Table L-1. BPA-funded research, monitoring, and evaluation projects related to fish and wildlife in the Salmon Subbasin, Idaho.

Project title/number	Primary agency	Years	Summary information	Results /milestones	Geographic area of coverage									
					UPS	PAH	MSP	LEM	MFU	MFL	MSC	SFS	LOS	LSA
Idaho Habitat Evaluation/Offsite Mitigation Record (8300700).	IDFG	1983-1991	Evaluated salmonid production benefits and relative costs of 9 habitat improvement projects in Idaho. Surveyed fish populations and stream conditions in over 50 streams over a several year period.	The Idaho Department of Fish and Game evaluated stream conditions of selected areas and the juvenile chinook and steelhead production benefits of habitat improvement projects in Idaho in order to produce the offsite mitigation record for Idaho. Biologists measured basic parameters, such as smolt production, then related these figures to construction and operating costs over the project's life expectancy. Nine habitat projects were evaluated. The offsite mitigation record is being completed on an annual basis, although individual projects will be monitored only at periodic annual intervals.	X	X	X	X	X	X	X	X	X	X
Fish Marking: Chinook And Steelhead (Idaho)(8401700).	IDFG	1984-1986	Collecting fish tag information in the Snake River system associated with the Smolt Monitoring Program for increasing Water Budget management efficiency.	The Smolt Monitoring Program supplied the data and collected information to evaluate the success of the Water Budget and to recommend changes to improve its efficiency. The project was coordinated by the Water Budget Center (8000100). Fish used in the analysis were tagged through projects 8401600 and 8401700. Field monitoring activities were carried out by the National Marine Fisheries Service at Federal dams (8401400),by Biosonics, Inc., at Wells Dam (8401500), and by Chelan County Public Utilities District at Rock Island Dam (8405400).	X	X	X	X				X		X
Anadromous Fish Health Monitoring / Idaho(8711700).	IDFG	1987	Augment the current agency fish health monitoring programs to a specified uniform level among all Columbia River anadromous hatcheries. 7 Idaho state hatcheries were involved. See also projects 8711800, 8711900	This project standardized fish health monitoring for the Columbia River anadromous hatcheries. Frequency, methodology and effort was now comparable from agency to agency. This comparable effort was necessary to assess the Basin's artificial production currently and its potential. 7 Idaho state hatcheries were involved.	X	X						X		X
Mark Chinook- Rapid River / Pahsimeroi Hatcheries(9206600)	IDFG	1992	Mass mark all 1991 brood spring chinook for release in 1993 from the Pahsimeroi and Rapid River hatcheries. An evaluation of the hatcheries production program and its contribution to fisheries was needed. It was also essential to be able to separate hatchery from wild fish at the hatchery or on the spawning grounds.	Objectives include: 1. Identify hatchery from wild. 2. Evaluate mortality difference between Ad and LU. 3. Evaluate hatchery production survivals. 4. Evaluate areas of contribution to fisheries This project mass marked all of the 1991 brood spring Chinook from Rapid River and Pahsimeroi Hatcheries for release in 1993. They used a combination of Ad-CWT and LU-CWT and fin clip only and some pit-tags.		X								X
Pit Tagging Hatchery Spring/Summer Chinook – IDFG(9602002).	IDFG	1996	PIT tag juvenile salmon proportional to hatchery production. Development of detailed experimental designs and associated methods for analyses through regional techical forums and peer review.	Juvenile spring/summer chinook salmon were PIT tagged proportional to hatchery production prior to release from hatcheries in Idaho in the spring of 1996. Isolated smolts from high BKD parentage were excluded. Developed detailed experimental designs and methods for analyses. Hatcheries involved were McCall, Rapid River, Sawtooth, Crooked river, Powell, Red River, Pahsimeroi.	X	X						X		X
Pit Tagging Rapid River & Pahsimeroi Chinook Stock(9602004)	IDFG	1996	PIT tag juvenile spring/summer hatchery chinook of the Rapid River and Pahsimeroi stock in Idaho.	PIT tag 78,500 juvenile spring/summer hatchery chinook salmon of Rapid River (45,000) and Pahsimeroi (33,500) stock in Idaho. Fish will be released during Spring 1997 as a component of a larger study		X								X
