US Army Corps of Engineers ®
Walla Walla District
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LOWER SNAKE RIVER FISH AND WILDLIFE COMPENSATION PLAN
WILDLIFE RIPARIAN HABITAT PLANTING

PM-EC-2014-0089

ENVIRONMENTAL ASSESSMENT

June 2014

Lower Snake River Fish and Wildlife Compensation Plan Wildlife Habitat Planting

Environmental Assessment

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1. INTRODUCTION

1.1 Introduction

The U.S. Army Corps of Engineers, Walla Walla District (Corps), is proposing to plant native riparian vegetation within Habitat Management Units (HMUs) and potentially other sites located along the lower Snake River area (Figure 1) to create or enhance wildlife habitat. The intent of this action is to help meet terrestrial wildlife mitigation requirements under the Lower Snake River Fish and Wildlife Compensation Plan.

As required by the National Environmental Policy Act (NEPA) of 1969 and subsequent implementing regulations promulgated by the Council on Environmental Quality, this Environmental Assessment (EA) was prepared to determine whether the proposed action constitutes a major Federal action significantly affecting the quality of the human environment and whether an Environmental Impact Statement (EIS) is required. The information contained in this EA defines the nature and scope of the effects associated with the proposed native vegetation planting.

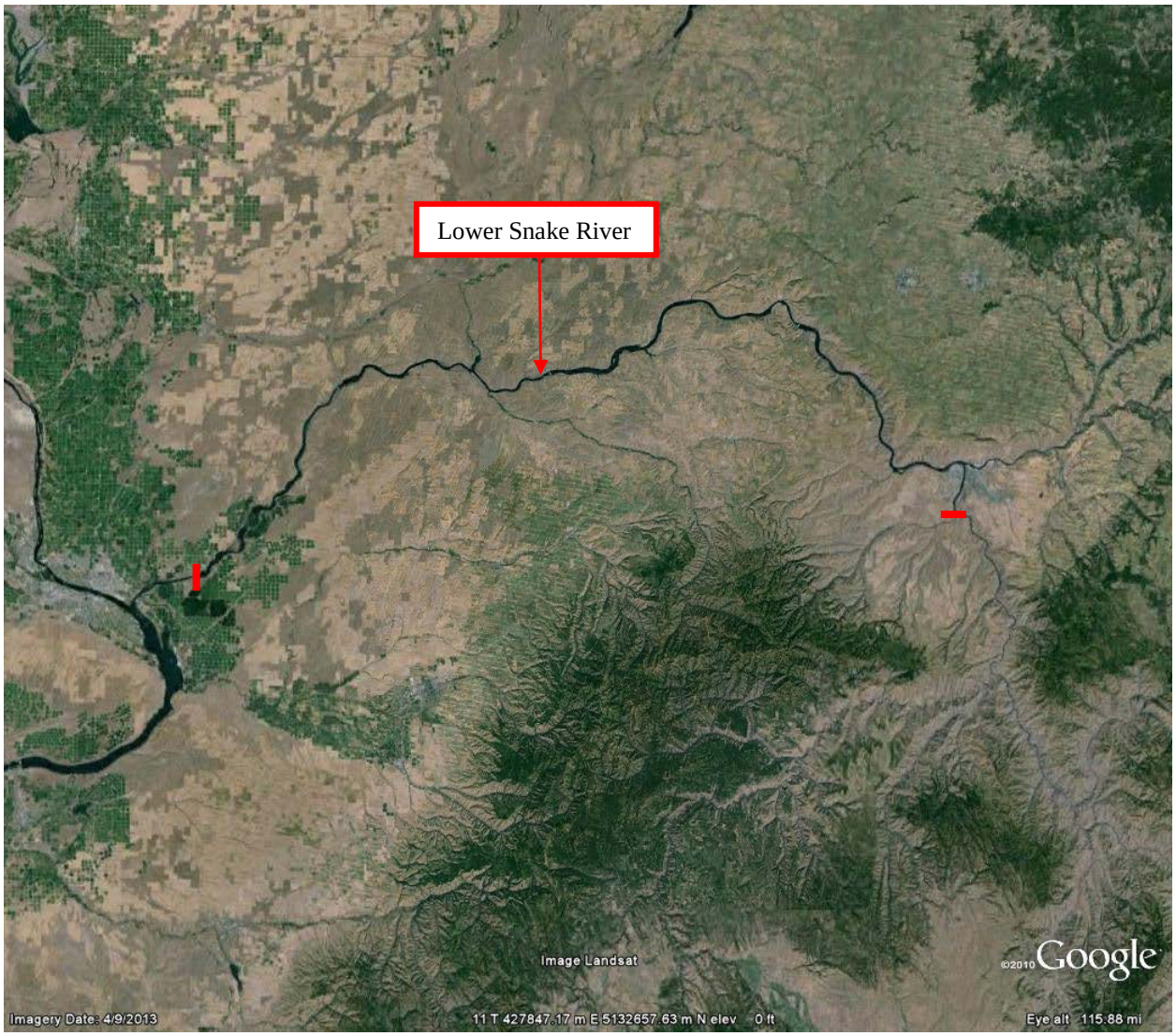

Figure 1: Lower Snake River Area (between red bars)

1.2 Background

The Lower Snake River Project (LSRP) was authorized by Congress on 2 March 1945, under the Rivers and Harbors Act of 1945 (Public Law 14, 79th Congress, 1st Session). The LSRP consists of Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams (Figure 2). The authorized purposes of the LSRP include navigation, irrigation, and hydroelectric power production. Recreation and fish and wildlife enhancement became authorized project purposes through subsequent legislation.

