HABITAT IMPROVEMENT PROGRAM HIPIII

2016 ANNUAL MONITORING REPORT

Bonneville
POWER ADMINISTRATION

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SUMMARY

This is the forth annual monitoring report required under the Habitat Improvement Program III Biological Opinions (HIPIII) (NMFS No# 2013/9724, USFWS 01E0FWOO-2013-F-0199). This report summarizes activities completed in calendar year 2016 and reports on the incidental take resulting from those activities and compares them with previous years.

The number of BPA funded projects, scope and complexity remained consistent with previous years activities. In addition to a diverse portfolio of projects, project quality assurance and quality control remain a priority. BPA continues to improve internal capacity to deliver high quality projects through optimizing and refining the RRT process.

With the exception of turbidity, BPA has been successful in meeting incidental take criteria. There was only one instance of non-compliance. The trainings over the years and guidance provided from the HIPIII handbook has helped project sponsors and their subcontractors better able to know, understand and take seriously the requirements.

This year, BPA has hired a dedicated full time hydraulic engineer who provides a thorough and detailed technical review of all medium and high risk RRT projects. Through these detailed project reviews, BPA can now exercise a higher level of discretionary authority on the type and quality of projects that it funds.

The HIPIII Handbook continues to be refined and has been used as a tool to provide much needed clarifications and guidance. It is continuously updated and reflects the current state of science on restoration standards and practice. BPA's Fish and Wildlife Implementation group is considering adopting the HIPIII Handbook as official policy as to the types and methods of projects that shall receive BPA funding in the future.

2016033: Lostine Diversion Removal

HIPIII PROJECTS AUTHORIZED

During 2016, the HIPIII BOs authorized 97 individual projects (Table 1, 2, & 3) (FIGURE 1&2) each with multiple activity categories (Work Elements). Figures 1&2 are overlain with USFWS field office and NMFS branch jurisdictions. The red dots represent activities within the **Fish Passage Restoration** and **River, Stream, Floodplain and Wetland** activity categories and are the most likely to involve in-stream work. A majority were low risk (82), 16 were medium risk, and 3 were considered high risk. Each medium and high risk underwent the RRT process which included a thorough technical review.

TABLE 1: HIPIII PROJECT AUTHORIZATIONS (LOW RISK) 2016

HIP3 NO#	Project Title	Habitat Branch	Field Office
2016001	Umatilla Anadromous Fish Habitat with ODFW	CRB	La Grande
2016006	Shillapoo Wildlife Area	WA/LCR	Lacey
2016010	ThirtyMile Pit Tag Array	CRB	NA
2016011	Umatilla Fish Passage O & M	CRB	La Grande
2016012	Frazer Creek Bridges	CRB	Wenatchee
2016017	Lower South Fork Clearwater Watershed Restoration	N Snake	NA
2016018	Klickitat Watershed Enhancement	CRB	Wenatchee
2016019	Yakima Basin Side Channel	CRB	Wenatchee
2016020	Fly Creek - Smith Property Fencing Project	S Snake	La Grande
2016022	NE Oregon Precious Lands Wildlife Area	S Snake	La Grande
2016023	Pine Creek Conservation Area	CRB	NA
2016024	Lower Columbia Estuary – Food-Web Sampling	WA/LCR	Lacey
2016026	Ahtanum Creek	CRB	Wenatchee
2016028	Project Action Effectiveness Monitoring	CRB	Wenatchee
2016029	Lower White Pine Groups 2 & 3	CRB	Wenatchee
2016030	Grande Ronde Invasive Weed Treatments -16	CRB	La Grande
2016031	Dowton Lane Culvert to Bridge	S Snake	Chubbock
2016034	John Day Watershed Restoration	CRB	La Grande
2016035	Isquulktpe Watershed Project	CRB	La Grande
2016036	Lolo Creek Watershed Restoration	N Snake	NA
2016038	Lemhi Soil and Water Conservation District	S Snake	Chubbock
2016041	YTAHP - Wilson/Naneum/Cherry Assessment	CRB	Wenatchee
2016043	Biomonitoring of Fish Habitat Assessment	CRB	La Grande
2016044	YTAHP - Matson Vegetation Planting Stabilization Project	CRB	Wenatchee
2016047	Walla Walla River Basin Fish Habitat Enhancement	CRB	La Grande
2016049	Lapwai Creek Anadromous Habitat	N Snake	NA
2016050	Lake Pend Oreille Kokanee Mitigation	NA	Spokane
2016052	Sandy River Delta Test Pits	WA/LCR	NA
2016053	Wenas Wildlife Area	CRB	Wenatchee
2016055	Hellsgate Big Game Winter Range	CRB	Wenatchee
2016056	Implement Tribal Pacific Lamprey Restoration Plan	CRB	Wenatchee

