensive, watershed-level approach is recommended for management of Yellowstone cutthroat trout in the Blackfoot subbasin.

CBFWA Review Comments:

This work will allow for the collection of survival/mortality data, which is needed for developing management strategies for this species.

ProjectID: 33002

Establish Instream Flow and Reservoir Pool Habitat for Native and Other Trout in the Upper Snake River/American Falls Fragment Area

Sponsor: IDFG

Subbasin: Upper Snake

FY03 Request: \$104,100

5YR Estimate: \$1,055,700

Short Description: Assess instream flows and American Falls Reservoir fishery pool shortfall for sustainable Yellowstone cutthroat trout and other game fish species. Identify options and long-term strategies for improving water quantities where necessary.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable because the potential benefits to fish and wildlife were largely unsubstantiated. There is clear evidence of a long-standing biological problem in low flow years stemming from over appropriation of river flows. However, neither proposal nor presentation offered avenues that seemed sufficiently strong or novel to achieve solutions. There was no evidence of active collaboration with the Shoshone–Bannock Tribes. The claim of native fish benefits is tenuous, with 97% of the American Falls Reservoir catch being nonnative species.

ProjectID: 33008

Assessing effects of Columbia River Basin anadromous fish flow management on the aquatic ecology of the Henry's Fork watershed

Sponsor: HFF

Subbasin: Upper Snake

FY03 Request: \$211,596

5YR Estimate: \$618,280

Short Description: This multi-partner project will assess the effects of the Columbia River Basin hydroelectric operations on aquatic ecology of the Upper Snake River Subbasin, specifically the Henry's Fork watershed.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response justifies the proposal as having legitimate ties to anadromous fish flow augmentation, a connection that was not made in the presentation.

CBFWA Review Comments:

CBFWA believes that the proposal does not address how it mitigates for losses created by the Federal Hydrosystem. The hydrologic problems in the Henry's Fork watershed are a result of over allocating water for irrigation needs and not the operations of the Federal Hydroelectric Dams. Additional monitoring will likely confirm that over-winter survival is the limiting factor, but this is already well established. Past attempts to reduce this limiting factor have had minimal success, so how will information collected result in new and innovative management alternatives? Responses to ISRP concerns link this data to reservoir operations but a long history both in the Missouri River and Columbia River basins where reservoir operators are not inclined to modify water flows for fish and wildlife unless mandated, makes this an unlikely outcome.

ProjectID: 33012

Flow Augmentation In The Upper Snake River Sub-Basin To Benefit Anadromous, Resident Fish And Wildlife Species.

Sponsor: USBWU

Subbasin: Upper Snake

Proposal withdrawn.

ProjectID: 33010

Shoshone-Bannock Tribes Fish Production Program

Sponsor: SBT

Subbasin: Upper Snake

FY03 Request: \$90,000

5YR Estimate: \$90,000

Short Description: Assess history, current status and future fish production needs of the Shoshone-Bannock Tribes in the Upper Snake Subbasin.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. This is the follow-up proposal to the now-terminated Joint Culture Facility project. The response addresses some of the ISRP's concerns; however, it provides little additional information on the organization and membership of the TOC (Technical Oversight Committee) and SOT (Scientific Oversight Committee) beyond that provided in the original proposal. It still fails to provide substantive detail on SOT member criteria, tasks, etc. Curiously, the CBFWA technical review reflects these same concerns (in some detail), yet the CBFWA funding category was "High Priority".

CBFWA Review Comments:

CBFWA found that it was difficult to decipher what was being proposed. Bringing a group of experts together chosen from all competing entities within a specific geographical area would provide direction for resident fish resources in the upper Snake River province; however, specific rules for who and how they will be selected, and safeguards that would ensure independence of the board are not supplied. Once established, would this group continue? If so, why were no funds allocated to out-year budgets? CBFWA believes that the general concept is good but unless the proponent provides additional detail, the current proposal is inadequate. Responses to ISRP concerns still do not provide specifics about this process. CBFWA proposes that the sponsors consult with the CDAT to develop procedures to appoint board members.

ProjectID: 33013

Evaluation of Pisces Fish Protective Water Intake System

Sponsor: BPI

Subbasin: Upper Snake

FY03 Request: \$273,500

5YR Estimate: \$273,500

Short Description: Complete development and testing of the Pisces Unit in a controlled location to evaluate fish reaction and fish passage efficiency.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not Fundable. A response was requested but not provided.

ISRP Preliminary Recommendation and Comments: A response is needed. Project proponents need to identify guidance problems that can be overcome by using this equipment. A convincing argument needs to

be made that this equipment has benefits to fish that are not available with other technology. Both this proposal and a prior presentation (in the Mountain Snake Province) focused nearly exclusively on the technology rather than the application. What sort of use is visualized?

CBFWA Review Comments:

There appears to be a lack of coordination with IDFG and the reviewers question the lack of cost share. In addition, the reviewers question whether it is appropriate for BPA funds to be used in the development of a product that the reviewers perceive will then be sold for profit. The proposal should be submitted for consideration in the Mainstem/Systemwide Province the "Innovative" process.

ProjectID: 33003

Sage Grouse Distribution and Habitat Use in the Upper Snake River Basin, Blackfoot and Willow Creek Drainages.

Sponsor: IDFG

Subbasin: Upper Snake

FY03 Request: \$211,716

5YR Estimate: \$548,316

Short Description: Document sage grouse trends, movements, habitat use and survival to develop recovery plan.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. Although the presentation was informative, the proposal was inadequate to justify a response and further review. The tasks and methods for the planned research in objectives 1, 2, and 3 are too brief to allow a thorough scientific review. The specific sample areas, methods, sampling frequency and intensity (i.e., how many samples of what type where and when), and data collection procedures need to be specified in detail. In addition, the ISRP believes that sufficient information may be available in the literature to develop a recovery plan for sage grouse in these areas. We suggest that a comprehensive assessment of sage grouse habitat be made by the working groups across southern Idaho, including a working group for this area, and that a proposal be prepared for protection and rehabilitation of wildlife habitat that would benefit not only sage grouse but multiple species as in proposals 199505700 and 199505701.

ProjectID: 33011

Implementing land use for resource and community sustainability at the county and regional level.

Sponsor: IDFG, U of I, MSU, OSC

Subbasin: Upper Snake

FY03 Request: \$243,051

5YR Estimate: \$721,651

Short Description: Resource and community information will be assembled into a GIS decision support system to be used by county commissioners and planners in implementing land use.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This project would develop a software package and computer-based system for land-use planning in Madison, Fremont, and Teton counties in southeastern Idaho. An inventory of aquatic, terrestrial, and physical resources would be developed and included in a GIS package. Results of social and community resource assessments, based on representative surveys, focus groups, and public forums would be included. Coding, rules, and sub-models of important database elements based on sensitivity to disturbance, relative rarity, land-use type, and risk would be developed.

This effort is sound in a technical sense, although Council might wish to consider whether this activity is compatible with FWP goals and precedents. The ISRP initially was concerned about how such a project would be perceived (and received) by local officials. The response and the letters of support provided were strong and convincing. However, only Fremont County indicated support, but the work is planned for Teton and Madison counties as well.

CBFWA Review Comments:

The Henry's Fork watershed has a wealth of information while other watersheds have far less information to work with. The amount of work done within this watershed has clearly identified the limiting factor as over winter juvenile survival; however, the fishery continues to support heavy use so the limiting factors maybe a normal condition. Areas that are highly impacted and are poorly studied would likely result in greater benefits to fish, fisheries, ecology of the area, and the watershed.

PART II. Columbia Cascade Province

The proposals are arranged by subbasin and in close to the same order they were presented during the ISRP site visit workshop.

GENERAL COMMENTS

Relative effectiveness of projects. The likely effectiveness for restoring salmon to the province differed markedly among projects reviewed. Two salmon-related proposals rose above the others because of their potential to add significantly to the numbers of adult salmon returning to the Columbia River. These two are straightforward efforts to restore salmon to areas from which they have been extirpated, and have a very high likelihood of success. These are Project ID #199604000 Evaluate the Feasibility and Risks of Coho Reintroduction in the mid-Columbia, and Project ID #200001300 Evaluate an Experimental Re-introduction of Sockeye Salmon into Skaha Lake, in conjunction with Project ID #29016 Return of Sockeye Salmon to their Historic Range. At the other extreme, we found the Salmon Creek proposal, Project ID #199604200 Restore and Enhance Anadromous Fish Populations and Habitat in Salmon Creek, to be unjustified on the basis of small numbers of fish expected to be produced (in the low hundreds of returning adults based on the oral presentation, but not discussed in the proposal) when compared to the vast amount of effort and resources (\$17 to \$20 million, plus \$500,000 annual operation and maintenance costs) required to restore the highly degraded habitat (dewatered for the lowest four miles, etc.) and the uncertainty of intended results.

Coho were formerly present in the mid-Columbia and it is reasonable that they be re-introduced. Efforts by this project to date have resulted in returning adults that have spawned successfully in the wild, and provided a broodstock for future propagation. We recommend that this project be given high priority for funding, but at levels commensurate with the specific comments we provide later in the text.

Sockeye were formerly present and abundant throughout the system of lakes in the Okanogan basin in the U. S. and Canada, prior to their being blocked by irrigation dams in both countries. If concerns are alleviated about the potential for returning sockeye and other salmon and steelhead to transmit diseases to fishes now present in the Canadian portion of the basin (Project ID ##200001300 Evaluate an Experimental Re-introduction of Sockeye Salmon into Skaha Lake), it appears that the Canadian entities will agree to allow their reintroduction. The associated study, Project ID #29016 Return of Sockeye Salmon to their Historic Range, is proposed to investigate the feasibility of providing passage from Skaha Lake into Okanogan Lake by either removing or altering the irrigation dam between them. It is estimated that an additional 18,000 adult sockeye might return to spawn in the area if opened. Other salmon and steelhead would also benefit.

Methow River Water Conflicts. Conflicts over water use in the Methow River basin are intense, and at the time of the ISRP's provincial review there were unresolved issues, particularly between NMFS and the Methow Valley Irrigation District (MVID). Several Methow Valley proposals were predicated on these water management questions. A settlement agreement is now in place (or being finalized) at the time this final ISRP report is written. Some proposals may need to be revised and reconsidered, in particular, Project 29031 "Out Year Operations and Maintenance Costs Required to Implement/Carry out MVID Rehabilitation Project."

UPPER COLUMBIA RIVER SUBBASIN**ProjectID: 29009**

Acquire Dole-Beebe Property and Associated Water Rights

Sponsor: WDFW

Subbasin: Columbia Upper Middle

FY03 Request: \$896,500 *Adjusted FY03 Budget:* \$396,500

5YR Estimate: \$929,700 *Adjusted 5YR Estimate:* \$429,700

Short Description: Protect and enhance rare Columbia River frontage habitat through acquisition of Dole Northwest, Inc. Beebe orchard property and associated water right.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable for establishment of options to purchase the property. The response did not reference or provide adequate detailed plans for monitoring and evaluation of results of the project including establishment of baseline conditions prior to purchase. Detailed plans for M&E should be developed and reviewed by the ISRP before purchase of the property. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the four primary ISRP evaluation criteria is not met (that we review and recommend only projects that “have provisions for monitoring and evaluation of results.”) As suggested in the preliminary review, the project sponsors are referred to the ISRP’s review of the Draft Monitoring and Evaluation Plan for the Albeni Falls Wildlife Mitigation Project (www.nwcouncil.org/library/isrp/isrp2001-4AlbeniFalls.pdf).

A binding agreement for a conservation easement in perpetuity should be in place before purchase. This is a valuable and unique property currently being threatened by development. It includes over 227 acres of important riparian and shrub steppe habitat both adjacent to and uplands of the Columbia River. Several important aquatic habitats for Upper Columbia River summer steelhead and spring chinook salmon are also found within the project’s boundaries including a watercress lined, 10 to 12 cfs spring tributary to the Columbia River. In addition to the land itself, two valuable water rights are attached to the property, one for 10 cfs (of which WDFW currently uses 4 cfs for its WDFW Chelan Fish Hatchery operations) and another for 15 cfs.

CBFWA Review Comments:

WDFW is going to contribute \$500,000 towards the purchase of this property in FY03, the budget has been modified to reflect this action. Question cost of the property because appraisal is not completed Fair Market Value. NMFS has identified this project as a BiOp project.

ProjectID: 29024

Analysis of multiple land uses and their effects to shrub-steppe habitat and wildlife species, such as roads, patterns of development and agriculture.

Sponsor: DCTLS

Subbasin: Columbia Upper Middle

FY03 Request: \$320,000

5YR Estimate: \$416,000

Short Description: Document wildlife species and habitat use with varying types and intensities of land use practices, such as urban development, agricultural, rural, development patterns and transportation effects, and regulation in shrub-steppe landscapes.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Do not fund. A response was not needed. The proposal was inadequate. The proposal is to use existing data to evaluate wildlife habitat and potential risks to populations from roads, development patterns, and agricultural uses. The proposal refers to two previous efforts along this line, both of which used mapping units that were too large to be of use in the proposed context. Existing data on wildlife will be incorporated into the maps. CBFWA managers should contrast usefulness, feasibility, and cost of this proposal with proposal #29019.

Conflicting statements are made concerning the basic source of data. In one place it is stated that existing data will be augmented by use of 1 meter, or better, resolution satellite imagery for baseline vegetation mapping of Douglas County. In another, it is stated that "...large-scale digital aerial photography or satellite imagery..." will be used. Source of and cost of basic data should be verified.

One-meter resolution requires very large data storage and computing capability. A letter of support from Douglas County computer services verifying that the facilities and budget are adequate would have been helpful. Also, apparently plans include sub-contracting some of the work to the WDFW. A letter of support would also have been helpful from WDFW indicating that the proposal is feasible, the budget is adequate, and the department is willing to subcontract for the required work.

The proposal should have included a discussion of use and availability of digital data from the Council's mapping project completed by the Northwest Habitat Institute. Also, see proposal #27003, "Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Blue Mountain Province" and the ISRP review of proposal #27003 in the Blue Mt. and Mt. Snake Provinces

The proposal left unanswered several questions and issues. Provisions should be included to ensure that meta-data for each of the data layers mapped are made readily available to users. There is no monitoring and evaluation (QA/QC) section. What is an error and what are acceptable error rates for tasks identified in Objectives 2, 3, and 4? How will one monitor and evaluate this project to know that a good job was done? The proposal would be stronger with a detailed "ground-truth" component, perhaps in cooperation with WDFW to confirm the accuracy and precision of estimates of wildlife habitat use and abundance. Complete detail should be given concerning a double-blind sampling and evaluation procedure. The specific sample areas, methods, and sampling frequency and intensity (i.e., how many samples of what type where and when) would need to be specified. Methods are incomplete for Objectives 4 and 5.

CBFWA Review Comments:

Should be funded by using other funds. Methodology unclear. No protocol for ground-truthing.

ProjectID: 29041

Evaluate Distribution, Abundance, Genetic Structure, and Habitat Use of Bull Trout Populations in the Columbia Cascade Province

Sponsor: USFWS

Subbasin: Columbia Upper Middle

FY03 Request: \$186,366

5YR Estimate: \$554,142

Short Description: Evaluate distribution, abundance, genetic structure and habitat use of bull trout in the Wenatchee, Entiat, and Methow Rivers. Identify habitat limiting factors for bull trout.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. A response was not needed. This is a high-quality project with a finely tuned cost-effective budget. The proposal is well written, informative, provides appropriate detail on methods and background; links to other work throughout the Columbia Basin; and cites current and appropriate references. The proposal describes linkages to larger regional bull trout database and evaluation efforts spearheaded by Dunham and Riemen out of the Boise USFS Rocky Mountain Experimental Station. Much background work has already been done on bull trout in the Wenatchee River by the FWS and its collaborators, which was funded by others. The proposal relates the work to the BiOps, (NMFS and FWS), Subbasin summary, Washington watershed plans, Forest Service watershed assessments, and the listings by FWS. Oddly, the study is fully laid out in the background section (including methods), which makes the later sections redundant. The proposed work is nicely related to FWS recovery plan development and to several other pertinent studies, mostly not BPA funded.

The project will gather genetic data by sampling 30 fish from each of 40 tributaries to the Wenatchee, Entiat and Methow rivers (what about the Okanogan?). Radiotelemetry will be used to track bull trout migrations. The objective is to determine whether differences exist within and among bull trout from the subbasins. The proponents should include some probabilistic sampling of sites in addition to the traditional index sites and sites selected by radio-tracking. References are needed on dolly varden, bull trout, hybrid.

The contractor for the genetics work is well qualified, and the regional genetics data banking is excellent. There are many literature references. There are good resumes of well-qualified staff, including a likely contractor for the genetics work. The study will certainly yield information about bull trout that will be important for its conservation (as the prior work by the proposer has already done). The information is needed for effective management of this species.

The budget for this proposal is noteworthy; indeed, it is modest (half or less) in comparison to many other similar bull trout proposals we have reviewed in earlier provincial reviews. It is targeted very specifically and the very helpful budget information is tightly linked to the objectives and tasks identified for the project.

CBFWA Review Comments:

Supplies and equipment could be available at the research station and genetics cost seem high. Could other cost reductions can be achieved? USFWS has identified this project as a BiOp project.

ProjectID: 29043

SSHIAP - Columbia Cascade Province

Sponsor: WDFW

Subbasin: Columbia Upper Middle

FY03 Request: \$390,000

5YR Estimate: \$540,000

Short Description: Project will provide routed & segmented hydrolayer, and collate and synthesize data on 19 aquatic habitat variables over an estimated 22,500 mi of streams in the subbasins of the Columbia Cascade Province.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The vision for SSHIAP (Salmon and Steelhead Habitat Inventory and Assessment Project) is an information system that is accessible to many stakeholders and provides a starting place (hypotheses) for planning future data collection needs. They propose to also provide EDT input variables by reach in the SSHIAP database. Users will be able to query SSHIAP in a point or reach-specific manner. The cleaned and routed hydrolayer in SSHIAP can also act as a backbone upon which users may attach other information (beyond the SSHIAP attributes) that is unique to their own programs or needs. This is potentially a worthwhile and useful project.

However, it should be realized that precise estimates of classification errors in SSHIAP products remain outside the practical scope of the SSHIAP project. Within the proposed budget, SSHIAP personnel propose to assemble an information system that others in the Columbia Cascade Province can store their data in. It remains for other projects and investigators to address assessment of error for fish distribution and other information. The ISRP acknowledges that this is a good information system with very competent and dedicated personnel and the project is fundable. However, the region should recognize the substantial problem acknowledged by the proponents in their response, namely, that SSHIAP is largely dependent on existing data, some or most of which has unknown accuracy and precision. The importance of ground truthing the data is fully recognized by the proponents, but the many spatial and temporal problems of a systematic effort of this kind in which one can have confidence is beyond the current capability and responsibility of SSHIAP. The substantial spatial and temporal problems that must be solved to arrive at data in which one can have confidence have been unequivocally demonstrated in, for example, development of the bull trout detection protocols by the U.S. Forest Service.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 29052

Spatial and Temporal Occurrence of Salmonid Pathogens in the Upper Middle Mainstem Subbasin of the Columbia Cascade Province

Sponsor: WSU

Subbasin: Columbia Upper Middle

FY03 Request: \$220,832

5YR Estimate: \$802,097

Short Description: Monitor the occurrence of salmonid pathogens and assess sources, fate, and transport throughout the subbasin.

ISRP Final Recommendation: Fundable (see ISRP innovative review - ranked in top 10)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. A response was not needed. A pilot scale version of this proposal was submitted for the innovative solicitation and received a favorable review and was ranked number 7 of 37; see

www.nwcouncil.org/library/isrp/isrp2002-8.htm.

This proposal would use innovative DNA-based detection techniques to assay the waters of the upper middle Columbia River basin for presence and relative abundance of several fish pathogens. Synoptic information on the occurrence of pathogens in broad regions has been hampered by lack of rapid detection techniques (reliance on standard culture approaches). This project would develop for fish pathogens a recently developed DNA-based detection system that has already been demonstrated successfully for human pathogens. The technique would then be applied to detection of pathogens in water samples collected from representative sites throughout the upper middle basin. The analyses would be quantitative. They can process great amounts of water and have fine scale detection rate -- 0.002 organisms per liter. They would work with collaborators to quantify the significance of the presence of pathogens in the environment to actual infection of fish. A dose-response relationship would be evaluated to suggest whether the quantities of pathogens per unit of water are sufficient to be an infectious problem for fish. This technique would be useful for such pathogen testing efforts as those proposed in the Skaha Lake sockeye reintroduction program.

This excellent proposal describes the new technique in appropriate detail to be persuasive that it is something worth pursuing for both its technique development and for the pathogen characterization it would provide. The idea is so new, however, that it is difficult for the ISRP to evaluate its potential importance to fish or its practical implementation until results are seen. It is certainly innovative. The proposal goes through a rationale for regional relevance discussing the FWP (briefly), Subbasin Summaries (briefly), general BPA objectives, the Governor's plan, and specific sections and actions of the BiOp. There is a good attempt to integrate the proposed work with other pathogen projects (few) and other regional assessments. The proposal might have been improved by referencing the several BPA-funded fish-pathogen studies of the 1980s. There are good hypotheses, objectives, tasks, and a good timeline. The presentation noted that initial samples will be taken from hatchery outfalls where pathogens could be expected to be most easily detected. Methods are detailed. Expected benefits overall, and benefits to fish are explicitly described. Facilities appear to be excellent and suitable (since the sort of work has already been done for human pathogens). There is an excellent set of resumes for well-qualified staff. The project meets ISRP evaluation criteria.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ENTIAT RIVER SUBBASIN**ProjectID: 29014**

The Effects of Impoundment on Fish and Amphibian Habitat Use in Eastern Washington

Sponsor: WDFW

Subbasin: Entiat

FY03 Request: \$106,187

5YR Estimate: \$441,665

Short Description: Identify hydrological effects of impoundments on fish and amphibian habitat and habitat use by comparing free-flowing and impounded systems. Off-channel habitat focus. Enables identification of feasibility of remediation by hydrologic manipulation.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Fundable, High Priority

ISRP Final Review Comments:

Fundable. With the proponents' responses, this is now an excellent proposal for important topics, both physical alterations (effects of impoundments on side channels) and neglected biota (side-channel fish and amphibians).

This is a proposal to compare off-channel habitats and the fish and amphibians in them in rivers that are impounded and those that are not. Although the effects of impoundments on both the impounded reach and downstream channels have been recognized and studied, the alterations of ecologically rich off-channel habitats by changed river hydrology have not received much attention. This is particularly true for amphibians, which have not been studied much at all yet use such habitats extensively. The Entiat, Cle Elum and Tieton rivers are to be compared (the latter two in the Yakima basin; the Entiat is the only fully non-impounded river). Similar alluvial and constrained reaches will be selected for comparisons. If impoundment-altered hydrology results in reduction of habitat quality and quantity, then alternatives for remediation can be identified.

The initial scientific proposal was good, with excellent background and scientific justification, but was initially weak in justification from the management perspective (Council's Fish and Wildlife Program, NMFS's BiOp, etc.), in its treatment of fish, and in description of sampling methods. The technical/scientific background presents abundant literature references to document past research on dams and their impoundment effects and on off-channel habitats and the need to study them. A statistical design is proposed that includes spatial controls (multiple reaches in the three rivers) and temporal controls (using historical aerial photographs). The proposal relies on the Entiat Subbasin Summary and the shared stakeholder goals, objectives and strategies for the three river basins for much of its justification relative to regional programs. The Forest Service's watershed assessment is also used as justification. The text describes in detail how the research will contribute to objectives and strategies of stakeholders and the fish and wildlife needs identified in the Subbasin Summary. Other than listing applicable RPA's in Part I, the initial proposal did not refer to the Council's FWP or the NMFS's BiOp, however. Relationships to other projects are given for several ecological studies (I-90 Corridor Species Distribution Study, USGS Amphibian Research and Monitoring Initiative, WDFW's ecoregional planning process) but BPA-funded work was only referenced collectively. The proposal states the overall objective (to quantify differences in fish and amphibian habitat and habitat utilization patterns between impounded and unimpounded streams) and follows with well laid out objectives, tasks, and general methods. A very brief statement of facilities notes that much is available from the proposer's organization (WDFW). There is a long reference list accompanying the many citations in the narrative. A listing of a well-qualified staff is followed by well-prepared resumes. Cost sharing is planned with BLM, USFS, WDNR, and other parts of WDFW.

The response was thorough and exacting in answering the ISRP's questions in its preliminary report. The authors clearly know their subject matter very well. The response provided an excellent summary of the fish species expected to be present, with literature documentation. The tables for fish and amphibians are thorough and very informative. The ISRP's questions on sampling were answered. The response provided clear references to specific features of the Council's FWP and to the NMFS's BiOp. Other BPA projects in

the vicinity were listed. Additional references were provided. The response further amplified the ISRP's belief that this is a worthwhile scientific proposal that warrants funding both for its quality and for the relevance to regional fish management.

CBFWA Review Comments:

Not needed for fish but is needed for amphibians. Question urgency. Check coordination. NMFS has identified this as a BiOp project.

ProjectID: 29026

Hanan-Detwiler Passage Improvements

Sponsor: WDFW, YSS

Subbasin: Entiat

FY03 Request: \$85,000

5YR Estimate: \$95,000

Short Description: The Washington Department of Fish and Wildlife (WDFW), Yakima Screen Shop (YSS) proposes to complete passage improvements within a side channel of the Entiat River. The side channel is associated with the Hanan-Detwiler irrigation diversion.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response is adequate and includes a good breakdown of objectives, tasks, and methods.

CBFWA Review Comments:

Needs better development of M&E. USFWS are currently performing spawning surveys in the Entiat subbasin. The reviewers do not believe that the contingency funds proposed are BPA fundable. NMFS has identified this project as a BiOp project.

WENATCHEE RIVER SUBBASIN

ProjectID: 20000200

Final Phase of the Chumstick Culvert Replacement and Habitat Restoration Enhancement

Sponsor: CCCD

Subbasin: Wenatchee

FY03 Request: \$326,750 *Adjusted FY03 Budget:* \$0

5YR Estimate: \$488,700 *Adjusted 5YR Estimate:* \$61,950

Short Description: Restore salmon and steelhead passage in Chumstick Creek.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable. The ISRP's basic concerns were addressed in the response, i.e. culvert replacement is at least confined to the area where there is year-round flow. However, the low flow volume is marginal (~ 1 cfs at the upper end) and potential benefits to fish uncertain, but probably not large. The small numbers of fish likely to benefit from this project make its priority low.

It is commendable that the Chelan County Conservation District has taken the lead among a number of entities, particularly the Chumstick Community Watershed Alliance, Trout Unlimited and several governmental agencies, involved in this attempt to rehabilitate a degraded stream and its surroundings. The drainage area of Chumstick Creek is said to be 78 square miles. Flows in August and September are about 2 cfs, according to the proposal. The proposal focuses on 23 culverts that block upstream migration of salmon and steelhead. The 2 cfs of flow is apparently measured at RM 0.3 where the first of the culverts is

present. That culvert has been replaced, as the ISRP saw during our site visit in October. Seven other culverts were replaced during phase 1 of the project, which was funded by BPA to the extent of \$176,000 (page 14 of the proposal). As a result, 2.7 miles of Chumstick Creek were opened up to salmon and steelhead. The proposal identifies an additional 12 barriers to be removed in the next phase.

