FY2010 – 2018
Fish and Wildlife Program Project Solicitation
Project ID: 199505700

Title: Southern Idaho Wildlife Mitigation-Upper Snake

A. Abstract

The Southern Idaho Wildlife Mitigation project (SIWM) of the Idaho Department of Fish and Game (IDFG) proposes implementation of wildlife mitigation in the Mid and Upper Snake River Provinces as part of the Northwest Power and Conservation Council's (NPCC) 2010 Fish and Wildlife Program in coordination with the Shoshone Bannock Tribes and the Shoshone Paiute Tribes. The SIWM project is divided between the Mid and Upper Snake Provinces and proposes a two-pronged approach to implementing wildlife mitigation and reducing the wildlife mitigation debt resulting from the development of the Federal Columbia River Power System (FCRPS) and its Black Canyon, Deadwood, Anderson Ranch, Minidoka, and Palisades hydro projects in the Mid and Upper Snake Provinces. The first is perpetual habitat protection through purchase of fee title and conservation easements on lands providing habitats appropriate to replace those identified as lost in the above project loss assessments and the NPCC fish and wildlife program. The second is habitat management of lands protected through acquisition of fee title and conservation easement through activities that protect and enhance those habitat values in perpetuity. Both the protection and habitat management activities are monitored and measured in relation to: 1) habitat units contributed towards deduction of the mitigation debt, 2) habitat responses to management and protection, and 3) wildlife population response related to habitat management and protection.

SIWM – Upper Snake implements mitigation for wildlife habitat impacts attributed to the Palisades and Minidoka projects and is managed and implemented as a single project in conjunction with IDFG's SIWM – Mid Snake. The SIWM – Upper Snake FCRPS incurred a wildlife mitigation debt of 50,432 habitat units for their construction and inundation. Two mitigation projects have been implemented by IDFG in the Mid Snake and 82% of the total mitigation debt is still outstanding in the Mid Snake. The IDFG's SIWM Upper Snake project has completed 5 acquisitions, 2 easements (Winterfeld and Kruse) and 2 weed projects (Big Cottonwood and Palisades) totaling 7,751 acres and 17,256 HU from 1997 to 2009. The majority of the acquisitions formed the Deer Parks Complex Wildlife Mitigation Unit (DPCWMU), and are managed as a cooperative effort of the Idaho Department of Fish and Game (Department), Shoshone-Bannock Tribes (SBT), and U.S. Bureau of Land Management (BLM). The most recent habitat evaluation procedure, preformed 10 years subsequent to protection, showed a gain of 9.9% in habitat quality or 881 HUs.

Priority habitat protection actions focus on enhancing existing IDFG habitat management areas through protection of lands adjacent to these areas and protection of habitats adjacent to public lands or of parcels large enough to provide cost effective mitigation and management of wildlife habitats in perpetuity. The SIWM partners have rectified the HU ledgers, agreed upon an allocation of HUs among themselves, and evaluated the cost of future mitigation. The SIWM partners are using these outcomes to negotiate a settlement resolution with BPA for the outstanding mitigation debt in parallel with mitigation implementation.

B. Problem Statement: technical and/or scientific background

In both the Mid and Upper Snake Provinces, human development is increasingly jeopardizing existing wildlife habitat, fragmenting habitats and populations into smaller and smaller islands, and isolating habitat and population connectivity, migration, and seasonal habitat use, and genetic exchange among wildlife populations.

Idaho's reputation is rapidly changing from a "wilderness" state to that of a premier place to live, play, and do business. Idaho currently ranks second nationally behind Oregon as a relocation destination (Idaho Statesman Jan 12, 2006). Between 1982 and 1997 there was a 37% increase in urban areas (http://www.nrcs.usda.gov/technical/NRI/), affecting a total of 254,400 acres. In a December 22, 2004 news release, the United States Census Bureau reported Idaho as the third fastest growing state in the Union. Based on United States Census Bureau data, the total population of Idaho increased 2.4 percent between 2004 and 2005. Idaho's rapidly expanding human population and the land base necessary to support this growth is a concern for wildlife conservation, especially along the Snake River of South Idaho, the focus area for Southern Idaho wildlife mitigation.

Although private lands occupy only 36% (16,158,363 acres) of Idaho's 53,467,836 acres, private lands are typically clustered at lower elevations and along river valleys, including the Snake River Plain in southern Idaho and mountain valleys in central and northern Idaho. These private lands are among the most productive and biologically diverse lands in the state and at-risk habitats include wetlands, riparian corridors, and native grasslands and sagebrush steppe; the same habitats as those impacted by the FCRPS and that are a priority for habitat mitigation under the SIWM project.

With the high rate of habitat conversion, loss, and degradation on private lands, the wildlife diversity and urgency for its protection is clear. Because of the configuration and location of Southern Idaho's private lands (mainly clustered around rivers, river canyons and bottomland), the SIWM project in the Mid and Upper Snake Provinces presents a unique opportunity for conservation coincident and in competition with human development.

The SIWM wildlife habitat losses from construction and inundation associated with the Palisades and Mindoka projects were quantified (Sather-Blair and Preston 1985, Martin and Meulman 1989). and are listed in Appendix C, Tables 11-1, 11-2 and 11-3 of the Northwest Power and Conservation Councils' fish and wildlife program (http://www.nwcouncil.org/library/2009/2009-09/Default.asp). IDFG SIWM has implememted or cooperated in the implmentation of more than 15 wildlife habitat mitigation projects across southern Idaho since IDFG-SIWM was initiated in 1997 with 12 of those mitigation projects occurring in the Upper Snake Province, Upper Snake and Headwaters subbasins (Figure 1). IDFG SIWM in the Upper Snake proposes continuing implementation of mitigation to reduce the more than 41% of the outstanding wildlife habitat mitigation debt that remains (Table 1) and to help address the continuing loss and threat of wildlife habitat occurring in Southern Idaho.

Mitigation implementation began when a process for prioiritzing potential protection and enhancement actions at mitigation sites in southern Idaho was established by interagency teams of biologists (Meuleman et al. 1987). In addition to these plans, GAP (Scott et al. 1993; Caicco et al. 1995) cover types are used in a coarse-filter/fine-filter approach to identify areas with potential for mitigation projects. The rationale behind this approach being that conservation of biological diversity can be achieved by protecting areas that contain representative examples of all ecosystems (the coarse filter), thereby protecting viable populations of most species, most biotic interactions, and most ecological processes. Species or communities not protected using the coarse filter are addressed using the fine filter (Huston 1994; Hunter 1991 In: Rust 2000). Current interagency work groups also use ecoregional plans which consider key ecological factors such as size, condition, and landscape context (http://www.nature.org/aboutus/howwework/cbd/). However, because SIWM project managers concentrate their efforts in the province on habitats and species specifically identified in the hydropower facility loss assessments, i.e., shrub-steppe, riparian, and wetland habitat types, they are limited in how these prioritization efforts do or don't coincide with mitigation needs. Similarly, the availabilityof properties for purchase of fee title or easement that have appropriate habitats limits mitigation opportunities. Prioritization of SIWM mitigation gives consideration to coarse and fine filters and existing prioritization plans such as employed by The Nature Conservency and most recently the focal areas defined by the Idaho Wildlife Conservation Strategy (ICWCS 2006), but mitigation is often more limited by lands/habitat offered for sale, funding and process limits, and a focus on efforts to increase the effectiveness of existing conservation provided by the Department's wildlife management areas.

In addition to mitigation implementation, the Southern Idaho Wildlife Mitigation partners of the Idaho Department of Fish and Game, Shoshone Paiute and Shoshone Bannock tribes commissioned an independent study to review HU's in the Mid and Upper Snake and historic sales of agricultural lands. The report documented land and habitat prices in relation to on-site and in-kind mitigation and off-site out-of-kind mitigation of the SIWM FCRPS projects. The report identifies how increasing land prices are hindering the ability of the SIWM partners to achieve the goal of replacement of unmitigated HU's with the limited amount of acquisition funds available from BPA and as limited by process and contract limitations. The SIWM partners, in an effort to increase the efficacy of their habitat conservation efforts, have proposed a settlement of SIWM FCRPS wildlife habitat debt to BPA. Negotiations by the partners and BPA are continuing as an alternative to implementing mitigation on a project by project basis as increasing land prices, limited acquisitions funds, and bureaucratic processes continue to limit the replacement of critical and sensitive habitat types identified in the FCRPS loss assessments for the Mid and Upper Snake Provinces.

