Independent Scientific Review Panel
for the Northwest Power Planning Council
851 SW 6th Avenue, Suite 1100
Portland, Oregon 97204
isrp@nwppc.org

Preliminary Review

of

Fiscal Year 2002 Project Proposals for the Columbia Plateau Province

ISRP 2001-6
June 15, 2001

Columbia Plateau Review Team

Richard Alldredge
Charles C. Coutant
Daniel Goodman
Jack Griffith
Susan S. Hanna
Nancy Huntly
Lyman McDonald
John D. McIntyre
Brian Riddell
William Smoker
Bruce Ward
Richard Whitney
Richard N. Williams

ISRP Preliminary Review of Fiscal Year 2002 Proposals for the Columbia Plateau Province

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
25001	Acquire Sharp-tailed Grouse Habitat at the Swanson Lakes Wildlife Area	WDFW	Crab Creek	$237,053	No - Fundable	117
25002	Protect, enhance, and maintain habitat on the Sunnyside Wildlife Area to benefit wildlife and fish assemblages.	WDFW	Yakima	$418,874	No - Fundable	97
25003	FORREST RANCH ACQUISITION	CTWSRO	John Day	$4,207,659	No - Fundable	32
25004	Acquisition of Wagner Ranch	CTWSRO	John Day	$2,669,717	No - Fundable	32
25005	Bighorn Sheep reintroduction to the Warm Springs Reservation	CTWSRO	Deschutes	$70,862	Yes	19
25006	Provide Coordination and Technical Assistance to Watershed Councils and Individuals in Sherman County, Oregon	Sherman SWCD	John Day	$95,670	No - Fundable	8
25007	Determine lamprey species composition, larval distribution and adult abundance in the Deschutes Subbasin	CTWSRO	Deschutes	$125,440	Yes	18
25008	Resident Fish Stock Status in the Palouse River and Upper Crab Creek Watersheds, Washington.	WDFW	Palouse	$546,670	Yes	67
25009	Assess Watershed Health and Coordinate Watershed Councils in Wasco County, Oregon	Wasco SWCD	Deschutes	$70,290	Yes	27
25010	Regional Stream Conditions and Stressor Evaluation	ODEQ	Deschutes	$180,000	Yes	22
25011	Assess Riparian Condition Through Spectrometric Imaging Of Riparian Vegetation	ODEQ	Mainstem Columbia	$175,000	Yes	113
25012	Assessment of bull trout populations in the Yakima River watershed.	WDFW	Yakima	$243,947	Yes	15
25013	Restore Riparian Corridor at Tapteal Bend, Lower Yakima River	Tapteal Greenway	Yakima	$160,500	Yes	96
25014	Establish Riparian Buffer Systems	Wasco SWCD	Deschutes	$67,119	No - Fundable	6
25015	Emergency Flow Augmentation for Buck Hollow	Wasco SWCD	Deschutes	$29,886	No - Fundable	27
25016	Assessment of habitat improvement actions on water temperature, streamflow, physical habitat, & aquatic community health in the Birch Creek Watershed	USGS	Umatilla	$403,000	Yes	55
25017	FABRICATE AND INSTALL NEW HUNTSVILLE MILL FISH SCREEN	WDFW, YSS	Walla Walla	$102,217	No - Fundable	62

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
25019	Tucannon River Roads, Cut and Fill Slope Restoration	Pomeroy Ranger District	Tucannon	$19,500	Yes	68
25020	Acquire Rattlesnake Slope Addition	Rocky Mtn. Elk Foundation	Yakima	$3,542,500	No - Fundable	95
25021	Implement Actions to Reduce Water Temperatures in the Teanaway Basin	WSDE	Yakima	$338,000	No - Fundable	97
25022	YKFP Big Creek Passage & Screening	WDFW	Yakima	$175,280	Yes	84
25023	Yakima-Klickitat Fisheries Project - Manastash Creek Fish Passage and Screening	YKFP - WDFW	Yakima	$0	Yes	85
25024	Yakima-Klickitat Fisheries Project - WILSON CREEK SNOWDEN PARCEL ACQUISITION	YKFP - WDFW	Yakima	$206,580	Yes	86
25025	YKFP -- Secure Salmonid Spawning and Rearing Habitat on the Upper Yakima River	WDFW	Yakima	$2,300,000	No - Fundable	85
25026	Yakima Tributary Access and Habitat Program (YTAHP)	Kittitas County Water Purveyors	Yakima	$2,022,760	Yes	90
25027	An Assessment of Neotropical Migratory and Resident Bird-Habitat & Bird-Salmon Relationships in Riparian Ecosystems in the Deschutes Subbasin	NHI	Deschutes	$113,670	Yes	25
25028	John Day Upland Restoration	CTWSRO	John Day	$399,595	Yes	33
25029	Westland-Ramos Fish Passage and Habitat Restoration Pilot Project	Westland Irrigation District	Umatilla	$203,020	No - Fundable	56
25030	Factors limiting the shrubsteppe raptor community in the Columbia Plateau Province of eastern Washington	WDFW	Mainstem Columbia, Crab, and Yakima	$16,580	Yes	118
25031	Naches River Water Treatment Plant Intake Screening Project.	City of Yakima	Yakima	$1,657,500	No - Fundable	87
25032	Wenas Wildlife Area Inholding Acquisitions	WDFW	Yakima	$706,143	Yes	97
25033	Evaluate Restoration Potential of Mainstem Habitat for Anadromous Salmonids in the Columbia and Snake Rivers	PNNL	Mainstem Columbia	$314,392	Yes	105
25034	Develop a Nutrient/Food-Web Management Tool for Watershed-River Systems	PNNL	Yakima	$376,382	Yes	94
25035	Evaluate adult fall chinook salmon fallback at Priest Rapids Dam, Columbia River	PNNL and WDFW	Mainstem Columbia	$603,065	Yes	105

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
25036	The Impact of Flow Regulation on Riparian Cottonwood Ecosystems in the Yakima River Basin.	BioQuest	Yakima	$225,495	No - Fundable	91
25037	Evaluation of the effects of American shad on upstream migration of anadromous fishes at Priest Rapids Dam	PNNL	Mainstem Columbia	$43,464	Yes	107
25038	Effects of Hydropower Operations on Fall Chinook Spawning Activity	PNNL	Mainstem Columbia	$139,338	Yes	108
25039	Effects of agricultural conversion on shrubsteppe wildlife and condition of extant shrubsteppe habitat	WDFW	Crab Creek	$681,215	Yes	118
25040	Collection of baseline measurements of flow, temperature, channel morphology, riparian condition, and benthic macroinvertebrates, Trout Creek, Oregon	USGS	Deschutes	$239,000	Yes	26
25041	Wildlife Escape Ramps	WDFW	Crab Creek	$52,185	No - Policy Decision	119
25042	pygmy rabbit recovery - captive breeding	WDFW	Crab Creek	$220,914	Yes	119
25043	Northern Leopard Frog Distribution and Habitat Association	WDFW	Crab Creek	$41,754	Yes	120
25044	Application of Biological Assessment Protocol to Evaluate Passage of Juvenile Salmonids Through Culverts in the Yakima Basin	PNNL	Yakima	$95,553	No - Do Not Fund	95
25045	Determine effects of water level-induced changes in rearing habitat on the survival of juvenile fall chinook salmon.	USGS	Mainstem Columbia	$192,977	Yes	110
25046	A cooperative approach to evaluating avian and mammalian responses to shrubsteppe restoration in the Crab Creek Subbasin	WDFW	Crab Creek	$141,184	Yes	120
25047	Morrow County Buffer Initiative	Morrow SWCD	Umatilla	$75,086	No - Fundable	7
25048	Accelerate the Application of Riparian Buffers in the Upper Deschutes Subbasin	Wy'East RC&D	Deschutes	$73,985	No - Fundable	6
25049	Numerically Simulating the Hydrodynamic and Water Quality Environment for Migrating Salmon in the Lower Snake River	PNNL	Mainstem Snake	$207,360	No - Fundable	64
25050	Provide Incentives to convert to direct seed/no-till farming in Sherman County, Oregon	Sherman SWCD	John Day	$164,440	Yes	9
25051	Columbia Plateau Natural Resources Collaborative (CPNRC)	NRCS	John Day	$823,200	No - Do Not Fund	9

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
25052	Sex Reversal in Hanford Reach Fall Chinook Salmon	CRRL	Mainstem Columbia	$262,321	Yes	111
25053	Evaluate bull trout movements in the Tucannon and Lower Snake rivers	USFWS - IFRO	Mainstem Snake	$81,626	No - Fundable	14
25054	Increase Naches River In-stream Flows By Purchasing Wapatox Hydroelectric Project	YN	Yakima	$3,500,000	Yes	86
25055	Echo Meadows Artificial Recharge Extended Groundwater and Surface Water Modeling	PNNL	Umatilla	$390,283	Yes	54
25056	Conduct Watershed Assessments for Priority Watersheds on Private Lands in the Columbia Plateau	OWEB	Mainstem Columbia	$1,259,725	No - Fundable	114
25058	Fish Passage Inventory and Corrective Actions on WDFW Lands in The Yakima Subbasin	WDFW	Yakima	$256,995	Yes	90
25059	Develop Progeny Marker for Salmonids to Evaluate Supplementation	CTUIR	Umatilla	$149,665	Yes	48
25060	Burbank Sloughs and Mainstem Columbia River Shoreline/Side Channel/Wetland Habitat Restoration	USFWS	Mainstem Columbia	$546,000	Yes	115
25061	John Day Fish Passage Barrier Inventory	OWEB	John Day	$152,450	No - Do Not Fund	39
25062	Growth Rate Modulation in Spring Chinook Salmon Supplementation	NMFS	Yakima	$345,088	Yes	93
25063	Subbasin Planning Coordinator for Oregon	OWEB	Mainstem Columbia	$100,225	No - Do Not Fund	114
25064	Investigating passage of ESA-listed juvenile fall chinook salmon at Lower Granite Dam during winter when the fish bypass system is inoperable.	USFWS; USGS	Mainstem Snake	$176,000	No - Fundable	65
25065	Forward Looking Infrared Radiometry (FLIR) Thermal Imagery and Analysis of Tucannon River, Touchet River, and Mill Creek(FY2002)with follow-on 2003-04	WA Ecology, WQP	Walla Walla	$231,000	Yes	61
25066	Manage Water Distribution in the Walla Walla River Basin	OWRD	Walla Walla	$552,525	Yes	60
25067	Manage Water Distribution in the John Day Basin	OWRD	John Day	$251,261	No - Fundable	39
25068	Rock Creek watershed road and riparian corridor improvement project.	YN, KC, BCC	Rock Creek	$96,500	No - Fundable	101
25069	John Day Salmonid Recovery Monitoring Program	CTWSRO	John Day	$164,133	Yes	34

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
25070	The Application of Geophysics to Better Define Fall Chinook Salmon Spawning Habitat Use in the Hanford Reach, Columbia River.	Golder Assoc., PNNL	Mainstem Columbia	$113,532	Yes	104
25072	Restore Tucannon River Riparian Habitat: Wooten Wildlife Area	WDFW	Tucannon	$135,400	Yes	68
25073	Wheeler SWCD Riparian Buffer Planning and Implementation	Wheeler SWCD	John Day	$75,086	No - Fundable	6
25074	Deschutes Water Exchange	DRC	Deschutes	$1,000,000	Yes	20
25075	Momitoring and Evaluation of Buck Hollow Hydrology	Wasco SWCD	Deschutes	$92,777	No - Fundable	28
25076	Enhancing Riparian Corridors Sustainably With Integrated Agroforestry	Institute for WA's Future	Walla Walla	$1,270,000	Yes	59
25077	Umatilla County Conservation Buffer Project	Umatilla SWCD	Umatilla	$152,368	Yes	7
25078	Acquire Anadromous Fish Habitat in the Selah Gap to Union Gap Flood Plain, Yakima River Basin, Washington	BOR	Yakima	$3,000,000	No - Fundable	92
25079	Integration and Construction of a GIS Based 2-Dimensional Hydraulic/Habitat Model for 51 miles of Hanford Reach and Site of the Columbia River	USFWS	Mainstem Columbia	$295,786	Yes	109
25080	Gilliam SWCD Riparian Buffers	Gilliam SWCD	John Day	$75,086	No - Fundable	6
25081	Improve Upstream Fish Passage in the Birch Creek Watershed	ODFW	Umatilla	$300,410	Yes	52
25082	Walla Walla River Flow Restoration	WWBWC	Walla Walla	$478,000	Yes	63
25083	Special Status Wildlife Species Surveys and Priority Habitat Assessment in the Deschutes River Subbasin	ODFW	Deschutes	$100,000	Yes	24
25084	Develop GIS Layers for Generation of Specific Natural Resource GIS Maps and Analysis	ODFW	John Day	$111,000	Yes	36
25085	Eradication of brook trout from Winom Creek to enhance bull trout habitat.	USFS	John Day	$50,000	No - Do Not Fund	41
25086	Purchase Perpetual Conservation Easement on Holliday Ranch and Crown Ranch Riparian Corridors and Uplands	ODFW	John Day	$5,459,520	No - Fundable	37
25087	Desolation Creek Rehabilitation and Meadow Restoration	USFS	John Day	$40,000	No - Do Not Fund	41

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
25088	Salmonid Population and Habitat Monitoring in the Oregon Portion of the Columbia Plateau	ODFW	John Day	$2,037,569	Yes	38
25089	The Effects of Agriculture on Amphibians of the Columbia Plateau	WDFW	Crab Creek	$121,945	No - Do Not Fund	121
25090	Determine Quantitative Values for the Perpetual Timber Rights on the WDFW Oak Creek and Wenas Wildlife Areas.	WDFW	Yakima	$235,000	No - Do Not Fund	98
25091	Mainstem habitats and aquatic communities: assessment and management options	USGS	Mainstem Columbia	$394,200	Yes	115
25092	RESTORATION OF HEALTHY WATERSHED TO PALOUSE RIVER DRAINAGE IN IDAHO	IDFG	Palouse	$200,200	Yes	67
25093	Characterize Genetic Differences and Distribution of Freshwater Mussels	CTUIR	Umatilla	$311,907	Yes	49
25094	Restore Touchet River Watershed Habitat to Support ESA listed Stocks	Columbia CD	Walla Walla	$343,912	Yes	56
25095	Pesticides and the environmental health of salmonids in the Yakima subbasin.	NMFS/NW FSC	Yakima	$257,800	Yes	94
25097	Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP)	WDFW	Mainstem Columbia	$522,710	Yes	116
25098	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Columbia Plateau Ecoprovince	NHI	Mainstem Columbia	$330,825	No - Fundable	114
25099	Oregon CREP Improvement Project	OWEB	Mainstem Columbia	$433,725	No - Do Not Fund	10
25100	Protect Normative Structure and Function of Critical Aquatic and Terrestrial Habitat	City of Yakima	Yakima	$2,499,000	Yes	93
25101	Use of Mainstem Habitats by Juvenile Pacific Lamprey	PNNL	Mainstem Columbia	$89,238	Yes	18
195505500	Umatilla Tribal Fish & Wildlife Enforcement	CTUIR	Umatilla	$163,369	No - Fundable	49
198343500	Operate and Maintain Umatilla Hatchery Satellite Facilities	CTUIR	Umatilla	$956,849	No - Fundable	42
198343600	Umatilla Basin Fish Facilities Operation and Maintenance	Westland Irrigation District	Umatilla	$498,512	No - Fundable	48
198402100	Protect and Enhance Anadromous Fish Habitat in The John Day Subbasin	ODFW	John Day	$448,500	Yes	34
198506200	Passage Improvement Evaluation	PNNL	Yakima	$113,587	Yes	89

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
198710001	Enhance Umatilla River Basin Anadromous Fish Habitat	CTUIR	Umatilla	$506,403	Yes	50
198710002	Umatilla Subbasin Fish Habitat Improvement	ODFW	Umatilla	$759,300	Yes	51
198802200	Umatilla River Fish Passage Operations	CTUIR	Umatilla	$343,979	No - Fundable	42
198805302	Design and Construct Umatilla Hatchery Supplement	CTUIR	Umatilla	$5,352,043	Yes	43
198805306	Hood River Production Program (HRPP): Hatchery O&M - Portland General Electric - Enron	PGE	Deschutes	$165,859	No - Fundable	26
198811525	Yakima/Klickitat Fisheries Project (YKFP) Design and Construction	YKFP	Yakima	$1,595,000	Yes - General Comment on YKFP	83
198812025	Yakima/Klickitat Fisheries Project (YKFP) Management	YKFP	Yakima	$1,262,548	No - See General Comment on YKFP	84
198902401	Evaluate Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin	ODFW	Umatilla	$286,427	No - Fundable	53
198902700	Power Repay Umatilla Basin Project	BPA	Umatilla	$1,750,000	No - Fundable	47
198903500	Umatilla Hatchery Operation and Maintenance	ODFW	Umatilla	$917,559	No - Fundable	45
199000500	Umatilla Fish Hatchery Monitoring and Evaluation	ODFW	Umatilla	$626,178	Yes	45
199000501	Umatilla Basin Natural Production Monitoring and Evaluation Project	CTUIR	Umatilla	$300,716	Yes	44
199009200	Protect and Enhance the Wanaket Wildlife Mitigation Area.	CTUIR	Mainstem Columbia	$223,465	No - Fundable	112
199102900	Understanding the effects of summer flow augmentation on the migratory behavior and survival of fall chinook salmon migrating through L. Granite Res.	USFWS; USGS	Mainstem Snake	$630,375	Yes	66
199105700	FABRICATE AND INSTALL YAKIMA BASIN PHASE II FISH SCREENS	WDFW, YSS	Yakima	$159,889	Yes	88
199106100	Swanson Lakes Wildlife Area (SLWA)	WDFW	Crab Creek	$290,238	No - Fundable	117
199107500	Yakima Phase II Screens - Construction*	USBR	Yakima	$1,000,000	No - Fundable	89
199200900	OPERATE & MAINTAIN (O&M)YAKIMA BASIN PHASE II FISH SCREENS	WDFW, YSS	Yakima	$148,557	No - Fundable	88

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
199206200	Yakama Nation - Riparian/Wetlands Restoration	YN	Yakima	$1,750,000	No - Fundable	99
199306600	Oregon Fish Screening Project	ODFW	John Day	$660,870	Yes	35
199401806	Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat	Columbia CD	Tucannon	$352,625	Yes	10
199401807	Garfield County Sediment Reduction and Riparian Improvement Program	Pomeroy CD	Mainstem Snake	$212,000	Yes	12
199402600	Pacific Lamprey Research and Restoration	CTUIR	Umatilla	$520,464	Yes	16
199404200	Trout Creek Habitat Restoration Project	ODFW	Deschutes	$414,170	Yes	23
199404400	Enhance, protect, and maintain shrubsteppe habitat on the Sagebrush Flat Wildlife Area (SFWA)	WDFW	Crab Creek	$908,375	Yes	117
199405400	Bull Trout Abundance Monitoring in the Lower Deschutes River formerly "Bull Trout Genetics, Habitat Needs, L.H. Etc. In Central And N.E. Oregon"	CTWSRO	Deschutes	$137,000	Yes	13
199405400	The Population Structure of Bull Trout in the John Day River and Abundance of Bull Trout in Mill Creek.	ODFW	John Day	$86,400	Yes	13
199405900	Yakima Basin Environmental Education	BOR	Yakima	$130,000	Yes	92
199406900	Estimate production potential of fall chinook salmon in the Hanford Reach of the Columbia River.	PNNL	Mainstem Columbia	$294,006	Yes	103
199503300	O&M Of Yakima Phase II Fish Facilities*	USBR	Yakima	$66,037	No - Fundable	89
199506001	Protect and Enhance Wildlife Habitat in Squaw Creek Watershed	CTUIR	Umatilla	$222,268	Yes	51
199506325	Yakima/Klickitat Fisheries Project Monitoring And Evaluation	YKFP	Yakima	$3,883,332	Yes - See General Comment on YKFP	75
199506425	Policy/Technical Involvement and Planning in the Yakima/Klickitat Fisheries Project	WDFW	Yakima	$187,800	No - See General Comment on YKFP	80
199601100	Walla Walla River Juvenile and Adult Passage Improvements	CTUIR	Walla Walla	$2,856,000	Yes	57
199603501	Satus Watershed Restoration Project	YN	Yakima	$352,966	Yes	99
199701325	Yakima/Klickitat Fisheries Project Operations and Maintenance	YKFP	Yakima	$2,549,774	No - See YKFP	81

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
199701400	Evaluation of Juvenile Fall Chinook Stranding on the Hanford Reach	WDFW	Mainstem Columbia	$342,000	Yes	103
199703400	Monitoring Fine Sediment Grande Ronde and John Day Rivers	CRITFC	John Day	$63,634	Yes	29
199705100	Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Yakima Side Channels	YKFP	Yakima	$2,320,624	No - See General Comment on YKFP	82
199705300	Toppenish-Simcoe Instream Flow Restoration and Assessment	YN	Yakima	$306,830	Yes	100
199801600	Monitor Natural Escapement & Productivity of John Day Basin Spring Chinook	ODFW	John Day	$333,516	Yes	36
199801700	Eliminate Gravel Push-up Dams in Lower North Fork John Day	North Fork John Day Watershed Council	John Day	$128,000	Yes	40
199801800	John Day Watershed Restoration	CTWSRO	John Day	$576,824	Yes	30
199802000	Assess Fish Habitat and Salmonids in the Walla Walla Watershed in Washington	WDFW	Walla Walla	$362,652	No - Fundable	62
199802200	Pine Creek Ranch	CTWSRO	John Day	$172,000	Yes	31
199802800	Trout Creek Watershed Improvement Project	JCSWCD	Deschutes	$465,100	Yes	21
199803300	Restore Upper Toppenish Watershed	YN	Yakima	$268,517	Yes	100
199803400	Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Reestablish Safe Access into Tributaries of the Yakima Subbasin	YKFP	Yakima	$0	Yes - See General Comment on YKFP	82
199901000	Mitigate Effects Of Runoff & Erosion On Salmonid Habitat In Pine Hollow and Jackknife	Sherman SWCD	John Day	$41,980	No - Fundable	8
199901300	Ahtanum Creek Watershed Assessment	YN	Yakima	$235,093	Yes	101
199908800	Columbia Plateau Water Right Acquisition Program	OWT	John Day	$204,000	No - Fundable	39
200001500	Oxbow Ranch Management and Implementation	CTWSRO	John Day	$306,898	Yes	31
200001900	Tucannon River Spring Chinook Captive Broodstock Program	WDFW	Tucannon	$94,509	Yes	69
200002300	Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property)	ODFW	Umatilla	$50,000	Yes	53

Columbia Plateau Index of Proposals Sorted by Project ID

Project ID	Title	Sponsor	Subbasin	2002 Request	Response Needed?	Page
200002500	Eagle Lakes Ranch Acquisition And Restoration	USFWS	Mainstem Columbia	$1,854,900	Yes	113
200002600	RAINWATER WILDLIFE AREA	CTUIR	Walla Walla	$303,546	Yes	58
200003100	North Fork John Day River Subbasin Anadromous Fish Habitat Enhancement Project	CTUIR	John Day	$293,894	Yes	30
200003800	Design and Construct NEOH Walla Walla Hatchery	CTUIR	Walla Walla	$2,850,000	Yes	46
200003900	Walla Walla Basin Natural Production Monitoring and Evaluation Project	CTUIR	Walla Walla	$482,244	Yes	47
200005200	Upstream migration of Pacific lampreys in the John Day River: behavior, timing, and habitat preferences	USGS/ CRRL	John Day	$271,956	Yes	17
200020116	Securing Wildlife Mitigation Sites - Oregon, Horn Butte Area (BAIC Tract)	ODFW	Plateau Southeast	$5,518,669	No - Fundable	54
200020139	Walla Walla River Fish Passage Operations	CTUIR	Walla Walla	$109,551	No - Fundable	59
			TOTAL	$107,299,191		

ISRP Preliminary Review of Fiscal Year 2002 Proposals for the Columbia Plateau Province

Introduction

This report provides preliminary comments and recommendations of the Independent Scientific Review Panel (ISRP) and Peer Review Groups on projects submitted for Fiscal Year 2002 funding in the Columbia Plateau Province. It provides project sponsors and the public an opportunity to respond to ISRP concerns before the ISRP makes its final recommendation to the Council on August 10, 2001. This report also provides information to the Columbia Basin Fish and Wildlife Authority for its use in project prioritization.

The review process to develop these preliminary recommendations and comments included several elements. Each proposal received review by at least three reviewers and discussion by the larger review team to reach consensus. The ISRP heard presentations on the proposals. Following each presentation, there was an opportunity for a question and answer session between reviewers and the proponents. In addition, the ISRP review teams visited most of the subbasins in the province and were provided slide presentations for the subbasins they were unable to visit. The teams profited from informal discussions with project leaders during the visits. These discussions combined with the oral presentations were invaluable in identifying potential issues and clarifying the nature of the projects. The site visits and presentations were well organized, informative, and showed improvement over those in the Gorge, Inter-Mountain, and Mountain Columbia province workshops.

Response Instructions

This preliminary report marks the completion of the first step in the project selection process. As stated above, project proponents and the public have the opportunity to respond to the ISRP's preliminary report. Responses should focus on the technical comments, answer all review questions, and clarify uncertain information. Responses should be formatted to address concerns point by point, clearly identifying each concern and providing a response. The title and project number of the proposal should be displayed prominently on the front page of the response. Electronic documents should be named the project ID; e.g. "2222response.doc" and email messages should contain the project ID in the subject line.

Responses and comments must be received at the Northwest Power Planning Council no later than 5 p.m., June 29. Please email responses and comments to kphillips@nwppc.org. Attachments should be in Microsoft Word or Excel (for tables).

If email is not available, please mail the response and diskette/CD to:
Northwest Power Planning Council
Attention: Kendra Phillips
Response to ISRP
851 SW 6th Avenue, Suite 1100
Portland, OR 97204

The Council staff will verify that responses were received and successfully downloaded via email. If you have any questions regarding the response process please contact Erik Merrill at the Northwest Power Planning Council at (503) 222-5161 or 1-800-452-5161, or by email: emerrill@nwppc.org. If you need assistance incorporating graphs or maps in your response, please contact Eric Schrepel at the Council or by email: eschrepel@nwppc.org.

Concurrently, CBFWA, with the ISRP's technical review in hand, will generate a list of projects recommended for funding and finalize the subbasin summaries as part of its draft annual implementation work plan. The work plan is scheduled for release August 3, 2001. For more details on the CBFWA process and province reviews in general see www.cbfwa.org.

The ISRP will then review the responses and CBFWA's recommended list of projects and provide a second and final report to the Northwest Power Planning Council by August 10, 2001. Thereafter, the Council will make its funding recommendations to Bonneville. It is anticipated that the Council's funding recommendations will be made in September or October of 2001.

Recommendation Categories: Who Needs to Respond?

Preliminary recommendations and comments are provided for each of the 164 proposals submitted. These recommendations are split into three basic categories: 1) fundable, further ISRP response review is not needed (~52 proposals); 2) a response review is needed (103 proposals); and 3) do not fund, a response is not warranted (9 proposals).

Proposals receiving "a response review is needed" will not be recommended for funding by the ISRP until information addressing reviewer concerns is provided. A project will be recommended as fundable only if the response adequately addresses reviewer comments. Many of the ISRP comments on proposals in the "response needed" category contain language such as "fundable if an adequate response is provided" or "do not fund unless …" This is to inform the sponsors and CBFWA about the level of the ISRP's concerns.

Monitoring, Evaluation, and Reporting of Results

A primary review function of the ISRP is to determine if projects will benefit fish and wildlife. Integral to this determination is whether projects monitor and evaluate progress and report results. The ISRP has found a pattern of inadequacy in these areas and offers the following observations for project sponsors to refer to as they respond to ISRP concerns on monitoring and evaluation.

Evaluating the adequacy of the monitoring and evaluation component (M&E) is still difficult in the present generation of proposals. Project proposals often lack detailed plans for the kind of monitoring and evaluation that is generally judged to be necessary by the ISRP. Part of the difficulty lies in the narrow focus of some of the projects compared to the larger spatial scale on which an ecological response can reasonably be expected. This is particularly true of many proposals for which the target species to be benefited is an anadromous fish. Part of the solution may be found by treating monitoring more carefully and explicitly in subbasin summaries, and eventually in subbasin plans. Monitoring of ecological conditions and fish stock status in the 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 effectiveness of the projects in that subbasin.

At the level of particular projects, monitoring should test for the proximate effectiveness of the project's activities. The large scale aspects of monitoring may best be addressed by distinct projects which have the explicit objective of monitoring ecological conditions and stock status for a large area, e.g., a subbasin, basin, or region, while the more particular aspects of project-specific monitoring need to be built into many of the individual projects. Eventually the adequacy of the monitoring for a project will be judged in terms of the combined project-specific monitoring in the proposal and the linkage (which should be described in the proposal) to the larger scale monitoring in the subbasin. For now, each project should propose the level of monitoring (see discussion below) that is needed, should justify the adequacy of this level of monitoring, and should outline the sampling design and methods that will be applied to attain monitoring goals. The monitoring data may be provided directly as part of a project (thus included in its methods and budget) or may be obtained through other parallel or larger scale (e.g., subbasin level) projects.

Proposals must indicate plans for monitoring and evaluation of project effectiveness, and, for ongoing projects, include summaries of monitoring data, in figures and tables, even if the monitoring is conducted by another project. The standard applied to review has been to ask for an M&E plan or a project link to a larger M&E program that can help determine whether an action provides biologically measurable results, ultimately in terms of fish or wildlife numbers. The ISRP is not recommending major research-level data collection for all projects. Most monitoring does not provide strong evidence of cause and effect, which requires an explicit experimental framework (e.g., Tier 3 below). Rather, we envision use of cost-effective procedures that can be easily replicated by new personnel. Monitoring and evaluating at the basin,

province, or subbasin scale may realize additional savings. Proponents of related projects may benefit from collectively designing their monitoring and evaluation activities.

Each project should propose the level of monitoring (see discussion below) that is needed. How can this be decided? For example, what M&E is needed when a faulty culvert is replaced? How does it compare to M&E needed to evaluate the collective projects in the Fish and Wildlife Program for recovery of spring chinook runs in the John Day River Basin? How does it compare to a project to evaluate the survival rates of adult salmonids caught and released from tangle nets? Monitoring can be categorized as Tier 1, Tier 2, or Tier 3, as defined in the NMFS All-H document (*Conservation of Columbia Basin Fish:* Final Basinwide Salmon Recovery Strategy, Volume 1, Table 4). Bisbal (2001) [1] defined Tier 1 monitoring as *trend monitoring*, which "… tracks the variability of a particular parameter over a long period of time, and relies on obtaining data from revisits to a single site." Tier 2 monitoring requires probabilistic selection of study sites and repeated visits to provide inductive inferences to large areas and long time periods. Tier 3 monitoring is intended for those projects or groups of projects where the 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 repetitive 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 monitoring qualify as research and are publishable in the refereed scientific literature. The ISRP does not expect expensive Tier 3 monitoring for most small individual projects, although a project could certainly contain Tier 3 level monitoring objectives. The ISRP does expect each individual proposal to include at least Tier 1 or Tier 2 monitoring, and this monitoring often can be both simple and inexpensive. Tier 1 monitoring may be adequate for projects such as culvert replacement or water addition. For any monitoring, the data gathered should be summarized, analyzed, and reported regularly to allow interpretation of the effects or effectiveness of project techniques or efforts.

Tier 1 trend monitoring on individual sites does not establish cause and effect relationships, does not provide inductive inferences to larger areas or time periods, and in general, the results do not qualify as research. However, Tier 1 monitoring on similar projects replicated over time and space can provide compelling evidence for general conclusions. An example of Tier 1 monitoring would be trend monitoring after culvert replacement to provide observations of whether or not adults pass through it – understanding that it might take a year or two or a cycle of abundance before surpluses of fish below encourage them to move upstream. Stream reaches above replaced culverts might be visited on a rotating basis rather than every year.

Tier 2 level monitoring requires the use of probabilistic sampling to provide inductive inferences to larger areas or time periods than can be surveyed with funding in many individual projects. For example, the Oregon Plan for Salmon and Watersheds Monitoring Program (Nicholas 1997a, 1997b, 1999) as implemented in the Oregon coastal coho streams is a Tier 2 level monitoring and evaluation program. This program, successfully implemented for estimation of coho distribution and abundance, applies a rigorous sampling design to answer key monitoring questions, provides integration of sampling efforts and has greatly improved coordination among state, federal, and tribal governments, along with local watershed groups. This program is a good model for Tier 2 level monitoring in Provinces and Subbasins of the Columbia Basin. The model can easily be modified for Tier 2 level monitoring of terrestrial projects. The ISRP would also recommend that individual proposals support overall Tier 2 level monitoring projects to collectively monitor the effectiveness of, for example, habitat improvements in a subbasin. Most larger projects should implement sampling designs of the Tier 2 type.

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 level monitoring 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

[1] Bisbal, G.A. 2001. Conceptual design of monitoring and evaluation plans for fish and wildlife in the Columbia River ecosystem. *Environmental Management* (In press).

"*monitoring*" fish and wildlife species (redds, spawners, juveniles, etc.) currently limit surveys to "*index sites*" selected by professional judgment in past years. The objectives of these projects can only be met with Tier 2 level monitoring using probabilistic selection of survey sites with limited replication. The ISRP recommends that the proponents of such projects immediately begin to modify the current proposals to allow for valid inductive inferences to the target areas. Surveys of sites and methods used in the past should overlap survey of sites and methods for new Tier 2 level monitoring for a few years.

Tier 3 monitoring for "establishment of mechanistic links" and "to detect changes caused by external influences" is usually conducted as part of a research program to determine the effects of management actions. Tier 3 monitoring is often not needed by individual FWP projects, although projects for Tier 3 monitoring can certainly be proposed and funded. The actions required to isolate cause and effect relationships would be *inappropriate* for many individual projects. However, project sponsors should be aware of and include references to past or current research or Tier 3 monitoring that support their proposal. 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 migrating juveniles 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 ISRP recommends that principal investigators identify an appropriate level of monitoring: Tier 1, Tier 2, or Tier 3, and include details for incorporation of the monitoring and evaluation in their proposals or their responses to reviews. It is helpful in designing a monitoring program to consider the role and importance of evaluation in the fish and wildlife program. 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 other forms of mitigation. Thus, each project should explicitly state both its local, specific, and short-term goals and the ways in which these contribute to the larger goals of fish and wildlife remediation and mitigation. These goals should be cast in the form of measurable biological results, such as habitat parameters and fish and wildlife numbers or performance measures. Bisbal (2001) provides some useful guidelines for developing fish and wildlife evaluation plans. He notes the utility of first including consideration of possible indicators, management needs, planning of the evaluation component, the importance of sampling design, which includes consideration of the statistical analyses that are anticipated, and the value of pilot studies to test techniques and performance standards. Further, the ISRP envisions long term monitoring and evaluation with the following characteristics: data are unbiased, monitoring is cost-effective, responsibility for monitoring and evaluation is specifically assigned, data have long-term in addition to immediate management value, data are adequate to evaluate how well a project or technique is meeting goals, methods are not changed unless techniques overlap, reports and databases document methods, times, and location of samples, and reports are issued regularly and on time.

References.

Bisbal, G.A. 2001. Conceptual design of monitoring and evaluation plans for fish and wildlife in the Columbia River ecosystem. *Environmental Management* (In press).

Nicholas, J.W. (Principal Writer). 1997a. Monitoring Program, Chapter 16. The Oregon Plan: Oregon coastal salmon restoration initiative. State of Oregon, Salem, Oregon. (http://www.oregon-plan.org/)

Nicholas, J.W. (Principal Writer). 1997b. Monitoring Program, Addendum to Chapter 15b. The Oregon Plan: Revisions to the steelhead supplement. State of Oregon, Salem, Oregon. (http://www.oregon-plan.org/)

Nicholas, J.W. Principal Writer). 1999. Implementation of the monitoring program, Chapter 15b. The Oregon Plan: Draft steelhead supplement. State of Oregon, Salem, Oregon. (http://www.oregon-plan.org/)

Preliminary Recommendation and Comments on Each Proposal

The ISRP comments are presented below beginning with three sets of grouped proposals: CRP, CREP, and Buffer related proposals; lamprey proposals; and bull trout proposals. The proposals are grouped this way so project sponsors can readily refer to general ISRP comments on the sets, so project sponsors can identify potential coordination between projects, and so readers can see the extent of effort or potential effort for the particular topic. These sets include proposals from the various subbasins across the entire Plateau.

Following these sets, proposals are arranged by subbasin starting on the south side of the Columia River with the Deschutes River Subbasin and going east to the Tucannon River Subbasin, then starting on the north side of the Columia River with the Yakima River Subbasin and going east to the Crab Creek Subbasin. If there is a specific program of closely related projects then the proposals in a subbasin begin with that set; e.g. the Yakima Klickitat Fisheries Progam. Otherwise proposals are arranged alphabetically by project sponsor then by project ID, beginning with ongoing proposals.

CRP, CREP, Buffer, and No-till Proposals

The set of proposals grouped below includes several proposals from local and county soil and water conservation districts (SWCDs) that ask for relatively modest amounts of financial support (~$70K) for an additional FTE in order to support processing of requests for riparian buffers and habitat enhancement through federal CRP programs (CRP, CREP, CCRP). While there exists a policy question in these projects about the use of BPA funds to support basic personnel in other federal and state agencies, the cost effectiveness of these projects for accelerating habitat restoration activities is impressive. A compelling aspect of the program and the project request is the ability to leverage significant amounts of federal support ($3-4 million) through the well-established CRP programs with a modest investment by BPA of approximately $70K.

Landowners in the middle Columbia area (like those in the upper Columbia and upper Snake) are cautious about their support for and involvement in federal aid programs. This caution is often overcome by the personal relationship of local fish, wildlife, and land managers with local landowners. Presently, most of the SWCD offices appear to have more requests from local landowners for assistance with riparian buffer enhancement than they can process in a timely manner. Enthusiasm for and participation in the program could be jeopardized if the lag time between landowner request and project implementation is too great.

SWCDs should consider lumping their proposals (and presentations), as they are very repetitive. Also the basin has made a decision through the provincial review process to approach project review and funding through a geographical hierarchical structure of provinces and subbasins. The SWCDs should also adopt this approach within the NPPC-BPA funding arena. If partitioning of funding to individual SWC districts is needed for cost accounting within the SWC agency hierarchy, this can be accomplished within the budgeting portion of the proposal solicitation form (Part 1).

The repetitive nature of the SWCD presentations and requests at the county level focus most of the presentations on repeating background information on the CRP programs, linkages to regional fish and wildlife documents and programs, and local process driven needs. What fails to emerge from the suite of presentations is an overview of the magnitude of the problem at the subbasin level (the unit of management for fish and wildlife), the role of the SWCDs in addressing the problem, and the progress that the SWCDs have made in resolving the problems.

Project ID: 25014

Establish Riparian Buffer Systems
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $67,119
2002-04 Estimate: $204,497
Short Description: Implement riparian buffer systems using cost share provided by USDA, State of Oregon, and private landowners (RPA Action 152).
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. See comments above for this set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive.

Project ID: 25048

Accelerate the Application of Riparian Buffers in the Upper Deschutes Subbasin
Sponsor: Wy'East RC&D
Subbasin: Deschutes
2002 Request: $73,985
2002-04 Estimate: $218,619
Short Description: A project to apply riparian buffers to remove sediment and nutrients, stabilize stream banks, improve fish habitat, provide food sources, nesting cover and shelter for fish and wildlife in riparian ecosystem habitat in the Upper Deschutes Basin.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. See comments above for this set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive.

Project ID: 25080

Gilliam SWCD Riparian Buffers
Sponsor: Gilliam SWCD
Subbasin: John Day
2002 Request: $75,086
2002-04 Estimate: $232,080
Short Description: Plan and implement riparian buffer program using USDA, Oregon and private landowner costshare.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. See comments above for this set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive.

Project ID: 25073

Wheeler SWCD Riparian Buffer Planning and Implementation
Sponsor: Wheeler SWCD
Subbasin: John Day
2002 Request: $75,086
2002-04 Estimate: $232,080
Short Description: This project will implement a riparian buffer program using cost share funding from USDA, State of Oregon and private landowners.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. See comments above for this set of SWCD proposals. This proposal is to implement riparian buffer systems in the Lower John Day subbasin. It includes 1 FTE to provide the technical planning support

to implement 60 riparian buffer system contracts on private lands under the USDA CRP and CREP. Activities will include planting and fencing. Willing landowners have been identified but technical support to help them develop conservation plans is missing. This project has excellent coordination with other agencies and close ties to related projects. Another cost-effective project from a SWCD that will leverage large amounts of USDA money for riparian restoration.