Some important unknowns remain in this proposal. With respect to the ISRP comment that the proposal should discuss the extent to which each species might benefit, the sponsors responded that the type of survey that would be required to estimate the amount of additional spawning and rearing area that might be made available by culvert replacement is not available. The response indicates that flows of around 1 cfs occur in the late summer/fall at the upper end of the proposed culvert replacement reach. This volume of water suggests that opportunity for increase in salmonid use of the stream is not high. Furthermore, the land use practices existing in the watershed suggest that available habitat may be marginal in its capacity to support juvenile salmonids, and that suitable gravel for spawning may be scarce. These factors should be addressed in a holistic watershed improvement plan that includes the passage problem as well as the problem of stream degradation.

CBFWA Review Comments:

This project is critical to realize upstream benefits and should not be further delayed. The Chumstick Creek will potentially become a valuable coho stream. WA SRFB has approved funding of \$273,100 for 2002 contingent on the completion of the North Road culvert project. Designs are currently being finalized for that project. The budget has been modified to reflect the project sponsors additional needs from BPA to complete two additional culvert replacements. NMFS has identified this project as a BiOp project.

ProjectID: 199604000

Evaluate The Feasibility And Risks Of Coho Reintroduction In Mid-Columbia

Sponsor: YN

Subbasin: Wenatchee

FY03 Request: \$2,412,000 *Adjusted FY03 Budget:* \$2,195,191

5YR Estimate: \$14,671,200 *Adjusted 5YR Estimate:* \$13,543,221

Short Description: Determine the feasibility of re-establishing a naturally spawning coho population within the mid-Columbia tributaries, while keeping adverse ecological impacts on other salmonid species of concern within acceptable limits.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. Do not fund the genetic subcomponent of the proposal.

This is a project to lay the groundwork for re-introduction of coho into the Mid-Columbia watersheds of the Wenatchee, Entiat, and Okanogan rivers. Coho have been functionally extinct in the wild in these basins for many years, despite the species being raised and released from area hatcheries (particularly Leavenworth National Fish Hatchery in the Wenatchee basin). The project has been funded since 1996, with experimental work beginning in 1998. It is a feasibility study, with detailed planning, test introductions, monitoring of return rates, and special studies of interactions of the newly introduced coho smolts with existing populations of steelhead and chinook salmon, some of which are ESA listed.

The proposal (with attachments) was well done. The evaluation of re-introduction has been well planned and generally well thought out. An environmental assessment under NEPA was carried out, with a finding of no significant impact (the document was provided with the proposal). Because hatcheries will be used extensively to raise smolts for test releases and potentially for continuing the reintroduction efforts, a Hatchery and Genetics Management Plan was prepared and approved by the ISRP after thorough review (also included with the proposal). The 1999 annual report was appended to give example results. Many of the concerns of ISRP in previous years' reviews were largely addressed during the Step 2 Process and in the proposal.

The proposal generally meets the ISRP review criteria. There would be a definite benefit to fish and wildlife from re-introduction of coho, which once were abundant. The proposal lists valuable results, both in the proposal and in attachments. There is a good background section with references to the Subbasin Summary (although not specifically to the FWP or BiOp). The work has a well-stated vision, with well-defined objectives and strategies. There is an excellent breakdown of objectives, tasks, rationales, and methods (described in a level of detail appropriate for the length of the proposal). Monitoring is built in as an integral part of the feasibility study. Many references are provided (some attached) to document both background and results. Resumes are excellent. There are good maps in the attachments. In its preliminary report, the ISRP discussed several questions raised in review and requested a response.

The response provided a comprehensive set of answers to the ISRP's initial concerns about this project. The ISRP was torn in its preliminary review between the positive early signs of success, and negative aspects such as the apparent acceleration of artificial production facilities that might not be needed, a genetic program that seemed at odds with the fully non-native origins of the fish, and debatable definitions of success. The response demonstrated that there has been a thorough and thoughtful analysis of these matters. The responses, including the attached schedule and table of the permitting decision process, were very helpful. There could still be healthy scientific debate over some of the proposed tasks, but that does not negate the importance of a continued feasibility study (in fact, would be good reason to continue it). The fear that there would be a major commitment to new facilities (either before feasibility was demonstrated or that were unnecessary if feasibility has been demonstrated) was alleviated by the explanations. However, the ISRP's concerns over the genetic portion of the project remain.

The genetic monitoring and analysis and the proposed cryogenic components of the proposed work are not recommended for funding, as they are not justified due to the non-native origin of the coho reintroduction stock. Evaluation of the various donor stocks' performance and fitness could be evaluated more directly from simple tagging studies, using PIT tags or other direct marks. It is not clear what difference genetic background makes in this situation. Traditional genetic analyses are not likely to help measure the degree to which recently naturalized hatchery fish contribute to the population relative to earlier naturalized fish.

CBFWA Review Comments:

The project sponsor (YIN) has reduced their budget to FY 2002 funding level plus 3.4% for FY 2003. The budget will increase by 3.4% each year. Specific reductions will be identified during contracting with BPA.

ProjectID: 29039

The effects of fine sediment on the hyporheic zone: monitoring and evaluating the influence of hyporheic exchange flows on stream temperature.

Sponsor: USFS

Subbasin: Wenatchee

FY03 Request: \$102,039

5YR Estimate: \$318,525

Short Description: Implement sediment and temperature monitoring; research to evaluate the influence of hyporheic exchange flows on stream temperature and thermal refugia; research to evaluate the influence of fine sediment on the hyporheic zone.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Fundable, High Priority

ISRP Final Review Comments:

Fundable. This project would likely provide important information on prioritizing stream habitat restoration projects. The project would conduct research to evaluate the influence of hyporheic exchange flows on stream temperature and thermal refugia for fish, particularly the influence of fine sediments on hyporheic water exchange (often increased by human activities) and resulting stream temperatures. High summer temperatures are an important limiting factor for salmonids in the Province and hyporheic flow is

important for control of temperature. The research would monitor fine sediment in selected reaches of the Wenatchee River and its tributaries, measure hyporheic flow rates, and evaluate these flow rates on stream temperatures as microhabitats, and at channel unit and reach scales using extensive temperature monitoring.

The proposal is very strong as a scientific proposal justifying research on a topic that has yet to make its way into regional planning. There is an excellent background section with abundant and persuasive scientific documentation. The proposal states that hyporheic flow and its implications for stream temperature have not been explicitly made part of regional programs. Nonetheless, the proposers take great pains to justify why it should be included and discusses relevance to the subbasin summary, FWP, and All-H paper. The proposal relates the work to Forest Service projects that monitor sediment and temperature, but not to BPA-funded ones.

The proponent provided a thorough and informative response to the ISRP concerns. The relevance to management actions is stated to be for water temperature standards, land use management (to control siltation), and channel management to foster natural flushing of fine sediment. Knowledge of hyporheic flows and sediment is the key to better management and more effective restoration projects. Relevance to the ISRP's general concerns about monitoring is discussed in the response. Other BPA proposals are provided for relevance to BPA programs, although not funded ones. Methods were well described and informative. The ISRP now considers this to be a very good proposal that tackles a topic that has received insufficient attention in watershed management.

CBFWA Review Comments:

Objectives need to be clarified. NMFS has identified this project as a BiOp project.

ProjectID: 29027

Comprehensive Inventory and Prioritization of Fish Passage and Screening Problems in the Wenatchee and Entiat Subbasins

Sponsor: WDFW, YSS

Subbasin: Wenatchee

FY03 Request: \$361,585 *Adjusted FY03 Budget:* \$277,436

5YR Estimate: \$1,338,952 *Adjusted 5YR Estimate:* \$1,254,803

Short Description: Locate and evaluate all culverts, dams, fishways, water diversions, and other human-made features in the Wenatchee and Entiat subbasins, conduct habitat assessments, and prioritize all barriers and unscreened or inadequately screened water diversions.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The need for more inventory work is given persuasively, suggesting that only about 40% of the stream area has been surveyed. Other survey efforts are summarized. The big difference seems to be that this inventory would be fully stream based, not road based (i.e. cover all stream length where fish would be expected if there were not barriers). Justification by SS, limiting factors analysis, etc. is good. The relationship to other projects is well described both in that section and in the background. Objectives are clear, as are the tasks. The methods rely on standard procedures for both surveys and prioritization developed by the WDFW.

The response adequately addresses preliminary ISRP concerns with monitoring and evaluation, fish presence, etc.

CBFWA Review Comments:

Assure work is coordinated with Chelan County. The reviewers recommend reducing the staff proposed by 1 FTE and find other sources for the 2 4x4 pickup trucks in 2003. The budget has been reduced to reflect these changes. NMFS has identified this project as a BiOp project.

ProjectID: 29028

Fabricate and Install Three New Fish Screens on Wenatchee River Diversions

Sponsor: WDFW, YSS

Subbasin: Wenatchee

FY03 Request: \$235,000 *Adjusted FY03 Budget:* \$184,976

5YR Estimate: \$291,135 *Adjusted 5YR Estimate:* \$241,111

Short Description: WDFW, YSS proposes to fabricate and install 2 new fish screening facilities, and rehabilitate one existing screening facility, on 3 irrigation diversions on the Wenatchee River and tributaries. The facilities will be in compliance with current criteria.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response adequately described the O&M plans and M&E plans for effectiveness monitoring. Specifically, that this project include pre-construction data and assure that data will be available post-construction to evaluate the cumulative effects of this and other projects. The proponents should have included mention of the WDFW basinwide monitoring strategy under development.

CBFWA Review Comments:

These are important diversions that need to be screened. There is no cost share represented in the proposed budget. The budget should be reduced by 15% in order to encourage cost share by the landowners or other responsible parties. A contingency of \$17,381 is identified in the proposal. These funds should be removed from the proposal. The budget has been modified to reflect these changes. NMFS has identified this project as a BiOp project.

ProjectID: 29053

Icicle/Wenatchee Habitat Acquisition

Sponsor: CDLT

Subbasin: Wenatchee

FY03 Request: \$1,547,750 *Adjusted FY03 Budget:* \$257,500

5YR Estimate: \$1,601,750 *Adjusted 5YR Estimate:* \$377,000

Short Description: Acquire and protect a critical 50-acre area of salmonid spawning and rearing habitat at the confluence of the Icicle and Wenatchee Rivers.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority (Qualified)

ISRP Final Review Comments:

Fundable for establishment of options to purchase the property at high priority. There is an abundance of important species to protect. This property seems to include important complex channel-off-channel, wetland, etc. habitat. The side channel adjacent to the property is apparently connected to the main channel during high spring flows. It is especially valuable to have been supplied the numbers of redds for various species in the WDFW index site. The Icicle is a key watershed designated by the Forest Service. The organization seems to be quite reputable with in-kind cost shares.

The ISRP appreciated the careful response to most of our questions and concerns; however, the response did not reference or provide adequate detailed plans for monitoring and evaluation of results of the project including establishment of baseline conditions at the time of purchase. The proponents propose that monitoring and evaluation will be conducted by other agencies including the Chelan County PUD (annual redd counts for spring and summer Chinook), the WDFW (counts steelhead redds), the USFWS (monitors use of the site by bull trout), and the Yakama Nation (counts coho redds in the lower Icicle). Detailed plans for M&E should be developed and reviewed by the ISRP before purchase of the property. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the four

primary ISRP review criteria is that we review and recommend only projects that “have provisions for monitoring and evaluation of results.”

CBFWA Review Comments:

Appraisal price will likely be less than budget amount. Encourage cost share. Potential lost opportunity. The review group would like to see alternative strategies for acquiring this property (cost share, riparian parcels only, conservation easements). This project received \$1,337,800 from the WA SRFB for 2003. The budget has been adjusted by the project sponsor to reflect this. NMFS has identified this project as a BiOp project.

METHOW RIVER SUBBASIN

ProjectID: 29046

Develop a Coordinated Resource Management Plan for Beaver Creek and plan and implement habitat restoration activities.

Sponsor: OCD

Subbasin: Methow

FY03 Request: \$51,783 *Adjusted FY03 Budget:* \$24,458

5YR Estimate: \$133,783 *Adjusted 5YR Estimate:* \$106,458

Short Description: Develop a Coordinated Resource Management Plan for the Beaver Creek drainage; restore habitat complexity; protect and restore riparian habitat; and research alternatives for ensuring perennial flow in lower Beaver Creek.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable. The sponsor’s response to most ISRP concerns is adequate; however, the lack of an Implementation Monitoring plan and a Tier I monitoring plan for documentation and evaluation of benefits to anadromous fish is a serious deficiency that needs to be rectified prior to funding. Detailed plans for M&E should be developed and reviewed by the ISRP before funding of the project. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the four primary ISRP review criteria is not met (that we recommend only projects that “have provisions for monitoring and evaluation of results.”).

Proposal #29010 in the same subbasin proposes to use the recommendations of *The Draft Strategy Framework of the Washington Comprehensive Monitoring Strategy* currently in development by the Washington Governor’s Salmon Recovery Team to guide development of a Monitoring and Evaluation Plan, but details are not given. Perhaps these proponents of these projects could cooperate in development of a monitoring plan giving the specific sample areas, methods, and sampling frequency and intensity (i.e., how many samples of what type where and when) as requested by the ISRP.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project. Due to WA SRFB funding, the project sponsor has requested that the budget for 2003 be reduced by \$27,325 (1/3 FTE = \$20,000, 3 pressure transducers = \$6,500, and office space rental = \$825). The total FY 2003 project cost of \$51,783 has been reduced to \$24,458 accordingly.

ProjectID: 29010

Restore Passage on Private Lands in Beaver Creek Drainage to Benefit Spring Chinook, Steelhead and Bulltrout

Sponsor: WDFW

Subbasin: Methow

FY03 Request: \$239,774 *Adjusted FY03 Budget:* \$0

5YR Estimate: \$1,204,074 *Adjusted 5YR Estimate:* \$345,275

Short Description: This project will further long-term, ongoing efforts to fully restore anadromous fish passage on private lands within the Beaver Creek drainage.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable. The response seemed to adequately show that this project is an initial one to remove instream barriers, while 29046, companion proposal, is for longer-range planning among private landowners. The sponsor's response to most ISRP concerns is adequate; however, the lack of an Implementation Monitoring plan and a Tier I monitoring plan for documentation and evaluation of benefits to anadromous fish is a serious deficiency that needs to be rectified prior to funding. Detailed plans for M&E should be developed and reviewed by the ISRP before funding of the project. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the four primary ISRP evaluation criteria is not met (that we recommend only projects that "have provisions for monitoring and evaluation of results.").

The proponents propose to follow the guidelines of *The Draft Strategy Framework of the Washington Comprehensive Monitoring Strategy* currently in development by the Washington Governor's Salmon Recovery Team. This strategy has the proper goals with intentions of implementing the probabilistic sampling plan developed by the USEPA in their EMAP program. Unfortunately, details are not available for reviewed by the ISRP and some of the references provide only general guidelines. Proposal #29046 in the same subbasin is also lacking an adequate Monitoring and Evaluation Plan. Perhaps these projects should cooperate in development a Tier I monitoring plan in addition to providing individual plans for implementation monitoring.

CBFWA Review Comments:

Due to funding for a Coordinated Resource Management Plan from the WA SRFB, the costs for this project can be reduced by 20% across the board and implementation of this project can be deferred for one year. NMFS has identified this project as a BiOp project.

ProjectID: 29020

Beaver CR Campground Rehabilitation

Sponsor: OCD

Subbasin: Methow

FY03 Request: \$60,445

5YR Estimate: \$71,095

Short Description: Restore riparian area of Beaver CR campground by building 1300 feet of fencing to keep users away from stream bank. Plant as needed riparian species within the fenced area to speed restoration of riparian zone. Build hitching rails.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. A response was not warranted. The proposal does not demonstrate a significant benefit to fish and wildlife because of the size of the riparian area to be protected and the unlikely change in the use.

The project might be funded later under #29046 if it ranks out high in priority in the CRMP. It is unclear if this project has been identified as a high priority project in a watershed assessment of the subbasin.

This proposal lacks much in detail and content (e.g., no resumes) and no monitoring and evaluation (M&E) plan to see if the riparian fencing and replanting works. The proposal is good in that there is good community support with volunteer materials and labor. The section on relationships to other projects could have better identified the other Beaver Creek work and proposals presented in the WDFW proposal (29010) and placed this work in that context (how important is the riparian problem at the campground relative to barriers, for example). It is unclear what permits and NEPA work are needed for this project.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 29037

Ecosystem Diagnosis and Treatment in the Columbia Cascade Province

Sponsor: WDFW, YN, CCT

Subbasin: Methow

FY03 Request: \$925,563 *Adjusted FY03 Budget:* \$500,000

5YR Estimate: \$1,816,938 *Adjusted 5YR Estimate:* \$800,000

Short Description: Provide an analytic foundation, including refinement of the coarse screen EDT, needed for the aquatic assessment and management components of subbasin plans in the Columbia Cascade Province.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not Fundable. No response was provided to address the ISRP's preliminary review concerns.

ISRP Preliminary Recommendation and Comments:

A response is needed. To be fundable this proposal should have a letter of support from the Council that it is needed as part of the subbasin planning effort.

The proposal should be reviewed in the context of the subbasin planning effort rather than the provincial review. Would this proposal add significant value to the EDT analysis already envisioned and potentially funded through that effort. The proponents should indicate what scale of information is needed for the subbasin planning? A review of the scientific soundness of EDT and this further refinement needs to be done at a more in depth level than can provided as part of the Columbia Cascade Provincial Review. Perhaps this project and related EDT activities should be reviewed by the Council's and NMFS' Independent Scientific Advisory Board (ISAB) in the broader context of subbasin planning and recovery of anadromous fish in the entire Columbia Basin.

The response should report current results from the use of EDT in the Entiat subbasin, and other subbasins starting with the Grand Ronde subbasin in 1992 and illustrate the role of EDT in selection of specific management actions for these subbasins. The response should identify specific management actions that have or will be carried out as a direct result of the use of EDT. Please give names and contact information of individuals responsible for these management actions. Include letters of support from individuals who have used EDT to reach consensus on management actions.

Is the following quote from proposal #29021 correct? "Habitat models such as the Ecosystem Diagnosis and Treatment model provide an adequately clear picture for relative conditions across a well-defined set of environmental attributes but stop short of assisting planners and decision-makers with identifying specific actions (e.g., realign a segment of stream, mobilize and store sediments, normalize a hydrograph, stabilize a bank, remove a road, modify a dike structure) that will result in changes in the condition of habitat attributes, or the ability to assess the effects of specific actions." If correct, explain why this project

should be funded. If incorrect, provide some counter examples. Proposal #29021 also has the critical question “Which alternative project strategy exhibits the ‘best’ expected performance or outcome?” Is this an output of an EDT analysis? Give real illustrations.

What exactly is the expected outcome of the proposed EDT analysis for a given subbasin? In the relationship to other projects the phrases “EDT could be used to.....” or “EDT may be useful in” are given. Where are the demonstrated important uses and results?

The response should describe in detail a monitoring and evaluation component for this project. What real data will be collected and how will the project be evaluated (ground truthed)? How and when will one know that the project was a success or a failure? Apparently, the Regional Analytical Advisory Committee will provide some ground-truthing and review of EDT for use in subbasin planning, but these efforts are just underway and should be described in detail. What is the work plan and method developed by the RAAC for the EDT validation project? The copy of the proposal may have been cut off short. References and resumes should be given. The response should contain references to and perhaps copies of critical documents (technical appendices) that give the actual mathematical formulas and methods behind EDT.

CBFWA Review Comments:

The budget for this project has been reduced to reflect ecosystem diagnosis but not treatment and salmon recovery funding is being pursued. Funding was not provided through the WA SRFB process. NMFS has identified this project as a BiOp project.

ProjectID: 29030

Early life history and survival of spring chinook salmon and steelhead in the Methow River Basin

Sponsor: PNNL

Subbasin: Methow

FY03 Request: \$382,939

5YR Estimate: \$1,150,939

Short Description: Investigate differential survival, behavior and habitat selection of juvenile spring chinook salmon and steelhead in relation to associated with warm groundwater presence, river ice, and other habitat parameters.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The proposal focuses on overwinter survival, when major mortalities of juveniles are thought to occur. The objective is to identify features of the habitat that might be enhanced to improve survival. The response regarding the ISRP’s question on hatchery vs. wild fish use of habitat seems adequate. Also, they have thought through the sampling problems raised by the ISRP.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 29034

Life History Study of Salmonid Rearing In The Upper Methow River

Sponsor: YIN

Subbasin: Methow

FY03 Request: \$273,710 (Adjusted \$365,250 - not noted in CBFWA table)

5YR Estimate: \$788,793 (Adjusted \$1,075,750 - not noted in CBFWA table)

Short Description: This research proposal is design to address the need to understand salmonid temporal and spatial life history patterns and productivity in the upper Methow River, with the focus in the intermittent portion of this reach.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not Fundable. The response to ISRP's preliminary concerns was not adequate. The changes in the budget section did not provide enough detail to satisfy the ISRP's concerns:

Will the tagging (marking) have an effect on recapture rates in the same or lower trap? It seems that the marking methods should have been researched and described in the proposal. Have the sponsors thought about the possibility that some migration might occur subsurface in this extremely permeable substrate, where fish would not be susceptible to the rotary traps?

Methods in Objective 3 and 4 should include a description of sampling procedures for selection of the "20% of each reach" or "pools" during the dry period. Will the sampling be probabilistic to allow statistical inferences to the entire study area? Will the same sites be snorkeled each time, or will new 'random' sites be selected? Also, objectives 3 and 4 should include a comparison of habitat availability vs. habitat used using appropriate sampling methods and analysis techniques described in, for example, Manly (1993, 1998) and Alldredge (1998).

However, the half page narrative response attempted to address the ISRP concern about management application of the proposal.

CBFWA Technical Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 29002

Conjunctive Use and River Enhancement (CURE) for Habitat Improvement in the Upper Methow River

Sponsor: CBC

Subbasin: Methow

FY03 Request: \$500,000

5YR Estimate: \$5,082,050

Short Description: Enhance late summer streamflows in the Upper Methow river through direct streamflow augmentation using groundwater from the prolific Methow Aquifer. Groundwater pumping rates of up to 25 cfs for periods of up to 90 days (4,600 AF storage equivalent).

ISRP Final Recommendation: Fundable in Part

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part, Low Priority

ISRP Final Review Comments:

Fundable in part only for the pilot study at low priority. The response focuses on the pilot aspect of the proposal. As such, it would be a valid and probably useful scientific test, whether or not the bigger idea has merit and would be acceptable. The ISRP was initially skeptical, but now see some merit in a test well and pumping tests. That pilot study would be useful and is fundable.

The ISRP was not convinced that increased flow in the Methow River through the proposed upwelling reach would be of significant benefit to fish. Pumping from the groundwater storage above this reach may result in harm. The ISRP would not be in favor of committing support beyond the initial modeling and pilot tests. The proponents did not provide detailed plans as requested for baseline pre-project and long term monitoring in the Chewuch and Methow Rivers. It is not possible to review a proposal that "...will include a detailed M&E plan, developed in coordination with local agency biologists."

CBFWA Review Comments:

Lacks universal public acceptance. May be foregoing less expensive alternatives. NMFS has identified this project as a BiOp project.

ProjectID: 29036

Ali Long Rearing Channel Habitat Improvements- Upper Methow River

Sponsor: YIN

Subbasin: Methow

FY03 Request: \$58,500

5YR Estimate: \$95,500

Short Description: Reconnect a historic side channel in the upper Methow River, and addition of inchannel structure as needed to increase channel complexity.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not Fundable. A response was not needed. The proposal is to reconnect a side channel of the Methow River at RM 69 to the main stream. The intent is to open up the channel as rearing habitat for salmonids. However, it is acknowledged that it is difficult to describe the importance this area might have because it is located within that portion of the Methow River that is frequently dewatered in the fall and winter. We note that proposal #29018 provides a map of the Methow River showing this reach as a "losing reach", where there is a net loss of water. Under the circumstances it would seem to be unwise to proceed with the current proposal to enlarge the area of the stream, when there is the possibility that it might lead to higher losses of water. The action proposed should probably wait for the results of #29018 before proceeding with this idea.

Do not fund until the hydrology of the Methow Basin is better understood, so that predictions of effects of such actions on net stream flow might be possible. Rather than increasing habitat for rearing of juvenile salmonids, the project might result in increasing the number of juveniles that are stranded when the area dewatered.

CBFWA Review Comments:

Concern about dewatering in some years. NMFS has identified this project as a BiOp project.

ProjectID: 29044

Protecting Habitat on Private Lands in the Methow Watershed

Sponsor: N/A

Subbasin: Methow

FY03 Request: \$1,153,100 *Adjusted FY03 Budget:* \$200,000

5YR Estimate: \$3,459,300 *Adjusted 5YR Estimate:* \$600,000

Short Description: Protect and provide long-term stewardship of habitat on private lands in the Methow Watershed through the use of perpetual conservation easements.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority (Qualified)

ISRP Final Review Comments:

Fundable with high priority. The response is adequate with regard to ISRP questions about value towards mitigating lost wildlife habitat and procedures for prioritizing properties for inclusion in the project. The key to long-term environmental stewardship of habitat is the willing participation of private landowners. This project, with its further explanation in the response, seems to the ISRP to offer a major step toward that goal. BPA funding would add to an already successful non-BPA effort.

The ISRP appreciated the careful response to most of our questions and concerns; however, the response did not provide adequate detailed plans for monitoring and evaluation of biological results of the project including establishment of baseline conditions at the time of contracting for easements. The ISRP recommends that monitoring and evaluation be contracted to government or tribal agencies, including the WDFW, USFWS, and perhaps others, to expand ongoing monitoring and evaluation efforts to lands included in this project. Detailed plans for M&E should be developed and reviewed by the ISRP before full funding of this project. The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the four primary guidelines is that we review and recommend only projects that “have provisions for monitoring and evaluation of results.”

CBFWA Review Comments:

Proposal lacks detail necessary for thorough technical review (How will properties be selected?) M&E is inadequate and need is questionable. Riparian and salmon habitats are the same thing and would not need separate easements. This project received \$424,800 from the WA SRFB funding for 2002. CBFWA supports this project at a reduced rate. The budget has been modified to reflect a reduced rate of implementation of \$75,000 per year. NMFS has identified this project as a BiOp project.

ProjectID: 29025

Columbia Cascade Province Pump Screening

Sponsor: WDFW, YSS

Subbasin: Methow

FY03 Request: \$218,918

5YR Estimate: \$916,142

Short Description: Comprehensive re-assessment, re-inventory, and mitigation of previously inventoried pump screen sites in these three subbasins.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response adequately answered the ISRP’s questions.

This project would revisit the screens on pumped water diversions in the Methow, Entiat, and Wenatchee basins in order to bring all of them up to current federal and state screening standards. All pump intakes would be inventoried using existing databases. An assessment and correction protocol would be modeled

after the Voluntary Cooperative Compliance Program, currently being used in the Walla Walla subbasin funded by BPA. The protocol would include diversion owner agreements (water rights and O&M responsibilities), cost-share agreements (15% by owner), permitting, and coordination with local vendors for making corrective measures to the intakes. Local vendors would do the installations. This project would identify appropriate screens for the site and irrigators needs. A four-year project would move progressively from basin to basin. The project would be undertaken by the Washington DFW's Yakima Screen Shop, which has a long track record of screen design and installation. Plans for funding through the state have not materialized because of budget shortfalls, the work was shifted to the salmon recovery program (for which WDFW is not eligible), and BPA is being asked to fund the work.