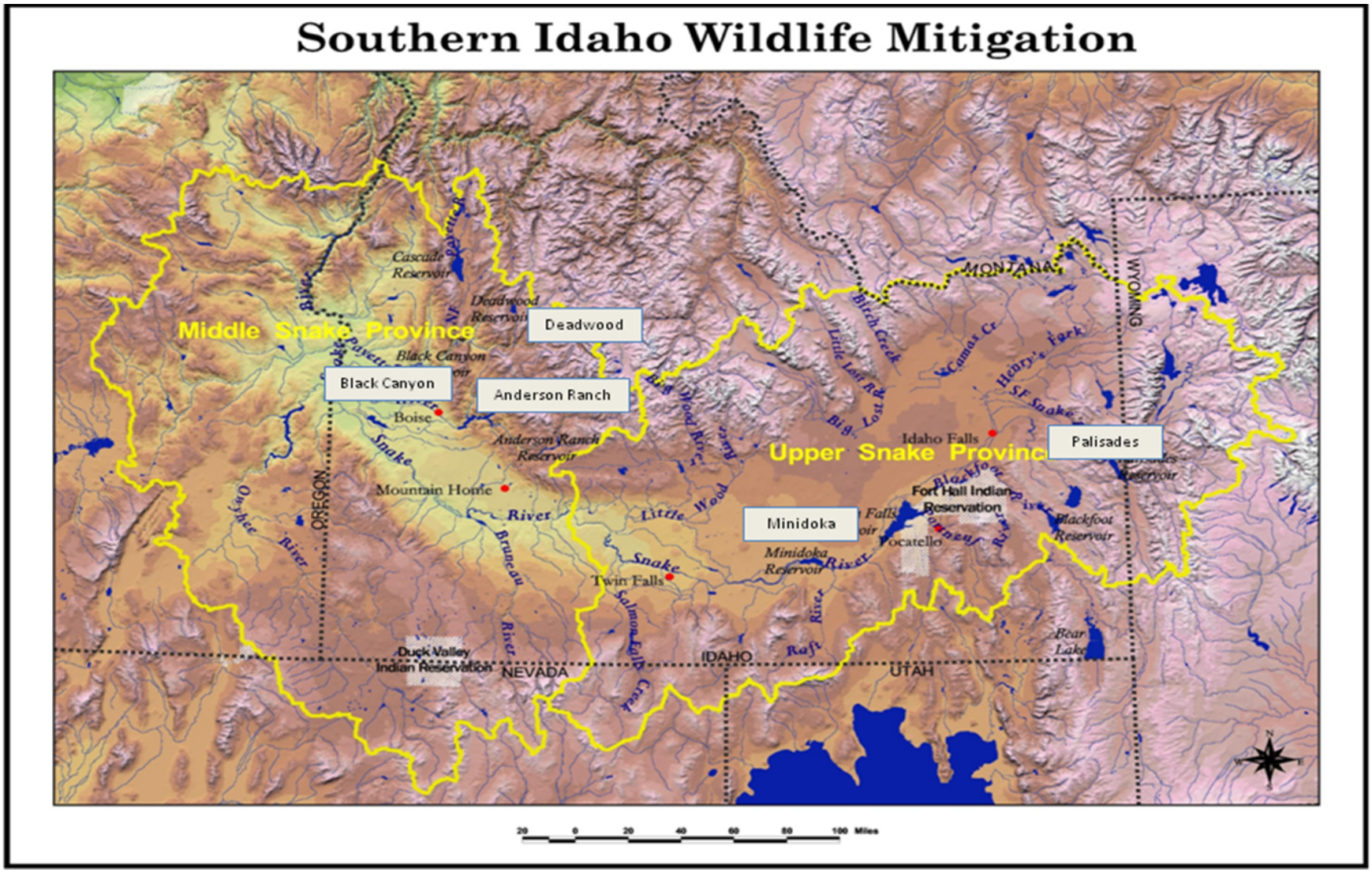

Figure 1. Middle and Upper Snake Provinces of the Columbia River Basin and their associated Federal Columbia River Hydropower projects

Table 1. Upper Snake province hydropower projects, their focal species, and current mitigation status by habitat units.

Palisades, Minidoka, Acres and HEP Species	Palisades			Minidoka		
	Palisades Losses	Mitigated Acres/HUs	Remaining HUs	Minidoka Losses	Mitigated Acres/HUs	Remaining HUs
Acres	16,757	7,635	-	12,414	2,677	-
Mule deer	2,454	2,448	6	3,659	1,968	1,691
Mink	2,276	691	1,585	-	-	-
Mallard [1]	2,622	899	1,723	732	88	644
Canada goose [2]	805	554	251	-	-	-
Ruffed grouse	2,331	341	1,990	-	459	-459
Bald eagle (breeding)	5,941	3,458	2,483	-	-	-
Bald eagle (wintering)	18,565	7,274	11,291	-	-	-
Black-capped chickadee	1,358	1,167	191	-	-	-
Yellow warbler	2,074	311	1,763	377	0	377
Pheasant	-	-	-	-	-	-
Redhead	-	-	-	239	0	239
Marsh wren	-	-	-	56	95	-39
River otter	-	-	-	3,188	0	3,188
Sage grouse	-	-	-	3,755	56	3,699
Sharp-tailed grouse[3]	-	-	-	0	888	-888
Western grebe	-	-	-	0	0	0
Blue grouse	-	-	-	-	-	-
Snipe[4]	-	-	-	-	-	-
Western meadowlark[4]	-	-	-	-	-	-
Spruce grouse	-	-	-	-	-	-
Yellow rumped warbler	-	-	-	-	-	-
Total[5]	**38,426**	**17,144**	**21,282**	**12,006**	**3,554**	**8,452**

C. Rationale and significance to regional programs

Summary

The IDFG SIWM project encompasses 2 provinces, the Upper and Middle Snake, and their corresponding 11 subbasins; which together total more than 26.7 million acres or approximately 16.2% of the Columbia River basin (Figure 1). The SIWM project objective is to mitigate for a total of 68,515 wildlife habitat units lost as a result of the construction and inundation of Deadwood, Black Canyon, Minidoka, Anderson Ranch, and Palisades FCRPS projects. These habitats include those of 20 identified HEP species used to credit mitigation projects (Table 1). After more than 12 years of implementation, sixty eight percent of the SIWM mitigation debt is outstanding as of early 2009. SIWM is being implemented on contract with BPA by three partners, the Idaho Department of Fish and Game (IDFG), the Shoshone Bannock Tribe (SBT), and the Shoshone Paiute Tribe (SPT). IDFG SIWM has implemented mitigation projects in the Upper and Middle Snake Provinces, crediting Palisades, Minidoka, Black Canyon, and Anderson

Ranch for a total of 9480 HUs since 1997. IDFG has credited 1737 HUs in the Mid Snake and 9368 HUs in the Upper Snake. IDG SIWM is searching for properties to replace lost habitat types of Wetland Aquatic, Upland Priority, Forested Wetlands, Shrub-Scrub, Uplands, Forested Riparian, Coniferous Forest habitats.

Goals for IDFG SIWM Project

Evaluate and prioritize habitat mitigation projects within the parameters set by the NWPCC Fish and Wildlife Program, limits and stipulations set by BPA contract and administration, IDFG land acquisition policy, SIWM partnership agreements and coordination, conservation partnerships, and land and real estate sales, prices, and opportunities.

Implement habitat conservation and protection projects through acquisition of fee title or conservation easement on lands providing habitats appropriate for replacement of those identified in the FCRPS projects Black Canyon, Deadwood, Anderson Ranch, Minidoka, and Palisades.