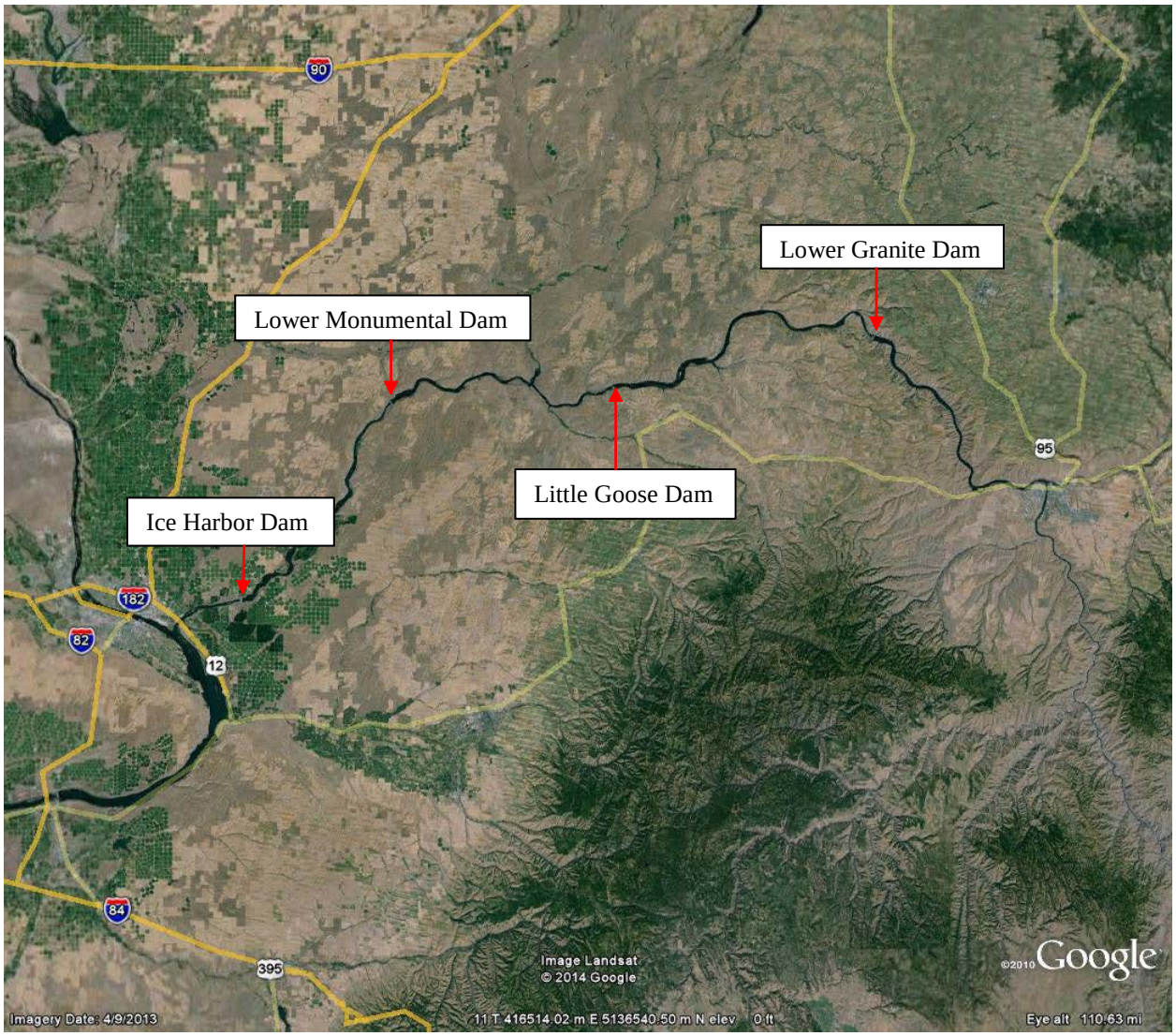

Figure 2: Lower Snake River Project

While Congress authorized the LSRP, the legislative language did not address fish and wildlife losses resulting from the LSRP or mitigation for any of the losses. Under the Fish and Wildlife Coordination Act of 1958 (FWCA) however, both analysis of fish and wildlife impacts associated with Federal water projects and compensation for the loss of fish and wildlife resources and habitat are required. To address FWCA compliance requirements for the LSRP, the US Army Corps of Engineers (Corps) developed the Lower Snake River Fish and Wildlife Compensation Plan (Comp Plan). The Comp Plan is a negotiated settlement agreed to by the Corps, Washington Department of Fish and Wildlife (WDFW) and the U.S. Fish and Wildlife Service (USFWS). Its intent is to mitigate for the loss of fish and wildlife resources and their habitat, as well as for the loss of fish- and wildlife-oriented recreational opportunities caused by the construction of the four lower Snake River dams (Corps, 1976). The Comp Plan was published in June, 1975 and authorized by the Water Resources Development Act (WRDA) of 1976. The Comp Plan was subsequently amended by WRDA 1986 and WRDA 2007.

Under the Comp Plan, Corps managed federal lands on the lower Snake River along with other lands purchased and leased in adjacent areas of southeast Washington would be developed for terrestrial wildlife habitat. The project area includes all Corps-owned lands which are suitable for planting within the Lower Snake River area (Figures 3 and 4). This includes all HMUs (23,620 acres), recreation areas (973 acres, not all of which would be available for planting) and other suitable locations not associated with recreation areas or HMUs (7,043 acres). The total number of acres available for habitat development is approximately 31,600 acres.

Originally, Comp Plan mitigation goals were based on the number of animals present on LSRP lands prior to inundation. This approach was later found to be untenable and was changed from assessing animal counts to assessing measures of habitat using the Habitat Evaluation Procedure (HEP) as a substitute for animal numbers. HEP is a process developed by the USFWS for determining the ecological value of a specified area of land. It analyzes and quantifies the value of habitat available to a selected species of wildlife within a selected parcel of land. The identified value is expressed in Habitat Units (HU). The Corps undertook several HEP evaluations within the LSRP, the first in the late 1980s and the second in 2001-2002 (Sather-Blair, 1991; Ackerman, 2004).

In 2012-2013, the Corps performed a gap analysis to identify remaining mitigation needs for terrestrial habitat. The analysis showed that all Comp Plan goals had been met except for riparian habitat (i.e. riparian forest and riparian scrub-shrub) and that a total of 722 riparian HUs would need to be acquired to meet the remaining goal. However, the only way to obtain the needed amount of HUs would be through one of the following two options: 1) purchase more riparian property, which would require additional Congressional authorization, or 2) convert high desert lands to riparian habitat using permanent irrigation. Given the anticipated high cost in time, money and effort associated with both options, neither one was seen as a feasible means for riparian mitigation goals. Instead, the Corps proposed to meet its mitigation requirements by planting up to 200 additional acres of high-quality, self-sustaining riparian habitat. The Corps' proposal is in keeping with WDFW and USFWS preferences of developing high quality riparian habitat and self-sustaining plant populations over acquiring the total remaining number of HUs identified in the HEP analysis (i.e. 722 HUs). The Corps' native planting design would be coordinated with WDFW and USFWS and would complete approximately 71% of the Comp Plan's initial riparian habitat goals. With completion of the proposed plantings (i.e. 200 acres), the Corps would seek formal concurrence on completion of the Comp Plan from WDFW and USFWS. (NOTE: Under the current schedule, the Comp Plan would end no later than 2019 but could end sooner depending on funding allocations.)

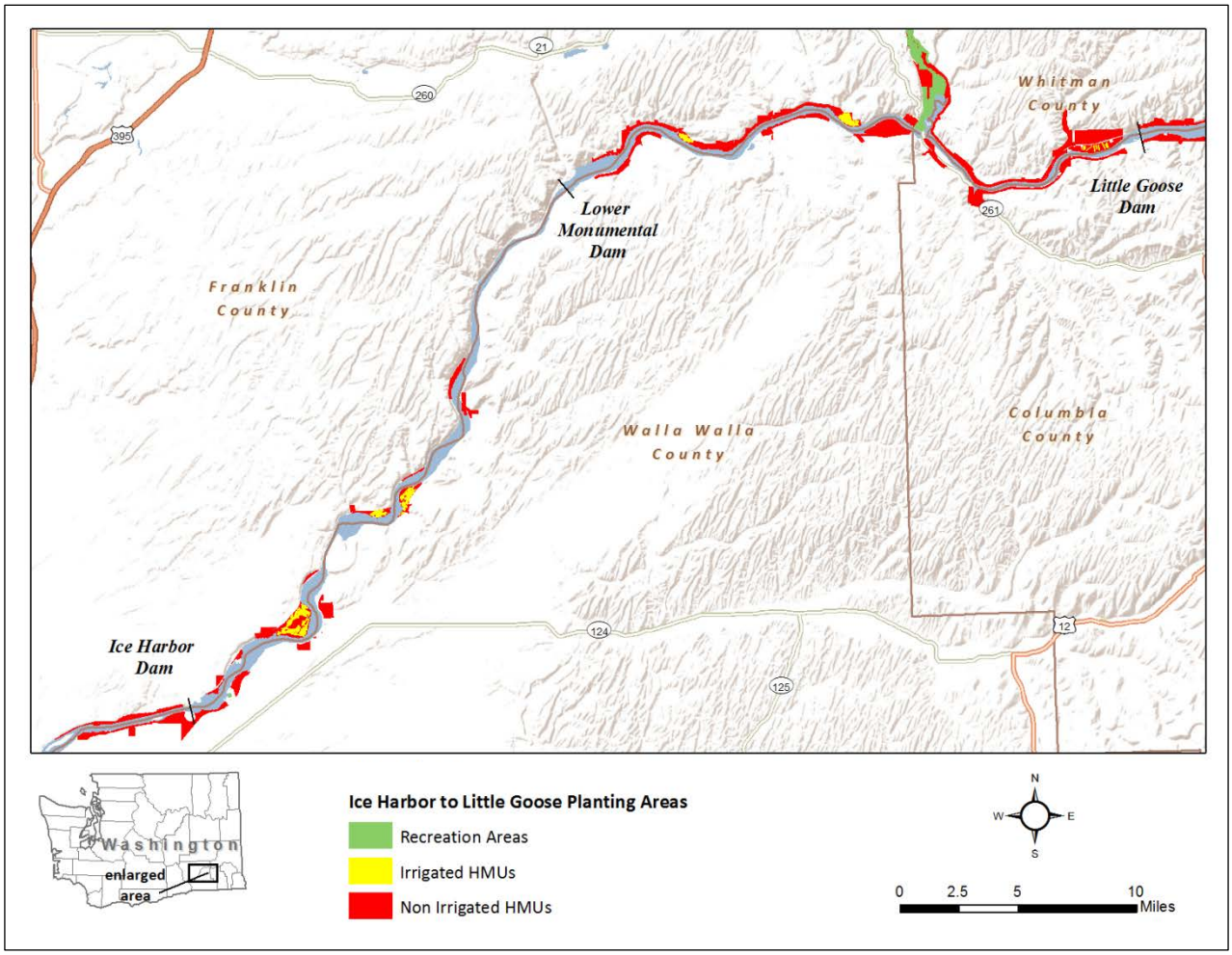

Figure 3: Corps managed federal lands identified for potential habitat development - Ice Harbor Dam to Little Goose Dam.