Project ID: 25047

Morrow County Buffer Initiative
Sponsor: Morrow SWCD
Subbasin: Umatilla
2002 Request: $75,086
2002-04 Estimate: $232,080
Short Description: Implements riparian buffer program using cost share provided by USDA, State of Oregon, and private landowners.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. See comments above for this set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive. The proposal is well prepared. Protection of riparian areas is an important part of watershed restoration. It is troublesome, however, that some potential participants in the program have declined. The reason offered was a lack of staff. However, there was a proven record of accomplishment and an experienced planner. They should pick at least one buffer site as a model or demonstration "show case" site. A hydro-geomorphological model of a fully buffered system might prove instructive, particularly when 50 or 100-yr flood events are considered. This seems like a worthwhile project to parlay one FTE of BPA funds to attain over $2 million in other funds. The proposed work to foster riparian buffer protection and rehab is surely needed and in the regional plans. Drumming up landowner interest is a big job and one that seems to have slipped recently. Riparian buffers are good in their own right for fish and wildlife, but it would have been good to have the affected fish species listed. Better recognition of other BPA-funded projects in the area would have been useful. There is no M&E, but good riparian improvement may be judged without a specially funded study, or by using a modeling approach and/or demonstration sites. We applaud the partnership approach.

Project ID: 25077

Umatilla County Conservation Buffer Project
Sponsor: Umatilla SWCD
Subbasin: Umatilla
2002 Request: $152,368
2002-04 Estimate: $470,954
Short Description: Implement buffer program using cost share provided by Confederated Tribes Umatilla Indian Reservation, USDA, State of Oregon, and private landowners.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This seems like a worthwhile project, and one with a lot of cost sharing. Three basins are covered here. A restoration plan is required, with all of its components. The proposal suggests M&E is not applicable. We disagree, there is a need some indication of success – consider an evaluation process and a demonstration site. Here and elsewhere, an alternative to the 15-yr lease should be explored, if any. Streamline the watershed rehabilitation process into a standardized approach, regardless of agency involved. Protection of riparian areas is an important element in restoration and stabilization of watershed processes. However, data are not provided to show that the strategy proposed here has potential for protecting enough of the total riparian area on any given stream to significantly improve habitat for salmonids. Proposals in all provinces need to be based on knowledge that there is a solid relation between substrate composition in a stream and the miles of stream bank in protection, and on knowledge that there is a strong relation between substrate composition and salmonid habitat productivity. These relations can provide a basis for estimating benefits expected from an investment. Can project personnel show that there is great potential, in the foreseeable future, for

protecting enough riparian area at each site to cause significant increase in valuable fish populations? How will this be evaluated?

Project ID: 199901000

Mitigate Effects Of Runoff & Erosion On Salmonid Habitat In Pine Hollow and Jackknife
Sponsor: Sherman SWCD
Subbasin: John Day
2002 Request: $41,980
2002-04 Estimate: $122,580
Short Description: Implement practices to reduce erosion and flooding, allowing natural recovery of riparian vegetation and channel type in Pine Hollow and Jackknife Canyons. Future phases will focus on replanting or protecting critical areas in the stream corridor.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fund with high priority. This is a companion proposal for Sherman County Water Conservation District proposals #25050 and #25006. This proposal discusses the enrollment of the Mobley ranch in the CREP program with two others that have initiated discussions for CREP. The CRP and CREP programs have potentially high payoffs in the Columbia Basin.

The proposed work would recover riparian habitat in Pine Hollow watershed and Jackknife Canyon to slow runoff during peak flows and increase summer flows. The watershed restoration activities were developed cooperatively with landowners through a watershed council. There is excellent coordination and cost-sharing among agencies and other groups. The project will develop 6 range management plans and implement sediment controls, upland pasture watering, pasture reseeding, brush control and fencing. Installations will be monitored. Water temperature will also be monitored, and annual spawning surveys will be conducted. This is another low cost proposal from a SWCD that has the benefit of being developed cooperatively with landowners. It looks extremely cost-effective.

Project ID: 25006

Provide Coordination and Technical Assistance to Watershed Councils and Individuals in Sherman County, Oregon
Sponsor: Sherman SWCD
Subbasin: John Day
2002 Request: $95,670
2002-04 Estimate: $229,777
Short Description: One watershed council coordinator and two planner/designers will provide support to five watershed councils in Sherman County. All future conservation projects will be based on watershed plans and individual ranch plans developed by these positions.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal from the Sherman County SWCD is another cost-effective SWCD proposal that would provide a watershed coordinator and two planners for 5 watershed councils to help them implement conservation projects with agricultural landowners. The predominance of agricultural use of the land means that conservation plans must fit within the overall operating plan for the agricultural enterprise. The project would produce resource management plans that would be implemented with cost-share funding from state and federal agencies. The new FTE would replace services that were formerly contracted or provided in-kind by NRCS. The proposal provides a convincing case for the need to fund these activities, and presents good detail on objectives and methods. It also supports project 25050 (conversion to direct seed/no till wheat agriculture). It is unclear if the planned personnel would also help landowners to prepare the paperwork to establish CRP and CREP proposals for streamside buffers or to take upland cropland out of production. Provisions should be in place to monitor and evaluate the success of these personnel.

Project ID: 25050

Provide Incentives to convert to direct seed/no-till farming in Sherman County, Oregon
Sponsor: Sherman SWCD
Subbasin: John Day
2002 Request: $164,440
2002-04 Estimate: $481,320
Short Description: Sherman Co. SWCD will provide incentive for two of three crop years for farmers to convert to no-till/direct seed farming. Conservation Plans will be written by SWCD or NRCS personnel. No-till provides improvement in watershed hydrology & sedimentation.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This proposal is to provide monetary incentives to farmers to convert to no-till farming. The proposal presents good justification for performing the experiment with no-till farming; however, it is sparse in information on objectives, tasks, and methods.

The proposal should take an experimental approach to the question of the economic viability of no-till farming, rather than asserting that it hopes to demonstrate the economic viability of no-till farming. Does the no-till method require the long-term use of herbicides? What is the potential for negative effects on water quality, fish and wildlife from use of herbicides?

Saying "economics will also be monitored " is not sufficient. The economics of alternate farming practices are the basis of this experiment since the stream hydrology benefits are apparently known. The proposal should provide much more detail on who will conduct the economic analysis of no-till results and the methods to be used by the economic analysis. An economic analysis could compare this no-till program to putting cropland subject to high erosion into the CRP and CREP. Should the land subject to high erosion be totally taken out of production via the CRP?

An agricultural economist should be involved from the beginning of the experiment rather than at the end after the data have been collected. The economic analysis should be designed and conducted by a trained economist.

Project ID: 25051

Columbia Plateau Natural Resources Collaborative (CPNRC)
Sponsor: NRCS
Subbasin: John Day
2002 Request: $823,200
2002-04 Estimate: $3,063,600
Short Description: Establish collaborative process to provide assistance to local watershed groups on subbasin planning, ESA/CWA integration, and implementation funding to facilitate conservation application to restore salmon and water quality on private lands.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do not fund. This proposal would establish cooperative multi-federal agency provision of planning and technical assistance to agricultural landowners through existing local conservation partnerships for the purpose of accelerating the implementation of conservation activities. The idea is to establish a single planning process that would streamline all the various regulatory requirements. The project has 2 components: interdisciplinary planning and field office implementation.

The proposal is a large and expensive one that is focused on increasing staff size substantially. Funds are requested for 2.5 FTEs, equipment, travel and supplies. While streamlining requirements is a good idea, the proposal does not make a compelling case that adding an additional layer of coordination group would fix

the problem, nor does it establish the critical need for the proposed services. The present staff appears competent but the proposed project seems to be top-heavy with planners.

The proposal asks for a significant amount of money ($823k) to fix a coordination problem across federal agencies, without establishing that a lack of money is currently limiting the coordination. If there is a problem with federal agency coordination, why don't the staffs of the federal agencies in question fix it through existing means?

The proposal lacked a sharp focus and seemed to alternate between suggesting it would work directly with the landowner (which the SWCDs already seem to do well!) or suggesting that it's best efforts might be to serve as a liaison / support center for the SWCDs in assisting them to implement riparian buffer actions with the local landowner through CRP programs. How much redundancy is there between the work proposed in this project and the functioning of the SWCD projects in implementing the CRP activities at the level of the individual landowner? The proposal and presentation asserted that their larger staff and more regional perspective would be a resource asset to the SWCDs and would significantly speed up the implementation of CRP-funded riparian buffer enhancement from the perspective of the local landowner. No indication was made whether the SWCDs shared this view.

The SWCD proposals working at the grass roots level seem to provide the same services in a much more cost-effective manner. The cost of this project versus the SWCD projects differs by nearly an order of magnitude. Would the benefits of this project deliver benefits in line with the difference in cost?

Project ID: 25099

Oregon CREP Improvement Project
Sponsor: OWEB
Subbasin: Mainstem Columbia
2002 Request: $433,725
2002-04 Estimate: $1,153,725
Short Description: This project provides outreach and technical assistance for the CREP program in Oregon. The project will also develop a long-term easement option for the CREP Program.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do not fund. No response warranted. Although, the project could offer real benefits, the proposal does not provide enough information to evaluate its merits. It is not clear that merely developing the capacity to offer long-term easements will benefit salmonid production. Developing greater public awareness and providing outreach information may increase riparian restoration and protection if that information is a limiting factor for involvement with CREP. That connection needed to be made in the proposal.

Project ID: 199401806

Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat
Sponsor: Columbia CD
Subbasin: Tucannon
2002 Request: $352,625
2002-04 Estimate: $1,152,038
Short Description: Implement, assess, and monitor habitat cost-share projects coordinated through the Tucannon River Model Watershed Program, a "grass roots" public and agency collaborated effort to restore salmonid habitat on private and public property.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if an adequate response is provided that addresses the ISRP's concerns. Maps of the subbasin and fish distributions in the proposal were very helpful. The Program has been implementing on-the-ground habitat projects guided by the Plan since 1996. Summary tables of expenditures and tasks

accomplished were helpful. A two-year water quality reassessment was completed in March 2001 by WSU Center for Environmental Education and a final report is currently being written. Nevertheless, the results of these assessments were not reported in the project proposal.

This proposal requests an additional $2 million to continue implementation of the Tucannon River Model Watershed Plan. Apparently, the program was initiated based on a premise that fish habitat in the Tucannon River would be improved by "… increasing pool and spawning habitat quality & quantity through geomorphic stabilization, riparian bio-function restoration, increasing complexity, maintaining adequate flow, and reducing water temperature and sediment" (page 2). That focus has since been lost and the program now is largely devoted to development of bio-engineered instream structures. This amounts to getting the cart before the horse. The program should return to pursuit of restoring geologic, geomorphic, and riparian processes. The processes restored will determine what stream characteristics can be maintained. Once these processes are restored, bioengineering projects may be appropriate to adjust some conditions.

Monitoring of physical conditions is part of the project. The proposal reports that data were gathered to represent some pre-project conditions and for one year since the projects. These data should be included in the proposal. In the FY2000 Review, the ISRP also commented that the sponsors needed demonstrate the biological benefits of this project. The project history section relates administrative level history of the project, but completely fails to provide any summary of biological benefits achieved to date. The table of tasks completed – weirs installed, feet of fencing installed, etc. – does not constitute a summary of biological benefits achieved.

Objective 1 of the proposal is to "Improve adult pre-spawning survival" and Objective 2 is to "Improve juvenile survival" (page 12). There doesn't seem to be any monitoring of survival to assess progress in meeting these objectives. At minimum, there should be monitoring to determine whether or not survival of the pre-spawning adults and juveniles is increasing as a result of program activities.

The budget raises a number of uncertainties. Under personnel, two PI's are listed, both employees of the Watershed Council, and the budget asks for ~ $40K support for them in their administrative capacities. Budget also lists $65K for monitoring and evaluation to an unspecified subcontractor. The proposal should identify either the specific subcontractor (and provide qualification information) or a set of criteria that the subcontractor must meet in order to conduct the monitoring and evaluation.

Similarly, the budget under Section 8 lists $211K for "cost-share" activities, which seem to be associated with implementation or installation of many of the stream and habitat improvement actions. This is confusing because later in Section 8 the budget lists a separate cost-share section from various collaborators that totals $315K. Likely, the first "cost-share" number is money for subcontracting to implement stream restoration activities. This needs to be clarified and information on the subcontractors or their qualifications and expertise needs to be provided.

Project ID: 199401807

Garfield County Sediment Reduction and Riparian Improvement Program
Sponsor: Pomeroy Conservation District
Subbasin: Mainstem Snake
2002 Request: $212,000
2002-04 Estimate: $642,500
Short Description: Coordinate, implement, and monitor conservation practices for the reduction of sediment from the uplands of Garfield County and enhance habitat in the riparian zones of the streams to improve water quality for Steelhead and Chinook Salmon.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This is an ongoing project in part. It appears to have been previously directed to conditions in the Pataha Basin, but is now being expanded to entire Garfield County. Project personnel acknowledged (page 12) that management of riparian areas and uplands are key elements in determining the quality of streams for native fishes. Apparently they came to this conclusion after failure of efforts in site-specific engineered projects. It would be useful for these investigators to document the evolution of their thinking so that others could benefit from their experiences.

The work has been ongoing since 1993, presumably including monitoring of project successes and failures. No data were presented to facilitate a review of progress in increasing fishery or habitat benefits. Data were discussed concerning the amount of soil erosion prevented by no-till farming. Large amounts of topsoil seem to be retained by this method showing it to be an effective soil conservation measure, but that result does not translate directly to improved fishery benefits. The proposal needs to include fishery/habitat benefit information, or there is no basis for continuing the work as an element of a fish restoration program. This far into the program, information should be coming available to begin forming a relation between sediment in streams and percent of acres in no-till, for example.

What is the evidence to convince skeptical reviewers, ranchers, and rate-payers that increasing investment in this project is helping to increase fish abundance, or that it has any realistic chance of significantly improving conditions for fish in the foreseeable future?

The sub-basin summary includes monitoring of water temperature, stream discharge, and data to be obtained by WDFW concerning habitat measures and fish utilization. The proposal would benefit if any of these data can be used to show benefits from the project.

The Sub-basin summary also includes the following statements. “The Pataha Creek Water Quality Monitoring Project (Project), a collaborative effort between the PCD and WSU, was initiated in September 1998. The Project aims to assess the success of agricultural management practices for Pataha Creek. Project objectives include 1) providing evidence of the effectiveness of PCD efforts to address key water quality parameters, and (2) providing baseline data for assessing the creeks' water quality status. The PCD is also collecting data from 2 ISCO samplers that are located in upper Pataha Creek and the lower Tucannon River. The PCD has operated these samplers for three years and samples twice daily for TSS. The samples have shown that the sediment delivered into Pataha Creek originates from runoff events caused by thunderstorms and/or rain on frozen ground conditions. The implementation of upland conservation practices along with riparian restoration projects will eventually reduce this problem.” Any data available from this monitoring should also be presented in the proposal to help show whether the program is showing benefits or alternative approaches are needed.

The response should further describe the project’s selection of monitoring approach (tier), for establishing the project's biologically measurable results, and the justification of this selection (see ISRP's general comments on monitoring).

Bull Trout

Project ID: 199405400

Bull Trout Abundance Monitoring in the Lower Deschutes River formerly "Bull Trout Genetics, Habitat Needs, L.H. Etc. In Central And N.E. Oregon"
Sponsor: CTWSRO
Subbasin: Deschutes
2002 Request: $137,000
2002-04 Estimate: $371,000
Short Description: Methods for monitoring juvenile and adult abundance will be evaluated to determine accurate and cost effective means of assessing the recovery of bull trout populations in the lower Deschutes River.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The stated objective is to test night snorkeling efficacy versus day snorkeling or electrofishing is likely not necessary. Night snorkeling is generally recognized as an efficient method for detecting bull trout. There may be logistical reasons to explore to the relationship between detections based on day snorkeling and day electrofishing, however the proposal could have described this need more compellingly. Thus, the need for tasks associated with this objective need to be better justified to support funding. For the purposes of management of bull trout in the Deschutes basin, it is doubtful that the precision generated by the methods comparison is necessary. Relative abundance and trend data probably give sufficient resolution for most management level questions.

The proposal implies that part of the rationale for the comparison of sampling methods is the inclusion of the Deschutes data into a larger regional bull trout dataset being assembled by Russ Thurow and colleagues at the USFS Rocky Mountain Experiment Station in Boise. The presentation amplified this relationship. The proposal needs to provide additional documentation on the linkage to the USFS regional protocol and the involvement of Thurow et al., even if no funding is allocated to the Boise station.

Study reaches need to be selected in cooperation with Projects #25088 and #25010.
Use of index reaches (Objective 1 and 3) or survey of known spawning ground surveys (Objective 3) have proven to be unacceptable in most fisheries monitoring and evaluation programs, e.g., the Oregon Coastal Coho surveys where they have been replaced by probabilistic sampling procedures developed by the EPA\EMP program. Selection of long-term sampling reaches for this project should be selected in cooperation with Projects #25088 and #25010. “Index sites” could be used for development of subsampling procedures, but they should be part of a systematic sample of collocated sites if possible.

Project ID: 199405400

The Population Structure of Bull Trout in the John Day River and Abundance of Bull Trout in Mill Creek.
Sponsor: ODFW
Subbasin: John Day
2002 Request: $86,400
2002-04 Estimate: $259,300
Short Description: To aid in conservation efforts, assess the population structure of bull trout in the John Day River subbasin, explore methods to monitor the abundance of bull trout in Mill Creek, and describe the piscivorous nature of bull trout in various environments.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable but a response is needed that addresses the ISRP concerns. We strongly support the proposed estimation of abundance before long term monitoring for abundance and distribution are implemented on the province level.

Clarify on genetic aspect and linkages to Deschutes project and Boise USFS Experimental Research Station regions oversight project.

What is meant by the term "diagnostic" loci? Generally, this term is used with respect to a locus that has taxa specific alleles, such that two species like bull trout and brook trout and their hybrids can be identified. Many DNA-based assays can easily differentiate between bull trout and brook trout, new diagnostic loci are not needed. In this instance, it seems more likely that the new loci have increased levels of variation that may be useful in providing increased resolution among bull trout populations within the John Day basin. The proposal should clarify this point and more fully justify the additional genetic analysis that is proposed.

This proposal has the same project number and a similar goal to that of the Deschutes basin project 199405400 but appears to focus on a different set of measurements. The Deschutes project focuses on a comparison of day snorkeling, night snorkeling, and electrofishing, while the John Day project proposes examining use of weir counts, juvenile surveys, environmental characteristics, or a combination of these methodologies, as well as direct (mark-recapture, snorkel counts calibrated for sampling efficiency) and indirect (redd counts, weir counts). Why the different approaches?

Project ID: 25053

Evaluate bull trout movements in the Tucannon and Lower Snake rivers
Sponsor: USFWS - IFRO
Subbasin: Mainstem Snake
2002 Request: $81,626
2002-04 Estimate: $477,491
Short Description: Determine spatial and temporal distribution of migratory bull trout in the Tucannon River and Lower Snake River. Estimate "take" and identify passage limitations in the Snake River resulting from the hydropower system.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal is result of careful planning and thinking. Unfortunately, its success may be limited by a lack of suitable fish for tagging. Can some arrangement be made to delay the project if a useful number of fish are not available this year? Agency accounting procedures may preclude the investigators from delaying project implementation for a year if the fish are not available.

The project intends to collect information that is not now available on bull trout movements.

This project is timely in that it would make use of telemetry equipment already set up by USGS at the regional dams of interest (Snake R. dams). A few extra telemetry stations on the Tucannon would add to the network that could remotely detect the tagged bull trout. Some additional manual tracking would be needed where fixed monitors are not available. It seems like a good opportunity to learn more about the potential long-range migrations of this still somewhat mysterious species.

They might consider acoustic tags for alternative marking schemes for some components (e.g., bull trout utilization of deepwater habitats or reservoirs).

Project ID: 25012

Assessment of bull trout populations in the Yakima River watershed.
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $243,947
2002-04 Estimate: $558,947
Short Description: Assess the status of bull trout populations and collect baseline information necessary for the development, implementation and recovery of bull trout inhabiting the Mid Columbia Recovery Unit (i.e., Yakmia subbasin).
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. Reasonable proposal. Work appears guided by several subbasin and regional planning documents. Work is also coordinated (at least to some degree) with the larger regional efforts on bull trout headed by the USFS Rocky Mountain Research Station in Boise.

Presentation was well organized and the PI seemed familiar with local issues, as well as bull trout literature and protocols.

One question with this proposal has to do with the linkages to other bull trout assessment proposals in the Columbia Plateau province (Deschutes, John Day and Umatilla) and the standardization of methods and approaches. All proposals rely on the AFS bull trout survey protocol; however, the Yakima proposal simply indicates that they will use the protocol methods and supply the results to the Boise USFS effort. No discussion of the strengths and weaknesses of the AFS survey method and its application to Yakima BT is provided; whereas a major component of the Deschutes basin is an evaluation of the efficacy of night or day snorkeling or electroshocking.

Why is this an issue of concern in one subbasin in the province, but not in others? If the concern expressed in the Deschutes proposal is valid, then the concern should be addressed in all bull trout proposals in the province and a coordinated research effort should be developed among the proposers and that is overseen and coordinated by the USFS Rocky Mountain Research Station in Boise. If the concern is not valid, then it should be deleted from the Deschutes proposal. Finally, on the chance that it is valid only for the Deschutes proposal, then it should be retained there only.

Several proposals and presentations indicated that the AFS protocol was a preliminary one, and that data collected from these projects would be provided to the Boise USFS effort as part of a regional effort to evaluate and fine-tune the survey protocol. If that is so, one wonders if the differing approaches suggested in the Columbia Plateau province bull trout assessment proposals can supply the level and kind of information needed to evaluate and revise the survey protocol as opposed to a more organized regional data collection approach.

Objective 3. Determine adult migration and seasonal movement patterns through radio tagging and monitoring, and adult trapping below spawning areas.

The proposal lacks meaningful detail on the numbers, sites, locations, extent of effort, etc, on the planned radio-tagging objective. How will the radio tag portion of the study get directly (rather than indirectly) at the question about movement among bull trout populations in the Yakima? Radio tag studies are relatively expensive with respect to equipment and manpower, as well as generally limited in the number of populations and individuals that can be investigated. Given these limitations, selection of populations and locations becomes critically important in order to address population levels questions (questions and observations that have inferences beyond the movement data of the individual tagged fish).
How extensive will the anchor-tagging program be? Every fish? Every other fish? What numbers of bull trout are collected in the Roza collection facility? Are there other adult collection sites that will be used to identify adults for the radio-tagging studies?

Objective 5. Genetic attributes.
What are the number of populations and numbers of samples from each population that are your annual goals for the genetic inventory portion of the proposed work?

Lamprey

The projects below form the overall investigation proposed for assessing the distribution and abundance and identifying limiting factors in lamprey. These projects should be considered as one overall submission as a comprehensive study on lamprey in the Columbia. Missing, however, is the coast-wide trend or indicators of abundance - lamprey are near extinct in BC coastal streams on Vancouver Island. The decline is not just a Columbia River issue. What is the temporal and spatial scale of this decline? Given that it is likely large in geographic scale (matching the steelhead and salmon scenario?), it suggests that causes are more related to oceanic conditions than those in freshwater. Do the declining trends most closely match climatic changes or habitat alterations?

Nonetheless, deteriorating freshwater conditions (and previous harvest?) may have added insult to the injury, and, as in salmon recovery, perhaps this is where benefits (increases in productivity and capacity) might be eventually expressed as increased adult return. Something of the recruitment relationship would have to be known to determine the likely benefit of this suite of proposals, but there is no indication of that recruitment knowledge in these proposals, or if it is even possible to obtain. Given that these studies might provide a hint of the feasibility of understanding lamprey recruitment and limiting factors (at least in freshwater), they should be supported. Some additional preliminary study is suggested. Some comparison with results in existing databases may be useful as a preliminary investigation. That information, and what may be known of lamprey life history features of age, growth, survival and fecundity might serve to form a preliminary model of recruitment (perhaps available from Great Lakes research) to ascertain the key sensitive life stages, that may be useful in suggesting where these studies should focus their efforts, or develop hypotheses to test with lab and pilot field studies. The same hypotheses proposed for salmon declines may apply. The lamprey declines may not be directly related to the salmon declines as a food source, since they seem to be plenty of hatchery smolts available to make up the difference. It would be good to have these related projects collectively reviewed by other lamprey biologists on the Pacific coast (Dr. Beamish) and in Ontario (e.g., http://www.on.ec.gc.ca/success-stories/co/lamprey-e.html).

Project ID: 199402600

Pacific Lamprey Research and Restoration
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $520,464
2002-04 Estimate: $1,530,464
Short Description: Implement and monitor Pacific lamprey restoration plan developed for the Umatilla River. Assess ability of Pacific lampreys to detect migratory pheromone emitted by larvae, test for genetic differences.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This is a thorough proposal on an important subject. The project appears to be heading in productive directions and is covering just about all topics one might conceive, from monitoring numbers to studies of pheromones and genetics. This project is being conducted with great enthusiasm and energy, which we appreciate. These three lamprey proposals are so closely related that we believe the sponsors would benefit (as would the ISRP in reviewing them) by a joint outline of their goals and objectives, along with a list of tasks that are designed to achieve them. (What we are asking for is probably much briefer and more specific than the “Restoration Plan for Pacific Lamprey” that is referred to in this proposal.) All of these proposals would benefit from development of a sharper focus on the primary goal, which is to restore fishable populations of Pacific lamprey in the Umatilla River. The decline in abundance can be taken as a fact, the explanation for which might lie in a number of

directions. The fact that the decline is basin-wide indicates that the primary unit of organization for the projects is not necessarily at the tributary level, nor the agency level, but should be broader. Possible explanations for the decline should be specified as alternative hypotheses. Tasks should then be specified that might lead to rejection or confirmation of the particular hypothesis. For example, the text implies that construction and operation of the hydroelectric system in the mainstem has led to reduction because of inability of lamprey to ascend the fish ladders. This deserves to be tested by first-hand observation. For example, we are aware of observations reporting lamprey ascending dams outside of fish ladders. As another example, the task of planting adult lamprey from other systems should be viewed as a test of the hypothesis that the population is limited by the number of adult spawners. A study following up on the planting should focus on observing the results of the plants, both with respect to adult responses, and production of juveniles. Possible interactions with lamprey that are already present should be anticipated and an attempt made to evaluate the effects. The tasks required should be specified.

We suggest further exploration of literature on the subject, which may lead to further alternative explanations for the decline in abundance of Pacific lamprey. For example, Pacific lamprey have been reported to be significant parasites on salmon. There are publications documenting the frequency of lamprey wounds on returning adult salmon. Perhaps the decline in abundance of salmon is an alternative hypothesis that might explain the decline in abundance of lamprey. A number of fishes are known to be predators on lamprey, and so on… Lamprey must be viewed as one component in a complex ecosystem, within which they may interact with many other organisms.

The response should consist of a revised outline of objectives and tasks that are directed at discovering factors currently limiting abundance of Pacific lamprey.

The suite of lamprey projects appears to be, and needs to be closely coordinated.

Please respond to general ISRP comments on this set of Lamprey projects provided above.

Project ID: 200005200

Upstream migration of Pacific lampreys in the John Day River: behavior, timing, and habitat preferences
Sponsor: USGS/CRRL
Subbasin: John Day
2002 Request: $271,956
2002-04 Estimate: $746,956
Short Description: Using radiotelemetry, we will determine behavior (timing and movement patterns) of upstream migrating Pacific lampreys in the John Day River Basin. Overwintering and spawning habitats of Pacific lampreys in the John Day River Basin will be characterized.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. How is this project related to other lamprey studies, #199402600 and #25007? See our comments on #199402600 above. Habitat selection should be evaluated by contrasting sites used (say for spawning or rearing) to sites available. Without comparison of used sites to available sites (selected by random or systematic procedures) the analysis is incomplete (Manly et al. 1993).

Monitoring for abundance and distribution of lamprey should be coordinated with projects #199703400, and #25084, and #199801600 for water quality, chinook, and steelhead monitoring. Monitoring sites should be selected by probabilistic sampling methods and sites should be colocated among the various monitoring efforts in so far as possible.

Manly, B.F.J., L.L. McDonald and D.L. Thomas. 1993. Resource selection by animals: Statistical design and analysis for field studies. Chapman and Hall, London.

Please respond to general ISRP comments on this set of Lamprey projects provided above.

Project ID: 25007

Determine lamprey species composition, larval distribution and adult abundance in the Deschutes Subbasin
Sponsor: CTWSRO
Subbasin: Deschutes
2002 Request: $125,440
2002-04 Estimate: $341,382
Short Description: The project will determine lamprey species composition and larval distribution in the Deschutes R. and tributaries. Adult abundance will be estimated in the Deschutes R.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. Among other pertinent facts, summarized from the fisheries literature, is information on the habitat preference of Pacific lamprey amocoetes. They are quite selective as to substrate type. This might be taken into account in the sampling plan to estimate their total abundance in the stream. The plan described seems inefficient. Lamprey are not likely to be found in cobble or boulder substrate, which probably predominate. A more efficient plan would require some information on location and abundance of substrate types, which might not be available prior to the sample survey. Stratification is ok if the habitat type stays consistent over time.

Sponsor of this proposal should participate in development of the response requested for #199402600 above.

Do not fund until sampling procedures are coordinated with other fisheries and water quality projects. Sampling (stream reach) should be coordinated with Projects #25088 and #25010. We see no reason to have multiple basinwide sampling procedures implemented in different projects. Subsampling procedures can be unique to the project.

Information transfer needs to be to a wider audience.

Please respond to general ISRP comments on this set of Lamprey projects provided above.

Project ID: 25101

Use of Mainstem Habitats by Juvenile Pacific Lamprey
SponsorName: PNNL
Subbasin: Mainstem Columbia
2002 Request: $89,238
2002-04 Estimate: $89,238
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if an adequate response is given to the ISRP's concerns. This is a short but well-prepared proposal by a qualified group with the required expertise, experience and equipment. The proposal would examine the use of the mainstem Columbia River by juvenile Pacific lamprey. They intend to conduct the study in the Hanford Reach and in the tailrace of four Columbia and Snake River dams. The study is based on a presumption that declining runs of lamprey were caused by degraded river conditions. They intend to classify habitat types in these reaches, electrofish to find which habitat types lamprey are using, and use these data to locate other such sites in the system. These data will be used to project where restoration activities (undefined, and in need of clarification) may be useful.

Reasons for the decline of lamprey are unknown. However, a review of previous investigations in the mainstem must contain information on amnocoete distribution and abundance in the past - this can not be the first time an electroshocker passed through the area? That review and data should be presented. For this study, relating abundance to habitat features in a multi-variate statistical analysis is difficult if not

subject to misinterpretation where there are large patches of vacant habitat due to lack of recruitment, i.e., the current situation.

If there is not existing data, the proposal should be written to respond to the absence of information regarding use of these mainstem habitats by juvenile lamprey, and its potential importance for future fish and habitat managers.

Some potential habitat in the mainstem will be very difficult to sample for juvenile lamprey. How will the investigators ensure that their sampling will provide a legitimate basis for excluding some habitat types as of low importance for lamprey?

Presumably the investigators are participants in the Lamprey Working Group, and they are involved in regular discussions with others working on lamprey projects in the Basin such as work to assess juvenile lamprey distribution and abundance in the Deschutes River?

The proposal seems to be for three years, but budget request is for one year. The budget that is presented includes funds for a sub-contract the purpose of which is not obvious.

Please respond to general ISRP comments on this set of Lamprey projects provided above.

Deschutes Subbasin

Project ID: 25005

Bighorn Sheep reintroduction to the Warm Springs Reservation
Sponsor: CTWSRO
Subbasin: Deschutes
2002 Request: $70,862
2002-04 Estimate: $117,802
Short Description: This project would reintroduce Bighorn Sheep to the Mutton Mountains area of the Warm Springs Reservation. Bighorn Sheep were indigenous to the Mutton Mountains but were extirpated in the early 1900's.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This is a fairly straightforward project to reintroduce bighorn sheep to the Mutton Mountains area of the Warm Springs Reservation, an area where sheep were historically present, but where no re-introductions have yet been made. The project is consistent with the State of Oregon goal to establish viable herds of sheep in suitable habitats. Re-introductions in other areas have already taken place. This project would inventory suitable habitat, capture wild sheep from an existing herd, do health checks, apply radio collars and release animals. Movements of animals will be monitored. The goals are to establish a herd of 50-100 sheep in the area. The budget is modest and reasonable.

The response should further describe the project's selection of a monitoring approach (Tier 2 is likely needed), for establishing the project's biologically measurable results, and the justification of this selection (see ISRP's general comments on monitoring). Detailed procedures for monitoring the distribution and abundance of sheep should be documented or references to existing written documents should be given. Similarly, procedures for monitoring habitat changes should be documented or references should be given to existing written documents.

Domestic sheep are not allowed on the reservation, thus there is little risk of contacting domestic diseases. Will bighorn sheep come into contact with domestic sheep off the reservation, i.e. during winter?

Habitat sites were likely lost due to impacts by the dams. Can this statement be verified?

How successful have the ODFW introductions been in the lower Deschutes? Where are the sites?

The proponent should include a discussion of dispersal patterns, genetic likelihood of inbreeding, and the potential need for future supplementation of the herd. Rocky Mountain bighorn sheep are poor at dispersing and many introductions in the Rocky Mountains have had initial success followed by poor growth and genetic problems. Is this a problem for the California bighorns?

Escape cover and feeding habitat should be close together at the release sites and assurances should be given that sheep are from similar habitat. Is predation expected to be a problem when animals are first introduced into unfamiliar habitat? Have there been problems with predators at other ODFW release sites?

Project ID: 25074

Deschutes Water Exchange
Sponsor: DRC
Subbasin: Deschutes
2002 Request: $1,000,000
2002-04 Estimate: $2,835,100
Short Description: Develop an active water market in the Deschutes Basin to reallocate water cost effectively from out-of-stream to instream use in order to improve stream flows and water quality.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This proposal uses the opportunity to develop markets for water rights as a means to converting water to in-stream flow use. The project is directed toward the goal of reallocating water in the Deschutes Basin from out-of-stream to instream use to improve stream flows and water quality. Trout Creek is only major tributary with private rights below Pelton Dam. The project would conduct two major activities: create the market infrastructure for exchanging water rights; 2. purchase water rights. Market infrastructure would be developed through a water brokerage that provides market information and assistance in conducting exchange transactions. Purchased water rights will be converted to in-stream flows directed at a quantitative objective of 1000 cfs. The water exchange would require the hiring of a project manager. Major budget items are for the purchase of water rights, which would be permanently converted to in-stream flows.

More detail should be provided on the following:

1. What are the major factors limiting the development of private water markets? Why is public funding for market infrastructure necessary? If it is necessary, does this project have endorsement from OR Water Trust or other potential user?
2. Would you anticipate that private brokerages would eventually take over this function? How will this transition be made, and at what point?
3. What are the existing mechanisms used to permanently transfer water to in-stream flow?
4. How will the alternatives of lease, conservation or direct purchase be prioritized to obtain in stream flow? In general, long-term leases or direct purchases would seem to be more appropriate than conservation. Purchases should also include riparian habitat protections when possible.
5. What is the current source of information on water transactions? Will this project duplicate existing services?
6. What is meant by a “non-profit” water market?
7. How is the current water shortage likely to affect voluntary donations?

Project ID: 199802800

Trout Creek Watershed Improvement Project
Sponsor: JCSWCD
Subbasin: Deschutes
2002 Request: $465,100
2002-04 Estimate: $996,700
Short Description: Implementation of practices that will enhance steelhead smolt production and habitat recovery following completion of a watershed assessment/long-range plan currently being conducted.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This proposal is to fund the Trout Creek Watershed Council to conduct a watershed assessment and develop a long-range plan for the Trout Creek Basin. The proposal presents the history, background, complexity, and multi-party involvement that exist in the Trout Creek watershed restoration efforts. The Trout Creek Watershed Council has been working cooperatively with ODFW to conduct the watershed assessment and will continue cooperative work in the development of a long-range action plan. Work will be conducted through cooperative agreements with private landowners. The proposal makes a good case for the proposed actions, as well as their sequence for implementation. Unfortunately, details (either methods or implementation details) are generally missing from the proposal, making review difficult.

More information is needed on the following:

General comments:

A big part of the budget is cost share of repairing "Corps Berms": why is this a BPA problem? Cost justification is pretty vague for >$1M over next few years.

The objective of increasing steelhead spawning is laudable but has no monitoring/evaluation attached to it, i.e. steelhead stock assessment, even if by another project.

Comments specific to tasks:

Tasks 1-3 – Comprehensive Watershed Assessment and Long-Range Watershed Restoration Plan. Lay out the schedule, process, steps to be followed and the anticipated deliverables from present to completion of a long-range watershed restoration plan (Task 2) and a monitoring plan (Task 3). How long has the watershed assessment been in process? The proposal sounds like it has been an ongoing process that has no specified end date.What are the results of the assessment to date on the 8 listed components? The project's historical success is not thoroughly presented in either biologically or geomorphologically measurable terms, but only in numbers of projects accomplished.

Task 4 – USACE stream restoration project. Lay out the schedule and the anticipated deliverables from present to completion of this project. What is the target end date? What process will be used to develop the plan? This section should describe the specific sites, actions, and methods to be used in the project.

Task 5 – Install infiltration galleries. Additional background and context information in this section would improve the proposal. How many pushup dams exist in the Trout Creek basin? How many have already been replaced? How many have been identified as priority sites for replacement by infiltration galleries? This proposal intends to add 7 galleries to the basin. How many are left to be done and how long will it take?

Task 6 – Offsite solar water systems. Similar observations as made for Task 5.

Task 7 – Road crossings. Proposal indicates that BPA will provide culvert funding. Other locations we have visited are attempting to use open arch passageways as much as possible for obvious ecological reasons. What types of culverts are planned for use and what is the justification for that type of culvert?

Task 8 – Upland range improvements. Similar observations as made for Task 5.

Task 9 – Enroll landowners in incentive-based programs. This is a worthwhile goal and a number of proposals from various SWCDs and NRCS attempted to address this issue. The Trout Creek proposal should describe the linkages that exist (or how such linkages might be forged) among the Trout Creek Watershed Council, the county SWCDs, the NRCS, and other pertinent entities. How will information be provided? What tasks will the WC perform and how specifically will work be coordinated with the NRCS and SWCD?

Project ID: 25010

Regional Stream Conditions and Stressor Evaluation
Sponsor: ODEQ
Subbasin: Deschutes
2002 Request: $180,000
2002-04 Estimate: $540,000
Short Description: Evaluate status and trends of key factors limiting listed species within subbasins by developing a statistically based model to characterize baseline conditions and identify conditions at regional reference sites.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The ISRP strongly supports this proposal, but requests responses to some minor questions. This proposal is to use random site selection based on EPA EMAP procedures to monitor water quality, habitat condition and distribution and abundance of fish. This project would extend the current effort in the John Day and Deschutes into the Umatilla. The budget does not seem unreasonable.

This project is to establish the conditions of stream habitat, water chemistry and biological communities in the John Day, Deschutes and Umatilla subbasins. The work described will provide needed baseline information for salmon recovery. Appropriate sampling design and statistical methods are described, and there is good coordination with other state agencies and with EPA. Data summaries and interpretative reports will complement existing reports on other subbasins.

This is one of the first BPA projects (along with #25088) that the ISRP has reviewed that has probabilistic site selection as a basis for the monitoring. These methods could provide Tier II monitoring as envisioned in the BiOp and 4-H papers (Basinwide Recovery Strategies).

The plan is integrated with the Oregon Plan for Salmon & watersheds (OPSW) monitoring studies by Oregon DEW and ODFW. These methods are probably the best chance for development of subbasin and province wide monitoring efforts if the State of Washington could be brought in.

If access to sites is denied or difficult, how is the site handled in the sample? In the analysis?

Is electrofishing the only method used for assessing the fish community? Should the Hankin and Revees procedures be considered?

Does the project require someone from EPA to help implement the procedure? Or analyze the data? In general, EMAP sites are selected with unequal probability. Is this taken into account during the analysis.

The DEQ web site did not seem to include methods describing the sampling procedures or the analysis procedures. In fact, in the Grande Ronde fish survey report for 1994-99, it does not look like the EMAP sampling procedure was used. Was it?

Project ID: 199404200

Trout Creek Habitat Restoration Project
Sponsor: ODFW
Subbasin: Deschutes
2002 Request: $414,170
2002-04 Estimate: $1,264,443
Short Description: O&M and construction of instream and riparian habitat improvement; Monitoring and Evaluation of Summer steelhead smolt production and habitat recovery; coordination for basin long range plan with a goal to increase native ESA listed stock.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. When will the watershed assessment be completed? Several times in this proposal, such as p. 13, Section 4, Objective 2, Task a, the objective indicates that an action is required (e.g., locate a suitable site). The project is 7 years old and we would expect that many of these logistical decisions would have been made by this time. If so, the sites should be identified (and their selection justified). If not, some description of the selection criteria and the anticipated timeline is warranted

When will development of long-term action plan be completed? What methods will be used to develop the plan?