HIP3 NO#	Project Title	Habitat Branch	Field Office
2016057	North Fork Habitat Improvement: McLain Property	N Snake	Boise
2016058	Albeni Falls Wildlife Mitigation	NA	Spokane
2016060	Rock Creek Fish & Habitat Assessment	CRB	NA
2016061	Fifteen Mile Creek Habitat Improvement	CRB	NA
2016062	Hungry Horse Mitigation Habitat Restoration and RM & E	NA	Helena
2016063	John Day Habitat Enhancement	CRB	La Grande
2016064	Hangman Creek Fish & Wildlife Restoration Project	NA	Spokane
2016065	Albeni Falls Wildlife Mitigation	NA	Spokane
2016067	Lemhi River Restoration	S Snake	Chubbock
2016069	Lemhi River Restoration	S Snake	Chubbock
2016070	ODFW Fish Screens - Low Risk Projects	CRB	La Grande
2016071	Methow River Vegetation Mangement	CRB	Wenatchee
2016072	Pahsimeroi River Restoration	S Snake	Chubbock
2016073	Forrest Conservation Area	CRB	La Grande
2016074	Columbia Basin Water Transactions Program: Water Entity	CRB	Helena
2016075	ODFW Operations and Maintenance	Willamette	Portland
2016079	Thor Lemhi River Channels	S Snake	Chubbock
2016080	ODFW Fish Screens - Low Risk Projects II	CRB	La Grande
2016081	Scotch Creek Wildlife Area	CRB	NA
2016083	Garden Creek Siphon	S Snake	Chubbock
2016085	Enhance Habitat North Fork John Day River	CRB	La Grande
2016086	Hungry Horse Mitigation Habitat Restoration and RM & E	NA	Helena
2016087	Pahsimeroi River Habitat	S Snake	Boise
2016088	Yakima River Monitoring and Evaluation	CRB	Wenatchee
2016093	Pahsimeroi River Habitat	S Snake	Chubbock
2016094	Lower Columbia Estuary – Food-Web Sampling	WA/LCR	NA
2016095	Project Action Effectiveness Monitoring	CRB	Wenatchee
2016096	Lemhi River Restoration	S Snake	Chubbock
2016097	Albeni Falls Wildlife Mitigation	NA	Spokane
2016098	Sunnyside Wildlife Mitigation: O&M	CRB	Wenatchee
2016099	Hungry horse Mitigation/Flathead	NA	Helena
2016100	YTAP - Naneum Creek - Valley Land Company	CRB	Wenatchee
2016101	PNNL Temperature Monitoring Below Bonneville Dam	WA/LCR	Lacey
2016102	Okanogan Fish Screens	CRB	NA
2016103	YKFP/Klickitat Only M & E	CRB	Wenatchee
2016105	Hungry Horse Mitigation Habitat Restoration and RM&E	NA	Helena
2016106	Installation of PIT-Tag Antenna Sites in Warm Springs River	CRB	Bend
2016108	John Day Tributary Passage and Flow - Expense	CRB	La Grande
2016111	Yakima Phase II Fish Screens O&M with WDFW	CRB	Wenatchee

TABLE 2: HIPIII PROJECT AUTHORIZATIONS (MEDIUM RISK) 2016

HIP3 NO#	Project Title	Habitat Branch	Field Office
2016007	Twisp River Floodplain	CRB	Wenatchee
2016021	Crane Domeyer & Willow Bar Restoration Projects	WA/LCR	Portland
2016025	Twisp Ponds Left Bank	CRB	Wenatchee
2016027	Hungry Horse Mitigation Habitat Restoration and RM & E	NA	Helena
2016032	Newbry Meadows	CRB	Wenatchee
2016033	Lostine River/Sheep Ridge Fish Passage Improvement Project	S Snake	La Grande
2016037	Rainwater Wildlife Area	CRB	Spokane
2016039	Toppenish RM37	CRB	NA
2016042	Lapwai Creek Watershed Restoration	N Snake	NA
2016046	Pine Creek Conservation Area	CRB	La Grande
2016048	Johnson Creek Fish Passage	CRB	NA
2016054	Kerry Island Restoration	WA/LCR	Portland
2016059	Wallacut River Confluence Restoration	WA/LCR	Lacey
2016066	Westport Slough Restoration Project	WA/LCR	Portland
2016068	Cowiche Creek - Nedrow Habitat Complexity & Stabilization	CRB	Wenatchee
2016076	Oregon Fish Screens Project - Graham Creek Siphon	CRB	La Grande
2016077	Dovenburg Habitat Improvement	CRB	La Grande
2016082	Alder Gulch Siphon	CRB	La Grande
2016084	Silver Side Channel	CRB	Wenatchee
2016090	Tucannon PA-28 Phase I & II	N Snake	Spokane
2016092	John Day Watershed - Starr Instream Habitat & Diversion	CRB	La Grande
2016109	Coleman Creek - Valley Land Company Diversion and Fish Screen	CRB	Wenatchee

TABLE 3: HIPIII PROJECT AUTHORIZATIONS (HIGH RISK) 2016

HIP3 NO#	Project Title	Habitat Branch	Field Office
2016009	Yankee Fork/West Fork Confluence Project 2016 (Phase II)	S Snake	Chubbock
2016015	Lower Red River Meadows Enhancement	N Snake	Spokane
2016078	Trout Creek Watershed Restoration: Middle Trout Creek	CRB	NA

2016012: Parker Bridge Replacement (Before)

2016012: Parker Bridge Replacement (After)

FIGURE 1: 2016 HIPIII PROJECT LOCATIONS (USFWS)