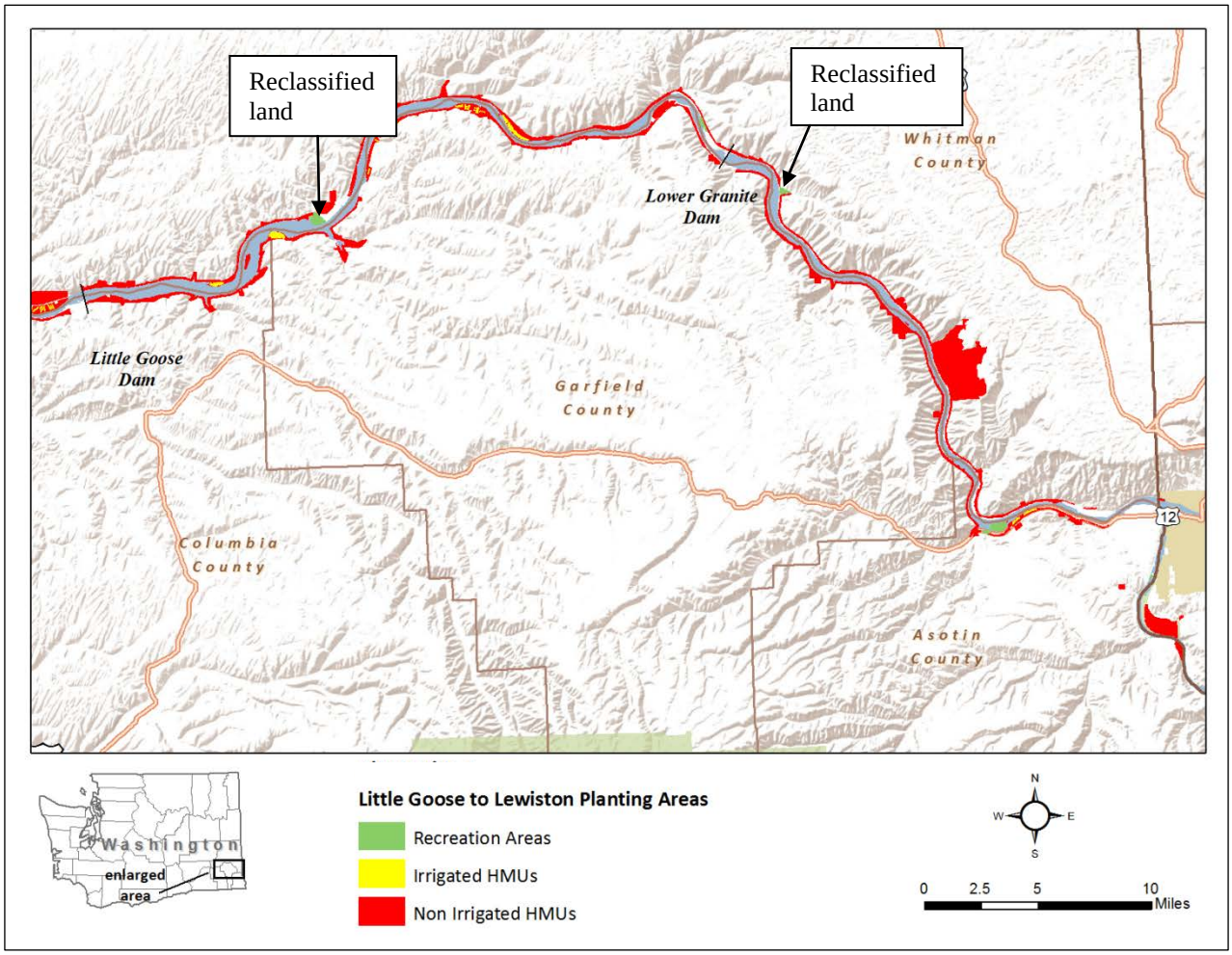

Figure 4: Corps managed federal lands identified for potential habitat development - Little Goose Dam to Asotin, Washington. (Note: The two identified recreation areas (shaded green) in this figure have been reclassified to wildlife habitat land.)

2. PURPOSE AND NEED

The Corps is proposing to plant up to 200 additional acres of high-quality, self-sustaining, native riparian habitat on Corps managed federal lands located within the Lower Snake River area. The purpose for this action is to create and/or enhance wildlife habitat that was lost from the construction of the LSRP. The underlying need for the planting project is to satisfy the requirements of the FWCA by meeting the goals identified in the Comp Plan.

3. ALTERNATIVES

Two alternatives are evaluated in this EA; the no action alternative and the proposed action alternative. The "no action" alternative does not satisfy the project's purpose and need, but is included because it is required by NEPA to establish the baseline from which to compare other alternatives. "No action" does not mean there would be no environmental effects from this

alternative. (NOTE: No further alternatives were identified for this project as any additional alternatives which would reasonably meet the project purpose and need statement would only be a slight variation of the proposed alternative.

3.1 Alternative 1: No Action

The No Action alternative represents a continuation of current Corps wildlife habitat planting practices. This involves Corps staff identifying small, priority projects for habitat enhancement within the Ice Harbor, Lower Monumental, Little Goose and Lower Granite Projects. The projects are typically 5 to 10 acres in size and are implemented as funding and resources become available.

Planting would occur in irrigated as well as non-irrigated HMUs and would be done by hand or with power equipment. Plants which fail would be replaced when feasible; only native plants would be used.

3.2 Alternative 2: Proposed Action

Under Alternative 2, all Corps-owned lands within the Lower Snake River area which are suitable and available for planting, could potentially be selected for riparian habitat development or enhancement. Development/enhancement would consist of planting riparian native vegetation across some or all of three habitat zones - seasonal inundation, lower transition and upper transition.

The *seasonal inundation zone* includes the area of shoreline between the seasonally high and seasonally low water levels. Wave action often increases the elevation of the inundation zone by delivering water to the shore above the high water level. The *lower transition zone* includes the moister portion of the transition zone that has perennial subsurface water through a shallow water table and is capable of supporting riparian trees and shrubs. On more gentle grades, the lower transition zone may spread out laterally from the shoreline into moist meadows, side draws, and swales. The *upper transition zone* is the drier portion of the transition zone grading into the dry uplands. In some areas where there is a sheer cut bank, the upper transition zone is very narrow or not present at all due to the abrupt transition to the uplands above. On broad gentle slopes, the upper transition zone can support a diversity of shrub species.

Besides planting within the three identified habitat zones, the riparian plant species used would come from a list of native vegetation specifically developed for the Lower Snake River habitat enhancement program. The vegetation species (i.e. trees and/or shrubs) planted within each habitat zone would be native to and suited for that particular zone. Table 1 provides a list of the riparian vegetation species which would be planted.

Table 1. Shrub and tree species proposed for planting

Common Name	**Scientific Name**
Seasonal Inundation Zone	
Pacific Willow	*Salix lucida*
Coyote Willow	*Salix exigua*
Peachleaf Willow	*Salix amygdaloides (Anderrs.)*

Mackenzie Willow	*Salix Prolixa Anderss*
Lower Transition Zone	
Black Cottonwood	*Populus balsamifera*
Pacific Willow	*Salix lucida*
White Alder	*Alnus rhombifolia*
Black Hawthorn	*Crataegus douglasii*
Redosier Dogwood	*Cornus sericea*
Smooth Sumac	*Rhus glabra L.*
Woods Rose	*Rosa woodsii*
Upper Transition Zone	
Blue Elderberry	*Sambucus nigra L. ssp. cerulea*
Russet Buffaloberry	*Sheperdia canadensis*
Western Chokecherry	*Prunus virginiana*
Saskatoon Serviceberry	*Amelanchier ainifolia*
Golden Currant	*Ribes aureum*
Mock Orange	*Philadelphus lewisii*
Curl-Leaf Mountain Mahogany	*Cercocarpus ledifolius (Nutt.)*
Western Sandcherry	*Prunus besseyi*
Oregon Grape	*Mahonia aquifolium, Berb.*
Woods Rose	*Rosa woodsii*
Netleaf Hackberry	*Celtis laevigata*
Redosier Dogwood	*Cornus sericea*

Proposed planting methods/strategies for each zone include:

- Seasonal Inundation Zone
  - Cuttings planted along shoreline to edge of cut bank
  - Willow clump plantings
- Lower Transition Zone
  - Cluster planting and vertical bundles of willows and red twig dogwood
  - Pole cuttings of willows and cottonwoods
  - Rooted cuttings of willows and cottonwoods, and alder seedlings
  - Native shrubs among the riparian vegetation
- Upper Transition Zone
  - Container stock of native trees and shrubs
  - Plant transition slopes currently occupied by Russian olive

Site work could consist of the following or similar methods:

- Fencing (individual trees or perimeter of planting area) to protect from beavers
- Wire caging/mesh screens around trees to protect from voles
- Biological control of weeds
- Chemical control of weeds, following the Corps' most recent Integrated Pest Management Plan (IPMP) guidelines (Not likely to adversely affect determination, NMFS Tracking # 2012/00353, USFWS reference # 01EWFW00-2012-I-0378)
- Temporary irrigation for the life of the contract (12-18 months)

- Mulch
- Removal of competing vegetation with mechanical equipment (ATVs, pick-ups, mowers, and tractors)
- Mowing of undesirable perennial herbaceous vegetation
- Clearing of nonnative woody vegetation mechanically or with hand tools
- Installation of riparian tree species between riprap boulders
- Use of shovel, auger, stinger etc. to create planting holes
- Scarification of planting areas by a tractor drawn disc or blade

Planting activities may be implemented at any time of year, but would be conducted primarily from fall through spring (October through April). To help minimize potential negative impacts from the proposed planting methods/strategies, best management practices (BMP) would be employed as needed and appropriate. BMPs would include the following:

- Most work would be performed above the ordinary high water line. Any work in the inundation zone would only occur when the water level is lower than the planting area.
- Any motorized equipment used would be staged, fueled and maintained at least 100 feet landward from the ordinary high water line.
- All BMPs and conservation measures discussed in the Walla Walla Integrated Pest Management Plan would be followed.
- Native riparian plants would be used in all planting designs.
- A criteria compliant fish screen would be used when water is pumped from the river for temporary irrigation.