How will a basin-wide M&E plan be developed? What methods will be used? Smolt counts are the primary M&E indicator but the 3 years of a single count for the entire watershed are variable, perhaps related to flow, and it can't be determined how smolt production relates to restoration activities or other factors. What are the details of the outmigrating smolt trapping/sampling? The number of spawners each year is necessary to an understanding of the production of smolts: how can you estimate numbers of spawners in the watershed each year? What are the statistical methods for counting redds? How big a problem is lack of cooperation from landowners in counting redds?

How will sites be chosen for monitoring upper basin discharge and flow? Are there existing sites and if so, how were they chosen, and what will the new sites add?

What evidence is there that methods of restoration (for instance juniper riprap) are effective? Why are these methods used and others (streamside plantings, riparian buffers) not used?

What evidence is there that measures of habitat, e.g. pool area, have improved during the project?

What proportion of the existing habitat needs do you estimate will be covered through agreements with willing landowners? How serious a problem is non-cooperation?

Project ID: 25083

Special Status Wildlife Species Surveys and Priority Habitat Assessment in the Deschutes River Subbasin
Sponsor: ODFW
Subbasin: Deschutes
2002 Request: $100,000
2002-04 Estimate: $320,000
Short Description: Establish permanent sampling stations and transects for target species, conduct species surveys, and assess habitat for maintaining species viability through time
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

This proposal is weak and needs considerable revision.

This project would conduct habitat assessments, establish permanent sampling points and conduct surveys for owls, rabbits and birds in the Deschutes River subbasin to determine the need for management action. The project has strong potential for coordination with other projects but the proposal lacks specifics as to how the information from related projects will be used. The proposal language is that opportunities to coordinate project activities "will be considered." Will data be collected for three years on each species or for one year only? Either way, is the project just trying to establish presence/absence or to document trends?

1. Please clarify whether there is a direct link between the goals and objectives of the Deschutes River Subbasin summary and the priority habitat restoration opportunities identified through gap analysis in the Oregon Trust Agreement Planning Project.
2. Which TES species will this project help the CTWSRO address?
3. Specify how information provided by related projects will be used.
4. Detail on sampling design and methods should be provided. Assurance should be given that the proposal addresses monitoring as described in the introduction to this report (see Tier 2 monitoring).
5. How would BPA receive credit for wildlife mitigation if they support this project?

All of the work would be contracted out, but procedures should be adequately described to insure that the work is acceptable and useful in the end.

This is a big area, but a survey must be a survey, not study of subjectively selected study sites. This study would benefit from interaction with the EPA EMAP office in Corvallis and the Oregon DEQ in Portland. See project proposals # 25010 and # 25088. The ODFW game and non-game biologists could benefit from interaction with the fisheries biologists concerning the use of "representative survey sites."

An adequate survey might be designed by using the Northwest Habitat Institute wildlife habitat map as a sampling frame and then implementing a valid probabilistic sampling procedure such as that developed and tested by the Corvallis EPA EMAP program. However, we doubt that this map has been adequately ground truthed. We would encourage a project to systematically ground truth the Northwest Habitat Institute map by visiting a probabilistic sample of sites. Economical pilot surveys for burrowing owls, pygmy rabbits and avian species might then be conducted at those sites. We have little faith that the current habitat map has sufficient accuracy on which to develop a long-term wildlife survey.

Project ID: 25027

An Assessment of Neotropical Migratory and Resident Bird-Habitat & Bird-Salmon Relationships in Riparian Ecosystems in the Deschutes Subbasin
Sponsor: NHI
Subbasin: Deschutes
2002 Request: $113,670
2002-04 Estimate: $323,990
Short Description: Monitor riparian breeding bird community relative abundance and nest success in relation to vegetation condition on streams in the process of or proposed for restoration, as well as on a subset of streams with salmon carcass supplementation.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This is a well-written proposal to monitor riparian bird communities in the Deschutes subbasin in areas that have been restored or are in the process of restoration to establish aquatic-terrestrial links and to test the hypotheses that riparian bird abundance is influenced by the size of anadromous fish runs. The proposal has a comprehensive literature review and places the project relevance in regional context. The PI appears well qualified to do the work and the association with NHI and their mapping capabilities is a plus. The PI is also involved in several regional coordinated bird monitoring programs. The point count methods appear justified and supported by other studies and assessments. The proposal includes a good discussion of riparian habitat linkages to salmon. It makes some links to the subbasin plans, but none to the Council's FWP. Budget is modest and reasonable. It will cover collection of primary and secondary data

The most compelling aspect of the proposal is the proposed experimental test of the salmon-riparian habitat relationship using salmon carcasses in paired supplemented versus unsupplemented streams. The proposed approach however, puts this objective at the end of list of solid, but traditional avian census and habitat relationship measures. We suggest restructuring the proposal to make the salmon carcass experiment the primary objective and implement it at the start, rather than at the end of the study. If the study is structured right, all prior avian-habitat objectives should still be attainable. Have all permits and permission been obtained to supplement streams with hatchery carcasses?

A weakness of the proposal is the lack of selection of specific study sites. More information should be provided on the stream sites of interest. Will sites having different restoration treatments be selected? Objectives and methods in this proposal need to be developed to include testable hypotheses and estimable parameters.

In testing for the effect of salmon abundance on riparian bird abundance, how will it be possible to control for other factors, which may be influencing both bird and salmon abundance? E.g. how will it be possible to determine causality rather than correlation? A test for causal relationships between salmon and birds would be a strong element of this project. To what extent will it be possible to be able to generalize results to other areas? It would be useful to develop reports based on the methodologies developed during this project.

Project ID: 198805306

Hood River Production Program (HRPP): Hatchery O&M - Portland General Electric - Enron
Sponsor: PGE
Subbasin: Deschutes
2002 Request: $165,859
2002-04 Estimate: $557,854
Short Description: Re-establish a self-sustaining spring chinook salmon population in the Hood River subbasin. Broodstock will be collected from Hood River. Broodstock held at the Parkdale Facility. Incubation and rearing completed at Round Butte Hatchery-Pelton Ladder
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The bulk of this project received review (and a recommendation for funding) in the Columbia Gorge province. While this project physically resides in the Deschutes basin and the Columbia Plateau (Southwest), it would make more biological sense to review it in the Columbia Gorge province with the remainder of the Hood River Production Program. The project's stated goal is to establish a self-sustaining chinook population; however the proposal includes no indication of monitoring of the status of the chinook stock that is being established.

Project ID: 25040

Collection of baseline measurements of flow, temperature, channel morphology, riparian condition, and benthic macroinvertebrates, Trout Creek, Oregon
Sponsor: USGS
Subbasin: Deschutes
2002 Request: $239,000
2002-04 Estimate: $599,000
Short Description: Measurement of physical and ecological habitat conditions prior to an extensive channel restoration project, thus enabling future quantitative evaluation of processes and conditions affected by channel restoration
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

This proposal is to collect baseline data of physical and biological conditions on a five-mile section of Trout Creek prior to the implementation of a USACE channel restoration project. The proposal is to collect detailed baseline data of physical and biological conditions. It would be good for the authors to address specifically the minimum amount of detail necessary to evaluate the effect of restoration activities.

1. How will data collection efforts be prioritized?
2. How will the PI decide the amount of data necessary to test response? What is "adequate?"

While the channel restoration activities do offer the opportunity to evaluate the effects of channel restoration, this proposal raises the question of funding responsibility. Is it the responsibility of the USACE to fund the collection of baseline data to support an assessment of the success of restoration actions? Shouldn't this be part of the standard NEPA assessments? If this project goes forward coordination with USACE should take place at the design stage to ensure consistency of project approach with monitoring needs.

Should this proposal be directly tied to #199802800 as basis for M&E for that project. Objectives are to gather data, leaving the actual M&E of the restoration work unplanned, perhaps this project should be expanded to include actual M&E, to show how it would be done. How are the study sites selected for "…a grid spacing of about 1 m for channel lengths of up 100 m."? Should the sites be randomly selected by say the EPA EMAP procedures developed in Corvallis? How will one know that the results apply to the 5-mile reach otherwise? This project might be coordinated with #25088 and #25010.

Why is there no basic (Tier 1) monitoring for fish? Presence/absence, snorkel survey before and after? Details should be given to ensure that Tier II level monitoring will be implemented in the watershed (see the introduction to this report).

The study is well planned, although some details depend on the Corps, their schedule, etc. Some references to "standard" USGS survey procedures should be described or referenced. What are the standard USGS survey procedures? How will someone in the future know exactly what was done?

Flow, temperature and turbidity are to be measured at sites above and below the study reach. Is it not necessary to measure the other physical variables (channel geometry, etc.) and biological variables (vegetation & macroinvertebrates) above and below the site?

A similar project seems to be proposed by USGS for the birch creek basin, a tributary to the Umatilla river. Why are both of these projects needed?

Project ID: 25009

Assess Watershed Health and Coordinate Watershed Councils in Wasco County, Oregon
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $70,290
2002-04 Estimate: $202,490
Short Description: Project will provide for assessment of 5th-field watersheds using Oregon Watershed Assessment Manual & will provide watershed council support to five watershed councils in Wasco County, Oregon.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This project will complete watershed assessments in every fifth-field watershed in Wasco County and will coordinate five watershed councils in their development of watershed action plans. Standard methods will be used for each assessment. Specifics are provided for the coordination of watershed councils. Watershed assessments and action plans will be provided as input into the Hood and Deschutes Subbasin plans. To maximize the utility of the information collected, we recommend that the information in all documents be coordinated and presented in the same format. Data will be entered into the Streamnet database The budget is very reasonable.

More information is needed on the following:
Definition of watershed assessments and the guidelines under which they will be conducted
Documentation of procedures and methods. Procedures for assessment should be described in detail or references given to published material. The proposed methods seem to be too ad hoc.

Project ID: 25015

Emergency Flow Augmentation for Buck Hollow
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $29,886
2002-04 Estimate: $29,886
Short Description: Augment stream flow in Buck Hollow Creek during 2001 with 1-1.5 cfs from headwater well
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This project is time critical for summer 2001. The project will address a limiting factor that presents a critical and immediate need to protect steelhead redds. It is a needed project, with good

justification and a very low budget. Implementing the project should also create additional good will with a cooperative local landowner.

Modest cost of $30K with cost share to reimburse landowner for direct out of pocket costs for short term 1-1.5 cfs from private irrigation well near headwaters beginning ASAP. Dry conditions elsewhere are apparently forcing fish into Buck Hollow and Bakeoven. Late season flows at mouth have exceeded minimum goal of 5 cfs. Efforts to protect the water have apparently been researched by Oregon Water Resources Department personnel. Flows and temperature would be monitored. The monitoring should be coordinated with project #25010 from ODEQ?

Bakeoven Creek (also with record run of steelhead) is a control with no augmentation.

Project ID: 25075

Momitoring and Evaluation of Buck Hollow Hydrology
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $92,777
2002-04 Estimate: $115,871
Short Description: A project to monitor and evaluate the hydrologic function of Buck Hollow Creek after the application of conservation management systems designed to reduce peak flows and increase low summer flows.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal is to monitor the hydrologic function of Buck Hollow Creek and the conservation results of full watershed restoration. The project will install instrumentation to monitor the watershed response to environmental variables. The project offers an excellent opportunity for monitoring of the effects of full watershed restoration on stream hydrology (see the introduction to this proposal) and to understand its effect on anadromous fish. The response should further describe the project's selection of monitoring approach (tier), for establishing the project's biologically measurable results, and the justification of this selection (see ISRP's general comments on monitoring).

The proposal is of modest financial size and should help examine the relationship between environmental variables, habitat restoration activities, and the assumption that such activities can reshape the hydrograph to a more natural shape and phenology.

The project is to install a gauging station and environmental data monitoring system in Buck Hollow. It is unclear if project 25015 also included a gauging station in Buck Hollow.

Detailed procedures for annual spawning surveys or references to methods should be given.

John Day Subbasin

Comments are arranged alphabetically by sponsor then project ID, beginning with ongoing projects.

Project ID: 199703400

Monitoring Fine Sediment Grande Ronde and John Day Rivers
Sponsor: CRITFC
Subbasin: John Day
2002 Request: $63,634
2002-04 Estimate: $200,604
Short Description: Monitor surface fine sediment and overwinter sedimentation in cleaned gravel in spring chinook spawning habitats in monitored river reaches, analyze potential trends and relationships in data, and relate to salmon survival.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns This ongoing project is to monitor sediment in spawning gravels of the John Day and Grande Ronde Rivers for five years to determine trends in substrate conditions, the relation between surface fine sediment and sedimentation of spawning sites, and consistency of substrate conditions with specified objectives in recovery plans and BiOps. The proposal provides excellent background to the problem and identifies relationship to FWP goals. Measurable hypotheses are specified. Objectives are presented with adequate description of tasks and methods.

The objectives include detection of fine-sedimentation on salmon embryo survival but there is no direct observation or experimentation in the project. Are the 'regression equations' published in the literature appropriate to these streams and species?

Includes monitoring in Upper Grande Ronde River and Catherine Creek (Blue Mountain Province). The project appears to be in the third annual funding cycle of a proposed 5-year study. Why were budget figures given for 4 more years?

Why were resumes not given? Are the personnel to be the same as before? What are their qualifications?

The study is apparently on track with annual reports submitted in a timely manner. Basic summary results of statistical tests are given, however summary statistics with simple figures and graphs of the trends over time should be reported. What are the magnitudes of the basic statistics and statistical relationships? Are the results of biological significance?

Why was the relationship between surface fine sediment and overwinter sedimentation significant in 98-99 and not in 99-00? What are the magnitudes of the slopes in these equations?

How were the study sites selected? Are the results comparable across subbasins in some sense?

Project ID: 200003100

North Fork John Day River Subbasin Anadromous Fish Habitat Enhancement Project
Sponsor: CTUIR
Subbasin: John Day
2002 Request: $293,894
2002-04 Estimate: $919,607
Short Description: Protect and restore habitat critical to the recovery of wild salmonid populations in the North Fork John Day River Basin and promoting natural ecological function and improved water quality and quantities.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This proposal is to protect and enhance habitat for natural production of wild spring Chinook and summer steelhead in the upper north fork of the John Day River Basin. The project will implement re-vegetation and passive recovery processes on private and public lands. Work that is proposed in this project appears justified and is in concert with other work and approaches used in the basin. There is good coordination with other projects and across different ownership interests. The description of the problem and the subbasin context is complete. The proposal does a good job of laying out the approach and showing linkages to regional planning documents and other within-basin projects. Description of Objectives and tasks is thorough, however details of specific methods are absent. Similarly, information on project personnel is minimal.

More specific detail on the following should be provided:

Activities to be undertaken under this project
How does this project relate to 199801600 (monitor the productivity of spring chinook?) How specifically will 199801600 monitor the effectiveness of projects undertaken here?).
Methods to be used: what are methods of habitat inventory, fish assessment?
Brief CVs (1 page) of project personnel

Project ID: 199801800

John Day Watershed Restoration
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $576,824
2002-04 Estimate: $1,752,026
Short Description: Implement protection and restoration actions to improve water quality, water quantity, and fish habitat, eliminate passage barriers for anadromous and resident fish.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable but a response better describing the monitoring and evaluation is needed. This proposal continues and expands ongoing watershed restoration activities by restoring riparian habitat, eliminating passage barriers, increasing tributary water flow and coordinating with other entities. A number of specific activities for water diversion, off-site watering, pumps, infiltration galleries, return flow cooling and juniper removal are proposed. The activities are designed to improve riparian conditions, water quality, and migratory passage. The proposal provides excellent background to the restoration problem and ties elements of the proposed work to specific components of the BiOp, FWP, and the subbasin summary, as did #25069. The proposed work is closely linked to other proposed projects. This project refers to and summarizes to some extent a cooperative monitoring and evaluation program for the John Day. However, the response should further describe the project's selection of monitoring approach (tier), for establishing the project's biologically measurable results, and the justification of this selection (see ISRP's general comments on monitoring).

Project ID: 199802200

Pine Creek Ranch
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $172,000
2002-04 Estimate: $411,750
Short Description: Continue Construction & Implementation, Operations & Maintenance, Monitoring and Evaluation for Pine Creek Ranch.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This proposal is to conduct various construction, operation and maintenance and monitoring activities at Pine Creek Ranch. It describes many reasonable activities to be conducted in FY2002. It contains cost-sharing among a number of entities but should include better coordination with other monitoring and evaluation projects. The response should describe the project's selection of monitoring approach (tier), for establishing the project's biologically measurable results, and the justification of this selection (see ISRP's general comments on monitoring).

BPA is apparently required to provide funding for as long as the hydropower system operates. Regardless, the proposed budget should be reviewed carefully. Pine Creek is primarily for wildlife mitigation, but has spawning summer steelhead from the Middle Columbia River ESU and resident redband trout. They have a good public access program in place and are planning for additional construction for public access.

Elimination of fish passage barriers is appropriate, but consideration for protection of redband trout should be made.

Monitoring procedures and methods should be described or references given to written documents. Where is the documentation for the redd counts for spawning summer steelhead and point-counts for breeding birds? How were the sites for the breeding bird surveys selected? See the ISRP's general comments on monitoring.

What is the potential to return irrigation water rights to instream flow?

Project ID: 200001500

Oxbow Ranch Management and Implementation
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $306,898
2002-04 Estimate: $534,998
Short Description: Implement protection and restoration actions to improve water quality, water quantity, and fish habitat for anadromous and resident fish; monitor effectiveness of implementation actions
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This proposal is to restore management funds for Oxbow Ranch after its delayed acquisition and to complete actions identified in the original proposal. The proposal contains good detail of riparian and in-stream problems requiring remediation. Property management and restoration activities are placed in the context of the FWP, BiOp and Subbasin summary. Some tasks are required by the Ranch purchase MOA with BPA. The proposal is fairly straightforward. A list of monitoring activities is presented and a M&E document is referenced. However, more information on the specific recovery objectives for the Ranch and the how progress toward those objectives will be measured would be helpful.

The response should describe the project's selection of monitoring approach (tier) for establishing the project's biologically measurable results and the justification of this selection (see ISRP's general comments on monitoring).

BPA is apparently required to provide funding for as long as the hydropower system operates. Regardless, the proposed budget should be reviewed carefully.

Plans for initial construction are appropriate for remediation of leveled tailings piles and headgates for monitoring irrigation water entering ditches on the property. O&M activities appear to be appropriate for this newly acquired property.

We recommend that the monitoring and evaluation component be coordinated with that being conducted on the Pine Creek Ranch by ODFW, DEQ and maybe others. Monitoring for fish should be coordinated with the EMAP John Day basin study being conducted by Oregon DEQ and the USFS's Hankin and Reeves survey protocol (required by BPA). This may require that the ODFW add survey sites for summer steelhead, spring chinook and other fish species. Traditional survey sites for fish might be maintained, but should be supplemented by a random sampling procedure.

Are there plans for public access?

Project ID: 25003

FORREST RANCH ACQUISITION
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $4,207,659
2002-04 Estimate: $4,510,009
Short Description: Acquire approximately 4,295 acres of land, 12.2 miles of streams, 25.2 cfs of senior water rights, and structures on the Middle Fork and upper mainstem John Day Rivers known as the Forrest Ranch.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This project is apparently funded under the High Priority Process. This project was reviewed through the high priority initiative. It remains high priority. This is an excellent proposal making a convincing case that acquisition of this land and accompanying water rights would make a large marginal contribution spawning and anadromous fish habitat on the upper middle fork of the John Day River. The risks to habitat of not funding the project are high. Excellent documentation and illustrations are provided. The monitoring and evaluation plan should be consistent with the guidelines given in the introduction to this report.

Project ID: 25004

Acquisition of Wagner Ranch
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $2,669,717
2002-04 Estimate: $2,737,717
Short Description: Acquire Wagner Ranch to provide a contiguous corridor of fish and wildlife habitat along the lower John Day River.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This project is funded through the High Priority Initiative. See review comments from the ISRP's recent High Priority Review. The monitoring and evaluation plan should be consistent with the guidelines given in the introduction to this report.

Project ID: 25028

John Day Upland Restoration
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $399,595
2002-04 Estimate: $1,202,301
Short Description: Expand restoration program to encompass uplands. Monitor wildlife species indicative of both riparian and upland health, aggressively control detrimental weed species that reduce upland productivity, alter hydrologic regimes, and increase erosion.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

This is a proposal to evaluate upland habitat condition and wildlife protection for grouse, sheep and deer. It demonstrates relationships to other projects.

The proposal might be funded at a reduced level, because some of the proposed sample sizes for radio tagged animals is too small to be very informative. Other procedures should be considered for monitoring. The response should further describe the project's selection of monitoring approach (tier), for establishing the project's biologically measurable results, and the justification of this selection (see ISRP's general comments on monitoring in the introduction to this report).

The efficiency and logistics of methods proposed for weed and juniper control should be contrasted to use of controlled burning. Burned areas in the Dechutes that we viewed during the tour seem to be recovering nicely. Why is controlled burning not considered?

We assume there should be a plan to provide BPA credit for mitigation for loss of uplands habitat, probably in terms of increased habitat suitability indices.

The monitoring plans are not adequately described. At the least, references to methods and detailed procedures must be given each time monitoring is mentioned. For example, it is naïve to say that one will conduct "…monthly visits to reintroduction sites and record population status." Some Tier I or II level monitoring for presence/absence of animals might be conducted by this project, but a coordinated plan among agencies is needed for long term monitoring of wildlife populations.

Five radio-tagged white-tailed deer in a subbasin is too small to gain more that cursory information. Similarly, the number of proposed cameras is probably too small to provide useful information. We recommend dropping this component of the study and to concentrate on inventory (including white tailed deer food), life history information based on the literature and interviews, and modeling of habitat suitability using USFWS Habitat Evaluation Procedures.

Are white-tailed deer native to the area? Why are white-tailed deer having a problem when they are expanding throughout most of the west?

Why should BPA pay for compliance monitoring of the Forest Service? Will the tribe's timber sales also be monitored? Do the tribe's timber sales have mitigation provisions?

Project ID: 25069

John Day Salmonid Recovery Monitoring Program
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $164,133
2002-04 Estimate: $280,140
Short Description: Update salmonid reproduction goals, compile data to develop predictive models to guide future restoration efforts, compile data that presents historical riparian condition, investigate missing bull trout status information.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response adequately addresses the ISRP concerns.

Objectives 1 and 2 are fundable. They are well-developed objectives to compile and summarize historic spawning ground data and changes in riparian condition along mainstem streams. We support this effort wholeheartedly and are concerned that historic records have not been better maintained; if the historic records are not in STREAMNET they should be lodged and maintained there. This project would complement several ongoing projects providing baseline data for Tier I and II monitoring called for in the 2000 BiOp Objectives 3 (effect of scouring on redds), 4 (monitor water quantity and quality) and 5 (effects of flood irrigation on adjacent stream flows and temperatures) are fundable but have little relationship to the other objectives and should be organized and justified separately with unique requirements for timetables, reporting, etc. Objective 4 is fundable as a separate project only if the water quality component can be integrated with Project #25010 with a rigorous sampling design for collection of water quality samples.

Project ID: 198402100

Protect and Enhance Anadromous Fish Habitat in The John Day Subbasin
Sponsor: ODFW
Subbasin: John Day
2002 Request: $448,500
2002-04 Estimate: $1,403,500
Short Description: Project develops and implements riparian fencing and instream structure projects to protect, enhance and restore riparian and instream habitat to improve anadromous salmonid production.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response is provided that adequately addresses the ISRP concerns. Many of these concerns were raised in the FY2000 review but are not adequately addressed in the proposal.
1. Break the proposal into individual components with separate budgets, objectives, time schedule, etc.
2. Give example results of past efforts in the form of graphs and tables, e.g., plots of data over time; show biologically measurable results (from FY 2000 review: " the proposal should be able to demonstrate biologically measurable results. They should use science-based quantitative data to demonstrate cost-effective gains toward the primary objective. The reviewers urge more complete measurements of quantity/quality of all life stages of fish species of concern, documented and analyzed, with appropriate comparisons with unfenced areas for statistical analysis. The costs of fencing and protecting riparian corridors, combined with the politics of fencing issues, require comprehensive science-based analysis, which then can be used to plot successful long-term, cost-effective strategies.")
3. Coordinate the monitoring for juvenile and adult chinook with the other monitoring proposals 199801600 and potentially 25010 and 25088, see general ISRP comments at front of report.
4. Describe and ensure that data collection procedures are the same and meaningful, give adequate references to published literature on methods (from FY 2000 review: ". (monitoring and evaluating) relies on indirect measurement of larval and juvenile salmon productivity indexes, including redd counts. Because adult salmon returns are influenced by many factors other than stream improvement, this is not an

adequate indicator unless accompanied by appropriate statistical analysis and comparisons to relevant controls (unimproved areas).")
5. Consider terminating the fencing portion of this project and replacing it with personnel support to initiate CRP and CREP contracts with landowners for riparian buffers and to provide landowner maintenance of fences. Cost share proposed is small (~20% of project) as compared to CRP and CREP habitat projects that lever larger amounts.
6. Landowner leases are beginning to expire. Explain the incentives for landowners to continue maintenance of fences. (from FY 2000 review "The proposal argues persuasively for 15-year leases and continued maintenance, but there is inadequate information on what may follow. Are there appropriate incentives for landowners to continue maintenance?").
7. Show linkages to other JD basin habitat projects, coordination may be desirable with other entities, such as SWCD, CTWSR, OWT, etc. in addition to ODFW.
8. Improve resumes of personnel.

Project ID: 199306600

Oregon Fish Screening Project
Sponsor: ODFW
Subbasin: John Day
2002 Request: $660,870
2002-04 Estimate: $2,042,683
Short Description: Protect wild anadromous and resident fish species by installing 20 replacement fish screening devices in irrigation diversion located in critical spawning and rearing areas in the John Day basin and 1 unscreened and 5 replacements in the Walla Walla.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The proposal does a good job in describing the problem, its magnitude, history, and recent activities to address it.

It was good that the proposal included a description of the method for determining priority sites in response to the ISRP's FY2000 concerns, but a response should provide a prioritized list that identifies the specific sites. It's as if there's no inventory of sites. Is there a catalog or map of screens in the basin? Which ones are defective or substandard? Which ones kill fish? If there are 20 projects on line—how were they chosen? Is the effort going to the most needful sites?

The PI and facilities are qualified and appropriate for the proposed work, but if the shop has developed a sound design and it's a matter of propagating the design around the basin, can the fabrication and installation be put out for bid?

Despite the FY 2000 recommendations there's no connection to monitoring and evaluation.. "Delay funding until the authors provide methods for ... monitoring of effectiveness." The response should describe the project's selection of monitoring approach (tier) for establishing the project's biologically measurable results and the justification of this selection (see ISRP's general comments on monitoring).

Project ID: 199801600

Monitor Natural Escapement & Productivity of John Day Basin Spring Chinook
Sponsor: ODFW
Subbasin: John Day
2002 Request: $333,516
2002-04 Estimate: $992,998
Short Description: Monitor natural escapement and productivity of John Day River Basin spring chinook and summer steelhead. Estimate SAR, egg-to-smolt survival, smolt abundance, and adult and parr distribution for chinook and SAR and spawner escapement for steelhead.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable but a response is needed that addresses the ISRP concerns. This project proposal is much improved from the previous year's proposals. We recommend that the Tier I and II monitoring and evaluation (BiOp 2000) for spring chinook in the John Day Basin (Objectives 1 and 4 in this proposal) be removed from this project and funded under Project #25088 on which the PI is a co-investigator. Further, habitat and water quality work should be coordinated with #25010 (if funded).

Objectives 2, 3 should be resubmitted under a separate proposal incorporating Objective 2 of project #25088.

Project ID: 25084

Develop GIS Layers for Generation of Specific Natural Resource GIS Maps and Analysis
Sponsor: ODFW
Subbasin: John Day
2002 Request: $111,000
2002-04 Estimate: $271,000
Short Description: Develop data sets for use in comparative analysis of multiple factors affecting fish and wildlife values in the four subbasins. This data can help integrate basin wide natural resource planning and decision making.
Response Needed: Yes
ISRP Preliminary Comments:
A response to ISRP concerns is required. This project would develop data sets for the generation of comparative maps at the watershed level. Although the development of GIS products would be useful representations of watershed –level conditions, the proposal does not indicate how the mapping products it describes are distinct from those developed by others – e.g. the NHI – for use in the EDT analysis, even though it refers to these products. Methods are only vaguely described: "produce...maps" or "use products".

Presenting comparative information in maps does not necessarily provide explanation for changes or provide direction for recovery actions. The rationale is extremely vague without even hypothetical examples of how the product would be used. It's not clear how fish and wildlife managers would use mapping products to develop risk assessments of fish and wildlife resources. The proposal does not provide information that would make it possible to judge the relative value of providing maps and information for planning purposes versus on the ground habitat improvement, land acquisition, etc.

The project should be explicitly tied to long term biological monitoring projects whereby site specific information could be provided to sites that are selected for monitoring of terrestrial or aquatic systems. Also, the potential overlap of these GISs with the ones proposed for selecting probabilistic samples of sites for water quality, fish surveys, remote vegetation monitoring, etc. should be explained.

Resumes of project investigators should be provided.

Why should this project be funded by BPA and not by the state of Oregon? It seems that most of the results are to be housed in the ODFW and are to be used by Oregon agencies.

Project ID: 25086

Purchase Perpetual Conservation Easement on Holliday Ranch and Crown Ranch Riparian Corridors and Uplands
Sponsor: ODFW
Subbasin: John Day
2002 Request: $5,459,520
2002-04 Estimate: $5,485,320
Short Description: Fence 17.7 miles of mainstem John Day River and tributaries, and protect 15,532 acres of uplands two miles east of John Day, Oregon under perpetual conservation easement to improve habitat and protect steelhead spawning grounds and big game winter range.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. High priority. This proposal was given a high rank in the high priority review. The site visit confirmed and enhanced the conclusion that this acquisition provides many benefits to fish and wildlife. In addition to the conservation benefits described in the proposal, this project provides an excellent example of the types of win-win solutions to restoration problems that are possible through good working relations with landowners, and through the development of incentives that make sense both in terms of conservation goals and the economic goals of the landowner. The project is a complicated mix of actions and incentives that make both biological and economic sense. This project will achieve far-reaching demonstration benefits to other landowners of the positive outcomes possible from restoration actions. There is a limited window of opportunity to for this project, dependent on the time period of the option to buy. Delay in funding will risk the project. The costs of not funding this project will be realized not only in conservation and restoration terms, but also in the erosion of trust and working relationships between landowners and agencies responsible for resource recovery actions. See review comments from the ISRP's recent High Priority Review. It received an "A" category and was recommended for funding without reservation.

Additional information about the complexity of this project and its potential benefits were provided during the site visit. The proposal should be modified to adequately represent the complexity of the project and the magnitude of potential benefits. The ISRP visited the Holliday Ranch as part of the Columbia Plateau South Site Visit on 8 May 2001. We were able to see the many conservation actions the landowners have undertaken with assistance from regional resource managers. On-site discussions with the land owners and resource managers from ODFW, CTWSR, and SWCD were informative and provided insights into the biological benefits, as well as the important aspect of local landowner-resource manager relationship benefits that would be gained from implementation of the Holliday Ranch perpetual easement. Many ranchers in the area are familiar with the Holliday Ranch and its conservation activities and are waiting and watching the process before deciding whether or not they will participate in similar programs.

Of particular note in the project, but not described in the proposal, is the large grazing allotment (~700 AUMs) that the Holliday family presently uses on forested public lands in the lower reaches of the Strawberry Mountains, an area adjacent to a wilderness area. The family's initial motivation for seeking the perpetual easement was to reduce their use of and reliance on the grazing allotment by 80% in exchange for purchase of the Crown Ranch property, which would provide them with summer pasture lands for their cattle operation. This portion of the easement agreement was not described in the proposal, but the ISRP feels it is an important part of the entire easement package.

The Holliday Ranch project also provides a number of other conservation contributions that include:
a. Self-contained cattle feedlot operation that passively captures and processes all waste materials.
b. A series of groundwater drains that improve efficiency of the cattle operation while simultaneously delivering significant amounts of cooler-than-ambient summer water. This contribution should significantly improve water quality and extend spring chinook spawning and rearing habitat in the mainstem John Day River.
c. Installation of 3-4 instream irrigation diversion structures designed and installed by the landowner. We observed this unique diversion structure that is used in place of push-up dams to provide the landowner

with reliable irrigation diversion. The structure provides natural upstream and downstream passage conditions for adult and juvenile salmonids.
d. Historically, the Crown Ranch (now owned by the Carter family) and the Holliday Ranch were owned by ancestors of the present Holliday family. The holdings, which involved several pieces of land, were physically split into the Crown and Holliday Ranches. A map of the two ranches today (not provided with proposal) would show a checkerboard appearance across the landscape. Combining the two ranches as proposed in the perpetual easement agreement would consolidate the various pieces into a single land unit enhancing its management for both agricultural and conservation goals.
e. Maintenance of fences for protections of riparian zones would be the responsibility of the Holiday Ranch.

Project ID: 25088

Salmonid Population and Habitat Monitoring in the Oregon Portion of the Columbia Plateau
Sponsor: ODFW
Subbasin: John Day
2002 Request: $2,037,569
2002-04 Estimate: $5,831,991
Short Description: Implement fish population and habitat monitoring (EMAP), steelhead life history monitoring, habitat prioritization, and fish/wildlife/habitat protection in the Oregon portion of the Columbia Plateau.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response adequately addresses the ISRP concerns. The basic philosophy in this proposal is one that would be useful basinwide

This proposal is fundable only if this project adequately demonstrates coordination with other monitoring and evaluation work in the Columbia Plateau. Preferably the individual projects would be joined into a cooperative project. This would include Tier 1 and 2 monitoring and evaluation in the projects: 199405400 Bull Trout Abundance Monitoring in the Lower Deschutes, 25010 Regional Stream Conditions and Stressor Evaluation, 199801600 Natural Escapement & Productivity of John Day Basin Spring Chinook. For a description of Tier 1 and 2 monitoring see the ISRP programmatic comments at beginning of the report

This proposal would implement a coordinated approach to fish population and habitat monitoring using the Oregon Plan for Salmon and Watersheds Monitoring Program. This approach has successfully been implemented in Oregon's coastal watersheds to apply a rigorous sampling design (EPA EMAP design) and has greatly improved coordination among state, federal, and tribal governments, along with local watershed groups. The proposal is consistent with the NMFS 2000 BiOp's recommendation for Tier 1 and Tier 2 monitoring.

Objectives 1 (steelhead) and 4 (bull trout) of this project should be expanded to include a comparable sampling effort for spring chinook and other resident salmonids to provide a coordinated approach for monitoring of all salmonids in the Columbia Plateau. The sampling design for bull trout in Objective 4 should employ the EPA EMP design, after perhaps some pilot work to identify boundaries of survey areas. Furthermore, these monitoring objectives should be coordinated with the stream habitat monitoring proposed in Project #25010 proposed by ODEQ. The objectives in these projects fall primarily under the Tier I and II monitoring and evaluation as envisioned by the 2000 BiOp.

Objectives 2, 3, 5, 6, and 7 should each be submitted in separate proposals before being review in the next round. They are unrelated to each other although each can make obvious use of data collected under Objectives 1 and 4. In particular, there is little justification given for need for the additional staff called for in Objectives 6 and 7.

Project ID: 25061

John Day Fish Passage Barrier Inventory
Sponsor: OWEB
Subbasin: John Day
2002 Request: $152,450
2002-04 Estimate: $266,788
Short Description: This project provides staff to conduct a basin-wide inventory of potential barriers to fish passage. The project will develop a joint prioritization approach to barrier elimination based on biological importance.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do not fund, a response is not warranted. This proposal is too brief and does not justify its need or adequately explain its relationship to other proposals. It gives no indication of monitoring and evaluation or personnel.

Project ID: 25067

Manage Water Distribution in the John Day Basin
Sponsor: OWRD
Subbasin: John Day
2002 Request: $251,261
2002-04 Estimate: $703,023
Short Description: Implement needed water measurement and monitoring improvements and increase water management as flow restoration projects and actions are implemented in the John Day Basin.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal from the Oregon Water Resource Department is to provide enhanced water measurement and management necessary to enable the management of in-stream flows in the John Day River. The proposal provides a convincing case for the improvement in water measurement and management services required by the acquisition of water rights for in-stream flow. Headgates and measuring devices will be installed in 50 diversions in the John Day through cost-share arrangements with water users. In-stream water allocations and water use will be monitored. This is a straightforward and cost-effective proposal.

The proposal raises a larger policy issue of funding responsibility. Is this an in lieu issue?
Why is it BPA's responsibility to fund the efforts of an Oregon agency to enforce water laws? Who enforced the laws before instream flows were established? Water rights must have been monitored and enforced in the past. Over the long-term Oregon should develop staff to enforce its laws.

Project ID: 199908800

Columbia Plateau Water Right Acquisition Program
Sponsor: OWT
Subbasin: John Day
2002 Request: $204,000
2002-04 Estimate: $647,500
Short Description: Acquire existing water rights on a voluntary basis through purchase, gift and water conservation projects, and transfer to instream water rights under Oregon state law; target acquisitions to maximize fulfillment of habitat objectives for instream flows.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable.
This proposal is to continue acquisition of water rights and conversion of these rights to in-stream flow. OWT's goal is to obtain permanent transfer of water rights from landowners to instream rights. Acquisitions will focus on senior water rights because in-stream flow rights retain the seniority of the original allocation. There are quantitative in-stream flow goals for the Deschutes, John Day, Umatilla and

Walla Walla Rivers. Streams where streamflow is a limiting factor on fish production and survival will be targeted. One of the attractive features of the OWT project is that it specifically targets small stream systems where small instream water contributions may be very significant biologically in terms of reducing the risk of demographic extinction for small at-risk populations, as well as the potential increase in salmonid production from the aggregate of several water rights acquisitions. The approach combines a rigorous set of criteria and objectives with the inherent flexibility that will be required for a program whose success is contingent upon local landowner involvement and support. The proposal suggests that initial agreements in some subbasins are likely to involve short-term leases that can evolve into long-term leases or outright acquisitions as relationships with local landowners mature. Good background on the need for these water rights is provided. OWT has a record of conducting similar projects in the Fifteenmile subbasin (Columbia Gorge Province. Analysis of water rights value (both ecological and economic) is adequately described. The process for prioritizing acquisitions by relative stream need is logical. A plan to evaluate the impact of in-stream flow rights is presented. Overall, the proposal presents a logical plan for acquiring water rights that have high potential benefits for recovery.

This is an important project that could contribute significantly to natural production in the Columbia Plateau arid stream systems.

Project ID: 199801700

Eliminate Gravel Push-up Dams in Lower North Fork John Day
Sponsor: North Fork John Day Watershed Council
Subbasin: John Day
2002 Request: $128,000
2002-04 Estimate: $368,000
Short Description: Eliminate gravel push-up dams in the lower North Fork John Day River. Replace with permanent pumping stations resulting in removal of passage impediments and elimination of annual instream modification.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The project proposes to eliminate three gravel push-up dams and replace them with infiltration gallery pump stations to improve water quality and fish passage. Previous efforts have replaced four gravel dams with infiltration systems. The project and presentation demonstrated substantial local support for the program. The proposal made good links to the subbasin summary and to the FWP.

Missing from the proposal were any maps, descriptions of the three sites proposed for this funding year, and any indication of planned work over the following two years. Funding at the provincial review scale is for three years, so it is imperative that the proposal describes work for the current funding year, as well as the two outyears. Adequate justification for these activities and links to other projects are provided, however specific locations of projects are not included. More detail on methods should be provided. Finally, missing from the proposal is a larger picture of the overall magnitude and distribution of gravel push-up dams, and the progress this program is making in dealing with it. This could easily be addressed using a small series of maps showing the location of gravel push-up dams historically, present, and some desired future date (or state).

The proposal demonstrates a good cooperative approach to monitoring, but the response should describe the project’s selection of monitoring approach (tier) for establishing the project's biologically measurable results and the justification of this selection (see ISRP's general comments on monitoring).

Project ID: 25085

Eradication of brook trout from Winom Creek to enhance bull trout habitat.
Sponsor: USFS
Subbasin: John Day
2002 Request: $50,000
2002-04 Estimate: $150,000
Short Description: Removal of brook trout from Winom Creek above a natural barrier to reduce hybridization and competition with a resident bull trout population and increase available bull trout habitat.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do Not Fund. This is a proposal to attempt to remove exotic brook trout from the reach (about 9 miles) of Winom Creek upstream from a barrier falls. The proposal and presentation stressed removal work done via electroshocking in Sun Creek in Crater Lake National Park. The hypothesis is that the bull trout above the falls is an endemic local population, and if left alone its viability is in jeopardy because of interbreeding and interaction with the brook trout. An alternative hypothesis is that the bull trout also were introduced at the same time as the brook trout when introduced from downstream. Wouldn't this project be more appropriately directed to determining whether or not this is an endemic, isolated population of bull trout?