Lower Columbia Fish Passage Evaluations(9204100, 9204101).	COE	1992-1996	Assess the success of adult salmon and steelhead passage at the four dams and reservoirs in the lower Columbia River and into the tributaries; Evaluate specific flow and spill conditions on adult fish migration.	Adult fish passage timing was assessed in the Snake River during 1991-94. Passage time are on the order of 1 day/project (+/-); intradam loss averaged less than 5%/dam. Assessment of factors associated with passage behavior are continuing. FY 1995 and beyond: Continue to provide joint funding with Corps to evaluate adult fish passage in the FCRPS.Evaluations are ongoing. Available data indicate relatively good passage rates; traps at IHR and LGR may contribute to some delay. Multiyear study, planned for lower Columbia River following completion of ongoing evaluation in lower Snake. 1995 activities include analysis/final report on Snake River evaluations and preparatory work for lower Columbia adult passage evaluations in 1996-2000 Project evaluate adult salmon passage at dams, through reservoirs and into tributaries using radio tracking data on passage times and delays, migration rate, dam entrance profiles, and effect of operations (e.g., effect of spill and zero nighttime flow on migration are assessed.	X	X	X	X	X	X	X	X	X	X
Technical Assistance- BPA Fish & Wildlife Program(8611800)	USDOE	1986-1990	Provide technical contractor assistance to BPA and to the analytical coordination work group. Tasks were various but included workshops, review of models and masterplans, etc. Areas studied included Hungry Horse, Upper Salmon, Dworshak, etc.	Numerous task orders have been completed, including development of production and cost records, review of the Yakima Hatchery Master Plan, and smolt survival and predator/prey workshops	X			X	X	X				
Environmental Monitoring in the Snake River Basin(9207103)	USDOE	1993-1995	Provide technical assistance in the development of an environmental monitoring system in the upper Snake River basin. Coordinate associated research activities with the M & E of smolt migrations of wild Snake River spring/summer chinook salmon projects.	This task order was initiated in October 1993 (FY94) to address Salmon Strategy Measure 3.6F.7, and to complement the research that is being conducted on the Snake River spring/summer chinook salmon by the National Marine Fisheries Service (NMFS). The purpose of the NMFS study (project 91-28, contract DE-AI79-91BP18800) is to characterize the out-migration timing of different stocks of spring/summer chinook salmon smolts at dams on the Columbia and Snake Rivers, identify any consistent patterns in the timing of the out-migrations, and identify what environmental factors influence out-migration timing (Accord et al. 1995). Identified and summarized previous and existing water quality monitoring activities in the Snake River basin. Designed a monitoring network for water quality information that will meet present and future needs of fisheries related programs. Provided technical assistance for the implementation and operation of the monitoring network. Provided technical guidance in the form of a data analysis protocol document to develop useful baseline water quality information from the monitoring network.	X				X					
Lemhi River Rehabilitation Study(8402800).	Ott Water Engineers	1984-1986	Identify problems, evaluate fishery potential, and recommend alternative methods for rehabilitating salmon and steel head production in the Lemhi River Basin.	This study identified problems, evaluated fishery potential, and recommended alternative methods for rehabilitating salmon and steelhead production in the Lemhi River. The Phase I feasibility plan and design of flow enhancement alternatives was completed in 1986. The project was closed without further implementation.				X						

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Panther Creek Habitat Rehabilitation Study(8402900).	Bechtel National Inc	1984-1985	Evaluation of potential spawning & rearing habitat for salmonids in the Panther Creek system; presentation of alternatives to clean up toxic mine discharges which currectly affect the streams. The project was closed without implementation due legal issues	This study evaluated potential spawning and rearing habitat for Chinook and steelhead in Panther Creek and its tributaries (a total of 13 streams), and recommended alternatives for detoxifying mine effluents sufficiently to permit the restoration of salmon and steelhead spawning and the rearing of juvenile salmonid within Panther Creek. The feasibility study was completed in FY 1985. The project was closed without further implementation due to legal issues regarding the mining cleanup.			X							
Survey Of Artificial Salmon Production Facilities(8405100)	US Small Business Admin	1984-1986	Compilation of existing and potential sites for anadromous fish hatcheries with emphasis on water resources. Over 75 public fish culture facilities in the NW were reviewed	Researchers compiled available information on existing and surveyed potential sites for anadromous (salmon and steelhead) fish hatcheries. The survey included over 75 public fishculture facilities. The survey reported available water supply by months, general water quality characteristics, and an engineering appraisal of the size and condition of each facility. Numerous data were compiled on the general operating plan and costs at each facility, species and amounts reared recently, impediments and fully potential production. The data was compiled into a written summary report, written data appendices, and recorded appendices on computer disks for future/collateral analyses. The project was completed in FY 1985.	X	X						X		X