Maintain and enhance habitats protected through fee title and conservation easement to protect existing habitat qualities and restore and improve those habitats for benefit of wildlife species used in HEP assessments.

Administer IDFG SIWM contracts with BPA and quantify and assess habitat unit crediting for all mitigation protection and enhancement projects.

Work in partnership with landowners, conservation partners, agencies, and land development and sales organizations including: realtors, the U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, The Nature Conservancy, Idaho counties, SIWM Tribal partners, and conservation and education groups to increase the efficacy and rate of implementation of the IDFG SIWM project.

NWPCC Fish and Wildlife Program

Wildlife Objectives

Ensure that wildlife mitigation projects implemented in fulfillment of this program are consistent with the basinwide implementation priorities described in Appendix C of the Northwest Power and Conservation Council's Fish and Wildlife Program (http://www.nwcouncil.org/library/2009/2009-02.pdf)..

> *SIWM mitigation is being implemented for the projects, species and habitats identified in the program. Mitigation is 32% completed. The SIWM project is one of only three wildlife mitigation projects in the Columbia River basin that has not been completely mitigated for.*

Complete mitigation to address the assessed losses caused by construction of the hydro system facilities and the resulting inundation of land.

> *Sixty eight percent of the identified SIWM HUs remain to be mitigated in the Mid and Upper Snake provinces. Forty two percent of the identified wildlife habitat losses have been mitigated for in the Upper Snake Province by IDFG. Priority is on riparian, wetland, and upland shrub steppe habitats on-site and in-kind..*

Develop and implement habitat acquisition and enhancement projects to fully mitigate for identified losses.

> *Projects are implemented based on availability of parcels for sale or purchase of conservation easement that can meet the habitat and species needs identified in the FCRPS loss assessments Priority is for protection of habitat adjacent to existing IDFG WMAs to increase their protection efficacy or for cooperative habitat protection projects that increase project economy, program effectiveness, and that leverage the efforts of conservation partners.*

Coordinate habitat restoration and acquisition activities throughout the basin with fish mitigation and restoration efforts to promote terrestrial and aquatic area connectivity.

> *No resident fish loss assessments have been completed or finalized in either the Mid or Upper Snake Provinces and no resident fish habitat protection projects have been undertaken in the Mid or Upper Snake Provinces. Anadromous fish were extirpated in the mainstem Snake River and its tributaries downstream of Shoshone Falls and upstream of Hells Canyon dam by FCRPS and FERC projects.*

Maintain the values and characteristics of existing, restored and created habitat.

> *IDFG has implemented 13 SIWM wildlife mitigation projects for a total of 9480 HUs since 1997. Two weed control project was credited for 499 and 112 HUs. Two conservation easements totaling 1222 acres were credited for 1196 HUs of protection of existing HUs but no HU enhancement. Ten fee title acquisition projects totaling 7340*

acres have been credited for 7785 HUs of protection. Enhancement HUs resulting from habitat improvement subsequent to protection have totaled an estimated 1507 HU credits since protection. Mid Snake wildlife mitigation projects have been credited for 106 HU credits while Mid Snake FCRPS projects have been credited for 2520 HU credits for 2 projects in the Mid Snake and 2 in the Upper Snake.

Monitor and evaluate habitat and species responses to mitigation actions.

SIWM monitoring has focused on Tier 1 HEP monitoring to quantify HU crediting and accounting. A Tier 2 monitoring plan has been designed for the Idaho Wildlife mitigation program but it has not been implemented due to BPA contract limits, organizational and logistical limitations, and funding. Efforts during the next cycle will increase habitat and vegetation monitoring on mitigation properties as outlined in Unnasch et al (2003).

Table 2. Total, mitigated, and remaining acres and habitat units by HEP species identified in the loss assessments of FCRPS projects in the Mid and Upper Snake provinces.

Palisades, Black Canyon, Minidoka, Anderson Ranch, and Deadwood Acres and HEP Species	Combined South Idaho Acres/HUs		
	All Losses	Mitigated Acres/HUs	Remaining HUs
Acres	38,409	13,742	-
Mule deer	11,124	4,899	6,225
Mink	4,792	1,089	3,703
Mallard [1]	4,672	1,915	2,757
Canada goose [2]	1,019	554	465
Ruffed grouse	3,250	800	2,450
Bald eagle (breeding)	5,941	3,458	2,483
Bald eagle (wintering)	18,565	7,274	11,291
Black-capped chickadee	2,316	1,167	1,149
Yellow warbler	3,121	325	2,796
Pheasant	260	17	243
Redhead	239	0	239
Marsh wren	56	95	-39
River otter	3,188	0	3,188
Sage grouse	3,755	56	3,699
Sharp-tailed grouse[3]	0	888	-888
Western grebe	0	0	0
Blue grouse	1,980	330	1,650
Snipe[4]	0	781	-781
Western meadowlark[4]	0	137	-137
Spruce grouse	1,411	0	1,411
Yellow rumped warbler	2,826	0	2,826

Total[5]	**68,515**	**23,785**	**44,729**

D. Relationships to other projects

Implementation of the IDFG Southern Idaho Wildlife Mitigation Program (SIWM) is a shared and collaborative effort between the IDFG and the SPT and SBT. Since 1996 IDFG and the SBT have had an agreement for purposes of delineating the areas of responsibility for implementation of the SIWM program. This agreement addresses the southern Idaho FCRPS projects of American Falls, Anderson Ranch, Black Canyon, Boise, Diversion, Cascade, Deadwood, Minidoka, and Palisades. IDFG and SBT agreed to split southern Idaho mitigation as follows: 40% common share, 30% for the state, and 30% for the Tribes. IDFG and SBT will cooperate to manage the common share of wildlife mitigation and interagency work groups will provide management recommendations for common share mitigation lands and the parties shall not oppose the acquisition of land by another party purchased pursuant to the intent of this agreement.

Since the IDFG-SBT agreement, the SPT have requested to participate in the SIWM program. Although they do not yet have a signed agreement with IDFG, SBT, or BPA; they have received funding for administration and implementation and have cooperated on project selection and prioritization with IDFG and SBT.

Given the lack of implementation, increasing complexity of the process, and low priority of the wildlife program to the NWPCC and BPA ; the SIWM partners are working towards a settlement agreement with BPA in parallel with project implementation. This effort has produced cooperative meetings between SIWM partners and BPA and NWPCC staff, an independent report on estimated cost to mitigation for the remaining wildlife habitat to be mitigated (Chinook Northwest, Inc. 2008), agreement between BPA and the SIWM partners on the outstanding mitigation debt remaining, and agreement among the partners as to the HU allocation for SIWM among themselves. Ongoing negotiations with BPA are expected through the coming year with a request by the partners that they have a settlement agreement with BPA by September 30, 2009.

199505700 – Southern Idaho Wildlife Mitigation, Idaho Dept. of Fish and Game, Upper Snake Province.

Administered and implemented as single SIWM project in both the Upper and Middle Snake provinces since 1997.

199505703 – Southern Idaho Wildlife Mitigation, Shoshone Paiute Tribes, Mid Snake Province.

No formal agreement yet exists between SPT and BPA but SPT contract provides for mitigation and coordination of wildlife mitigation in the Mid Snake.

199505702 – Southern Idaho Wildlife Mitigation, Shoshone-Bannock Tribes, Upper Snake Province.

Under 1997 agreement between BPA and IDFG and 1996 agreement between IDFG and SBT. IDFG and IDFG have implemented 6 common share projects since 1997 for a total of 15,552 HUs or 7776 HU/entity. For most common share projects, fee title is held by the Bureau of Land Management to provide for SBT Treaty Rights exercised on those properties as under open and unclaimed lands.

199206100 and 03 – Albeni Falls Wildlife Mitigation, Idaho Department of Fish and Game, Intermountain Province, Kootenai, Pend Oreille, and Coeur D'Alene subbasins.

Albeni and SIWM are administered under the same program by IDFG. There is a Tier 2 monitoring plan designed for both the IDFG mitigation program that has not yet been implemented. The IDFG Albeni program has pooled its capital funds via an Albeni Falls Interagency Work Group proposal in the past but this year, has requested separate capital funds, mimicking how SIWM is implemented.