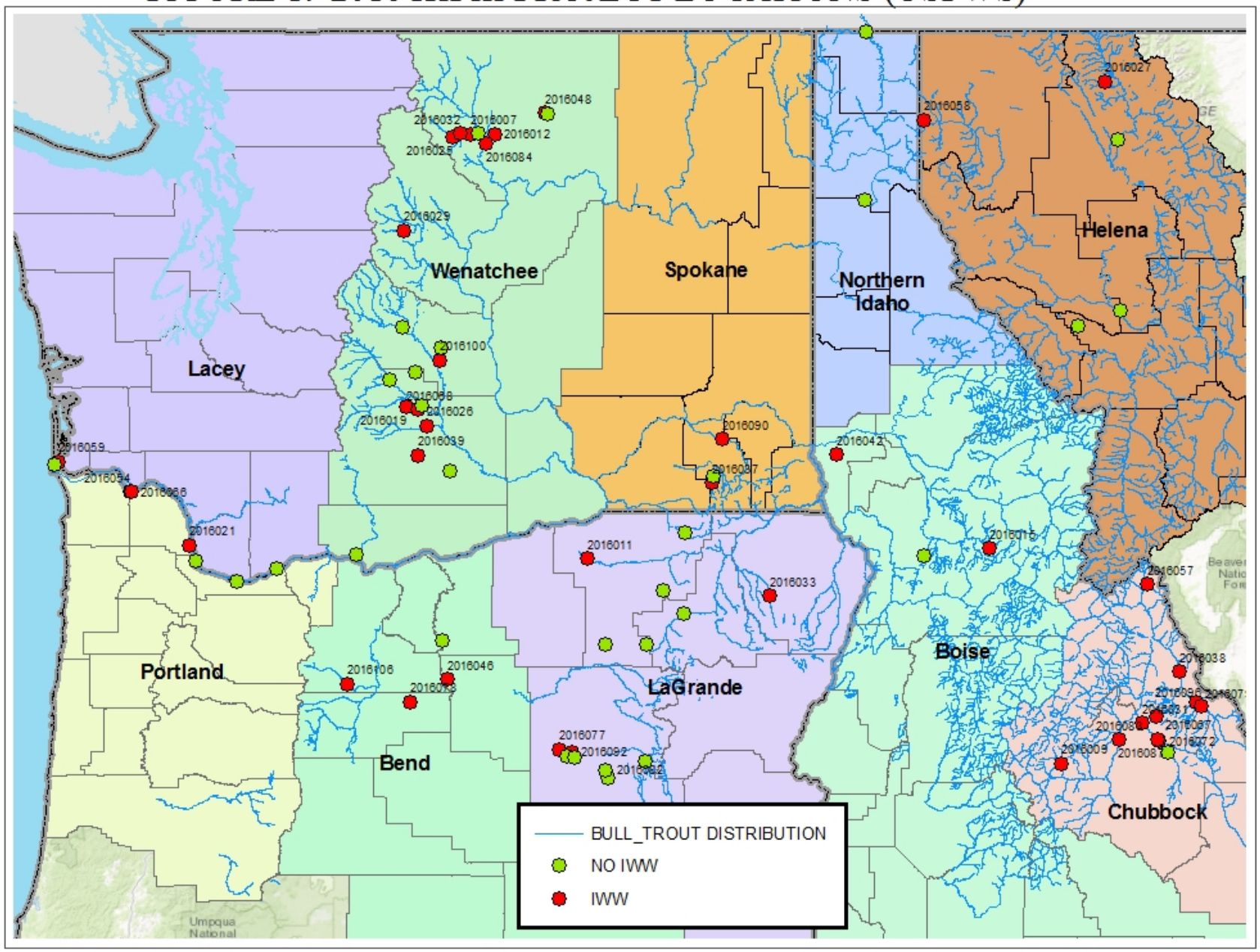


FIGURE 2: 2016 HIPIII HERBICIDE APPLICATIONS (USFWS)

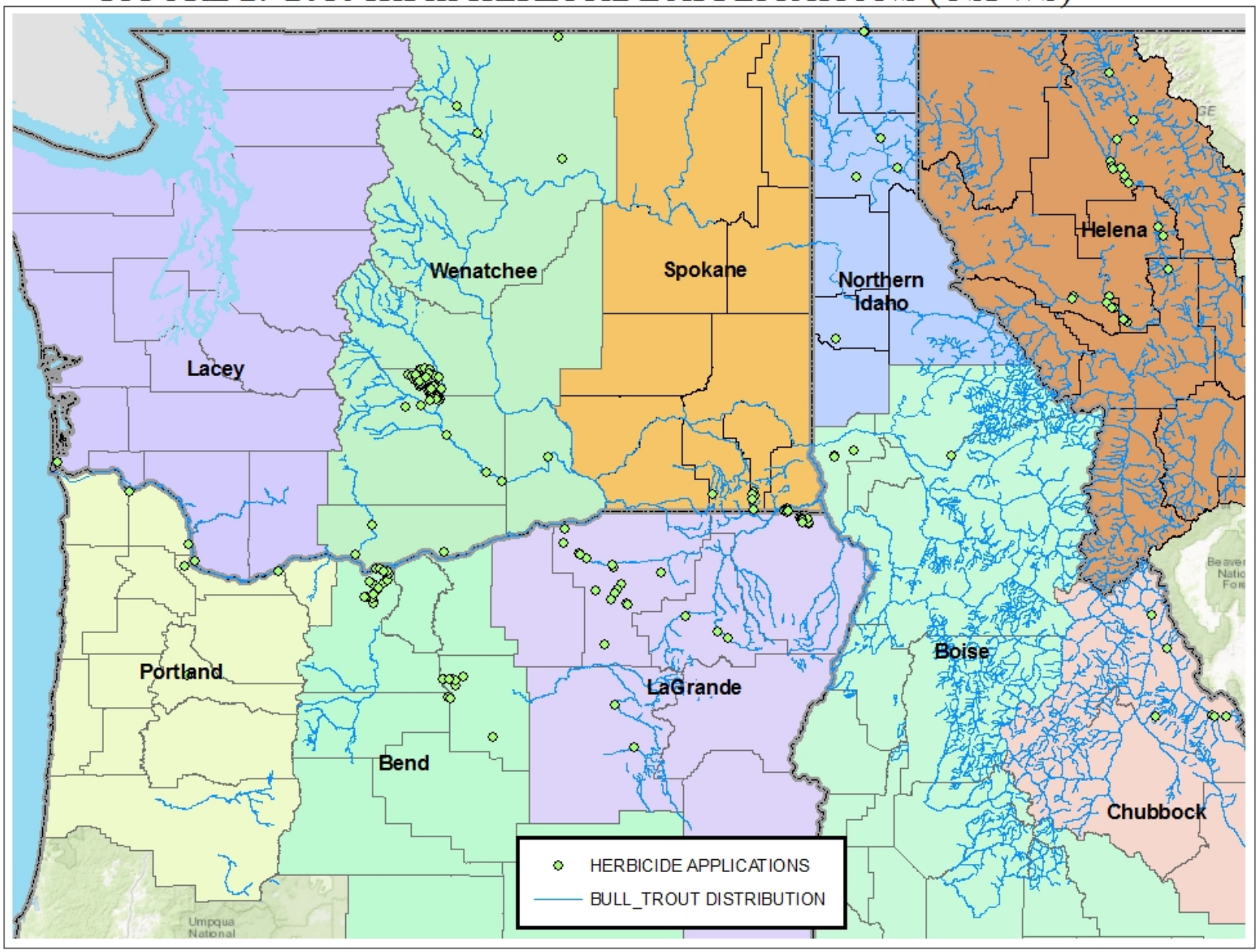


FIGURE 3: 2016 HIPIII PROJECT LOCATIONS (NMFS)