Fish Habitat Project Field Reviews And Evaluations(9106900).	Dr. Roy Mead,University of Wyoming,Resources Northwest, Inc.	1991-1993	Utilize interdisciplinary expertise to perform field reviews of BPA stream habitat restoration and passage projects for Clackamas River, Fifteenmile Cr, Trout Cr, John Day River, Grande Ronde River and the Salmon River Basins.	Arrangements were made to obtain interdisciplinary expertise, not limited to Fisheries Biologist, to perform field reviews of BPA Stream Habitat Restoration and Tributary Passage Projects. A further objective was to obtain specific recommendations for improving future projects. Evaluations were conducted in the Clackamas River, Fifteenmile, Trout Creek, John Day, and Grande Ronde River Basins of Oregon and the Salmon River Basin in Idaho. A later contract agreement DE-AP79-92BP56463, task order #56463 with Don Chapman Consultants provided fisheries biologist and range conservationist expertise to make a presentation and participate in discussions on alternative grazing strategies that improve fish habitat.	X	X	X	X	X			X	X	X
Columbia Basin Ecosystem Management(9404600).	Mobrand Biometric, Inc	1994-1997	Implement an integrated watershed management framework built upon the complexity and connectivity of salmon life histories and their habitat across the time space grid that defines their range.	The ecosystem planning and implementation procedure developed under this project has been published under the name of Ecosystem Diagnosis and Treatment method. Initially intended to aid supplementation planning, its applicability has been broadened through use in watershed management in the Columbia and elsewhere. It is now recommended as both a management framework and a tested field procedure for integrated planning and implementation of the NPPC Fish and Wildlife Program.	X	X	X	X	X	X	X	X	X	X
Audit Columbia Basin Anadromous Hatcheries(9500200).	Montgomery Watson.	1995	Hatchery oversight and auditing of salmonid hatcheries in the Columbia River Basin		X	X						X		X
Augmented Fish Health Monitoring / Oregon(8711800).	Oregon Dept Fish & Wildlife	1987-1991	Augment the current agency fish health monitoring programs to a specified uniform level among all Columbia River anadromous hatcheries. OR and WA state hatcheries were involved. See also projects 8711700, 8711900.	This project standardized fish health monitoring for the Columbia River anadromous hatcheries. Frequency, methodology and effort was now comparable from agency to agency. This comparable effort was necessary to assess the Basin's artificial production currently and its potential. 1992 was the last of 5 years of monitoring for ODFW. State hatcheries of Oregon and Washington were involved.	X	X						X		X
Genetic Identification Study(7900100).	NMFS – Seattle Office	1980-1982	Focused on the use of genetic differences among contributing populations to identify compositions of stock mixtures. A large number of hatcheries and several dams in the Columbia River Basin contributed to the effort.	The first phase was to develop statistical and data processing methods to estimate individual stock contributions in mixed populations. The second phase was to evaluate the practical application of the methods developed in Phase I and previous research. The method developed here was based on detecting differences of genotypic frequencies between stocks by analyses of electrophoretic characteristics. Genotype frequency estimates were made: (1) for all major stocks expected to contribute to a fishery (referred to as baseline data); and (2) for samples taken from the fishery of interest. A large number of dams and hatcheries (ca. 40) were used in this study.	X	X	X	X	X	X	X	X	X	X
Lower Granite Pool Survival Study(8712900).	NMFS – Seattle Office	1987	Estimate the survival rate of juvenile yearling chinook passing Lower Granite Reservoir and determine feasibility of using PIT tags to conduct survival studies.	This project estimated the survival rate of juvenile yearling Chinook salmon passing Lower Granite Reservoir and determined the feasibility of using the PIT tag to conduct survival studies.	X	X	X	X	X	X	X	X	X	X