Local Partnerships

IDFG SWIM implements each acquisition according to IDFG policy. This includes prioritization by the IDFG Lands Committee and approval by the Department's Commission. The process also requires local acceptance and support for the project and approval of the project by the local county commissioners. Habitat improvement and maintenance on mitigation projects has been implemented through share cropping with local farmers and cooperative grazing management of neighboring landowners or contractors. Two easement mitigation projects were done in cooperation with the Teton Regional Land Trust and they hold and enforce the terms of those mitigation easements. Their efforts along with those of the Nature Conservancy and the City of Boise, Foothills Conservation Committee coincide with and increase the effectiveness of IDFG SIWM mitigation actions in both the Mid and Upper Snake Provinces.

Agency Partners

The Bureau of Land Management is the primary federal partner to IDFG SIWM. They hold fee title to common share projects done in cooperation with SBT SIWM, providing SBT members the ability to exercise their treaty rights on mitigation properties.

The Idaho Department of Lands is a cooperator with IDFG on land leases that coincide with management of its WMA and mitigation parcels. Cooperative grazing leases and miscellaneous leases of IDL lands increase the amount of lands managed for habitat and wildlife and increase the effectiveness that mitigation implementation brings to existing IDFG WMAs.

E. Project history (for on-going projects)

What is commonly known as the Northwest Power Act was signed into law in December 1980. It provided for establishing a regional council with representation from Oregon, Washington, Montana and Idaho. What is now the Northwest Power and Conservation Council was charged with developing a regional energy plan and a compatible regional program to mitigate the loss of fish and wildlife resulting

from construction and operation of the FCRPS. Bonneville Power Administration (BPA), which markets the electricity produced by the federal dams, was charged with paying the cost.

The Columbia River Basin Fish and Wildlife Program adopted by the Council established the goal to "Fully mitigate for the wildlife losses from hydropower in the Columbia River Basin." As a basis for the amount and type of wildlife losses that occurred from FCRPS development, the wildlife loss assessments (Sather-Blair and Preston 1985, Martin et al. 1987, Meulman et al. 1987, Martin and Meulman 1989) quantified the losses of FCRPS in Southern Idaho in the Mid and Upper Snake Provinces and this "habitat units" ledger was adopted into the Council's Fish and Wildlife program to represent the outstanding wildlife mitigation debt owed by BPA.

To reduce the mitigation debt and achieve the mitigation goal of the Council's program, the SIWM project was initiated as the result of IDFG and the Palisades Interagency Work Group developing the South Fork Snake/Palisades Wildlife Mitigation project in 1997. This project was originally approved by the Council and BPA in 1995 subsequent to an environmental assessment and finding of no significant impact under the National Environmental Policy Act (NEPA) in 1995. A signed agreement between BPA and the IDFG Commission formalized the project and began implementation of mitigation for the construction and inundation impacts of Palisades dam and reservoir. Later in 1997, a new agreement was signed by BPA and the IDFG Commission establishing the Southern Idaho Agreement for implementing mitigation for Palisades, Anderson Ranch, Black Canyon, Deadwood, and Minidoka projects. Coincident with these agreements between BPA and IDFG, IDFG signed an agreement with the Shoshone Bannock Tribes for Southern Idaho mitigation and which established an allocation of the mitigation debt among the partners and interagency work groups to coordinate mitigation planning, monitoring, and research on common share mitigation projects.

Under these agreements and from 1997 up to present, the IDFG SIWM project has been administered as a single project with responsibility for implementing mitigation for all 4 FCRPS projects across southern Idaho. In terms of geography and administration, all activities and all funding including capital, operations and maintenance and administrative funding for the IDFG SIWM project address all 4 FCRPS projects in both the Upper and Mid Snake provinces and their corresponding subbasins (Boise, Payette, Weiser, Snake Lower Middle, Snake Upper Middle, Snake Upper, Closed, Upper Snake, and Headwaters). IDFG implements and administers the project through a project leader as part of IDFG's statewide mitigation program. After a project has acquired and protected habitats identified in the loss assessments and credited BPA accordingly, the maintenance and enhancement of those mitigation HU's is, by separate contract and program, assigned to IDFG's habitat management staff. Accordingly, emphasis and priority has been on mitigation actions that enhance already existing habitat management efforts. From a biological and management context, mitigation projects have largely focused on adding to existing wildlife management areas within the areas of FCRPS impacts, unless the project can justify itself in IDFG and NWPCC forums from a biological and mitigation priority standpoint.

The first SIWM mitigation actions were taken in 1997 with the acquisition of 2 easements totaling 1222 acres and fee title of 860 acres in 2 separate acquisitions; all of which occurred in the Upper Snake Province and all which were credited exclusively towards the Palisades project (Table 3). Subsequently, IDFG SIWM has implemented a total of 13 mitigation projects in both the Mid and Upper Snake provinces, with the majority of habitat mitigation credits going

towards the Palisades project. Three mitigation projects have been credited towards more than one of the 4 FCRPS projects, while no more than 2 FCRPS projects have been credited for a single mitigation project.

The Deep Parks Wildlife Management area is a complex of mitigation acquisitions beginning in 1997 and with the last occurring in 2002. The Idaho Department of Fish and Game cooperated with the SIWM partner the Shoshone Bannock Tribe (SBT) to combine capitol acquisition dollars and purchase the properties. The Bureau of Land Management holds title to the properties. These properties are co-managed by the Department and SBT. SBT participation primarily is coordination with the Department, ensuring protection of treaty rights. Coordination between the Department and BLM ensures management activities comply with federal regulations.

Table 3. Upper Snake Province IDFG mitigation project history.

Project Name	**Hydropower Project**	**Fed. Fiscal Year**	**Manager(s)**	**Acres**	**HU's**
Winterfeld easement	Palisades	1997	IDFG&SBT	422	383
Kruse easement	Palisades	1997	TRLT	800	1,317
Menan (K1) acquisition	Palisades	1998	IDFG&SBT	140	*
Noxious Weed Project	Palisades	1997	IDFG&SBT	NA	499
Beaver Dick acquisition (K2)	Palisades	1998	IDFG&SBT	310	*
Quarter-Circle-O acquisition	Palisades	1998	IDFG	718	1,254
Soda Hills acquisition	Palisades	1998	SBT&IDFG	2,563	5,145
Big Cottonwood WMA habitat enhancement	Minidoka	1998	IDFG	230	112
Boyle acquisition	Palisades	1999	IDFG&SBT	2,556	*
Rudeen acquisition	Palisades and Minidoka	2000	SBT	2,450	3,216
Allen acquisition	Palisades	2002	IDFG	81	338
Horkley acquisition	Palisades	2002	IDFG	120	*

*- All Managed as Deer Parks, 7,307 HU's total.

Management Actions and Accomplishments

Boyle, Beaver Dick, Menan, and Horkley project - Deer Parks WMA

Goal 1:Protect, maintain and enhance wildlife habitat consistent with the Deer Parks Complex mission.

Objective A. Maintain or increase baseline habitat units for wildlife mitigation target species

Habitat development and maintenance

Artificial nesting

Goose nest boxes were maintained on the Butte Slough and along Cook's Pasture Slough. Use was less than fifty percent. Additional protection from climbing predators will be addressed. Limited use was observed in the 10 wood duck boxes placed along the Snake River and South Pasture Slough. Boy scouts constructed six new goose nest boxes and twelve duck nest structures. These will be installed in 2009.

Figure 2. Duck nest structures – reeds will be woven through the wire

Nine goose nesting platforms were maintained at the K2 segment. These were not monitored for use. The three goose boxes installed adjacent to Butte Slough and along Cook's Pasture Slough were not used during the spring of 2007. Limited use was observed in the 10 new wood duck boxes placed along the Snake River and South Pasture Slough. Many were damaged by big game rubbing on them.

Control nuisance animals.