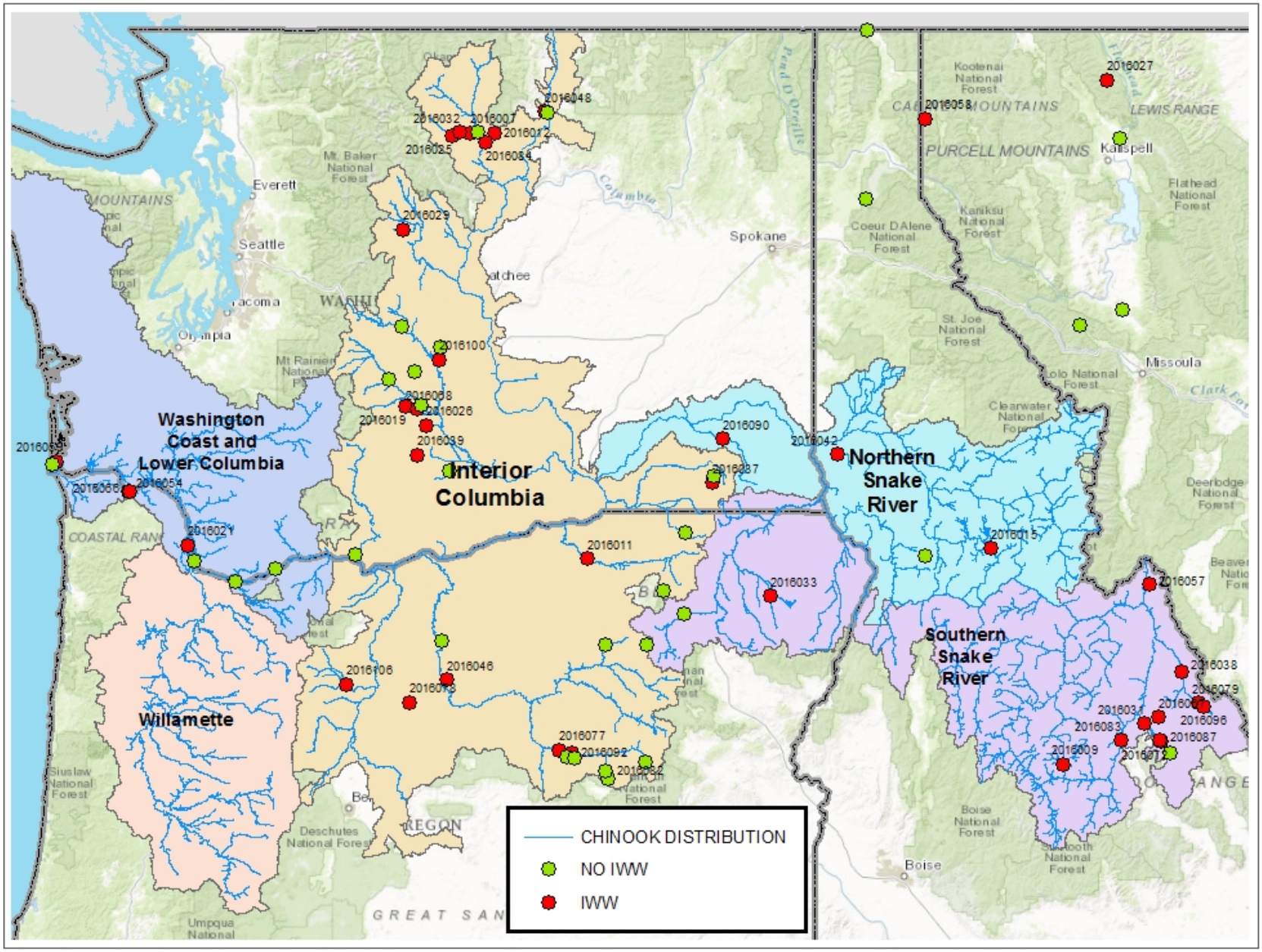
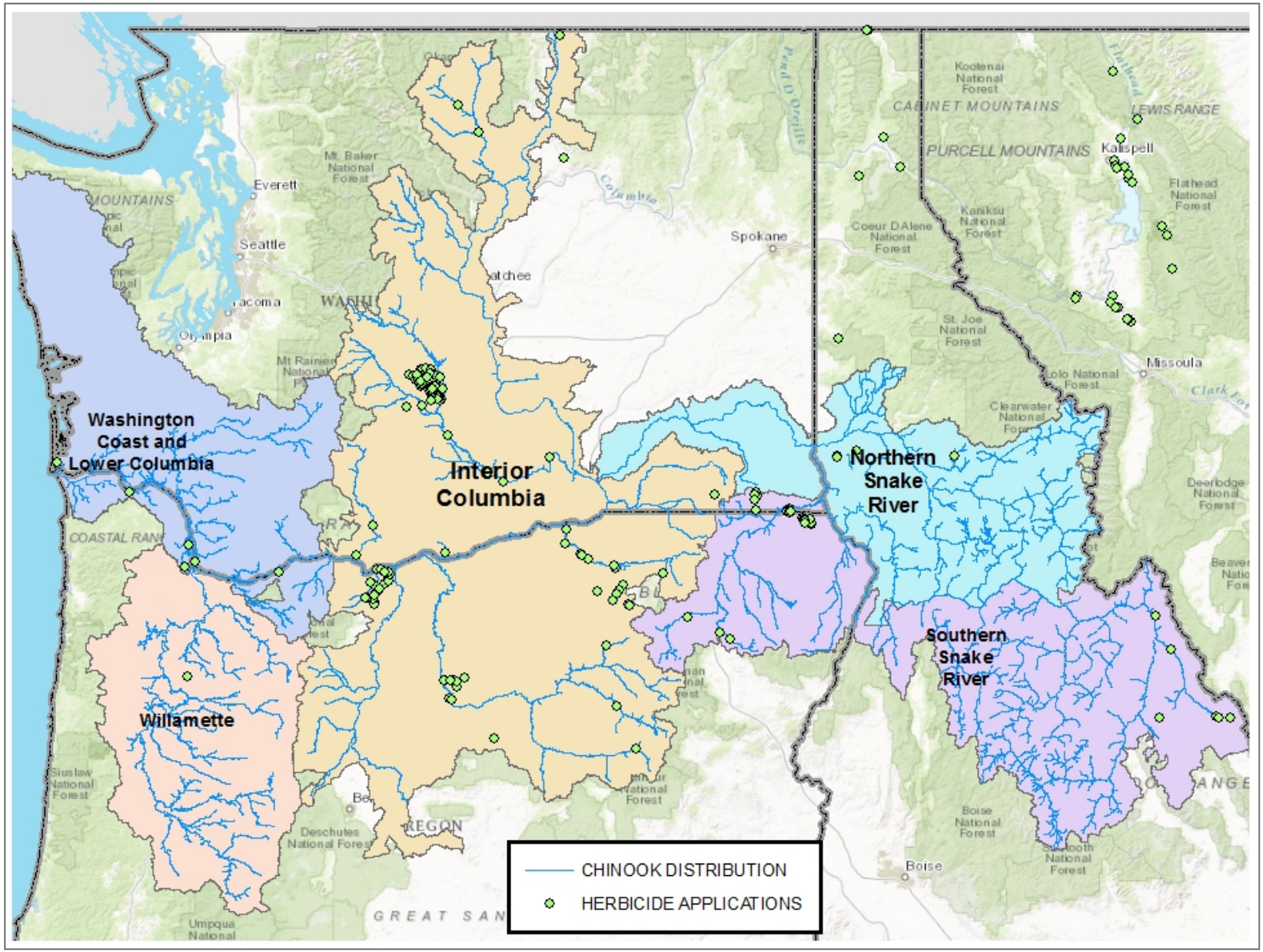