The proposal was straightforward and well written, generally meeting the ISRP evaluation criteria. There was a good background section, which cited the subbasin summaries and the Habitat Limiting Factors Analysis. The status of inventories and of the screening criteria were provided and the need was adequately justified. The proposers expect clear and immediate benefits to fish from the improvements in screens. The work was well related to regional needs with specific discussions of the HLFA, each subbasin's Subbasin Summary, the NMFS BiOp (with specific RPA cited), the Upper Columbia Salmon Recovery Board's technical team recommendations, and the Council's Fish and Wildlife Program. A general text on relationship to other projects was adequate even though it did not cite specific projects. There are logical and explicit objectives and tasks for 3 years. The Yakima Screen Shop has excellent staff and facilities and a long track record of accomplishing such work. Nonetheless, the ISRP had questions about objectives and tasks, monitoring, and the relative effectiveness of infiltration galleries (found useful in other provinces).

In response to the ISRP's concerns, the proponents clarified objectives and researched costs of infiltration galleries compared to pump screens and provided useful results. Infiltration galleries were shown to be 4 times the cost of the technologies proposed. The benefits of infiltration galleries were shown to be marginal or non-existent for these applications compared to pump screening, especially if fry migrate through gravel. Performance is not better than pump screens, and operation may be more complex than screens. The funding situation was clarified. The response might have mentioned WDFW's long-term monitoring strategy development, which could provide monitoring support for evaluating the effectiveness of these improvements. Selection of the Methow River is in accord with the priority set by the NMFS 2000 BiOp. The relationship to the gravity diversion screening project (29028) was adequately explained.

CBFWA Review Comments:

How many screens will be addressed during the assessment portion of this project? Is this project addressing a compliance and enforcement issue? If so, is this the responsibility of BPA (RPA language?)? NMFS has identified this project as a BiOp project.

ProjectID: 29012

Replace Rockview Diversion with Groundwater Withdrawal and Restore Instream Habitat

Sponsor: WDFW

Subbasin: Methow

FY03 Request: \$141,954 *Adjusted FY03 Budget:* \$91,954

5YR Estimate: \$296,454 *Adjusted 5YR Estimate:* \$226,454

Short Description: Remove Rockview diversion, transfer surface water withdrawal to groundwater withdrawal, and enhance associated stream channel and riparian habitat

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response was helpful in clarifying the ISRP's concerns.

This project is to remove an existing water diversion and screen on the Methow River at the Big Valley Ranch Unit (WDFW's Methow Wildlife Area) and restore the stream channel and associated side channel. It will take 3 years. The current screen and bypass do not meet established fish-protection criteria. The

project is located in the “gaining” reach of the Methow River downstream of the zone that becomes dewatered in the fall. WDFW has acquired the Big Valley Ranch, whose water source is the Rockview Diversion Dam. WDFW proposes to remove the dam and provide water for irrigating the wildlife area by sinking wells, which are funded separately. The irrigation ditch would be abandoned. The removal of structures (with offsite disposal) and restoration of the diversion/screen/bypass site to a functioning side channel will benefit several fish species that are endangered, threatened, or of concern (as listed in the proposal). There would be monitoring and evaluation of fish distribution/abundance, growth and survival before and after the work.

This is a concise, well-written proposal, which generally meets the ISRP review criteria. The project is well justified by a thorough background discussion and specific references to the Subbasin Summary, FWP, BiOp, Upper Columbia Regional Technical Team and Upper Columbia Salmon Recovery Board. There would likely be benefits to fish, principally in the form of unrestricted movement and availability of side-channel habitat for rearing and over wintering. There should also be benefits to wildlife, although these were not mentioned. The proposal discusses 21 related projects. The objectives and tasks are listed (however, no methods are presented other than standard words about standard environmental engineering). Existing support structure of WDFW will be used (general statements are given about what that consists of). Relevant references are given. Staff resumes are minimal, but acceptable. The proposal is persuasive that the work is valuable and timely. Nonetheless, the ISRP had questions about restoration methods, monitoring, and wildlife habitat.

The response provided requested information on restoration methods, although the ISRP realizes that specification of the exact methods must await funding and enlistment of the consultants and the WDFW Environmental Restoration Engineer. The methods provided in the response are really goals for restoration, which are appropriate. The ISRP’s monitoring question was adequately answered. Use of the EPA EMAP approach is laudable. The ISRP agrees that use of HEP for evaluating benefits to wildlife habitat and identification of mitigation credits for BPA can logically come after funding is received and during the initial tasks. The response provided assurance that this analysis will be done. The planned approaches are appropriate.

CBFWA Review Comments:

Concept seems highly likely to succeed. The budget has been reduced by \$40,000 to reflect eliminating the feasibility study portion of the proposal. Mark recapture techniques are likely to result in permitting difficulties and using snorkel surveys would be more appropriate and reduce costs. An additional \$10,000 has been removed from the budget to reflect a modified sampling procedure. NMFS has identified this as a BiOp project.

ProjectID: 29018

Analyze ground-water and surface-water exchanges influencing anadromous salmonid habitat in the Methow River and its major tributaries

Sponsor: USGS

Subbasin: Methow

FY03 Request: \$188,937

5YR Estimate: \$247,649

Short Description: Identify the locations of ground-water and surface-water exchanges in the Methow, Twisp, and Chewuch Rivers, quantify the exchange rates and their seasonal patterns, and assess the influence of these exchanges on spring chinook habitat.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable. The response answered the ISRP's questions adequately.

This is a project to identify the locations of ground-water and surface-water exchanges in the Methow, Twisp, and Chewuch Rivers, to quantify the exchange rates and their seasonal patterns, and to assess the influence of these exchanges on fish habitat, especially for spring chinook salmon. Numerous other listed species also occur in the area. The study area is hydraulically complex, with reaches that alternately lose water to the ground and gain it again as the water traverses the river reaches. In some reaches the surface flows go dry in the fall and winter, thus affecting fish habitats and connectivity. The proposers are already doing similar research in the general vicinity (mainstem Methow and Twisp rivers), although that hydraulic work is not specifically tied to assessment of fish habitat. The proposal does not dwell on it, but the water flows in the Methow valley are intensely controversial, with irrigation withdrawals (both surface and groundwater) under high levels of scrutiny and current regulatory action. The main product would be maps of upwelling and downwelling, perennial flow, water temperatures in summer and winter (because these are dominated by the groundwater-surface water interchanges), and a preliminary assessment of potential sources of recharge for the shallow groundwater. These patterns of water exchange would be analyzed in the context of the seasonal life-history requirements of spring chinook salmon and other species.

The proposal lays out an excellent scientific study, focused on primary data collection. No groundwater model is proposed. The study is well justified in terms of the technical aspects of surface-ground water exchanges and the objectives for fish and habitat laid out in the Methow Subbasin Summary. The relevant RPAs in the BiOp are cited. The proposal notes the similar ongoing USGS study and the network of stream gaging stations operated by USGS (some funded by BPA). Other fish protection work in the basin is cited collectively. Clear objectives are laid out, with defined tasks and discussion of methods. Facilities and equipment are available. Some appropriate scientific references are given, and good resumes are provided for key staff. The project is, of itself, of a monitoring nature and no follow-up is planned as part of this study. Understanding the complex hydraulics of this area will provide a good basis of understanding for taking actions to benefit fish. The initial proposal met most of the ISRP evaluation criteria. The work is of high priority for resolving immediate disputes in the area. The project offers to provide information (thus approach to management for salmon) on the effects of irrigation on stream flow in the Methow Basin. However, some questions were raised by the ISRP's preliminary review.

The response was thorough and answered the ISRP's questions. The ISRP agrees with the selection of spring chinook salmon as the focal species/stock even though other species are present. This choice is logical when the amount of effort must be limited. Inclusion of other species/stocks by way of discussion of results will be acceptable. The logic for selection of study sites was clarified in the response. Although a fully probabilistic design is desirable for several reasons, attention must also be given to the natural reach divisions. The proposed design seems acceptable. Appropriate references are cited for salmon habitat suitability. The table of gages is a useful addition. The clarification of relationships of the current proposal to ongoing studies of diversion and recharge is useful for putting this proposal in context of other work. We

agree that the questions about salmon spawning in upwelling or downwelling regions and of scale for spawning are the crux of this study. Useful additional references are cited.

CBFWA Review Comments:

80% indirect rate on the whole contract is excessive based on rates charged by other projects. NMFS has identified this project as a BiOp project.

ProjectID: 29031

Out Year Operations and Maintenance Costs Required to Implement/Carry out MVID Rehabilitation Project

Sponsor: YIN

Subbasin: Methow

5YR Estimate: \$260,000

Short Description: Proposal requests O & M support for MVID Rehabilitation Project (MVID_RP). Assured long-term funding for O&M costs is essential for MVID_RP completion and realization of its water conservation, in-stream flow and habitat benefits.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not Fundable. The response was not adequate. The proposal is incomplete because a final design is not available. This proposal may need to be submitted anew (and separate from the provincial review) now that a settlement has been reached with NMFS over MVID's system.

ISRP Preliminary Recommendation and Comments:

A response is needed. This project is a logical extension of the existing project (199603491), rather than a new project. It is unclear whether the ongoing project will be implemented. The proposal is for out year costs, not FY 2003. It is anticipated that the pumping station will be constructed by 2004 as a product of the NWPPC mandated facilitation process with the Methow Valley Irrigation District and WDOE, BPA, the Yakama Nation, NMFS, WDFW, and the Colville Tribe. Pumping would replace a push-up dam in the Twisp River and reduce use of Methow River water as a result of a new distribution system. The present proposal is tied to installation and construction of the pumping station and distribution system in that the MVID will only agree to the change in their withdrawal system if the operating and maintenance costs are covered. Approval of this proposal would provide the guarantee that the MVID seeks for covering the O&M costs.

Procedures for implementation monitoring need to be described in detail as part of the O&M project. Objectives 2 and 3 include long-term monitoring and evaluation methods that are not adequately described. The specific sample areas, methods, and sampling frequency and intensity (i.e., how many samples of what type where and when) need to be specified to ensure that statistical inferences can be drawn to the study areas. For example, it is not sufficient to say that the "The Hankin and Reeves (1988) methodology will be used to measure and record data."

What are the potential fish benefits from this project?

CBFWA Review Comments:

M&E not adequately described and may be funded from other sources if project goes forward. Funding may not be needed. NMFS has identified this project as a BiOp project.

ProjectID: 29038

Supplement Summer Steelhead Eightmile Creek/Chewuch River

Sponsor: MSRF

Subbasin: Methow

FY03 Request: \$205,000

5YR Estimate: \$225,000

Short Description: Develop a "natural" acclimation/rearing site on Eightmile Creek to supplement native fish stocks.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is a well-done proposal under the premise that supplementation is a good idea. Good background section. This proposal and project 29006 could provide some insight into the data supporting acclimation benefits versus direct release. The response adequately addresses the ISRP's preliminary concerns with this issue. A plan is incorporated for testing the effectiveness of acclimation.

The proposal is to enlarge and otherwise improve the acclimation ponds on the Mason property on Eightmile Creek to provide for summer steelhead acclimation. The source of fish would be the Wells Dam Hatchery. The existing site offers opportunities not available if the land had to be purchased. It is justified under the FWP by its naturalizing approach and also justified by Subbasin Summary objectives and strategies. This facility would provide a location for the recommended studies. The project advances NMFS's natural rearing approaches to hatchery reform (BiOp). Twisp River acclimation ponds are being developed in the same manner (on a schedule ahead of this one). The staff appear to be well-qualified.

CBFWA Review Comments:

Need more definitive data to be sure project will succeed. The hatchery programs in the Methow are currently undergoing evaluation and potentially restructuring. The PUD hatchery committee will be organizing and planning in the near future. The BOR hatchery program is considering moving towards supplementation, but decisions have not been made. This project may be ahead of those efforts and cannot be tied to specific planning documents at this time. This project may be a key element in the future, but at this time that cannot be determined.

ProjectID: 29006

Supplement Spring Chinook in Early Winters Creek

Sponsor: MSRF

Subbasin: Methow

FY03 Request: \$231,000

5YR Estimate: \$251,000

Short Description: Develop a "natural" acclimation/rearing site on Early Winters Creek to supplement native fish stocks.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This proposal and 29038 should provide some insight into the data supporting acclimation benefits versus direct release, and the response adequately addresses the ISRP's concerns with this issue. See also review comments for project 29038. This is a good proposal that is a close analog to 29039 (ponds on the Chewuch) except that the focus here is on spring chinook on Early Winters Creek. New ponds would be built on the same "natural" model.

CBFWA Review Comments:

The hatchery programs in the Methow are currently undergoing evaluation and potentially restructuring. The PUD hatchery committee will be organizing and planning in the near future. The BOR hatchery program is considering moving towards supplementation, but decisions have not been made. This project may be ahead of those efforts and cannot be tied to specific planning documents at this time. This project may be a key element in the future, but at this time that cannot be determined. NMFS has identified this as a BiOp project.

OKANOGAN RIVER SUBBASIN**ProjectID: 29017**

Prepare a Master Plan for Protecting and Restoring Salmon Habitat in Okanogan River

Sponsor: CCT/ONFC

Subbasin: Okanogan

FY03 Request: \$59,000

5YR Estimate: \$59,000

Short Description: Prepare a Master Plan to guide the protection and restoration of sockeye salmon habitat in the Canadian portion of Okanogan River.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Fundable, High Priority

ISRP Final Review Comments:

Fundable at high priority. The response was adequate and is now a much more realistic proposal and includes an appropriate timeframe. The proposal is to develop a plan for restoring portions of the Okanogan River that have been channelized or otherwise disturbed by human actions. This may involve setbacks of dykes, and/or work within a section of river that has been channelized to restore a more natural gradient and substrate. An example is given. Between Osoyoos and Vaseau Lake a series of concrete vertical drop structures was placed after channelization. In 2001 rock barriers were placed between two of the concrete structures, thereby creating a natural pool riffle complex, resulting in creation of spawning habitat that was used by sockeye. The proposal is to identify the most essential or potentially productive stream reaches within the Okanogan as a long-range action plan. This is a proposal for a one-year planning study only. Actual implementation would come later

ProjectID: 29033

Design and Conduct Monitoring and Evaluation Associated With Reestablishment of Okanogan Basin Natural Production

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$770,152 *Adjusted FY03 Budget:* \$480,152

5YR Estimate: \$2,688,802 *Adjusted 5YR Estimate:* \$2,398,802

Short Description: The CCT are currently proposing and implementing a focused array of salmon and steelhead propagation initiatives in an effort to rebuild anadromous, naturally produced salmon runs and increase harvest opportunities. An M&E program is necessary.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable with high priority. The ISRP appreciates the effort put into providing an excellent response to our concerns. If funded, the project would serve as a model for other monitoring and evaluation projects in the Columbia Cascade Province and elsewhere. This project would provide a model for monitoring and evaluation in the Columbia Basin of Washington much as the monitoring and evaluation program in the

John Day Subbasin is evolving as a model in the Columbia Basin of Oregon. Both propose the use the EMAP sampling protocols as a basis for probabilistic sampling of the subbasins.

The ISRP strongly recommends funding of this project. The response should be considered as an integral part of the initial proposal.

CBFWA Review Comments:

Possible cost share for spring chinook through pacific salmon recovery funds. Objective 2-7, spring chinook monitoring, is unnecessary and Objective 7 monitoring is already covered by project# 29042. The budget has been reduced for 2003 by \$290,000. Provides personnel funding for projects 29042, and 29050. NMFS has identified this project as a BiOp project.

ProjectID: 29021

Develop a Physical Processes Method (PPM) to Supplement Habitat Conditions Analysis and Subbasin Planning

Sponsor: Golder Associates Inc.

Subbasin: Okanogan

FY03 Request: \$295,229

5YR Estimate: \$1,238,702

Short Description: Develop a Physical Processes Method (PPM) to Supplement Habitat Conditions Analysis and Subbasin Planning

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not Fundable. The ISRP acknowledges the proponent's response but remains unconvinced that the proposed project is an appropriate analysis and modeling procedure.

ISRP Preliminary Recommendation and Comments:

Do not fund. A response was not needed. The ISRP was not convinced that a highly sophisticated mathematical approach in combination with EDT is appropriate at this time. The sub models are available (and were listed in the proposal) for many of the processes they want to link. Users may be better off to leave them unlinked and use them as needed, based on the combined expertise of several disciplines working together. A big Physical Processes Model may gain little not available from individual models for discrete processes.

Questions and concerns that arose in the course of review include: Where does EDT leaves off and PPM take over? What is the expected output of EDT in a specific real application and what is the expected output of PPM in the same illustration? Is EDT output input for PPM? A conceptual model of the system is needed. Without a conceptual model of the system, it is difficult to judge the qualifications of the proponents or the likelihood of success of the project.

The proposal should have contained a detailed monitoring and evaluation component. What real data will be collected and how will the project be evaluated (ground truthed)? How and when will one know that the project was a success or a failure? The proponents need to demonstrate support from management agencies in the Columbia Cascade Province and/or letters from the Council indicating need for augmentation of EDT in the subbasin planning effort.

CBFWA Review Comments:

Although some development of the methodology is necessary, this project should not be funded until EDT activities are underway.

ProjectID: 29001

Evaluation of 1872 Water Rights to Supplement Flows Between Basins

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$77,000 *Adjusted FY03 Budget:* \$39,000

5YR Estimate: \$315,000 *Adjusted 5YR Estimate:* \$277,000

Short Description: Develop a known data base to prioritize available CCT 1872 water rights which may be transferred, (if abandoned, or purchased if available), and placed into trust to supplement instream flows, both within or transferred between sub-basins.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is a proposal to develop a GIS database of the water rights in the western portion of the Colville Reservation. The overall objective is to obtain water to restore stream flows and lower water temperatures in order to aid bull trout (threatened), steelhead (endangered) and spring chinook salmon (extirpated but habitat available) and summer chinook salmon (depressed). The project would identify and evaluate water available to supplement flows. The tribe owns some water rights and proposes to obtain more from this process. From this, it is proposed to examine the possibility of establishing a water trust and a brokerage to manage water use. Once the existing rights and evaluations are catalogued, actions can be taken to obtain or transfer the rights for benefit of fish. Transfer to adjacent basins may be considered. In addition to the cataloguing, the project would conduct field inventories to assess water withdrawals. Once the catalogue is completed and actions taken to acquire water for fish, the project plans to collect and analyze streamflow data to verify uses.

The proposal is concise and generally well written. The project meets the ISRP evaluation criteria. A benefit to fish can be expected if water is actually obtained and/or transferred. There is careful and thorough justification in terms of the FWP, BiOp, the FCRPS Implementation Plan, and the Subbasin Summary. The project is a specific response to a call for innovative ideas for “water brokering.” Relevant existing projects in the basin are listed in a table. The planning and monitoring objectives and tasks are well presented. Specific information to be catalogued is listed along with some of the sources of information. The objectives and tasks do not include any implementation (actually obtaining water and making water transfers). There is a plan for monitoring following implementation, however. Key personnel are described in good resumes. Facilities for the work will be available from the CCT (which will cost share), except for minor office equipment and supplies.

The response was a helpful expansion of the proposal. The concerns of the ISRP are satisfied. The project is an innovative approach to obtaining instream flows, making use of the Tribes’ unique treaty rights.

First, the response from the Office of Reservation Attorney was especially helpful in clarifying the significance of the year 1872 and logic behind the spatial extent of the proposal. Although this aspect had been somewhat confusing to reviewers, the ISRP did not question it, as it seemed outside our purview. Nonetheless, the history was interesting and helpful for clarifying the intent of the proposal. We suggest that similar material be used in the background sections of future proposals.

The matter of “unclaimed” water rights was clarified sufficiently. As the ISRP understands from the response, the issue is not so much a matter of fully unclaimed rights but rights that were claimed by someone other than the Tribes, even though the Tribes had the legal right to claim them. In this world of claims generally exceeding the amount of water available, it seemed unlikely that any water would have been unclaimed (by somebody). The proposal seems to be a reassertion of water rights that the Tribes should have claimed based on the 1872 treaty.

The timelines are appropriate for a project that is somewhat exploratory. The first year’s results will necessarily set the tone for the subsequent years, which will include as much implementation as can reasonably be initiated. Most implementation will be transfer of rights to the trust account.

The implementation objectives are logical. It appears that physical movement of water between basins is unlikely to occur in the 3 years of this funding, but is not ruled out if opportune.

The ISRP remains concerned that the monitoring does not extend from physical monitoring to biological monitoring (but this should not prevent funding). The water quality monitoring is fine. We are still not sure how the benefits to fish will be quantified, although we agree that improved flow, water quality, and instream habitat should lead to more fish. Regional approaches to establishing effectiveness for fish should be sought.

There are overlaps with proposal 29032 that are discussed under that project. The responses clarified both differences and similarities between the projects. Consideration should be given to combining these proposals, with the 1872 water rights investigation perhaps being considered a task for proposal 29032.

CBFWA Review Comments:

This is an assessment project to determine possible water reallocation to instream flows and would reduce illegal taking of water rights. Stream flow data is being collected at several sites within the basin already; [thus, CBFWA] questions the need for additional data? The project sponsor reduced the budget by \$38,000 by transferring the water rights without using a subcontractor. The budget has been reduced to reflect this. This project has been identified as a potential BiOp project by NMFS.

ProjectID: 29032

Okanogan Basin Water Strategy Development and Pilot Projects

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$191,920 *Adjusted FY03 Budget:* \$166,920

5YR Estimate: \$1,260,600 *Adjusted 5YR Estimate:* \$1,235,600

Short Description: At the local level, identify, formulate, and implement reasonable and feasible water strategies to increase instream flow within three selected pilot project tributaries of the Okanogan basin

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is a planning project to help correct the main habitat problems of the Okanogan basin: low flows and high temperatures. The project would work at the local level to identify, formulate, and implement reasonable and feasible water strategies to increase instream flow within three selected pilot project tributaries of the Okanogan basin. Water rights and uses would be inventoried in a database (updating existing databases), selection criteria for pilot projects would be developed and three pilot projects on tributaries would be selected where low instream flows make salmonid habitat problematic and where water use is significant and there are willing stakeholder participants. A multi-stakeholder forum would be established for each pilot project to obtain consensus strategies. Water conservation, land acquisition, water right acquisition for instream use, establishment of a formal water market, and a compensatory wetland mitigation bank are some of the strategies to be explored locally. An action plan would be developed for each pilot tributary.

The proposal was well done, and the presentation answered the ISRP team's questions about the subcontractor (Golder) and the source of the required stream flows (limiting factors analysis, a Washington state process). The project seems to meet the ISRP review criteria. The rationale for the work is well laid out on the basis of the BiOp, Subbasin Summary, Council's FWP, the Salmon Recovery Board, and the CCT's Integrated Resource Management Plan. There is a comprehensive listing of related projects and proposals. The objectives are not especially well written, but the intent is clear. Tasks are good. There is a worthy goal and needed planning (and follow-through with actions). Monitoring is not relevant to this proposal (until actions are to be implemented), although pre-implementation, baseline monitoring might be considered where pilot actions are likely.

The response addressed the ISRP's questions about relationships to proposal 29001, implementation, and the general issues related to water brokering from its review of proposal 25074. The ISRP still has uneasiness about the many overlaps with 29001 and the somewhat vague nature of this project, which may be symptomatic of work that is more social action than hard research, analysis, or implementation. The vagueness of the project may be necessary, however, to get meaningful dialogue on water conservation and use. However, the work proposed in 29001 might be lumped as a specific task in the broader planning effort of 29032.

There are clear overlaps with proposal 29001, which the response details. There is a common goal, the projects will use coordinated management, use one database (developed in proposal 29001), share information and use coordinated effectiveness monitoring once implementation is undertaken. Implementation will differ, however. Proposal 29001 is specifically for the western Colville Reservation, whereas 29032 covers all of the Okanogan basin in the U.S., with respective differences in stakeholders. Proposal 29001 focuses on water rights related to the 1872 treaty and is specifically implemented by water acquisition/transfer to a water fund, whereas all strategies are open for 29032. The response offered thoughtful comments on water brokering raised by the ISRP in review of another project.

CBFWA Review Comments:

Project sponsor has indicated that Objective 3c can be reduced by \$25,000 for 2003. NMFS has identified this project as a BiOp project.

ProjectID: 29015

Thermal Imaging of the Okanogan and Wenatchee Watersheds

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$196,654 *Adjusted FY03 Budget:* \$111,904

5YR Estimate: \$261,654 *Adjusted 5YR Estimate:* \$176,904

Short Description: Expedite the development of a water cleanup plan (TMDL) for the Okanogan to identify sources of pollution related to temperature, DO and pH; allocate maximum allowable pollution from various sources; and develop strategies to improve salmonids habitat.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. A response was not needed. The proposed work is a multifaceted project aimed at correcting the chronic high summer temperatures in waters of the Okanogan Subbasin. This project plans to use Forward Looking Infra-Red Technology (FLIR) to collect surface water temperature data remotely by helicopter from 175 miles of waterways in the Okanogan Subbasin, collect in situ temperature data simultaneously, incorporate this information into a river temperature model (QUAL2K), and use the data and model to develop Total Maximum Daily Loads (TMDLs) for temperature, which include remedial measures. Temperature is a major impairment of the waters of the Okanogan subbasin for ESA-listed salmonid use in summer. The Washington Department of Ecology is mandated to assess 303(d) listed waters and develop remedial measures under the Clean Water Act (CWA). The IR measurements, in-situ measurements, and modeling are intended to identify and quantify the sources of heating in the river basin that contribute to overly warm water in summer, and suggest remedial measures. The FLIR will give a broad spatial snapshot, submersible recorders will give ground-truth information and temporal variations, GIS will handle the spatial data, modeling will assimilate the data for predictive purposes, and the TMDL analyses by WDOE will satisfy the CWA mandate and offer solutions. Broad public participation at the solution stage is intended. The CCT and WDOE have combined forces to provide an integrated project focusing on the Okanogan basin. The WDOE will, somewhat incidentally to this project, use the information for its TMDL activities for dissolved oxygen, pH, and pesticides. It is a 2-year project for BPA funding, but embodies an implementation plan by WDOE extending through FY 2005 and likely longer.

This is a well-prepared proposal (initially presented as two proposals now combined, which would have included the Wenatchee subbasin) that is directed at the ultimate goal of reducing summer stream temperatures in the Okanogan subbasin through the CWA process. The ISRP notes that its previous reviews of proposals to use the FLIR technique were not clearly directed at the ultimate goal and had a predominant technology focus; this proposal is clearly focused on the end result. Part of the proposal is a straightforward and well-described plan to use a modern remote-sensing detection technique for obtaining temperature data over broad spatial and narrow temporal ranges (wide-area snapshot). The monitoring technique is valuable for identifying locations where thermal conditions change spatially, either by warming or cooling. The presumption is stated that one snapshot will be indicative of spatially varying conditions over much of the warm season even though actual temperatures will vary from day to day. Standard color aerial photos (taken simultaneously) are used in conjunction with the IR imagery to identify the habitat features related to temperature conditions. Rather than just providing pictures and numerical temperatures, however, the proposal would go the next step and incorporate the IR data, the in-situ calibration temperatures, and other temperature data into a model of water temperatures along the length of the study reaches. The model would then be used for TMDL assessments by WDOE. The proposal notes that this sort of work is already being done in Oregon and parts of the Mid-Columbia region (e.g., the Wenatchee subbasin) funded by other agencies.