Nuisance beavers were controlled in the Butte-Market Lake canal by canal personnel. A beaver lodge, blocking the Butte Slough head-gate, had to be removed before water could be delivered to the slough.

To reduce perching and nesting areas for corvids, Russian olives removal occurred during 2007. Approximately 100 acres were treated. Due to limited seasonal personnel, only

trees accessible from roads and trails were treated during 2007. Nearly 80% of all Russian olives on the Boyle and K1 segments had been removed. New trees are returning rapidly. More aggressive re-treatment of these areas will be necessary. Only incidental tree removal was completed in conjunction with mowing in 2008.

Prevent or control wildfires

Shop/storage building areas, old corral areas, parking lots, building areas and roadways were mowed or chemically treated to control weeds for fire prevention. Signs were posted at all entrances notifying users that camping, campfires, and fireworks are prohibited on the WMU.

Objective C. Prevent, control or eradicate noxious weeds and other undesirable vegetation

Prevent, control or eradicate noxious weeds

Noxious weed control efforts

Noxious weeds were aggressively controlled using principles of integrated pest management in an attempt to release and re-establish desirable wetland vegetation and comply with Idaho statutory requirements. Mowing was extensively used to prepare areas for wick herbicide application next season.

Three years of monitoring the East Horkley field indicated repeated broadleaf herbicide applications to control heavy Russian thistle infestations removed all desirable forbs, leaving a sparse stand of grass. The field was inter-seeded to a dry land grass mix after early season chemical treatment and late season mowing. This will allow continued chemical control of the Russian thistle infestation.

Locations and sizes of all noxious weed control efforts were recorded and mapped.

There was excellent Cottonwood regeneration at the Allen ‘island’ area where spring flood events coupled with grazing protection have improved growing conditions.

The east eighty acres of the K1 segment were mowed and irrigated for two months in 2007 to help re-establish desirable vegetation. This area was not irrigated in 2008. The area-wide musk thistle infestation was heavier in this area due to last year’s irrigation of the thistle rosettes. A commercial applicator was used to spray approximately forty acres of musk thistle to address a neighbor’s complaint.

Approximately 380 acres were treated for noxious and undesirable weeds through mechanical and mechanical/chemical (Wet Blade) means. There were no biological control releases in 2008 (Table 4).

Table 4. Weed Control by species, method and effort for Boyle, Horkley, and K1 parcels – 2008.

Species	Control Method	Acres Covered	Man-Hours
Common burdock	Chemical	5	5
	Mechanical	5	10
Hoary Cress	Chemical	0	0
Russian thistle	Chemical	80	contract
	Mechanical	80	contract
Leafy Spurge	Chemical	10	10
Puncture vine	Chemical	0	0
	Mechanical	2	6
Russian Knapweed	Chemical	1	3
	Mechanical	1	5
Russian Olive*	Mechanical/ chemical	0	0
Thistles (Canada, musk & plumeless)	Chemical/ Mechanical	80 300	40 & contract 160
Yellow toadflax	Chemical	0	0
Total		**564**	**239**

*included cutting trees by chainsaw/hatchet and applying herbicide to cut stumps.

New weed control equipment:
A tractor with mower attachments was rented for large scale control efforts. The side mower attachment on this tractor applied herbicide through a groove in the blades (Wet Blade). The Wet Blade increased herbicide absorption when tissue pressure was reversed as the plant stem was cut. This method allowed large scale removal of taller weeds without spraying lower lying vegetation. It also allowed lower herbicide application rates.

Approximately 300 acres were mowed in K1, Cooks pasture, west slough pasture and the south pasture. A twelve foot wide Weed Wiper™ herbicide application unit was purchased for 2009 weed control efforts. This unit will apply herbicide at a predetermined height, allowing control of taller weeds with lower herbicide rates. Areas mowed this season will provide ideal wick application conditions next spring as weeds will grow faster and taller.

Biological Weed Control
The one hundred plus biological control releases on K2 parcel since 1999 are now providing good control for leafy spurge, Canada thistle, musk thistle, and purple loosestrife. Twenty biological control releases on the Allen parcel are now providing effective control of musk thistle, spotted and diffuse knapweed (Figure 3). Herbicide use on the Allen parcel is limited due to the nearby populations of Ute ladies'-tresses, a federally threatened plant species.

A grass seed mix was broadcast at several sites at K2 and Allen parcels where previous weed control efforts had significantly reduced the noxious weed cover. This was done primarily at sites without much competing vegetation.

Figure 3. Biocontrol insects for spotted knapweed released on Allen segment of Deer Parks wildlife mitigation areas.

Objective D. Manage for native plant communities where appropriate.

Permanent shrub plantings

Monitoring of the 2006 East Horkley 9 acre shrub (sagebrush and bitterbrush) planting indicated poor survival of bitter brush and satisfactory survival of sage brush.

Permanent cover plantings

Over 80 acres were inter-seeded with a dry-land grass seed mix (Table 5) to supplement existing perennial plants in the following fields: East Horkley, south end of Gohr field, corners of the Butte, Spud Cellar and old feed lot fields.

Table 5. Dry land seed mix and application rate planted on 80 acres of SIWM mitigation properties.

RELEASE	SPECIES	FULL PLS RATE	% MIX DESIRED	RATE PER ACRE	ACRES	LBS PLS NEEDED
Lodorm	Green needle grass	6	25	1.5	80	120
Secar	Snake River Wheatgrass	8	25	2	80	160
Bannock	Thick spike wheat grass	6	25	1.5	80	120
Magnar	Basin wildrye	8	25	2	80	160
	Rice hulls				80	
total					80	

Sharecropping
Sharecropping has been employed since the purchase of the Deer Parks complex. Continuing this program, in 2008, approximately 317 acres were sharecropped with a local farmer. The Department received 34% of each crop. The Department traded its share of hay back to the sharecropper for an equal value of custom farming and/or pivot repairs. The Department's shares of wheat and corn were left standing for wildlife food and cover.

The West Horkley field (60 acres) was planted into winter wheat in the fall of 2007. It was inter-seeded with alfalfa in the spring of 2008 and left standing. It will be harvested for hay in 2009.

Food plots
Approximately 5-12 food plots, totaling 122 acres, are planted, irrigated, and left standing for wildlife food and cover annually. These food plots act not only as forage for terrestrial and avian species but as a wildlife attractant that can reduce wildlife depredations on neighboring farms and fields. Most recently these food plots included:

- Forty five acres planted into grain and corn, with the inner 20 acres irrigated by the shortened pivot and planted into corn. It was utilized by approximately 30 head of White-tailed deer, a small number of moose, thousands of black birds and many other animal species. The outer 25 acres was planted to grain which produced a reduced crop due to lack of water. It was utilized by upland game birds and waterfowl.

- Another 12 acres was inter-seeded into a wheat/oat mix and irrigated producing standing grain for wildlife. It received some use by deer and upland game birds. The Miller Field (22 acres) and ½ of the Canal field pivot (24) were planted into wheat. These fields were utilized by approximately 130 trumpeter swans, sandhill cranes, hundreds of Canada geese and thousands of ducks. Deer, sand hill cranes, pheasants and other wildlife also utilized the food plots.

- The Butte field (14 acres) grain was left standing around the outer edge of the field. This was utilized by upland game birds and deer.

- The West Horkley field (60 acres) was planted into winter wheat in the fall of 2007. It was inter-seeded with alfalfa in the spring of 2008 and left standing for winter wildlife forage. It received some us by deer.

Figure 4. Sandhill cranes, geese, ducks, and trumpeter swans over food plots on Deer Parks food plots.

Goal 2: Provide for a diversity of public recreational opportunities on the Deer Parks Complex consistent with the mission.

Public Access

Hunting is the primary public use of Deer Park WMU. Dove, pheasant, waterfowl and deer hunting was moderate throughout the season. Limited access keeps use at this level, providing a higher quality experience while protecting the resource. Non-consumptive use consisted of bird watching, hiking, antler collecting, and horseback riding. Campfires, fireworks and target shooting are prohibited throughout the area. Bald Eagle nests were monitored and signing was used to protect nesting sites. Fishing on Butte Slough is prohibited during waterfowl nesting season. All non-public, administrative roads were marked with "No Motorized Vehicles" upright fiberglass (Carsonite) signs. Maintenance of all gates and fences to limit public motorized access and trespass livestock grazing is completed annually.