FIGURE 4: 2016 HIPIII HERBICIDE APPLICATIONS (NMFS)



PROJECT ACTIVITIES

Within each individual projects there could be few or many activity categories. BPA generally lumps each set of activity categories by location and project sponsor, with the exception of herbicides, surveys, and O&M activities which could have multiple locations lumped by program.

The project activity categories are typical from previous years, with the exception of Fish Screen installations in which the Oregon Department of Fish and Wildlife used the HIPIII for coverage. We also saw our first pile removal project in the LCR estuary as well.

TABLE 4: PROJECT ACTIVITIES

Category	Subcategory	ACTIVITIES	2013	2014	2015	2016
1. Fish Passage Restoration						
	Profile Discontinuities					
		a. Dams, Water Control or Legacy Structure Removal.	1	2	3	2
		b. Consolidate, or Replace Existing Irrigation Diversions.	3	3	1	0
		c. Headcut and Grade Stabilization.	3	6	9	9
		d. Low Flow Consolidation.	0	0	0	0
		e. Providing Fish Passage at an Existing Facility.	2	6	4	2
	Transportation Infrastructure					
		f. Bridge and Culvert Removal or Replacement.	8	11	9	11
		g. Bridge and Culvert Maintenance.	0	0	1	0
		h. Installation of Fords.	2	0	2	0
2. River, Stream, Floodplain, and Wetland Restoration.						
		a. Improve Secondary Channel and Wetland Habitats.	6	11	8	12
		b. Set-back or Removal of Existing, Berms, Dikes, and	2	7	10	5
		c. Protect Streambanks Using Bioengineering Methods.	4	8	10	7
		d. Install Habitat-Forming Natural Material Instream	11	20	15	20
		e. Riparian Vegetation Planting.	19	30	32	33
		f. Channel Reconstruction.	2	4	3	4
3. Invasive and Non-Native Plant Control.						
		a. Manage Vegetation using Physical Controls.	18	32	26	25
		b. Manage Vegetation using Herbicides.	39	45	39	28
4. Piling Removal.						
		Pile Removal	0	0	0	1
5. Road and Trail Erosion Control, Maintenance, and Decommissioning.						
		a. Maintain Roads.	2	4	3	2
		b. Decommission Roads.	0	3	0	0
6. In-channel Nutrient Enhancement.						
		Nutrient Enhancement.	0	0	0	0
7. Irrigation and Water Delivery/Management Actions.						
		a. Convert Delivery System to Drip or Sprinkler Irrigation.	3	2	2	0

Category	Subcategory	ACTIVITIES	2013	2014	2015	2016
		b. Convert Water Conveyance from Open Ditch to Pipeline	4	5	1	1
		c. Convert from Instream Diversions to Groundwater Wells	0	0	0	0
		d. Install or Replace Return Flow Cooling Systems.	1	0	0	1
		e. Install Irrigation Water Siphon Beneath Waterway.	2	0	0	2
		f. Livestock Watering Facilities.	4	8	5	1
		g. Install New or Upgrade/Maintain Existing Fish Screens.	3	4	5	23
8. Fisheries, Hydrologic, and Geomorphologic Surveys.						
		Surveys	18	25	24	23
9. Special Actions (for Terrestrial Species).						
		a. Install/develop Wildlife Structures.	0	0	0	1
		b. Fencing construction for Livestock Control	1	5	7	7
		c. Implement Erosion Control Practices.	0	3	2	0
		d. Plant Vegetation.	2	6	7	6
		e. Tree Removal for LW Projects.	0	3	1	3

INCIDENTAL TAKE REPORTING

The NMFS and USFWS BOs defined four categories of incidental take based on the likelihood of adverse effects to ESA-listed species.

1. Short-term impacts to water quality (e.g., suspended sediment, temperature, dissolved oxygen demand and contaminants).
2. Short-term impacts to water quality (e.g., due to application of chemical herbicides).
3. Short-term decreases in function of physical habitat features (e.g. floodplain connectivity, Natural cover, riparian vegetation, instream flow, stream substrate, space, and safe passage conditions).
4. Juvenile fish handling and dewatering during work area isolation.

IMPACTS TO WATER QUALITY TRIGGER

A further threshold for reinitiating consultation is a visible increase in suspended sediment. In 2016 there were 3 reported instances where turbidity was elevated above background for more than 2 monitoring intervals. Upon further review it was apparent that 2 of the projects were large in scale, included extensive channel rewatering, and due to site specific conditions (2016009 & 2016033). The 3rd was small in scale but due to improper site selection of discharging pump water.

TABLE 3a:Turbidity Exceedence (2016009)

HIPIII NO#	PROJECT
2016009	Yankee Fork/West Fork Confluence Project 2016 (Phase II)
EXPLANATION	**Channel Reconstruction.** The Yankee fork contains very fine sediment, and turbid water was difficult to manage. The project sponsor built a series of coffer dams using supersacks, silt fences, and native materials to allow the turbid water to settle out. However in several instances that approach worked and other times it didn't. There was several exceedances due to interstitial seepage leaking from isolated sites. In each case work was stopped and corrective measures were taken. These included pumping turbid water into an isolated pond where it filtered and settled before reentering live water, pumping clear water into live water upstream to dilute the amount of turbid water entering live streams. This problem is due to the lack of vegetation that would slow, uptake, and filter water. The Services were pre-notified prior to any inwater work, and Chad Fealko of NMFS provided excellent technical assistance in minimizing exposure to turbidity through new channel activation.