Proposed habitat enhancement work would be contracted out. The contractor would remove non-native trees/shrubs by applying herbicides to cut-stumps or stems, and set new appropriate plantings in their place. Shoreline planting activities would be conducted from both shore and boat using hand tools and mechanical equipment (backhoe, stinger). Upper transition sites would require mechanical equipment, a truck, and hand tools. Shoreline planting areas would be accessed via existing two track roads and by driving cross country in areas without roads.

A stinger (a metal bar used to pierce a hole into the ground) mounted on a backhoe would be used for shoreline riparian planting activities. Trees/shrubs with root balls would be installed using hand tools. The depth of ground disturbance is expected to be up to 3 to 4 ft deep for riparian cuttings and containerized plants installed with a stinger. Many of the trees would be individually caged to prevent wildlife damage.

3.3 Preferred Alternative: Alternative 2 (i.e. proposed action) was selected as the preferred alternative as it meets all the conditions of the stated purpose and need. Based on existing conditions and constraints, the preferred alternative maximizes the opportunity to develop high-quality riparian habitat producing maximum benefits within the remaining land and funding resources available under the Comp Plan.

4. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This section identifies and describes: (1) the affected environment – i.e. the existing natural, cultural and socioeconomic resources which have the potential to affect or to be affected by the alternatives, and (2) what the effects on those resources might be. Although all existing resources within the project area were initially considered, only those resources determined relevant to the proposed action were included in the affected environment. While the intent is to focus on relevant resources, it is important to recognize that the level of relevance of each identified resource to the proposed action is not the same. Some resources figure more prominently in an undertaking than others. For purposes of this EA, all relevant resources are identified but not all are discussed in detail. Table 2 provides a list of the relevant resources identified for the Lower Snake River Compensation Plan Wildlife Habitat Planting Project.

Table 2: Comp Plan Riparian Planting Relevant Resources

Resource/Further Discussion	**Condition/Status**
Biological/YES	Impacts to fish and wildlife resources would be temporary during ground clearing and planting activities. Beneficial impacts would be far greater to fish and wildlife resources once plantings take place and native vegetation is established along the lower Snake River and its tributaries.
Water Quality/YES	Proposed work activities at identified planting sites would require action under the Clean Water Act (e.g. Section 402).
Cultural Resources/YES	While the project area of potential effect (APE) is defined, there are many locations within the APE where minimal or no cultural resources assessments have been done. Cultural resources clearance of selected planting areas would need to be completed on a case-by-case basis.
Vegetation/YES	The proposed habitat planting work is geared towards introducing/enhancing desirable native vegetation within designated locations.
Recreation/NO	Potential planting locations and associated activities could be located in HMUs and in immediate proximity to recreation sites. Planting activities that could have an impact on recreation include digging, fencing, clearing of non-native vegetation, temporary irrigation, and use of herbicides. However, direct conflicts with recreation would be most likely to occur at HMUs but would be minimal given the dispersed recreation activities at HMUs. In addition, disruptions to recreation from ground disturbance, fencing and caging, and noise would be short-term and localized, and recreational users would likely return to these sites once planting is complete. In the long-term, these activities would enhance wildlife habitat and promote recreation through improved hunting, fishing, and wildlife viewing opportunities. Under the No Action Alternative, the Corps may or may not elect to undertake riparian planting as part of its operation and maintenance (O&M) activities. Further, if plantings are done, it is anticipated they

	would be at a much smaller scale than those of the Comp plan. If no plantings are done, there would be no impact to recreationists or recreational activities. If plantings are done, recreation impacts are anticipated to be the same type or similar to the impacts occurring under the Comp Plan work. However, they would be at a smaller scale due to the smaller amount of acreage being planted under the O&M side.
Soils/NO	The project area is part of the Columbia Plateau that is composed of volcanic rock overlain by loess, or windblown sand, ranging from a few feet to more than 100 feet in depth. Erosion (due to water and wind) is currently occurring within the project area. The establishment of native vegetation would have a long-term beneficial effect in helping to reduce/minimize soil erosion. Under the No Action Alternative, the Corps may or may not elect to undertake riparian planting as part of its operation and maintenance activities. Further, if plantings are done, it is anticipated they would be at a much smaller scale than those of the Comp plan. If no plantings are done, shoreline erosion would continue to occur at current levels. If plantings are done, there would be some reduction in soil erosion but less than what would occur under the Comp Plan.
Aesthetics/Visual Quality/NO	Changes to visual resources or the aesthetics of the project area would occur incrementally over time and would not likely be recognized by the general public. No noticeable permanent structure or visual obstruction would remain. Under the No Action Alternative, the Corps may or may not elect to undertake riparian planting as part of its operation and maintenance activities. Further, if plantings are done, it is anticipated they would be at a much smaller scale than those of the Comp plan. If no plantings are done, there would be no change in the visual landscape beyond what occurs naturally over time or other planned developments. If plantings are done, they would have the same effect as the Comp Plan but at a much smaller scale.
Environmental Justice/NO	The preferred action would have no negative impacts (e.g. economically or socially) on any minority/ethnic group or social class. Under the No Action Alternative, there would also be no negative impacts either economically or socially.
Noise/NO	The project area is situated in rural counties of the lower Snake River where many of the potential planting locations would be located in sparsely populated areas. Noise from the project would be very limited and may include hand work along with the use of small equipment on an intermittent basis. Local farmers or occasional boaters and hikers would be the individuals most likely to encounter project noise. Under the No Action Alternative, the Corps may or may not elect to undertake riparian planting as part of its operation and maintenance activities. Further, if plantings are done, it is anticipated they would be at a much smaller scale than those of the Comp plan. If no plantings are done, there would be no project noise. If plantings are done, it is

	anticipated they would also use the same methods as the Comp Plan (i.e. hand tools and/or small equipment). There would be limited noise and limited potential for it being heard due to the short timeframes within which the work would be done.
Climate Change/NO	The Council on Environmental Quality (CEQ) in NEPA guidance for documenting effects of climate change directed agencies to conduct quantitative analysis of Greenhouse Gas (GHG) emissions for any project with estimated GHG emissions over 25,000 metric tons annually. It is not anticipated that the total GHG emissions produced by the planting of native vegetation will exceed the 25,000 metric ton GHG emission threshold. Under the No Action Alternative, the Corps may or may not elect to undertake riparian planting as part of its operation and maintenance activities. Further, if plantings are done, it is anticipated they would be at a much smaller scale than those of the Comp plan. With or without plantings, the No Action Alternative would also not exceed the 25,000 metric ton GHG emission threshold.
Air Quality/NO	The project area meets Washington State's ambient air quality standards and is in "attainment". Air quality would be negligibly impacted by the proposed work (i.e. use of hand tools and/or small motorized equipment) and should not result in a "non-attainment" status**.** Under the No Action Alternative, the Corps may or may not elect to undertake riparian planting as part of its operation and maintenance activities. Further, if plantings are done, it is anticipated they would be at a much smaller scale than those of the Comp plan. With or without plantings, the No Action Alternative would also not generate a sufficient level of pollutants that would exceed air quality standards and result in a "non-attainment" status.
Socioeconomics/NO	The preferred action would have no significant impact to socioeconomics. The project area is in rural eastern Washington far from large metropolitan centers. The proposed action would have minor, insignificant impacts to recreation, but not to other industries in the region. Under the No Action Alternative, the Corps may or may not elect to undertake riparian planting as part of its operation and maintenance activities. Further, if plantings are done, it is anticipated they would be at a much smaller scale than those of the Comp plan. With or without plantings, the No Action Alternative would also not have a significant impact to socioeconomics for the same reasons as the preferred action.
Cumulative Effects/YES	Federal agencies are required to consider the cumulative effects of their actions on the environment.

4.2 Biological

Affected Environment

The lower Snake River supports large and varied populations of anadromous fish (e.g. salmon and steelhead), resident fish (e.g. bull trout, white sturgeon, bass, walleye, etc.), and aquatic organisms (e.g. algae, insects, snails, etc.). Aquatic plants are an important part of the overall production in reservoir systems, and include phytoplankton, algae, and macrophytes. Wildlife is also generally abundant close to riparian corridors, and many species of mammals (e.g. deer, mouse, coyote), birds (e.g. hawks, ducks, sparrows, etc.) and amphibians and reptiles (e.g. snakes, turtles, frogs, etc.) inhabit riparian corridors for part of, or the entire year (Corps, 2010d).