The Allen parcel is experiencing increased illegal motorized vehicle use as ATV's travel up the dry south channel of the South Fork Snake River and cutting trails through the property. This will require some kind of barrier to address the problem.

Objective C. Inform and educate Deer Parks Complex visitors.

Promote general public awareness of the importance of protecting and managing wildlife habitat.

Informational kiosks were erected at the K1 entrance parking area and parking lot above the manager's residence. Attached brochure boxes provide maps and area information. New non-motorized vehicle signs were posted at the main entrance.

Objective D. Monitor and evaluate the affects of public use on the Deer Parks Complex.

Recreational use estimates

Incidental visitor surveys were taken throughout the year. Users and vehicles observed during work activities at the WMU were recorded to determine gross numbers and season of use, as well as activity type when determinable.

Goal 3: Strive to maintain good working relationships with neighbors.

Adjacent neighbors are given "Safety Zone" signs.

A special fire hydrant adapter was installed at the spud cellar field pump to supply water for fire fighters. This was a mandatory installation for the new shop, but an agreement was developed to make it available for firefighting emergencies within the local area.

Quarter Circle O

The 718 acres Quarter Circle O property is managed cooperatively as part of the larger Tex Creek WMA. On the Quarter Circle O, 5,000 bitterbrush bare root shrubs were planted in 2008. 100 acres of winter wheat will be planted in the fall of 2009. Mechanical weed control with a fall herbicide is applied before the planting.

Kruse and Winterfeld

Annual inspections of the Kruse and Winterfeld conservation easements occurred in cooperation with the easement holder, the Teton Regional Land Trust, and the landowner. No violations were detected.

F. Proposed biological/physical objectives, work elements, methods, and metrics

Produce Pisces Status Reports for BPA.

Manage and administer the project and tasks in the contract

Identify and Select Projects

Evaluate proposed acquisitions submitted by IDFG staff and conservation partners. Rank, recommend, and implement based on IDFG land acquisition policy and IDFG SIWM contract stipulations and limits with BPA.

Coordinate and contract field activities for operations and maintenance of mitigation habitats

Coordinate on-going operation and maintenance activities on mitigation project lands. Activities may include noxious weed control, fence maintenance, maintenance of property and habitat improvements, debris removal, maintenance of information and education facilities, and other activities described in the management plans.

Coordinate completion of baseline surveys including: distribution and abundance of selected wildlife and fish species, and distribution and abundance of plant communities including native species, rare species and noxious weeds. Use components of the Monitoring and Evaluation Plan for Idaho Wildlife Mitigation Projects (Unnasch et al. 2004). Coordinate an inventory of roads, trails, etc. and an assessment of recreational use.

Maintain upland vegetation

Maintain upland vegetation through the removal of noxious weeds. BPA-approved herbicide & hand removal will be used on approximately 500- 900 acres annually.

Implement Information and Education Program

Coordinate and implement an I&E program about BPA-funded mitigation. Activities may include development of signs and interpretive sites, production of audio-visual programs and informational brochures, and educational site tours.

These activities will occur on an as-needed basis for the 5 segments of the Deer Parks Complex, the Centennial Marsh property, Boise River Properties, and the Quarter Circle O property.

Complete coordination with easement holders

Easement grantees meet at least annually with landowners to discuss management of the land and compliance with the easement. This will be accomplished for the Kruse and Winterfeld conservation easements in the Upper Snake Province.

Coordinate with other entities

Coordinate with other entities involved with wildlife mitigation in Southern Idaho including tribes, private landowners, non-governmental organizations, and federal, state, and local agencies on an as needed basis.

Gather necessary information to inform potential settlement discussions

The Shoshone-Paiute Tribes, Shoshone-Bannock Tribes, and Idaho Department of Fish and Game will work with a BPA on possible settlement options for the remaining wildlife mitigation for the Southern Idaho projects (Anderson Ranch, Black Canyon, Minidoka, Deadwood, and Palisades).

Conduct the necessary pre-acquisition steps in coordination with BPA

Coordinate pre-acquisition appraisals, site visits, hazardous waste assessments, public notice/involvement processes, environmental compliance requirements, and internal inter-agency discussions. Coordinate with landowners and BPA on pre-appraisal information and discussions.

Submit Progress report for the period of 10-2008 to 9-2009

The progress report summarizes the project goal, objectives, hypotheses, completed and uncompleted deliverables, problems encountered, lessons learned, and long-term planning.

Deer Parks

Maintain previously-planted vegetation through irrigation using a combination of wheel line sprinkler systems and flood irrigation.

Complete placement and operation of irrigation pumps, wheel lines, and water control structures to ensure survival and establishment of previously planted vegetation and native floodplain trees and shrubs throughout the DPCWMU.

Irrigation scheduling varies depending upon both the needs of the planted vegetation and the soils that they are planted in. New plantings are watered 1-2 times per week, and watering needs are generally determined to be that the soil should be moist within ½ inch of the soil surface. Older plantings are allowed to go longer between watering slowly backing off from the above frequency each year, meaning that in the second year

watering is generally every week to 10 days, the third year it is every 2 weeks or so, and slowly tapering off from there.

Manage public access and promote general public awareness of the importance of protecting and managing wildlife habitat.

Informational signs/kiosks will be installed and maintained - the 3 kiosks that we have planned for this time are the Northeast entrance, the Northwest entrance, and the office parking area. Informational literature will be provided and public contacts will occur, to promote public awareness of the BPA wildlife mitigation program. Prevent or control wildfires by following established BLM fire management plan for the area by prohibiting camping, campfires, and fireworks.

Currently 6 public access points/parking areas are maintained. This includes weed control in parking areas, cleaning of trash and maintaining fences and gates, and maintaining signage. There are currently 2 informational kiosks, with the intent of adding informational kiosks to all parking areas. In addition to the parking areas, there are 10 access gates throughout the property that are monitored to ensure proper use, assess condition and repair as necessary. With BPA funds, we intend to add an additional access area on the east side of Butte Slough, which will include a small road access (1-lane dirt), small parking area, and information kiosk.

The access areas are monitored personally by IDFG employees a minimum of once weekly. Signs are checked and replaced as needed, new information is posted when appropriate, and brochures and additional information is added as needed/available.

Improper use of parking areas, if occurring, will be monitored by remote camera. Inappropriate access through gates is monitored and has been remedied to date by the use of new locks with keys that have not been circulated outside of Deer Parks.

Boundary fences are checked each spring upon snowmelt and periodically throughout the summer and repaired as needed. The boundary fence is walked and checked a final time in late fall just prior to snowfall and prepared for winter.

Provide for the use of share cropping in order to maintain wildlife habitat in croplands and to reduce noxious weed invasions. Plant food plots for wildlife in order to provide food and cover.

Approximately 50 acres of food plots and 250 acres of food/cover appropriate for each location needing food/cover to be planted. Presently, the share-cropper is planting wheat and alfalfa, but can also plant barley. IDFG is planting winter wheat, dwarf corn, and oats for food plots.

Remove vegetation for the purpose of fire prevention/control

Prevent or control wildfires by mowing roadways and parking areas as established in the BLM fire management plan for the area.

Noxious weeds will be aggressively controlled using principles of integrated pest management in an attempt to release and re-establish desirable wetland vegetation and comply with Idaho statutory requirements.