The proposal could have been more effective with inclusion of a map showing bull trout distributions in the John Day basin and the relationship of the Winom Creek population to other John Day bull trout populations.

Brook trout removal has proven to be difficult and problematic in most cases. Methods need to be robust and long-term monitoring will be required to ensure project success. Hard removal using chemicals could be considered after distribution surveys, if the surveys do not reveal bull trout in this section of Winom Creek. It is important to also determine the population size and distribution of the brook trout population at present and the level of threat it may present to bull trout populations other than Winom Creek.

Project ID: 25087

Desolation Creek Rehabilitation and Meadow Restoration
Sponsor: USFS
Subbasin: John Day
2002 Request: $40,000
2002-04 Estimate: $190,000
Short Description: To recover or reconstruct stream channel and rehabilitate Desolation Meadow on the North Fork of Desolation Creek.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do Not Fund. Inadequate proposal. This project proposes to rehabilitate an upland meadow in Desolation Creek on USFS lands. The project looks worthwhile; the problem and history of land use that created the problem are described well. Nevertheless, the proposal is extremely weak in its objectives and associated tasks. Linkages are made to the subbasin summary goals, and other regional documents, but not to the Council's FWP. Methods are entirely absent. Lack of specific methods and citations supporting their use are completely missing from the proposal and represent a serious (in this case fatal) omission from the proposal.

A policy question exists concerning whether BPA funding is appropriate for work that should be done under USFS land management -mandates. During the presentation, the ISRP asked questions about the expected land uses after the 10-year rest period during which no grazing is occurring. The PI responded that the stream corridor would be fenced, but did not provide definitive statements of how the factors that contributed to the habitat decline would be controlled.

Umatilla and Walla Hatchery and Related Passage Proposals

Project ID: 198343500

Operate and Maintain Umatilla Hatchery Satellite Facilities
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $956,849
2002-04 Estimate: $3,948,549
Short Description: Acclimate juvenile salmon and steelhead prior to release in the Umatilla Basin. Collect, hold and spawn steelhead, coho and chinook salmon and provide eggs to ODFW and other hatcheries for incubation, rearing, and later release in the Umatilla Basin.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. (We have several suggestions relating to this proposal that are found in our comments on the Hatchery Evaluation Proposal.) This project functions as part of the Umatilla Hatchery Project. There is an ongoing and probably increasing cost associated with O&M of these facilities. While one might argue that acclimation in the satellite facilities may or may not accomplish much in terms of producing a homing tendency of the adults to return to those satellite sites, the practicalities of the matter are that there is insufficient water at the hatchery proper to rear the number of fish resulting from the egg take, so some outside facilities are necessary. Monitoring and evaluation should be designed to address specific questions raised by assumptions involved in this project. (See our comments on the Hatchery monitoring and evaluation Proposal.)

Project ID: 198802200

Umatilla River Fish Passage Operations
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $343,979
2002-04 Estimate: $1,084,394
Short Description: Increase survival of migrating juvenile and adult salmon and steelhead in the Umatilla Basin by operating passage facilities, flow enhancement measures, trapping facilities, and transport equipment to provide adequate passage conditions.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal is a continuation of a 13-year project to operate fish passage facilities on the Umatilla River. The proposal is well written and complete. This appears to have been a successful project over a period of considerable evolution as fish populations have been progressively restored and water returned to the river. The long-range objective is to phase out this project as river flows improve and problems with in-river migration are dealt with.

They need to make the ties of how this fits with program's Monitoring and evaluation project 199000501. They state on page 6 that they participate in the Umatilla Management and Monitoring and Evaluation Oversite (sic) Committee. What we are looking for is a specific statement of how they work closely with both monitoring and evaluation projects to assure that any data collected are shared with them.

Project ID: 198805302

Design and Construct Umatilla Hatchery Supplement
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $5,352,043
2002-04 Estimate: $5,352,043
Short Description: Build incubation/juvenile rearing capabilities at the existing South Fork Walla Walla spring chinook adult holding and spawning facility to rear spring chinook for acclimation/release in the Umatilla Basin.
Response Needed: Yes
ISRP Preliminary Comments:
Do Not Fund unless the response adequately addresses the ISRP concerns.

This proposal, is to build a hatchery (supplement to the Umatilla hatchery) to provide 515,000 spring chinook juveniles in addition to those produced at the Umatilla hatchery (estimated cost $5,000,000). The additional hatchery is requested primarily because the Umatilla Hatchery did not prove adequate to the task originally planned, i.e. to meet goals specified in the Umatilla Hatchery Master Plan. The problems at Umatilla Hatchery that appear to have led to the request for the supplement are 1) inadequate supply of water, about one-third of preconstruction projections, and 2) low smolt to adult returns of spring chinook. Smolt-to-adult returns at the Umatilla Hatchery have been as much as four times lower than at Bonneville. As a consequence of the limited water supply, some of the planned production for the Umatilla River has been carried out at Bonneville Hatchery and the Little White Salmon Hatchery.

A satellite facility for holding and spawning of adult spring chinook already exists on the south Fork Walla Walla River. The proposal is to construct the hatchery there. There is potential for confusion with a related proposal to rear approximately 500,000 spring chinook to be released in the Walla Walla Basin (#20138 NEOH proposal). In fact, the distinctions are not clear. Both proposals identify their proposed location at the same South Fork Walla Walla River Satellite Facility where juveniles are currently reared.

It is not clear that the additional facilities proposed would attain the goals for numbers of adult salmon or steelhead desired for return to the Umatilla River. Current return rates would not accomplish the goals with the numbers of fish proposed for release.

Clear justification of the escapement goal is required, which in time, may be achieved through the continued habitat rehabilitation efforts to address limitations to freshwater production. (See monitoring and evaluation results that indicate that the habitat is at present fully utilized). In any case, a more firm basis for establishing the appropriate mix of hatchery and natural production should be developed, both for interim application and for the future, taking potential of the habitat into account. Alternatives to this hatchery program might be explored (e.g., larger numbers of surplus hatchery adults released). The statement that "smolt-to-adult returns to the Umatilla River have been found to be up to four times lower for spring chinook produced at Umatilla Hatchery compared to those produced at Bonneville and Little White Salmon hatcheries" is a concern, since it is not clear that the proposed construction will improve that situation. More review is required here, considering the cost, and that review needs to be part of a basin-wide consideration and plan. The review must encompass risk and uncertainty in hatchery plans, weighing both benefits and costs (including potential costs to wild production).

"We understand the goals are to achieve rebuilding of salmon and steelhead populations to levels that would support harvest, with specified levels of hatchery and natural production. The tribe is particularly interested in restoring natural production. The proposal seems to reduce the issue to a simple matter of selecting a desired mix of hatchery and natural components, whereas the issue is in fact complicated by many factors, such as interactions of hatchery and naturally produced fish, relative survival rates of the two, effects of the fishery on survival rates, limitations of habitat, and so on. These issues should be considered in the proposal and addressed both therein and in the monitoring and evaluation proposal where evaluations of assumptions should be incorporated in study plans." Perhaps a workshop would be helpful.

Analysis of alternative approaches for achieving the adult return goals, most likely will include a mix of approaches, one of which might include the use of additional facilities for rearing juveniles. The ISRP has repeatedly advised the use of temporary rearing facilities, but we have yet to see an indication that this has been incorporated in any salmonid restoration plans. We understand BPA's reluctance to fund construction of facilities that are not designed for long-term use. On the other hand, long-term use of hatchery facilities could be counterproductive in the context of a plan that focuses on natural production.

On page 13 of 198903500 the proposal states that an additional water supply is needed to meet the production goals of the facility. (Elsewhere, it is noted that the water supply is only 1/3 of the amount projected for the hatchery.) The question is this: If additional water is supplied would this eliminate the need for construction of the Umatilla Hatchery Supplement, Project #198805302? This may be one of the alternatives to construction of the supplement.

Project ID: 199000501

Umatilla Basin Natural Production Monitoring and Evaluation Project
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $300,716
2002-04 Estimate: $910,716
Short Description: Monitor and evaluate natural spawning, rearing, migration, survival, age and growth characteristics and life histories of adult salmon, steelhead, bull trout and mountain whitefish, and their naturally produced progeny in the Umatilla River Basin.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. More explanation is required of the methods and results (which need to be presented). The proposal indicates a well coordinated, adaptive, multi-agency approach to monitoring and evaluation of the key response variables required for stock assessment and restoration effectiveness, including regular routine genetics surveys which could complement other research planned or underway to examine wild and hatchery interactions, and good communications through regular reporting, meetings, and workshops, and a web site. Nonetheless, some improvements are suggested. The goals of providing harvest and supplementation for population rebuilding are in conflict – a modeling workshop/review is suggested. The literature review provided here was thorough, publishable, and useful. The rates of residualism that were reported are low in comparison to upriver releases elsewhere, where about half of the male smolts failed to migrate then died over summer after displacing wild steelhead parr from stream habitat. The finding that quality habitat is sufficiently utilized should act as a red light to supplementation plans. It also suggests that managing our way out of the current low ocean survival bottleneck (some reprieve may be currently evident) lies in increasing the productivity and capacity of the freshwater habitat. Further work is suggested to calibrate redd counts with wild and hatchery steelhead abundance. Other measures of adult abundance should be explored (e.g., area under the curve, resistivity counters, adult fences). Wild and hatchery adult abundance likely fluctuate in parallel primarily as a function of ocean conditions. Frequent reference was made to the mortality in the downstream migration, within the Columbia. Information should be presented, including variability. A comparison of the Umatilla, Walla Walla, and John Day data from monitoring and evaluation would prove highly instructive, since they represent, respectively, a system that has been augmented for some time, one where hatchery introductions are planned, and one that has had no hatchery introduction but much habitat improvement work. The proposal should have presented some of the copious amounts of data gathered, including some comparative results from the other watersheds in the Columbia Plateau. A provincial scale analysis of the monitoring and evaluation is required.

There is need for very close coordination and cooperation among the tribal and ODFW projects on the Umatilla River, particularly among three of them, including this one and Project 8902401, Evaluation of Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River, and Project 9000500, Umatilla Hatchery Monitoring and Evaluation.

Project ID: 199000500

Umatilla Fish Hatchery Monitoring and Evaluation
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $626,178
2002-04 Estimate: $1,830,407
Short Description: Evaluate juvenile rearing, adult survival, stock life history, straying, fish health and sport fishing and catch contribution for salmon and steelhead reared in oxygen supplemented and standard raceways at Umatilla Hatchery.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. There is a need for hatchery monitoring and evaluation. However, the project should be redirected to address more pressing, current issues. The proposal produces the usual hatchery release data, smolt numbers, eggs, health checks, etc., which is required, but what of the real goal, i.e., adult returns and catch? The HGMP seems thorough however, but with conflicting goals. Note that the system produces about 50,000 wild smolts (is that near capacity?) while 150,000 hatchery steelhead smolts are released, yet the return is reported to be comprised of 25% hatchery fish. (0.08 to 0.9%, 1991 to 1995), from 110 wild and 15 hatchery broodstock (why the latter?). In other words, the returns are only just above replacement for hatchery recruitment in some years. Would it have been better to let the wild broodstock spawn naturally?

The use of oxygen has been demonstrated to increase the carrying capacity of raceways sufficiently that more returning adults will result per unit of water used. This is particularly important in the Umatilla Hatchery where the water supply is only 1/3 of what was planned for the facility. Given the experience with the use of oxygen here and elsewhere it is now time to move on to address other questions. A summary report and review of literature should be published. The SRT (1999) brought forward some guidelines for research to resolve questions about the technology and management of hatcheries. One crucial problem the SRT identified was the absence of measurement of the full contribution of individual hatcheries to fisheries and to spawning escapement. A full accounting for removals by any and all sources of mortality is needed. They also pointed out the need for more information on relative return rates of fish released at different times and or sizes, particularly in the context of the timing and size of smolts produced in the wild. More information is needed on effects of planted fish on smolts already in the stream, both as to their migratory behavior and survival. This proposal should demonstrate close coordination with # 199000501, Umatilla Basin Natural Production Monitoring and Evaluation Project.

The response should outline a process for obtaining the new kinds of data suggested by the ISRP, or a process for redirecting the emphasis of the studies. The oxygen study, if any, should be correlated with the Willamette Michigan Raceway studies.

Project ID: 198903500

Umatilla Hatchery Operation and Maintenance
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $917,559
2002-04 Estimate: $2,833,809
Short Description: Restore Umatilla River Chinook and steelhead fisheries and populations through release of subyearling and yearling smolts produced at Umatilla Hatchery.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. See comments on project # 199000500.

Project ID: 200003800

Design and Construct NEOH Walla Walla Hatchery
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $2,850,000
2002-04 Estimate: $2,850,000
Short Description: Add incubation/juvenile rearing capabilities to the existing South Fork Walla Walla adult holding/spawning facility to produce spring chinook salmon and acclimate summer steelhead for release in the Walla Walla River Basin.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response adequately addresses ISRP concerns. Walla Walla River program managers have numeric goals for spring chinook and steelhead in the system. Habitat issues must first be addressed, such as passage issues downstream of the South Fork. A conflict between harvest and rebuilding exists, which requires further review, clarification, and clear agency support, as well as an evaluation of risks and uncertainties.

Managers have initiated many habitat improvement projects, to increase natural production. The need for hatchery fish depends on the deficit between the goals and what can be expected from rehabilitated natural production. What is the expected production from the rehabilitated watershed? How was that projection made? Is the proposal to produce an additional 500,000 salmon smolts in the hatchery based on the estimated deficit? If the need for hatchery fish is expected to decline as natural production increases, can temporary facilities that are easily dismantled be used for the desired production? Alternatives to construction of another hatchery should be explored, such as further outplanting of surplus hatchery adults. The potential impact on steelhead should be discussed.

This proposal and the proposal for a Umatilla Hatchery Supplement seem to proceed on an assumption that the available water supply is sufficient for both, without supporting data.

The response should spell out the expected natural production from the Walla Walla River, and specify how the hatchery fits into the picture. Is addition of hatchery fish planned as a temporary measure, or is it expected to be ongoing to provide fish for harvest? What is the expected interaction with steelhead? What are the possible alternatives to stocking hatchery fish? What are the probable differences in time frames required for restoration under the alternatives compared to the hatchery stocking? How does restoration of passage affect that time frame? We sense a difference in viewpoint between the state agencies and the tribe as to which alternative is preferred. To some degree policy and technical issues impinge on one another with respect to a decision whether or not to proceed with implementation of a full-scale hatchery program in the Walla Walla River. We feel there should be a statement of agreement among the affected management entities prior to implementation of a hatchery program, because there are potential long-term effects on what might be obtained from natural production and harvest. Based on past experience the council should be assured prior to construction that the water supply at any facility it approves will be adequate.

Project ID: 200003900

Walla Walla Basin Natural Production Monitoring and Evaluation Project
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $482,244
2002-04 Estimate: $1,470,244
Short Description: Monitor and evaluate natural spawning, rearing, migration, survival, age and growth characteristics and life histories of adult salmon, steelhead, bull trout and mountain whitefish, and their naturally produced progeny in the Walla Walla River Basin.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. Although this is an ongoing project that has been reviewed by the ISRP in previous stages, no results are summarized in this proposal to continue, thus making any interim review impossible. If these kinds of programs are to be funded on a continuing basis without any presentation of benefits to fish survival and abundance, they should not be included in the review process.

Six monitoring objectives are described, five of which are to assess watershed rehabilitation efforts. The underlying questions must be: Are more adult chinook and steelhead being produced? Is smolt survival improving? Are densities of juveniles increasing? Are water temperatures improving? Is there now more diversity in age, growth, and life-history? What is being learned about movements of adult fish in the basin? Results of monitoring to answer these questions need to be included in a proposal to continue (see ISRP's general comments on monitoring at the beginning of the report).

The proposal should provide a clear indication that communication lines are open with the Umatilla monitoring and evaluation group and that there is agreement in the Province on what needs to be monitored where. In its 4th year, yet no data results were presented, nor any indication of the sensitivity of the methods employed. A review of the monitoring and evaluation program in this subbasin, in the Province, and for the Columbia Basin in general is required towards an effective index management system of stock assessment and evaluation of hatchery and habitat rehabilitation efforts.

Passage

Project ID: 198902700

Power Repay Umatilla Basin Project
Sponsor: BPA
Subbasin: Umatilla
2002 Request: $1,750,000
2002-04 Estimate: $5,250,000
Short Description: Provide power or reimbursement of power costs to Bureau of Reclamation for Umatilla Basin Project pumping plants that provide Columbia River water to irrigators in exchange for Umatilla River water left instream.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The functions of this project for restoration of salmon were finally made clear. A complicated program of water pumping that ensures flows for fish, and seems to have produced tangible benefits (see monitoring and evaluation, 199000501). The pumping enhances upstream and downstream passage for salmon and steelhead. The Subbasin Plan was particularly helpful in putting the Umatilla River projects in a coherent context. The implementation of the program seems to have begun in 1976, mandated by Congress, prior to the creation of the Power Planning Council. One is curious to know how the charges came to be the responsibility of BPA. This is especially important because power costs are rising so

rapidly. When we first reviewed this project that annual cost was $450,000. It is now expected to exceed $1 million in the upcoming FY.

Project ID: 198343600

Umatilla Basin Fish Facilities Operation and Maintenance
Sponsor: Westland Irrigation District
Subbasin: Umatilla
2002 Request: $498,512
2002-04 Estimate: $1,571,587
Short Description: Provide Operations and Maintenance services of fish passage and satellite facilities in the Umatilla Basin.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The site visits and presentations clearly indicated that benefits are accruing from these efforts. The additional benefits of enumeration facilities at some sites (e.g., resistivity counters for adult migrants) might be considered. Improvements elsewhere (e.g., flow increases due to habitat works) may lead to some reductions in items such as fish hauling, thus cost saving. Includes operation of the fish pump at Three Mile Dam, which is a tool that needs to be explored for future research on wild/hatchery interactions. Several rotating drums are utilized for fish screening – perhaps horizontal screens would be better suited for some areas. The evidence of a large component of strays (Deschutes?) should be a major concern. Coordination with the monitoring and evaluation projects (Hatchery and Natural Production) on this subject is essential.

End of Hatchery Proposals

Umatilla Subbasin

Project ID: 25059

Develop Progeny Marker for Salmonids to Evaluate Supplementation
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $149,665
2002-04 Estimate: $500,477
Short Description: A chemical progeny mark would be developed and tested to evaluate natural reproductive success of supplemented steelhead. The mark would be administered to female parents and would be detectable in the otolith of their progeny.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable, but a response is needed that summarizes previous studies showing that injected strontium or other materials in an adult appears in smolts. This is a proposal to test a method (artificially induced strontium marks on bony structures) for marking tissue of developing salmon embryos. The proposal is to test the technique as a tool for identifying offspring of adult females injected with strontium. If the technique is found to be useful, it could be used to help understand the fate of offspring from hatchery fish spawning in nature.

There is more relevant literature than the authors cite (not that they needed everything). Exotic markers such as Europium have also been used (very small quantities, but easily detected as anomalies in the scale or otolith focus; no need for Ca and a ratio). There is high likelihood for success.

The proposal needs to better demonstrate that exploratory work by them or someone else indicates that the injection of strontium in the adult will transfer to the eggs during maturation and be detectable in juveniles

at smolt size. The whole body immersion in the marine environment does tag the egg and early otolith with strontium, but whether the injections into an upstream migrating adult will work is another matter. A brief summary of the evidence in the literature references appended to the proposal would be helpful before committing to a 3-year research effort. This summary will make the proposal more complete and not dependent on attachments.

Project ID: 25093

Characterize Genetic Differences and Distribution of Freshwater Mussels
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $311,907
2002-04 Estimate: $1,032,410
Short Description: Conduct freshwater mussel surveys to assess their status and test for geographical genetic differences among the western pearlshell mussel, Margaritifera falcata.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. They should discuss focusing goals and objectives on practical applications. What are the limiting factors on mussels? Food supply? What life history stage is limited? How might abundance be increased?

The proposal was well-prepared and well-presented. PI's look very qualified for the type of work proposed. Objectives are straightforward, well-described as are the associated tasks. Good linkages to regional planning documents, FWP, and to general ecosystem principles. While these are commendable in an academic sort of approach to obtaining basic information about mussels, information which might have importance in management decisions, the primary goal of the project to restore harvestable populations of mussels should not be obscured. It would be well to enlarge upon the tasks, and evaluation of results that relate directly to this goal.

One of the attractive aspects of the proposal is the planned genetics work at the regional level, which will survey genetic variation among mussel populations throughout the Columbia River basin. We note that one possible outcome, as discussed in the text (p. 4), is that the populations will be found to be undifferentiated. A survey at this scale (as is also proposed for Pacific lamprey) will likely provide important information that will bear on decisions about management units, reintroduction efforts, supplementation efforts (if they are initiated), and population structure.

Project ID: 195505500

Umatilla Tribal Fish & Wildlife Enforcement
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $163,369
2002-04 Estimate: $514,956
Short Description: Increase law enforcement (LE) protection to fish, wildlife, their critical habitats and other essential natural resources within watersheds managed by CTUIR. The program will be coordinated with all other resource enhancement projects of the tribe.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This is a proposal from the CTUIR Fish and Wildlife Enforcement division to provide three enforcement officers to enforce fisheries and habitat regulations on both reservation and ceded lands. The proposal makes a convincing case for funding enforcement officers. Only .5FTE is currently funded for fish and wildlife enforcement. Enforcement now has good coordination with fish and wildlife staff in the field, but it is unreasonable to expect that sufficient enforcement coverage could be maintained this way. Enforcement of fishing and habitat regulations are necessary parts of environmental management. The

success of fish and wildlife restoration activities depends on maintaining enforcement coverage to minimize poaching and ensure compliance with habitat protection measures.

The proposal contains a substantial component of monitoring and evaluation, including the development of targets and criteria for specific performance objectives of the law enforcement program. Monitoring and evaluation focuses on coordination, contacts, warnings, arrests, seizures and critical habitat protected, improved public awareness and public participation, voluntary compliance and decreased illegal take of anadromous and resident fish stocks. It also refers to expected outcomes of increased survival and inter-dam passage, improved spawning escapement, although it would not monitor these directly.

Project ID: 198710001

Enhance Umatilla River Basin Anadromous Fish Habitat
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $506,403
2002-04 Estimate: $1,596,437
Short Description: Enhance floodplain, riparian and in-stream habitat on private lands in the Umatilla River Basin to increase natural production of summer steelhead, coho salmon and chinook salmon
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

Due to past history, there are two habitat improvement proposals, this one from CTUIR, the other from ODFW (19871002). These may now be coordinated but should be functionally combined (with administrative and jurisdiction independence as appropriate) and flow from the conclusions of one overall habitat assessment and prescription, with proposed rehabilitation activities or sites listed by priority. Clear documentation that the latter has occurred is necessary. There is high potential for success in these efforts, given that 60% of the steelhead production is in two tributaries with rehabilitation the focus. The upper watershed was logged – this should be addressed first since forest practices of the past likely need corrective actions. The lower watershed has been vastly altered by the removal of riparian vegetation (typical of the Columbia Plateau) and will likely require several years of rehabilitation effort. A history of effort and lessons learned was evident, including the wise use of natural channel design principles, with well surveyed and designed projects – they report that 30% of the watershed has been addressed.

There is a lack of monitoring and evaluation of fish results, and a reliance on invertebrate sampling that is unorthodox and may not be recommended. However, if they can argue (with references) that invertebrates are a reasonable surrogate, then the invertebrate monitoring should be focused on qualitative rather than attempting quantitative analysis for the reason that abundance is so variable from sample to sample. Qualitative analysis might examine the adaptations of particular species for life in high temperatures, and high sediment levels. One should observe a shift in relative abundance of adaptive types as the habitat improves, but it will be difficult to control for other factors such as climate, carcass abundance, other nutrient inputs, or other habitat alterations. Fish abundance indicators such as snorkel surveys in treated and untreated reaches may be easier, and more instructive. Please refer to our general comments on monitoring and evaluation.

An overall monitoring and evaluation program for the subbasin is required (as is an overall assessment and plan, coordinated through all agencies involved). Monitoring of project success is apparently the responsibility of other projects (clear reference required to 199000501 and 198902401), but the data should be included in this proposal to show that benefits are being provided. Also, see the ISRP's general comments on monitoring and evaluation. The authors mentioned "failed in-stream" projects; these conclusions are a basis for adaptive management and should be described as results.

Project ID: 198710002

Umatilla Subbasin Fish Habitat Improvement
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $759,300
2002-04 Estimate: $2,392,594
Short Description: Protect and enhance coldwater fish habitat on private lands in the Umatilla River basin in a manner that achieves self-sustaining salmonid populations and their associated habitat by utilizing natural stream functions to the fullest extent.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The proposal is well-written and the result of careful analysis, good use of published literature, and learning from past experience. There is a good, extensive background and rationale, with many cited references. There is a good emphasis on results in the history section, good objectives and tasks. The proposal is among the best in the basin for watershed restoration work. See 19871001, related project by CTUIR. They need to work as one unit, based on an overall assessment, and include monitoring and evaluation (save costs too?). Past work was impressive using passive restoration.

This project must have data to show benefits to fish. These data should be included in the proposal; this was an ISRP comment in FY2000 as well. Monitoring and evaluation is buried elsewhere (199000501 and 198902401) and needs to be brought to the surface in the proposal, and improved.

Project ID: 199506001

Protect and Enhance Wildlife Habitat in Squaw Creek Watershed
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $222,268
2002-04 Estimate: $690,674
Short Description: Protect and enhance watershed resources to provide benefits for eight HEP Target Species and anadromous and resident salmonids.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns; questions remain, and monitoring and evaluation is weak.

The proposal is well written. It does not, however, include any data for fish abundance. They state that 25 percent of Umatilla spawning occurs in Squaw Creek so they must have some data, data that should be included in the proposal to show any trend in abundance. This protects and enhances 50 miles of stream habitat and includes upland habitat. Benefits of riparian protection were clear from the site visits. Wildlife was frequently visible in healthy riparian areas of the Umatilla. It was not clear that the planned works would address the problem of de-watering, listed as a limiting factor. Due to the reduction in salmon carcasses, has carcass replacement been considered (nutrient or carcass additions)? The list of desired conditions and goals, and current status was helpful and should guide the work effectively. Tasks and Methods are good. The photo-point methods of evaluation may be sufficient, although some limited fish assessment or routine monitoring is desirable (perhaps done under the monitoring and evaluation initiative). It is unclear why the purchase of 20,000 BIA lands reappears each year—is this an annual cost for mortgage, annual purchase of rights, or something else? Clarify.

Respond with trend data, justification based on how this work addresses de-watering, information on nutrient limitations, clarification of the land purchase costs, and clear indication of past achievements and how success will be measured.

Project ID: 25081

Improve Upstream Fish Passage in the Birch Creek Watershed
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $300,410
2002-04 Estimate: $744,355
Short Description: Improve upstream fish passage in the Birch Creek watershed (Umatilla River tributary) for the benefit of summer steelhead and redband trout by removing structures or building fishways over existing irrigation diversion dams.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if a response is provided that adequately addresses the ISRP's concerns about the completeness of the written proposal.

This is a short, straightforward proposal to remove migration barriers in a subbasin of the Umatilla River that is a high producer of summer steelhead and contains redband trout. Farming and irrigation have resulted in >5 major barriers to migration (and other smaller ones) due to obstructions and inadequate ladders. Dams were used instead of infiltration galleries or other alternatives. Despite these former abuses, Birch Creek has a wild stock of steelhead estimated at 30% of the subbasin production, and is a focus of other habitat restoration work. The plan is to install stepped dams with lower heads, in series, with passage facilities, dealing with the worst cases first.

Nonetheless, the written proposal is incomplete in several respects. The site visit and presentation helped alleviate many misgivings from the proposal (e.g., lack of a map), but we are still left with an inadequate written proposal. In Part 1, the city and state are not given for the PI and the objectives or tasks are not presented (although they are given in narrative form in Part 2). These should be provided to go along with the cost breakdowns. In the narrative, there is good background, regional rationale, and relationships to other projects. The narrative does not have a full breakdown of objectives and tasks, either, that would match the cost breakdown of Part 1. There are only general plans for deciding on projects to undertake and then doing them. The possible barrier remediation projects to be undertaken, among the options referenced from the Subbasin Summary (but not listed in the proposal), are not specified. It would be helpful if the proposal gave alternative ways to solve the passage barrier problems followed by why the proposed approaches were selected. See Project Number 199801800 - Holliday Ranch; it had some innovative engineering techniques like infiltation galleries, islands, and rubber dams. It would be useful to have a short discussion of what alternatives are feasible and cost effective. The proposal states that one fishway in place in Birch Creek is functioning well, but it would be helpful to know how this conclusion was reached (please explain in response). The work would be subcontracted from the ODFW office, but there is no indication of who would do the further planning, contracting, or work (not much listed for facilities). The general plans include no monitoring and evaluation of effectiveness of the projects when completed (including obtaining baseline data on the blockage prior to the project). This project needs effectiveness level monitoring at a minimum (Tier 1 as given in the general ISRP Preliminary Comments, which should be read along with this set of comments).

Birch Creek seems to be a good watershed on which to do remedial work for passage barriers in order to maintain and expand existing stocks of steelhead and trout. But we need more specifics on the record in the proposal. Therefore, the ISRP asks for a response that rectifies the deficiencies noted above.

Project ID: 198902401

Evaluate Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $286,427
2002-04 Estimate: $898,555
Short Description: Assess migration patterns, abundance, survival of hatchery and natural juvenile salmonids in Umatilla basin using PIT tag technology; monitor lamprey and resident fish; assess effects of river variables on fish migration; develop adult interrogation
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This is a well-designed monitoring and evaluation program that provides a basis for evaluation of habitat improvement measures and other projects. In addition, it collects information necessary for the hatchery evaluation and monitoring project. It would be useful to include a discussion of what the data show about the success of the watershed restoration program for fish. This is valuable work with publishable results accumulating on natural production, including evidence of a potential smolt capacity (~50,000), hatchery survivals during smolt migration, and other potential research uses for these results if future experiments or investigations are well described. Express the smolt yield as a function of the number of spawners, i.e., as smolts per spawner, relative to the number. Is natural smolt recruitment above replacement at current survival rates in freshwater and the ocean? Several internal publications – need to publish in formal fisheries literature. The goal of assessment of affects of river variables on fish migration should commence with a thorough literature review on salmonid smolt migration. This project could benefit by inclusion of a broader range of researchers interested in migration and survival – literature review and publication will assist in stimulating that scientific interest, to the benefit of the project.

Project ID: 200002300

Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property)
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $50,000
2002-04 Estimate: $1,465,000
Short Description: Protect and enhance shrub-steppe and native bunch grass habitat in the Horn Butte area to mitigate for wildlife impacts by the Columbia River Federal hydropower system.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This project has a complicated history as part of the Horn Butte properties, but seems to be on a clear path to acquire the Philippi property now. There seems to be good wildlife values associated with the property. The parcel will be an important part of a block of properties in the general vicinity (something that was clarified during the presentation). It appears that actual funding will be required after FY 2002.

Adequate documentation on planning, acquisition, management plans, operations and maintenance, monitoring and evaluation sections should be given. Virtually no details are given on which the merits of proposed activities can be judged. At a minimum the plans should be consistent with those for Project #200020116 (Securing Wildlife Mitigation Sites - Oregon, Horn Butte Area (BAIC Tract)). References to habitat evaluation and survey procedures should be given. Washington ground squirrel surveys procedures should be given in detail. Vegetation and wildlife surveys sites should be selected in cooperation with the EPA EMAP survey procedures developed by the EPA office in Corvallis, Oregon. Potential benefit of the property to fish should be explained in more detail. Factors limiting passage, flow and water temperature should be addressed along with the potential for problems to be resolved.

Purchase of this property was approved in previous reviews, but funds were redirected to other approved projects. We continue to agree that this property would be of significant long-term benefit to wildlife.

Project ID: 200020116

Securing Wildlife Mitigation Sites - Oregon, Horn Butte Area (BAIC Tract)
Sponsor: ODFW
Subbasin: Plateau Southeast
2002 Request: $5,518,669
2002-04 Estimate: $5,758,669
Short Description: Protect and enhance the BAIC Tract in the Horn Butte area, which includes 22,642 acres of shrub-steppe and native bunchgrass, to mitigate for wildlife impacts from the Federal Columbia River Hydropower System.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. Purchase of this property was approved in previous reviews, but funds were redirected to other approved projects when negotiations with landowners broke down due to a legal issue that has now been resolved. The ISRP continues to agree that this property would be of significant long-term benefit to wildlife.

References to habitat evaluation and survey procedures should be given. Washington ground squirrel surveys procedures should be given in detail. Vegetation and wildlife surveys sites should be selected in cooperation with the EPA EMAP survey procedures developed by the EPA office in Corvallis, Oregon and valid Tier I or II monitoring procedures developed for target wildlife species (see the introduction to this report). Plans for O&M, monitoring and evaluation, etc. should be consistent with Project #200002300 (Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property).

Project ID: 25055

Echo Meadows Artificial Recharge Extended Groundwater and Surface Water Modeling
Sponsor: PNNL
Subbasin: Umatilla
2002 Request: $390,283
2002-04 Estimate: $780,566
Short Description: Assess impacts of artificial recharge design on stream temperature, effluent chemistry, and pulse duration. This project is designed to establish tools and protocols that can be ported to additional candidate sites.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This is a well-written proposal for groundwater and surface water modeling associated with the Echo Meadows test of the groundwater recharge system using an irrigation system. Groundwater recharge in winter when flows are high and water cold is an idea that has been developing since the ISG wrote Return to the River. This proposal is an evolution of those discussions, as was the Echo Meadows proposal. The models proposed for use are good ones. The staff is experienced in groundwater modeling at the Hanford site. The reviewers were surprised in a way that this modeling effort was not part of the original Echo Meadows proposal. In fact, this project needs to have a ground truthing component that should be available from the first Echo Meadows project. The claim is made in this proposal that the models have been widely used and just need to be calibrated. However, it should be required that they have an independent set of data collected, withheld from the calibration effort, and used to test the models after the models have been calibrated with the rest of the data. Another possibility is that the data set could be split and two scientists independently calibrate the model and predict the other half of the data. If this is such a straight forward process why did they find it necessary to

propose three additional wells “Due to the extreme spatial geologic variability of the sediments at this site ...”?

This work would follow much of the Echo Meadows testing, but needs to be in this 3-year proposal cycle if it is to be done with, or soon after, the field tests. Can this work be conducted as part of the Echo Meadows testing project, previously reviewed? The funding for that project might be boosted to keep all the Echo Meadows work together. Is proposing a separate project an indication that the people don’t work well together?

Project ID: 25016

Assessment of habitat improvement actions on water temperature, streamflow, physical habitat, & aquatic community health in the Birch Creek Watershed
Sponsor: USGS
Subbasin: Umatilla
2002 Request: $403,000
2002-04 Estimate: $1,243,000
Short Description: This study will explore the reach- and watershed-scale impacts of stream-habitat improvement actions on water temperature, streamflow and the food web in the Birch Creek watershed of the Umatilla subbasin
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate response is given to ISRP concerns.

This is a very good proposal in technical respects, although it lacks links to the Subbasin Summary, FWP and BiOp. Development of the relationships expected from this project is long overdue. We can expect the usual USGS thoroughness and academic rigor. Project personnel, however, need to provide more explanation of how they intend to make the links to the biological community, specifically to fish. They need to explain how a quantitative assessment of benthic macroinvertebrates will provide better understanding of the primary food production necessary for riverine fish. Is this production defined as the rate of tissue elaboration? How does their version of “primary food production” relate to fish production? They should provide analysis of existing macroinvertebrate data to show that the variance in similar situations does not overwhelm their ability to draw useful conclusions. Identification of macroinvertebrates (in such samples) to species is a very time consuming and, thus an expensive undertaking. Will the assessment include a detailed study of what the fish eat, in what quantity, and how it changes in time? The need for such detailed analysis and how it relates to the predictive relations expected from the project should be described in more detail. The methods and justification for the food chain work are unlikely to yield the expected results due to the high variability inherent in stream insect samples. In their words, the primary hypothesis that will be tested during this project is: “In-stream conditions are measurably altered by stream-restoration actions, which ultimately promotes the health and survival of target fish species.” That is the assumption of all restoration work. What is needed is a routine (simple checks, presence/absence, relative abundance) or an effectiveness monitoring program (i.e., more detailed in a few key instances) of the fish response. What is proposed suggests a process-oriented model based on detailed physical data collection versus the preferred and likely less expensive approach of measuring key response variables in a control versus treatment experiment.). See 25065 on FLIR, the same technique to be used here, and consider the monitoring approach suggested in 25010. A response that justifies this level of detailed process-orientated approach versus an experimental analysis is required.

Project ID: 25029

Westland-Ramos Fish Passage and Habitat Restoration Pilot Project
Sponsor: Westland Irrigation District
Subbasin: Umatilla
2002 Request: $203,020
2002-04 Estimate: $1,287,100
Short Description: Improve the upstream passage for anadromous fisheries resources (migration, spawning and rearing), and enhance bedload transport function, by notching two diversion dams within a 1.25-mile river reach of the lower Umatilla River.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable (high priority).

This is an excellent proposal that addresses removal of barriers that cause excessive delay or serious injury of migrating anadromous fish that can increase vulnerability of stocks. This project intends to overcome a major impediment to passage associated with bedload transport problems at a major diversion in the Umatilla River. The proposal reflects a great deal of preparatory work by the proposer to develop plans for a much needed project and obtain broad acceptance by affected stakeholders in irrigated agriculture as well as fisheries. Affected species are listed by ESU (Part 1). There is a thorough listing (Part 1) and discussion (Part 2) of interrelationship with related projects. Plans for information transfer are thorough and good. Costs are well laid out in Part 1. There is excellent cost sharing, amounting to a significant proportion of the costs (past, proposed, and continuing). The stages of work, both already completed by the proposer or with other project funding and those still to be done, are well laid out (abstract). The excellent section on rationale and significance to regional programs has very complete and useful summary tables. The proposal could benefit, however, by including the available data concerning the length of delay caused by the site, and the likely significance (quantitative) of the delay, based on the other studies. There are good objectives and tasks, with appropriately described methods. There is a clear and good plan for monitoring and evaluation. The reference list is comprehensive. The staff is well described (both those to be funded by the project and other participants funded elsewhere) and seem competent. Throughout the proposal, electronic links are provided to detailed supplementary information (this would be helpful when needed, but was unhandy for reviewers with hard copies). All-in-all, the proposal is a high quality, professional package, augmented by an excellent presentation and photos, that demonstrates well the need for the project, how it would be accomplished and the high likelihood for success.

Walla Walla Subbasin

Project ID: 25094

Restore Touchet River Watershed Habitat to Support ESA listed Stocks
Sponsor: Columbia CD
Subbasin: Walla Walla
2002 Request: $343,912
2002-04 Estimate: $1,124,676
Short Description: Implement, assess, and monitor habitat cost-share projects coordinated through the Touchet River Watershed Program, a "grass roots" public and agency collaborated effort to restore salmonid habitat on private and public property.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if an adequate response is given to the ISRP's concerns. The introductory materials of this proposal were convincing, producing an expectation that a creative proposal in watershed restoration would follow, but the actual proposal is a confusing list of tasks, intentions, and objectives (both large and small) with very little explanation of how temperature, sedimentation, flow, and other important processes are expected to change across the watershed.

The proposal included no fish data and no list of priorities to the treatments (at the watershed scale or at the sub-basin scale). Most of the fish production comes from the upper watershed, which seemed relatively intact. What is limiting, juvenile rearing habitat, spawning habitat, or adult holding areas in the migration corridor? What is the basis for that conclusion?

The sponsors state on page 12 of the proposal that they will "… move toward total watershed restoration …" The proposal should include definition of "total watershed restoration" and describe the basis from which total restoration was concluded to be possible. A watershed restoration program should first look for opportunities to protect existing intact habitat and the migratory linkages between these habitats. Second, it should restore hydrologic, geologic and riparian processes. Bioengineering enhancements should be used to make adjustments once these processes have been restored.

There is heavy dependence in the proposal on use of bio-engineered, in-stream structures when proposals for the Umatilla and Tucannon rivers seem to be discounting the importance of these tools for watershed restoration efforts. Statements in the proposal include: "Watershed-wide program interest began in the Touchet River basin following the success of the "Model Watershed" process in the Tucannon River basin," (page 8) and, on page 13, "Monitoring and evaluation is directed by the Touchet River Watershed Program and follows efforts used in the Tucannon River Model Watershed." The proposal should include description of demonstrated successes for fishery/habitat benefits found in the Tucannon program that they would like to mimic in the Touchet River.