The proposal meets the ISRP evaluation criteria. It makes good use of the Subbasin Summaries to justify the work, particularly the repeated statements that the waters are water quality (temperature) limited and listed under Clean Water Act 303(d). The work is specifically directed toward selection of remedial measures for such water quality exceedences, with a large benefit for fish. There are also good, specific references to the FWP, BiOp, the Upper Columbia Salmon Recovery Board, and to CCT tribal goals. Related projects are listed specifically and discussed. There are clear objectives, tasks, methods and expected products for each phase of the work. The ISRP remains concerned that one IR overflight may not be sufficient to account for varying flows and other temporally varying factors, but acknowledges the high value of even one data set. The QUAL2K model might have been described in more detail, but it is a standard model used in water temperature analyses. Facilities and equipment are available from the contractors and used elsewhere. There is a good reference list accompanying the background and justification sections. Key personnel are clearly described in well-prepared resumes. The work is, of itself, of a monitoring nature with the measure of success being the follow-on monitoring that will be carried out by WDOE for the TMDL process (funded separately). There is excellent cost share, with \$230,000 anticipated (\$200,000 from WDOE) adding to the overall 2-year proposal cost to BPA of \$261,654.

CBFWA Review Comments:

The WA SRFB funded \$84,750 for 2003 for this project. The budget has been adjusted to reflect this. Should be EPA funded or at least cost shared, the project could utilize temperature data collected by OCD and CCT. Cold water inputs will be more difficult to detect in the summer than warm water inputs in the winter. Experimental design is questionable for providing usable information. Flight time cost could be reduced with better design. NMFS has identified this project as a BiOp project.

ProjectID: 29056

Establish a Water Cleanup Plan (temperature TMDL) for the Okanogan subbasin

Sponsor: WA Department of Ecology

Subbasin: Okanogan

Combined with 29015.

ProjectID: 29054

Stream Gaging Installation and Operations

Sponsor: Ecology

Subbasin: Okanogan

FY03 Request: \$395,000 *Adjusted FY03 Budget:* \$150,000

5YR Estimate: \$593,000 *Adjusted 5YR Estimate:* \$300,000

Short Description: Purchase and install eight continuous, real-time, telemetered stream flow gages, and six staff gages, at critical reaches and tributaries in each of the three subbasins.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is a valuable program for monitoring of stream flow to protect in-stream flows and compare actual flows to those flows and other target flows. Other important expected results are: support of EDT for subbasin planning, verify the availability and delivery of water purchased to assist conservation and recovery of ESA-listed salmonids stocks, determine flow-limiting reaches and tributaries to better target and prioritize habitat and flow restoration projects and monitor their effectiveness. These and other information from the program will provide significant benefit to fish and wildlife.

The response adequately described procedures for prioritizing locations for gaging stations. The response was adequate regarding monitoring and evaluation -- sampling, methods, frequency, etc.

CBFWA Review Comments:

This project was funded under the 2001 Action Plan category. The budget has been modified to represent the expected O&M for FY03 and FY04 (3 0.5 FTEs). NMFS has identified this project as a BiOp project.

ProjectID: 29055

Columbia Cascade Water Rights Acquisition

Sponsor: Ecology

Subbasin: Okanogan

FY03 Request: \$554,875 *Adjusted FY03 Budget:* \$154,875

5YR Estimate: \$1,624,625 *Adjusted 5YR Estimate:* \$1,224,625

Short Description: Acquire senior water rights for instream flows in targeted small streams and tributaries to restore critically needed water for spawning, rearing and migration of listed and depressed species within the Wenatchee, Methow, Okanogan and Entiat subbasins.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This is a proposal for the Washington Department of Ecology to participate in a 50-50 matching program with BPA to acquire senior water rights for instream flows in targeted small streams and tributaries to restore critically needed water for spawning, rearing and migration of listed and depressed species within the Wenatchee, Methow, Okanogan and Entiat subbasins. Federally listed and state depressed fish species are present and in need of restoration. All of these subbasins are over-appropriated, with water rights that precede the state's instream flow and Trust Water Right programs. Thus, rights would have to be purchased or leased to obtain instream flows for fish. Streams would be targeted for the program with a prioritization scheme already in place (itemized in the proposal) under the Trust program (which has been implemented in other basins and in these basins to a limited extent). Streams would be those with a history of flow problems and listed species, rated by importance for life-history use, condition of habitat, number of diversions, size of stream, amount of water needed to make a difference, and opportunities for water right acquisitions. The state Trust would purchase or lease rights and hold them in WDOE's name.

This is a well-prepared proposal. The work is justified on the basis of the Council's Fish and Wildlife Program, the BiOp's RPA 151, and the goals and objectives of each of the relevant Subbasin Summaries. The work is also justified on the basis of the Department's own recent history of water right acquisitions (examples are provided that persuasively demonstrate the WDOE's ability to carry out the program). There are established criteria for prioritizing acquisitions. Objectives, strategies and tasks are well laid out. There were several relevant references cited, and brief resumes were provided for staff. The essentially 50-50 cost sharing between WDOE and BPA is a positive impetus.

The response adequately answered the ISRP's questions. The response provided five types of watershed assessments that have been prepared for the tributaries of the Wenatchee, Entiat, Methow, and Okanogan subbasins. These assessments should be sufficient to identify the water needs for use in guiding priorities for this project. The response described the criteria used for similar work in other subbasins, which the proponents cautiously view as successful (as new and a pilot program). There is good reason to believe that the proposed project could be successful using these criteria. The response described the development of a comprehensive monitoring strategy in Washington State, which would be the mechanism for long-term monitoring of the biological efficacy of the proposed water right acquisitions.

CBFWA Review Comments:

M&E not adequately described. Is the water guaranteed to remain in streams? What is the criteria for purchasing rights? The priority of this project depends on the status of the development of the BPA water banking strategy. Subbasin planning will also help guide the implementation of this effort. Capital funds should be removed from the first year and focus should be applied to reviewing the database and prioritizing purchases for the out years. The budget has been reduced to reflect this. NMFS has identified this project as a BiOp project.

ProjectID: 199604200

Restore and Enhance Anadromous Fish Populations and Habitat in Salmon Creek

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$4,091,366 *Adjusted FY03 Budget:* \$1,300,000

5YR Estimate: \$11,170,836 *Adjusted 5YR Estimate:* \$6,244,220

Short Description: Provide instream flows through on-farm water conservation & water leasing. Design a river pump station and an upgrade to the Salmon Lake Feeder Canal. Enhance channel habitat. Design channel restoration. Undertake NEPA. Raise funds for all of the above.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Do Not Fund. Potential benefits to the Salmon Creek steelhead and spring chinook population from this very expensive proposed project are minimal at best. Projects at other locations, such as Omak Creek and chinook and sockeye project in the upper Okanogan, offer greater potential benefits to fish for less investment. Benefits from this proposed project accrue mainly to the irrigation district. Further consideration of this proposed project should involve site visits by decision makers and consideration of significantly cheaper methods to place water back into the lower four miles of currently dewatered stream channel.

ISRP Preliminary Recommendation and Comments:

Do not fund. A response was not needed. According to the proposal, the Salmon Creek watershed is not large enough to provide the flows needed for irrigators and fish. The proposal is to build a pump station on the Okanogan River so that irrigators may exchange Salmon Creek water for Okanogan River water. Elsewhere, it is noted that at times water temperatures in the Okanogan River exceed 80 degrees F, which is unsuitable for salmon. This is not mentioned in this proposal.

No significant benefit to fish is to be expected from this proposed project, which focuses on highly degraded habitat (dewatered, etc.) that would take an extensive effort and considerable resources to restore. The proposal is to restore steelhead and spring chinook salmon in Salmon Creek, which has an estimated 15 miles of habitat between Conconully Reservoir and the mouth of the Creek that might produce an unspecified (in the proposal) number of adult salmon. Project sponsors have done rough predictive estimates that 150 steelhead, and 130 chinook might result from restoration of this stream reach. We noted the absence of water during the ISRP site visit in October 2001. The creek bed was dry below the fish ladder that is present at the irrigation diversion, located 4.3 miles above the mouth of Salmon Creek. The proposal states that 100% of the creek is diverted at that point. From the oral presentation we learned that the stream drops 550 feet in the lowermost 2.4 miles. Presently, an alluvial fan at the mouth does not allow passage of salmonids except at flood stage. An Entrix study found released flows alone would not restore the stream. A channel would have to be dug. Steelhead would be reintroduced from the Wells Hatchery brood. There are no remnant stocks of spring chinook, so they would need to be introduced from outside. There is no description of a monitoring and evaluation plan that ought to be undertaken.

A “Regional Technical Team” is reported to have identified the project as “very good” in terms of its technical merit (p. 11 of proposal). It is said to have the potential of being the primary spawning and rearing area for spring chinook in the Okanogan basin. We have to question this conclusion on the basis of what we have learned. If the statement is true, it implies that there is very little potential for spring chinook in the Okanogan Basin, and that therefore efforts would be better directed toward other stocks, such as summer/fall chinook, sockeye, or the recently reintroduced coho salmon that appear to be less habitat limited.

Although the ISRP review and recommendation is not predicated on costs, the Council and CBFWA should be aware of the costs compared to the potential benefits of this project. The proposal refers to a review of the Salmon Creek proposal by the Council’s Independent Economic Advisory Board in 2001. The IEAB is quoted, in part, on page 16 as complimenting the sponsors on the documentation provided with respect to costs, measurable goals in terms of effects on instream flows, and effects on water supplies for the irrigation district. However, the ISRP notes that there was no documentation of the anticipated numbers of salmon or steelhead that might result from this expenditure, a factor that is of primary concern to us. We also note that the IEAB did not reach any conclusions regarding the cost-effectiveness of the proposed project relative to other potential uses of the Fish and Wildlife Fund. The project is quite expensive (\$7 million request for FY01 and another \$7 million for FY02-05), plus about \$5 million more in cost sharing from the Washington State Legislature and \$5 million from the US Congress. Annual operation and maintenance costs thereafter are estimated at about \$500,000. The US Congressional funds have not been secured at this point, and it was unclear in the proposal’s budget cost share information, whether the Washington State Legislature allocation had been secured. The Council and CBFWA should carefully consider if the proposed amounts (estimated at \$17 to \$20 million for a project speculated to provide a few hundred salmon and steelhead) would be better spent on projects with more potential benefit to fish and/or wildlife.

Comments: A response was provided to Council. We carefully reviewed it and find nothing that would change our assessment of this proposed project. The proponents complain that the proposal has previously received favorable reviews from the ISRP. We note that the site visit and oral presentations were extremely informative and helpful in arriving at a more realistic assessment of the prospects of success of this proposal.

CBFWA Review Comments:

An EIS is currently being developed that will guide the eventual design of this project. The current proposal addresses all possible alternatives. It is anticipated that through the 3-step process, the focus and scope of the project will be defined. Funding should be provided for ongoing activities until the EIS is completed. NMFS has identified this project as a BiOp project.

ProjectID: 29042

Selective Fish Collection and Harvesting Gear

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$231,000 *Adjusted FY03 Budget:* \$166,000

5YR Estimate: \$646,000 *Adjusted 5YR Estimate:* \$581,000

Short Description: This project will develop, test and deploy several types of selective fishing gear to capture chinook, steelhead, and sockeye for the purposes of tribal harvest, brood stock collection, and research, monitoring, and evaluation.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable, as the proposal and response were not adequate. They were, in fact, proposals to develop a research proposal (plan), and cannot be reviewed. Appropriate technical details of the proposed project were absent.

CBFWA Review Comments:

The project sponsor has reduced Objective 1c by \$35,000. Also, \$30,000 could be eliminated from equipment costs by sharing equipment with other projects. This would make 2003 budget \$166,000. The budget has been adjusted to reflect these changes. Potential exists for deferring other costs to 2004 or 2005. NMFS has identified this project as a BiOp project.

ProjectID: 200000100

Improvement of Anadromous Fish Habitat and Passage in Omak Creek

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$122,717

5YR Estimate: \$542,717

Short Description: This project is the implementation of a plan to restore 40-mile of historical anadromous fish habitat (summer steelhead) by improving land management practices and conducting restoration activities that accelerate recovery of the Omak Creek watershed.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable with high priority. This is a continuation proposal for straightforward and conventional tributary habitat improvements, including culvert replacement, stream channel modification, cattle fencing, and road decommissioning in Omak Creek, a tributary stream of the Okanogan River in Okanogan County, Washington. The main benefit would be to summer steelhead (listed as endangered). The project was initiated by a 1995 Omak Creek Watershed Plan/Environmental Assessment prepared by the Natural Resource Conservation Service. The watershed analysis identified several limiting factors, which this project is seeking to correct. Work began under non-BPA funding through NRCS (PL 83-556); BPA funded work began in 2000. The principal focus of past work has been on removing two barriers, one a long culvert that required relocation of the creek channel and installation of a modern culvert, and the other an impassable debris pile (called Mission Falls) that remained after railroad construction in the 1920s. A poor job of stream realignment at the old culvert needs to be corrected. Based on recent watershed analyses, there is a new focus on road decommissioning, as the roads contribute large amounts of sediment to the stream.

This is a good, straightforward proposal that meets the ISRP review criteria. There would be benefit to fish and wildlife from passage improvements and habitat rehabilitation, although the numbers of fish that used the stream historically and the numbers anticipated to return after rehabilitation are not clear. Conventional

restoration techniques are used. Results to date were given. There is good background and justification, with clear justification by citation of the FWP and BiOp; the watershed analysis is the most relevant justification. Objectives, tasks, and methods are provided and are appropriate. Monitoring is built into the work. There has been good progress to date (although past stream relocation work needs correction, based on monitoring). There is good cost share (about 1/3), and the relationships to other projects are adequately described. Facilities and equipment seem appropriate, and there were good staff resumes. There was a good reference list.

The response provided answers to the ISRP's questions, to the extent that information is available to do so. Earlier watershed assessment estimated the capacity of the creek for steelhead at approximately 200 adults, roughly the same as projected for Salmon Creek. The comparison with Salmon Creek (Project # 199604200) is useful, both in terms of miles of habitat and the habitat's quality. The reasons for new attention to road decommissioning are clear, although the additional funding will need discussion by those responsible for budgets. Accomplishments missing from the proposal (an apparent typographical error in the proposal) were explained satisfactorily. The lessons from the channel relocation were interesting and should be useful for more than this project.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 29022

Omak Creek Water Temperature Model

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$245,000

5YR Estimate: \$385,000

Short Description: Characterize water temperature regime in Omak Creek, quantify range of variability, and develop of numerical model to assess the effect of water and land use in the watershed on water temperature and to predict effectiveness of salmon recovery actions.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not Fundable. A response was not needed, because the poorly prepared proposal was not adequately justified scientifically or by regional planning.

This is a proposal to develop a water temperature model for Omak Creek, a tributary of the Okanogan River. High water temperatures are a chronic problem for the Okanogan watershed in summer. This proposal seeks to determine the sources of heating (and cooling) in the landscape of the Omak and the lower Okanogan River basin so that remedial measures might be taken. The primary focus of the proposal is the development of a water temperature model, which could be run with various modifications of input parameters to test alternative temperature management strategies. Secondly, the CCT would review management strategies for implementation in light of the model results. The project would be managed by the CCT but a contractor would develop the model.

Although the motivation and concept are good, the proposal is poor. The background section was clearly written for another project, as the words do not relate to this work but to the acquisition of water rights. The project rationale is short and not well thought out. There are no references to statements of need in the FWP, BiOp, Subbasin Summary, or other plans. Preliminary work by the CCT seems to be the main driver (this is good, but it needs a regional context). There is a good table of related projects, but no attempt to define what the relationship might be to this work. Objectives and tasks are laid out well, however. No literature is cited with respect to the science of water temperature modeling, other than one reference to the FWP. Resumes for the CCT personnel are included.

A large drawback to the proposal is its lack of information on temperature modeling. The proposal gives no indication that there are existing stream temperature models that might be used for this work (e.g., Bartholow's SSTEMP), although the presentation clarified that a model developed at Oregon State University would be used. The proposal suggested that a wholly new model will be developed (from conceptualization to computerization). There is also no indication in the proposal of who would do the modeling, except that this part of the work would be contracted. At the presentation it was indicated that Brown and Caldwell would do this work, but no qualifications were provided. Development of computer models for water temperature is a field of expertise not found everywhere, and the proposed modelers warrant scrutiny by the ISRP. No scientific references to water temperature models are given. On a positive note, the proposal goes through a logical set of steps (tasks) for the objective of developing a model and for using it for subsequent objectives to develop alternative management strategies for temperature in the Omak and potentially for the rest of the lower Okanogan mainstem and its tributaries. This good overall project structure fails, however, on the critical lack of information about the modeling. Without the key information about models and modeling, the proposal is not fundable.

The project does not seem needed or justified for Omak Creek. The PI's slides at the presentation showed that water temperatures reached the mid-20s C only once in the last decade. Habitat improvements associated with project 200000100 should have positive effects on sediment and temperature inputs, such that Omak Creek temperatures could be merely be monitored to determine if there are chronic or acute temperature problems. Steelhead may be able to accommodate short-term temperature exceedences by remaining in cooler water refuges and migrating into Omak Creek after temperature declines. This life history strategy is observed in steelhead returning to the John Day and Snake River subbasins.

The proposal seems to go beyond what could be concluded from temperature modeling alone. Objective 2 reads "Develop and Prioritize Watershed Recovery Alternatives" and Task 2.c. reads "Simulate and Rank Watershed Recovery Alternatives." It is hard for the ISRP to visualize how this kind of broad information might emerge from a simulation based on data that do not (and can not) include a range of values that would encompass "recovery." Are the sponsors claiming that historical data do include such a range?

The proposal mentions that there is considerable loss of surface flow to the underlying alluvial aquifer. Does this mean the stream dewater? Is the loss going to hyporheic flow that would affect water temperatures in an upwelling zone downstream (as seen in other locations)?

The proposed exercise is very conceptual at this point in time, and the proposal needs to demonstrate a utility that cannot be addressed without this work. It is unclear why it is appropriate to extrapolate from a small creek like Omak Creek to a larger system like the Okanogan River? How would the larger application be tested for veracity? In summary, there are many concerns with this proposal that did not seem resolvable with a response by the proponents.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 29023

Restoration/Protection of Kartar Creek In-stream, riparian, and Wetland Habitats

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$437,823 *Adjusted FY03 Budget:* \$86,729

5YR Estimate: \$1,591,035 *Adjusted 5YR Estimate:* \$254,187

Short Description: Enhance natural reproduction, establishment of a sustainable fishery, provide a riparian corridor located between seasonal wildlife to partially mitigate for loss of anadromous fish and wildlife created by the building of Grand Coulee and Chief Joseph Dam

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority (Objective 1)

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. Kartar Creek has a dewatered section in the agricultural area above the lake. The goal of this project is to get water back in the creek. Perhaps the creek would need to be lined or detoured in the reach where it surrounds the agricultural lands. The proposal is primarily to assess options, followed by planning and implementation. They also plan wetlands creation and riparian fencing and planting.

The project focuses on Lahontan cutthroat trout (LCT), a non-native species, which is currently planted in Omak Lake and supports a trophy class recreational fishery that has strong local and regional support. The lake is highly alkaline and unlikely to support salmonids, other than alkaline-adapted stocks like Lahontan Cutthroat trout. The project seems logical with a laudable goal of attempting to convert a hatchery-supported recreational fishery to a self-supporting self-sustaining fishery.

The proponents provided a good response to the ISRP including conducting field surveys for presence of redband trout. No redband trout were detected in the surveys. The response also provided good attempts at calculating numbers of fish that could be produced. The project would replace hatchery planting with natural reproduction.

CBFWA Review Comments:

Columbia Cascade Province Budget Work Group supports funding Objective 1 with a phased approach and reduced costs. There are only two resident fish proposals in this province. This would convert a supplementation project funded by BPA into a natural production program. The budget has been adjusted to reflect the recommendation for High Priority.

ProjectID: 29045

Protect and Restore Salmon and Steelhead Habitat at the Similkameen/Okanogan River Confluence

Sponsor: Upper Columbia RFEG

Subbasin: Okanogan

FY03 Request: \$239,700 *Adjusted FY03 Budget:* \$0

5YR Estimate: \$1,338,531 *Adjusted 5YR Estimate:* \$1,098,831

Short Description: Design and implement measures to protect and restore flood plain processes for 12 miles of spawning, rearing, and migratory habitat of the Okanogan/Similkameen rivers through an adaptive management process.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable with high priority. A response was not needed. This is an especially well prepared and thorough proposal. The proposal is to design and implement measures to protect and restore flood plain processes for 12 miles of spawning, rearing, and migratory habitat supporting chinook, steelhead and sockeye salmon upstream of the confluence of the Similkameen and Okanogan rivers. The spawning area within the 12

miles is about 4.5 miles that support one of the largest concentrations of summer chinook in the watershed. Measures to be considered are dike modification, riprap removal, installation of in-stream structures, and riparian plantings. There has been high erosion caused by channel instability near hardened banks. Off-channel habitats have been lost. There is cost sharing from themselves and FWS (for permitting). Salmon Recovery Fund money is also sought for 2003 (if obtained, then BPA would be asked to fund outyears. Excellent public participation. This is for work in a high priority area.

CBFWA Review Comments:

This project received \$239,700 for 2003 from the WA SRFB. Funding should be continued through BPA in 2004 and 2005. NMFS has identified this project as a BiOp project.

ProjectID: 29008

Adult Passage Counting and Trapping at Zosel Dam

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$108,474

5YR Estimate: \$623,474

Short Description: Conduct feasibility assessment of adult fish counting at Zosel Dam on the Okanogan River and evaluate preferred option. Design, install and evaluate adult trapping facilities at Zosel Dam.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable. The proposal is for a feasibility study to develop an ability to count adult anadromous fish as they pass Zosel Dam on their way to Lake Osoyoos and its tributaries. Lake Osoyoos is one of two lakes in the Columbia Basin that continue to support healthy populations of sockeye salmon. Previous efforts to count fish with video cameras as they transited the ladders were not entirely satisfactory. This proposal is to test newly developed technology for its use in this application. Recommended adjustments in the ladders arising from the previous experience will also be incorporated.

There is a particular need for more information on sockeye salmon survival rates and other life history characteristics. Their limited distribution and special life histories have combined to limit the opportunity for studies. The Okanogan run of sockeye exhibits some unusual behavior patterns in response to a temperature block that sometimes occurs at the mouth of the river. Unexplained losses of fish occur between Wells Dam, which is the last upstream counting station, and counts on the spawning grounds.

This project is fundable on a technical basis and is an important project that merits high priority. The response adequately addressed the ISRP's concerns with cost estimates and alternatives to blocking the spillbays.

CBFWA Review Comments:

This project would address a major data gap in adult counting. The ladder counts at Wells Dam as compared with the spawning survey counts vary by 100%. This project would fill a gap between those two locations. The first year of the study is a feasibility study to determine all possible options.

ProjectID: 200001300

Evaluate An Experimental Re-introduction of Sockeye Salmon into Skaha Lake

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$18,096

5YR Estimate: \$18,096

Short Description: Evaluation of an experimental re-introduction of sockeye salmon into Skaha Lake in the Okanogan River Basin. Assess risks benefits, formulate hypotheses, develop an experimental design and analytical tools.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable with high priority. A response was not needed. This proposal describes the last step in a study designed to alleviate concerns about sockeye that might be reintroduced into the upper Okanogan, acting as carriers of disease. The first two years of the study looked at IHNV type 1, EIBS; and IPNV, and ceratomyxosis agent. The proposed work will complete the study looking at whirling disease. Like project 29016, this project is high priority because information gained from the project will likely lead to payoffs in increased and measurable numbers of anadromous fishes.

CBFWA Review Comments:

Important ongoing project, funding for only one year and small amount should make this a top priority.

ProjectID: 29016

Return of Okanogan Sockeye Salmon to their historic range.

Sponsor: CCT/ONFC

Subbasin: Okanogan

FY03 Request: \$175,000 *Adjusted FY03 Budget:* \$175,000

5YR Estimate: \$1,509,000 *Adjusted 5YR Estimate:* \$1,190,500

Short Description: Plan, engineer and construct fish passage past dams. Screen the irrigation intake associated with the first dam. Monitor increase in fish production.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fund. A response was not needed. This is a clear, straightforward measure that will certainly pay off in increased and measurable numbers of anadromous fishes, and deserves high priority. The proposal is to provide fish passage at McIntyre Dam, either by providing fish ladders or by removal of the dam. This would open up 11 km of potential spawning and rearing habitat in Vaseau Lake and Okanogan River. Approval of Canadian fisheries agencies is required, but appears to be imminent, with mechanisms in place for communication and agreements. The projects is directly related to #2000001300 The Evaluation of an Experimental Re-introduction of sockeye salmon into Skaha Lake, which will apparently satisfy some Canadian concerns about possible disease transmission by migrating fish. It is estimated that the project would lead to an increase of 18,000 sockeye in the Okanogan Basin population.

CBFWA Review Comments:

The proposed budget for this project covers several alternatives. A less expensive alternative may be chosen through a public process. The project sponsor has indicated that 2004 budget could range from \$400,000 to \$1,274,000 depending on results from 2003. The project sponsor has reduced the request for 2004 by 75%.

ProjectID: 29007

Okanogan Kelt Reconditioning

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$151,387

5YR Estimate: \$662,663

Short Description: Recondition steelhead kelts in the Okanogan River system to allow repeat spawning in the wild and promote rebuilding of this Endangered ESU.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The reconditioning of kelts as a management tool has intuitive appeal, whose merits need to be assessed through an experimental program and a rigorous M&E subprogram. Getting more use out of a live adult steelhead seems like a reasonable objective, and one that has been tested successfully in the Yakima River and the Siletz River, Oregon. The evidence seems clear that there is little return spawning after downstream migration of kelts from the Okanogan system. This includes good “seed money” feasibility work under NMFS funding.

The response adequately addresses ISRP concerns and the project sponsor’s agreed to follow or implement most of the ISRP’s recommendations; however, they argued that the development of a local steelhead broodstock was needed to achieve their program objectives. Their proposed handling of the kelts and of the M&E required to evaluate the program appears acceptable.

CBFWA Review Comments:

This project should be well coordinated with the kelt reconditioning projects currently ongoing by CRITFC. NMFS has identified this as a BiOp project.

ProjectID: 29050

Phase I Okanogan River Spring Chinook Production

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$112,000

5YR Estimate: \$1,960,000

Short Description: This project will reintroduce spring chinook into the Okanogan sub-basin to provide for tribal C&S and recreational fisheries. The program will also be used to collect information on the feasibility of reintroducing ESA-listed chinook in Phase II.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. The proposal and response lack sufficient technical detail on tasks and methods to allow review. The sponsors indicate that details are to be provided in the HGMP; however, the ISRP cannot support a recommendation for funding without reviewing the necessary technical details. This proposal is for the planning phase for a longer hatchery program to reintroduce spring Chinook to the Okanogan. The proposal is to use hatchery planted chinook (Carson stock from the complex of Leavenworth hatcheries) as a basis for a tribal fishery on returning adults. The juveniles would be transferred annually to the Ellesford acclimation facility (a pond owned by the Oroville-Tonasket Irrigation District), where they would be held over for winter rearing, acclimation, and release. All returning fish would either be harvested or retained as broodstock.

CBFWA Review Comments:

Out year costs for objective 5 could be reduced in 2004-2007.

ProjectID: 29040

OK-11 Develop and Propagate Local Okanogan River Summer/Fall Chinook

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$602,000 *Adjusted FY03 Budget:* \$402,000

5YR Estimate: \$1,496,000 *Adjusted 5YR Estimate:* \$1,296,000

Short Description: Project will acclimate existing summer chinook production near historic habitat, increase production for the Okanogan and upper middle Columbia rivers, initiate production of late-arriving fall chinook, and initiate a local chinook brood stock.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The proposal is for several actions aimed at increasing the abundance of summer/fall chinook in the Okanogan River and the mainstem Columbia River directly below Chief Joseph Dam. Several acclimation ponds are proposed to hold chinook for release in the Similkameen downstream from the existing facility, with the objective of utilizing what is claimed to be underseeded habitat. The proposal made a rather convincing argument that hatchery releases should be dispersed more widely, and describes potential sources of fish. The response addressed the ISRP issues in regard to the possibility that fish could be reared elsewhere and released at a number of points downstream of the Similkameen facility. In general, the response adequately addressed the ISRP questions and concerns, but the justification for focus on development of a local broodstock was weak.