2016009: Photos show work area isolation measures are compentent and effective.

2019009: Interstitial seepage due to mine tailings, note lack of vegetation..

TABLE 3b:Turbidity Exceedence (2016033)

HIPIII NO#	PROJECT
2016033	Lostine River/Sheep Ridge Fish Passage Improvement
EXPLANATION	**Headcut and Grade Stabilization.** 4-walled concrete and wooden structure was converted to a roughened channel diversion and fishway restoring access to 20-miles of habitat upstream. Turbidity thresholds were exceeded on five occasions. On each instance work was stopped and corrective measures taken. One factor which likely impacted turbidity was the removal of a wooden check dam located just upstream of the fishway. This structure which was of sufficient elevation to divert water into the Sheep Ridge irrigation ditch had been in place for over 100 years, impounding sediment which was released upon removal.

2016033- Lostine River Diversion Removal (Preproject): The Check Dam in 2013 prior to construction at the upstream end of Sheep Ridge Diversion and the concrete fishway leading up to it was replaced with a roughened channel.

TABLE 3c:Turbidity Exceedence (2016033)

HIPIII NO#	PROJECT
2016067	Lemhi River Restoration
EXPLANATION	**Bank Stabilization:** On 8/5/16, pumped water from a isolation site that was routed into the pasture saturated the ground and began running turbid water subsurface into a side channel of the Pahsimeroi. The plume began at 10:30 AM and continued after the pump was shut off at 2:15 PM, causing a turbidity exceedance of over 4 hours for a visible plume. The plume was visible for 756 feet to a location where the side channel entered and mixed with the main channel. Redirecting the pumped water to another location resolved the issue. Chad Fealko and Kimberly Murphy of NMFS was notified.

2016031: Downtown Lane Culvert Replacement (Before).

2016031: Downtown Lane Culvert Replacement (After).

CHEMICAL HERBICIDE APPLICATION TRIGGER

The analysis in the BOs affirm that application of chemical herbicides will result in short-term degradation of water quality which will cause injury to fish in the form of sublethal adverse physiological effects. Up to 1,000 total riparian acres may be treated in a calendar year under this programmatic consultation.

In 2016, the amount of riparian acres treated is edging upwards mainly due to Wildlife Areas of which BPA funds the acquisition and maintenance of the property such as the Wenas Wildlife Area, Isquulktpe Wildlife Refuge, NE Oregon Precious Lands Wildlife Area, and Pine Creek Conservation Area.

TABLE 4: ACRES TREATED WITH HERBICIDE

	RIPARIAN	UPLAND
2013	409	2482
2014	449	8282
2015	715	7399
2016	836	8940

NOTE: If this upward trend continues, and BPA continues to acquire and fund the management of wildlife areas, the current take allowance may not be sufficient.

DECREASE IN FUNCTION OF PHYSICAL HABITAT FEATURES TRIGGER

This was defined as the total length of stream reach that is modified by construction each year. 90 projects per year that include near or in-water construction is a threshold for reinitiating consultation. This has been met with 40 projects that required near or in-water construction in 2015. These sites are represented as the red dots on Figures 1 & 3.

TABLE 5: No# HIPIII PROJECTS THAT INCLUDE NEAR OR IN_WATER WORK

2013	2014	2015	2016
35	45	41	40

JUVENILE FISH HANDLING TRIGGER

Capture and/or mortality of ESA-listed salmonids during work area isolation is limited to 7500 captured and 375 injured or killed per calendar year. This is further broken down by recovery domain.

BPA has taken less fish than last year during work area isolation activities. It is worth noting that scope and complexity of BPA funded projects has been steadily increasing over the years thus requiring greater efforts at work area isolation (dewatering reaches for channel reconstruction).

2016070: Birch Creek Pump Fish Screen

2016070: Indian Creek Gravity Screen

TABLE 6: INCIDENTAL TAKE DUE TO FISH HANDLING

SPECIES	TAKE CATEGORY	ALLOWABLE LIMITS	2013 ACTUAL TAKE	2014 ACTUAL TAKE	2015 ACTUAL TAKE	2016 ACTUAL TAKE
Interior Columbia	Capture	5925	841	3593	3541	2435
	Mortality	296	12	8	59	130
Oregon Coast	Capture	375	0	0	0	0
	Mortality	19	0	0	0	0
Willamette	Capture	1200	0	0	0	0
	Mortality	60	0	0	0	0
Bull Trout	Capture	250	0	14	29	5
	Mortality	13	0	0	0	0

The large number of mortalities was attributed to one project, once again the Yankee Fork channel reconstruction project, where 1071 salmonids were salvaged and 92 were killed. In this case, a 2600 foot side channel was dewatered and defished. The fish salvage effort was extensive and consisted of experienced personnel from the USFS, Trout Unlimited, and the Shoshone-Bannock tribes. There was a high mortality rate due to the high turbidity which made it difficult to see the fish. The Fish Salvage Report was submitted to NMFS, Chad Fealko who has worked closely with the project from the beginning to the end.

2016009: Instream turbidity during dewatering made it difficult to see fish.

Videos have been posted to Youtube showcasing Yankee Fork:
https://www.youtube.com/watch?v=hj7Vgw7uyzk&t=2s

APPROVED VARIANCES

BPA requested 18 variances with the most common being inwater work window extensions and modifications. Most of the variances types are consistent with the variances requested for previous years.