Objective 1 (page 9) is to improve adult holding and spawning. An item under Task A is to "Create large, high quality pools for adult holding areas." If construction of these pools disrupts natural channel-forming processes isn't the expectation that they will initiate a series of what may be undesirable changes in the channel up and downstream of the site?

Project sponsors should explain how they will know when their watershed objectives have been met. They should describe how they will show in progress reports that they are on track to meeting these objectives. The response should further describe the project's selection of monitoring approach (tier), for establishing the project's biologically measurable results, and the justification of this selection (see ISRP's general comments on monitoring).

Project ID: 199601100

Walla Walla River Juvenile and Adult Passage Improvements
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $2,856,000
2002-04 Estimate: $6,356,000
Short Description: Provide safe passage for migrating juvenile and adult salmonids in the Walla Walla Basin by constructing and maintaining passage facilities at irrigation diversion dams and canals.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable provided further assurance is given that monitoring and evaluation of fish passage will be conducted whether or not the separate proposal is funded (#20139), and a mechanism is established for written annual reports of progress.

This is a good proposal on a subject that is important for the Walla Walla River subbasin. The need to repair problems generated by irrigation was clear. The Subbasin Summary provides the integration requested in previous ISRP reviews. The main drawback in this proposal is the lack of functional monitoring and evaluation of the biological success of passage improvements (dam removal or improved passage routes and intake screening). The only monitoring is to see if biological criteria of the newly

engineered structures are met. See the ISRP's general comments in this report for information on monitoring (effectiveness monitoring for fish—Tier 1—seems needed as well as the planned monitoring of the equipment functioning). This deficiency appears to be partly addressed by a new project proposal (#20139) but there is no assurance that this new proposal will be funded (what monitoring would be done if that proposal is not funded?). Also, there is no plan for written reporting of results, which should be included in the response.

The species involved are identified to ESU. There is a good list of engineering accomplishments (Part 1) and discussion of them in Part 2, but no indication of monitoring results that indicate any benefit was obtained. The proposal states that it is "assumed" that benefits accrue. The narrative specifically states that no progress reports are filed, which seems to be a major deficiency. Results must be demonstrated via mechanisms other than the brief summary in the renewal proposal three years later. The costs are well laid out, including the increase if funding requested compared to the estimate from last year. There is minimal cost sharing, except for a few unspecified small projects. Objectives, tasks, and methods are fine, considering the actual work will be subcontracted. Reference list is adequate. Resumes for proposer staff are fine. However, a bit more information on the qualification criteria for subcontractors would be helpful. Bottom line is to fund with qualifications to cover deficiencies.

Project ID: 200002600

RAINWATER WILDLIFE AREA
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $303,546
2002-04 Estimate: $908,038
Short Description: Protect, enhance, and mitigate wildlife habitat impacted by McNary and John Day hydroelectric projects. Project includes O&M to protect existing habitat values, enhancements to increase habitat quantity and quality, and M&E to assess project benefits.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This project is primarily for O&M and monitoring and evaluation in an ongoing project.

The monitoring and evaluation section is the only one that can be reasonably subjected to scientific review. Procedures for Tier I vegetation surveys should be described in detail or references given to published documents. The monitoring and evaluation to be conducted under this project seems to be appropriate for basic management of the property. Tier I monitoring and evaluation procedures should be described in detail for key wildlife species (see the introduction for this report).

Project ID: 200020139

Walla Walla River Fish Passage Operations
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $109,551
2002-04 Estimate: $418,880
Short Description: Increase survival of migrating juvenile and adult salmonids in the Walla Walla Basin by operating passage facilities, flow enhancement measures, trapping facilities, and transport equipment to provide adequate passage conditions.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The collection of Walla Walla River projects is aimed at restoring salmon and rehabilitating steelhead populations in the Walla Walla Basin. Fish passage is a prerequisite to developing and maintaining successful runs of anadromous fish. This work should be continued. Engineered structures are in place and require annual operations and maintenance. However, an audit of this and similar projects might be considered to determine the effectiveness and efficiency of some components.

This project should be tied to a basinwide monitoring and evaluation project, see general ISRP Preliminary Comments.

Project ID: 25076

Enhancing Riparian Corridors Sustainably With Integrated Agroforestry
Sponsor: Institute for WA's Future
Subbasin: Walla Walla
2002 Request: $1,270,000
2002-04 Estimate: $7,532,500
Short Description: Enhance streamflows, water quality, fish and wildlife habitat, and physical stream functions in irrigated agricultural stream corridors while also enhancing community economy and social welfare through sustainable, integrated agroforestry systems.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This is an interesting proposal that deserves some attention by the Council. The proposal is to replace some existing lowland crops with poplars (hybrid cottonwood trees) as a cash crop. This is a novel proposal for an alternative irrigated agriculture product (trees for high-quality wood) that saves water for streams and incorporates a requirement for riparian improvements. Project personnel also propose to grow and plant native trees and shrubs to enhance vegetation in stream corridors.

From a fisheries enhancement perspective, a response that details the specific methods (and projected benefits) to be used in the stream corridor is needed. The reviewers had several questions in regard to the proposals potential benefits that the response should address: How much water will be saved? What do the water use records from other cottonwood plantations in the basin indicate? Are there long-term guarantees that the riparian improvement will remain in place?

The project seems technical feasible, but it requires a large amount of cash (both grant and loan) to be initiated. Partners in the project (farmers) seemed keen, and there were several other opportunities in this area of 90% agricultural use along the stream, and where 80% of the water is in irrigation (this project reduces that usage).

The pilot experiments, including 1000 acres, have generated further enthusiasm by the proponent for this work. Again, however, we see little in the way of evaluation of the fish response (describe how this will be done), yet suspect the results may be dramatic and provide a very useful demonstration of this, and the

economic benefits. The effective riparian restoration methods are potentially the most attractive components, but the additional temperature benefit from the poplar plantation is also important.

Some support for further expansion onto other properties seems justified, particularly if an evaluation and demonstration project is included, and should not require the large sum indicated; a set of alternative funding levels that might be more acceptable. An economic review and analysis is essential – this is a large budget, seeking a grant and a large revolving loan program. The proponents should provide further detail of the economic analysis, which then should receive independent economic review.

Project ID: 25066

Manage Water Distribution in the Walla Walla River Basin
Sponsor: OWRD
Subbasin: Walla Walla
2002 Request: $552,525
2002-04 Estimate: $1,397,300
Short Description: Implement needed water measurement and monitoring improvements and increase water management as flow restoration projects and actions are implemented in the Walla Walla Basin.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The proposal is to provide resources needed by Oregon Water Resources Department to ensure that water acquired to enhance stream flows for fish are in fact restored to streams. There is a need for a coordinated effort to restore flows in the Walla Walla River at levels sufficient for fish passage. This project is a critical component in that effort. It will provide a means for the water master to ensure that quantities of water set aside for fish flows will actually be left in the river. Monitoring to ensure that these transfers happen and that the water persists is surely in BPA/ratepayer interest.

Although this is a very important water monitoring and management project for the Walla Walla River basin in Oregon, the proposal is not clear about what is being done now (and by whom and where) that makes a case adequate for funding new work . The proposal mentions other organizations with an interest in water rights, but does not say who is doing monitoring of the sort proposed here (if nobody, then that should be made clear in the written proposal). The oral presentation was good, but the deficiencies in the proposal remain. A response is needed to provide additional information.

The proposal is persuasive that this sort of water monitoring and management is needed. Background accomplishments in this river are listed in Part 1, but could have been discussed further in Part 2 to give more background on what has already been done. Costs are laid out well in Part 1. There is a reasonable cost share (25% of installation costs by irrigation districts and others). The narrative has a good abstract and background. The proposal would be better if it went into more detail about how the ODWR handles water allocations now and the work accomplished to date in this river. The proposal adequately references the FWP, BiOp and Subbasin Summary. There is not an adequate demonstration that the proposers understand the extent of other fishery-related projects in the river basin (that require water), although it mentions other organizations with interests in water monitoring and water rights, and there is a general appreciation shown for the needs. Data management is not adequately described or may actually be inadequate for BPA needs. The response should include a discussion of data storage and access with emphasis on BPA's needs. The BPA-supported data centers are apparently not going to be used, rather the data would go up on the ODWR web site (the address for which is not given). If distributed access approaches through the ODWR data repository are intended, they might be discussed. Further consideration of integrating the data with the BPA system would be appropriate, and might be proposed as a special task in the project. References are minimal, consisting of just the basin plans. No ODWR references are given for their water measurement system or their water management background (general or specific to the Walla Walla River). The ODWR's current water tracking system should be described and referenced with document citations. Staff resumes look good. The ISRP certainly doesn't question the need for this work. A response is still needed to augment the proposal.

Project ID: 25065

Forward Looking Infrared Radiometry (FLIR) Thermal Imagery and Analysis of Tucannon River, Touchet River, and Mill Creek (FY2002) with follow-on 2003-04
Sponsor: WA Ecology, WQP
Subbasin: Walla Walla
2002 Request: $231,000
2002-04 Estimate: $634,000
Short Description: Obtain thermal imagery, imagery analysis, and supporting instream data, to map areas of thermal refugia and areas of heating in order to assess habitat condition and to provide data for restoration efforts, particularly Total Maximum Daily Loads (TMDLs).
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless adequate responses are given to ISRP concerns that the technique is not sufficiently integrated with other work in the subbasin. This proposal is to monitor and evaluate water temperatures in streams needed to develop temperature regulations in three rivers of Southeast Washington, using primarily infrared imagery from airborne over-flights. However, the proposal lacks sufficient information to be persuasive that it deserves funding in competition with other worthwhile projects. The presentation did not provide a thorough explanation of what the project could provide for actual data relevant to fish management.

The information to be gained from this project is likely to provide additional insight into dynamics of stream temperature and relations to the surrounding landscape. This type of temperature monitoring is key to impact assessments into the future. The broad spatial scale could potentially coordinate much of the on-the-ground temperature data collected by others. The methods are limited, however, because the imagery results only will reflect stream surface temperature, and it produces only a snapshot of conditions at the time the records are made. The technology can be appropriately applied to specific questions concerning water temperature dynamics troubling on-the-ground managers of the watershed restoration efforts, but these questions are not clearly identified.

Neither the proposal nor the presentation was persuasive. The authors essentially need to rewrite their rather weak proposal with a focus on how this work may benefit efforts at salmonid restoration (the proposal states that the relationship to other projects is not applicable!). The case is not made adequately that high water temperatures are a problem in the rivers, although they probably are. No temperature data are provided from previous studies. Only statements from the Subbasin Summary are given as evidence of the need for the work (maybe this is believed sufficient, but the ISRP believes the proposal needs more direct information). The objectives are not clear. In Part 1, the objectives listed are actually tasks, and the accomplishments expected from the study are not given adequately. Even in the final sections of the narrative, there are just ambiguous statements that the data “can be used” for maps of temperature in the watershed, without saying if the point of the study is to make such maps. What we get from the study besides raw data from the fly-overs is not clear. The abstract is too long, and actually goes into background information better given in the background section. The background section is brief, and does not give information on what the cited studies found. The previous (and cited) infrared imagery research on nearby rivers has actually been very revealing, but this proposal does not use those results to bolster its case for more such study. As pointed out in discussion during the presentation, winter imagery (not proposed) can be useful for detecting groundwater inflows, because they are warmer in winter and they rise to the surface and are detected readily (in summer, they are cooler and sink and do not show up until the stream mixes farther downstream). Incidentally, infrared imagery for water temperature mapping is not new, having been used in the PNW in the 1960s (many improvements since then, though, that were amplified in the presentation).

Background on the temperatures in the study locations in relation to temperature requirements of fish would have been useful and would have helped support the need for the project. Rationale is given for the project from the standpoint of the Subbasin Summary, but there is no mention of the Council’s Fish and Wildlife Program (that most directly determines funding for the work) or the NMFS BiOp. The proposal shows no evidence that the proposers are aware of other relevant BPA-funded projects related to fish and

their habitat requirements in the vicinity that might use the results of this study. There is a good narrative on tasks and methods but objectives (outcomes) are not outlined. The facilities and equipment section continues the narrative on tasks without describing any facilities or equipment. Staff resumes are not provided. Costs are high for an established technique and one flight. There is no cost sharing, although the WA Ecology has been doing similar work elsewhere, and it or EPA would seem to be logical co-funders. Is interest/cost sharing possible from climate change working groups? Cannot this approach be combined with the MASS2 (project number 25049) models for a more comprehensive understanding of stream flow and temperature problems in this area?

In summary, this could be useful work with benefit to fish and fundable if the project outcomes were clarified and other supportive information provided. The proposal needs to show better coordination with other projects. What are the plans to take this project's product and use to inform on-the-ground decisions and actions?

Project ID: 199802000

Assess Fish Habitat and Salmonids in the Walla Walla Watershed in Washington
Sponsor: WDFW
Subbasin: Walla Walla
2002 Request: $362,652
2002-04 Estimate: $863,652
Short Description: This project includes design and construction of adult traps in Mill Creek and the Touchet River, and steelhead and bull trout monitoring activities in those drainages and in the lower Walla Walla River. It also includes participation in NEOH planning.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. It is essential for WDFW to continue its assessments in the Walla Walla Basin, as efforts continue to restore salmon and steelhead populations. These efforts continue to uncover new and vital information on presence of fish and their relationships to environmental conditions. The two groups working on the monitoring and evaluation task should meet and agree on a coordinated approach that is a function of the questions to be asked. A review of smolt and adult trapping options is recommended, if a decision is reached to proceed with that component. The watershed conditions assessment must continue to completion, with immediate attention to high priority restorations, and planning.

Project ID: 25017

FABRICATE AND INSTALL NEW HUNTSVILLE MILL FISH SCREEN
Sponsor: WDFW, YSS
Subbasin: Walla Walla
2002 Request: $102,217
2002-04 Estimate: $232,717
Short Description: WDFW, YSS proposes to fabricate and install a new fish screen facility (12 cfs) at the existing Huntsville Mill location within the Touchet River Basin. The new screen facility will comply with current state and federal criteria for fish protection.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This is a carefully prepared proposal. It includes a good background to describe the problem and, based on information from elsewhere, describes its likely benefit. The proposal includes a monitoring element to verify that small fish are in fact prevented entry to the irrigation withdrawal system. The need has been demonstrated and prioritized.

Project ID: 25082

Walla Walla River Flow Restoration
Sponsor: WWBWC
Subbasin: Walla Walla
2002 Request: $478,000
2002-04 Estimate: $478,000
Short Description: This proposal will add 5 to 7 cfs of conserved irrigation water to the Walla Walla River at the critical flow-impaired reach between the town of Milton-Freewater and the Oregon-Washington state line.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This seems to be a worthwhile project to increase the water efficiency of irrigation and preserve the saved water for in-stream uses under Oregon Water Law. This project is part of the effort to restore flows sufficient for fish passage in the Walla Walla River. It focuses on purchase or lease of water rights and on improvements in farm efficiency in the use of water. An inefficient canal will be converted to pipelines. The Water Basin District has a means of enforcing the allocations of water for fish flows. That would have a real benefit for fish. However, the proposal is short on what will actually be done, even though the overall justification and end result are clear. The sponsors need to clarify how the monitoring proposed here relates to the monitoring proposed in Project 25066. Proposers should read the monitoring section in the general comments part of this ISRP report and identify in the response the type of monitoring planned (it appears that type 1 effectiveness monitoring may be necessary by this project in addition to a broader-scale monitoring by other projects).

The information in Part 1 is good. Costs and objectives are ok. There is excellent cost share, amounting to over 50% when in-kind contributions are included. The background section of the narrative could explain better why the focus segment of the river goes dry (it may be obvious to one familiar with the area, but not to an outside reviewer; for instance, if the canal is leaky, why doesn't the water percolate to the river?). Proposers please provide an explanation in the response. The proposal does a good job of relating the work to regional plans, quoting from the 1994 and 2000 FWPs and the Subbasin Summary (but not the BiOp), and refers to the BOR Action Plan and a Corps reconnaissance report. Many relevant projects in the vicinity are cited including those from the Oregon Watershed Enhancement Board and Oregon Water Trust's Water Acquisition Program, as well as those funded by BPA. There are good objectives. The narrative could explain more about what will actually be done (or options) toward improving irrigation systems as well as more details of the pipeline that would replace the old canal (the presentation helped here, but proposers should amplify the text in their response). Both types of work seem laudable, but it would be good to spell out more than the materials list in the appendix. There were no references cited, although there must be useful reports on irrigation water efficiency that could be mentioned as prototypes for justifying what would be done here (please provide in response). Bios of staff are painfully brief, and give little background for a reviewer to judge competence (please provide further information, especially related to past experience with irrigation systems). Although matching funds and in-kind contributions are excellent, the proposal leaves unclear how the proposal's funds would be used in contrast to efforts or funds from others. Both more information on what will actually be done for water efficiency (irrigation systems) and clarification of roles of different funding sources should be provided in a response. Monitoring needs clarification, also, as noted above.

Mainstem Snake

Project ID: 25049

Numerically Simulating the Hydrodynamic and Water Quality Environment for Migrating Salmon in the Lower Snake River
Sponsor: PNNL
Subbasin: Mainstem Snake
2002 Request: $207,360
2002-04 Estimate: $498,599
Short Description: The objective of this work is to apply state-of-the-art computer models that can describe the complex hydrodynamic and water quality environment in the lower Snake River, and to relate that information to migrating salmon.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This is a technically excellent proposal by a well-qualified staff to conduct physical modeling and associated data collection for estimating the environmental conditions and cumulative exposures experienced by migrating salmon in the lower Snake River. The proposal is well written. Project personnel are highly qualified to conduct the work. The work is responsive to a need for better understanding of conditions, especially thermal, in the Snake River as they influence migratory salmonids. The work should yield potential strategies for management of water during migration and bases for useful hypotheses for improving survival of migrating salmonids.

Some specific comments are provided by the reviewers for the authors (but do not need a formal response). The species affected are not listed by the proposal. Such a listing is needed for automated searches of the proposal database (could be supplied to BPA at the contract stage). Also, because different species have different habitat usage, hydrodynamics may need to be tailored to particular species. This proposal appears to focus on fall chinook. The "objectives" in Part 1 are not objectives but categories of work (objectives should be desired outcomes). Budgets are not categorized correctly (everything is placed in planning rather than most of the work being in implementation). With no monitoring and evaluation identified either in Part 1 or Part 2, it appears that there will be no evaluation of the validity of the models. There is no cost sharing identified, although the abundant use of data from other sources could have been claimed as a valuable in-kind contribution. There is an excellent background that identifies objectives better than the stated objectives. The regional rationale is supported by specific action items from the NMFS BiOp, Subbasin Summary, and 2000 FWP. The two principal fall chinook salmon studies funded by BPA are identified as having relationships to this proposal, but other on-going work (e.g., by the Corps) is not identified but is clearly relevant as shown by the reference list. The objectives in the narrative are better than those in Part 1. The modeling scale should be identified (e.g., whether velocity is scaled to the size of a 10-cm fish or larger). The objective of calculating integrated exposures of fish to temperature, gas, etc. that was highlighted in the background should appear as a separate objective in the narrative (this seems to be one of the main desired outcomes of the work). There are excellent task descriptions. It is not clear, however, whether the models with their input parameters will be publicly available for others to do confirmatory runs. The facilities are fine, based on both the paragraph of the proposal and the past work cited in the excellent reference list. It would have been useful to note where the agency reports cited are available (web or by request of the agency?). The staff is well qualified to do the proposed work. This modeling approach by a well-qualified lab continues to improve and will be useful in the future. There is potential for stronger coordination with several other projects in this reach of river (e.g., juvenile fall chinook salmon tagging #199102900 and #25064). There may also be useful coordination with the infrared imagery proposal for temperature measurement (FLIR;project #25065).

Project ID: 25064

Investigating passage of ESA-listed juvenile fall chinook salmon at Lower Granite Dam during winter when the fish bypass system is inoperable.
Sponsor: USFWS; USGS
Subbasin: Mainstem Snake
2002 Request: $176,000
2002-04 Estimate: $438,000
Short Description: Describe passage timing, genetic lineage, scale patterns, and locations of fall chinook salmon that hold over in Lower Granite Reservoir during the winter.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable.

This is a good proposal for research needed to clarify the migration timing of fall chinook salmon that may overwinter in the Lower Snake River. Project personnel have identified a gap in understanding of life-history of chinook salmon. Bypass systems for migrating juvenile chinook salmon are closed between November and April at Lower Granite Dam. Recent information shows that this may impede emigrating fall chinook salmon that did not escape before November, but presumably stayed in the system through much of the winter (or alter our migration understanding, because of lack of monitoring data in winter). Preliminary data show that these fish make a significant contribution to the returning adults from a given brood. The proposal is to assess the significance of this situation for fall chinook salmon.

The proposal is generally complete and persuasive. The information in Part 1 is complete. There is an excellent background section. The work is justified with specific action items from the NMFS BiOp and the Subbasin Summary (but strangely not the FWP). There is a good description of the relationships to other projects, not just BPA's. There are good objectives (although stated more like tasks than as desired outcomes), tasks, and methods. One wonders if the scale pattern analysis for sea-water entry has been verified with elemental analyses (e.g., Sr/Ca ratios). There is an appropriate reference list. Staff resumes are complete and the staff is clearly competent to do the work. This is the same crew that has been doing the wild fall chinook studies underway since the early 1990s and this project is a logical extension of that work (but not within the existing scope). The studies are needed and this is the right group to do them.

Based on the presentation and discussion, it is even more convincing that we have generated an overwintering stock of fall chinook through our thermal manipulations of the Snake-Clearwater system. If it is happening, we are missing much of it with our standard fish monitoring operations that end in fall and don't begin again until spring. This change in life-cycle could be highly important for the general notion of species' adaptability and for the persistence of the Snake River wild fall chinook. It must be tested with the sort of work proposed here. A peculiarity is that the proposal continually implies that the bypass system should perhaps be operated for these fish, presumably to improve their survival, yet it provides data suggesting that their rate of survival is high relative to fish that do not hold over (i.e., use the bypass when it operates). Perhaps an alternative hypothesis deserves exploration. In summary, this is important work that deserves high priority for funding.

Project ID: 199102900

Understanding the effects of summer flow augmentation on the migratory behavior and survival of fall chinook salmon migrating through L. Granite Res.
Sponsor: USFWS; USGS
Subbasin: Mainstem Snake
2002 Request: $630,375
2002-04 Estimate: $1,851,125
Short Description: Increase the potential for fall chinook salmon recovery by providing data and analyses for implementing, evaluating, and understanding the mechanisms of summer flow augmentation.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if response clarifies how the proposers see their work resolving the broad issue of whether or to what extent flow augmentation improves or affects survival of juvenile salmonids in the mainstem Snake River. Also, the budget needs to be carefully evaluated (as requested in last year's review).

This is a project that deserves to continue. It has appropriately modified its scope over its history. Proposers have been responsive to previous ISRP reviews. However, the proposal could emphasize its role in evaluating primarily wild fish in contrast to the other main study that focuses on timed releases of hatchery fish (#199302900), although this study will use hatchery fish for telemetry. There is an excellent list of accomplishments in the form of publications and presentations in Part 1, with a summary in narrative form in Part 2. The narrative in Part 2 could have stressed the actual scientific results more, however (please provide an expanded summary in the response). There is a concise background section. For regional justification, there are quotes and specific items cited from the BiOp, Subbasin Summary, and FWP.

The narrative's objectives, tasks, and methods are well specified. This project has yielded good primary data results for the Fish and Wildlife Program from an area of the hydrosystem with much significance for listed fall chinook salmon. It should continue on the modified track this proposal outlines.

The ISAB reviewed the results of this project extensively this winter/spring for its review of flow augmentation and found the work of value. The ISAB subcommittee also suggested that some of the work he has now proposed to do should be done, either in this project or new ones. The proposers indicated that they would coordinate with and use information from the PNNL modeling proposal (#25049).

The ISRP remains concerned, however, that this project alone is unlikely to resolve the issue of whether or to what extent flow augmentation from both the Hells Canyon Project and Dworshak Dam improves or affects survival of juvenile salmonids in the mainstem Snake River. The authors did not demonstrate to the ISRP in this proposal a familiarity with the complexity of that issue to the extent demonstrated to the ISAB in its review. Although the data collection proposed here is good, the broader context deserves more explanation. A response from the proposers would be useful. The response should summarize the broader understanding contained in draft materials by the proposers that were not seen by the ISRP (e.g., Connor et al. chapter 5).

Palouse Subbasin

Project ID: 25092

RESTORATION OF HEALTHY WATERSHED TO PALOUSE RIVER DRAINAGE IN IDAHO
Sponsor: IDFG
Subbasin: Palouse
2002 Request: $200,200
2002-04 Estimate: $9,730,200
Short Description: To restore degraded habitat and protect natural habitat in the Palouse River drainage in Idaho thereby improving water quality and quantity throughout the drainage.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. Do not fund in entirety; fund the planning efforts only. However, a response is also required on the initial planning effort, which requires more detail and standardized approach. Do not fund restoration activities until a plan is in place that includes a statement of expected benefits in terms of native fish or mitigation.

The PI proposes to hire a person to initiate planning, identify problems, locate potential project sites, and potential cooperators. They also propose to begin habitat improvement activities in Deep Creek. The PI is qualified to address the objectives. Objectives for the first year are relatively clear, but objectives in subsequent years are very general – specificity is to be defined during the first year. The budget request is large, so it seems prudent to ask for a detailed proposal at the end of the first year to describe known needs and projected benefits from the investment. The standard approach to watershed assessment, prescription, rehabilitation, monitoring and evaluation is required, based on established templates as done for the Hood River and elsewhere, and in relation to overall restoration priorities in the province.

Project ID: 25008

Resident Fish Stock Status in the Palouse River and Upper Crab Creek Watersheds, Washington.
Sponsor: WDFW
Subbasin: Palouse
2002 Request: $546,670
2002-04 Estimate: $1,503,152
Short Description: The project is designed to collect baseline fish related data for the Palouse River and Crab Creek drainages. The baseline data will be compiled into a database, with existing data, for managers, as well as be used to develop fish management plans.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response adequately addresses ISRP concerns.

The stated intent of the proposal is to " … identify fisheries restoration/enhancement opportunities within each sub-basin" (Palouse River and Crab Creek). The strategy for accomplishing this goal is an extensive information gathering effort extending over 5 years at a cost of $2.4 million. It is not clear from the proposal that significant opportunity for fishery enhancement exists in these waters. Conclusions from creel survey were that substantial fisheries presently exist in several lakes in the area (page 1268). The proposal does not adequately justify the need for the information it proposes to collect. The management implications are not specified.

The proposal should be directed to data compilation or field surveys for this cycle with the other (database development or field surveys) being done later. Opportunities for protecting intact habitat, for restoring processes (hydrologic, geologic, and riparian) could be identified, and new proposals could be prepared to take advantage of these opportunities. The proposal includes no discussion of its relation to Project 25092?

The genetics component of this proposal is unwarranted unless the survey work locates populations that might be remnant redband or cutthroat trout populations based on phenotypic appearance. The subbasin has a long history of planting various strains of hatchery rainbow trout. Plantings continue to this day in many of the subbasin's lakes as part of off-site mitigation actions. Thus, the most likely outcome of large-scale genetic analysis of microsatellite loci is that the trout populations in the basin will simply be mixtures of various hatchery rainbow trout stocks, reflecting their mixed origins. Because of this, the microsatellite DNA analysis may indeed detect statistically significant differences between populations. This is to be expected due to different founding histories, confounded with genetic drift, and possibly natural selection if ecological differences exist between the subwatersheds within the subbasin. It would be erroneous to interpret these data with respect to metapopulation theory however; as it would be impossible to partition the genetic differences among populations to drift and dispersal versus the genetic residue of the founding hatchery stocks.

Tucannon Subbasin

Project ID: 25019

Tucannon River Roads, Cut and Fill Slope Restoration
Sponsor: Pomeroy Ranger District
Subbasin: Tucannon
2002 Request: $19,500
2002-04 Estimate: $52,500
Short Description: Stabilize road cut and fill slopes with erosion matting, and boulder collars reducing sediment contributions to the Tucannon River and its tributaries. Propagating, and planting native shrubs and grasses on sites.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This is a proposal to expand and continue efforts to stabilize sources of erosion associated with roads to help reduce sediment in spawning areas. Project personnel are well qualified and experienced to accomplish the work required. A monitoring program is included to detect changes in the spawning areas. The proposal should make it clear how changes caused by the project will be separated from changes unrelated to the project. There is insufficient detail in the proposal on what will be done where. Why BPA funding? USDA responsibility?

Project ID: 25072

Restore Tucannon River Riparian Habitat: Wooten Wildlife Area
Sponsor: WDFW
Subbasin: Tucannon
2002 Request: $135,400
2002-04 Estimate: $852,600
Short Description: Remove six (6) campgrounds from within Tucannon River riparian zone; restore riparian habitat and function through revegetation and protection to improve anadromous fish habitat; establish three (3) new campgrounds outside riparian zone.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless an adequate response is provided that addresses the ISRP's concerns regarding priority, alternatives, and technical basis for activity.

This is a request for $734,400 to remove six campgrounds from the banks of the Tucannon River in Washington's Wooten Wildlife Area, and to construct three new campgrounds at some distance from the riverbank. The proposal includes re-vegetation of the reclaimed areas, construction of kiosks to provide informational material, and enforcement of camping restrictions on the closed areas. Improvement of

riparian condition and function can be expected to improve in the areas where parking and camping occurred if these areas are protected from other disruptive agents. The area to be protected, however, is small relative to the entire watershed. Possible alternatives such as fencing to prevent overuse of stream banks were not discussed and should be discussed in the response.

The proposal should include a discussion of cost (loss of public campground) versus benefits expected from the added protection to be provided these relatively small areas. The ISRP concluded there are more degraded and extensive areas in need of protection.

Project ID: 200001900

Tucannon River Spring Chinook Captive Broodstock Program
Sponsor: WDFW
Subbasin: Tucannon
2002 Request: $94,509
2002-04 Estimate: $342,009
Short Description: Conduct the Tucannon River spring chinook captive broodstock program. Rear and spawn broodstock, raise their progeny and release up to 150,000 additional smolts into the Tucannon River to rebuild their run and prevent extinction.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response is provided that adequately addresses the ISRP concerns. The proposal failed to adequately address previous ISRP concerns.

The ISRP reviewed the Tucannon 3-Step Master Plan and approved it with a set of conditions focusing on the integration of artificial production issues and timing with habitat improvement actions in the subbasin. An additional requirement was for place greater emphasis on statistical analysis of the data collected during the program's monitoring and evaluation activities. The ISRP noted that future funding would be determined on an annual basis with consideration of the project's results and linkage with habitat work.

This project, the Tucannon River Spring Chinook Captive Broodstock Program, is part of the overall supplementation program designed to rebuild the depressed spring chinook population in the Tucannon River. The very low numbers of returning adults may justify the captive brood aspect of the program, however, it confounds the supplementation portion of the project as far as evaluation or for demonstration as to the efficacy of supplementation.

The proposal provides some recent history on within hatchery results for the last few years, but did not address either of the ISRP's first two conditions:
1) WDFW will work with the Tucannon Watershed Council to develop explicit milestones that forge linkages and a coordinated timeline between the habitat restoration activities in the basin and those of the artificial production programs (captive brood and supplementation). The coordinated milestones will help optimize the results of the habitat restoration activities in the Tucannon subbasin with the development of the captive broodstock and supplementation activities; and
2) Future annual reports from the WDFW Tucannon artificial production program will place greater emphasis on statistical analysis of the data collected during the program's monitoring and evaluation activities. Statistical analysis and consulting assistance is available within WDFW and should be utilized.

Review of Yakima/Klickitat Fisheries Project (YKFP) proposals

Major concern: While the ISRP review was favorably impressed with much of the YKFP accomplishments (as detailed below) we are very concerned that the experimental design proposed to assess supplementation of upper Yakima River spring chinook is inadequate. To compound these concerns … the first generation of hatchery produced spring chinook are now returning to spawn this fall! After years of planning, design work, and consultations we find it unacceptable that such an important experiment does not involve controls to maximize the information gained from our investments. As presented, the experimental design will not test the fundamental purpose of supplementation (as quoted below). Extensive monitoring and evaluation facilities and programs have been developed for the project but much of the design work has been focused on evaluating two rearing treatments with an objective of producing more "natural-like" spring chinook within a hatchery environment. In our opinion, the type of rearing treatment is secondary to larger questions about supplementation in the Basin; such as genetic change in new hatchery stocks, relative fitness of hatchery populations versus wild populations, and how to assess supplementation in the natural environment. We believe that a unique opportunity to study these major questions could be lost if there is not immediate attention given to the experimental design as presented. We provide more detailed comment on this issue below. In terms of process and accountability, the Region should carefully consider how this situation developed, how to respond rapidly, and how to learn from this important experiment while still working towards the goals of the YKFP.

CORE PROPOSALS IN THE YKFP

The core group of proposals that constitute the YKFP for the Yakima Basin are reviewed in this section. The YKFP is co-managed by the Yakama Nation (YN) and the Washington State Department of Fish and Wildlife (WDFW), and has a long history of development beginning with in 1982 (NPPC 1982). Ultimately, the stated purpose of the YKFP is:

"to test the assumption that new artificial production can be used to increase natural production and to improve harvest opportunities, while maintaining the long-term genetic fitness of the native salmonid populations and keeping adverse ecological interaction within acceptable limits" (BPA 1996)

The specific objectives of the YKFP are to:

- enhance production of upper Yakima spring chinook production through supplementation;
- re-introduce stocks formerly present in the basins;
- provide increased harvest opportunity; and
- to provide knowledge about the use of supplementation, so that it may be used to mitigate effects on anadromous fisheries throughout the Columbia River Basin.

(Project objectives from #198812025 YN and #199506425 WDFW)

The proposals included and funding recommendations are summarized below:

Proposal number	Title (Agency)	FY02 $$ Request	Recommendation
#198812025	YKFP Management (YN)	$1,262,548	Fundable, projected future costs are similar
#198811525	YKFP Design & Construction (YN)	$1,595,000	Fundable, major increases in costs projected pending outcome of investigations
#199701325	YKFP Operations & Maintenance	$2,549,774	Fundable, projected future costs are similar
#199506325	YKFP Monitoring & Evaluation	$3,883,332	Fundable but see detailed review of tasks included, similar future costs projected
#199506425	Policy/Technical Involvement (WDFW)	$187,800	Fundable, very similar future costs projected
#199705100	YKFP Yakima Side Channels	$2,320,624*	Fundable, small reduction in future costs projected
#199803400	YKFP Safe Access into Tributaries	$0, costs deferred	New project, substantial increase in expected costs

- $2.1 million of cost for acquisition of two properties.

The total funds requested for FY02 are $11.8 million and future costs may increase substantially depending on the ability to re-establish coho and fall chinook in the basin, and supplement production of steelhead. Clearly this project alone has been, and will continue to be, a major investment of BPA funds. Overall, the ISRP was favorably impressed with the facilities visited, the staff and procedures observed, and generally by the preparation of these proposals. A few of them are very large and included many tasks, both past and proposed, that had to be summarized and presented (more detailed comments follow the general text).

However, the ISRP does have a significant concern about how supplementation of the upper Yakima spring chinook will be assessed, and what we can learn and apply elsewhere in the basin. After years of design and planning, the Cle Elum Supplementation facility is complete and producing spring chinook for supplementation of the naturally-spawning stocks. The first adult returns were Jack (Age-3 male) chinook in 2000 and male and female adults are returning now in 2001. Extensive tagging programs have been designed to monitor survival of juveniles, harvest by tag groups, adult returns to Roza Dam facilities (brood stock collection and sorting); and to test the efficacy of semi-natural rearing to increase the survival of hatchery-reared salmonids. Many detailed assessments will be conducted on survival by release group, treatment type, phenotypic expression in the hatchery, genetic monitoring of the juvenile production, and spawning behavior of hatchery and wild parents. However, with the volume of information collected and the number of studies that can be conducted, we are concerned that the detail has obscured the essential questions about supplementation in this basin (and as identified in the forth objective of the YKFP as stated above).

For example, does hatchery rearing result in genetic divergence from the wild stock used to establish the hatchery brood stock? If so, how rapidly can this occur and what are the mechanisms? Do hatchery-reared fish used to supplement a natural population result in a sustained growth in the natural population? Is the reproductive fitness of a hatchery-reared fish equal to that of a wild fish? Cle Elum Hatchery is a new facility designed for supplementation of natural populations, but most hatcheries in the basin are older with established stocks. The central debate concerning those hatcheries is the utility of their fish for restoration of natural populations (do the genetic risks outweigh the increase in stock size?). Further, while extensive tagging of production in Cle Elum allows identification of hatchery fish from one brood year, production from these "hatchery" fish can not be differentiated from wild production in the next generation. Genetic monitoring of nuclear markers may allow assessment of parentage in small, closed populations (such as the hatchery) but are not likely applicable in large open natural populations that may also be responding to

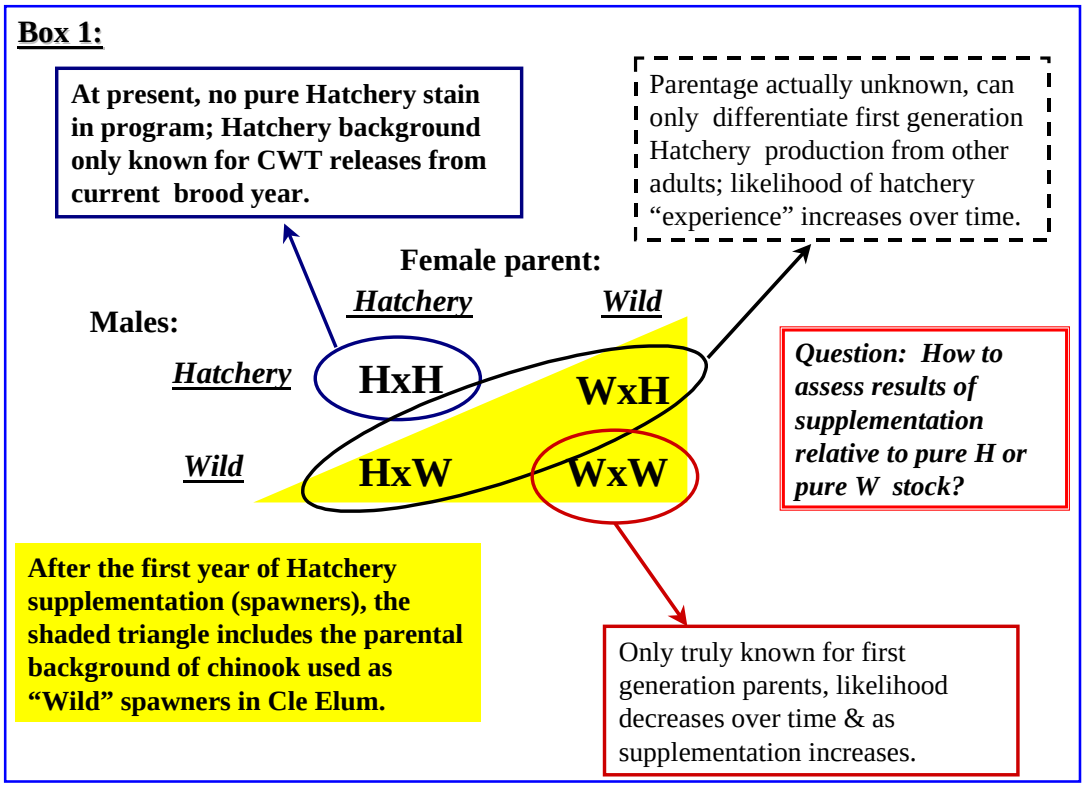
environmental variation. How can the results of supplementation be compared with a natural population that is not supplemented?

The ISRP is increasingly concerned about funding supplementation experiments if the project sponsors have not fully thought about the design and evaluation of these programs. To us, these programs must, at least, express:

a) a comprehensible and relevant statement of hypotheses that address key questions,
b) a thorough design capable of testing these hypotheses,
c) a technically acceptable assessment of the size of the effect that the design is capable of resolving,
d) a credible argument that the design is sufficient to test these hypotheses, and
e) a clear statement of how supplementation will be evaluated and how "success" or "failure" in the experiment will be determined.

Far to frequently hypotheses are statements of a belief or an assumption, but not a testable hypothesis that can be addressed through critical investigation.