Genetic M&E Program for Salmon & Steelhead(8909600).	NMFS – Seattle Office	1989-1998	Evaluate the genetic consequences of using hatchery fish to supplement natural populations of chinook salmon and steelhead in the Snake River and its tributaries such as the Grande Ronde and Imnaha Rivers.	The study began in fall of 1989, and analysis through from the 6th year of field collections has been completed. The basic research plan involves eight different supplementation programs (four each for chinook salmon and steelhead). The experimental design calls for yearly samples from hatchery stocks used in outplanting, from a natural population affected by releases from that hatchery, and from a wild population in the same drainage not intended to be affected. Although the central focus of the research has remained unchanged, the sampling design has been somewhat flexible to respond to high priority issues associated with supplementation in the Snake River basin that have arisen since 1989. Genetic and meristic analyses were performed on many thousands of fish. In March 1993, in part using funds provided by BPA through this project, NMFS hosted an international DNA workshop in Seattle that addressed both technical and management issues. Proceedings of the workshop were published by NMFS in 1994. Genetic consequences of using captive broodstocks to supplement natural populations were computer modeled and published in CJFAS.	X	X	X	X	X	X	X	X	X	X

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Snake Juvenile Wild Spring Chinook Mortality Study(9101700).	NMFS – Seattle Office	1992-1996	Identify the major sources of natural and man caused mortality affecting migratory juvenile chinook salmon above Lower Granite Dam.	Objectives: The focus was on identifying and quantifying the major sources of natural and man-caused mortality affecting migratory juvenile Chinook salmon above Lower Granite Dam. Project was implemented in two phases. Phase I was a literature review, identify data needs, and assemble a technical steering committee to define project scope and develop a long-term study plan. Phase II implemented specific studies that address objectives of the long-term study plan 1992--Contracted a Research Planner to work with technical steering committee and fully coordinate with other regional activities to develop a long-term study plan.	X	X	X	X	X	X	X	X	X	X
Pit Tagging Wild Chinook(9102800).	NMFS – Seattle Office	1991-1997	Collect time series information to examine migrational characteristics of wild ESA-listed Snake River chinook salmon stocks. Mark wild spring/summer chinook parr with PIT tags; intercept and decode tagged smolts as they pass Snake & Columbia River dams.	During the first 3 years, we have gathered valuable and unique data related to the smolt migrational timings of individual and combined populations of wild fish. We determined that timings of wild fish differ markedly from those of hatchery fish. Wild migrations tend to vary considerably between years and streams and are protracted, whereas those of hatchery fish are consistent within groups and between years and tend to be constricted. The overall timings of wild fish migrations also appear to be heavily influenced by seasonal water temperatures, particularly during the early portions of the outmigrations, whereas those of hatchery fish are not. In addition, the data proved invaluable to NMFS and the Fish Passage Center from 1992-1994 for managing these ESA-listed stocks, particularly during drought conditions. This need will continue into the foreseeable future.In 1994, environmental monitoring systems were installed in several selected streams to provide data which will be used to determine what environmental factors influence the migrational timings of wild chinook smolts.	X	X	X	X	X	X	X	X	X	X
Electerophoretic Analysis Of Snake River Sockeye(9306800).	NMFS – Seattle Office	1993	Increase production levels of the Genetics Project so that approximately 1,000 fish from various collections of O. nerka can be analyzed.	This project performed electrophoretic analysis of up to 1,000 fish from various collections of O. nerka. Samples that were to be analyzed include the following: 1992 Kokanee from Alturas, Redfish, Stanley, and Pettit Lakes; 1992 trawl samples of O. nerka from Redfish Lake; new samples of O. nerka from Warm Lake and Wallowa Lake; four new samples of O. nerka from Oregon, which include some populations believed to have contained indigenous sockeye runs; additional 1991 and 1992 Redfish Lake and Alturas Lake outmigrant mortalities; adult sockeye salmon that returns in 1993; and presumed sockeye salmon that have been found at the traditional Redfish Lake sockeye spawning area.	X							X		
Imprinting of Salmon and Steelhead for Homing(7800100).	NMFS – Seattle Office	1980-1984	Developing methods to imprint salmon so they would return to a desired homing location. This effort was concentrated at 7 hatcheries and one dam (McNary) in the Columbia River Basin.	Beginning in 1978 BPA provided funds to the National Marine Fisheries Service for this study. From 1978 through 1980, juvenile salmon and steelhead were transported by barge and trucks around dams in 26 different experiments using different imprinting methods, that is, different methods of providing biological clues to assist the fish in returning to desired locations. Fish returning as adults from these experiments were monitored from 1980 through 1983 at hatcheries and on natural spawning grounds to determine the success (or failure) of the homing mechanisms tested.	X	X						X		X