> *Noxious weeds are controlled using biological, chemical and mechanical means. Chemical application are conducted by IDFG personnel using backpack, ATV sprayers with a 25 gallon rear tank with a hand wand and a boom, and a 15 gallon front tank with a hand wand. Deer Parks also has a 200 gallon tractor mounted spray tank with a 20 foot boom applicator and a hand-held hose for spot spraying. All are herbicides are on the BLM's approved use list. We use escort (hoary cress), krenite and tordon (leafy spurge), curtail, redeem and milestone (thistles and knapweeds), garlon (Russian olives), roundup (general, parking areas, roadsides and compound), rodeo (near water, broad spectrum). Depending upon need, 2, 4-D is mixed with many of these herbicides. Other approved herbicides are used on occasion, and a sterilant is being considered for the parking areas. IDFG personnel conduct the vast majority of weed control efforts using herbicide.*
>
> *Weeds are also controlled with biological control agents. Since 1999 over 50 colonies of biological controls have been released to aid in controlling leafy spurge, purple loosestrife (eradicated), Canada thistle, musk thistle and plumeless thistles.*
>
> *Mechanical control of weeds is also conducted in a number of ways. Mature Russian olives are cut with chainsaws, pushed over with a large front loader, and all remains are piled, dried and burned. Smaller trees and saplings are cut by hand, piled dried and burned. All stumps have herbicide applied to them to prevent regrowth. Knapweeds that are not found before flowering are routinely pulled, bagged and burned. Musk, plumeless and bull thistles that flower generally have their flower heads cut, bagged and burned. Common burdock is cut, bagged and burned. Areas that are infested with undesirables in other areas are often mowed to prevent seeding of the undesirable species. This is the case with kochia in the compound, parking areas, roadsides and feedlot areas*

Operate and maintain fences, gates, water control structures.

> *Maintain approximately 8 miles of fence, 12 gates, and 11 water control structures (9 pumps and 2 culverts).*

Adapt habitat monitoring plan as indicated by interpretation of previously collected monitoring data. Expand the monitoring plan to include more elements of Unnasch et. al. (2003).

> *This program will be largely based on the Monitoring and Evaluation Plan for Idaho Wildlife Mitigation Projects (Unnasch et al. 2003).*
>
> *The Deer Parks Wildlife Mitigation Unit Monitoring Plan (Idaho Fish and Game, 2000), details the monitoring objectives, sites, frequency, methods, and how data will be used to adapt management for Deer Parks.*

Conduct collection of recreational use data

Conduct incidental visitor surveys to determine the purpose and number of visits to the WMU.

Summary of recreational activities occurring on the WMU, seasons of activity, and gross estimate of numbers of visitors..

Conduct vegetation monitoring

Collect data on planting success and weed control efforts. Map noxious weed infestations for preparation of subsequent weed control plans.

IDFG personnel monitor new plantings yearly; and established vegetation and noxious weed presence is formally monitored on a 5 year cycle, with incidental noxious weed observations occurring throughout the growing season. In addition, aquatic vegetation monitoring was added in 2006, and will be added to the monitoring plan and monitored on a 5 year cycle.

Summarize, analyze, and interpret habitat monitoring data and information gathered for recreational use.

Data are tabulated routinely and summarized at a minimum on a quarterly basis, by IDFG personnel. Analysis of the data is done in accordance with the monitoring plan, and is generally of a 'trend' or 'changes over time' nature.

Submit Annual Progress report

G. Monitoring and Evaluation

Tier I - Monitoring sufficient to answer questions about the trend in population or habitat condition over a broad scale. It has the advantage of being relatively inexpensive to implement. However, its lack of precision makes it relatively insensitive to local conditions or management actions. On a programmatic scale (NWPPC Fish and Wildlife Program), HEP analysis (U.S. Fish and Wildlife Service 1980a) falls into this category and is used to estimate minimum irreducible HU credits for SIWM projects, quantify the total number of HUs credited to habitat protection for mitigation, and to quantify the enhancement HU credits attributed to habitat management and protection subsequent to acquisition. HEP is the protocol for monitoring at the programmatic level to ensure mitigation goals are being achieved and to inform a potential settlement agreement for IDFG SIWM in the Mid and Upper Snake Provinces and so is the foundation of our monitoring strategy.

Tier II - Monitoring to answer questions about population trends, community diversity, and species relative abundance in the context of local habitat condition or management action. Although more costly to implement, this level of monitoring has sufficient sensitivity, and defined levels of confidence, to provide feedback on management actions in an adaptive management context. A Tier 2 monitoring protocol has been designed for the Idaho mitigation program (Unnasch et al. 2003) and scaled accordingly (Figure 4). However, funding and

program limitations have limited its deployment since the monitoring report was completed. The logistical and geographical context of the IDFG mitigation program limit its use without a funding commitment beyond individual projects. We have made requests for Tier 2 monitoring at the project level to initiate the protocol in Unnasch et al. (2003) during the next cycle.

Tier III - Research monitoring is the most sensitive level of monitoring. At this level we are able to answer questions about causal relationships between specific habitat attributes and population demographic parameters. This is the most expensive level of monitoring to employ on a per area basis and is beyond the management context of this project.

Methods

The NWPPC Fish and Wildlife Program requires that a baseline HEP analysis be completed within two years of acquisition of a mitigation property and every five years thereafter. This schedule has been followed as part of the ongoing M&E efforts for SIWM . Some acquisitions are primarily to protect existing high-quality habitats, where management is largely custodial and significant increases in HUs are not anticipated. Other acquisitions require extensive restoration, and substantial gains in HUs are the expected outcome. Results of SIWM HEP analysis following protection and management must be interpreted in this context. IDFG SIWM expects to maintain, within the limits of normal temporal variability, at least the baseline number of HUs on every property. A 20 percent drop in baseline HUs would trigger a management response.

The HEP is based on the assumption that habitat for a selected species can be described by a Habitat Suitability Index (HSI). This value is derived by evaluating the ability of key habitat components (e.g., hiding cover, snag density, forage availability) to supply the life requisites of selected wildlife species. Habitat quality, expressed as the Habitat Suitability Index, measures how suitable the habitat is for a particular species when compared to optimum habitat. The HSI varies from 0.0 to 1.0 (optimal). The value of an area to a given wildlife target species is the product of the size of that area and the quality of the area for the species. This product is comparable to "habitat value" and is expressed as a habitat unit (HU). For a particular target species, one HU is equivalent to one acre of optimal habitat (HSI=1.0). Target species are used in HEP to quantify habitat suitability and determine changes in the number of HUs supported by a particular area. Consequently, a HEP assessment is only directly applicable to the target species selected. The degree to which predicted effects can be extrapolated to a larger segment of the wildlife community depends on careful species selection (USFWS 1980b). Target species and their HIS models selected for HEP analyses in the M&E program would generally be those target species and models used during hydroelectric project wildlife impact assessments. Likewise, field- and remote-sampling methods would generally follow those used during the wildlife impact assessments. During field sampling, transects are lengthened or occasionally shortened to achieve a 90 percent confidence level for our parameter point estimates. Adequacy of habitat sampling is determined using the formula (Zar 1984):

$$\frac{z^2 \times s^2}{e^2}$$

Where:
z= the critical normal value (p=0.1) from any standard statistical reference
s= standard deviation

e= tolerable error level
Habitat cover types are outlined on aerial photographs and a planimeter or dot grid is used to estimate the total acreage of each cover type. Geographical information systems (GIS) will be used to estimate total acreage of each cover type when accurate data layers are available. The habitat units for each target species in each cover type are calculated using the formula:

HU= (cover type area) X (HSI value).

Published and modified HSI models are used in this analysis. Where published models are modified to better reflect local conditions, modifications must meet U.S. Fish and Wildlife Service standards (USFWS 1981). Habitat units are tabulated across target species and cover types to get total HUs for each species and each cover type for the property.

Results

Updated HEP assessments were conducted for the Deer Parks and Allen acquisitions in 2008 (Table 5) and an additional 881 HUs were credited to the Council's mitigation ledger. The outstanding HU ledger for the Upper Snake has been adjusted accordingly (Table 1). The increase in HU's from Deer Parks from 1998 to 2008 are due to enhancement, the increase on the Allen Parcel from 2003-2008 is due to both enhancement and corrections to species stacking issues to align crediting with loss assessment protocols. For 2009, the HEP schedule is for Faulkner and Bliss Point Cattle & Beaver Dick Upper Snake mitigation properties.