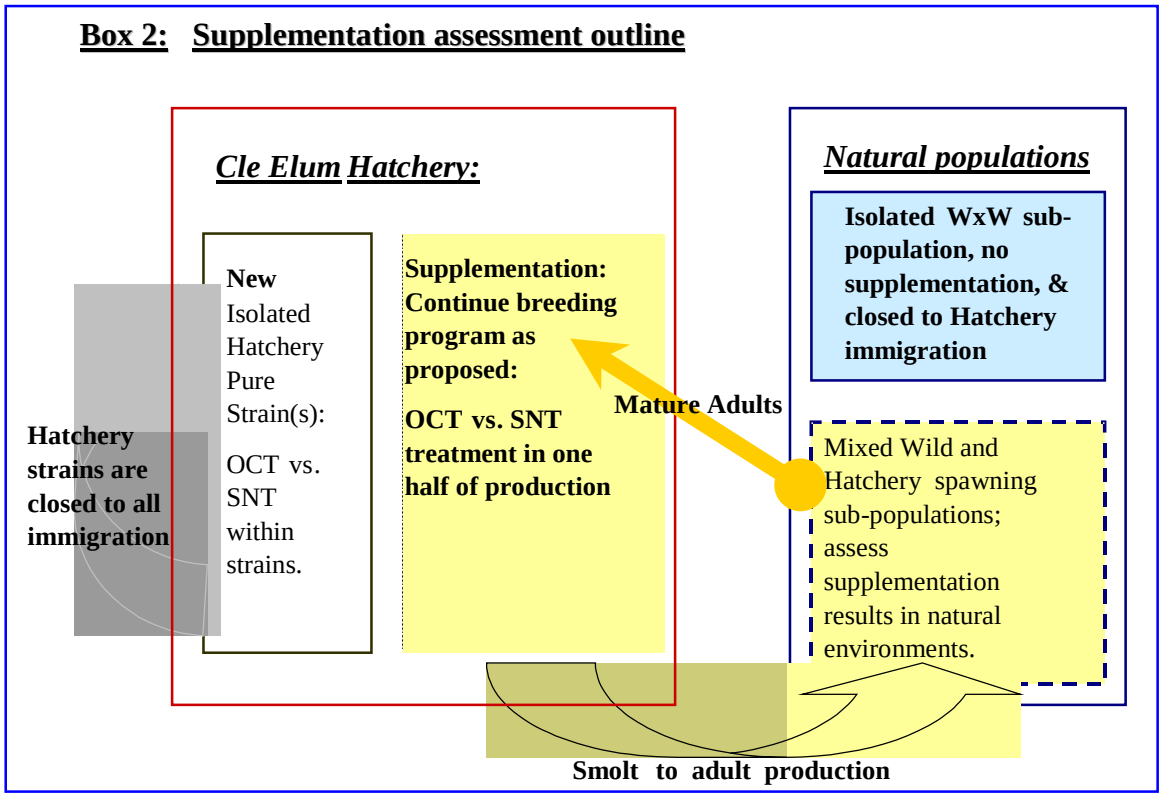
To clarify our concerns, the review committee has prepared the figures in Boxes one and two. Box 1 represents the parentage of chinook that maybe used in the Cle Elum facility. In the initial generations, all brood stock will be from wild (W) parents and half of the progeny will be reared under one of two treatment conditions (OCT vs. SNT, not indicated in Box 1). All of the hatchery production will be coded-wire tagged so that first generation hatchery returns can be excluded from Cle Elum brood stock (HxH adults excluded from hatchery brood stock in Box 1). The importance of these hatchery fish is that they will supplement the natural spawning population in the upper Yakima River. However, once these hatchery fish begin mixing with the wild spring chinook the parentage of fish used as the W spawners will become uncertain (the incidence of these "mixed" parents will begin to increase from 2003 and onward). The yellow triangle and text box in Box 1 is intended to represent this situation. The likelihood of selecting a parent of mixed background will increase with the number of hatchery fish returning in the brood years, in 2001 alone approximately one-third of the spring chinook adults returning to Roza Dam were from hatchery production. If the hatchery is successful in producing adults then the mixing rate will increase, and a high proportion of the returning adults will have been produced from a small sample of the population (i.e., the genetically effective population size of the stock will be much less than the number of spawners observed). We emphasize that the ISRP is not speculating that these will necessarily be a negative impact of supplementation … the important issue is whether we can assess supplementation under these conditions and design, and will the Basin learn from our substantial investment in this experiment?



To assess supplementation and to apply the Cle Elum experience more broadly in the basin, the ISRP strongly recommends two fundamental additions to the study design as we understand it (Box 2):

the establishment of a W x W control sub-population in the natural environment; and
the development of a pure H x H control sub-population within the Cle Elum facility.

The design as proposed would assess supplementation by monitoring the productivity and growth of the naturally spawning spring chinook population through out the upper Yakima River. These results, however, will be confounded with variation in environmental conditions and does not truly assess supplementation, except for the net effect of all spawners (hatchery produced or natural). If a wild sub-population could be identified and not supplemented, then the experiment could at least compare trends in production and productivity over time … replicates of these sub-populations would of course be ideal. The ISRP acknowledges that such a recommendation could be difficult to monitor and maintain, however, the hatchery sub-population within Cle Elum Hatchery can be established (although likely at some expense to the present rearing capacity). We believe though that significant questions concerning domestication could be investigated with associated benefits to other production programs in the basin. The Basin is quickly losing the opportunity to investigate this important issue and this unique opportunity cannot missed. *We also note that discussion about investigating domestication selection within the facility is being considered by the YKFP but that a process has not be agreed upon (Task 3.c; project #199506325 YKFP monitoring and evaluation).*



Since the first generation of hatchery production is returning to the basin in 2001, a decision on this program is needed immediately. We would strongly recommend over the next 2 to 3 years of returns that a few pure HxH lines be developed in the Cle Elum Hatchery and that these lines then be closed to immigration from outside of these lines. These lines could receive only the semi-natural rearing treatment (to save space) but would be closely monitored to investigate genetic changes within the lines. If genetic problems develop within a line then crossing between lines would be used to prolong the comparisons. It is noteworthy that the Cle Elum Hatchery has been equipped with single-family rearing tanks that can be used for quantitative genetic investigations. Unfortunately, no proposals to use these tanks were received.

ISRP Advice: It is the ISRP's advice that without these additions to the experimental design there is a significant risk of not learning from this large-scale hatchery experiment. It is also not evident how the YKFP defines success in the natural populations and when supplementation should be stopped. For example, is there a guideline concerning what portion of the naturally spawning population can be comprised of hatchery-produced fish? Presumably, this decision will involve assessments of population growth rates over time and the capacity of freshwater habitats but the process is not adequately described in these proposals. The ISRP recommends that such criteria are developed and discussions between co-managers begin. Further, spring chinook in the Naches and American rivers are not being supplemented, creating the potential for a mixed stock fishery problem. How is this being addressed in harvest plans?

Comments by Specific Proposal

Project ID: 199506325

Yakima/Klickitat Fisheries Project Monitoring And Evaluation
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $3,883,332
2002-04 Estimate: $12,914,597
Short Description: Monitors YKFP in terms of natural production, harvest, ecological and genetic impacts, guides adaptive management within the project and provides detailed information on supplementation to the region.
Response Needed: Yes - See General Comment on YKFP
ISRP Preliminary Comments:
Fundable; with clarification required for tasks identified in the table below.

This is a very large proposal that provides the information heart of the YKFP supplementation experiment. Programs related to this have been conducted since 1995 (documented in this text) and this proposal includes 36 objective/tasks combinations conducted annually in the YFP. Given the scope of these activities and the historical background to some tasks, this proposal is well prepared and informative. The scope/size of the proposal does, however, limit the information provided for any particular task. The authors have used table formats to summarize past work and tasks proposed, and we have adopted a similar format in providing comments. If a task is not included in the table below, then the ISRP agreed with the task description and did not comment. Given the importance of this proposal and the budget requested, a brief description of the proposal is included (copy of the Abstract as presented by YN). In total, the FY02 funding request is for $3,833,332 (reduced slightly from forecast); and the projected budgets through FY06 remain the same.

One concern in the presentation, however, is the limited number of publications and citations to work completed under these projects. Several references to publications are made in Part 1 of the proposal but few publications are cited. These citations would strengthen our sense of past accomplishments.

The ISRP also wishes to note that the sites visited during our tour were very well maintained and staff well organized. Each site indicated a well-organized program.

Proposal Abstract (section 9a): The YKFP is an effort to increase natural production and harvest opportunity of salmon and steelhead in the Yakima and Klickitat Subbasins using supplementation and habitat improvements. The project includes all stocks historically present in both basins. Currently, stock-specific plans are at widely differing levels of development: Yakima coho and fall chinook programs are in feasibility stages, while Yakima steelhead and all Klickitat programs involve only habitat/life history inventory, passage improvements and stock-status monitoring. The most complete program is the upper Yakima spring chinook supplementation program (Busack et al. 1997).
We will monitor each program in terms of natural production, harvest, genetics and ecological interactions. Studies of defined statistical power in these areas will guide project adaptive management and provide critical information for regional enhancement efforts. Expected outcomes include evaluations of:

- Impacts on natural production of targeted stocks;
- Ecological impacts on nontarget stocks;
- Identification of factors determining success or failure for each program.
- Relative survival between different experimental groups of hatchery fish and between hatchery fish and wild conspecifics.

Project success is defined as a significant increase in natural production with limited adverse impacts on non-target stocks. Natural production is monitored in terms of natural origin recruits and its components

(adult reproductive performance and survival from egg to fry, fry to smolt, and smolt to adult). Genetic impacts will be monitored in terms of domestication and within- and between-population variability. Ecological impacts on nontarget stocks will be monitored by comparing abundance, size structure, geographic distribution and interaction indices before and after supplementation. Impacts of nontarget species on project fish will be assessed by indices of predation, competition, prey abundance, mutualism and disease.

The scope and complexity of this, and the other YKFP projects, involves much data generation but the data management and analysis capabilities appear inadequate due to limited description of these activities. Resources should be devoted to ensuring complete, timely, useful archiving of data and data analyses including measures of variability and uncertainty to accompany quantitative results. To assess this will required more comprehensive description of procedures and resources.

Comments on Individual Objectives/Tasks:

A common concern with the proposal tasks and methods is the inappropriate phrasing or statement of the hypotheses. Frequently, hypotheses are stated as a statement of belief or assumption but not as a testable expression for study. Each monitoring task may not need a hypothesis statement and, in the future, the authors may wish to group activities under fewer tasks and hypotheses.

OBJECTIVE	ISRP COMMENT
1.Natural Production	
1a. Natural Production & Modelling:	It is not evident why indices are required when the real measure of success will be an increase in the natural population size and fish production. We also presume that this task includes EDT models and statistical models for experimental design work. Given the profile of EDT in the Yakima basin and the budget requested for this task (Section 4); the description of methods is far too vague. **YKFP managers should clarify why EDT data collection and modelling is not described in more detail and/or included under a separate proposal.**
1b. Yakima Fall chinook survival study	The description in Section 9f (PIT of wild juveniles) does not seem consistent with statements in Section 7, task 1b. If wild fall chinooks are large enough to use PIT tags, is their survival actually indicative of reach productivity and suitability for fall chinook? Can sufficient numbers of fry be PIT tagged to compare survivals between tag groups? Do these investigations study the use of reaches by tagged fry? **This task is not adequately described, particularly if feasibility work has been conducted.**
1c. Spring chinook mico-habitat use	These investigations are logically associated with supplementation but dispersion should be expected as populations increase (as noted). However, how would the program address emigration (downstream dispersion or use of tributaries) as opposed to local sub-optimal habitats? We would also not expect "carrying capacity" to be constant annually. **This task is likely to be largely descriptive but may also be useful in EDT assessments… proceed given the modest cost.**
1d. Spring chinook PIT tagging & CWT application	This task combines costs for Section 7.1.d1. & 7.1.d2. The initial results of the PIT tagging presented in the Basin Summary were instructive and demonstrate adequate numbers of recoveries. **Recommend continuation** Concerning CWT application, we understood that all hatchery production would be CWT … but the task only refers to tagging 400,000 chinook? Is this a value left over from a previous proposal? **Further, authors must also clarify the basis of the tagging cost projected**. With a production of 800K juveniles, the projected tag cost per individual is much higher than in other tagging programs.
1e. Roza PIT tagging of W & H spring chinook	Re-state and clarify the hypothesis … as stated it is not clear how this hypothesis relates to the task. **Recommend continuation**

OBJECTIVE	ISRP COMMENT
1f. Chandler monitoring	Re-state and clarify the hypothesis … as stated it is not clear how this hypothesis relates to the task. Chandler fish sampling site is essential to the YFP, **recommend continuation and refinement of smolt estimation procedures**.
1g. Accelerated rearing of Fall chinook	Hypothesis is a statement of belief … re-state as a testable hypothesis. The task statement does not adequately provide an indication of the problem. Based on our briefings, the ISRP understands the need for this program but it is not evident in this task statement. However, it is not evident how this strategy would aid the restoration of naturally spawning chinook in the Yakima River. Task combines budget items Section 7.1.g1 & 7.1.g2 (PIT tagging of juveniles).
1h. Coho stock and date of release study	This task combines budget items Section 7.1.h1 & 7.1.h2 and is a costly project. The hypothesis suggests the study will assess "a suitable stock" of hatchery coho salmon but the rationale and methods do not address the variable stock. **Clarify the present intent of this study**.
1i. Spring chinook juvenile behavior	Behavioral comparison of chinook reared under OCT and SNT in the Cle Elum facility. We strongly doubt that this hypothesis is testable or that such simply correlation exists. For example, the migratory behavior of a smolt may differ substantially from the behavior studied in the hatchery juveniles. **We place a lower priority on this work compared to other tasks.**
1j. Spring chinook morphometric and coloration	Comparison of body morphology and coloration in wild fish and hatchery fish reared under OCT and SNT. As in task 1i. **we place a lower priority on this work compared to other tasks** (but these costs are substantially less than for task 1i.).
1k. Smolt physiology	Not considered in this proposal
1l. Adult monitoring at Prosser Dam	This is clearly an annual monitoring program that does not need a hypothesis statement. **Recommend continuation.**
1m. Adult monitoring at Roza and Cowiche dams	This is clearly an annual monitoring program that does not need a hypothesis statement. **Recommend continuation.**
1n. Spawning ground surveys	The hypothesis stated is actually an assumption of this task … is there an issue that you are testing? **While the ISRP strongly supports this task, we question whether sufficient resources are assigned to this task.** For example, is it adequate to only have an index of spawning activity in a stream reach when our objective is to assess supplementation and productivity of the naturally-spawning populations?
1o. Natural spawning observations	This task has no budget assigned and indicates that the task has been deferred. Since hatchery produced adults will be returning in 2001, does this mean the project has been completed or has it been cancelled? This loss of this work could be a significant limitation to interpreting the behaviors observed in the artificial spawning channels at Cle Elum.
1p. Spring chinook residuals & precocial study	The high incidence of precocial development in hatchery male chinook supports undertaking this task. **Recommend completing this investigation.**

OBJECTIVE	ISRP COMMENT
1q. Hatchery / Wild reproductive success	The development of an artificial spawning channel at Cle Elum provides an opportunity for reproductive behavioral studies, but we must be patient before concluding similarity or difference between the hatchery and wild spring chinook. As discussed above, hatchery production in Cle Elum is not representative of production in older hatchery programs. **Recommend proceeding with research on spring chinook.** Part 2 of this task involves coho salmon. The hypothesis stated for coho salmon is another assumption, how would this statement be tested and related to reproductive success? The coho work is not compatible with the statement of the task. The coho work is more related to habitat suitability for spawning and egg survival. The committee is doubtful of the merit of constructing stream reaches in the artificial channel. In natural environments, site selection may involve many more variables than substrate composition. Further, how would the effect of hatchery ancestry be isolated from the substrate effect … where is the related information on "wild" coho spawning success in these substrates? We also are doubtful that substrates of known composition can be artificially constructed and stable through the spawning period. **We not support of this coho task as presently described.**
1s. Scale analysis	While monitoring age structure is essential to monitor the dynamics of a chinook salmon, the investigators must also be aware of the frequency of errors in scale aging. The presence of large numbers of CWT could provide a good estimation of aging error. Further, multiple aging structures should be used to verify ages and reduce errors. The committee was also uncertain why we must "ensure that the age structure does not change as the result of supplementation." If supplementation lead to a large, more diverse, natural population; then a shift to older larger adults may be beneficial to the stock.
1t. Fish Health	Not included in the budget, work coordinated with samples already available from Chandler facility and analyzed by USFWS
1w. Sediment impacts on habitat	This task is poor described. The hypothesis is simply a statement of fact and not testable. It is not clear what this task involves … is it a monitoring program or just responsive to a problem? **Authors must clarify before support is recommended.**
2. Harvest	
2a. Out-of-Basin monitoring	While there are no costs associated with this task, are there information needed by investigators that they presently do not have?
2b. In-basin monitoring	An in-river program is supported but the funds allocated seem limited. Further, is the monitoring for reported catch only or is there a plan to estimate total mortality associated with fishing? **The latter is recommended.**
3. Genetics	
3a. DNA data collection & analysis	Hypothesis is another assumption, not a hypothesis. The ISRP notes that this work activity may have to be expanded if the YKFP is adjusted to the recommends about (see notes for Box 2); i.e., sampling of pure hatchery strains and of isolated wild sub-population. We are unable to advise on changes to budget required since the basis for the $200,000 request is not provided … what is the charge per sample and how many samples are provided for? This information should be provided. Further, the ISRP notes that this work is a major aspect of the supplementation assessment but no information has been provided about the accuracy of these analyses or the results from the initial sampling. We **strongly recommend** publishing the DNA information, methods to be used in estimating the genetically effective population size, and sensitivity testing of these analyses be conducted and reported. Recommend funding for analyses but reporting required before continued funding is provided … however we would expect this monitoring to continue beyond the "first full cycle of adult returns" as suggested in the text.

OBJECTIVE	ISRP COMMENT
3b. Stray recovery …	We understand that the American and Naches river spring chinook are genetically differentiated from the upper Yakima spring chinook … but how different are they for the DNA markers to be applied. Again, it would be useful to know more about past sampling and comparisons between populations. Tagged hatchery fish can be counted in these spawning populations but is it likely that the true "gene flow" can be estimated using the DNA markers. The suggested budget is quite limited, how many samples are to be processed and what level of genetic difference maybe detected at this sample size? **Recommend a preliminary investigation for the suggested budget.**
3c. Domestication study	The request is for planning and design work only … unfortunately, the first generation of hatchery fish is returning in 2001. This aspect of the supplementation experiment needed to be decided upon before now. As the ISRP has commented above, **we believe there is an immediate need** to establish a pure hatchery stock within the Cle Elum facility in order study domestication and contrast with the supplementation groups currently being reared in the facility. Regrettably, the opportunity to monitor domestication from the first generation has been compromised by not initiating this program in 2001, but the Age-5 returns could be utilized next year.
4. Ecological Interactions	**Most of these tasks could be considered individual research studies and may be more thoroughly described in a separate project.** Each of these requires understanding the methods of estimating predator population sizes, for estimating the predation rate, and extrapolating to the total mortality on the prey species. Future submissions should consider a more comprehensive description of these tasks … 4c. and 4e., in particular, are very expensive projects.
4a. Avian predation index	The hypothesis again includes two topic statements; separate testable hypotheses should be developed. This task includes budget items section 7.4.a1 and 7.4.a2 (sub-contractor and YN respectively). **Recommend support for a few years, but the need for an on-going continual program is uncertain.**
4b. Fish predation index	The hypothesis again includes two topic statements; separate testable hypotheses should be developed. Summary comments (page 1335) based on projects 9506402 and 9506424 indicate that these investigation have been successful in providing an estimate of the predation losses but there are not sufficient details of these studies to provide other comment. The predation level from Northern Pike minnow was substantial in 2000 and an estimated 95% of the prey were yearling fish. When should attention be shifted from predation levels to controlling the predator populations? What is known about reproductive biology of Pike minnow and can this be used to control these populations?
4c. Indirect predation	While this seems to be a tenable hypothesis, we are uncertain of the study to be conducted or the basis for the budget requested. The text states that "test groups will define themselves" … which leads to the concern that how these are defined could determine the study outcome. Is the hypothesis being tested that predation on wild fish is proportional to the presence of hatchery fish in the migration period? This seems to be testable question without definition of groups. **We place a lower priority on this work compared to other tasks.**

OBJECTIVE	ISRP COMMENT
4d. Competition / Prey index	This is a reasonable task given the expected (hoped) response to supplementation. Habitat use and production in a year and/or stream, however, will also vary with environmental variation and the distribution of spawning adults. How will the effect of supplementation be assessed? For example, if the abundance of juveniles increase how can this be associated with the supplemented adults. Further, with increased populations of juvenile spring chinook, we may expect the distribution of size to change, but the total production of returning adults could still increase. While this type of study may be informative within stream reaches and about freshwater capacity … supplementation should be assessed based on adult production from the natural spawning population. We would also suggest that the reaches monitored should be ones where the population size of spawners can be estimated.
4e. NTTOC	The scale of this task and related project activities requires a separate project proposal to fully evaluate the activity (noted above). This task is consistent with considering ecosystem type impacts associated with large-scale supplementation. While the ISRP recognizes that this is the type of multi-species investigation called for in the NWPPC's new program, **we do not have adequate information upon which to evaluate** methods, impacts, etc.
4f. Pathogen sampling	The proposal is for a minimum sampling (200) of wild spring chinook at the Chandler facility. Pathogen screening to be conducted by USFWS. Disease risk in a large supplementation program is a commonly expressed concern, but it seems to have very low profile in the YKFP proposals. Is there a reason for the minimal involvement of pathogen sampling/monitoring in the YKFP M&E proposal? This seems to be an obvious source of concern in an otherwise comprehensive set of tasks … **and should be clarified**.

Project ID: 199506425

Policy/Technical Involvement and Planning in the Yakima/Klickitat Fisheries Project
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $187,800
2002-04 Estimate: $580,472
Short Description: Manage policy and technical oversight of the Yakima/Klickitat Fisheries Project via the project's Policy Group and Scientific and Technical Advisory Group as dilineated in the agreed-upon project management structure.
Response Needed: No - See General Comment on YKFP
ISRP Preliminary Comments:
Fundable. The Washington Department of Fish and Wildlife (WDFW) and the Yakama Nation are co-managers of the YKFP. Project management is conducted through a policy group supported by a scientific and technical advisory committee. These joint groups are responsible for ensuring that all YKFP activities are implemented efficiently and effectively. This proposal describes WDFW participation in these co-manager responsibilities. The proposal is well organized and seems limited to the advisory role described in the text. The budget for FY02 is reduced from the forecasted level and remains very similar through FY06 (less than a 10% increase).

The failure of the planning effort to produce a solid experimental design reflects poorly on this project.

Project ID: 199701325

Yakima/Klickitat Fisheries Project Operations and Maintenance
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $2,549,774
2002-04 Estimate: $8,567,865
Short Description: To implement and test supplementation-based measures in order to increase natural production and harvest opportunities. Supplementation measures will be evaluated using a systematic, experimental program. Test feasibility of coho reintroduction.
Response Needed: No - See General Comment on YKFP
ISRP Preliminary Comments:
Fundable. This proposal covers all the YKFP's fish production activities and research facilities including: operation of the Cle Elum Supplementation and Research facility (CESRF), the Prosser Fish facility, and the Marion Drain Fish facility. The activities included are: brood stock collection, spawning, incubation, rearing, and acclimation/release for fall and spring chinook, and coho salmon. While this proposal is more limited in details provided, the tasks are clearly listed and costs are reasonable given their duration and activities (with two exceptions noted below). Costs projected through 2006 are very similar, increasing about 10% over this period.

Concerning technical content of the proposal, the ISRP note one statement we do not agree with. Concerning brood stock spawning at the Cle Elum facility, the proposal states:
"CESRF utilizes a factorial mating (minimum 2x2 crosses) design to ensure genetic diversity." (Section 2f, page 6)

Such a design cannot ensure diversity; but as described during the tour, is intended to reduce the risk of bottlenecks and reduce the rate of loss of genetic variation in the hatchery brood stock. The genetic relatedness of the brood stock is unknown so a breeding design can not ensure diversity (although it could be maximized within the parent generation through genetic screening before mating). This criticism is mainly semantic but we should avoid misleading expectations.

The two exceptions noted above are: the cost of operations for the Prosser Fish Facility (objective 1) and the basis for the Indirect cost estimate of $450,546 in Part 1, section 8. The basis for the operational costs are not provided for any of the three fish facilities in this proposal but the cost for the Prosser activities seem large and it is unclear how this is separated from the costs included in the YKFP Monitoring and Evaluation proposal. For example, both this proposal and the Monitoring and Evaluation proposal refer to the coho acclimation ponds and include costs for operations. Contract managers should be aware of these potential overlaps but as reviewers of the technical program we are unable to comment further on these activities. The Indirect costs in this proposal are large relative to the Personnel costs … over 50% of the Personnel costs compared to 19 to 20% in other proposals. This is again a task for a contract manager.

Project ID: 199705100

Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Yakima Side Channels
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $2,320,624
2002-04 Estimate: $6,281,719
Short Description: This project supports the Yakama Nation's (YN) activities related to YKFP habitat improvement and acquisition activities in the Yakima Subbasin. The project goal is to protect and restore off-channel rearing habitats in priority mainstem reaches.
Response Needed: No - See General Comment on YKFP
ISRP Preliminary Comments:
Fundable. The stated project goal is to protect and restore off-channel rearing habitats in priority mainstem reaches, particularly those with good connectivity between the river channel and floodplain. Under current conditions, much of the mainstem Yakima River is sharply compromised because of flow regulation and diking that has removed large portions of the floodplain. The Yakama Nation has made significant progress in arranging land acquisitions in recent years and has arranged significant cost sharing agreements with The Nature Conservancy and NMFS ($700,000 for FY02). This proposal involves one Habitat Biologist, costs associated with the purchase of two land parcels (460 acres), plus limited funds for property maintenance and evaluation of fish and wildlife (95% of the BPA funds are for land acquisitions, total funds $2.32 million in FY02). Projections for future years (through FY06) are for similar, but slightly lower, costs. Future costs could change quickly if new opportunities were identified.

Project ID: 199803400

Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Reestablish Safe Access into Tributaries of the Yakima Subbasin
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $0
2002-04 Estimate: $860,000
Short Description: This proposal supports the Yakama Nation's (YN) activities related to YKFP habitat improvement and acquisition activities in the Yakima Subbasin. The project rebuilds migratory passage into historically-productive tributary habitats.
Response Needed: Yes - See General Comment on YKFP
ISRP Preliminary Comments:
Funable if an adequate response is given to address ISRP concerns including clarification of interaction with Proposal #25026.

The goal of this proposal is to assist in the rebuilding of spring and fall chinook, coho, bull trout, and steelhead populations in the Yakima River, by re-connecting productive tributary habitat that has been cutoff from the mainstem. Many tributaries have artificial barriers near the confluence and flow has been diverted into numerous irrigation channels. The tributaries identified in this proposal provided several hundred miles of habitat (pre-development) for anadromous species and continue to have excellent rearing potential in comparison with the mainstem habitats. Many of the tributaries still have healthy channel sinuosity, width-to-depth ratios, and are more thermally benign during the winter. In contrast, the mainstem is heavily regulated for irrigation, which has resulted in high flows during the summer and lower flows during the winter. The specific tributaries identified in this proposal would reconnect over 100 miles of rearing habitat (in 10 tributaries) with the mainstem Yakima River.

Based on our tour and briefings, the ISRP agrees fully that reconnecting tributary habitat is essential to restoring production in the Yakima basin. However, it is our conclusion that further planning and co-ordination between all participants (the YN plus sponsors of project #25026) is still required. We have reached this conclusion based on three points:
i) this proposal does not request any funds for FY02;
ii) during our tour, the sponsors of #25026 seemed to be leading the tributary work in the Kittitas County;
iii) the expenditures for this type of work over the next 5 years are expected to exceed $10 million dollars to address hundreds of tributary problems.

Given the importance of restoring production from these tributaries but the enormous scope of the problem, we were not confident that a coordinated and effective process has been developed at this time.

The ISRP strongly recommends that funds be designated for such habitat restoration and water management activities, but we recommend that the proponents ensure they have an agreed and effective plan to present. Funds could certainly be designated for such planning during FY02 and a revised proposal submitted later.

Project ID: 198811525

Yakima/Klickitat Fisheries Project (YKFP) Design and Construction
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $1,595,000
2002-04 Estimate: $8,286,000
Short Description: Design/Construction:
1. Nelson Springs Office and Research Facility
2. Interpretive Center
Response Needed: Yes - General Comment on YKFP
ISRP Preliminary Comments:
Fundable in Part for FY02, and approve annually or at milestones after that.

For FY02 this proposal is limited to the replacement of YN office facilities ($1,375,000 in FY02) at Nelson Springs (Parcel "B") and construction of an Interpretative Center ($220,000 in FY02) at Cle Elum Supplementation and Research facility. The proposal provides good justification for the replacement of current offices at Nelson Springs and the ISRP advises that an Interpretative Center could provided substantial educational value given the research programs at that facility. The new office facility would provide secure housing of the YN research library, their Data Management Center, and presently eight staff members.

Future allocations under this proposal are contingent on the results of feasibility studies for coho and fall chinook restoration programs, and of the steelhead kelt re-conditioning program. The potential costs of these future construction projects are substantial and can only really be considered following review of the studies. Planning for the coho and fall chinook production programs were expected to begin in 2003 and 2004.

Project ID: 198812025

Yakima/Klickitat Fisheries Project (YKFP) Management
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $1,262,548
2002-04 Estimate: $5,295,760
Short Description: This proposal supports the Yakama Nation's (YN) policy, management and administrative activities related to YKFP operations in the Yakima and Klickitat River Subbasins, including all M & E, O & M and Design and Construction activities.
Response Needed: No - See General Comment on YKFP
ISRP Preliminary Comments:
Fundable. This proposal provides for all Yakama Nation management functions associated with the Yakima/Klickitat Fisheries Project in the Yakima and Klickitat sub-basins. The Yakama Nation serves as the lead agency and is responsible for the implementation of programs and activities, in coordination with the Washington Department of Fish and Wildlife. Given the size and complexity of the YKFP, the project requires significant management and administrative resources. This proposal includes management of programs, data, and YN habitat planning activities, and includes the annual YKFP review of research programs.

The ISRP found the proposal to be well organized and were impressed with staff met during the site tour. Approximately one-half of the budget is for salary of 13.75 FTE, charged out at 19% benefits and 19.5% indirect costs. Sub-contracting costs were not differentiated within task and could be more clearly identified by work activity. Annual costs were projected to remain similar between 2002 and 2006.

The ISRP notes, however, that the concern for a comprehensive experimental design for the supplementation experiment does not reflect well on this aspect of the YKFP management. We are uncertain where and/or why the problem of incomplete design developed but some review and consideration of this question is very appropriate and recommended. The review committee recognizes that decisions in the YKFP are made amongst the co-managers and technical advisory groups. By commenting in this project, we are certainly not attributing fault to any one body.

Project ID: 25022

YKFP Big Creek Passage & Screening
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $175,280
2002-04 Estimate: $205,280
Short Description: The project would provide fish passage over a concrete dam with a series of weirs in combination with a short fishway, opening up 10 miles of habitat.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if an adequate response is given to the ISRP's concerns.

The project would provide chinook passage over a barrier and screen diversions at mile 2.1 of Big Creek near the Easton acclimation facility and install screens at the intakes for the ditches. The proposal provides few details on past utilization of the habitat but does describe the habitat as being high quality and water temperature is good above the barrier and summer flow is adequate. Anadromous fish access has been cut-off since the 1960's and have likely also limited movement of resident fish. This work should make valuable habitat available for spring chinook and secondarily steelhead. Some level of cooperation, and some cost-share, from the water users is also noted. M & E would be conducted by the Yakama Nation.

To the review panel, this looks like a relatively inexpensive project that might deserve higher priority than most of the cohort of new fish-related Yakima basin proposals. An earlier version of the proposal was reviewed in the High Priority competition but was too brief to be supportable. The current proposal is improved but still fails to address two of the issues raised in the High Priority review:
1. priority. What is the basis for this specific Big Creek project being worthy of immediate funding? For example, the proposal notes that Big Creek is on Washington's "Waldo" list, but does not describe how high the ranking (i.e., the priority need for the project).
2. potential impacts on native resident fish stocks if any are present above the culverts.
Clarification of these issues is needed.

The response should also discuss the water rights situation. Will the in-stream flows be compromised by local user's water rights?

Project ID: 25025

YKFP -- Secure Salmonid Spawning and Rearing Habitat on the Upper Yakima River
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $2,300,000
2002-04 Estimate: $2,438,000
Short Description: Purchase of 370 acres of upper Yakima River wetlands through fee simple acquisition to secure spawning and rearing habitat for salmonids.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable, but at a low priority. Would purchase three land parcels in upper Yakima basin: two of 80 acres and 96 acres, part of wetland complexes with undefined anadromous fish use, and one parcel of 300 acres that is valuable for bull trout habitat.

This is a minimal proposal. There is surprisingly little information on their importance to fish production. There is no indication that these parcels rate high in subbasin priority. It is difficult to assess the level of support from other agencies and groups. These small, relatively expensive parcels by themselves would be higher priority if part of a coordinated "plan " but there is no indication of that at this point.

A related High Priority Proposal to acquire the two smaller parcels was previously reviewed by the ISRP and ranked at the C level. Review comments included: "Although the proposal meets the solicitation's basic criteria, the proposal is inadequate and fails to provide adequate information on fish passage concerns into the restored area, stock status, and expected benefits from the proposed work". Those comments appear to remain appropriate for the current proposal.

Project ID: 25023

Yakima-Klickitat Fisheries Project - Manastash Creek Fish Passage and Screening
Sponsor: YKFP - WDFW
Subbasin: Yakima
2002 Request: $0
2002-04 Estimate: $1,055,473
Short Description: The project will provide fish passage and screening for 5 irrigation diversions and will enhance stream flow which is currently a limiting factor downstream of these diversions. This project could restore access to approximately 30 miles of good habitat.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if an adequate response is provided. This project would fund actual construction of passage and screening facilities, with design currently being done under the YN ongoing safe access project.

A map describing the area is needed. This is a complex, expensive project that appears to have potential to increase salmonid production, but is difficult for reviewers to assess. It would appear that, based on the

number of uncertainties that seem to exist, that this proposal is 1-2 years premature and should be deferred until the design is closer to completion and uncertainties are resolved.

In that framework, a response is requested to address the following issues:
* why does this project deserve high priority? For example, what is its prioritization under the EDT process? What level of fish production gains are anticipated and is there reason to believe that the cost per "new" fish produced in upper Manastash Creek would be less than what might be achieved elsewhere?
* will there be enough water in the lower 3-mile-long reach in question in future, following adjudication (or alternatively will fish passage in December through June satisfactory to sustain production) to make the project expense worthwhile?
* if the project were to proceed, what potential impacts are expected on native resident fish stocks (if any exist) above the barrier?

Project ID: 25024

Yakima-Klickitat Fisheries Project - WILSON CREEK SNOWDEN PARCEL ACQUISITION
Sponsor: YKFP - WDFW
Subbasin: Yakima
2002 Request: $206,580
2002-04 Estimate: $206,580
Short Description: Proposal is to acquire a portion of Wilson Creek, and its associate floodplain at Ellensburg, Washington, and perform riparian restoration activities.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if priority is justified in a response. How does it fit into an overall plan for the Yakima Basin? The project would purchase 30 acres of sheep pasture at $5000 per acre. The review panel apparently drove past or near this on the field tour but unfortunately the project was neither visited nor mentioned. The proposal only minimally describes the project. A map is needed. Benefits to summer steelhead and resident trout are noted but not detailed, and the property is adjacent to a popular recreation lake. It would in theory complement YN habitat efforts on Wilson Creek, but such specific ties and benefits are not described. It also purports to increase instream flows, but by how much? This purchase is only likely to provide benefits as part of the larger Wilson Creek restoration and water rights program.

Wapatox and City of Yakima Intake Screen Proposals

Project ID: 25054

Increase Naches River In-stream Flows By Purchasing Wapatox Hydroelectric Project
Sponsor: YN
Subbasin: Yakima
2002 Request: $3,500,000
2002-04 Estimate: $3,500,000
Short Description: Cost share with Bureau of Reclamation to purchase and retire PacifiCorp's Wapatox Power Plant to benefit salmon and steelhead by increasing instream flows and enhance spawning and rearing habitat in the Naches River.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if an adequate response is provided.

As reviewers commented during the High Priority review process in which the project was ranked B, the project would benefit fish in that the portion of the river that is bypassed by the canal which at times is dry or otherwise inaccessible to spring chinook, steelhead and coho, as well as bull trout. Increased flow will lead to reconnection of the lower Naches River with upstream tributaries such as the American River. Costs

will be shared with BOR. There are obvious policy issues of who should fund this that extend beyond the ISRP purview.

The project would clearly provide immediate and presumably substantial benefits to fish and wildlife, but the proposal does not provide a quantitative estimate of to what extent fish would be expected to benefit. Additional information on expected benefits (from EDT model, etc) is requested.

In addition, the monitoring and evaluation is not well described and needs to be clarified before being fundable (see ISRP General Comment on monitoring and evaluation).

Project ID: 25031

Naches River Water Treatment Plant Intake Screening Project.
Sponsor: City of Yakima
Subbasin: Yakima
2002 Request: $1,657,500
2002-04 Estimate: $1,657,500
Short Description: Screen City of Yakima's Naches Water Treatment Plant intake to eliminate mortality of ESA listed and non-listed salmonids at this location.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. An expensive project that will be needed if the retirement of Wapatox Dam occurs (proposed at this time, but not a certainty). Action will be taken by late fall 2002 regardless of funding decision. Proposed budget is $1.9 million, but speakers (Paul Wagner) indicated that the project might be done for as little as $1 million. PI's do not have alternative funding avenues identified. Diversion is for 50 cfs.

This is an extensive engineering proposal. It provides abundant linkages to the various regional planning documents, as well as to the FWP. It does not describe the magnitude of the juvenile or adult fish entrainment that occurs in its present design both under current operation and under operation if Wapatox Dam was retired. Thus, it is hard to judge the magnitude of the biological benefits of funding the project.

This project was originally submitted under the BPA FY2001 High Priority Proposal solicitation (project # 23044) and received a Category B rating from the ISRP and an A rating from CBFWA. The ISRP raised concerns that the project inadequately specified benefits to fish. PIs responded to this concern by noting that although mortality of salmonids due to entrainment into the WTP intake system has not been quantified, complete exclusion of fish from the intake system will benefit both listed and non-listed salmonids as well as resident fish. While this would clearly be true, it makes judging the magnitude of the problem and the magnitude of the potential biological benefits difficult to assess.

In the High Priority review, both the ISRP and CBFWA indicated that the proposal raised "in lieu" questions. The PI's most recent understanding was that upon NWPPC staff review, funding of this project was determined to be consistent with BPA obligations. Due to budgetary constraints, this project did not receive funding under the FY01 High Priority Proposal solicitation and is therefore being resubmitted under the current solicitation.

Yakima Fish Screen Proposals

Project ID: 199105700

FABRICATE AND INSTALL YAKIMA BASIN PHASE II FISH SCREENS
Sponsor: WDFW, YSS
Subbasin: Yakima
2002 Request: $159,889
2002-04 Estimate: $179,889
Short Description: WDFW, YSS fabricates and installs fish screens and miscellaneous metalwork for Yakima Basin Phase II screening projects. New fish screens prevent mortality and/or injury to all life stages of anadromous and resident fish in irrigation diversions.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate response is given to ISRP concerns. This is part of a long-standing program that would appear to have contributed significantly to survival improvements in downriver salmonid migrants. This funding would complete Phase II replacement or upgrade of all screen facilities in the Yakima basin by the end of FY 2003. What proportion of all diversions are screened? The proposal notes that project prioritization is determined by the Passage TWG, including input from the BPA project manager, BOR, state and federal agencies, and YN. While the proposal listed general programmatic support for the importance of screening, it did not list a protocol or specific criteria that established the prioritization rank order for the screening activities. Perhaps because most of the screening activities are part of the Phase II screening process presently underway in the Yakima basin, this oversight presents an uncertainty only to the ISRP and not to fisheries managers within the subbasin. Nevertheless it is important to document such criteria as part of the proposal review process within the provincial review process.

It is difficult to assess this or its companion proposal on science-based standards. As noted in the FY 2000 review, this project is tightly linked to project #199107500 and closely related to project #19920900. Some of the project descriptions shared the same introductory material. This suggests that these proposals could have been introduced under one proposal, which would have reduced the repetitive material and provided an opportunity to specifically describe the functional relationship among these projects. Reviewers were confused by an apparent redundancy of effort, with efforts from both projects #199107500 and #199105700 being expended on the same screen sites.

Project ID: 199200900

OPERATE & MAINTAIN (O&M)YAKIMA BASIN PHASE II FISH SCREENS
Sponsor: WDFW, YSS
Subbasin: Yakima
2002 Request: $148,557
2002-04 Estimate: $467,505
Short Description: WDFW, YSS performs preventative and emergency maintenance and operational adjustment on completed Phase II fish screen facilities to assure optimal fish protection performance and to extend facility life, thereby protecting BPA's capital investment.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal would continue O & M on Yakima basin screens, clearly an essential, routine component of the process.