Smolt Monitoring Program(8000100)	Pacific States Marine Fish Com	1983-1986	Flow enhancement [Water Budget] studies at Columbia River and Lower Snake River dams relating to impacts on smolt migration. A large number of hatcheries in the basin contributed to the effort.	Data from fish tagging was collected at approximately 30 dams and hatcheries to determine timing and rate of migration. Under this approach the fish and wildlife agencies and the tribes were better able to ""shape"" flows during the critical migration period, April 15 to June 15, using a block of water especially reserved for this purpose.	X	X						X		X
Columbia Basin Pit-Tag Information System (PTAGIS)(9008000).	Pacific States Marine Fish Com	1990-1997	Develop, operate, maintain, and enhance a long-term Columbia River Basin Passive Integrated Transponder (PIT) Information System (PTAGIS) database utilizing PIT Tag information.	This project is an information/data management and equipment installation, maintenance and operations project. Annual products include: 1. Maintained detection facilities at dams. 2. Collection and validation of PIT Tag data (from Lower Granite, Little Goose , Lower Monumental, McNary, Chandler Canal, John Day and Bonneville Dams on a daily basis throughout the out-migration season. 3. Collection and validation of PIT Tag tagging data, recapture data, volitional release data, mortality data and remote site observation data on a daily basis throughout the out-migration season. 4. Effecting the necessary technology transfers developed under research contracts (New Fish Tag) to an operational action. 5. Affecting the necessary coordination actions among users to ensure effective administration of contract objectives. 6. Assisting in the development and updating of a long term project management plan for the PTAGIS program.	X	X	X	X	X	X	X	X	X	X
Coded-Wire Tag Recovery(8201300).	Pacific States Marine Fish Com	1982-1997	Support for the coded wire tag recovery program used to track progress in increasing run sizes for anadromous Columbia River salmonid populations, including stocks listed under the Endangered Species Act and Pacific Salmon Treaty indicator stocks.	The Regional Mark Information System (RMIS) provides fish managers with a) Ability to automatically build lists of tag codes from the release data, edit the lists, and then use them to retrieve coastwide tag recoveries. b) Ability to select hatcheries and recovery sites by simply entering the geographic location name rather than the code. c) Much faster file downloading speeds. d) User generated report formats. e) Access to catch/sample data, and some non-CWT release data.	X	X	X	X				X		X

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Erythomycin Registation(8903200).	University of Idaho	1989-1997	Assemble the data necessary to register erythromycin for use in salmon culture against R. salmoninarum.	This project assembled data necessary to register erythromycin for use in salmon culture against R. salmoninarum. The final product was a drug registration package. 1. Protocols for field trials of injectable and oral application of erythromycin were conducted at more than 60 hatcheries under the expanded INAP. Protocols addressed dosages, intervals, eye stage, number of animals treated, human and animal safety, and disposal. 2. Oregon Department of Agriculture transferred reporting of INAD 4333 used for erythromycin feed additive by hatcheries in the Pacific Northwest to the University of Idaho. Researchers worked on the analysis of the pharmacokinetics of erythromycin within the body of juvenile and adult salmon. They also conducted dose titration experiments using both adult chinook salmon. MIC assays for different forms of erythromycin were also performed. The fate of erythromycin in the tissues of adult and juvenile salmon was described during 1993. An approach for determining the optimal dosage regime for adult and juvenile salmon to be effective against bacterial kidney disease was established.	X	X						X		X
Genetic Analyses of Columbia & Snake Sockeye(9009300).	University of Idaho	1990-1997	Provide biological and genetic information on sockeye samples collected throughout the Snake and Columbia River Basins to be used in the overall recovery effort of the Snake River Sockeye Salmon.	All specimens have been collected, revealing that kokanee in Redfish Lake and Alturas Lake are similar to each other, but unique when compared to other stocks. Alloyzyme analyses are complete. DNA analyses to date do not appear promising for discriminating between kokanee and sockeye.	X									