CBFWA Review Comments:

The project sponsor has reduced Task 2.2 by \$200,000 in 2003. Objective 3.3 or 4.3 can be delayed until 2004 transferring \$8,500 from 2003 to 2004.

ProjectID: 29013

Acquire Land Adjacent to Chiliwist Creek and Develop Summer Chinook and Summer Steelhead Acclimation Pond

Sponsor: WDFW

Subbasin: Okanogan

FY03 Request: \$823,952 *Adjusted FY03 Budget:* \$447,470

5YR Estimate: \$1,179,517 *Adjusted 5YR Estimate:* \$888,952

Short Description: Acquire 89 acres of apple orchard adjacent to Chiliwist Creek and develop an acclimation pond to imprint summer chinook and summer steelhead in order to improve return spawn distribution in the Okanogan Subbasin.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Medium Priority

ISRP Final Review Comments:

Fundable at medium priority. The response is adequate; however, the ISRP notes that supplementation of naturally reproducing salmon with hatchery production remains a controversial issue. The response includes an excellent literature review that describes acclimation pond benefits for chinook survival/homing. The ponds would also be used for steelhead, where the documented benefits are less clear.

CBFWA Review Comments:

This project should be phased to purchase land in FY 03, perform planning, design and permitting in FY 04 and in FY 05 begin construction of the ponds and funding operation. The budget has been adjusted to

represent this recommendation. Confirmation of the budget is needed from the project sponsor. Land has not been appraised so land costs are likely higher than fair market value.

ProjectID: 29051

Develop Local Okanogan River Steelhead Brood Stock

Sponsor: CCT

Subbasin: Okanogan

FY03 Request: \$192,000 *Adjusted FY03 Budget:* \$122,000

5YR Estimate: \$1,630,000 *Adjusted 5YR Estimate:* \$1,560,000

Short Description: Project will collect steelhead brood stock from local sources and transfer propagation activities from Wells Hatchery to Cassimer Bar Hatchery.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable with low priority. The proposed work appears justified within the logical framework of the response, which focuses more on ESA and Tribal Trust responsibilities than on biological-based arguments. The biological benefits of the proposed project are uncertain.

The proposal is to replace dependence upon the Wells Dam Hatchery for broodstock used as a source for outplanting of steelhead into the Okanogan Basin. The WDFW has been working since 1996 to take fish for broodstock from local streams, with the thought that this might lead to an increase in genetic diversity of steelhead. The tribes propose moving the location of the steelhead production facilities from Wells Dam Hatchery to the tribe's Cassimer Bar Hatchery. The proposal includes a measure to develop a conceptual design and cost estimates for modification of the Cassimer Bar Hatchery that will be required. This will lead to development of final design, and then to construction.

Ongoing projects in the upper Columbia Cascade province focusing on summer/fall chinook, sockeye, and coho appear to be having positive results and further investment in these projects appears warranted based on recent returns. Large-scale investment in steelhead projects in the Okanagon basin appears less warranted based on the greater uncertainty of positive outcomes. Unlike summer/fall chinook, sockeye, and coho, steelhead in the upper Okanagon basin appear to be habitat limited.

CBFWA Review Comments:

The master plan and hatchery design can be reduced by \$70,000 in 2003. Out-year reduction may be possible. The final capital needs will be determined through the master planning process.

ProjectID: 199609400

Increase sharp-tailed grouse and mule deer populations and enhance shrubsteppe/riparian habitats on the Scotch Creek Wildlife Area.

Sponsor: WDFW

Subbasin: Okanogan

FY03 Request: \$461,401 *Adjusted FY03 Budget:* \$408,401

5YR Estimate: \$2,083,081 *Adjusted 5YR Estimate:* \$1,977,081

Short Description: Protect, increase, and maintain a viable sharp-tailed grouse population, increase mule deer use of the project site, and enhance shrub-steppe habitat for shrub-steppe obligate species.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response adequately addressed the ISRP's concerns with the data collection protocols including site selection, adequacy of data to detect trends, sharp-tailed grouse lek monitoring, and nesting and brood surveys. The ISRP appreciates the effort expended in responding to our questions and concerns.

CBFWA Review Comments:

This project protects and enhances critical sharp-tailed grouse/shrub steppe habitat and is a significant component of WDFW's statewide sharp-tailed grouse recovery strategy. The project sponsor has removed \$53,000 from the Construction and Implementation phase of the project for 2003 and 2004 by delaying equipment purchases until 2005. The budget has been modified to reflect those changes.

ProjectID: 29005

Validate Occurrence and Assess Abundance of Wildlife Species

Sponsor: CTCR

Subbasin: Okanogan

FY03 Request: \$194,136

5YR Estimate: \$534,908

Short Description: Verify, monitor, and inventory wildlife species presence and abundance in this project area as indicated by the species list cited in "Wildlife-Habitat Relationships in WA/OR" (Johnson, D and Thomas A. O'Neil, 2000).

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable. The response provided additional detail over that provided by the original proposal, however additional detail on the inventory and monitoring protocols will be needed before funding and contracting are completed.

The ISRP agrees that the Inventory and Monitoring protocols utilized and being developed by the National Park Service can serve as a valuable guide for inventory and monitoring of wildlife on large areas in the Columbia Basin. To receive unconditional recommendation for funding, the specific sample areas, methods (data collection protocols), and sampling frequency and intensity (i.e., how many samples of what type where and when) need to be specified. Details must be given or adequate references to published literature given for not only site selection procedures, but for data collection procedures.

ProjectID: 29019

Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Okanogan sub-basin

Sponsor: NHI, CCT

Subbasin: Okanogan

FY03 Request: \$27,907

5YR Estimate: \$27,907

Short Description: Fine-scale wildlife habitat assessment for the Okanogan sub-basin will produce critical baseline data for planning and monitoring efforts that is consistent within the NWPPC Framework wildlife-habitat relationships process.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable as a pilot study for the use of NHI in this region. A response was not needed. The proposal and presentation make a good case that this resolution mapping would be useful to regional wildlife managers who would actually make use of the map. The budget is either very reasonable or incomplete.

The proponents have previously demonstrated the ability to produce high-quality maps at the Columbia Basin level. If successful, the proposed maps will represent a major step forward in the detail of information available to managers as baselines for ecological assessments. The improvement in mapping scale (down to 4 Hectare MMU from the Current 100 Hectare) would be particularly useful.

Questions or clarifications that need to be addressed during contracting are as follows:

The relationship of this proposal to similar ones in the Mountain Snake, Blue Mountain, Columbia Cascade, and other provinces should be given. The ISRP has reviewed versions of these proposals in each province.

A detailed monitoring and evaluation (M&E) plans should be included in the 'Proposal objectives, tasks and methods' section. How will one know that this project was a success? M&E methods for the accuracy and precision of classification of 4 ha units should be given in more detail. How is the accuracy of 75% guaranteed for a mapped class and how is an overall map accuracy of 80% guaranteed? Details for ground truthing the maps with field visits should be given.

How good is the correlation between environment conditions and animal use? Describe methods for presence absence on the ground surveys and comparison with mapped habitats. The specific sample areas, methods, and sampling frequency and intensity (i.e., how many samples of what type where and when) need to be specified. The response should include plans for repeating the mapping effort to account for succession and other habitat changes.

CBFWA Review Comments:

In-house data base refinement at very reasonable costs.

ProjectID: 29029

Perform Range Forage Inventory for Large Ungulates

Sponsor: CTCR

Subbasin: Okanogan

FY03 Request: \$159,704

5YR Estimate: \$462,252

Short Description: Grazing resource inventory is necessary to enable identification and location of grazing lands, forage availability and quality, for the management of large ungulates including elk, mule and white tail deer, moose and big horn sheep.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable. The proponents made a good faith effort to address the ISRP's concerns on site selection procedures. However, the ISRP has no confidence in use of index sites for long term environmental monitoring, regardless of procedures long used by the NRCS. If funded, then during the contracting period, the actual procedure for selection of the sample units (one per 200 acres) should be described and reviewed by the ISRP.

CBFWA Review Comments:

Historic data is 60 years old and a new inventory is badly needed.

ProjectID: 29004

Control Okanogan Weeds -Invasive Species Project

Sponsor: CTCR

Subbasin: Okanogan

FY03 Request: \$299,933

5YR Estimate: \$1,484,025

Short Description: Integrated program to control invasive noxious weeds for the benefit of wildlife and their associated ecosystems through the use of biologic insect agents, education, outreach, and habitat management.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. The proponents did not respond adequately to the questions and concerns raised by the ISRP in the Preliminary Review.

ISRP Preliminary Recommendation and Comments:

A response is needed. The ISRP suggests that the objectives of fencing, education, and communication, and research be separated in the proposal with clear indications of associated tasks, benefits, and costs.

Additional benefits of controlling livestock access via fencing, if any, should be included? Describe the full extent of fencing with maps. Are only the weed patches fenced? Is there an expected increase in forage for wildlife other than control of spread of weeds? Is aquatic habitat protected by the fencing? What are the benefits to fish, if any?

Is a HEP analysis planned to account for improvements in wildlife habitat to provide credit toward BPA's responsibility to mitigate for loss of wildlife habitat?

The experimental design, layout of plots on a map, and proposed statistical analysis should be given for the proposed research on effects of release of lesser knapweed flower weevil for control of knapweed. Is this research part of or related to a long-term monitoring and evaluation program?

This project needs to include or reference a long-term monitoring and evaluation program for distribution and abundance of noxious weeds and wildlife habitat in general. If the M&E is being conducted in another project then a complete discussion of how that project provides appropriate M&E for this proposal needs to be included. Baseline data from ongoing M&E, if any, should be given.

The proponents are referred to the ISRP Review of the Confederated Salish and Kootenai Tribes' Habitat Acquisition and Restoration Plan (19910600) (www.nwcouncil.org/library/isrp/isrp2001-4addendum.htm). The project was reviewed in the Mountain Columbia Province to determine whether it provided scientifically sound criteria and protocol to prioritize habitat acquisitions. The ISRP found that document described a good plan for habitat acquisition and restoration of wildlife habitat in mitigation for lost aquatic and riparian habitat due to the Kerr Project No. 5 located on the Flathead River and could serve as a useful model to other habitat and restoration proposals with some minor revision of the monitoring and evaluation (M&E) component of the plan. The M&E component has subsequently been reviewed and approved subject to minor modifications in ISRP report (www.nwcouncil.org/library/isrp/isrp2001-4AlbeniFalls.pdf). The proponents are also referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

ProjectID: 29003

Acquire Property for Partial Wildlife mitigation

Sponsor: CTCR

Subbasin: Okanogan

FY03 Request: \$1,500,000 **Adjusted FY03 Budget:** \$1,000,000

5YR Estimate: \$7,500,000 **Adjusted 5YR Estimate:** \$7,000,000

Short Description: Acquire, protect, enhance and evaluate wildlife habitat and species for partial mitigation for losses to wildlife resulting from Grand Coulee and Chief Joseph Dams.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable for establishment of options to purchase properties only. The respondents did not reference or provide adequate detailed plans for monitoring and evaluation of results of this project. Monitoring should include establishment of baseline conditions at the time of purchase. Detailed plans for M&E should be developed and reviewed by the ISRP before purchase of properties.

The ISRP believes that it is not appropriate to recommend funding for projects when one of the four primary ISRP review criteria is that we review and recommend only projects that "have provisions for monitoring and evaluation of results."

CBFWA Review Comments:

CBFWAs ranking of this project focuses on the Tumwater Basin parcels that the CCT is currently pursuing. The project sponsor has reduced the budget by \$500,000 in 2003.

ProjectID: 29035

Okanogan River Riparian and Upland Fish and Wildlife Habitat Acquisition

Sponsor: SP

Subbasin: Okanogan

FY03 Request: \$2,957,000

5YR Estimate: \$6,070,000

Short Description: Protect and restore existing high quality riparian, floodplain, and adjacent upland from development, and preserve important spawning, rearing and holding habitat in the Okanogan River through property acquisition and development of long term research.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Fundable, High Priority (Qualified)

ISRP Final Review Comments:

Fundable at high priority for establishment of options to purchase the property. This property has very high potential for long-term value for benefits to fish and wildlife species. The property contains a significant proportion of mainstem spawning chinook habitats in one of the last roadless riparian sections of the mainstem of the Okanogan River. The proponents provided an excellent response to ISRP concerns and questions regarding prioritization within watershed assessment and protection of conservation values. However, they did not reference or provide adequate detailed plans for monitoring and evaluation of results of the project including establishment of baseline conditions at the time of purchase. Detailed plans for M&E should be developed and reviewed by the ISRP before purchase of the property. Also a binding agreement with a public land trust that would establish a conservation easement in perpetuity should be in place before purchase.

The ISRP believes that it is not appropriate to recommend unconditional funding for projects when one of the four primary ISRP review criteria is that we review and recommend only projects that “have provisions for monitoring and evaluation of results.”

CBFWA Review Comments:

Portions of this proposal have been submitted through the Washington SRFB process. NMFS has identified this project as a BiOp project.

ProjectID: 29011

Sharp-tailed Grouse and Mule Deer Habitat Restoration and Enhancement on Sinlahekin Wildlife Area

Sponsor: WDFW

Subbasin: Okanogan

Withdrawn.

PART III. Lower Columbia and Estuary Provinces

Proposal comments are presented in the following groups below: lamprey, bull trout, Abernathy Fish Lab, Chinook and Grays River (chum), Chum, Estuary and Plume, Habitat Restoration, Cowlitz, and other Lower Columbia. Within each group, proposals are arranged in the order they were presented at the ISRP site visit workshop.

Lamprey Proposals

ProjectID: 200001400

Evaluate habitat use and population dynamics of lampreys in Cedar Creek

Sponsor: USFWS

Province: Lower Columbia

Subbasin: Lewis

FY03 Request: \$197,742

5YR Estimate: \$1,092,650

Short Description: With emphasis on Pacific lampreys, identify and quantitatively evaluate populations of lampreys and their habitats in a stream below Bonneville Dam.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response addressed, in limited ways due to information limitations, the issues raised by the ISRP. These issues included tests of the assumptions underlying the adult mark-recapture and assessment of habitat preference as well as habitat use, and details of the sampling protocol for ammocetes (sample site selection and larval sampling methods). Reviewers agree that the sampling protocols are appropriate for the situation. Given the limited investment in lamprey, the ISRP recommends continuing to fund this investigation.

ProjectID: 31003

Distribution and life history characteristics of lampreys in tributaries of the lower Columbia River Basin

Sponsor: USFWS

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$173,281

5YR Estimate: \$1,626,205

Short Description: With emphasis on Pacific lampreys, identify tributaries containing lamprey, and quantitatively evaluate populations and their habitats in two streams below Bonneville Dam

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable at low priority. The proposal doesn't provide a compelling argument for the need for this research; it doesn't indicate how this research would provide additional understanding or value over the work at Cedar Creek. In the response the investigators took notice of ISRP's concern about the generality of surveys versus a few site specific studies but still intended to focus only on a couple of sites after the first year; rather than to use random sampling to examine the distribution of lamprey as a basis for inferences. Some useful information would be gathered by the proposed research, but the ISRP doubts much more would be learned than at the Cedar Creek study; consequently, reviewers place a low priority on this study design.

BULL TROUT PROPOSALS**ProjectID: 31027**

Movements and Survival of Juvenile and Adult Bull Trout

Sponsor: USFWS

Province: Lower Columbia

Subbasin: Lewis

FY03 Request: \$207,585

5YR Estimate: \$814,144

Short Description: Juvenile and adult bull trout in and near Rush Creek will be tagged with 23 mm PIT tags. Using a stationary PIT tag antenna, juvenile survival, migration timing and population numbers will be estimated for in basin modeling efforts.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable, agree with CBFWA recommendation of high priority. This research is well designed and should provide useful information on bull trout migration and life history diversity in the Lower Columbia. The response addresses the full range of reviewer questions, including an assessment of habitat characteristics and location. The research will use novel technique to quantify winter survival, migratory success of adults, and relative abundance of resident and migratory life histories. Instream surveys coupled with GPS sensing will efficiently document reach scale and channel unit scale, and should detect seasonal changes in habitat use and determine if resident and migratory life history forms use different habitats.

CBFWA Review Comments:

USFWS has identified that this project is a BiOp project. CBFWA believes this is a potentially useful and interesting research project; however, it is unclear how results will be used in the management of bull trout. It is also unclear why this work should be funded by BPA. Reviewers question the size of PIT tags relative to fish size.

ProjectID: 199405300

Middle Fork Willamette River Bull Trout Re-introduction and Basinwide Monitoring

Sponsor: ODFW

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$159,400

5YR Estimate: \$908,400

Short Description: Evaluate protocols for the re-introduction of bull trout into historic habitats in the upper Willamette River subbasin, and employ methods to monitor and evaluate the status and trends of bull trout populations in the Lower Columbia Province.

ISRP Final Recommendation: Not Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable on a technical basis. The investigators explain well the constraints on sampling but do not provide adequate detail of their experimental/statistical design, an indication of the power they would have to detect differences between strategies given their constraints on numbers of fish and sites. If properly designed this work could provide useful information concerning strategies for reintroduction of bull trout and status and trends of bull trout in the Upper Willamette basin. In a revised proposal the ISRP suggests that it would be valuable to use excised fin tissues as a basis for a parentage analysis of the subject bull trout, for observing whether survival is random with respect to families, i.e. for observing the effective population size of bull trout.

CBFWA Review Comments:

USFWS has identified that this project is a BiOp project. The proposed project will investigate strategies for reintroduction of bull trout and status and trends of bull trout in the Upper Willamette basin; however, CBFWA believes that the proposed experimental design and data analysis need to be explained in greater detail. Specifically, project sponsors should provide justification for number of release sites chosen and numbers and timing of fish transferred and released. In addition, CBFWA recommends that details of the methods and statistical analyses for Objective 3 need to be defined in greater detail.

ABERNATHY FISH LAB PROPOSALS**ProjectID: 30003**

Evaluation of Two Captive Rearing Methods for Assisting with Recovery of Naturally Spawning Populations of Steelhead and Coho Salmon

Sponsor: USFWS

Province: Columbia Estuary

Subbasin: Elochoman

FY03 Request: \$446,101

5YR Estimate: \$1,939,251

Short Description: Test and evaluate two hatchery reform methodologies; Assess natural reproductive success of returning hatchery-origin adults; Establish Abernathy, Germany, and Mill creeks as a Tier 3 "monitoring and evaluation" site for anadromous salmonids.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable; a response was not needed. Proponents propose to rigorously examine the effects of hatchery rearing on fitness - a continuing, plaguing uncertainty in the basin's artificial production programs. The proposed research would directly estimate fitness of supplemented fish and would test efficacy of two supplementation strategies.

CBFWA Review Comments:

This project also has applications upstream of Bonneville and could be considered in the Mainstem and Systemwide Province if not funded here. NMFS has identified this project as a BiOp project.

ProjectID: 30008

Instream evaluation of populations, migration timing, individual adult return rates, and wild-hatchery interactions of 3 naturally produced salmonids

Sponsor: USFWS

Province: Columbia Estuary

Subbasin: Elochoman

FY03 Request: \$238,740

5YR Estimate: \$1,296,140

Short Description: Evaluate distribution and abundance of juvenile and adult coho salmon, steelhead trout, and cutthroat trout in Abernathy Creek using new PIT tag techniques.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Medium Priority

ISRP Final Review Comments:

Fundable at medium priority. Without knowledge of proposal 30003 this proposal appears unfocused; it makes sense only as part of an assessment of supplementation of steelhead by a hatchery population. The objectives of understanding salmonid stocks in Abernathy Creek and developing and understanding the PIT tag methods are best justified in support of that assessment. The study design is competent and the study

site seems well suited to the research. The ISRP remain unconvinced, however, that habitat preference can be assessed by simply watching natural fish, and that the interaction of hatchery and wild fish can be observed by simply mapping the distribution of wild fish before hatchery fish are released. There is not enough information to give reviewers confidence that the project will produce valuable results.

CBFWA Review Comments:

This project may also be considered in the Mainstem and Systemwide Province. Some portions may be funded under that province. NMFS has identified this project as a BiOp project.

ProjectID: 30012

Compare Bacterial Fish Pathogen Populations in Hatchery Water and in Adjacent Creek Water and Evaluate Possible Disease Transfer Between Them.

Sponsor: USFWS

Province: Columbia Estuary

Subbasin: Elochoman

FY03 Request: \$71,678

5YR Estimate: \$106,165

Short Description: Determine the presence of bacterial fish pathogens within a hatchery water system and in the waters of an adjacent creek used as part of the hatchery water supply. Determine the potential for pathogen transfer between the two water systems.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. The proposal is inadequate for technical review. It is unclear how samples of Abernathy creek will be taken with respect to seasonal fluctuations in abundance of fish and seasonal fluctuations of the physical environment. The statistical methods are not adequately explained. The qualifications of the investigator are not described. A thorough proposal for similar work has been made in the Columbia Cascade subbasin.

CBFWA Review Comments:

This project may be better evaluated in the Mainstem and Systemwide Province.

ProjectID: 30013

Role of Bacteria as Indicator Organisms for Watershed Assessment and in Determining Fish Pathogen Relationships with Fauna of Abernathy Creek

Sponsor: USFWS

Province: Columbia Estuary

Subbasin: Elochoman

FY03 Request: \$71,100

5YR Estimate: \$189,690

Short Description: The purpose of this project is to develop techniques to assess watershed health and fish health using bacteria as system indicator organisms.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments: Fundable

The research is interesting and the question is important in regard to non-point source pollution, but the proposal has a strong personal development aspect to its benefits. The ISRP had a number of comments that the author did try to address and did seek the statistical advice suggested. Our principal concern was that the PI did not have the statistical background required by this investigation but the PI has sought consultation on this issue. A requirement of funding for this project should be that the PI is required to

submit a completed experimental design developed with full collaboration of a statistician and agreed with by more senior USFWS staff. A design developed in advance of the sampling will assist in interpretation of results and will likely reveal sampling issues before the project begins. The ISRP acknowledges that the idea being examined in this proposal is both different and challenging but we are also recommending funding as a developmental step for a young researcher who impressed the review committee with his presentations and abilities to answer our questions.

CBFWA Review Comments:

This project should be considered under the innovative category (or in the Mainstem and Systemwide Province).

CHINOOK AND GRAYS RIVER (CHUM) PROPOSALS

ProjectID: 30006

Effectiveness monitoring of the Chinook River estuary restoration project.

Sponsor: Sea Resources

Province and Subbasin: Columbia Estuary

FY03 Request: \$124,804

5YR Estimate: \$444,804

Short Description: This is a project to monitor and evaluate changes in habitat attributes and juvenile salmonid use before and after the Chinook River estuary restoration project.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The sponsors propose to monitor changes in water quality, salmon abundance, and life history diversity following restoration efforts in the Chinook River estuary. The proposed work is one of the first major efforts to evaluate the response of salmonid fishes to estuary restoration in the lower Columbia and as such it is an important proposal. A major value of this work is that the tidegate will be removed, possibly providing greater access for salmonids to the estuary than if the tidegate were left in place. The potential for this proposal is strongly dependent upon how much of the road causeway is removed. What might really benefit this project is the provision of engineering support, possibly even more than the funding.

The response indicates a firm level of funding for basic tidegate removal and describes an approach to design of tidegate removal and modification of channel width that is a practical compromise between available budget, ecological goals, and flood protection. The response indicates that proposers are well aware of the tradeoffs associated with each level of budget and the project has excellent support from partners.

This proposal is similar to 30004 in that it would benefit from more analytical advice on sampling and study design. Explanations of the reference site and the sample design are still too brief. For example, will the scale analysis as described in the response produce the desired information?

CBFWA Review Comments:

This project should be coordinated with other estuary assessment projects. The budget should be reviewed in line with other assessments funded in the estuary. NMFS has identified this project as a BiOp project.

ProjectID: 30005

Grays River Watershed and Biological Assessment

Sponsor: LCFRB; PSMFC; PNNL

Province: Columbia Estuary

Subbasin: Grays

FY03 Request: \$474,734

5YR Estimate: \$1,165,430

Short Description: Conduct a watershed and biological assessment of the Grays River watershed to protect and restore chum spawning habitat

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part to do the watershed assessment including hydrological, geomorphological, habitat, and fish elements. The objectives, tasks and methods describe a systematic approach to the identification of limits and characteristics of spawning habitat. The response is adequate in its description of regional actions taken to protect chum and the issue of sedimentation in the lower river, but remains tentative and conditional about the sequence of watershed assessments and the possible future actions that could be taken to stabilize the riparian zone, restore habitat and protect chum. The response emphasizes the need for a baseline assessment to understand the nature of the system's instability. The assessment should focus on the upstream processes that would indicate whether the channel instability will continue or possibly stabilize.

The proposal fits well into regional programs and is well connected to other projects. After the assessment is completed a prioritized list of actions should be constructed for integration into other projects.

CBFWA Review Comments:

This project scope and budget should be considered along with all the chum salmon projects. NMFS has identified this project as a BiOp project.

ProjectID: 31001

Artificial production facilities improvements to support Lower Columbia chum salmon reintroduction into the Chinook River

Sponsor: Sea Resources

Province: Lower Columbia

Subbasin: Columbia Estuary

FY03 Request: \$41,865

5YR Estimate: \$41,865

Short Description: Improve Sea Resources hatchery facilities to enable staff to perform tasks in support of the reintroduction of Lower Columbia chum salmon into the Chinook River.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable after a strategic plan for chum restoration in the lower river is established. There are too many unanswered questions about this potentially useful and important project. It should be proposed again after a strategic interagency plan for restoration of chum in the lower River is developed and it can be shown how this Chinook River project will contribute, how this effort will be monitored and evaluated, how this effort could be modified in response to the plan and to the ongoing monitoring and evaluation. The project plan should indicate when or under what conditions production at Chinook Hatchery would be terminated and how returns would be apportioned between natural spawning and the hatchery.

CBFWA Review Comments:

Funding this project should be based on the results of Project 30005. NMFS has identified that this project is a BiOp project.

CHUM PROPOSALS

ProjectID: 200105300

Re-introduction of Lower Columbia River Chum Salmon into Duncan Creek

Sponsor: PSMFC, WDFW

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$381,671

5YR Estimate: \$1,632,940

Short Description: Monitor and evaluate the success of the recently restored spawning channels for chum salmon at Duncan Creek. If necessary, jumpstart the population by collecting brood stock from adjacent populations.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable. The project promises to benefit chum salmon, coho salmon, and sea-run cutthroat in the lower Columbia River through an innovative approach to natural restoration of salmonids. Reviewers caution that chum salmon should not be stocked until WDFW develops a plan for establishment of a wild chum salmon population in the context of a watershed assessment, and until a clearly defined protocol for monitoring spawning activity is in place.

CBFWA Review Comments:

NMFS has identified that this project is a BiOp project.