Project ID: 199503300

O&M Of Yakima Phase II Fish Facilities*
Sponsor: USBR
Subbasin: Yakima
2002 Request: $66,037
2002-04 Estimate: $306,037
Short Description:
Response Needed: No - Fundable
ISRP Preliminary Comments:
This proposal would continue O & M on Yakima basin screens, clearly an essential, routine component of the process. Reviewers appreciated the itemization of the facilities receiving that O & M, as well as the detailed description of the complicated operational and fiscal interactions among the groups and agencies involved.

Project ID: 199107500

Yakima Phase II Screens - Construction*
Sponsor: USBR
Subbasin: Yakima
2002 Request: $1,000,000
2002-04 Estimate: $1,190,000
Short Description: Install new fish screens at previously scheduled diversions in the Yakima River Basin to prevent mortality or injury to anadromous and resident fish.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This is part of a long-standing program that would appear to have contributed significantly to survival improvements in downriver salmonid migrants. This funding would complete Phase II replacement or upgrade of all screen facilities in the Yakima basin by the end of FY 2003. The proposal notes that project prioritization is determined by the Passage TWG, including input from the BPA project manager, BOR, state and federal agencies, and YIN.

It is not possible to assess this or its companion proposal on science-based standards. As noted in the FY 2000 review, this project is tightly linked to project #199107500 and closely related to project #19920900. Some of the project descriptions shared the same introductory material. This suggests that these proposals could have been introduced under one proposal, which would have reduced the repetitive material and provided an opportunity to specifically describe the functional relationship among these projects. Reviewers were confused by an apparent redundancy of effort, with efforts from both projects #199107500 and #199105700 being expended on the same screen sites.

Project ID: 198506200

Passage Improvement Evaluation
Sponsor: PNNL
Subbasin: Yakima
2002 Request: $113,587
2002-04 Estimate: $347,059
Short Description: Evaluate the biological and hydrologic effectiveness of juvenile fish passage facilities constructed at irrigation diversion dams, canals and ditches to allow the passage of migrating fishes. Evaluate sites with respect to NMFS passage criteria.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable, but a response is needed.

Reviewers agreed that this long-standing project is valuable in providing quality control for those who construct and maintain the screens, but it seems illogical to simply monitor physical conditions at screens

without monitoring their biological efficacy. The project's short description mentions evaluating biological effectiveness. Is that done? Has it been done over the life of the project? If not, why? Would doing so be feasible and valuable?

What was the frequency of screen problems during (for example) the last 5 years? Is there a protocol in place to document the number of screen design questions and the response time. Also, is there a follow-up protocol in place to monitor corrections to failures or deficiencies identified in this project? If these protocols do not currently exist a response should address the feasibility of implementing them.

In the 2000 review ISRP recommended this project be grouped into a set with design and construction and operations and maintenance. Not done.

Project ID: 25026

Yakima Tributary Access and Habitat Program (YTAHP)
Sponsor: Kittitas County Water Purveyors
Subbasin: Yakima
2002 Request: $2,022,760
2002-04 Estimate: $6,935,260
Short Description: Implement fish enhancements (fish passage, screens and riparian habitat) on Yakima tributaries based on prioritized schedule developed through a collaborative approach of local, state, federal and tribal interests. Conduct early actions in 2002.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This project would clearly contribute to the goal of salmonid (especially steelhead and bull trout) recovery in the Yakima basin. Its primary strength is the day-to-day contact of KCWP staff with landowners of Kittitas and Yakima counties, as well as its established track record of cooperation with federal agencies and the Yakama Nation. However, its priority is difficult to assess in the absence of supporting information on existing fish resources and gains that might be realized if the diversion screening program were to be initiated.

What is the magnitude of potential fish benefits? What is the relative priority of this in the basin? How important is the Phase III screens, since the Phase I and II screens have been and are currently being addressed.

While there is no doubt that restoration of tributary habitats and flow in these counties, this project will be very expensive (over 2 million per year, each of 5 years) and has little cost sharing. BPA and the Council should consider creating a cost share requirement for this type of restoration that addresses an obvious agricultural impact source.

Project ID: 25058

Fish Passage Inventory and Corrective Actions on WDFW Lands in The Yakima Subbasin
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $256,995
2002-04 Estimate: $1,918,051
Short Description: On WDFW lands, inventory fish passage structures and intake screens, identify required corrective actions, and complete corrective actions where high priority passage problems exist.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

This is a $5million, 5-yr program to fix fish passage on four Wildlife Areas belonging to WDFW. It would inventory 40K acres/yr and then correct 20% problem structures annually beginning in FY 2004. It was surprising to reviewers that a passage inventory had never been conducted.

No indication was given of the fish benefits that would be achieved. Indeed, there was nothing presented that details any fish passage problems that might exist. On the positive side, the attachments document the existence of an elaborate statewide protocol to inventory and remediate problem sites. Only very brief mention of M&E, but OK

In general the review panel gives priority to passage needs, but in this case they reacted negatively to this vague but apparently expensive proposal. A response is needed that more completely describes the need for the project and clarifies several procedural items. Specifically, does the barrier assessment protocol specify how information on ownership of the culvert will be used? How will non-WDFW owners of culverts that present barriers be connected to assistance programs? Evidence that the Priority Index (PI) for the WDFW Fish Passage Inventory has been objectively assessed and validated should also be provided, as well as references or evidence that the Screening Priority Index Model has been validated.

Other Yakima Subbasin Proposals

Arranged alphabetically by project sponsor then project ID, beginning with ongoing projects.

Project ID: 25036

The Impact of Flow Regulation on Riparian Cottonwood Ecosystems
in the Yakima River Basin.
Sponsor: BioQuest
Subbasin: Yakima
2002 Request: $225,495
2002-04 Estimate: $430,066
Short Description: Research riparian cottonwood and geomorphic response to regulated flows in the Yakima Basin and compare to the responses of an unregulated reach of the Flathead River with the objective of enhancing flows to restore riparian habitats in the Yakima Basin.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal has been developed based on a BPA Innovative Projects Program that was initiated to study the impact of regulated flows on riparian cottonwoods in the Yakima River Basin. Initial results of that study have shown that current patterns of flow regulation within the Yakima Basin are having a significant negative effect on the recruitment of cottonwood seedlings. The authors have also developed a preliminary model for modifying flow regimes to promote the recovery of riparian cottonwoods, and assessed several different types of multi-spectral imagery for classifying the extent of riparian cottonwood ecosystems.

The life history and ecology of riparian cottonwoods are closely linked with the dynamics of riverine processes. With the damming of rivers and subsequent alteration of seasonal flow regimes, the structure and function of riparian cottonwood ecosystems have been significantly altered along many western rivers. On the merits of their recent findings, these authors propose to expand their sampling efforts and integrate studies of cottonwood recruitment with specific measures of fluvial geomorphic activity. The results of these studies would provide a scientific basis for modifying flows to lessen the ecological impacts of flow regulation in the Yakima Basin. The authors will also assess these quantitative relationships in a non-regulated reach that can serve as a natural analogue to the Yakima River; specifically, the Middle Fork (Nyack Reach) of the Flathead River in western Montana. These authors suggest that the synergy of these efforts would significantly advance the understanding of the ecology of alluvial reaches in the Columbia River Basin and quantify key relationships between flow regulation, geomorphic activity, cottonwood recruitment and the recovery of riparian-dependent wildlife, salmon and other native fish. The proposal also has strong support of agencies within the Yakima River Basin.

The proposal presented was well organized and informative. The ISRP strongly supports such investigations of riparian ecosystems and the development of remedial measures to restore productive riparian habitats. Costs for the proposal are modest and the study will be completed in FY04.

Project ID: 199405900

Yakima Basin Environmental Education
Sponsor: BOR
Subbasin: Yakima
2002 Request: $130,000
2002-04 Estimate: $397,000
Short Description: Not provided.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if an adequate response is given to the ISRP's concerns. While the ISRP is in strong support of this program, a response is requested identifying the nature and results of the program evaluation that was conducted in 1998. This is a long-standing program that has apparently (based upon the presentation and supplemental materials that accompanied the presentation) established a good record of involving students of a variety of ages, teachers, and professionals from a variety of agencies and groups in environmental education. A strength is the combination of both field and in-class work. The program appears to have good continuity and outreach to students and teachers.

As mentioned in last year's review, this proposal should have provided more information on curriculum and that is needed in a response. A more specific listing/description of the curriculum would be helpful for reviewers to relate what is being taught relative to the objectives of the overall Yakima program (e.g., is the restoration program providing a useful context for environmental education?).

Since it has already operated for a number of years, the response should provide a brief assessment of the results to date, what has and has not worked well, and any changes needed in the future.

The use of $17,000 for a subcontractor (EcoNorthwest) needs further clarification.

Project ID: 25078

Acquire Anadromous Fish Habitat in the Selah Gap to Union Gap Flood Plain, Yakima River Basin, Washington
Sponsor: BOR
Subbasin: Yakima
2002 Request: $3,000,000
2002-04 Estimate: $9,000,000
Short Description: Acquire essential anadromous fish habitat (flood plains, riparian zones, wetlands, and water rights) from Selah Gap to Union Gap "Critical River Reach" of the Yakima River Basin, Washington.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The objectives are consistent with regional programs and are a high priority. The proposal is well written and is well coordinated with groups and agencies. It seemed significant that the basin is already under the YPBWEB water enhancement project, so lots of resources applied and available. The reviewers liked the idea of an urban (semi-urban?) demonstration project to show that a community can be proud of, and profit from, the river that flows through it rather than simply thinking of it as a conduit.

Project ID: 25100

Protect Normative Structure and Function of Critical Aquatic and Terrestrial Habitat
Sponsor: City of Yakima
Subbasin: Yakima
2002 Request: $2,499,000
2002-04 Estimate: $10,079,000
Short Description: Acquisition of lands for: protection of aquatic/terrestrial habitat; improvements of water quality; reconnection of the flood plain; restoration/protection of the riparian habitat and antural hydrologic regime.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response provides much stronger justification and integration with the BOR and Yakama Nation projects in the Selah floodplain. Given the competition for funds in the Yakima Basin, we recommend a low priority be assessed to this proposal due to its location, costs, and limited benefits expected in terms of fish production.

This proposal would purchase lands within 25 feet of either side of existing streams, creeks, and rivers; and purchase "development rights" for lands between 25 and 50 feet of either side of existing streams, creeks, and rivers within the Yakima Urban Area Boundary. The proponents suggest that this would initiate a long-term commitment to the preservation, protection, and future opportunity to restore the normative structure and function to aquatic and terrestrial habitats.

While the text of section 9 of this proposal is informative and demonstrates a thorough understanding of the projects within the basin, the ISRP is unable to assess the merits of this proposal since there is not indication of the area purchased or problems to be corrected. The proposal is obviously at a planning state but seeks commitments of $2 to $4 million per year for property purchases. Clearly, the establishments of functioning riparian zones within an urban environment could have strong social and educational value, but we are uncertain that the production benefits for fish and wildlife merit this level of expenditure. The proponents must provide more quantitative measures of the habitat protected and/or value to fish and wildlife before we can prioritize these costs against competing proposals within the basin. The proposal would also have benefited from some indication that these activities have the agreement of other agencies within the basin … and that this proposal has an agreed priority within a basin plan. Linkages of this project to the BOR floodplain acquisition project(s) are not clear. How would this project complement the BOR projects, which have a long and clear history of coordinated planning and strong scientific underpinnings?

The proponents may wish to revise this proposal to only address staff and planning costs in order that the urban area maybe begin to be integrated in other basin plans.

Project ID: 25062

Growth Rate Modulation in Spring Chinook Salmon Supplementation
Sponsor: NMFS
Subbasin: Yakima
2002 Request: $345,088
2002-04 Estimate: $345,088
Short Description: Develop hatchery rearing protocols to reduce excessive production of early maturing male chinook salmon, improve smolt-to-adult survival and reduce negative ecological impacts of hatchery fish on wild fish.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable following clarification of funding request, excellent proposal with a refreshing presentation of supporting data and experimental design.

This is important work that also appears well supported by the Yakama Nation. This project is to examine early maturation of males - precocious males, mini-jacks. Fast growth is likely increasing time of maturation. They are looking into the link between high growth rate in autumn to early maturation. The goal is to develop a template for low maturation rate. If successful, they hope the Yakama Nation will do full production tests.

There is a need, however, to clarify the budget of this program. Funding requests are only detailed for FY02 and no future funding is noted. The proposal though refers to a 5-year program. Costs for the purchase of 16 2-m circular tanks seem inadequate and must also cover costs of water delivery and overhead cover.

Project ID: 25095

Pesticides and the environmental health of salmonids in the Yakima subbasin.
Sponsor: NMFS/NWFSC
Subbasin: Yakima
2002 Request: $257,800
2002-04 Estimate: $825,800
Short Description: Evaluate the effects of current use pesticides on the physiology and fitness of Chinook salmon. Incorporate empirical data into a spatially explicit model of population viability in the Yakima subbasin.
Response Needed: Yes
ISRP Preliminary Comments:
This project proposes to provide guidance to understanding the consequences of pesticide exposure for salmon health and fitness with the eventual goal of relating the distributions of pesticides to stage-specific distribution of Fall and Spring Chinook. The proposed laboratory experiments using electrophysiological methods to test hypotheses about neurotoxic injury appear well designed.

Fundable if a response is provided to adequately address the following ISRP concerns:
(1) Justification is needed for the importance of this work in light of the arguments presented in the Yakima subbasin summary, "However, anadromous salmonids have substantially lower concentrations of pesticides in their tissues than resident fish species, and for all species the observed concentrations have been below threshold levels that could affect reproductive success (e.g. hatching success, fry mortality).

(2) Justification of the field work to assess the effect of pesticides on predation mortality in a natural stream is needed. Specifically, how can one demonstration at one time in one stream provide information that could be generalized to other situations?

Project ID: 25034

Develop a Nutrient/Food-Web Management Tool for Watershed-River Systems
Sponsor: PNNL
Subbasin: Yakima
2002 Request: $376,382
2002-04 Estimate: $544,041
Short Description: Develop method to assess nutrients in water and associated benefits to juvenile fish by using computational fluid dynamics, watershed and food chain models.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns; e.g. after receipt of commitment for WDFW participation

This is a well-written and innovative proposal that could result in a useful management tool. The proposal involves a good balance of data collection, integration of models, validation of predictions, reporting, and

sensitivity to management needs. The proposal is only for two years but is reliant upon participation of WDFW staff for the provision of data on nutrient enhancement in the American, Bumping, and Naches rivers. Unfortunately, the proposal does not include any confirmation or commitment from WDFW for the provision of this data (except for sub-contractor costs included in the budget). Confirmation of WDFW agreement must accompany this proposal.

The ISRP suggests, however, that this proposal could wait to see if the empirical evidence shows results before developing an elaborate model. Because of the interest in nutrient enhancement, a modeling system that could be used to prioritize and direct management decisions could be valuable. A question is whether the results of this study will be available in time to add to the debate because of the number of nutrient enhancement projects that are in progress. That is, will the results from this study be unnecessary because of information gained from other projects? At the very least, information from other nutrient enhancement projects should be compared in some way to the results predicted from this modeling effort. At this time, we assess the priority for this modeling work to be medium.

Project ID: 25044

Application of Biological Assessment Protocol to Evaluate Passage of Juvenile Salmonids Through Culverts in the Yakima Basin
Sponsor: PNNL
Subbasin: Yakima
2002 Request: $95,553
2002-04 Estimate: $306,823
Short Description: Apply laboratory developed protocol for assessing juvenile salmonid passage through roadway culverts.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do not fund. A response is not warranted. The proposed project acts as a field test of a protocol being developed by WDOT and PNNL to evaluate juvenile passage through culverts. There are a number of shortcomings in this proposal. An inadequate number of culverts are proposed for study in the first year. Specific capture techniques have not been determined which provides little confidence that meaningful results can be obtained. Training for physical and hydraulic assessment techniques is requested indicating that personnel may not be appropriate to achieve objectives. The proposers ignored fish passage work done outside of WA. There is a protocol that already exists for improving fish passage by WDFW (see proposal 25058) that indicates that this work is not needed.

Project ID: 25020

Acquire Rattlesnake Slope Addition
Sponsor: Rocky Mountain Elk Foundation
Subbasin: Yakima
2002 Request: $3,542,500
2002-04 Estimate: $3,542,500
Short Description: Acquire 11,000 acres in the Yakima subbasin to protect key shrub-steppe habitat, link protected lands, assist with threatened and endangered species recovery, and facilitate comprehensive management over a large area.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The proposal makes a good general case for the need to acquire additional high-quality shrub-steppe lands, but a much weaker specific case for the purchase of the RSA. Others speakers (TNC-Betsy) indicated that this property was specified in one of the planning documents as a high priority area. A WDFW speaker (Don) also verified that the area is high priority type, but had not been specifically identified.

Property is adjacent to existing wildlife conservation areas, including the Hanford and the WDFW's Sunnyside WMA. Intent is to transfer the land to WDFW, but that set of steps has not been agreed upon. Acquisition of this deep-soil shrub-steppe habitat supports a number of target species. The cost of the property appears reasonable at approximately $350/acre. Livestock grazing should be allowed to the extent that it does not interfere with habitat protection and expansion for sensitive, threatened, and endangered species.

Project ID: 25013

Restore Riparian Corridor at Tapteal Bend, Lower Yakima River
Sponsor: Tapteal Greenway
Subbasin: Yakima
2002 Request: $160,500
2002-04 Estimate: $177,000
Short Description: Stabilize streambank along about 500 feet of riparian area at RM 8 of the Lower Yakima River and acquire adjacent island habitat to provide contiguous habitat protection along both sides of the channel.
Response Needed: Yes
ISRP Preliminary Comments:
Fund following provision of additional information

This proposal builds on past investments by Tapteal Greenway (purchased site in 1997), and proposes to stabilize the streambank along about 500 feet of riparian area (Rm 8, lower Yakima River), and to acquire an adjacent island habitat to provide contiguous habitat protection along both sides of the river channel. Cost for restoration and purchase of the island are modest ($160,500 in FY02) and future costs are reduced to maintenance and monitoring (approx. $11,000 declining to $2,750 by FY06).

The Tapteal Greenway, a non-profit conservation organization, purchased the 2.5 acre parcel with the intended purpose of using it as a demonstration site for streambank restoration and environmental education. Riverbank stability was severely degraded in the 1996 flood and riparian habitat had previously been destroyed. This proposal's objectives are to design, implement, and maintain a bio-engineered, streambank restoration project and conduct long-term monitoring of the restoration work. Proposed tasks include barbs to capture silt and deflect flow, roughened rock or log toes, riparian buffer (willow, ground covers), soil reinforcement, and bank grading for severe cutbanks. Photo-point monitoring and plot sampling would gauge the effectiveness and success of the restoration project. Acquisition of an adjacent, undisturbed island with cottonwood galleries would serve to expand the protective buffer to the river corridor and provide opportunity to re-connect a cut-off side channel to the river. This site is an important part of the movement corridor for migrant salmonids and provides good resting, rearing, and brood areas. These land parcels and the proposed restoration effort would provide an opportunity for public involvement and increase public awareness of watershed problems and solutions within the lower basin.

The committee is uncertain about the value of this proposal given that it is only one small site in the lower river, no design of the bank restoration was provided, and uncertainty about the basis of the budget if the bio-engineering plans have not been developed. The latter two concerns should be responded to before funding is provided. However, this organization had the foresight to purchase this land and to develop an educational site. The information and education objective of the proposal should be more fully linked to strengthened monitoring and evaluation activities. This work would provide a valuable opportunity to involve children and the general public in restoration and monitoring activities.

Project ID: 25021

Implement Actions to Reduce Water Temperatures in the Teanaway Basin
Sponsor: WSDE
Subbasin: Yakima
2002 Request: $338,000
2002-04 Estimate: $652,025
Short Description: Implement actions to reduce stream temperatures, reduce suspended sediment, meet water quality standards and improve salmonid habitat. Actions implemented will include irrigation improvements, tree planting, bank stabilization and road improvements.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable, the proposal is well written and is especially good in that it includes provision for analysis of the data collected. The proposal is better than the presentation, which raised more questions than it answered. The sites should have been described and identified on the tour. The Teanaway was one of the top producers of spring chinook, steelhead, and coho in the Yakima watershed. Apparently it has good restoration potential. This is a continuation of an earlier project to provide additional instream flow by increasing irrigation efficiency, stabilizing streambanks, etc.

Although the ISRP does not request a response the proposal could be strengthened. Strategies for transferring the information learned from this project to others involved in restoration activities could be better developed. Also, potential effects of upstream timber company ownership should be addressed. What is the coordination with the BOR projects? There needs to be better demonstration of coordination among the projects in the Teanaway Basin.

Project ID: 25002

Protect, enhance, and maintain habitat on the Sunnyside Wildlife Area to benefit wildlife and fish assemblages.
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $418,874
2002-04 Estimate: $1,215,706
Short Description: Restore, protect and enhance native floodplain wetland and riparian habitats and shrubsteppe uplands in the lower Yakima River Valley.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The project is closely related to subbasin goals and objectives, BPA mitigation, and other projects in the area. The monitoring and evaluation section is quite detailed and could serve as a model for other projects.

Project ID: 25032

Wenas Wildlife Area Inholding Acquisitions
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $706,143
2002-04 Estimate: $716,143
Short Description: Acquire 800 acres of inholding lands within the Wenas Wildlife Area, including 1.25 miles of Umtanum Creek. Lands are under immediate threat of development. Includes riparian and Shrub steppe habitat, provides landscape connectivity.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if an adequate response is given to the ISRP's concerns. The proposal is poor and does not include adequate justification for the purchase of the property or adequate description of monitoring and

evaluation. This proposal would purchase three parcels of land and add them to the existing wildlife area. The Wenas Wildlife area is a major cooperative project of BPA and WDFW in central Washington.

Arguments for the immediate need for this acquisition are not compelling. The species of interest in the Wildlife area do not appear to be jeopardized by the existence of the inholdings, and it is not clear that long-term protection of the Wenas Wildlife Area depends on acquiring these inholdings. If there is a clear and present threat of detrimental development, then acquisition should be pursued. Could the three inholding acquisitions be prioritized? Maps should be provided in the response.

If the need is justified, the ISRP recognizes that these acquisitions could represent significant protection of BPA's investment in the Wenas Wildlife Area. BPA has invested heavily in the ongoing Wenas Wildlife Area project, with extensive shrub steppe replanting efforts undertaken. The loss of these inholdings to development could undermine this ongoing effort by BPA. Important fish and wildlife habitats would be protected with this project. All parcels are completely undeveloped and contain excellent quality shrub-steppe and riparian habitats, with diverse species assemblages represented.

The parcels include approximately 1.25 miles of Umtanum Creek, an anadromous fish bearing stream known to contain steelhead, chinook and coho salmon, and red-band rainbow trout. Umtanum Creek represents one of the best examples of intact native fish communities in the Yakima basin, wherein exotic species are absent, and the native rainbow, sculpin, dace community dominates. The purchase would also protect the lower reaches of Roza Creek, which holds populations of resident red-band rainbow trout. Significant shrub-steppe and riparian habitats would be protected in this project, and the long-term integrity of a large proportion of the Wenas Wildlife Area would be ensured.

Big game habitat quality is high, as deer and elk winter and transitional range, and habitat for bighorn sheep (WDFW Big Game data). These lands provide critical habitats for many shrub steppe species, including sage thrasher, sage sparrow, and shrikes. Landscape level habitat linkages between the U.S. Army Yakima Training Center, and Cascades fringe shrub steppe habitats would be protected with these acquisitions, including habitat for sage grouse. Beavers are very active on both Umtanum and Roza Creeks.

Project ID: 25090

Determine Quantitative Values for the Perpetual Timber Rights on the WDFW Oak Creek and Wenas Wildlife Areas.
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $235,000
2002-04 Estimate: $235,000
Short Description: Assess feasibility of re-acquiring ownership of habitat (timber rights) to refocus land management from timber production and harvest to fish and wildlife habitat protection and enhancement.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do not fund. A response is not warranted. Benefits and priority of the project are not justified. The proposal provided inadequate justification for use of Bonneville funds in this manner. Defining values is a necessary prerequisite to future negotiations between WDFW and Boise Cascade. Re-acquisition would allow better management of forested and shrub-steppe habitat. Little monitoring and evaluation proposed except, "perform wildlife surveys" and HEP to determine habitat conditions prior to acquisition and even these minimal efforts are not justified as integral to the project. This is not a very compelling proposal because the damage to the habitat for this growth cycle of timber has been done. Further disturbance in the near future seems unlikely.

Project ID: 199206200

Yakama Nation - Riparian/Wetlands Restoration
Sponsor: YN
Subbasin: Yakima
2002 Request: $1,750,000
2002-04 Estimate: $5,250,000
Short Description: Continue implementation of YN Wetlands/Riparian Restoration Project by protecting and restoring native floodplain habitats along anadromous fish-bearing waterways in the agricultural area of the Yakama Reservation (~2,500 acres/year).
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. Most of this ($1.25 mil) is to acquire land at ca. 2-3,000 acres annually, with a goal of 27,000 acres. O & M and M & E are included, and the project offers good cost share from a variety of sources.

From the tour, the review panel was impressed with the results. Excellent success with reestablishing bluebunch wheat grass in what seems to be an innovative, highly effective and popular program. The tour made it clear why it is important to have the ability to manage large tracts of land because that enables effective water management (floodwater delivery). This looks like a strong program.

Project ID: 199603501

Satus Watershed Restoration Project
Sponsor: YN
Subbasin: Yakima
2002 Request: $352,966
2002-04 Estimate: $1,111,691
Short Description: This is an ongoing watershed scale restoration project intended to protect and enhance habitat for the native threatened summer steelhead stock, and a variety of cultural and natural resources.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if an adequate response is provided.

The Yakama Nation owns the entire watershed of 612 square miles. It is unique in that no flow is diverted. Steelhead are present, with 155 redds last year. Some fish and fish habitat information is presented. The project has been working to decrease water temperature in lower 20+ miles of stream, consistent with subbasin summary and NMFS BiOp goals.

Good cost share is included. Proposed budget is a 120% increase from forecast because of "new cost share opportunities" that are not identified. The monitoring and evaluation is adequate. Much of this project is livestock management that was largely absent from the proposal but given a bit more clearly in the presentation.

This looks like a valuable project that should continue, but a response is needed on a the following items:
1. What are those cost share opportunities that would so increase costs over the forecast?
2. We need more info on grazing - how many AUMs in past and in future; what is a brief description of the plan (mostly herding?) to reduce grazing impacts in addition to retiring 40% of the leases; where are exclosures mentioned but never described and what do they show; and indication if future grazing might defeat the effectiveness of stream rehab efforts (riparian plantings and instream habitat placement).

Reviewers again (as in the previous review) noted a conspicuous absence of literature citations, and that weakened the proposal. We also wish to strongly encourage project personnel to be more active in publishing and presenting results of the project. The range rider will help move cattle out of the stream bottoms.

Project ID: 199705300

Toppenish-Simcoe Instream Flow Restoration and Assessment
Sponsor: YN
Subbasin: Yakima
2002 Request: $306,830
2002-04 Estimate: $736,830
Short Description: Identify extent of anadromous populations, identify land status, characterize habitat and discharge; model irrigation use; restore instream flows by land lease or purchase and/or water substitution; modify irrigation diversions to mimic natural runoff.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

The 2,000 acres in this irrigation unit are mostly in tribal trust. Steelhead are present but no specific data were presented. Otherwise this seemed like a well-written and well-presented proposal to increase instream flow. If we accept a leap of faith that it has potential to increase steelhead production, the project seems consistent with subbasin summary and NMFS BiOp. Good presentation with data, clear objectives, maps, and trend data, and also a good description of how project fit into the larger landscape of YFP program goals.

The review panel felt this to be a strong, fundable effort but two issues need to be addressed:
1. Conspicuous in the proposal was the need to have a water management plan approved in near future by the YN tribal council. Is it reasonable to fund this without its receiving approval from the tribal council? What might be the effects on the project if approval is not forthcoming?
2. There are several vague allusions to land purchase in proposal, and near the end is a mention that some funding for such was first received in 2001. Please clarify the details of any land acquisition program.

Project ID: 199803300

Restore Upper Toppenish Watershed
Sponsor: YN
Subbasin: Yakima
2002 Request: $268,517
2002-04 Estimate: $846,617
Short Description: Moderate flow regime in Toppenish Creek by increasing the retentiveness of natural soil water storage areas, such as headwater meadows and floodplains, following prioritized plan generated by FY98-99 watershed assessment.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless an adequate response is provided. The goals of the proposal are laudable, but the proposal does not provide enough specificity as to exactly what will be done, why those actions/locations are the correct priorities, and how the dollars will be spent.

This project is closely related to the project above 199705300. It provides movement toward “proper functioning system” (PFS is a checklist based on physical characteristics and vegetation). They use this checklist to prioritize and identify restoration actions. Anecdotally, a culvert replacement in this watershed showed significant steelhead spawning after one year. The program appears to have many strengths, including the expansion from the Satus Creek restoration efforts and emphasis on monitoring. So it is very generally credible that there is a need, and that the proposed actions address it. But more specific detail is needed before we could recommend funding. The proposal should explicitly describe alternative approaches to the problem and why they were rejected in favor of the proposed approach. The watershed is

625 square miles, but the size of the project portion, and the exact reasons for choosing locations, and the treatments at each, are not explained.

There is a 100+% increase in the funding request to take advantage of unidentified cost-share opportunities, which need to be explained.

Project ID: 199901300

Ahtanum Creek Watershed Assessment
Sponsor: YN
Subbasin: Yakima
2002 Request: $235,093
2002-04 Estimate: $765,093
Short Description: Conduct a watershed assessment in the agricultural portion of the Ahtanum Creek watershed to complete assessment of the entire watershed, facilitate protection and restoration of salmon, steelhead, bull trout.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The proposal was too vague to enable assessment. The presentation was good and the proposal needs to raise to that level; e.g. the presentation included data, clear objectives, maps, trend data, etc . What are the fish benefits? Is this a system that has potential? The proposal would be stronger if there were better quantification of the potential for beneficial management intervention that would be guided by the assessment. This one like the Toppenish-Simcoe, needs tribal council approval in near future. What are the alternatives if there is not tribal council approval?

Rock Creek Subbasin

Project ID: 25068

Rock Creek watershed road and riparian corridor improvement project.
Sponsor: YN, KC, BCC
Subbasin: Rock Creek
2002 Request: $96,500
2002-04 Estimate: $289,500
Short Description: Perform habitat restoration to stabilize mainstem Rock Creek channel, enhance riparian corridor vegetation characteristics, and improve the road network throughout the subbasin to benefit fish and wildlife.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The objective of this proposal is to restore habitat in Rock Creek by stabilizing the main channel, enhancing riparian corridor vegetation, and improving the road network throughout the subbasin (proposal for 3 yeas, FY02-FY04). At present there are no BPA funds direct to fish and wildlife in the sub-basin. This proposal is requesting $96,500 for each year and has a cost sharing commitment of $50,000 from the co-sponsors.

Habitat conditions for fish and wildlife in Rock Creek sub-basin have been severely compromised by over a century of land use and human development. The 1996 flood event compounded these problems causing extensive damage to the mainstem channel and several tributaries. The basin presently supports steelhead trout (Mid Columbia River ESU), fall bright chinook and coho salmon, and rainbow trout.

While the proposal is not particularly informative of the habitat area and extent of work proposed, the presentation to the ISRP clearly demonstrated a severely disrupted environment that will require substantial

work. The modest funds requested for FY02 will accomplish relatively little compared to the apparent scope of the problem, but it should be considered an initial investment in subbasin planning and recovery.

The work proposed includes a small bit of stream rehabilitation but is mostly rebuilding existing county and Boise Cascade forest roads, an approach that has been shown to significantly reduce sediment delivery to streams in other areas. A more complete proposal would include monitoring the effectiveness of fencing to exclude livestock from recovering and restored areas and to evaluate the effectiveness of road repairs in reducing sediment delivery to streams. Changes in erosion, channel shading, and stream temperature should be documented.

Mainstem Columbia

Hanford Reach Proposals

The Hanford Reach section of the mainstem Columbia River has apparently achieved the status of a curio in the Basin, i.e., a piece of Nature between the dams and reservoirs. Unquestionably, the Hanford Reach deserves recognition as the last large unimpounded section of mainstem river upstream of Bonneville Dam, and it supports a large naturally-spawning population of fall chinook salmon. Scientifically though, we must ensure that this status does not overshadow the actual conditions in the Reach or turn presumptions into facts. Functionally, the Hanford Reach section is not pristine, physically or biologically. The seasonal, daily, and hourly hydrograph for the Hanford Reach is far from what it was before large scale regulation (especially by the large storage reservoirs in the upper Columbia and Snake), frequency of extreme flows are reduced, and the temperatures are modified. The Reach has many of the same introduced species and invasives that have altered the community composition elsewhere in the Columbia, and substantial artificial production of fall chinook occurs within the Reach.

During this review, the ISRP examined a set of 10 proposals requesting $2.6M in FY2002 for research within the Hanford Reach area. Many of the proposals continued past activities or proposed site or issue-specific projects, but they also generated the concern addressed above. Neither the Mainstem summary or the proposals (most of them) provided an adequate context within which to evaluate them against what is known or what the current management issues are. For example, the naturally spawning Hanford Reach fall chinooks are regularly cited as an especially productive "wild" stock, but what is the technical basis of this assertion? If we hold the Columbia River fall Bright chinook stock as the “standard” for recovery of fall chinook, do we have an adequate technical basis for the assessment of natural production and who conducts this work? Are hatchery fish identifiable from those produced naturally? Could the naturally-spawning component of the population actually be a demographic sink that persists only because it is subsidized by the hatchery production? What is the utilization of the Reach by other salmonids? If fundamental information gaps about the status of the naturally spawning stock are large, then the attention to other narrower issues, such as refining more and more elaborate hydrographic models, GIS data bases, or the behavior of fry may be misplaced. It is noteworthy, that one project does propose to examine how “normative” the Hanford Reach actually is.

The review committee was consequently confronted with three concerns:

- a set of fragmented, or at least, seemingly independent proposals,
- a sense of incomplete background information with which to assess future work,
- and, a lack of the fundamental stock assessment for salmonids in the Reach.

To complete this review we have assessed each proposal on their technical merits and requested additional information when necessary. However, we would also recommend that the set of principal investigators who have submitted these proposals also complete a synthesis that does establish context and presents a rationale for these particular activities. The Subbasin summary for the Mainstem is a good starting point, and should be completed and should be “signed-off” on by all managing agencies involved in this area. Past work in the Hanford Reach area has generated some excellent publications and useful results. By

requesting this summary, the committee expects that future work can build from past knowledge, that management and data issues will be identified, and that we will learn from and *apply these results to other areas* of the Columbia Basin.

Project ID: 199701400

Evaluation of Juvenile Fall Chinook Stranding on the Hanford Reach
Sponsor: WDFW
Subbasin: Mainstem Columbia
2002 Request: $342,000
2002-04 Estimate: $769,000
Short Description: Estimate the number of rearing wild juvenile upriver bright fall chinook killed or placed at risk in a 17 mile section of the Hanford Reach during the implementation period of the year 2002 Special Operations Plan for the Priest Rapids Project.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable after a response is given that adequately addresses the ISRP's larger concerns over the entire Hanford Reach study program and interrelated projects stated above.

This proposal involves two more years of study followed by three years of monitoring and evaluation (presumably to become ongoing). Past studies have provided an important understanding of the effect of flow fluctuations and the mortality associated with stranding of fall chinook juveniles. Mortality on fry is likely to be highest when they are very small and greatest in the nearshore areas (<1m depth). In recent years the mortality rates in the study area had been relatively small (estimated to be <2% of the chinook fry) but rates are expected to be higher during 2001. We support the continuation of this study, but note the need to address the three limitations noted in the proposal (page 1, section 9) and the need to begin applying flow dynamic models to predict mortality and to verify these results with field data. These in-depth sampling programs are not likely needed on an annual basis. Particular attention should be placed on inspection of the remaining river area that has not been sampled (i.e., the 34 miles of Hanford Reach not included in the study area).

Project ID: 199406900

Estimate production potential of fall chinook salmon in the Hanford Reach of the Columbia River.
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $294,006
2002-04 Estimate: $867,597
Short Description: Develop a production potential estimate for fall chinook salmon in the Hanford Reach, and evaluate whether the Hanford Reach functions as a healthy alluvial river.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

The goal of this project is to estimate the spawning capacity of the Hanford Reach for fall chinook salmon. The evaluation of the Reach will include investigating the role of interstitial flow pathways and ground-water/surface-water interactions in spawning site selection by fall chinook salmon. Standard spawning habitat characteristics will be used to determine the locations of potential spawning sites and sediment permeability of spawning substrate will be used to refine spawning area estimates. The investigators will then use a hydraulic simulation model to extrapolate the potential redd densities to the entire Reach. The sponsors of this research have been investigating related topics for several years and have a very strong publication record of their work.

The ISRP is confident that continuation of this work will be informative but have a few comments/concerns:
i) while the development of a recommended spawning capacity for the Hanford Reach will be useful, we would recommend that the methods developed also be applied in other spawning areas of the basin to investigate the predictive ability of the hydraulic model. Such work could be very important in establishing scientifically based spawning targets for other salmon populations.
ii) unless a strong justification is developed, we would recommend two more years of funding, conducted in conjunction with proposal #25070, followed by one year to write-up final results.
iii) PNNL should clarify why Indirect costs in the FY02 budget are 42% of the total costs.

The ISRP would encourage these investigators to apply these studies to developing an evaluation method or protocol for determining "preferred" spawning reaches for fall chinook salmon. If geographic features or parameters could be identified, such measures could be very useful in prioritizing stream reaches important for the re-establishment of fall chinook spawning populations and determining potential spawning population sizes. For example, they appear to have decided to outline spawning areas that are used in years of high escapement. The expectation would be that some marginal areas would be included – unless the escapement set by the managers is always below capacity of the optimum spawning areas. Spawning in marginal areas would be expected to result in lower survival of eggs and fry than in optimum areas. How might this be taken into account in the proposed study when it comes to the bottom line of advising the fishery managers on best escapement numbers? Another possible outcome might be that features identified as being present in areas used for spawning might also be found in areas not presently used by fish. What would be the analysis of that situation? What are some other outcomes and their applications?

Project ID: 25070

The Application of Geophysics to Better Define Fall Chinook Salmon Spawning Habitat Use in the Hanford Reach, Columbia River.
Sponsor: Golder Assoc., PNNL
Subbasin: Mainstem Columbia
2002 Request: $113,532
2002-04 Estimate: $240,572
Short Description: Assess the use of efficient state of the art geophysical technology to better define fall chinook spawning habitat use based upon geomorphological and hyporehic factors.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns.

Speculative, but interesting science. This project definitely needs to be integrated with proposal #199406900, and the relation to #25079 needs to be at least discussed. We are requesting a comprehensive assessment of the Hanford Reach by all the proposers of Hanford Reach projects. That assessment may better explain the relative priority of this particular project. This project also needs to better justify its design. Our first impression is that the sample size of sites is too small. Finally we would like to see a decision analysis from these researchers, showing how the information they propose to gather will offer a cost-effective improvement in actual management decisions, compared to use of the traditional methods for fall chinook spawning habitat assessment.

Their previous work indicates that a large percentage (80%) of the distribution of spawning clusters in the Hanford Reach can be explained by small-scale characteristics such as water velocity, depth and lateral slope of river bottom. The proposed work is speculative in that its ability to improve the estimation of carrying capacity of salmon spawning depends on the establishment of a relationship between subsurface lithology and ground/surface water interactions. Interesting science; but as far as making a practical management contribution, we probably should get some additional information. Their summary statistic of the predictive power of the traditional habitat characterization technique does not quite address the real quantity of interest. We should be more concerned with the false positive and false negative rates, and the scale of spatial heterogeneity in the errors. The proposal tells us that the false positive rate is high. What about the false negative rate? And what is the size of the patches of the respective errors? These quantities

give a better picture of the possible contribution that this research might make to the performance of a management decision system. If the existing habitat characterization technique is effective at identifying whether river reaches of several km or tens of km length either do or don't have potential for fall chinook spawning habitat, that is good enough, because the relevant management decisions probably will be made on that scale. From this perspective, being able to explain on the scale of, say,100 m, why fall chinook spawn here and not there is of academic interest, but it won't make much difference for management decisions. The costs of this proposed new "efficient" method come out to about $20K per km, which might be judged reasonably cheap for a one-time survey, if it really does improve a management decision. But this cost might be over and above the cost of the traditional survey if it turns out that the new method by itself is not as good as the traditional method by itself, so you have to do both to get the benefits.