Develop Life Cycle Model & Apply to Idaho Salmon(9203200)	USFS - Region 4	1996	Improve decision-support tools for assessing overall program effectiveness, & more specifically assessing the impacts of land-use activities on resident and anadromous salmonids in the Salmon River system. Improve the Stochastic Life-Cycle Model (SLCM).	Decision-support tools developed under this project continue to play an important role in ongoing assessment and planning activities. The improved SLCM model is one of the principal models used by Bonneville and NMFS in assessing the possible impacts of proposed activities on threatened and endangered chinook stocks. GIS techniques pioneered by FS researchers are being used by National Forests throughout the Northwest, the Interior Columbia River Basin Ecosystem Management Project (ICRBP), and the Model Watershed process. Recent work has focused on development of a set of models, called the Bayesian Viability Assessment Modules (BayVAM) that can be used to assess habitat condition in terms of suitability for both resident and anadromous salmonids. These models are unique in that they allow expert knowledge to be combined with quantitative and qualitative information in a rigorous, repeatable, and defensible manner.	X	X	X	X	X	X	X	X	X	X
Travel Time and Survival Smolt Physiology(8740100	NBS / USFWS - Nat Fish Res Ctr – Seattle	1987-1997	Provide annual information on smoltification and prevalence of disease in groups of juvenile salmon and steelhead used in integrated Smolt Monitoring Program and other mainstem passage monitoring and research projects.	This project collected data on smoltification levels of fish from marked hatchery releases and of fish from the run at-large at key monitoring sites as part of the Smolt Monitoring Program. Information collected by this component of the Columbia River Smolt Monitoring Program (SMP) is directed toward: 1.Monitoring fish health and smoltification parameters of fish used by the Fish Passage Center to estimate smolt travel times (migration rates). 2. Developing a real time smolt condition index to monitor fish quality during outmigration. This project provided a time series of smolt condition information that increased understanding of the relationship between environmental conditions, smolt condition, smolt passage survival and adult production. In fall 1994, tasks were added to develop a monitoring and research program on the effects of gas bubble trauma (GBT) on migrating juvenile salmonids. Non-lethal ways for assessing GBT were developed.										
ELISA-Based Segregation of Adult Chinook for BKD(9102200).	NBS / USFWS - Nat Fish Res Ctr – Seattle	1991-1995	Transfer the BKD-ELISA technology to practical hatchery operations. Implement hatchery sorting for bacterial kidney disease (BKD). Abt 20 hatcheries were selected for this project.	Implemented ELISA technology at approximately 20 selected hatcheries rearing or releasing Chinook salmon above Bonneville Dam in the Columbia River Basin. Tasks completed during the initial year of the project were designed to acquire the needed supplies, equipment, and training to begin to implement BKD-ELISA segregation. Additional years of the project assessed the effectiveness of segregation by monitoring the prevalence of BKD among groups of fish during rearing. This will be the last year of this study. Fish were segregated by ELISA Optical Densities into high, medium, and low groups. Fish were segregated monthly from each group until release to monitor BKD	X	X						X		X
Smolt Marking – USFWS(8300600).	USFWS - Portland Region	1983-1995	Marking of smolts in a variety of Columbia River Basin hatcheries. Over a million fish were marked and nearly 30 hatcheries participated. The marked fish provided data facilitating hatchery operations.	Approximately 1.1 million fish were marked. Such operations have the following results: 1. Provides consolidated fish marking capability for BPA projects. 2. Marked fish provide information on hatchery operations and for use in water budget management. 3. Incidental information derived from these marked fish is valuable for harvest management.	X	X						X		X
Augmented Fish Health Monitoring / USFWS(8711900)	USFWS - Portland Region	1987-1991	Augment the current agency fish health monitoring programs to a specified uniform level among all Columbia River anadromous hatcheries. National Fish Hatcheries of OR, WA, ID were involved. See also projects 8711800, 8711700	This project allowed Basin managers to assess the impact, and prioritize the various diseases that affect artificially produced fish. Data was also collected and recorded with similar software for rapid retrieval project standardized fish health monitoring for the Columbia River anadromous hatcheries. Frequency, methodology, and effort was now comparable from agency to agency. This comparable effort was necessary to assess the Basin's artificial production currently and its potential. This data was to be incorporated in the CIS for future work. National Fish Hatcheries of OR, WA, ID were involved.										