ProjectID: 200001200

Evaluate Factors Limiting the Columbia River Gorge Chum Salmon Populations

Sponsor: USFWS

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$255,212

5YR Estimate: \$1,410,207

Short Description: Evaluate factors limiting chum salmon production in Hardy Creek, Hamilton Springs, and Columbia River side-channel.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. A response was not needed. The proposal is sound and well organized with logical objectives, and should generate information useful for protecting these remnant chum salmon in the Lower Columbia. The viability of these populations may be affected by movements among them, lending importance to the proposed study of movements. A summary of censuses of adults is given but no summary of fry production.

CBFWA Review Comments:

NMFS has identified that this project is a BiOp project.

ProjectID: 31006

Protect Wood's Landing Chum Spawning Site

Sponsor: City of Vancouver

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request (1YR only): \$1,352,360 (adjusted \$765,810)

Short Description: Through acquisition of property and easements on 12 acres and 1000 feet of shoreline the project will protect a significant chum spawning site on the mainstem of the Columbia and will also restore the lower 350 feet of the adjacent creek.

ISRP Final Recommendation: Not Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not Fundable (Qualified)

ISRP Final Review Comments:

Not Fundable technically, but based on the conservation issues associated with chum restoration it may be a necessary project. The proposal does not adequately demonstrate the benefits of the proposed easements; that these easements would protect habitat and that the habitat is at risk, i.e. that acquisition of easements over these 12 acres would solve the problem of human interference from dogs, boats, runoff from impervious surfaces from neighboring sites and that the chum population is threatened by potential development. Preliminary study of the relationship of this site to chum salmon habitat, e.g. of river flow and seepage, would resolve uncertainty about this costly project (seepage and water levels will likely be adequate for developing embryos but it's uncertain what would happen during emergence: if the gravel is porous enough the fry may move horizontally to stay immersed but this is apparently unknown; if the redds are exposed and the fry move to the surface then predation and surface traffic would reduce survivals). Preliminary study to assess the role of zoning to protect the spawning site would address ISRP's further uncertainty about the appropriate use of purchased easements to protect habitat (in light of the recent Supreme Court finding about "takings", there may be more opportunity for zoning approaches to protection than previously thought).

CBFWA Review Comments:

M&E would be performed through other BPA funded chum projects. NMFS has identified that this project is a BiOp project.

ProjectID: 31032

Develop a Well Water Supply System for the Hardy Creek Chum Salmon Spawning Channel

Sponsor: USFWS

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$152,500 (adjusted \$69,800)

5YR Estimate: \$172,500 (adjusted \$89,800)

Short Description: Develop a well water supply system for the Hardy Creek chum salmon spawning channel. This system will mimic spring and seepage flow to ensure that water will be provided to the spawning channel during subfreezing weather when Hardy Creek is frozen.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This proposal from the USFWS requests \$152.5k to develop a well water supply system for the Hardy Creek chum salmon spawning channel to ensure water when the creek is frozen. Chum is a listed species and Hardy Creek is a known chum salmon spawning area. Chum spawning in Hardy Creek is hindered by sediment deposition from Columbia River backwater in flood events every 2-5 years, so a spawning channel was constructed in 2000 (USACE funds) to contribute to recovery of Columbia River chum through the increase in habitat. The channel gets water diverted from the Creek when sufficient water is available. Drought conditions in 2000 prevented water from reaching the channel.

The concern this proposal addresses is the effect of freezing winter temperatures on eggs and fry in the channel if the water supply is reduced or cut off from the Creek. A well could supplement water in the channel during these times at 1,000 gallons per minute. The well could also be used to simulate spring flow. The proposal is for assessment, construction and maintenance of the well but monitoring of the channel and chum use will take place under the related project 2000-012-00. Potential FWP benefits could be significant as the channel capacity for chum spawning is designed at six times that in Hardy Creek.

The response adequately addresses the review questions including past chum use, water withdrawal issues (impact on Hardy Creek, water rights, water volume determination), water temperature effects on egg development and fry migration, and potential effectiveness of the upwelling design. Additionally, project redesign (several small wells in place of one large well) has lowered the project budget. Finally, the ISRP recommends that the project managers monitor potential concerns for interactions of the water movement between spawning sites.

CBFWA Review Comments:

Budget has been reduced to \$69,800 -- see response to the ISRP for an explanation. NMFS has identified that this project is a BiOp project.

ESTUARY AND PLUME PROPOSALS

ProjectID: 199801400

Survival and Growth of Juvenile Salmonids in the Columbia River Plume

Sponsor: NMFS

Province and Subbasin: Columbia Estuary

FY03 Request: \$2,092,855

5YR Estimate: \$10,359,054

Short Description: Evaluate the role of the Columbia River plume in survival of juvenile salmon through long-term observations, fine-scale process studies, retrospective assessments, and modeling to assess management of flow to improve habitat opportunity.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable (some elements are high priority, other are medium to low priority)

ISRP Final Review Comments:

Fundable (depending on the total budget for this province, this project could be funded in part but partial funding would defer application of this information for a few years). The authors are commended for their comprehensive response to the ISRP comments. The response is more constructive than in past years and provides informative responses to most questions.

This proposal requests funding to continue research in the Columbia River plume to evaluate the role of the plume in the survival and growth of juvenile salmon, biological and physical processes within the plume, and modeling studies to investigate the management of Columbia River flows to improve "habitat opportunity" in the plume (although habitat opportunity as a metric remains undefined and is an objective of this study). The proposal provides a strong technical justification and scientific background as to why these studies are related to the FCRPS. Most notably, they note:

"Annual spring freshet flows through the Columbia River estuary are ~50% of the traditional levels that flushed the estuary and total sediment discharge is ~1/3 of the 19th Century levels. Decreased spring flows and sediment discharges have also reduced the extent, speed of movement, thickness, and turbidity of the plume that once extended far out and south into the Pacific Ocean during the spring and summer."

The proposal also provided a brief summary of results to date, and noted how this proposal builds on these results. The ISRP continues to be strongly supportive of the research but also note that the investigators have extended their original objectives to include prediction of estuarine and marine survival of salmon.

“Our ultimate goal is to predict estuarine and marine survival using a combination of empirical indices and computer simulation models.” (page 13, Section 9f)

The stated objectives of this large proposal are now to (Section 9f):

“1. Through long-term observations, describe interannual variations in the distribution, abundance, and performance (health and growth) of juvenile salmon in relation to temporal and spatial characteristics of physical and biological features associated with the Columbia River plume and the surrounding ocean.

2. Conduct fine-scale process studies to identify and characterize the benefit of unique features of the Columbia River plume to juvenile salmon.

3. Describe, through observations, historical reconstruction, and numerical physical modeling, the temporal and spatial physical features of the Columbia River plume in relation to ocean conditions.

4. Examine the relationship between ocean and plume conditions, river flow, and juvenile salmon production using biological models to identify critical relationships between food resources, predator-prey interactions, salmon growth and survival.

5. Develop and analyze scenarios that describe changes in salmon survival as a function of Columbia River plume characteristics that may result from altered river flows due to climate and human-induced modifications, and/or from changing oceanic conditions. We will use physical and biophysical models of the plume to relate future FCRPS operations and ocean/climate conditions to salmon survival.”

Objective 5 involves the prediction of salmon survival based on changes in hydrosystem management and flows and climate conditions as mediated through the lower river, estuary, and plume. The objective builds on recent modeling efforts by associated staff in the Columbia River estuary.

Given the number of questions posed in the ISRP’s preliminary review, the simplest response is to list the questions and response:

- Objective 1, Re: February cruise. While reviewers are not convinced by the response (1st paragraph), the authors’ provide a suggested approach to examine the importance of February sampling. Their suggestion included one February cruise in the three-year program, which would be used to assess the importance of future such cruises. This seems reasonable but the total cost of the full program may not provide for this.
- Objective 1b (Predation and forage fish surveys), response is adequate.
- Objective 1c (Top trophic predators), the survey integration with objective 1a was clarified, but data to be collected on these predators remains marginally described.
- Objective 1d (Salmon growth), response is adequate.
- Objective 1d (residence time of salmon within the plume?). The issue of residence time remains a significant uncertainty in this study and major assumptions about residency are required in this analysis, but the comparisons to be made were clarified in the response. The discussion of microsattellites to assess residence is not obvious, as this will only assess stock of origin. The only significant development in this topic may be the reference to a project to develop miniature tags for monitoring the residence and survival of individual salmon.
- Objective 1e (Endocrine assessment), reasonable response and seems to be worth investigating. The remaining concerns maybe the sensitivity of the assay to sampling conditions, stress on the fish, and storage time for the samples. These should be assessed during the study.
- Objective 1f (Genetics). The original proposal only referred to sampling for stock composition during June and September (page 31). If stock composition is an important component of the study then a separate sampling design is likely needed. However, this would require additional

- costs and sampling platform. We support the development of the microsattellites for stock composition but note that the investigators must also be concerned with the collection of base line samples from the known spawning populations.
- Objective 1g (Pathogens), the basis of our original concern was addressed (i.e., basis of comparison between plume samples and source). However, we are uncertain about the idea of comparing infections by stock based on genetic stock identification of individuals. GSI analyses of a mixed sample of fish does not assign individual fish to a stock. There are multivariate analyses that may be useful for this but these are not referred to in the text. We suggest that more consideration of this analysis is still required.
 - Objective 1h (Prey resources), the correction provided is adequate.
 - Task 2a (Role of fronts). Response is marginal in that it is difficult to believe that each front will be size of the net opening. Convenient when it occurs but how likely is this? Sampling of any fronts smaller in diameter, or larger, will confound the sampling method with the spatial scale of the biological events.

The remainder of the response addressed our confusion of how the three related proposals interacted (#30001 Estuary & #30002 Optimization). The authors provide some useful graphics to describe the relationships and the data collection and modeling issues between them.

The ISRP comment on ship time was apparently misinterpreted. Our point was that there may be other government programs that could be used to assist funding the vessel costs. The authors did, however, consider what priority to assign to the many aspects of this proposal, if funding limitations precluded conducting all the work. We accept their comments that Tasks 1 through 3 are ecosystem-based programs and that many of the costs are interrelated. Their suggestion that Task 4 and 5 could be deferred for 1-2 years was an appreciated contribution.

The ISRP wishes to note the thoughtful response to our comments on this obviously large and complicated proposal.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 30001

Historic habitat opportunities and food-web linkages of juvenile salmon in the Columbia River estuary: Implications for managing flows and restoration

Sponsor: NWFS/NMFS

Province and Subbasin: Columbia Estuary

FY03 Request: \$597,559

5YR Estimate: \$2,698,559

Short Description: Evaluate the role of river flow on habitat opportunities and food web structure for juvenile salmon by comparing historic and current conditions using model simulations and empirically derived food-web linkages.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable, agree with CBFWA's High Priority, first priority in estuary programs. This is a well written and comprehensive proposal. The research uses novel techniques for addressing critical questions concerning historic changes in estuarine habitat and the food resources of juvenile salmon, and the influence of various flow scenarios on estuarine habitat opportunity for salmon. Results of this research should provide significant improvements in understanding of the role of the estuary in salmon life histories and production, and provide information that will be useful in flow management of the hydrosystem.

The response to the ISRP questions was concise and thorough. The response addressed each ISRP concern (including overlap with other estuary proposals) and demonstrated excellent background knowledge of past work in the area and the limitations of that work.

NOTE: The only response that was incomplete referred to the budget and section 9G. The basis of the question was that section 9G included the statement “We are requesting through this proposal funds to modestly expand the number of compute servers and the capacity for fast-access storage.” However the budget does not include any funds for equipment, therefore, we questioned whether the budget was complete. Presumably the funds are included in one of the totals but that needs to be confirmed and related costs itemized.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 30002

Optimization of FCRPS Impacts on Juvenile Salmonids: Restoration of Lower-Estuary and Plume Habitats

Sponsor: OHSU

Province and Subbasin: Columbia Estuary

FY03 Request: \$435,192

5YR Estimate: \$1,206,325

Short Description: Restore Columbia River estuary and plume juvenile salmonid habitats and optimize FCRPS impacts on the plume through improved understanding of estuary and plume physical processes and definition of possible future management scenarios

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part (disagree with CBFWA ... to some extent), initially fund at a reduced amount and increase funding over 3 to 4 year period as information from the other projects increases and need for integration increases. The ISRP does agree that it is important to begin dialogue with the system managers on how to incorporate the lower river, estuary, and plume environments into their considerations.

It is difficult to argue with the statement that the ultimate goal of the plume and estuary studies are to link these to management of the water system (FCRPS) for the improved survival and production of salmonids in the Basin. Therefore, since we see nothing fundamentally wrong with this proposal’s presentation, we recommend funding. However, we also believe that this proposal is a couple of years ahead of its useful time and that it could be deferred if funding limitations required. To prompt development of the integration of the lower river and estuary programs with FCRPS and system managers, we are recommending a revised approach to be developed by the contract managers and involving a phasing in of the proposal over the next few years.

Further, the ISRP continues to be concerned with the reference to “habitat opportunity” metrics and the very limited definition of what this means, and that the area defined for this proposal does not include the inner estuary or river up to Bonneville dam. The response continues to refer to the outer estuary but then other parts of the proposal refer more generally to the estuary proposal and FCRPS interest that clearly involves the river below Bonneville Dam and into the plume region. Finally, the response would have been strengthened with a clearer description of the use of management science to articulate management scenarios.

CBFWA Review Comments:

Project would provide information to managers regarding the effects of flow on % habitat available (i.e., what % of habitat would be lost/gained during different flows below Bonneville Dam). Project could lead to the development of management schemes. NMFS has identified this project as a BiOp project.

ProjectID: 30017

Columbia River Tidewater Assessment for Recovery Planning

Sponsor: UP

Province and Subbasin: Columbia Estuary

FY03 Request: \$137,338

5YR Estimate: \$137,338

Short Description: Characterize habitat/fish productivity relationships; identify factors that limit recovery, early actions for recovery; and research, monitoring, and evaluation needs

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. This proposal is to characterize productivity relationships between habitat and fish for steelhead, chum, Chinook (5 listed ESUs) in the lower Columbia and upper Willamette. The project would also identify factors limiting recovery, identify needed actions and research.

The response does not add further support for the project, nor does it directly address whether it duplicates ongoing efforts of other projects. More importantly, it isn't clear from the response that the proposers know which type of information is available and which is not. Additionally, the response on historical reconstructions as experimental controls doesn't make sense for recovery objectives where recovery levels are frequently much less than virgin population sizes. The response, like the proposal, sounds very tentative.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 30010

Canada-USA Shelf Salmon Survival Study

Sponsor: DFO

Province and Subbasin: Columbia Estuary

FY03 Request: \$418,800

5YR Estimate: \$2,094,000

Short Description: This project surveys the size, condition, and biological condition of juvenile salmon occupying the British Columbia & SE Alaskan continental shelf regions in the autumn (October). The survey also includes extensive collection of oceanographic data.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. Clarification of personnel and management issues are essential before supporting this project. This proposal requests funding from BPA for an October coastwide survey of juvenile salmonids and oceanographic conditions along the continental shelf to complement summer surveys conducted by the Science Branch, Canadian Department of Fisheries and Oceans (CDFO). The proposal includes an extensive and informative summary of recent findings based on similar surveys conducted since 1998 by CDFO (some previous funding apparently provided by BPA but not reviewed by ISRP). Based on these surveys, the proponents indicated that salmon from the Columbia River tend to migrate northward along the continental shelf, that growth of salmon (in particular chinook and coho salmon) and marine environmental conditions are not equal along the shelf, and that certain stocks of salmon have a propensity to rear in specific areas of the coast. These investigators' hypothesize that the productivity of some Columbia River salmon stocks is more dependent upon where they rear in the ocean than due to their freshwater or estuary conditions.

The proposal requests ongoing (5 years) support for 28 days of ship-time for an October survey and sample processing. The survey is intended to map ocean conditions determining the growth and survival of Pacific salmon along the West Coast of North America from the British Columbia-Washington border to South East Alaska, and to identify which stocks of Columbia River salmon forage in these areas. The stated objectives were (Section 9f, page 29):

- (1) identify the extent of the region of poor growth and survival,
- (2) measure the growth and feeding conditions of the salmon within these areas,
- (3) identify the physical and biological changes in the ocean that lead to reduced ocean survival through changes in growth, and
- (4) identify the identity of the fish occurring in this region of poor growth using DNA.

While the response was adequate, it generates significant concerns about what portion of the researchers' time the Council would be supporting. The proposal is for an October cruise along the Pacific west coast but that cruise is only one of four such cruises each year. The basis of the labor costs continues to be unclear ... how many months are associated with the October cruise, at least two of the positions noted are not staffed, and who else is contributing funding for these PDFs and graduate students? While the ISRP is supportive of this research we must also be aware that funding in this province will be extremely competitive and involves several large projects. Consequently, we are inclined to recommend provision of operating expenses for the October cruise and not personnel costs unless these can be more accurately described and the costs are fairly accounted for and distributed over other sponsors also (i.e., who supports 3 of the 4 annual cruises?). Further, there is now an additional concern regarding the PI. Given his statement in project #30007, if that project was supported the PI expected to take a 3-year leave to focus on that project. What would be the consequence of that action and would this project (#30010) continue? In the response to project #30007, the PI indicates that his other programs should be able to proceed without him but this leaves a level of uncertainty that would not be treated lightly in any other proposal reviews.

ISRP Preliminary Comments:

The ISRP agrees that useful information about Columbia River salmonids would be derived from joint support of these surveys and agree with the authors' summary comments about their past surveys.

“Our results to date demonstrate that the ocean habitat of salmon, and the response of salmon to that habitat, is neither homogeneous nor constant.” (page 25, Current limitations)

However, much of the proposal is not so carefully worded and is more narrowly focused on the 1998 results as opposed to the latter three years of data. We disagree with the inference that the west coast of Vancouver Island (WCVI) is an inherently “poor” area of ocean production (see objectives stated above). We are also concerned that concluding that specific salmon stocks rear in specified areas of the ocean. Extensive past data from coded-wire tagged salmon indicate very wide distributions of salmon populations ... but we do acknowledge that these recoveries are based on the locations of fisheries and generally for older aged fish.

We also have significant concern for statements concerning the value of restoration efforts in freshwater habitats (3rd para., page 25).

“Whatever the specific causes of the reduced productivity, the decreases in marine survival over time for many stocks appear to be much greater than the changes taking place in freshwater survival. This suggests that it may not be possible to manipulate the freshwater environment for affected stocks sufficiently to compensate for what is occurring in the ocean.”

The ISRP agrees fully with the value of measuring the survival of salmonids in freshwater and marine environments, but the inference based on the last sentence is not helpful to this Region. For example:

- i) If ocean conditions are poor, then it is likely that agency rebuilding goals may not be met regardless of efforts in freshwater; but it is also likely that improved freshwater conditions can protect diversity within

populations and increase production during those poor marine survival periods. During those periods, only freshwater and fisheries can be managed to preserve future production.

ii) Conversely, if ocean conditions are very good, then production requires sustained production from freshwater spawning and rearing habitats.

The Basin no longer debates the needed integration of freshwater and marine conditions for salmonid recovery and clearly recognizes the value of studies in the marine environment (as in recent BiOPs).

Specific comments on Proposal:

1) Protein electrophoresis and DNA analysis ... these seem to be duplicate tasks. The proposal suggests that this provides for “finer level of resolution” but it may also result in conflicting results. What evidence is there to support this added cost? Further, the DNA sub-proposal may be important but it does not seem to be included in the proposal budget. Is this accounted for elsewhere?

2) Similarly, while we see the merit of testing for yearling chinook along the shelf, the task described on page 37 does not have any budget assigned to this task. Who is conducting this analysis and is there a cost to this proposal?

3) Oceanographic Analyses (page 38) refers to the development of a predictive model integrating oceanographic and atmospheric data, but where is this identified in the budget and who would conduct this study? Other investigators are proposing similar models, so the ISRP should evaluate the need for each.

4) It has been identified that other programs in Alaska and GLOBEC are also sampling juveniles along the continental shelf. How does this proposal link with those projects, and/or does it support the multi-agency/national effort already underway? What is the unique contribution of this proposal?

CBFWA Review Comments:

Reviewers suggest that it may be more appropriate to review this proposal through the Systemwide Province review since it has systemwide implications (i.e., looking at fish from throughout the system). The issues to be reviewed are not necessarily affected by the plume/estuary. The project sponsor should resubmit this proposal through the Mainstem and Systemwide Province. NMFS has identified this project as a BiOp project.

ProjectID: 30007

An Acoustic Tracking Array for Studying Ocean Survival and Movements of Columbia River Salmon

Sponsor: Kintama Research Corporation

Province and Subbasin: Columbia Estuary

FY03 Request: \$2,930,535

5YR Estimate: \$7,345,735

Short Description: Development of a skeleton acoustic array to demonstrate an approach to tracking movements of individual fish through the river and along the West Coast of North America. The project will initially be focused on salmon, but has much wider application.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable but at a reduced level of support, disagree with CBFWA. Development of the final design for the acoustic arrays is high priority. This is an innovative but expensive research project but could provide new and important insights into the early sea-life of salmonids and their use of the ocean environment.

However, as we have noted in previous reviews, the funding for proposals in this province will be very competitive. The ISRP suggests though that it would be a reasonable process to discuss the final array design with the proponents and to develop an incremental budget over the next few years.

This proposal continues to be technically innovative and the investigators have essentially completed the Innovative Project (#200008000) tasks. These results are presented and relevance to the FWP is well described. The purpose of this proposal is “to expand research on the acoustic tag and develop a prototype array which will allow demonstrating the capabilities of the technology to establish both river and ocean

movements of chinook salmon (page 5).” The author states that the basic technology is now commercially available and the efficiency of its components has been tested. However, he does also note that, “the logistics of deploying the equipment and gathering the data from fish tagged at various locations will require extensive effort over a wide geographic area. Deployment of equipment in the ocean will require significant R&D design effort (in particular, we intend to place the entire array sub-surface so that surface floats vulnerable to vessel traffic, fishing activities, and “curious” individuals are eliminated). Designs have been developed and partially field-tested for deploying the equipment on a semi-permanent basis to withstand the severe conditions that may be encountered at various sampling sites.”

The importance of this technology is that it provides a means to actually measure migration rates (not necessarily migration paths, they will be inferred between two points), residency time in an area (e.g., within the Columbia River plume), and mortality rates.

In general, fairly comprehensive responses were provided for most of the ISRP concerns. The author noted that he will comply with the requirements of the Innovative proposal and that the work was now complete. He noted that there do remain issues with the deployment of the acoustic detection arrays but also noted the recent success of deployments in the Atlantic Ocean. There was an additional discussion concerning an interaction with the NMFS Plume project to assist in the assessment of residence times and mortality rates. However, this would be an additional task that was not included in the Plume response and is not relevant for our consideration. The major issue of concern is how to scale the development of these acoustic arrays. The authors have proposed a deployment plan and argued that a critical mass of receivers are required and that the preferred strategy is multiple array lines (compared to fewer lines with more receivers per line). The authors provide adequate justification for this strategy but a minimum number of line arrays were not specified (although a proposed number was suggested).

The ISRP concerns regarding dedicated time of the investigators were addressed and the PI suggested that if the project was supported that he would likely request a three-year leave from his current position. The other budget issue noted was that an allowance for 20% loss of the receivers per year was added to the annual budgets. The budget was re-profiled over time but, in total, it increased.

A remaining limitation of these studies is the size of the acoustic tag. The tag may be suitable for juvenile spring chinook and steelhead (and likely coho), but not for smaller juvenile salmonids. While this may be a limitation for some in-river studies or plume studies for fall Chinook, it is not likely a reason to delay testing of the receiver arrays that can be tested with the larger tag.

CBFWA Review Comments:

Reviewers believe this proposal may be better suited for the Systemwide Province since this issue is not exclusive to the estuary. If the tracking could be scaled down to include the only the plume, then the project could be considered for review in the Estuary. The project sponsor should resubmit this project in the Mainstem and Systemwide Province.

ProjectID: 30009

Coastal Cutthroat Movements in the Columbia River Estuary

Sponsor: USFWS

Province: Columbia Estuary

Short Description: Juvenile and adult cutthroat trout from four Columbia River tributaries will be tagged. Movements will be monitored by aerial surveys (radio tags) or a tethered array (acoustic tags). Data will be analyzed using the CORIE model for physical parameters.

Withdrawn. Funded through a non-BPA source, USACE.

ProjectID: 30014

Map Subtidal Large Woody Debris and Other Habitat Features in Relation to Fish Distribution in the Lower Columbia River Estuary

Sponsor: Battelle Marine Sciences Laboratory

Province and Subbasin: Columbia Estuary

Short Description: Map location and type of large woody debris (LWD) using side scan sonar and quantify conditions where it is most commonly found. Map fish distributions in relation to LWD using underwater video and a DIDSON acoustic camera.

Withdrawn.

ProjectID: 30018

Salmonid Population and Habitat Monitoring in the Oregon Portion of the Columbia Estuary

Sponsor: ODFW

Province and Subbasin: Columbia Estuary

FY03 Request: \$528,913

5YR Estimate: \$2,922,578

Short Description: Implement fish population and habitat monitoring (EMAP) in the Oregon portion of the Columbia Estuary

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

If funded this proposal should be combined with project #31034 (Lower Columbia Province) in the contracting process. The costs for both projects would seem excessive for annual monitoring and sampling sites, and may have to be adjusted within an annual budget allotment. Assurances should be given that this will be closely coordinated with NMFS's work in the estuary.

While the response addressed most of the ISRP concerns, we continue to be uncertain about the assessment of expanding habitat use and the lack of biological sampling. If sites are selected at random then the coverage of habitats and the issue of assessing range expansion of the fish would be included in the sampling design. If not, then some level of monitoring for expansion should be considered. The issue of biological sampling should be re-considered by the proponents.

CBFWA Review Comments:

The cost appears excessive. Could the budget be reduced? This level of effort should be well coordinated with other monitoring efforts throughout the Basin.

ProjectID: 31034

Salmonid Population and Habitat Monitoring in the Oregon Portion of the Lower Columbia Province

Sponsor: ODFW

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$532,648

5YR Estimate: \$2,943,216

Short Description: Implement fish population and habitat monitoring (EMAP) in the Oregon portion of the Lower Columbia Province

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

See comments on project #30018.

CBFWA Review Comments:

The cost appears excessive. Could the budget be reduced? This level of effort should be well coordinated with other monitoring efforts throughout the Basin. NMFS has identified that this project is a BiOp project.

ProjectID: 30015

Lower Columbia River and Columbia River Estuary Ecosystem Monitoring and Data Management

Sponsor: LCREP

Province and Subbasin: Columbia Estuary

FY03 Request: \$472,000

5YR Estimate: \$3,268,000

Short Description: Develop protocols, procedures, and indicators for measuring habitat condition, assess exposure levels to toxic contaminants, develop ecosystem restoration information center for housing and accessing data specific to lower Columbia River and estuary.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Low Priority (Qualified)

ISRP Final Review Comments:

The response was adequate and the project has broad regional support. In concept, the project could be important and the ISRP agrees that the lower mainstem and estuary merit a separate monitoring program and database, but the database must be tied into the existing WDFW and ODFW systems. However, the review committee was bothered by the continued vagueness of the budget values and generalities of comments. For example, what data system is proposed, where will it be located, how much monitoring will be conducted, where will samples be processed and at what costs? All of these issues need to be more fully developed before an assessment can be made about the project value. This is a large program but the review committee cannot really determine what the funds will provide and whether the budget has any real basis. Will the actual cost really be 2-3x this estimate?

If the project is supported then the ISRP recommends that the Council at least require a more comprehensive description of the monitoring plan and components of the database, and how it would be annually monitored. This could be an expensive project. Rather than the proponents answering that "costs mount quickly" to our question, the proponents must lay out the various cost components with a justification for each. Therefore, we also recommend such budget clarification must be provided before funding.