Environmental Consequences

No Action Alternative: Under the No Action Alternative there would be minor impacts to aquatic resources and wildlife in the project area. The Corps would not conduct wildlife habitat planting. Vegetation management would continue without comprehensive guidelines and Comp Plan goals for riparian habitats would likely not be met. Current planting practices and impacts (e.g. disturbance and displacement) on aquatic resources and wildlife would continue at existing levels. Continuing aquatic impacts would include sediment delivery, localized turbidity, and changes in water quality and substrate composition. On the terrestrial side, invasive plant species would continue to thrive and would impact wildlife by destroying or replacing native food sources and altering the abundance and diversity of plant species which provide important habitat (NWF, 2013).

Preferred Alternative: The Preferred Alternative would have minor impacts to aquatic resources and wildlife in the project area. Impacts from site preparation, planting activities, on-going invasive species control (i.e. chemical use) and temporary irrigation could create localized disturbance to habitat, including vegetation trampling and destruction, soil erosion, and soil compaction. The amount of potential turbidity and fine sediment reaching the river from these activities would be small and not lead to any detectable impacts on aquatic resources. BMPs to control erosion, sediment release, storm water surface runoff, and floodplain function would be utilized during all planting activities to minimize potential adverse impacts on water resources. Sites would be re-vegetated with native plant species and any negative impacts would be outweighed by the long-term beneficial effects of restored native habitats. Some wildlife species would be disturbed and temporarily displaced during site preparation and planting activities due to increased noise and human presence at planting locations. Any noise generated under this alternative would be of short duration and wildlife would be expected to return to planting areas shortly after the project is completed.

Herbicides may be used to control non-native plant species and could have negative impacts to aquatic resources and wildlife species. To minimize potential impacts from herbicides, all herbicide applications used under this project would follow the Corps' 2012 IPMP. All herbicides would be picked from the approved list under the IPMP and all labels, BMPs, and conservation measures would be followed and implemented. Effects of herbicides on wildlife are discussed in the IPMP EA (Corps, 2012a) and BA (Corps, 2012b).

Plantings of native riparian shrub and tree species would convert some grassland habitats to riparian shrub/forest habitats and would enhance wildlife habitat for shrub tolerant species, while reducing habitats for grassland species. In some instances, temporary irrigation would be used. In addition to short-term use, BMPs would also be implemented which would result in minimal/negligible impacts on aquatic resources. Migratory bird nesting areas would be avoided during nesting season. Overall benefits to both wildlife and aquatic species from proposed native vegetation planting would include increased plant diversity, decreased soil erosion, improved wildlife food sources, and increased habitat structure.

4.2a Threatened and Endangered Species

Affected Environment

On April 15, 2014 the Corps reviewed the current list of threatened and endangered (T&E) species for Asotin, Columbia, Franklin, Garfield, Walla Walla and Whitman counties in Washington which may be affected by the proposed action. These species are under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). The list of protected species is shown in Table 3.

Table 3. Endangered Species Act (ESA) listed species which may occur in the project area.

Species	Scientific Name	Status	Determination
NMFS			
Chinook Salmon	*(Oncorhynchus tshawyscha)*		
Snake River fall-run ESU		Threatened	May Affect
Snake River spring/summer-run ESU		Threatened	May Affect
Sockeye salmon	(*O. nerka*)		
Snake River ESU		Endangered	May Affect
Steelhead	(O. *mykiss*)		
Snake River Basin DPS		Threatened	May Affect
USFWS			
Bull Trout	(*Salvelinus confluentis*)	Threatened	May Affect
Pygmy rabbit	(*Brachylagus idahoensis*)	Endangered	No Effect
Canada lynx	(*Lynx canadensis*)	Threatened	No Effect
Gray wolf	(*Canis lupus*)	NRM/DPS - delisted	No Effect
White Bluffs bladderpod	(*Physaria douglasii ssp.*	Threatened	No Effect
Ute ladies'-tresses	(*Spiranthes diluvialis*)	Threatened	No Effect
Spalding's Catchfly	(*Silene spaldingii)*	Threatened	No Effect
Yellow-billed cuckoo	(*Coccyzus americanus*)	Proposed Threatened	No Effect
Washington ground squirrel	(*Urocitellus washingtoni*)	Candidate	May Affect
Northern Wormwood	(*Artemisia campestris var.*	Candidate	No Effect

The Corps completed a biological assessment (BA) in July, 2013. The BA analyzes potential effects of the proposed planting actions on ESA-listed species and their designated critical habitats under both NMFS and USFWS jurisdiction. The BA was developed in order to comply with the ESA. Detailed information regarding each species can be found within the BA. Critical habitat has been designated within the project area for each of the salmonid species.

The lower Snake River is used by each of the listed salmonid species as migratory habitat and these species may be present in the project area as adult and/or juvenile fish depending on the time of year. This area of the river is also used for some rearing and migration of juvenile

anadromous salmonids year-round. Bull trout occur in the project area in low numbers and usually only in the cooler winter months.

Under the Magnuson-Stevens Fisheries Conservation and Management Act (MSA), Federal agencies, are required to consult with the Secretary of Commerce through National Oceanic and Atmospheric Administration (NOAA) Fisheries (i.e. NMFS) regarding any action or proposed action authorized, funded, or undertaken by the Federal agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon including chinook, coho, and Puget Sound pink salmon (PFMC, 1999). EFH for chinook and coho salmon exists in the project area on the lower Snake River.

None of the listed plant species are known to occur within the project area (Bailey 2008). There is no suitable habitat for Canada lynx and pygmy rabbit in the project area. While suitable habitat does occur in the action area (Johnson and Cassidy, 1997), Washington ground squirrels are not known to be present on any of the Corps managed federal lands where planting activities could occur.

Environmental Consequences

No Action Alternative: There would be no effect on T&E species in the project area under the No Action Alternative. The Corps would not conduct planned habitat restoration work. Vegetation management would continue without comprehensive guidance and Comp Plan goals for riparian habitats would not likely be met. Under the No Action Alternative, current planting practices would continue. Any existing impacts on listed resources would still occur from planting activities; however, the level of impact would remain the same as no new impacts would be introduced. Continuing impacts would include limited sediment delivery, localized turbidity, and changes in water quality and substrate composition.

Preferred Alternative: Under the Preferred Alternative there would be minor impacts to aquatic T&E species in the project area. Impacts to federally listed fish species would be similar to impacts on other fish species as described above. The proposed action would have long-term benefits to critical habitat for listed species, including increased plant diversity, reduced non-native plant populations, and overall increase in natural riparian productivity and function.

The alternative would not adversely modify or destroy the critical habitat of any of the listed fish species. The Corps concludes in the BA that the project “May Affect” listed salmonids, but is “Not Likely to Adversely Affect” these fish. While these species do occur within the project area, the proposed project does not include in-water work. In addition, planting activities on shore would be accompanied by appropriate BMPs to reduce impacts to aquatic habitats used by listed fish species. The short-term nature of the project, combined with the relatively small area of disturbance, make it unlikely that the proposed action would disturb listed species. Of the remaining species listed under the ESA, only the Washington ground squirrel has potential to occur in the project area but is not known to be present on any of the Corps managed federal lands where planting activities could occur.

4.3 Water Quality

Historically, the Snake River carried extremely high sediment loads. However, since the construction of dams and the creation of slack-water reservoirs, there has been little sediment transport downstream of Lower Granite Dam. Because the Snake River flows through an area of agricultural use with a few industries, the sediments tend to be highly enriched with nitrate and other nutrients, and have small amounts of herbicides, pesticides, with low levels of dioxin and heavy metals. The Washington State Department of Ecology (WDOE) has placed the lower Snake River area on the Section 303(d) list due to impairment by low DO, temperature, pH, total dissolved gas, nutrients (ammonia), and contaminants.

Environmental Consequences

No Action Alternative: Under the No Action Alternative there would be minor effects on water quality in the project area. The Corps would not conduct wildlife habitat planting. Vegetation management would continue without comprehensive guidance and Comp Plan goals for riparian habitats would not likely be met. While some ground disturbing activities may occur as local managers implement small planting projects, significant changes in vegetation and habitat would not be expected. The continued erosion of unprotected HMU shorelines would have minor effects to water quality in the project area.

Preferred Alternative: Planting activities which could impact water resources include digging, fencing, chemical applications, clearing of non-native vegetation, and temporary irrigation. However, it is not anticipated these activities would lead to any detectable impacts on water resources. Best management practices (BMPs) to control erosion, sediment release, storm water surface runoff, and floodplain function would be utilized during all planting activities to minimize any adverse impacts on water resources. Further, disturbed areas would be planted with native vegetation that would help to stabilize soils and reduce long-term erosion, sedimentation, and runoff.