TABLE 7: APPROVED VARIANCES and RATIONALE

HIPIII NO#	PROJECT	RATIONALE
2016006	Shillapoo Wildlife Area	Variance to use herbicides near terrestrial species, Columbia White Tailed Deer.
2016009	Yankee Fork/West Fork Confluence Project 2016 (Phase II)	Introduce water into the newly constructed Yankee Fork channel during spring run-off, outside of IWW.
2016012	Frazer Creek Bridges	Not providing fish passage during project implementation.
2016015	Lower Red River Meadows Enhancement	Extension of IWWW during rewatering.
2016021	Crane Domeyer & Willow Bar Restoration Projects	IWWW Extension.
2016033	Lostine River/Sheep Ridge Fish Passage Improvement Project	IWWW Modification.
2016046	Pine Creek Conservation Area	IWWW Extension.
2016050	Lake Pend Oreille Kokanee Mitigation	Place of 1,500 cy spawning gravel rock in Lake Pend Oreille.
2016053	Wenas Wildlife Area	Use of Herbicide (Flurozypr) for Resistant Upland Kochia.
2016054	Kerry Island Restoration	Staging Area <150 feet and non-isolation of work areas.
2016056	Implement Tribal Pacific Lamprey Restoration Plan	IWWW modification.
2016059	Wallacut River Confluence Restoration	Staging within 150 feet
2016066	Westport Slough Restoration Project	Staging within 150 feet
2016079	Thor Lemhi River Channels	IWWW Extension
2016083	Garden Creek Siphon	IWWW modification.

2016098	Sunnyside Wildlife Mitigation: O&M	Use of Herbicide (Flurozypr) for Resistant Upland Kochia
2016101	PNNL Temperature Monitoring Below Bonneville Dam	IWWW modification.
2016106	Installation of three PIT-Tag Antenna Sites in Warm Springs River	IWWW modification.

2016033: Lostine Diversion Removal (Before)

2016033: Lostine Diversion Removal (After)

NON-COMPLIANCE

There was only 1 case of non-compliance this year. We attribute this to the numerous HIPIII trainings given across the basin in previous years, stressing use of the HIPIII Handbook and the in-depth technical reviews.

TABLE 8: Reported Non Compliance Events

2013	2014	2015	2016
NA	6	2	1

HIPIII NO#	PROJECT
2016084	Silver Side Channel
EXPLANATION	**Improve 2ndary Channel Connection:** In July, 2016 the project sponsor and USFWS biologist were conducting salvage work outside of IWWW: Both the applicant and USFWS biologist onsite were of the belief that fish salvage work is allowed outside of the in-water work window. BPA is not sure what led them to believe that. We notified them that ALL project activities that are within the active channel must be conducted during the in-water work window, unless specifically authorized through the variance process. We don't expect this to happen again.

HERBICIDE USE

Herbicide use continues to be the most widely used project activity category under the HIPIII. This is due to the numerous wildlife mitigation areas that BPA purchases and are managed under contract by various entities. There has been an increased interest in using herbicides not covered under the HIPIII due to herbicide resistant weeds and applications within the estuary.

BPA is slowly edging towards the annual 1,000 riparian acre annual limit. However, it is likely that the acreage numbers are over reported. Project sponsors typically report the acreage of their project area, not taking into account the spatially patchy distribution of herbicide infestations. For example, a sponsor may report 10 acres of area treated, of which there may be an actual infestation that physically covers 1 acre.

TABLE 9: PROJECTS WITH HERBICIDE USAGE

HIPIII NO#	PROJECT	RIPARIAN	UPLAND
2016001	Umatilla Anadromous Fish Habitat with ODFW	80.65	0
2016006	Shillapoo Wildlife Area	30	118
2016011	Umatilla Fish Passage O & M	4.5	4.5
2016018	Klickitat Watershed Enhancement	4.3	0
2016019	Yakima Basin Side Channel	58.5	100
2016022	NE Oregon Precious Lands Wildlife Area	113	600.5
2016023	Pine Creek Conservation Area	97	1155
2016030	Grande Ronde Subbasin Invasive Weed Treatments -16	97.8	0
2016035	Isquulktpe Watershed Project	75	75

2016037	Rainwater Wildlife Area	16	560
2016038	Lemhi Soil and Water Conservation District	1	1
2016042	Lapwai Creek Watershed Restoration	1.7	0
2016049	Lapwai Creek Anadromous Habitat	12.28	0
2016053	Wenas Wildlife Area	113	600.5
2016055	Hellsgate Big Game Winter Range	0	4475
2016061	Fifteen Mile Creek Habitat Improvement	69	24.19
2016062	Hungry Horse Mitigation Habitat Restoration and RM & E	15.5	294.5
2016063	John Day Habitat Enhancement	28	6
2016064	Hangman Creek Fish & Wildlife Restoration Project	0	50.96
2016065	Albeni Falls Wildlife Mitigation	0	4475
2016067	Lemhi River Restoration	0.29	127.26
2016069	Lemhi River Restoration	NA	NA
2016071	Methow River Vegetation Mangement	1.25	3.25
2016073	Forrest Conservation Area	10	132
2016075	ODFW Operations and Maintenance	33.5	0
2016081	Scotch Creek Wildlife Area	0.05	36.05
2016085	Enhance Habitat North Fork John Day River	26	0
2016097	Albeni Falls Wildlife Mitigation	41.5	548.9
2016098	Sunnyside Wildlife Mitigation: O&M	8	160
2016103	YKFP/Klickitat Only M & E	40	0
2016105	Hungry Horse Mitigation Habitat Restoration and RM&E	9.9	31.85
2016111	Yakima Phase II Fish Screens O&M with WDFW	2.8	0

2016033: Westport Slough Levee Removal

RESTORATION REVIEW TEAM

Through the RRT process, BPA has been conducting thorough technical reviews of all medium and high risk projects. These technical reviews are conducted by a licensed PE and sometimes involve several iterations of back and forth review junctures between the project sponsors.

Functional review is done by BPA staff (EC Lead) or RRT lead who review the project for adherence to HIPIII criteria and coordinate information sharing and collaboration amongst project partners.

Project sponsors and other federal partners have begun to embrace the RRT process and fold it in their existing processes. We continuously affirm that the RRT is there to help not hinder project development and early involvement is the key.

TABLE 10: RRT REVIEW WORKLOAD

	FY13	FY14	FY15	FY16	Currently Under Review
Medium Risk	4	14	24	24	38
High Risk	2	6	2	3	15

Note the large amount of projects currently in the RRT queue. Project sponsors are submitting the projects earlier and earlier which gives BPA more opportunity to work with them on an effective design. Some of the projects are slated for 2018 and 2019. The scope and complexity of projects are increasing. Most projects make it through the process, a few projects are found to not fit the HIPIII and some are found to possess little fish benefit. In those cases a decision is made with the implementation managers to continue or not continue with the project.