CBFWA Review Comments:

Proposed work will focus on the mainstem, an area where management activities are absent. Efforts under this project should be well coordinated with other basinwide data management efforts. NMFS has identified this project as a BiOp project.

ProjectID: 30016

Implement the Habitat Restoration Program for the Columbia Estuary and Lower Columbia River

Sponsor: LCREP, CREST

Province and Subbasin: Columbia Estuary

FY03 Request: \$5,236,200

5YR Estimate: \$29,036,200

Short Description: Establish program to identify and prioritize on-the-ground habitat restoration projects and plan their monitoring and evaluation. Take action on six restoration projects already processed and approved through regional and local workgroups.

ISRP Final Recommendation: Fundable (in Part)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable, the likely benefits to fish and wildlife appear to be high. One approach to this proposal would be to purchase properties as funding allows within the provincial allocation. The response is reassuring in its description of the selection process used to identify acquisition sites and in its provision of a detailed list of the projects considered with selection criteria used - the process seems to have been fair and as scientifically informed as possible. The responses to other questions (how much benefit from small acreages, what is current and potential fish use, effect or upper watershed disruptions), although not provided in quantifiable terms, were adequate.

This proposal presents an important issue for the Council to consider. While the purchase of properties is likely the best assurance of providing benefits to fish and wildlife, should the Basin direct such large funding into purchases at the likely expense of many more investigative projects? This type of trade-off has come up in other Provincial reviews also.

CBFWA Review Comments:

This proposal represents two projects under one project number. NMFS has identified this project as a BiOp project.

ProjectID: 199306000

Select Area Fishery Evaluation Project

Sponsor: WDFW, ODFW, CEDC

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$2,290,844

5YR Estimate: \$12,075,011

Short Description: Develop and enhance fisheries in the lower Columbia River utilizing hatchery stocks; while protecting depressed wild stocks through application of net-pen rearing; and monitor and evaluate rearing effects on habitat at net-pen sites.

ISRP Final Recommendation: Fundable in Part

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Partially Disagree - Fundable in Part

ISRP Final Review Comments:

Fundable in part. Fund ongoing activities but the expansion is not justified scientifically or economically. An economic analysis should be done before further investment in the expansion of facilities and fisheries. The potential impact on listed stocks remains uncertain but seems limited based on the information provided, but see ISRP comments below.

The project is basically a mitigation program to provide fishing opportunity but the fishery is limited by its potential impact on ESA stocks. The additional information provided in this response does indicate that the project has been operated with care and that they have met the consultative requirements during its development. However, without description of methods or M&E plans (as requested), there is very little to review technically and our comments are largely non-scientific. We cannot conclude from this material that impacts on ESA stocks are minimal (as suggested). The tables provided contain information but there is no discussion of this material (e.g., in Table 7 significant straying of Rogue-stock Fall Chinook is evident, and how is “Wild Impact” determined in Table 10?). Further, while impacts in fisheries seem limited there is no information on the juvenile stage. Juvenile impacts may also be minimal if the juveniles emigrate immediately but this remains unknown and without discussion.

The response does not answer what M&E is being conducted other than referring to CWT costs (that presumably must be covered in some other project). The new Table 1 does clarify budget alignment but neither the table nor Appendix 1 really describe what activities are included in each objective or task. For example, the response does clarify that these funds are operating two hatcheries (Gnat Cr. And Grays River) to produce fish for SAFE ... but this activity is not evident in Table 1 or Appendix 1 (Table 2 does itemize on major task). Attachment 2 notes the economic assessment suggested by the ISRP but does not note when it will be completed or whether it will be publicly available. Appendix 2 is interesting background, but leaves one major question in our minds ... is there any ultimate production limit or goal for this program. As the scale of this program grows the risk of impacts must increase. If we continue to accept the evaluation of impacts based on adult fishery sampling, how do we know that this is not after the impact at the juvenile stage? The proponents of this project do seem well intentioned, but the project is too open ended and without defined limits.

In summary, the response provides more complete information in many areas but important questions remain unanswered. The response does not explicitly address how the magnitude of production increases is determined or how those increases are evaluated for acceptability. Given past and continuing levels of investment in this activity, more critical assessment and reporting are required.

How is “maximum production” of various stocks in various sites determined? What is the content of the economic analysis being done by Radtke? What will it include? How will the results of the economic analysis affect decisions about whether or how to expand the fisheries? How will the effect of expansion on ESA stocks be monitored? How was the estimate of \$49 million contribution to the West Coast economy calculated?

CBFWA Review Comments:

This project represents a majority of the funding for the Lower Columbia and Estuary Province budget. This project's budget should be reviewed in line with other opportunities in this province.

ProjectID: 31031

Clatsop County Fisheries Restoration Project

Sponsor: CEDC Fisheries

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$455,250

5YR Estimate: \$817,250

Short Description: Recolonize eight Columbia River tributaries in Clatsop County with appropriate stocks of winter run coho and chum salmon using otolith-marked eyed eggs out-planted in natal streams where remnant runs exist, or using introduced stocks when necessary.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not fundable. This proposal would recolonize 8 Columbia River tributaries in Clatsop County with winter-run coho and chum and would initiate a captive brood stock program to evaluate sites for rearing coho. Young's Bay historically supported a strong population of chum, and there is likely some value in getting chum into these systems, but this proposal is not adequate to the research need. The salmon egg planting device (gas powered water pump pushing water through pipe into gravel, eyed eggs introduced into stream) was developed and used with mixed success in Alaska in the 1980's. None of the performance history of the device is reviewed in the proposal. The objectives and tasks are presented only in abbreviated form. The proposal is vague about the techniques of egg planting and of thermal marking. The proposal says nothing about the methods of recovery of marked fish and includes no budget for thermal marking. Even if the number of embryos is modest the cost of energy (fuel oil) for marking will not be small. The captive broodstock part of the project is poorly developed. No one has ever been successful rearing chum salmon to maturity in captivity, and the proposal does not suggest how the proponents intend to do it.

CBFWA Review Comments:

This project aggressively relies on unproven technologies.

HABITAT RESTORATION PROPOSALS

This set of proposals deals with habitat restoration in the lower Columbia River and estuary. Most propose to open new habitats by reconnecting the river to side channels, improving access for salmonids, and allowing for increased floodplain connectivity. This work would appear to return the river to more natural and historic conditions, but most proposals in this set were not able to provide quantified background information on pre-restoration conditions. These conditions include the status and current use of the habitat by native and exotic species, including predator species and listed species, and prey consumption by predators. The presence of predators in the habitats targeted for restoration and reconnection could present a serious bottleneck for native fish survival. Other pre-restoration conditions that, for the most part, were not well quantified are conditions of the physical habitat, potential bottlenecks for passage into and out of the habitat including restrictions imposed by tidegates, and predicted flows patterns and whether greater flows would achieve the objectives of the project.

Several proposals involved wetlands and side channels near the confluence of the Willamette and Columbia rivers. This area could be a very important refuge especially for fish moving through the lower Willamette and Portland. Unfortunately, the proposals in that area do not demonstrate a coordinated approach nor any reference to the joint value of these multiple programs. The Council should identify this concern to these proponents.

ProjectID: 30004

Blind Slough Restoration Project - Brownsmead, Oregon

Sponsor: CREST

Province and Subbasin: Columbia Estuary

FY03 Request: \$173,550

5YR Estimate: \$193,550

Short Description: Restoration of tidal exchange between the Columbia River Estuary and Blind Slough in the community of Brownsmead, Oregon. BPA funds will be used to match U.S. Army Corps Section 1135 funding for 25% of the total project costs.

ISRP Final Recommendation: Fundable (Qualified - see comments)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable (Qualified)

ISRP Final Review Comments:

Fundable if they meet the conditions listed below.

The response is mostly adequate, although tentative. The response indicates that the selection of the seven sites was determined by landowner consent, rather than by scientific criteria. Selection of additional sites will also be opportunity, rather than need, driven. Regarding statistical design for project monitoring, the response indicates that a monitoring design will be developed by scientific advisors and in collaboration with ongoing monitoring efforts in the area. The description of how tidegate effectiveness will be monitored does not provide specifics but refers to “appropriate metrics and monitoring protocols.” The strongest aspect of the response is the reference to coordination and collaboration possibilities with other agencies working in the area. A plan to implement this coordination rather than reference to the potential for such coordination would be a good idea and the ISRP continues to recommend that the participation or advice of a more quantitative researcher be sought for this program.

While the response was adequate, we believe that it continues to point out the need for more technical support in the development of sampling and monitoring designs, and in the basic experimental design (as noted in point 3 of the response). The monitoring program should be designed before work begins and should include a pre-program assessment of the predator populations. The response suggests that the “longer-term considerations” of the program outweigh concern for the predators but our point was that the predators may preclude the benefits of this work. We also hope that the respondents are correct but our need is to assess the results of this program, and predators will be a significant concern in the assessment.

CBFWA Review Comments:

NMFS has identified this project as a BiOp project.

ProjectID: 31014

Evaluate juvenile salmonid use of restored floodplain wetlands in the Lower Columbia River Estuary

Sponsor: DU

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$150,000

5YR Estimate: \$450,000

Short Description: Evaluate benefits and effects of wetland habitat restoration on juvenile salmonids rearing and migrating through the Lower Columbia and implications for restoration and salmon recovery.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable, this is a technically inadequate proposal. The background material is interesting and the proponents state that the projects are expected to open habitat to salmon juveniles that will be valuable to them and that they'll look to see if salmon do indeed use them. However, neither the proposal nor response provided a clear statement of a research question and a rigorous study design.

CBFWA Review Comments:

It is not clear that this project is well coordinated with other assessment projects in the Lower Columbia/Estuary. The scope and budget should be reviewed in line with other assessments funded in the estuary. NMFS has identified that this project is a BiOp project.

ProjectID: 30011

Preserve and Restore Columbia River Estuary Islands to Enhance Juvenile Salmonid and Columbian White-tailed Deer Habitat.

Sponsor: USFWS & CLT & USGS

Province and Subbasin: Columbia Estuary

FY03 Request: \$719,437 (Adjusted \$585,437)

5YR Estimate: \$1,372,687 (adjusted \$1,140,687)

Short Description: Purchase 626 acres on Crims and Walker Islands and restore tidal emergent marsh and riparian forest habitat by enhancing tidal channels to provide juvenile salmonid rearing/ foraging habitat and to achieve the recovery of the Columbian white-tailed deer.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

The project sponsors provided a thorough response to the ISRP comments. Information provided on the determination of viable subpopulations is good and the primary issue of habitat security was clarified. The estimation of habitat needs was done in a systematic manner using data from existing research. The response to the responsibility of the FWP to address whitetail habitat is also sufficient. The answer to whether the plans for tidal channel restoration had been subjected to a hydrologic review is more tentative. A team visited the site and determined that it would be OK, "given proper engineering design." Hydrologists looked over the proposal and thought it looked alright. The proposers are placing heavy reliance on refuge personnel's working knowledge of local hydrology. It's not clear that a systematic hydrological assessment was performed. The need for this project was justified at the population level, but questions remain on whether the channel restoration will be successful. It's hard to know from the proposal and response, but we will probably have to monitor to know anyway.

CBFWA Review Comments:

Crediting will be applied to Oregon since there are remaining credits in Oregon and not Washington. Information will be provided to CBFWA regarding what facility the credits will be applied to. NMFS has identified this project as a BiOp project. The project sponsor has offered several cost savings suggestions for this budget. In the budget, Section 5, Objective 3, task C could be removed for a savings of \$15,000. Under Section 7, Objective 2, tasks A and B could be removed for an additional savings of \$117,000. Finally, in the outyear-based budget for Section 7, Objective 3 could be removed for an annual savings of \$196,000. The budget has been modified to reflect these changes.

ProjectID: 31015

Sturgeon Lake/Dairy Creek Restoration

Sponsor: WMSWCD

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$121,000

5YR Estimate: \$256,000

Short Description: Reopen the Dairy Creek channel to Upper Sturgeon Lake, construct a rock spur jetty in the Columbia River, re-construct and replace an existing debris boom, and repair an existing culvert.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not Fundable

ISRP Final Review Comments:

Not fundable. The response attempts but does not adequately answer the ISRP's concerns. The proponents do not describe adequate monitoring and evaluation to determine if fish and wildlife will benefit from the project. The ISRP concern regarding preparation of a proposal for baseline work that provides a more thorough documentation of lake system use by salmonids still applies. One rather long biological objective is described in the response, but tasks and methods are absent. The information should be developed into a proposal of standard format.

The habitat in Sturgeon Lake and Dairy Creek could be very valuable, and the proposal describes a potentially worthwhile project that could significantly improve mainstem holding and rearing capacity for salmonid. This project would reopen a channel to Upper Sturgeon Lake and make a jetty, debris boom and repair a culvert for the purpose of reopening habitat. The 3200-acre Sturgeon Lake on Sauvie Island in the Columbia River is owned by the State of Oregon and managed by ODFW. The lake is used by out-migrating juvenile salmonids for off-channel feeding. Federal levees and sediment plugs block water flow into the lake. The proposal states that construction of a stable entrance channel into the Sturgeon Lake ecosystem offers a significant opportunity for backwater feeding and refugia for salmon.

The project history details a number of actions taken to clear the channel, control erosion, and control sedimentation. However, sand migration continued. USACE continues to be involved and may fund the reconfiguration of a jetty once landowner concerns about flooding are addressed. The proposal suggests a 75% ACE/25% FWP cost-share.

CBFWA Review Comments:

NMFS has identified that this project is a BiOp project.

ProjectID: 31019

Fish Passage Assessment and Prioritization Program

Sponsor: DLUT

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$72,432

5YR Estimate: \$143,681

Short Description: Develop fish passage barrier assessment methodology for road / stream crossings, inventory and assess county owned facilities on a 5th field HUC basis, prioritize passage barriers to core habitat areas for threatened and endangered fish species.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This proposal addresses the need for an inventory of fish passage barriers in the Tualatin River system, which according to the proposal is dominated by productive habitat, has no hatchery releases, and therefore offers the potential for wild stock benefits from reestablishing habitat connectivity. The proposal cites the first step to reconnecting habitat as the identification of road-stream crossings that act as passage barriers. Proposers argue that because of the Tualatin's location in an area of rapid population growth, active watershed management will be necessary to retain habitat quality. They see the road-stream crossing barrier analysis as critical to filling gaps in knowledge of how to prioritize restoration actions.

The proposal shows good connection Willamette Basin plans and projects. It is a reasonable project that could open new habitat to colonization by salmonids. The plan for assessing and prioritizing fish passage barriers makes efficient use of time and information.

The response is complete and indicates not only good response to review comments but also shows thorough followup and investigation of project improvement possibilities and potential collaborations. The proposers are in touch with ODFW about assessing habitat, and are conscious of restrictions on removing barriers that maintain historical isolation of stocks. The Washington culvert protocols, according to the response, are too difficult for technicians to use; the proposers plan to get training and incorporate a USFS protocol in their manual. The response was adequate.

ProjectID: 31021

Reduction of gravel road sediment production & interruption of sediment delivery to streams

Sponsor: DLUT

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$238,436

5YR Estimate: \$510,674

Short Description: Decrease sediment produced by gravel roads and interrupt delivery systems that hydrologically connect the road to the stream systems.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not fundable. Given the myriad of land use problems in the Tualatin River, the sponsors have not adequately demonstrated that deposition of fines in the streambeds of tributaries to the Tualatin is a significant factor limiting egg to fry survival for salmonids.

CBFWA Review Comments:

Reviewers question whether fixing gravel roads is a BPA responsibility.

ProjectID: 31024

Protect, Enhance and Maintain Wetland, Riparian and Upland Habitat on the Shillapoo Wildlife Area

Sponsor: WDFW

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$0

5YR Estimate: \$515,310

Short Description: Maintain and implement measures to restore and enhance wetland, riparian, and upland habitat in the Vancouver Lake Lowlands area.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Low to Medium Priority

ISRP Final Review Comments:

Fundable, low to medium priority due to the potential for negative impacts on fish. The SWA is located in the Vancouver Lowlands, and is intended to provide riparian, wetland, and oak woodland habitat. A former lakebed was drained and developed as agricultural land. A goal of the WDFW acquisition program is to acquire the entire former lakebed and restore it to its former species diversity and wetland functions for wintering waterfowl.

This appears to be a worthwhile project that will benefit wetland-dependent species in the Vancouver Lowlands. Areas targeted for restoration and specific restoration actions are clearly identified. The response indicates that the project would be only marginally affected by failure to acquire any parcel.

An extensive M&E component includes five types of surveys. Monitoring of habitat and of wildlife response to changes in habitat will be done. The project has measurable indicators of success. The rationale for this project and significance to regional programs is clear. A complete history of land use in the area is provided. A HEP analysis was conducted in 1994-95. A hydrological assessment of alternatives for lakebed management was commissioned by the COE.

The response is thorough and complete with regard to vegetation and wildlife recovery. With regard to fish, the response acknowledges that opening the connection to Shillapoo Lake would have marginal value to fish or even be detrimental because of predation or elevated temperatures. The response indicates that in recognition of these potential problems the reconnection part of the project is being reconsidered.

CBFWA Review Comments:

This is an ongoing project (BPA contract number is 96BI97789). This project has been funded through the Washington Wildlife Agreement. NMFS has identified that this project is a BiOp project.

ProjectID: 31033

Restoration of Columbia River Floodplain Functions to Steigerwald Lake

Sponsor: USFWS

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$373,000

5YR Estimate: \$2,262,000

Short Description: Reconnect Columbia River flows, restore riparian/wetland ecosystem functions, and improve salmon habitat on Steigerwald Lake and associated floodplain habitat.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable. This proposal has good potential for FWP benefits and would effectively reconnect a substantial wetland and lake with the Columbia River. The proposal has excellent cost sharing arrangements and would build on significant past investments by BPA for land acquisitions. The program structure is logical with assessments and planning leading to possible construction of flow controls in 2005. The costs for these activities are reasonable and a comprehensive monitoring and evaluation plan is outlined (to address pre- and post-development periods).

One point not emphasized in the proposal is the potential to restore another chum population in the lower Columbia River (Gibbons Creek). Chum salmon in this area exist as several population fragments and a restored population in this section of the river could be an important connection between populations below Bonneville Dam and those further downstream.

CBFWA Review Comments:

Portions of this project were originally funded through the Washington Wildlife Agreement. NMFS has identified that this project is a BiOp project.

ProjectID: 199902500

Sandy River Delta Riparian Forest, Wetlands, and Anadromous Estuary Restoration

Sponsor: USFS-CRGNSA

Province: Lower Columbia

Subbasin: Sandy

FY03 Request: \$162,000

5YR Estimate: \$1,246,000

Short Description: Restore 600-acre island of rare Columbia River floodplain "gallery" riparian forest. Restore 200 acres wetland/associated upland habitat. Remove 1930's dike from original Sandy River channel to restore hydrology and increase anadromous habitat.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable at high priority. The potential habitat area restored in this proposal is significant and it is an important area of the mainstem river. The restoration of wetlands and removal of the dike may also be important to the continued restoration of chum salmon in this reach. Our assessment of this proposal and its potential benefits is contingent upon removing the dike. Funding for future years should be contingent on this proceeding and the response makes it clear that funding contingent on dike removal is possible and that the project could be conducted in segments. NEPA analysis will be conducted in preparation for the dike removal, and this portion should be funded.

CBFWA Review Comments:

NMFS has identified that this project is a BiOp project.

ProjectID: 199206800

Implement Willamette Basin Mitigation Program

Sponsor: ODFW

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$1,567,500

5YR Estimate: \$5,659,528

Short Description: Mitigate for impacts caused by hydroelectric facilities through enhancements, easements, acquisitions, restoration, and management of wetlands and other NWPPC target habitat types and species in the Willamette Basin in Oregon.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable but low priority because of the limitations of the project. The proposal is for a large-scale effort in habitat acquisition, enhancement, restoration and management in the Willamette Basin. The background and significance to regional programs is clear and thorough. The expectation is to add 200-300 HUs each year for 5 years through the implementation of 2-3 mitigation projects. The project history provides some assessment of progress that the ISRP requested last year, although not quantified or presented in tables. Objectives list a rather complicated series of tasks related to project planning, implementation, O&M of existing projects, and monitoring and evaluation.

This is an ongoing program in which people have seen value in the past, but it needs to be better designed. The response lacks technical depth and is only marginally adequate. The proposed use of graduate students is not well thought out: turning responsibility over to graduate students for development of a sample design, sampling and data analysis is inappropriate and will not ensure quality results. Objectives of the analysis, the sample design and data to be collected should be clearly described in advance of the project, rather than left to students to develop. The students would have to be supervised at each step. The response is similarly vague with reference to enlisting help of professional hydrologists and geomorphologists.

Finally, the response fails to address the larger question of the effectiveness of purchasing small ad hoc parcels of land as a restoration process. Does it have a cumulative beneficial effect that amounts to significant gain? Overall, there is a need for far more professional assessment in this project.

CBFWA Review Comments:

A new objective has been included in this proposal.

ProjectID: 31013

Investigate Re-establishing Anadromous Fish Populations Above man-made Barriers

Sponsor: ODFW

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$221,977

5YR Estimate: \$1,419,768

Short Description: Investigate the possibilities of re-establishing spring chinook and winter steelhead populations into historic habitat above impassable man-made barriers in the Willamette basin to link them with existing populations below barriers.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low to Medium Priority

ISRP Final Review Comments:

Fundable, at low to medium priority. The response is marginal in provision of details for design of the study, etc. but does generally address questions presented by the ISRP. Broodstock for the project would be based on availability (which is currently good) at local State hatcheries, downstream migration of smolts would be over or through the dams, and monitoring programs would involve annual downstream traps, etc. Concerning how representative the broodstock would be, the reply notes that the hatchery stocks were derived from the local populations but that the available fish would “not truly (be) representative” of the returning fish. Commitment to investment in these hatchery and dam facilities will likely increase as the Willamette Recovery plan is finalized. The project is comparable to projects #31005/31017 in objective, but the ISRP has greater confidence, based on the technical presentation and facilities, that the Basin will learn more by investing in those programs rather than this one. However, technically there is no serious reason to not fund this project, especially given the amount of habitat available above these dams and current availability of adult production.

CBFWA Review Comments:

This project has a very broad scope without clearly defined decision points relative to success or failure of establishing sustainable populations.

ProjectID: 31016

Calapooia River Flow Acquisition and Fish Passage Assessment

Sponsor: ODFW

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$53,500

5YR Estimate: \$110,500

Short Description: Improve upstream passage for ESA-listed fish on the Calapooia River by reimbursing the owner of Thompsons Mills to not divert flows for power generation. Evaluate the effect of flow manipulation on upstream passage and fish survival.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This project would improve fish passage around the hydroelectric facility at Thompson’s Mills. The project proposes to improve flows through and below the fish passage facility at Thompson’s Mills by paying the owner of the facility to not divert water during the late spring and early summer. This would improve passage for spring chinook and other species. The response is adequate, did provide additional information, and the cost is reasonable as a “place holder” until a longer-term solution or agreement can be reached. The response indicates continuing uncertainties about specific long-term solution at the site: whether water rights will be acquired or mill operations cease. However, a partnership is continuing to

work on developing a long-term agreement for the Mill. The response provides much more information on what is known about fish passage at the site. Given the continued work towards an agreement, the review committee recommends funding for up to 3 years while an agreement is worked on. However, after 3 years the funding should terminate as there should have been adequate time to complete the required water agreements.

CBFWA Review Comments:

This proposal is an interim fix to provide flow to listed fish while discussion continues with the landowner to pursue a long-term solution. It is anticipated that this temporary action will only be necessary for the next two years.

ProjectID: 199205900

Amazon Basin/Eugene Wetlands Phase Two

Sponsor: TNC

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$60,650

5YR Estimate: \$1,363,800

Short Description: Continue the restoration and enhancement of existing mitigation lands. Habitats being protected or restored include riparian zones of seasonal streams, wet prairie, upland prairie, forested wetland, oak woodland, and dry coniferous forest.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. The response addressed the ISRP comments and indicates a reasonable level of monitoring and local involvement. This proposal is to continue enhancement of wildlife and aquatic habitat in the Willow Creek Natural Area. This 429-acre tract is part of a larger protected area totaling 1200 acres. The proposal asks for funds to manage and restore habitats on a 99-acre parcel acquired in 2001 and to continue restoration on the remaining (earlier acquired) 330 acres.

The management goal is to maximize wildlife and biodiversity values on the site. The response presents objectives rewritten to be measurable and removes former redundancy. Evaluation of the results of past actions is presented by objective and task.

The links to the hydrosystem and mitigation are not well demonstrated. The priority of this effort should be further analyzed as to benefits to fish and wildlife. Our recommendation does not support CBFWA's High Priority ranking.

ProjectID: 200001600

Protect and Enhance Tualatin River National Wildlife Refuge Additions

Sponsor: USFWS/USGS

Province: Lower Columbia

Subbasin: Lower Columbia

FY03 Request: \$256,000

5YR Estimate: \$874,100

Short Description: Provide riparian, forested wetland, and off-channel emergent wetland backwater habitats for salmonid rearing and predator avoidance areas adjacent to the mainstem Tualatin River.

Acquired and restored lands are protected and maintained in perpetuity.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. While the response seems to be a reasonable response to the ISRP comments it certainly did not provide substantial detail on such questions as whether baseline data (pre-restoration) exist, and whether restoration objectives exist in a form that the M&E can assess progress toward their achievement. The proposal represents a purchase opportunity to make significant additions to riparian habitat along the Tualatin River that would likely aid fish and wildlife in the Tualatin area. However, there is a highly urbanized area downstream from these properties so the likely benefit may be limited. The location of the parcels within the purchase boundary of the Tualatin River National Wildlife Refuge is a plus.

The priority of this effort should be further analyzed as to benefits to fish and wildlife. Our recommendation does not address CBFWA's High Priority ranking.

ProjectID: 199107800

Burlington Bottoms Wildlife Mitigation Project

Sponsor: ODFW

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$110,000

5YR Estimate: \$772,610

Short Description: This project protects, maintains and enhances a diverse array of wetland habitats for many species of fish and wildlife including the state listed western painted and pond turtles and ESA species including bald eagles and salmon.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable at low priority. This proposal is to implement the five-year management plan (completed in 2001) for fish and wildlife wetland habitats at the confluence of the Columbia, which is likely the most critical habitat in the Portland metropolitan area. This is an important refuge area for animals that pass through Portland.

There are likely benefits to fish and wildlife but the proposal and response continue to be technically deficient and only partially responsive to ISRP concerns. The discussion of the value of the site to fish species is vague. The response describes the plan and wildlife surveys without much detail on survey design or methods. It does not provide requested data summarizing the surveys. Additionally, the response provides only general detail on the species that will be affected by opening more wetland habitat. However, specific information is provided on the expected length of time needed for exotic species control.

This proposal is one of several similar proposals in the area and for similar work activity. It is difficult to see how all the projects being conducted by different groups fit together. Are they coordinated and complementary, or fragmented?

ProjectID: 31010

Re-open Off-channel Habitat for Lower Columbia ESU

Sponsor: ESA Program

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$449,000

5YR Estimate: \$589,000

Short Description: Eliminate velocity barriers to off-channel habitat, facilitate passive restoration for listed species within the Lower Columbia ESU

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not fundable. The proposal does not provide details on objectives, tasks and methods. The presentation provided some information on monitoring but the monitoring tasks should have been described in the proposal. The benefits to fish and wildlife appear marginal and are not justified in the proposal. The baseline conditions are not established. The impacts on existing species are not adequately described.