There needs to be justification of the limited number of sites (3 spawning, 3 non-spawning) because such a limited number of sites could lead to strictly local characterizations that have no relevance to other sites or broader scale application. The proposal needs to present more explanation of the expectation of the portability of the results of this study to other locations such as in the Snake River and below Bonneville Dam.

Project ID: 25033

Evaluate Restoration Potential of Mainstem Habitat for Anadromous Salmonids in the Columbia and Snake Rivers
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $314,392
2002-04 Estimate: $1,120,402
Short Description: Identify mainstem habitat sampling reaches, collect baseline data on physical habitat conditions, identify opportunities for mimicking the range and diversity of historic habitat conditions, develop improvement recommendations for mainstem reaches.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless an adequate response is provided that justifies the potential management application of the project. It is not clear that this study would provide information useful in restoring mainstem habitat. At best, it would be a long shot. The focus would be on three areas, including the Hanford Reach, where we seem to have a multiplicity of proposals that aim to enlarge upon the available habitat for spawning. Certainly, at the least, the three or four proposals with that objective in common ought to write a joint proposal that identifies the position of each of them in a logical array of projects with that objective.

This may be a worthwhile extension of other studies being conducted by PNNL. But why is it not better integrated with those researchers? There is a problem with the budget as presented. Section 8 refers to 5.11 FTE and salary costs of $85,340. These values do not seem consistent and the Key Personnel section only refers to 1.0 FTE?

Project ID: 25035

Evaluate adult fall chinook salmon fallback at Priest Rapids Dam, Columbia River
Sponsor: PNNL and WDFW
Subbasin: Mainstem Columbia
2002 Request: $603,065
2002-04 Estimate: $1,344,108
Short Description: Improve estimates of Hanford Reach fall chinook salmon escapement by assessing the rate, route, fate, and energy-use of adult fall chinook salmon that fall back at Priest Rapids Dam.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response is provided that adequately addresses the ISRP's concerns. The reviewers' general appraisal was fairly negative. However, we are requesting a comprehensive assessment of the Hanford Reach by all the proposers of Hanford Reach projects and this project should be included in the

mix. That assessment may better explain the relative priority of this particular project. This project, to be funded, would also need to address the many serious design problems raised in our review.

This is a complicated proposal that in the end seemed confused and inflated. There are two kinds of counts made of adult population of fall chinook in the Hanford reach. These are aerial redd counts and spawning escapement estimates obtained as the McNary dam adult count minus the sum of the Priest Rapids dam adult count, the adult count (where?) in the Snake, the adult count in the Yakima (where? Prosser dam?), the rack count at Priest Rapids hatchery, the rack count at Ringold hatchery, and the harvest estimate. The adult fish passing Priest Rapids dam are presumed to be escapement to the population that spawns in the tailrace of Wanapum dam.

Allegedly the two kinds of counts for the Hanford reach have correlated well historically, but no numbers are presented. More detail is needed here.

There is also a need to factor in the statistical properties of the aerial redd counts. How much noise would be expected in the redd counts? For that matter, how much noise should be expected in the dam counts and the harvest estimates? Note that the spawning escapement estimate involves a sum of several such counts and estimates, so the total error variance in the spawning escapement is bound to be large.

The claim in the proposal is that for the period 1988-1999 an “average” escapement estimate of ~42,000 was associated with an “average” redd count value of ~6,000. But in 1999 the escapement estimate suddenly dropped to 9,812 while the redd count estimate stayed in the former range at 6,086. In 2000, the escapement estimate fell further to 6,997 and the redd count dropped only a little to 5,381. The redd count seemed consistent with an “estimate” of ~10,000 spawned out carcasses (no real paper trail on the reliability of the latter). But the proposal acknowledges an “undercount” at McNary for 1999-2000 owing to “misplacement of guidance racks.”

They claim that in 2000, numbers of fish were observed passing back over the sluiceway at Priest Rapids dam. In 2000, 32 of 73 radio tagged fish fell back. This fallback rate is higher than is usual for most Columbia system dams, but note that they cite a 31% fallback rate at Ice Harbor dam.

They hypothesize that the disconnect between the escapement estimate and the redd counts in 1999-2000 was due to fallback causing an overcount at Priest Rapids. But there are lots of loose ends in accounting for the disconnect between the escapement estimate and the redd counts in 1999-2000: bad dam counts at McNary, noise in the escapement estimate, unknown properties of the redd counts, and possible deviations in operation of weirs and outlet channel flows at the nearby Priest Rapids hatchery. Note that under the fallback hypothesis, the question arises why did fallback suddenly become much larger in 1999-2000?

One hypothesis they float is that the fish that are falling back are disproportionately fish that originated from the Priest Rapids hatchery, and there is a little bit of a story suggesting some differences in operation in 1999 and 2000 of the channel that the hatchery fish return to. The hatchery is located 4 km below Priest Rapids dam. The proposal does not state how or where smolts are released from Priest Rapids-- need to check. The collection of broodstock is “volunteer” fish that enter a channel that leads from the hatchery to the river. Evidently there is some sort of control of flow in that channel, and it can be shut down when the hatchery doesn't want to collect fish. It would be good to learn a little more about that, and also to learn where the outflow water goes when this channel is not flowing. When the hatchery does want to collect fish, the flow is about 100 cfs, of the same mix of water that is used in the hatchery: 120 parts Columbia River water drawn from upstream of Priest Rapids dam, to 16 parts well water. The story is that in 1999 the channel was shut down till later in the season than usual, and that in 2000 a weir was installed in the channel mouth, and then removed when concern developed that it was interfering with the adult return behavior.

The proposal views the ambiguity in the Priest Rapids dam counts as causing a problem for estimating spawning escapement in the Hanford Reach, and also in the Wanapum tail race. Not clear why this is important if the redd counts are viewed as reliable. The proposal also raises the possibility that fallback exacts an energetic cost which might cause stress or eventual pre-spawning mortality, to the detriment of

the population. So the goal of the proposal is to get better estimates of fallback rates to correct the spawning escapement estimates, and to obtain energetic measurements to quantify the potential cost of fallback, and to attempt to relate the fallback rate to hatchery and dam operation in the hopes of finding a way of managing these operations so as to reduce the fall back rate.

The substantive proposed activities are to carry out more precise tracking of a sample of 1,200 fish that will be radio-tagged at Bonneville by another project of University of Idaho, and to instrument another sample of fish for the energy studies.

But there is a design problem that looks fatal, as far as relating the migration route at Priest Rapids to the stock origin of the fish. The proposal, at the top of p 12 states: "At present we can not determine stock origin of adults at the time of tagging." They intend to "assume" stock origin based on location of capture: hatchery, ladder (unclear whether they mean the ladder at McNary or at Priest Rapids), or the fishery in the river (not specified where in the river).

Hard to believe. Is it really true that this stock has achieved poster-child status without an ongoing tagging program to sort out the respective roles of hatchery production and natural spawning in the dynamics of the population? The proposal mentions a PSMFC "CWT recovery project" in the Hanford Reach, that they will "coordinate" with. What is this CWT project doing? Isn't there some PIT tagging?

There are just too many pieces missing from the puzzle. What if the cause of the high fallback rate is simply poor location of the ladder exit in the forebay, at a place where fish may have difficulty orienting to the upstream direction? The study does not address this question.

It appears that the data collected will be insufficient to resolve the role of the hatchery homing in the fallback phenomenon, and without a real dynamics model of the population it is not even clear that fallback is causing an actual biological problem. It is just a book keeping annoyance for the way they estimate spawning escapements, which is unsatisfactory in any case.

The budget seems out of proportion - $600,000 for this year, $46K just for a "plan". There are some logistic details that would need to be resolved if this project were implemented: notably, some coordination in operation of the hatchery intake to ensure that changes in that protocol do not create another "outlier," and some coordination with the shad project (#25037) so that the shad effect could be incorporated as a measured covariate rather than unknown background noise.

Project ID: 25037

Evaluation of the effects of American shad on upstream migration of anadromous fishes at Priest Rapids Dam
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $43,464
2002-04 Estimate: $297,910
Short Description: The primary goal of this study is to determine whether the non-indigenous American shad attempting to pass Priest Rapids Dam negatively impact upstream passage of adult anadromous fishes. Methods to reduce possible impacts will also be explored.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response justifies the potential value to the Fish and Wildlife Program and addresses the ISRP's comments. How is this project integrated with other Priest Rapids and Hanford proposals? The proposal is limited in detail and needs to provide more justification.

The proposal has four tasks. The first task listed boils down to a determination of whether there is a problem. The second looks for details about how shad operate to create the problem, if any. The third is a basic study of shad behavior in the ladder at Priest Rapids Dam. The fourth attempts to solve the problem –

if any – by application of sound, to which it is hoped, shad will respond by behaving more acceptably toward chinook and steelhead in the ladders – if that proves to be necessary. .

What facts are now available? What is the timing of shad arrival and concentrations versus the fall Brights? Based on past radio-tagging of chinook what is the "usual" time in the fishway versus time with shad present? Shad do not readily pass the east bank ladder at Priest Rapids Dam, which is the one principally used by anadromous fishes. They do enter the ladder. One ought to ask "Why do shad clog the ladder at Priest Rapids Dam?" The answer is rather obvious to one familiar with literature on American shad beyond Washington and Oregon. Shad are blocked at the upper end of the ladder by the need to pass under a concrete baffle that stretches across the ladder. Shad have been observed to be reluctant to pass even under bridges. They are delicate creatures. That the ladder at Priest Rapids is a barrier to shad is apparent from the fact that few, if any, have been counted in the ladders upstream. The idea of repelling them with sound is not compelling. A number of years ago, the agencies requested that Grant PUD improve passage for shad at Priest Rapids Dam, but Grant PUD demurred, arguing that to do so might simply add to the problem by opening up more spawning and rearing area upstream for shad, resulting in even more shad to clog the ladder. Grant requested that the agencies prepare an EIS, which ended the issue.

The proposal notes that Bjornn has data over a number of years that could be used to correlate success of chinook passage with shad counts at the dam. Using these data, which Bjornn would likely make available, an undergraduate student could provide an analysis in less than a week that could be used to answer questions addressed by tasks one, two and three.

As for task four, even if the sound were found to repel shad, would not the problem still exist at the point where sound might be detected by shad? Thinking along those lines, how about simply installing an overhead barrier at the entrances to the ladder like the one now present at the upper end of the ladder. This also may simply move the problem somewhere else.

There is a clear shad management/policy issue involved here. Should shad be allowed to continue to colonize up-river portions of the mainstem? How the fishway problem is dealt with will depend on such policy decisions. On the positive side though, if shad passage is controlled by various methods, could a means to control shad numbers in the mainstem above Bonneville be implemented?

Project ID: 25038

Effects of Hydropower Operations on Fall Chinook Spawning Activity
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $139,338
2002-04 Estimate: $516,430
Short Description: Assess the relationship between hydropower project operations and spawning activity of fall chinook salmon in dam tailrace areas. Develop a data set of 24 h/day spawning activity to be regressed against daylight and project discharge data.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a response is provided that adequately addresses the ISRP's concerns. The proposal fails to discuss the studies that are already underway funded by Grant County PUD to make redd counts visually (directly) rather than indirectly, with participation by many entities. Furthermore, the basic objective to measure effects of hydropower operations on fall chinook spawning activity are already fully documented, and are taken into account in agreements for flow management during spawning, incubation, emergence, and up to the time of emigration of fry. The need for this proposal is not justified.

If the issue of day versus night time spawning is actually an issue then this approach may assist in resolving it. However, from the proposal and presentation it is not evident that the method could detect the intensity of spawning activity or just a very localized spawning event. How many hydrophones and/or arrays would be used and what is their detection capability? Further, it is likely that spawning activity varies through the

spawning season; so that daily activity profiles may change over time. It may also be that discharge and/or rate of change of discharge influences spawning time, how would such effects be accounted for in this design?

The timing of spawning could be an important issue due to daily changes in flow, but this point is not even made strongly in the proposal.

Project ID: 25079

Integration and Construction of a GIS Based 2-Dimensional Hydraulic/Habitat Model for 51 miles of Hanford Reach and Site of the Columbia River
Sponsor: USFWS
Subbasin: Mainstem Columbia
2002 Request: $295,786
2002-04 Estimate: $550,786
Short Description: Integration and Construction of a GIS Database and 2-Dimensional Hydraulic/Habitat Model for 51 miles of the Hanford Reach and Hanford Site of the Columbia River
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless adequate responses are given to ISRP concerns. Despite the concerns, the reviewers note that this is a solid proposal and is clearly related to Hanford Reach concerns. The GIS, database, and bathymetry data collection portions of this look good, and the proposal delivered a well-written comprehensive overview. However, the ISRP has significant concerns about the applicability of this proposal.

1) The response should justify applicability of the project to the Columbia River Fish and Wildlife Program, beyond a list. This proposal does not appear to be a high priority. Will the other researchers involved in the Hanford Reach studies use this?

2) The proposal contains good language about cooperation, and cooperation with USGS seems guaranteed by the inclusion of co-PIs. Could PNNL be a co-PI?

3) The modeling piece raises questions about whether this model will be flexible and accessible enough to incorporate results of expectable future research that may refine or redefine the habitat variables that constitute spawning habitat. This proposal offers a two dimensional model. A three-dimensional model would be much more useful. Has a model steering committee with representatives from the other groups, such as PNNL that are also working on spawning habitat characterization, been considered. The fall chinook stranding group (#199701400) may have PNNL doing some modeling work to predict the areas that might be dewatered under various flow regimes. The PI's should look into this.

Generally, the success of this project is very dependent on cooperation and buy-in: for obtaining data, for the project to provide access to the product, and for the relevant user community to in fact use the product. More detail and statements of commitment on all three parts of the cooperation/buy-in issue are needed.

Project ID: 25045

Determine effects of water level-induced changes in rearing habitat on the survival of juvenile fall chinook salmon.
Sponsor: USGS
Subbasin: Mainstem Columbia
2002 Request: $192,977
2002-04 Estimate: $548,931
Short Description: Describe the response of premigrant fall chinook salmon to water level-induced changes in their rearing habitat in terms of their habitat use, movement behavior, and survival.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless an adequate response is provided that addresses the ISRP's concerns. The goal of this project is to describe the response of pre-migrant fall chinook salmon in the Hanford Reach to water level-induced changes in their rearing habitat in terms of their habitat use, movement behavior, and survival. The proposal apparently differs from other studies of fry stranding by examining the behavior mechanisms involved and studying responses at a much finer or "local" level than in the past. The study might provide insight into a problem found in many locations throughout the hydrosystem. It could provide better information on how quickly fry can adjust to habitat changes and help define preferred habitats, etc.

However, reviewers were not convinced this project would add anything useful to the stranding study (#199701400) that has been underway for several years and is reviewed above. One of the tasks identified (1.1) is to "Quantify the rate, direction, and magnitude of fish movement in near-shore habitat in response to fluctuating and stable water flows." While this might be appropriate in the Snake River, where the investigators say they have a similar study underway (or will have), it does not comport with our expectations in the Hanford Reach where there is an operational agreement in place that is supposed to stabilize the flows when significant numbers of chinook fry are present. The proposal states that the investigators will request periods of stable flows from Priest Rapids Dam to compare the results under stable and varying flows. The proposal reveals a lack of understanding of the complexity of this issue. The operating agreement is a multiparty agreement that must be honored by Grant County PUD, operators of Priest Rapids Dam. In any case, Grant County's ability to regulate flows to any significant degree is inhibited by flows originating from Grand Coulee Dam. In the absence of fluctuations in water level, the study is not likely to reveal anything about responses of juvenile fall chinook in terms of movement or survival. Even if flows were to fluctuate in an unanticipated manner, as in 2001, the method proposed seems to have only a remote chance of recapturing sufficient numbers of fish to make possible a credible estimate of survival. The response needs to justify this type of localized study, justify its value, and demonstrate a familiarity with the multiparty agreement.

Data on effects of power peaking water level fluctuations on fall chinook habitat use should be useful, but the direct survival estimates using PIT tagged fish would be even more valuable if they can be obtained. The latter assessment would use untested methodology - fykenet detector rings in proposal, but that seemed to change to flatplate detectors with fins in the presentation. A response is needed that more carefully assesses the feasibility of being able to gather such mortality data.

(continued on next page)

The proposal leaves many questions unanswered that should be addressed in the response:

i) what is the value of knowing fine scale habitat use compared to what is known from past work?
ii) what is known about preferred habitat use based on size of the fry and is there a concern about the current rates of discharge change?
iii) is it feasible that stable flows will be established in order to determine a comparative basis?
iv) what is the link or value in marking fry <60 mm and then PIT tagging fry >60 mm … how would these results be combined or are they simply separate issues?
v) what is the source of these fish and how were the sample sizes determined, they seem very small given the size of the habitat, changes in water volumes, etc.?
vi) how would the SURPH model be applied if we do not know what habitats were utilized?
vii) what is the source of the second digital camera and the PIT tag detectors, are they actually in the budget?

This proposal is another of several proposals in the Hanford Reach that indicate little to no integration between studies and agencies.

Project ID: 25052

Sex Reversal in Hanford Reach Fall Chinook Salmon
Sponsor: USGS - CRRL
Subbasin: Mainstem Columbia
2002 Request: $262,321
2002-04 Estimate: $415,359
Short Description: We will determine if the prevalence of male specific genetic markers in juvenile fall chinook salmon in the Hanford Reach is consistent with phenotype, and whether this evidence of sexual disruption is associated with biomarkers of contaminant exposure.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if an adequate response is provided. This proposal addresses an important and disturbing phenomenon first brought to the ISRP's attention through the innovative proposal submission by Nagler, Dauble, and Thorgaard (#22013; Genetic sex of chinook salmon in the Columbia River Basin; PI = Nagler). The ISRP recognized the sex reversal problem in Hanford Reach fall Chinook as an important one, and recommended funding an initial examination of the extent of this problem as one of the two highest priority projects in the recent Innovative Competition. Council and BPA have approved funding for the innovative project.

The ISRP's review comments on the Innovative Proposal 22013 are shown immediately below in italics.

> *This is an innovative proposal because it addresses a newly recognized critical uncertainty in the Hanford Reach fall chinook stock and proposes to use a new genetic assay technique to do so. It is also a high priority project as it addresses a critical question about population genetic structure in the Hanford Reach and other chinook stocks.*
>
> *The authors' preliminary data show surprising evidence of sex-reversal (some genetic males are functional females) in Hanford-Reach-spawning wild chinook, apparently the result of some environmental insult (e.g., EDC's, exposure to pesticides). The data are intriguing and worrisome. Half the offspring of the sex-reversed fish will be normal males, but half will be YY males, capable of producing only sons, disproportionately increasing the ratio of males to females in the next generation, an accelerating increase if the sex-reversal continues in each generation. The effect would be a decreasing proportion of normal females and decreasing reproductive fitness, a serious barrier to recovery. It's clearly important to find out if other stocks of wild spawning chinook are affected, and it's important to find out if YY males are indeed present. The region needs to know the extent of the genetic sex reversal phenomenon.*

Many of the positive comments and biological concerns stated in the review comments above also apply to this proposal (#25052). This proposal, while not directly linked to Project 22013, is related to it. The

studies appear to complement each other, such that if this project were funded, it should be much more closely linked to project 22013 than is suggested in this proposal. The similarity between these two studies is that they will both examine juvenile fall chinook salmon from the Hanford Reach as a consequence of a reported incidence of a male-specific genetic marker in adult females from this population (Nagler et al. 2001). The funded project (22013) will look for incidence of a YY-genotype in wild juveniles over two seasons, while this proposal will examine the levels of biomarkers, phenotype and genotype, and incidence of intersex in juveniles.

The innovative proposal 22013 is restricted in scope as compared to this proposal, most likely to fit the funding and timeframe criteria of the innovative solicitation. The focus of the innovative proposal was to gather genetic and phenotypic data from Hanford Reach juvenile fall chinook to further corroborate or refute the preliminary observations of high levels of sex reversal and intersex individuals. That proposal infers, but does not outline a strategy to examine, that the genetic results could be related to higher levels of biocontamination from pollutants. This proposal (25052), in many ways, is the next logical step beyond the funded project 22013. Consequently, if funded, the two projects should be integrated more fully (note that Nagler serves as PI on 22013 and as a Co-PI on this proposal).

Specific questions: Can the assay be applied to phenotypic males and females … if so the returning phenotypic sex ratio should be confirmed by sampling the genotypic ratio. It is very important to confirm that sex can be reversed equally between sexes … male to female or visa versa. Should this wait for the Innovative Project to be completed? If not, why not?

End of Hanford Reach Proposals

Mainstem Columbia Wildlife Proposals

Project ID: 199009200

Protect and Enhance the Wanaket Wildlife Mitigation Area.
Sponsor: CTUIR
Subbasin: Mainstem Columbia
2002 Request: $223,465
2002-04 Estimate: $679,824
Short Description: Protect, enhance, and mitigate wildlife and wildlife habitats impacted by the McNary Hydroelectric Project
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This proposal identifies its significance. Cost is relatively high compared to other areas perhaps due to irrigation costs for wetlands. M&E is adequate for Tier 1 level monitoring. However, evaluation and monitoring efforts should be strengthened by specifying how much improvement/change in target species is to be accomplished and how the changes will be documented (see ISRP general comments at beginning of this report).

This proposal is for routine continuation of operation and maintenance on 2750 acres. Irrigation of wetlands must be continued indefinitely causing concern about electricity costs in tight energy markets and availability of water in drought years. During the presentation they demonstrated that they had a plan for alternative activities if power prices become prohibitive.

Project ID: 200002500

Eagle Lakes Ranch Acquisition And Restoration
Sponsor: USFWS
Subbasin: Mainstem Columbia
2002 Request: $188,900
2002-04 Estimate: $1,278,900
Short Description: Protect and restore proper function to shrub steppe and wetland habitats to offset losses due to hydropower development on the Columbia River system.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP request for a more detailed description of monitoring and restoration objectives and methods. More information on the monitoring effort is needed to provide documentation for evaluation of future funding (See "Tier 1 under the ISRP's general comment on monitoring and evaluation at the beginning of the report). A detailed strategy for information transfer is also necessary.

Other Mainstem Columbia Proposals

Arranged alphabetically by project sponsor and then by project ID.

Project ID: 25011

Assess Riparian Condition Through Spectrometric Imaging Of Riparian Vegetation
Sponsor: ODEQ
Subbasin: Mainstem Columbia
2002 Request: $175,000
2002-04 Estimate: $360,000
Short Description: Remote multispectral imaging will be used to document riparian vegetation for all Columbia Plateau Province lands within Oregon. DEQ will use the data to establish TMDLs to improve water quality for fish and aquatic life, including ESA-listed species.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. Establishment of Total Maximum Daily Loads (TMDLs) is planned for all subbasins. The necessity of using multispectral imaging to establish scientifically defensible TMDLs is unclear. More details should be provided concerning how the data will be used in the model that relates riparian conditions to water quality and to anadromous fish. Other questions that should be addressed in a response are: Why is the proposed scale the most appropriate for establishing TMDLs? What information transfer is planned? What is the sensitivity of TMDLs to the margin of error expected with multispectral imaging compared to the actual vegetative data? What are the implications of this uncertainty in TMDLs for anadromous fish?

Project ID: 25056

Conduct Watershed Assessments for Priority Watersheds on Private Lands in the Columbia Plateau
Sponsor: OWEB
Subbasin: Mainstem Columbia
2002 Request: $1,259,725
2002-04 Estimate: $1,439,175
Short Description: This project will coordinate the development of watershed assessments throughout the Columbia Plateau. The funding will provide contracting monies for the completion of watershed assessments throughout the Oregon portion of the province.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. Basing project prioritization and program strategies on a watershed assessment is a sound scientific approach long advocated by the ISRP. However, this is an expensive approach, although good matching from OWEB. But this is merely funding infrastructure that groups elsewhere have already started on their own. Evaluation of priority for this proposal is based upon politics - not science.

The review team had several concerns for the sponsor to consider that do not require a response to the ISRP: will these assessments on private lands be compatible with existing analyses already conducted on federal lands? If not, how will differences be eliminated to ensure seamless integration? How will quality control be maintained with so many entities conducting assessments?

Project ID: 25063

Subbasin Planning Coordinator for Oregon
Sponsor: OWEB
Subbasin: Mainstem Columbia
2002 Request: $100,225
2002-04 Estimate: $300,675
Short Description: This project provides a state coordinator to integrate subbasin planning with the Oregon Plan for Salmon and Watersheds.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do not fund. No response is warranted. This is a token placeholder proposal. There should be an integration of effort at the state level for subbasin planning. An entity should be responsible for developing state priorities and report to and be funded by the Governor. The proposal did not give enough information to justify this position, although increased coordination would likely benefit the subbasin planning effort.

Project ID: 25098

Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Columbia Plateau Ecoprovince
Sponsor: NHI
Subbasin: Mainstem Columbia
2002 Request: $330,825
2002-04 Estimate: $848,695
Short Description: Fine-scale wildlife habitat assessment for the Columbia Plateau Ecoprovince will provide critical baseline data for planning and monitoring efforts that is consistent with the NWPPC 's Subbasin Planning process.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The ISRP has reviewed versions of this proposal in each provincial review and the sponsors have adequately addressed the ISRP's concerns on validation and field-testing from those reviews.

We repeat our comments from previous reviews: The proposal makes a convincing case for the value of presenting complex habitat information in map form. The investigators have demonstrated the ability to

produce high-quality maps at the Columbia Basin level. The project will develop Landsat maps of wildlife-habitat types for the Columbia Plateau Province at a finer level of resolution than is currently available. The maps will be made available to wildlife managers for the development of “coarse filter” conservation strategies. Subbasin summaries, while not directly calling for these maps, do demonstrate a need for mapping products.

The key issue for this project is support from the managers, and this proposal did not include letters of support.

Project ID: 25060

Burbank Sloughs and Mainstem Columbia River Shoreline/Side Channel/Wetland Habitat Restoration
Sponsor: USFWS
Subbasin: Mainstem Columbia
2002 Request: $546,000
2002-04 Estimate: $776,000
Short Description: Remove berms, reconnect side channels & wetlands to river & establish flow, & enhance shallow-water areas to provide rearing, resting & predator avoidance habitat adjacent to the main channel Columbia River in the Burbank Sloughs Area, Pasco, Washington.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. This would serve as a pilot project to restore wintering/rearing habitat for chinook and secondarily steelhead in seven sloughs. The proposal was clearly written with helpful photos. A map is needed.

This effort will be successful for anadromous fish rearing if such habitat is currently in short supply and if the new habitat does not increase predation, especially piscine. That issue was mentioned in both proposal and presentation but reasons for expecting low predation rates were not elaborated upon. That issue should be clarified in the response.

The priority of this area needs to be justified in the response. Why was this particular 2000 acres selected? Is it typical of shoreline development in the area or is it a known area of emigrant utilization? Does the area offer a better than average chance of "success"?

The response should better describe the monitoring and evaluation.

Project ID: 25091

Mainstem habitats and aquatic communities: assessment and management options
Sponsor: USGS
Subbasin: Mainstem Columbia
2002 Request: $394,200
2002-04 Estimate: $1,164,200
Short Description: We propose to characterize the nearshore habitat and community structure in the mainstem reservoirs of the Columbia Plateau Province, and develop experiments to test management options in the mainstem river.
Response Needed: Yes
ISRP Preliminary Comments:
Do not fund unless a substantially improved proposal is submitted. Responses are requested to the following:

(1) With all the work on reservoirs do we need another major expenditure on shoreline habitat at an even higher level of resolution? How is “ near shore habitat” to be defined. Shoreline work seems to include on-shore and shallow water habitats. If more mapping and habitat utilization work is necessary to assess the productive capacity for salmonids, then we should proceed; but it will mean a major expenditure if this is

done for each reservoir. In other words, data already exists for characterizing mainstem rivers. It is not clear that these habitat surveys are necessary for this objective or necessary to support the other objectives.

(2) The investigation of community structure using Carbon/Nitrogen isotope ratios is somewhat promising but reviewers were uncertain that the use of stable isotopes would provide useful historical data. Reviewers strongly recommend that the current situation and interactions be the focus of this research, not what occurred in the past.

(3) Justification for developing a new bioenergetics model is necessary. Do the authors propose to develop ecosystem models or utilize available models such as EcoPath and EcoSim?

(4) If a revised proposal is prepared, there should be more information provided on how components of the ecosystem work would be integrated. For example, Justification for conducting a monitoring program for larval and juvenile fish and how this monitoring relates to the other parts of this objective is necessary? Moreover, how would the population sizes of the older-age classes be determined? Further, if both the near shore habitat and community work proceeded, how would these components be integrated or do the authors see these as separate studies?

(5) Non-specific field experiments are proposed. As a result of this lack of details it is not clear how models and hypotheses will be tested. The proposal lacks critical hypotheses and specific experiments to test these hypotheses. Consequently, the proposal should only address the expected tasks and not allocate any funds for undefined experiments. Once experiments are defined and designed, then we can evaluate a proposal and determine funding (i.e., possibly fund a revised proposal for 2 years only and determine other funding after new submissions).

The authors of this proposal have a good record of study and productivity in the Basin, but this proposal lacks the detail to understand the tasks or possible benefits of this work.

Project ID: 25097

Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP)
Sponsor: WDFW
Subbasin: Mainstem Columbia
2002 Request: $522,710
2002-04 Estimate: $945,260
Short Description: Project will provide routed & segmented hydrolayer, and collate and synthesize data on 19 aquatic habitat variables & pesticide data over an estimated 59,000 miles of streams in 8 salmonid-bearing subbasins in the WA portion of this Province.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The proponents provide a strong case for their integration with other habitat managers and agencies and show a strong awareness of the need for habitat related databases in Regional projects and programs (sections 9c and 9d). However, there is no evidence of other agencies/tribes in western Washington supporting or participating in the creation of this database. Will other groups and projects benefit from its availability so that costs to other projects are offset? Support for the proposal would be substantially improved if other groups in the Columbia Plateau region provided written support for this activity. The panel would like to see an independent evaluation of what they did on the westside. This evaluation should be related to how this system would aid in identifying and guiding management actions for salmonid issues. There appears to be a good capability for information transfer but how would this be used in the Columbia Basin? Also, how would this project relate to the GIS work already in place in the basin? If many programs are generating habitat data but all at different spatial scales and methods, etc., then there is a serious need to standardize these activities to avoid these additional costs. How pervasive is this problem?

Crab Creek Subbasin

Project ID: 199106100

Swanson Lakes Wildlife Area (SLWA)
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $290,238
2002-04 Estimate: $845,512
Short Description: Protect, increase, and maintain a viable sharp-tailed grouse meta population, re-establish a viable sage grouse population, increase mule deer use of the project site, and enhance shrubsteppe habitat for shrub-steppe obligate species.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. The rationale for this project is tied to protection and restoration of sharp-tailed grouse. These activities are related to a number of regional programs. The proposal provides much detail for monitoring and evaluation indicating awareness of issues missing from many proposals but discovered by the WDFW Crab Creek team. This is a very well prepared proposal that is thorough and comprehensive. Operation and maintenance costs for the area are about $15/A/yr for 2002, which is about the same that YN estimates for their land management operation and maintenance.

Project ID: 25001

Acquire Sharp-tailed Grouse Habitat at the Swanson Lakes Wildlife Area
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $237,053
2002-04 Estimate: $274,953
Short Description: Purchase 259 ha (640 ac) of shrubsteppe habitat currently bordered on three sides by the SLWA in order to increase and maintain a viable sharp-tailed grouse population on and/or near the SLWA.
Response Needed: No - Fundable
ISRP Preliminary Comments:
Fundable. This is a straight-forward proposal for one-time funding to acquire 640 A bordered on three sides by the Wildlife Area. The acquisition of this property would complement the work proposed in project 199106100. Specifically, the project is tied to protection and restoration of sharp-tailed grouse. These activities are related to a number of regional programs. Cost of about $500/A seems reasonable. This proposal looks fundable with a medium priority, comparable in priority to new YN land acquisition proposals.

Project ID: 199404400

Enhance, protect, and maintain shrubsteppe habitat on the Sagebrush Flat Wildlife Area (SFWA)
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $908,375
2002-04 Estimate: $1,407,100
Short Description: Protect, and enhance shrub-steppe habitat necessary to maintain and expand viable populations of pygmy rabbits, sage grouse, sharp-tailed grouse and other shrub-steppe obligate species.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The rationale for this project is tied to protection and restoration of pygmy rabbits, sage grouse, and sharp-tailed grouse. These activities are related to a number of regional programs. The proposal provides much detail for monitoring and evaluation indicating awareness of issues missing from many proposals.

The response needs to justify the budget including the large indirect costs - nearly twice that of salaries, and the major surveying and fencing costs - $530K – which are not adequately justified as to their need. Management of 8600 acres is involved here. Excluding fencing and surveying leaves about $400K for year 2002, which works out to about $46/acre for that year's management. Conversion of cropland is more costly than routine management, but this seems high compared to other projects.

Project ID: 25030

Factors limiting the shrubsteppe raptor community in the Columbia Plateau Province of eastern Washington
Sponsor: WDFW
Subbasin: Mainstem Columbia, Crab, and Yakima
2002 Request: $16,580
2002-04 Estimate: $16,580
Short Description: Assess habitat, prey, and contaminants of ferruginous hawks and golden eagles in native habitats and provide recommendations on how to improve their rates of nest occupancy in the Columbia Basin.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The project directly addresses issues related to raptors of concern. The proposal appears sound and includes strong basic, but typical, raptor biology investigations. Proposal does good job of identifying possible causes for raptor decline -winter mortality, lead poisoning, nesting habitat loss, etc. - but did not show how the study could take advantage of some unique situations, settings, timings, or study design to disprove any of these possible factors. It doesn't seem to have strong clear hypotheses to test; instead gathering data, performing some correlations, without compelling evidence of utility for raptor conservation. Strong coordination with two other proposed BPA projects (25039 and 25046) is essential for the success of this proposed work. Reviewers were also curious about the present status of Black-tailed jackrabbits and their cycling, as well as the role of Black-tailed jackrabbits for ferruginous hawk and golden eagles. Are the rabbit populations so low they are not cycling. They were abundant in the 1930s.

This proposal also involves activities in the Mainstem Columbia and Yakima but is grouped here to gain a sense of the entire set of WDFW shrubsteppe related proposals.

Project ID: 25039

Effects of agricultural conversion on shrubsteppe wildlife and condition of extant shrubsteppe habitat
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $681,215
2002-04 Estimate: $2,006,030
Short Description: Map shrubsteppe vegetation using a detailed classification system and determine habitat associations of shrubsteppe wildlife to support restoration and conservation in the Columbia Plateau Province.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if an adequate response is provided. The project is clearly designed to address limiting factors in several subbasins. It is not clear that the proposed scale of mapping is necessary, or sufficient, for the purpose of understanding the relationships between shrubsteppe wildlife species and the patterns of shrubsteppe vegetation. The other objectives in the project do not seem to depend on the scale of mapping proposed in objective 1. The response needs to justify the proposed scale of mapping. Specifically, why is this scale of mapping necessary to compare abundance of passerines, reptiles, and small mammals in different vegetative communities?

Project ID: 25041

Wildlife Escape Ramps
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $52,185
2002-04 Estimate: $133,680
Short Description: Modify irrigation canals within the Columbia Basin Irrigation Project that trap and kill >200 mule deer each year. Installation of escape ramps will allow deer to exit these canals and reduce mortality.
Response Needed: No - Policy Decision
ISRP Preliminary Comments:
Funding of this is a policy question. The need for escape ramps is clear because of the estimated number of deer dying in canals, public concerns, and public safety issues, but the comparative priority under the Fish and Wildlife Program is low. BPA responsibility for funding is not clear. Why is this not a BOR related cost?

Project ID: 25042

Pygmy Rabbit Recovery - Captive Breeding
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $220,914
2002-04 Estimate: $461,118
Short Description: The project involves captive husbandry and captive breeding of wild-caught Washington pygmy rabbits, as well as augmentation of wild populations in the Crab Creek Subbasin with captive reared rabbits.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. The general quality of the proposal is good.

1) Washington ESU: The response should provide data that shows this is a distinct ESU of pygmy rabbits. "Unpublished data" that are not presented, evaluated, or analyzed in the proposal, are the only basis for the claim that saving this population really warrants a crisis effort. Show us the data that this is a genetically distinct population. The proposal ignores work that has been done outside of the state of Washington. What is the difference in the Idaho and Washington population?

2) Details of the Breeding Program: If the Washington population of pygmy rabbits is a unique ESU then efforts at recovery may be necessary. The breeding program should begin with the local population even though it will be a small founder population. In the end they may need to outbreed the population but should still start with the local stock and use a full genetic pedigree to monitor the genetic relatedness of the captive brood stock.

3) Habitat Limiting Factors: The response should describe the limiting factors in the habitat. If the root causes of decline are not addressed, a captive breeding program is not justified. Captive breeding may be a misplaced effort, since the ongoing decline of the remnant population in WA, and the evident ineffectiveness of the habitat work, leads reviewers to suspect that the proposers have not yet correctly identified the actual critical habitat, and this should be the highest priority. To put the matter in perspective, it would be good if the proposers could document that there is a real commitment of significant resources to habitat acquisition, protection and restoration, and to research to figure out why this WA population is doing so poorly compared to the ID population. That is, a captive breeding focus could divert resources away from other efforts that logically should be as high or higher priority for this population; the investment in captive breeding could become disproportionate.

4) Release Sites: Where are the experimental release research sites from the Oregon Zoo breeding program? Are they isolated? Multiple release sites should also be used to reduce the risk due to disease or random events. The proposal did not include a specification of where the release site will be, relative to the present or historic range of this ESU. Proposers should be sure that it is hundreds of miles distant, and isolated by significant barriers, because this is an out of basin transfer, contamination of the potential WA ESU with ID genetics would undermine the whole premise of the project.

5) Parallel Breeding Facilities: The proposal outlines procedures to safely capture, maintain, and breed rabbits. Plans for a parallel breeding facility at another location should be implemented as insurance against catastrophic loss at the WSU location. There is some bad experience with disease in captive breeding programs, that must not be repeated here.

6) Predator avoidance training and monitoring after release are important components of the project. However, the use of above ground fences to contain an animal that is itself an active burrower and has burrowing predators does not seem appropriate.

7) Experienced Investigator: The use of a doctoral student to conduct this work adds risk to the population. These animals and this program have sufficient risk without introducing an unknown student. A Post-doctoral fellow may be acceptable but the ISRP would strongly recommend an experienced investigator.

Project ID: 25043

Northern Leopard Frog Distribution and Habitat Association
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $41,754
2002-04 Estimate: $156,354
Short Description: The proposed project examines the breeding distribution of northern leopard frogs, and breeding success and recruitment in association with introduced fish, bullfrogs and reservoir inundation.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable only if an adequate response is provided to the following questions: (1) What is the extent of known bullfrog predation on leopard frogs? If the predation is a major factor for this state endangered species why not take immediate action to remove predators? Three years of study before any action is taken is likely too long. (2) Where do bullfrogs and leopard frogs co-exist and how are those situations different than in the Columbia basin? (3) How will reservoir inundation be evaluated separately from the effects of introduced fish and/or bullfrogs? (4) What plans are there to publish the results of this study in peer-reviewed journals?

Project ID: 25046

A cooperative approach to evaluating avian and mammalian responses to shrubsteppe restoration in the Crab Creek Subbasin
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $141,184
2002-04 Estimate: $419,796
Short Description: We are proposing a cooperative, four-year research investigation involving the Washington Department of Fish and Wildlife and the University of Washington, to evaluate the effectiveness of various restoration strategies in producing necessary habitat.
Response Needed: Yes
ISRP Preliminary Comments:
Fundable if adequate responses are given to ISRP concerns. While the ISRP supports monitoring projects to collectively monitor subbasin habitat improvements, the scope for applicability of the results from this

project is not clear. What limits does this particular combination of six habitat/administration types put on transferring results? What is the inference space? That is, what justification is there that these inferences will apply to the entire subbasin rather than only to the sampled units?

Project ID: 25089

The Effects of Agriculture on Amphibians of the Columbia Plateau
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $121,945
2002-04 Estimate: $301,945
Short Description: Compare historic versus current distribution of four amphibian species, representing different hydroperiod requirement to determine how agriculture affects these species, to identify valuable conservation areas, and to refine distribution model.
Response Needed: No - Do Not Fund
ISRP Preliminary Comments:
Do not fund. A response is not warranted.
Proposes to establish a current baseline for occupancy patterns for the four amphibian target species to address the limiting factor of lack of knowledge about the current state of amphibian populations. Historic distribution of these species does not appear imperative. Similarly, comparing historic occupied and unoccupied sites may have little relevance to distribution patterns now. The proposed methods for comparison of current occupied and unoccupied sites are weak. Objective methods to evaluate occupancy patterns are needed. It is not clear that this project will broaden the understanding of irrigation-influenced amphibian habitat changes because of the great number of other confounding factors that have been hypothesized for amphibian population declines worldwide. There is no connection between anticipated results and the management pay-off.