Control of non-native vegetation using herbicides could result in movement of herbicides into surface waters and groundwater from runoff, drift, spills, and leaching. All herbicide application under this project would follow the requirements for herbicide use established under the Corps' IPMP. Effects of herbicides on water resources are discussed in the IPMP EA (Corps, 2012a) and biological assessment (BA) (Corps, 2012b).

To prevent accidental fuel or chemical spills, no fuels or chemicals would be stored at the planting sites and no refueling would occur near the river. Fueling operations would be closely monitored, and an emergency spill kit would be readily available on-site in the event of an accidental spill.

Irrigation used during planting activities would draw water from the Snake River and would be temporary, lasting only as long as it takes new plants to become established. Adverse impacts from irrigation could include reduced downstream discharge, increased groundwater recharge, elevated water tables, and increased drainage flow. To reduce these impacts, temporary irrigation would be staggered so not all sites would be planted at the same time and place.

Temporary irrigation, under this alternative, is of such a small scale relative to the volume of the Snake River that it would not contribute any detectable effects on water resources.

As proposed, planting activities would disturb over an acre of ground and have the potential for storm water runoff to enter waters of the United States (U.S.). Section 402 of the Clean Water Act would require the Corps' contractor to apply for a National Pollutant Discharge Elimination System (NPDES) permit (i.e. Construction General) and to prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify the contractor's BMPs for minimizing the potential for pollutants to enter U.S. waters. Both the NPDES permit and SWPPP would need to be issued and prepared before planting work can start. In addition to disturbing over an acre of ground, some planting would be done below the ordinary high water mark. However, the activity would be covered under Nationwide Permit 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities) and would meet identified conditions and requirements.

Under the Preferred Alternative, the effects to water quality in the project area would increase short-term, but decrease long-term. Impacts would be less than significant.

4.4 Cultural Resources

Affected Environment

Archaeological surveys of the project area began in earnest in the 1940s and continue today. A cultural resources management plan was prepared for the Lower Snake River Projects in 2002 (Hicks 2002) and while a number of large scale archaeological surveys have been conducted of LSRP lands since that time, inventory efforts are ongoing. Approximately 500 archaeological sites are located within the lower Snake River area. These sites are representative of prehistoric through historic occupation of the region covering some 10,000 years and include both Native American and Euro-American sites. Many of these sites are located along the shoreline of the Snake River, and were either inundated or are affected by ongoing impacts related to erosion, wave action, and visitation. The continued erosion of unprotected HMU shorelines could eventually result in adverse impacts to historic properties located within the APE.

Other cultural resources found along the lower Snake River are Traditional Cultural Properties (TCPs). TCPs are areas tied to beliefs, customs, and practices of a living community. They may coincide with the boundaries of archaeological sites, or be comprised of a number of landscape features. Identification and evaluation of TCPs on Corps managed lands along the lower Snake River is ongoing.

Under the National Historic Preservation Act's (NHPA) implementing regulations (i.e. Code of Federal Regulations 36 (CFR) Part 800), Federal agencies are required to evaluate and determine if cultural resource sites are eligible for listing on the National Register of Historic Places (NRHP). The eligibility determination is based on using identified significance criteria. Sites which are determined to be "significant" become eligible for listing on the NRHP. (NOTE: Under the NHPA, cultural resources determined to be "significant" and eligible for listing on the

NRHP, are referred to as *historic properties*.) The Corps treats unevaluated properties as though they are eligible until they are formally evaluated.

Under NHPA Section 106 and 36 CFR Part 800, the Corps is required to survey/evaluate identified planting areas (i.e. area of potential effect (APE)) prior to the start of work to determine if any historic properties are located within the APE. If no historic properties are present, those planting undertakings would only receive in-house review as per the 2009 Federal Columbia River Power System Programmatic Agreement (Corps 2009). If historic properties are present, the Corps would need to coordinate with appropriate parties (e.g. Washington State Historic Preservation Office, Indian Tribes, and other interested parties) to determine an appropriate course of action that would be taken prior to the start of planting work.

Typically, when appropriate planning and consultation is completed, the planting of native species without permanent irrigation typically does not adversely impact cultural resources. The use of native plants would restore landscapes and ethnographic habitats to a more natural function and appearance, and could benefit TCPs (Bonstead, 2013). Currently, the Corps avoids planting in areas with known intact cultural features.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, cultural resources review would occur on an individual basis as projects are identified each year. Therefore, review with the State Historic Preservation Officer (SHPO) and Tribal Historic Preservation Officers (THPO) would continue as individual projects are proposed. As there is no overarching plan identifying specific areas where planting would occur, the proposed planning for these activities would continue as needed.

Preferred Alternative

Under the Proposed Action Alternative, effects would be similar to the no action alternative. The Corps would continue to review projects as they are proposed. It is anticipated that the following planting activities could have minor impacts to historic properties in the APE - digging with hand tools and a stinger, fencing, clearing of non-native vegetation, temporary irrigation and driving of heavy equipment on and off roads. Planting near cultural sites could benefit cultural resources in areas experiencing erosion, animal activity, or human disturbance because native plants can stabilize soils, divert animals and human traffic, and mimic historic conditions (Bonstead, 2013).

4.5 Vegetation

Affected Environment

The lower Snake River corridor exists within the high desert steppe and shrub-steppe communities of the Columbia Basin. The vegetation is dominated by a variety of grasses (e.g. bunch grass, bluebunch wheatgrass) with greater or lesser amounts of sagebrush and other

semiarid shrub species (e.g. bitterbrush and rabbitbrush). The historic riparian vegetation of the lower Snake River was lost to inundation when the reservoirs were built. Thus, most riparian areas along the reservoir shorelines and the lower reaches of their tributaries are highly altered (Carey and Clark, 2013). Trees are practically nonexistent in this arid region, except at scattered sites within riparian areas along the river where only very small groves or single trees are now growing. The two significant native plant communities which grow along the riparian edge in this area are Black Cottonwood and Coyote Willow/False Indigo (Bailey, 2008a; Bailey, 2008b). On irrigated lands the most prevalent tree species is Russian olive and the most dominant shrub is Himalaya blackberry, which grow in impenetrable masses. Both species are non-native and form thickets that prohibit the growth of other species.

Washington and Idaho have designated state noxious weed lists in accordance with the Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2801 et seq.). Many noxious weeds are present along the Lower Snake River with reed canarygrass having displaced much of the historic native herbaceous component (Carey and Clark, 2013). Although not listed on Washington and Idaho's noxious weed list, cheatgrass is another non-native, invasive plant species found extensively throughout the project area.

Environmental Consequences

No Action Alternative: Under the No Action Alternative there would be minor impacts to vegetation in the project area. The Corps would not conduct planned habitat restoration work. Vegetation management would continue without comprehensive guidance and Comp Plan goals for riparian habitats would likely not be met. Some limited site preparation activities and ongoing irrigation may occur as local managers implement small planting projects but significant changes in vegetation and habitat would not be expected. Because invasive species are widespread in the project area, the deterioration of native plant communities would continue without intervention. Specifically, cheatgrass and reed canarygrass would continue to impact the plant communities in the project area, reducing diversity and structure.

Preferred Alternative: Habitat planting, restoration and enhancement would be the focus of planned actions. Planting activities would include digging, fencing, weed control, clearing of non-native vegetation and temporary irrigation. Negative effects from these activities include localized ground disturbance, soil compaction, and erosion but would be short-term and localized. They would be outweighed by the long-term beneficial effects of increased native wildlife habitat and reduced soil erosion.

Herbicides may be used to control non-native vegetation. All herbicide use under this Planting Plan would follow the Corps' 2012 IPMP, and herbicides would be picked from the approved list under the IPMP. All labels, BMPs, and conservation measures would be followed and implemented. Effects of herbicides on vegetation are discussed in the IPMP EA (Corps, 2012a) and BA (Corps, 2012b).

The proposed action would also include fencing and caging of native plants to protect vegetation from wildlife damage; temporary irrigation to start plants; and the use of mulch to retain soil

moisture and discourage weeds. These strategies would have beneficial effects as new plantings become established.

4.6 Cumulative Effects

The National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations for implementing NEPA require federal agencies to consider the cumulative effects of their actions. Cumulative effects are defined as, "the impact on the environment which results from the incremental impact of an action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR § 1508.7). Cumulative effects can result from individually minor, but collectively significant actions taking place over a period of time.

Past and present projects or actions which have had or do have impacts on resources in the project area include: 1) inundation of wildlife habitats during dam construction and filling, 2) installation of irrigation systems and planting of non-native vegetation, 3) annual planting of 5-10 acres of native wildlife habitat, 4) reclassification of some recreation areas to wildlife habitats, 5) recreational usage at HMUs, and 6) implementation of an Integrated Pest Management Plan targeting control of non-native plants and animals.