CBFWA Review Comments:

CBFWA supports this project for its benefits to fish; however, CBFWA does not support Bonneville funding for this action. Although Bonneville has funded culvert replacement within the basin, this project is completely within the management jurisdiction of the City of Portland.

ProjectID: 31011

Renaturalize Functional Floodplain Habitat within the Portland Reach of the Lower Willamette River

Sponsor: COP

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$524,500

5YR Estimate: \$865,500

Short Description: Restore river/floodplain habitat diversity in an urbanized, channelized reach of the Willamette R. by adding river alluvium, plant materials and large wood in an existing shallow depositional area. This is one component of a larger project.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not fundable. A response was not warranted. The potential benefits to fish and wildlife are not apparent. The risks to migrating salmon associated with the proposed project are probably as likely as any benefits. The survival rates of salmon transiting through the City of Portland are not provided and no case is made that salmon would benefit from the project. There is no quantification or summarization of the environmental, social, and economic benefits from the proposed private-public partnership.

CBFWA Review Comments:

This is an innovative and untested approach towards maximizing urban growth while protecting riparian habitats. There is a lack of discussion regarding the risks of attempting this type of action (erosion, increased predation, etc.) and how those risks would be managed.

COWLITZ PROPOSALS

ProjectID: 31005

Incorporating Pit Tag Technology to Evaluate and Monitor the Reintroduction Effort for Anadromous Salmonids in the Upper Cowlitz Watershed

Sponsor: WDFW

Province: Lower Columbia

Subbasin: Cowlitz

FY03 Request: \$257,130

5YR Estimate: \$971,730

Short Description: We propose to update pit tag system to basin ISO standards at the Cowlitz Falls Dam and Fish Facility and use pit tags to monitor and measure collection, collection efficiency, smolt production, and a prototype surface collector entrance.

ISRP Final Recommendation: Not fundable (Qualified - see comments)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Disagree - Not fundable (Qualified)

ISRP Final Review Comments:

See comments on project #31017.

CBFWA Review Comments:

This project should be considered under the Mainstem and Systemwide Province. The data collected would contribute to a larger database for evaluating populations. NMFS has identified that this project is a BiOp project.

ProjectID: 31017

Monitor and evaluate the success of hatchery salmonid reproduction for reintroduction of anadromous salmonids to the upper Cowlitz Basin

Sponsor: WDFW

Province: Lower Columbia

Subbasin: Cowlitz

FY03 Request: \$183,661

5YR Estimate: \$1,100,161

Short Description: Monitor the success of the reintroduction of anadromous salmonids to the upper Cowlitz Basin, including distribution, timing and success of reproduction of hatchery adults and success of upper basin seeding.

ISRP Final Recommendation: Not fundable (Qualified - see comments)

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Disagree - Not fundable (Qualified)

ISRP Final Review Comments:

Defer decision until an appropriate experimental design is developed. Funding of #31005 could proceed independent of #31017 but the value of that investment would be significantly reduced without the full development of the potential studies in the upper Cowlitz River (project #31017).

The Basin has witnessed other unique opportunities to learn from new programs, that promised to develop appropriate experimental designs, but results have been less than expected. The upper Cowlitz offers one of the best environments and research opportunity but must be conducted under an appropriate design. At present the project is not conceived of as an experiment and appropriate hypotheses have not been developed. The response included three hypotheses (top page 5) but these only describe hypotheses that are implicit in the reintroduction program, rather than outlining an experimental design that would enable testing of hypotheses and methods for testing them. The study design is not adequate and does not provide any confidence that valuable results will be gained from the project. Based on the responses for projects #31005 and #31017, the ISRP is inclined to recommend Do Not Fund.

The ISRP has clearly indicated their support for the development of these two projects into a potentially important study for the Basin.

“BPA has already invested heavily in the Cowlitz watershed by building the Fish Facility (\$22 million) but this proposal has good cost sharing and local support. There is an opportunity for exciting and informative research programs concerning salmon restoration, role of nutrients in the ecosystem, and hatchery versus wild comparisons in the upper Cowlitz watershed.”

We continue to support the development of these projects and consequently recommend that a limited time (e.g. six months) be allowed for the development of an appropriate design before a final decision is made on these two projects. There are numerous important questions in the Basin that could be studied in this environment, but the proponents do not seem to be aware of the opportunity presented. An advisory committee could be developed to assist in the timely development of this design and execution of these projects.

Further, the responses to questions about recreational harvest focus on the regulation allowing targeting of marked hatchery fish and does not directly address the potential problem of incidental catch and release mortality. Discussion of the design should also consider the appropriateness of a recreational fishery in the upper Cowlitz. Can the fishery be relocated or limited to areas to minimize impacts?

CBFWA Review Comments:

This project is considered part of the base for the Biological Opinion by NMFS.

ProjectID: 31020

Monitor Coweeman River Salmonid Populations

Sponsor: WDFW

Province: Lower Columbia

Subbasin: Cowlitz

FY03 Request: \$277,962

5YR Estimate: \$1,009,366

Short Description: determine freshwater productivity and marine survival of wild tule fall chinook and wild winter steelhead to develop risk assessments and recovery actions for these ESA listed populations

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, but potentially High Priority

ISRP Final Review Comments:

Fundable. The PI provided an adequate response to our questions. This project could develop a potentially important indicator stock for naturally-spawning Tule fall Chinook in the lower Columbia River and the re-establishment of a local broodstock for steelhead salmon. However, for steelhead it would be preferable to develop a more quantitative method for the monitoring of spawning escapement so that the full value of the smolt program can be used. Otherwise, the stock-recruit comparison will be between an index of adult spawners and a quantitative estimate of the smolts produced. The other consideration is that this would be the only monitoring of a truly naturally spawning population of Tule fall Chinook salmon in the lower Columbia River. Tule Chinook are late-run fall Chinook salmon and are contrasted with the earlier Bright fall Chinook of the Hanford Reach and Lewis River.

CBFWA Review Comments:

The reviewers are unclear whether BPA should be responsible for funding this activity. NMFS has identified that this project is a BiOp project.

OTHER LOWER COLUMBIA PROPOSALS

ProjectID: 31029

Clark County ESA Outreach Program

Sponsor: Clark County, Washington

Province: Lower Columbia

Subbasin: Columbia Lower

FY03 Request: \$205,000

5YR Estimate: \$813,000

Short Description: Work with willing landowners to develop, record and implement stewardship plans on 5 to 20 acre rural residential parcels in priority watersheds.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not fundable. A response was not needed. This proposal is to work with landowners to implement stewardship plans for riparian habitat restoration on small rural residential parcels in Clark County priority watersheds. It extends the Clark Conservation District's farm plan project into rural residential areas. Currently, Clark County habitat protection ordinances are applied only when landowners voluntarily change land use and become subject to development permitting requirements. Many parcels are already developed to the limits of the zoning code. There are approximately 3700 of these parcels over 1500 miles along priority streams.

The goal of the project is to create a series of functional riparian areas that generate more riparian habitat. It will develop stewardship plans along 100 of the 1500 stream miles. The proposal does not indicate whether this is enough to establish connectivity.

Objective 4 is to develop an incentive package to encourage landowner participation. The proposal does not make a convincing case that this approach is the only or best alternative. It lacks detail as to the nature of the incentives and is not specific about what "review the possibilities" to determine political and fiscal implications means. If tax or permitting incentives are a possibility, wouldn't an ordinance change also be possible?

According to the proposal, the Lower Columbia Fish Recovery Board is charged with developing a recovery plan for listed fish in this region, and will assign the responsibility for various actions to the entities with authority over those actions. Clark County has authority over land use decisions but rather than create new land-use requirements it is taking the more politically feasible approach of offering financial incentives for improved riparian practices.

CBFWA Review Comments:

Reviewers question the timing of the proposed work relative to subbasin planning and TRT work.

ProjectID: 31022

Establish a Water Cleanup Plan (temperature TMDL) for the East Fork of the Lewis subbasin

Sponsor: Ecology

Province: Lower Columbia

Subbasin: Lewis

FY03 Request: \$118,000

5YR Estimate: \$168,000

Short Description: Expedite development of a water cleanup plan-TMDL for the East Fork Lewis to identify sources of pollution related to temperature, DO and pH; allocate maximum allowable pollution from various sources; and develop strategies to improve salmonids habitat.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable, agree with CBFWA. The ISRP does not make a recommendation on priority, although this looks like a good approach. The sponsors propose to assess thermal heterogeneity using FLIR, validate the FLIR results using in-stream temperature data loggers, and input the data into a heat source model. The results will be used to inform stakeholders and develop a plan to improve water quality. The sponsors propose to involve stakeholders in plan development. The response was good and provided the requested detail and explanations on the data loggers, temperature model, and applicability to management to improve water temperatures on the East Fork. The explanation of the use of FLIR data was convincing. There is good potential for this project to be followed by interagency collaborations on a larger scale.

ProjectID: 31023

Stream Gaging Installation and Operations in the Lewis, Salmon/Washougal, and Gray/Elochoman Subbasins

Sponsor: Ecology

Province: Lower Columbia

Subbasin: Cowlitz

FY03 Request: \$395,000

5YR Estimate: \$593,000

Short Description: Purchase and install eight continuous, real-time, telemetered stream flow gages, and six staff gages, at critical reaches and tributaries in each of the three subbasins.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable, agree with CBFWA. The ISRP does not make a recommendation on priority, although stream gages are a very important tool for stream monitoring and management. This proposal is to purchase and install 14 stream gages in 3 subbasins critical to anadromous fish. The gages will be put on 8 continuously measured sites and 6 instantaneously measured sites in each subbasin. They will fit into and expand the network of WA stream gages to provide data needed to support a variety of water and salmon initiatives. The single objective of the project is to provide stream flow data with a resolution appropriate to water and salmon protection and restoration initiatives and proposals.

The proposal appears to be a reasonable request to improve quantification of stream flow in these rivers. The strategy is described as providing gages at critical reaches and tributaries in each of the three subbasins. The response provides adequate detail to answer review questions. Criteria for prioritizing potential sites appear reasonable.

CBFWA Review Comments:

NMFS has identified that this project is a BiOp project.

ProjectID: 31004

Salmon Carcass Enrichment -- Willamette (Clackamas) & Sandy Subbasins

Sponsor: USFS

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$509,858

5YR Estimate: \$1,607,327

Short Description: Multi-year salmon carcass enrichment project applied over entire 5th field watersheds (with replicates and controls) aimed at restoring native runs of salmon and steelhead in the Clackamas and Sandy rivers.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low Priority

ISRP Final Review Comments:

Fundable but at low priority. The response states that the objective of this project is “to restore fish populations within these streams”. This may be the goal of this investigation but does not seem to be the objective since only one restoration method is presented and the body of the proposal is clearly a research program. We have assessed the response on that basis. Regarding our question 1 from the preliminary review: What then is unique about a “whole system” treatment as a research topic and what might you really expect to achieve? The test is between treated and untreated systems but the scale of these streams also introduces a number of sources of uncertainty into the interpretation of results. For example, if production was greater in the treated systems (as expected likely), was it proportional to the total loading, was production increased throughout each system or just certain habitats, etc.? Or, if production was not different between systems, does this mean treatment simply does not work? It may actually reflect differences in variability between streams, within streams, other bottlenecks in production, or it really did not work. Therefore, if the only aspect of uniqueness is the “first large-scale proposal of this magnitude utilizing carcasses as the direct nutrient source” then there seem to be pros and cons to this scale of investigation. How much value should we place in this type of study then?

Concerning the other questions in the response, these answers were also of variable quality. By question, 2. What is the direct evidence suggesting that nutrient deficiencies in these streams are a major limitation for salmon production?

The response provided indirect evidence only, nothing direct.

3. The sponsors propose to compare smolt production before and after carcass addition. Pre-treatment evaluations occurred over 1-5 year period, depending on the watershed. Given inter-annual variability in smolt production that could arise from variation in stream conditions and adult returns, is the pretreatment evaluation of sufficient duration to provide meaningful comparison with post-treatment smolt production? Concerning the experimental design, we concur with the response that the real value is the controls.

4. Although the “control” and “treatment” watersheds were randomly selected, they are few in number (five treatments and three controls). How do the watersheds compare with respect to physical parameters such as watershed size, stream size, gradient (long profile), hydrograph, land use patterns, and especially nutrient loads, and biological parameters such as adult returns, juvenile growth and survival, rearing areas, and smolt size and production?

In the response, the watershed comparisons seem reasonable but the comparison is limited by a lack of detail on habitats in the systems, and there were some differences between streams in Tables 1 & 2.

5. How far from estimated carrying capacity are the current populations of anadromous fish?

The response concerning carrying capacity is adequate since we recognize that these assessments are incomplete.

6. How will carcasses be dispersed throughout the watersheds? Will they be dispersed evenly, systematically or clumped in particular locations? How long are the treatment reaches?
The response describes a fixed loading rate limited by ODFW and DEQ, this does assume that you trust this loading rate as being appropriate.

7. The sponsors wish to achieve a saturation level of N15 enrichment. What is the evidence that these streams were saturated historically?
The response that saturation was based on past work (Bilby et al. 2001) is acceptable, but the assumption based on historical population sizes is dubious.

8. The sampling design needs to be described in more detail. Where will the biological samples be taken within each watershed? How many sampling locations in each watershed? How many samples will be taken at each location?
The response's description of sampling methods is adequate.

9. What will be the impact of nutrient addition on fish species other than salmon such as cutthroat trout? Are there exotic species in these watersheds that could benefit from nutrient addition?
The response's description of assessment of impacts on other fishes is very limited and inadequate.

10. How will the data be analyzed?
The response on analytical methods is likely adequate.

Overall, the response is adequate and we note that the authors' were careful to address each ISRP question. They have proposed an ambitious project with a reasonable design to really test nutrient additions at an ecosystem scale, but the question seems to be whether we are likely to really learn more by this approach than we have through past nutrient studies. This project is quite expensive and funding in this Province is likely to be limited. Consequently, while we find the project technically sound, we recommend a Fundable rating but at a lower priority.

CBFWA Review Comments:

NMFS has identified that this project is a BiOp project.

ProjectID: 31012

Leveraging Conservation Easements for Fish and Wildlife in the Willamette Basin

Sponsor: CPRC&D

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$68,090

5YR Estimate: \$374,660

Short Description: Leveraging conservation easements for fish and wildlife protection in the Willamette Basin

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable as a pilot project, although the investigators should still provide more detail about program operation. The initial proposal and presentation emphasized the lack of trust in government as creating the need for the easement and acquisition program. The response has shifted its emphasis to focus on the benefits of perpetual easements over the 15-year leases. One benefit is the potential to protect larger areas along the riparian corridor than the 150 ft. limit of CREP. The response describes the project as a pilot that will demonstrate benefits to landowners, based on purchase of conservation easements on riparian land at full market value. It also hopes to demonstrate benefits that will lead to changes in CREP.

The response does not detail the type of oversight that will occur – citing only that it will be modeled after the Maryland program described in an attached document. Monitoring is not described. Similarly, the response to guiding principles and standards presents a general goal/guiding principle, but does not provide detail on program standards.

Letters of support for the proposal are provided. The USDA letter suggests that should conservation easements on riparian land be purchased, the producer could still qualify for CREP rental payments for the same land under riparian management for 15 years. Is this correct? This is the type of question that the program standards should explicitly address.

The budget for this project is small, and the potential benefits to fish of Willamette riparian corridor restoration are large. If it leads to effective changes in CREP the potential benefits extend beyond the Willamette to other areas of Oregon needing riparian restoration.

ProjectID: 31025

Construct Fish Screen and Fish Passage Improvements at Lebanon Diversion Dam on South Santiam River

Sponsor: City of Albany, Oregon

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$420,000

5YR Estimate: \$3,544,000

Short Description: Design and construct an intake fish screen to prevent fish from entering the unprotected Albany-Santiam Canal, and modify existing Lebanon Diversion Dam on South Santiam River to improve fish passage.

ISRP Final Recommendation: Not Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Agree - Not Fundable

ISRP Final Review Comments:

Not fundable, the benefits to fish and wildlife are not adequately demonstrated in the proposal or the response. The project proposes to screen the intake of a water diversion canal and improve the 80-year-old fish passage facilities at the Lebanon dam. This project seems worthwhile and would be supported by NMFS but there is not adequate support regarding benefits to the FWP or any discussion of habitat available above the dam etc. The response provided was fairly complete but it appears that presence and survival of fish in the diversion canal is a matter of informed speculation rather than documentation. However, NMFS had indicated the importance to listed stocks of improvements in the fish ladder and installation of a fish screen. The problem here is that these water diversions do not seem to have been sampled for impact on fish!! Who is responsible for doing this?

The actual cost to BPA would be about \$1.7M over three years with the City paying the remainder (BPA contributing about 50%). We should also note that in the proposal, the City has been issued a 50-year hydro license (1998) and in 2001 received FERC approval for a two year extension to complete dam and fish screen improvements that were presumably included/required in the license (see Section 2 of proposal). Possibly, an alternative to direct funding could be that NMFS and BPA negotiate with the city for long-term financing of these facilities as a requirement of license.

CBFWA Review Comments:

CBFWA supports this project for its benefits to fish; however, CBFWA does not support Bonneville funding for this action. Although Bonneville has funded passage and screens throughout the basin, this project directly generates income for the municipality and funding should be the responsibility of the operator.

ProjectID: 31028

Replace Upper and Lower Bennett Dam Fish Ladders in the North Santiam River at Geren Island (Stayton Island)

Sponsor: City of Salem, Oregon, a municipal corporation

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$200,000

5YR Estimate: \$400,000

Short Description: Replace two fish ladders to improve fish passage. Provide: updated fish collection/counting facility at each, supplemental flow at entrance of each fish ladder to improve attraction for fish, and additional entrances to fish ladders at base of dam.

ISRP Final Recommendation: Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Disagree - Fundable

ISRP Final Review Comments:

Fundable. The sponsors propose to replace the ladders, with a provision for improving the fish trapping/counting facility. The response provides a lot of additional detail although not all ISRP questions are answered directly. For example, the answer to the question about whether the fishways meet NMFS standards provides information for why the fishways are outdated and described needed improvements, but does not directly state that the ladders do not meet NMFS standards. Similarly, the response does not directly explain why fish runs above the dams have remained relatively large. Unfortunately, as we noted for project #31025, there seems to be very little known about fish costs of the current environments. In this project however, the benefits to the listed fish could be substantial given that most spawning is above this point. The material provided on the field trip notes that a substantial portion of the Willamette return of winter and summer steelhead, and spring and fall chinook use the upper North Santiam as spawning and rearing habitat. Both winter steelhead and spring chinook are listed as threatened under the ESA.

The project also involves excellent cost sharing for BPA investment (total cost \$400,00 over two years, then finished). BPA would provide about 25% of project total cost and the local community contributes the balance.

CBFWA Review Comments:

CBFWA supports this project for its benefits to fish; however, CBFWA does not support Bonneville funding for this action. Although Bonneville has funded passage and screens throughout the basin, this project directly generates income for the municipality and funding should be the responsibility of the operator.

ProjectID: 31030

Santiam Water Control District Fish Screen and Passage Project

Sponsor: SWCD

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$350,000

5YR Estimate: \$350,000

Short Description: Protect fisheries resources, especially threatened and endangered species by planning, design, construction, and maintenance of a fish screen, fish bypass and fish barrier on the SWCD canal (N. Santiam River) in Stayton, Oregon.

ISRP Final Recommendation: Fundable

CBFWA Category: Do Not Fund

ISRP Comparison with CBFWA: Disagree - Fundable

ISRP Final Review Comments:

Fundable. The response provides additional information to explain why this screening project is considered high priority and the project has excellent cost sharing arrangements. The funds requested are for one year only. The plan to monitor performance of the screen appears to have the appropriate components although

consultation with a biologist on ways to quantify changes in species and habitats would be desirable. As noted in the above two proposals (#31025, #31028), background data on fish seems very limited for some reason. This project could have significant benefits to fish given the volume of the intake and the upstream use of habitat by winter and summer steelhead, and spring and fall Chinook (noted in #31028). Among the Willamette proposals, this appears to be of high priority.

CBFWA Review Comments:

CBFWA supports this project for its benefits to fish; however, CBFWA does not support Bonneville funding for this action. Although Bonneville has funded passage and screens throughout the basin, this project directly generates income for the district and funding should be the responsibility of the operator.

ProjectID: 31018

Willamette Basin Riparian Project

Sponsor: Marion SWCD

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$784,765

5YR Estimate: \$2,341,435

Short Description: Implement riparian buffering program using cost-share provided by USDA, state of Oregon and private landowners, including urban areas trials. Conduct restoration project planning and implementation with watershed councils, landowners and other interests.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable, High Priority

ISRP Final Review Comments:

Fundable, agree with CBFWA that this is High Priority. This is a very thorough response addressing ISRP review questions. This proposal is to implement a riparian buffer program in the Willamette lowlands, with cost-share from USDA, Oregon, and private landowners. The project goal is to establish 500 planting projects on targeted streams over three years to redress riparian habitat problems on private lands. The projects will also address other causes of degraded habitat and fish populations beyond those remedied by the riparian planting. The overall objective is riparian restoration of the lowlands, where agriculture is the predominant land use, through immediate buffering and longer-term cooperative restoration planning.

Good background to the problem is given. More than 90% of the riparian land in the basin is privately owned, valuable agricultural land. The basin holds 69% of Oregon's population, expected to double in the next 25-50 years. Critical problems for fish habitat include water pollution, increased peak and reduced base flows, channel erosion, channelization, reduced habitat complexity and availability. Problems include riparian and aquatic habitat loss, sedimentation and erosion, water quality (temperature) and a loss of off-channel habitat. Much of the mainstem and its tributaries are 303(d) listed as impaired due to high summer water temperatures.

The proposal provides a convincing rationale for the benefit of both riparian buffering and project-level restoration planning, and their connection to various basin-level needs identified in numerous plans. In addition to riparian buffering of agricultural lands through USDA incentive programs, the proposal also describes pilot project riparian buffering of rural residential and urban lands for which USDA CRP And CREP programs do not exist.

The response provides good detail to address the question about target figures and how projects will be prioritized. It is clear that a systematic approach was taken to the development of the objective to cover 75 stream miles. The response to the question about distributing enrollment is adequate, indicating a combined objective of achieving a demonstration effect and adding more explicit consideration of habitat connectivity. The explanation of "developing socioeconomic insights" is convincing.

This has more than just the immediate value of planning and has the potential to influence landowners' view of management of land for the benefit of fish and wildlife. The proposal describes an ambitious, well-networked project, coordinated among several Willamette Valley SWCD's, with compelling leverage of funds.

CBFWA Review Comments:

This project should be considered High Priority; however, the budget appears high relative to available funds in this province. Scope and budget should be reduced.

ProjectID: 199607000

McKenzie River Focus Watershed Program Coordination and Habitat Restoration

Sponsor: MWC

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$325,000

5YR Estimate: \$1,945,000

Short Description: Continue McKenzie River Focus Watershed Program Coordination. Develop, coordinate, plan, design, implement and monitor habitat protection, restoration and water quality projects; improve resource stewardship through public outreach and education.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable. This proposal is to continue to coordinate the McKenzie River Watershed Program. BPA funds are used primarily for coordination, with other funds used for a variety of implementation projects. Activities include the design, implementation and monitoring of habitat and water quality projects, as well as outreach education. Having completed a number of baseline assessments, the Program plans to increase its protection and restoration activities in 2003.

The Watershed Program appears to be well managed. The council's activities are well connected to those of related groups and projects. A good history of projects and achievements is presented. However, proponents still need to demonstrate the big picture of all these separate activities being coordinated. The response provides a long description of the different groups conducting monitoring and the Council's role in coordinating these efforts, but it is hard to get a sense from the response as to whether there is an overall systematic monitoring program that results from the sum of all the parts. Do the various monitoring efforts tell a story at the watershed level? Are data analyzed appropriately and consistently? Methods of analysis are not described.

CBFWA Review Comments:

The reviewers are concerned about the longevity and certainty of the landowner agreements for habitat protection. New tasks have been added to this ongoing project that modifies its original scope.

ProjectID: 31002

Wildlife Habitat Protection, Lower McKenzie Watershed (Jaqua)

Sponsor: TNC

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$2,321,025

5YR Estimate: \$3,300,501

Short Description: Acquire a wildlife habitat conservation easement over 1240 acres of oak savanna and woodlands, Douglas fir forests, and grasslands to benefit listed and target species in the Lower McKenzie River Watershed.

ISRP Final Recommendation: Fundable

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable, Low to Medium Priority

ISRP Final Review Comments:

Fundable at low to medium priority. This proposal is to acquire conservation easements over 1240 acres to protect habitat for several bird and animal species. The land is in the Coburg Hills of the Lower McKenzie. An initial habitat assessment has been performed but detailed wildlife surveys have not yet been conducted. The site is currently subject to subdivision, threatening to fragment the habitat. Fish habitat protection afforded by this project would be minor. The project appears to be very expensive for the likely benefit. If it is possible to prioritize purchases, decision-makers should consider staggering funding for easement acquisition over several years.

Responses to questions about price per acre and the definition of wildlife mitigation easement are adequate. The response puts the proposed site into the larger context of lower Willamette habitat conservation. The state of knowledge about the distribution and abundance of affected species is explained, particularly of the Fender's Blue butterfly. Justification of the acquisition is explained, including the benefits to an endangered species, a threatened species and two species of concern. The restoration goals for the parcel remain unclear, but the response explains that developing a program to monitor progress toward goals is part of the project's first-year activity.

The current proposal estimates the cost of the easement to be 90% of market value, with title retained by the present owner. It is still confusing as to why it is in the public's interest to obtain easements rather than title. Responses to questions about the need to protect oak and pine forests and the need to provide monitoring are either missing or incomplete.

CBFWA Review Comments:

This is a good property acquisition that may be focusing on a lower priority habitat type relative to the mitigation responsibilities of BPA.

ProjectID: 31007

Distribution and seasonal habitat use of ESA-listed salmonid species in City of Portland tributary streams

Sponsor: COP

Province: Lower Columbia

Subbasin: Willamette

FY03 Request: \$62,000

5YR Estimate: \$124,000

Short Description: Determine the distribution and seasonal habitat use of listed salmonids in City of Portland watersheds. Use information to guide development of a recovery plan, determine necessary protective measures, and monitor effectiveness of protective measures.

ISRP Final Recommendation: Fundable

CBFWA Category: High Priority

ISRP Comparison with CBFWA: Agree - Fundable

ISRP Final Review Comments:

Fundable, this is technically sound and the response is thorough. The response is detailed and responsive to most questions including those on sampling design and data analysis. Although the point they make of not associating fish presence with habitat condition is somewhat confusing. Isn't this what you would want to do to assess likely success of habitat restoration? The description of data analysis is still not detailed, resting on references to calculating IBIs. The proposed IBI, although adequately described in the response, is not very useful in reviewers' opinion, especially in such highly disturbed environments. They need to re-consider this use.

The ISRP did not ask and the proposal still does not make clear to reviewers what effect protecting some small fragments of urban streams will have on the restoration of salmon to the basin. It's important to the city, in the name of preserving some natural stream functioning that's left, and the protection of listed stocks may require it, but, from the information provided, it does not appear to offer substantial restoration of salmon habitat or substantial restoration of stocks. However, for the amount requested, the project is likely worth the investment to support the city's interest in conservation and land management -- a policy issue and choice.

CBFWA Review Comments:

There is an outstanding question of whether or not this project is a BPA mitigation responsibility relative to impacts of the hydrosystem.

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