Wildlife Monitoring

Trumpeter swan counts were conducted throughout the fall and winter on Boyle, Horkley, Gohr, and K1 segments. Over 130 swans utilized the standing grain. The osprey nest located on K1 was successful again this year, fledging two young. On the Allen segment, bald eagle nest closure area signs were posted near the successful bald eagle nest on adjacent BLM land.

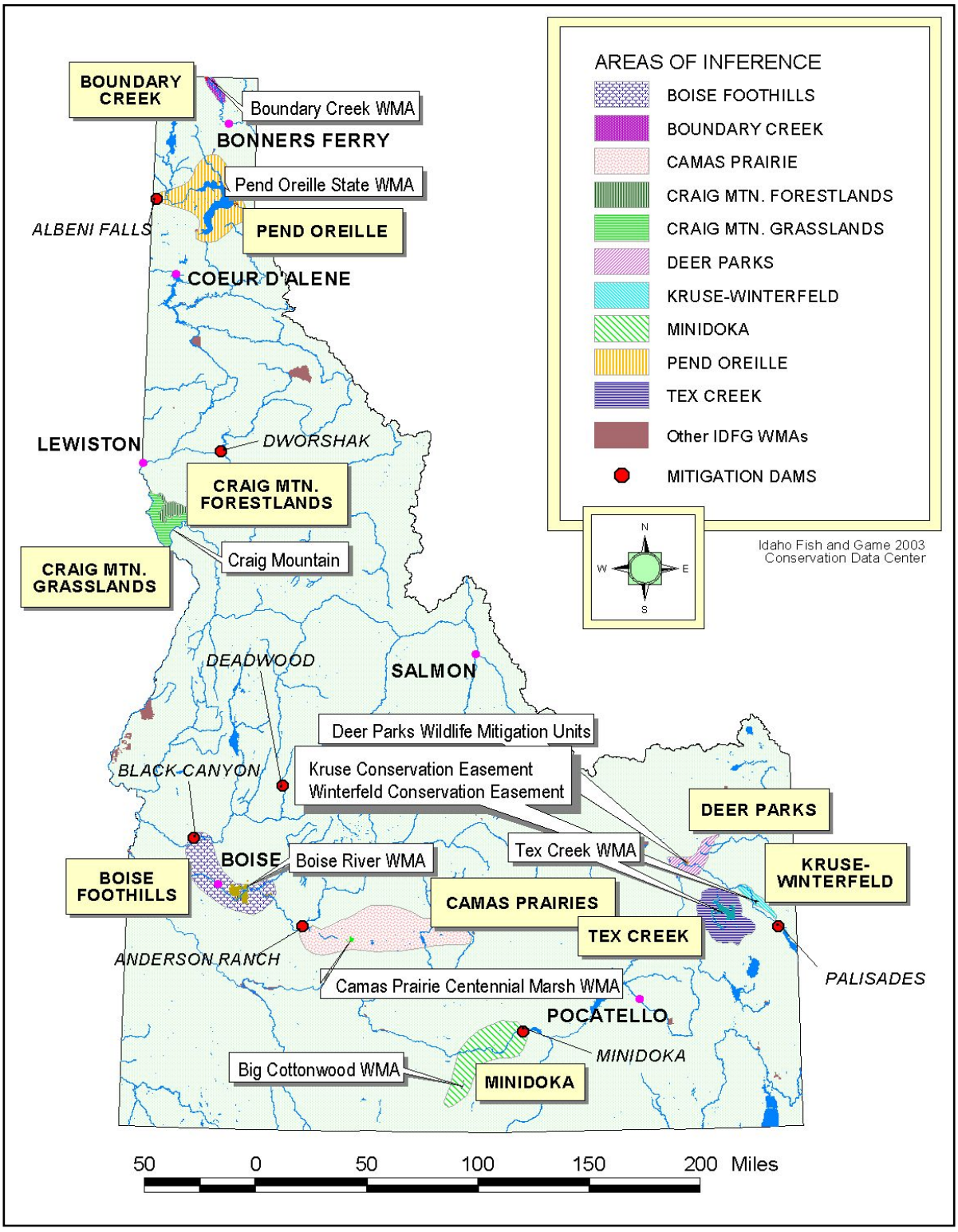

Figure 4. Areas of Inference for monitoring mitigation. White boxes point to existing Wildlife Management Areas. Multiple Wildlife Management Areas combined on the basis of related mitigation efforts and regional proximity are " Areas of Inference", illustrated in light yellow.

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Table 5. Baseline and most recent HEP assessments of Deer Parks and Rice mitigation properties for IDFG SIWM project in Upper Snake Province.

	Deer Parks Complex		Net Change	Allen		Net Change
Project Acres	**2,602.00**	**2,741.63**	**139.63**	**81.00**	**81.00**	**0.00**
HEP Survey Year	**1998**	**2008**	**10 years**	**2003**	**2008**	**5 years**
Mule deer	402.00	312.79	**-89.21**	Not applied	18.17	18.17
Pheasant	-	-	-	-	-	-
Mink	398.00	489.63	**91.63**	9.84	26.91	17.07
Mallard [1]	332.00	690.06	**358.06**	14.18	37.31	23.13
Canada goose [2]	261.00	507.03	**246.03**	Not applied	10.39	10.39
Ruffed grouse	74.00	41.76	**-32.24**	Not applied	28.17	28.17
Bald eagle (breeding)	2,342.00	2,206.53	**-135.47**	17.01	47.63	30.62
Bald eagle (wintering)	2,602.00	2,704.10	**102.10**	37.80	81.00	43.20
Black-capped chickadee	148.00	156.24	**8.24**	45.15	50.40	5.25
Yellow warbler	79.00	198.59	**119.59**	0.43	37.81	37.38
Total	**6,638.00**	**7,306.73**	**668.73**	**124.41**	**337.79**	**213.38**

H. Facilities and equipment

Goal 4: Protect, maintain and enhance facilities and equipment at the Deer Parks Complex consistent with the Deer Parks Complex mission.

Objective A. To ensure that office, workshop and residence facilities remain present and in a condition to ensure management of the Deer Parks Complex.

Buildings and Structure Maintenance:

A 24’X 36’ Garage/Storage building was constructed at the main residence.

Electric power was run to this building from the residence house power system.

A backup generator and emergency switch panel were installed for the residence house, pump house and garage/storage building.

Propane lines were run from the residence house propane tank to the emergency generator and pump house.

Safety Inspection Items

Diesel fuel tank

A catch basin was constructed for the diesel fuel tank. This is located behind the new shop.

Flammable material locker

A flammable material locker was installed in the future tool room located in the north lean-to. A concrete floor was poured and this area will be enclosed to house gasoline tools and the locker. This will keep any fuel or gas tools from being stored in the new shop.

Propane tank safety

Heavy concrete filled steel pipes were installed around the shop propane tank.

East lean-to

A main weight bearing support pole was replaced. This enabled continued use of this building for storage.

Objective B. To ensure that equipment owned as part of the Deer Parks Complex is maintained in a condition to ensure management of the Deer Parks Complex.

Shop additions for equipment repairs and maintenance

Pallet racks/work benches were installed in the shop.

An air compressor and air lines were installed.

Irrigation pipe

New storage racks were constructed south of the new shop and all hand lines were stored at this location. This will alleviate rodent nest building, corrosion from soil acids and exposure to public vandalism or theft.

Irrigation pivots

Two field pivots were replaced and steel mainlines have been replaced with PVC pipe so that now all mainline has been converted to PVC. One pivot remains to be replaced and updated.

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J. Key personnel

Resume

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Education

B.Sc. in Fish and Wildlife Sciences - University of Massachusetts
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Professional Experience

Idaho Department of Fish and Game Wildlife Program Coordinator responsible for Department review, analysis, and comment on forest, highway, county, municipal, range land, and waterways development projects impacting fish and wildlife within the state of Idaho. Responsible for coordination with state and federal agencies on fish and wildlife management, mitigation, and regulatory authorities. Develop program direction for Department policy and legislation in statewide issues including outfitter management, forest management, interagency coordination, and watershed protection, strategic planning, and subbasin planning.

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Resume

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