Potential future impacts to resources within the project area include: 1) climate change which may lead to increased drought and fire; 2) change in management approach from irrigated non-native plants to sustainable natives habitats; 3) sediment management in the LSRP under the pending Programmatic Sediment Management Plan, and 4) implementation of the Inland Avian Predation Management Plan to increase anadromous salmonids (such as steelhead) by managing bird species which prey on ESA-listed fish species in the Columbia and Snake Rivers.

Cumulative effects from past projects include loss of soils to inundation and erosion, alteration of water discharge and chemistry, loss of floodplains and wetlands, increases in irrigated habitats, alteration of fish habitat, reductions in native salmonid populations, conversion of riverine habitats to reservoir environments, loss of riparian vegetation and native wildlife habitats, changes from native plant species to non-native communities, reductions in native wildlife populations, inundation of cultural resources, and increases in local recreation.

The proposed action would have minor, beneficial cumulative effects to wildlife habitats along the lower Snake River. Any adverse impacts would be short term and localized and would not have significant negative impacts to resources. All planting would enhance native wildlife habitats long-term and would reduce the footprint of invasive plant species.

5. ENVIRONMENTAL LAWS AND REGULATIONS

5.1 National Environmental Policy Act

This environmental assessment was prepared pursuant to regulations implementing the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.). NEPA provides a commitment that Federal agencies will consider the environmental effects of their proposed actions prior to implementing those actions. This includes making project findings available for public review and comment. Completion of this environmental assessment and signing of a Finding of No Significant Impact (FONSI), if applicable, fulfills the requirements of NEPA.

5.2 Endangered Species Act

The ESA established a national program for the conservation of threatened and endangered fish, wildlife and plants and the habitat upon which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with the USFWS and NMFS, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their critical habitats. Section 7(c) of the ESA and the Federal regulations on endangered species coordination (50 CFR §402.12) require that Federal agencies prepare a Biological Assessment (BA) that analyzes the potential effects of major actions on listed species and critical habitat.

The Corps completed a BA in July, 2013. The BA analyzes potential effects of the proposed planting actions on ESA-listed species and their designated critical habitats under both NMFS and USFWS jurisdiction. Based on review of the most current T&E species list (i.e. April 15, 2014) and analysis in the 2013 BA, the Corps determined that proposed riparian plantings "may affect but are not likely to adversely affect" ESA listed anadromous fish species, bull trout and Washington ground squirrel. This is the same determination the Corps made for the proposed 2013 habitat plantings. Both the USFWS and NMFS concurred with 2013 determination. NMFS has subsequently indicated that it does not require any additional information for future habitat plantings unless there are changes in how the plantings would be done (Appendix A). The USFWS' response to the riparian plantings covered under this EA would be provided after review of the EA and additional supporting information provided by the Corps. The response would be included in the final, FONSI, if signed.

5.3 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) authorizes the USFWS to evaluate the impacts to fish and wildlife species from proposed Federal water projects which could modify a natural stream and affect the fish and wildlife resources which depend on that body of water and/or its associated habitats. The proposed action is being taken to satisfy mitigation requirements under the FWCA as wildlife compensation for the LSRP. This action would not modify a natural body of water and therefore will not involve activities subject to the FWCA.

5.4 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 as amended directs federal agencies to assume responsibility for all cultural resources under their jurisdiction. Section 106 of NHPA requires agencies to consider the potential effect of their actions on properties which are listed, or are eligible for listing, on the National Register of Historic Places (NRHP). The NHPA implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, requires that federal agencies consult with the State Historic Preservation Officer (SHPO), Tribes and interested parties to ensure that all historic properties are adequately identified, evaluated and considered in planning for proposed undertakings.

Under Section 106 of 36 CFR Part 800, the Corps is required to survey/evaluate identified planting areas (i.e. area of potential effect (APE)) prior to the start of work to determine if any historic properties are located within the APE. If no historic properties are present, those planting undertakings would only receive in-house review as per the 2009 Federal Columbia River Power System Programmatic Agreement. If historic properties are present, the Corps would need to coordinate with appropriate parties (e.g. Washington State Historic Preservation Office, Indian Tribes, and other interested parties) to determine an appropriate course of action that would be taken prior to the start of planting work.

On June 28, 2012, the Corps sent letters to the Washington State Department of Archaeology and Historic Preservation, Nez Perce Tribe, Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Confederated Tribes and Bands of the Yakama Nation and the Wanapum Band (Appendix B). The letters initiated consultation/coordination on the Corps' overall proposed Comp Plan planting program. On June 3, 2013, the Corps sent a follow up letter to all interested parties expanding the APE to include suitable Corps managed federal lands outside of HMUs (Appendix B). The CTUIR and Colville requested additional discussion regarding survey methodology and information respectively. The Corps undertook further consultation to address tribal issues and concerns. As sites are identified for riparian planting under this EA, the Corps will continue to consult, coordinate and work with all interested parties with regard to cultural resources and the Section 106 process.

5.5 Clean Water Act

The Clean Water Act (CWA) of 1972 establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Section 401 of the Clean Water Act requires that any federal activity that may result in a discharge to waters of the United States must first receive a water quality certification from the state in which the activity would occur. Section 404 of the Clean Water Act established a program to regulate the discharge of dredged or fill material into waters of the United States, while Section 402 implements the National Pollutant Discharge Elimination System (NPDES) program that addresses among other things, point-source discharges and storm water runoff. Under Section 402, preparation of a storm water pollution prevention plan (SWPPP) would be required.

The project would not result in the discharge of dredged or fill materials into waters of the United States and therefore would not require 401 state certification or a 404 permit. However, because more than an acre of ground would be disturbed and there is the possibility of storm water runoff into waters of the U.S., a NPDES permit (i.e. Construction General) and preparation of a SWPPP would be required. The SWPPP would identify the contractor's BMPs for minimizing the potential for pollutants to enter U.S. waters. Both the NPDES permit and SWPPP would need to be issued and prepared before planting work can start. In addition to disturbing over an acre of ground, some planting would be done below the ordinary high water mark. However, the activity would be covered under Nationwide Permit 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities) and would meet identified conditions and requirements.

6. COORDINATION AND PUBLIC INVOLVEMENT

6.1 Coordination

This EA is being made available to potentially interested members of the public along with local, state, and federal agencies/individuals and tribal entities for a 15-day review and comment period from August 13, 2014 through August 28, 2014. This EA is available for viewing through the Walla Walla District Corps of Engineers website at www.nww.usace.army.mil. The EA coordination list is found in Table 4.

Table 4. EA coordination list of individuals and agencies.

Individual	Organization
Kevin Tureman	Garfield County, Washington
County Commissioners	Walla Walla County, Washington
Steve Donovan	Walla Walla Joint Community Development Agency
Michael Baker	Whitman County, Washington
County Commissioners	Asotin County, Washington
County Commissioners	Columbia County, Washington
Robert Koch	Franklin County Commissioner
Brad Peck	Franklin County Commissioner
Rick Miller	Franklin County Commissioner
Mary Withers	Franklin County Commissioner's Office
Tom Schirm	Washington Department of Fish and Wildlife
Grant Pfeifer	Washington Department of Ecology
Dr. Robert Whitlam	Washington Department of Archaeology and Historic Preservation
Jim Boyd	Confederated Tribes of the Colville Reservation
Gary Passmore	Confederated Tribes of the Colville Reservation
Gary Burke	Confederated Tribes of the Umatilla Indian Reservation
Eric Quaempts	Confederated Tribes of the Umatilla Indian Reservation
JoDe Goudy	Confederated Tribes and Bands of the Yakama Nation

Phil Rigdon	Confederated Tribes and Bands of the Yakama Nation
Silas C. Whitman	Nez Perce Tribe
Aaron Miles	Nez Perce Tribe
Rex Buck, Jr.	Wanapum Band
Alyssa Buck	Wanapum Band
Chris Warren	U.S. Fish and Wildlife Service
Christine Reichgott	U.S. Environmental Protection Agency
Diane Driscoll	National Marine Fisheries Service

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APPENDIX A

Biological

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, Washington 98115

NMFS Tracking No.:
NWR-2013-10331

September 19, 2013

Michael Francis
Chief, Environmental Compliance Section,
Walla Walla District, Corps of Engineers
210 North Third Avenue
Walla Walla, Washington, 99362-1876

Re: Endangered Species Act Section 7 Consultation and Magnuson-Stevens Essential Fish Habitat Response for the Lower Snake River Wildlife Habitat Programmatic Planting Plan, Asotin, Garfield, Whitman, Columbia, Walla Walla and Franklin Counties, Washington and Nez Perce County, Idaho (1706010302 George Creek – Asotin Creek; 1706010303 Captain John Creek – Snake River; 170601070201 Steptoe Canyon-Snake River; 170601070105 Alpowa Creek; 1706010708 Penawawa Creek-Snake River; 1706010703 Deadman Creek; 170601070406 Flat Creek; 170601080806 Willow Creek-Palouse River; 170601100102 Walker Creek-Snake River; 1706011004 McCoy Creek-Snake River).