2016072: Pahsimeroi Floodplain Restoration

2016072: Pahsimeroi Floodplain Restoration

INTERAGENCY COLLABORATION

The Nez Perce Tribe proposed a fish passage project near the city of Lostine in Oregon. A large diversion dam was to be removed which was a barrier to migrating salmonids. Adult Chinook redds were observed within the project area which invalidated HIPIII coverage. However with coordination with NMFS an exclusion weir was built to block adult fish from accessing available spawning gravel within the project footprint. This approximately 100-foot fence, made primarily of steel conduit pickets and 2 1/4-inch galvanized steel pipe, was installed August 3. The exclusion fence was successful in precluding fish from spawning within the project reach and was removed prior to construction on September 6.

2016033: Lostine Diversion Removal – Exclusion Barrier.

THE HIPIII APPROVAL PROCESS (Originally presented in 2015)

START

1) **Sponsor** provides conceptual designs to **EC Lead**.

2) **EC Lead** makes **Risk Determination**.
   a) If **Low** Risk, the **EC Lead** provides to **Sponsor** (then skip to step 7):
      i) Conservation Measures Checklist or CAD file.
      ii) HIPIII Project Notification Form (PNF, Page 72).
   b) If **Med/High** Risk, the **EC Lead** provides to **Sponsor**:
      i) Conservation Measures Checklist or CAD file.
      ii) General Project and Data Summary Requirements (GPDSR, Page 66).
      iii) HIPIII Project Notification Form (PNF).

3) **Sponsor** provides draft GPDSR and design plans to EC Lead.

4) **EC Lead** submits project to **RRT**.

5) **RRT Process** begins (once information requirements are complete).
   a) **RRT** Team member is assigned.
   b) Review schedule is determined (how many review junctures).
   c) Interagency Participation is solicited (for **High** risk projects).
   d) Site visit scheduled (if necessary).
   e) **RRT** conducts review at specified review junctures (15, 30, 80%):
      i) Functional review (for **Med/High** risk projects).
      ii) Technical review (for **Med/High** risk projects).
      iii) Interagency review (for **High** risk projects).
   f) **RRT** shall compile and submit comments from review, comments shall be either:
      i) Clarifications.
      ii) Recommendations.
      iii) Requirements.
   g) **Sponsor** addresses comments and resubmits design documentation (if necessary).
   h) **RRT** approves design:
      i) If **Med** Risk RRT member sends approval email to EC Lead.
      ii) If **High** Risk RRT member solicits final approval from **NMFS** branch chief and/or **USFWS** field office supervisor.

6) **RRT** review is complete.

7) **EC Lead** or sponsor gets **NMFS** Hydro approval (where needed, see Page 78 in HIPIII Handbook). This can be concurrent with **RRT** review.

8) **Sponsor** submits Final Designs and PNF to **EC lead**.

FINISH

9) EC lead submits completed PNF to Services (NMFS/USFWS).

10) HIPIII coverage is complete.

2016092: Starr Alcove (Before).

2016092: Starr Alcove (After).

DISCUSSION TOPICS

STREAMBANK STABILIZATION

- BPA is currently in the process of formulating policy on streambank stabilization projects.
- Streambank projects are proposed frequently, provide little biological benefit, have the appearance of bank restoration, and yet meet HIPIII criteria.
- BPA may decide not to move forward with funding these projects.

RRT STRUCTURE

- Continuing to refine and improve on the RRT and the process based on project sponsor feedback, workload optimization and personnel availability.
- Over time, the RRT has become more of a process than an actual team
- Flexibility to optimize and restructure what the concept of the RRT is and the process itself.
- In all cases, each medium to high risk project receives a thorough technical review in order to maximize fish benefit and minimize risk to the resource.
- Process is manifesting in better projects on the ground.

SERVICE INVOLVEMENT

- Service availability for projects is inconsistent across basins.
- Difficult to get responses for high risk projects.
- Proposed interagency involvement for High Risk projects in 2014.
- Will accommodate requests from individual staff biologists.

NMFS HYDRO REVIEW

- BPA and NMFS Hydro Engineers recently met to clarify their role in HIPIII.
- If any project that involves that involves fish passage and needs a variance, must go to NMFS Hydro Review.
- Fish passage variances must be approved by both Fish passage engineers and Branch Chiefs.
- How to manage inconsistency from NMFS Hydro review & Branch Chief approval?

STATE PROGRAMS FOR FISH SCREENS (CONTINUED FROM 2015)

- On 4/27/16, BPA met with Jeff Brown, Chris Allen, Randy Tweeten, ODFW screen shop. Outcome was to allow the program to proceed for this year under HIPIII.
- On 5/13/16, NMFS Hydro approval was received on proposed fish screen activities.
- BPA submitted PNF 2016070 & PNF 2016080 for ODFW Fish Screens.
- ODFW installed 15 fish Screens, 5 headgates, 1 water measuring devices.
- Compliance and reporting appears to be working, continue?

JUNIPER REMOVAL (CONTINUED FROM 2015)

- Tribes plan large scale removal (10,000 acres) in 5 years.
- Upland burning acceptable use of HIPIII vegetation management?
- No adverse effect buffer for riparian area?

HERBICIDE USE IN ESTUARY AND WETLANDS

- BA drafted a proposed action, with limited herbicide use, unique conservation measures & timing restrictions.
- NLAA effect determination affirmed through modeling and conservation measures.
- BPA would like to use HIPIII reporting structure (PNF & PCF) to apply herbicides in estuary, saving consultation time, and capitalizing on existing processes.
- BA analysis that effects are not greater than analysis in NMFS BO.

FISH EXCLUSION BARRIERS

- Not screens, can be built under HIPIII with guidance from NMFS and BPA engineers?

HIPIII HANDBOOK

- Annual updates by Sept Oct, instead of piecemeal updates.
- Engineers are going to meet more regularly, quarterly. To collect the latest science on restoration activities such as BDAs and Ditch Plugs.
- The handbook shall be updated accordingly. Clarifications and criteria that are more stringent.

2016039: Toppenish Floodplain Roughness Features (Before and After).

2016039: Toppenish Bank Restoration.