Annual Coded Wire Tag Program - USFWS Hatcheries (8906500).	USFWS: Fisheries Prg Office	1990-1997	Mark various groups of fish for BPA funded projects using mobile fish marking trailers at federal and state hatcheries in the Columbia River basin. Provide base data from hatchery releases used to evaluate survival, contribution and hatchery goals.	Data provided from this project will allow managers to adjust their programs. Stocks success or failure will more readily determined..	X	X						X		X

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Passage, Spawning & Identity- Snake River Chinook(9204600).	Washington Dept of Wildlife	1992-1996	Determine the genetic structure and population status of naturally spawning Snake River fall Chinook; Determine inter-dam losses.	Evaluated the extent and identification of the causes of inter-dam adult losses. Attempted to determine the disposition of 50 percent of fall Chinook adults that cannot be accounted for between Ice Harbor and Lower Granite Dams. Determined the causes and the amount of hatchery straying. Evaluated the genetic profile of the returning adults and their offspring. Evaluated of the extent and identification of the causes of inter-dam adult losses. Determined genetic structure and population status of naturally spawning Snake River fall chinook. Identified spawning ground distribution of adult fall chinook on the Snake River.									X	
BPA-sponsored sockeye research	IDFG - Sockeye	1996- present	Monitor predator populations (bull trout) in response to sockeye recovery using redd counts in Alpine and Fishhook creeks in the Stanley basin.	Monitoring baseline established for future evaluation.	X									
BPA-sponsored habitat monitoring and evaluation	USBWP	1995-present	Consolidation of information from existing projects with regards to temperature, stream flows, stream bank stability, substrate composition, and pertinent fish information to evaluate the effectiveness of ongoing and past projects.	Monitoring baseline established for future evaluation.	X	X	X	X						
BPA's Dworshak Wildlife Mitigation Trust (9205700)	IDFG Lewiston	1994-present	deer and elk sightability surveys on Craig Mountain WMA	Monitoring baseline established for future evaluation.									X	
BPA's Dworshak Wildlife Mitigation Trust (9205700)	IDFG Lewiston	1994-present	bear bait surveys	Monitoring baseline established for future evaluation.									X	
BPA's Dworshak Wildlife Mitigation Trust (9205700)	IDFG Lewiston	1994-present	small mammal surveys	Monitoring baseline established for future evaluation.									X	
BPA's Dworshak Wildlife Mitigation Trust (9205700)	IDFG Lewiston	1994-present	bird surveys	Monitoring baseline established for future evaluation.									X	
BPA's Dworshak Wildlife Mitigation Trust (9205700)	IDFG Lewiston	1993-present	bird surveys	Monitoring baseline established for future evaluation.									X	
BPA's Dworshak Wildlife Mitigation Trust (9205700)	IDFG Lewiston	1994-present	bat surveys	Monitoring baseline established for future evaluation.									X	
BPA's Dworshak Wildlife Mitigation Trust (9205700)	IDFG Lewiston	1994-present	amphibian surveys	Monitoring baseline established for future evaluation.									X	