Dear Mr. Francis:

On July 22, 2013, the National Marine Fisheries Service (NMFS) received your request for written concurrence that the subject action "may affect," but is "not likely to adversely affect" Snake River (SR) spring/summer-run and fall-run Chinook salmon (*Oncorhynchus tshawytscha*), SR sockeye salmon (*O. nerka*) and SR Basin steelhead (*O. mykiss*) and their designated critical habitat. NMFS has considered the determination of effects under section 7(a)(2) of the ESA, and its implementing regulations (50 CFR Part 402).

This response to your request was prepared by NMFS pursuant section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.[1]

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Act (MSA), including conservation measures and any determinations made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance

[1] Memorandum from D. Robert Lohn, Regional Administrator, to ESA consultation biologists (guidance on informal consultation and preparation of letters of concurrence) (January 30, 2006).

for use of the ESA consultation process to complete EFH consultation.[2] In this case, NMFS concluded that the action would not adversely affect EFH. Thus, consultation under the MSA is not required for this action.

This letter complies with section 515 of the Treasury and General Government Appropriations Act of 2001 (Data Quality Act) (44 U.S.C. 3504 (d) (1) and 3516), and underwent pre-dissemination review using standards for utility, integrity and objectivity.

Consultation History

On July 22, 2013, NMFS received a Biological Assessment (BA) describing the Corp's proposal to help mitigate the effects of the four Lower Snake River Dams on wildlife by improving vegetation in riparian and upland areas on Corps owned and managed lands at various sites along the Lower Snake River between Asotin Slough (RM 147) and the confluence with the Columbia River. The Corps requested concurrence with its finding of "may affect," but is "not likely to adversely affect" SR spring/summer-run and fall-run Chinook salmon, SR sockeye salmon, and SR Basin steelhead and their designated critical habitat. Additional information was received on August 21, 2013 and consultation was initiated at that time.

Description of the Proposed Action

Under the U.S. Fish and Wildlife Coordination Act (FWCA) the Corps is required to mitigate the loss of terrestrial wildlife habitat that resulted from construction of the four lower Snake River dams and the subsequent reservoirs. Under the Lower Snake River Fish and Wildlife Compensation Plan (Comp Plan), fish and wildlife habitat units (HMUs) were designated in 1976 and the Corps began developing these areas for wildlife habitat with mixed success. The Corps has now developed the current planting proposal that will take place over several years on portions of the 31,636 acres of Corps owned property; 23,620 acres of HMU lands, 973 acres of recreation areas and 7,043 acres not associated with an HMU or recreation area. These proposed actions are being analyzed as a programmatic activity because there is a well-defined type of action with potential effects that are repetitive and predictable.

Work will be conducted at each site as plans are developed based site specific soil characteristics, aspect, topography, and hydrology. All work will be performed above the water line. Any work in areas that experience inundation will only occur when the water level is lower than the planting area.

Site work at each planting area could consist of one or more of the following:

- Use of shovel, auger, stinger or similar equipment to create planting holes.
- Fencing individual trees or the perimeter of the planting area for protection from beavers.
- Wire caging/mesh screens around trees to protect them from voles.

[2] Memorandum from William T. Hogarth, Acting Administrator for Fisheries, to Regional Administrators (national finding for use of Endangered Species Act section 7 consultation process to complete essential fish habitat consultations) (February 28, 2001).

- Biological control of weeds (e.g., planting tall growing species to shade out reed canary grass).
- Chemical control of noxious weeds following the Corps recent Integrated Management Plan guidelines (NMFS NWR-2012-00353; NLAA determination for non-aquatic treatment).
- Temporary Irrigation.
- Mulch.
- Removal of competing vegetation with mechanical equipment (mowers, tractors).
- Clearing of nonnative woody vegetation mechanically or with hand tools.
- Installation of riparian tree species between riprap.
- Hydroseeding, potential aerial application if over large areas.
- Grading a cut bank with equipment to create a gentler slope.

Ground disturbance will be minimized for cultural reasons and to reduce the potential for additional non-native or noxious weed establishment. Replacement of non-native plants in intensively planted areas of irrigated HMUs will occur over time during normal maintenance events or when non-native plants die and need replacement. Over the long term, establishing native plants will result in a more sustainable vegetative ecosystem. Selection of plants and planting methods will be determined by the Corps on a site specific basis.

Action Area

The proposed action will take place on lands and facilities owned and administered by the Corps on both sides of lower Snake River from Asotin Slough at approximately RM 147 downstream to the confluence with the Columbia River. The mainstem of the Snake River in the action area functions primarily as a migratory corridor for all ESA-listed species however; periodically some fall-run Chinook salmon spawning occurs in the tailrace areas of the mainstem dams and some juvenile fall-run Chinook salmon rear in the mainstem reservoirs.

Snake River Basin steelhead were listed as threatened on August 18, 1997 (62 FR 43937). Snake River spring/summer-run Chinook salmon were listed as threatened on April 22, 1992 (57 FR 14653). Snake River fall-run Chinook salmon were listed as threatened on April 22, 1992 (57 FR 14653). Snake River sockeye salmon were listed as endangered on November 20, 1991 (56 FR 58619). The status of each species was reaffirmed on August 15, 2011 (76FR50448).

NMFS designated critical habitat for Snake River Basin steelhead on September 2, 2005 (70 FR 52630); Snake River spring/summer-run Chinook salmon on October 25, 1999 (64 FR 57399); Snake River fall-run Chinook and Snake River sockeye salmon on December 28, 1993 (58 FR 68543). Critical habitat for all listed Snake River salmon includes the bottom and water of the waterways and the adjacent riparian zone. The riparian zone includes those areas within 300 feet of the ordinary high water line (OHWL). For Snake River Basin steelhead critical habitat includes the stream channels within the designated stream reaches, and includes a lateral extent as defined by the OHWL (33 CFR 319.11).

Because the project will occur near freshwater habitat, applicable Primary Constituent Elements[3] (PCEs) for critical habitat of Snake River steelhead, Snake River spring/summer-run Chinook salmon, and Snake River fall-run Chinook salmon are those associated with freshwater rearing and migration; and the essential features of critical habitat for Snake River sockeye salmon critical habitat are those associated with freshwater migration.

As stated above, all actions will take place above the wetted edge of the river and as site specific plans are developed. Activities in the inundation zone are most likely to occur in the fall when the reservoir levels are lowest, by which time juvenile salmonids in the reservoirs have moved into the pelagic zone of the reservoirs.

Effects of the Action

For purposes of the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is NLAA listed species is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial.[4] Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

Because there will be no work below the water line, and the timing of work closest to the water's edge would be late summer and fall when the reservoirs are low and any juveniles rearing in the reservoirs have moved into the pelagic zone, NMFS expects effects from turbidity and noise to be insignificant to each of the listed species. Because only relatively low toxicity herbicides will be used in riparian areas and because they will be applied in a manner to keep them out of the water, the effects of herbicides are expected to be insignificant. Work will only occur in a few places each year and actions within the terrestrial portion of critical habitat will occur only in areas that are either poorly vegetated or infested with endangered species. Planting of these areas to native species is not expected to significantly reduce the function critical habitat in the short term but is expected to improve habitat function in the long term.

NMFS does not expect the proposed project to appreciably reduce the function of any PCEs for migration or rearing. This assessment is based on the types of actions, the timing relative to the river level, the duration of disturbance in any one site, and the overall area of each watershed that will be treated. Over the long term the proposed action should result in increased shoreline shade and slope stability, increased allochthonous inputs, decreased need for treatments that disturb areas to remove non-native and noxious plants, and a healthier self-sustaining native vegetation ecosystem.

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[3] When critical habitat was designated for SR Chinook and SR sockeye, the term "essential habitat features" was used. The term Primary Constituent Elements (PCEs) is now used and refers to the same type of habitat and its corresponding function necessary for the conservation of the species.

[4] U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered Species Act consultation handbook: procedures for conducting section 7 consultations and conferences. March. Final. P. 3-12.

NMFS does not expect that the migrations or rearing movements of any of the subject species will be negatively affected by the proposed action. Accordingly, NMFS concurs that the proposed action is not likely to adversely affect critical habitat for any of the aforementioned species.

Conclusion

When the preceding factors are taken into consideration and executed properly, NMFS concludes that all effects of the proposed action are NLAA for Snake River spring/summer-run Chinook salmon, Snake River fall-run Chinook salmon, Snake River sockeye salmon, or Snake River Basin steelhead or their designated critical habitats. Concurrence is based on the information in the BA and additional information received electronically from the applicant and is contingent on the action being conducted as described in the BA and emails and full implementation of the effect minimization measures.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Federal agency, or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

Please direct questions regarding this letter to Diane Driscoll of the Washington State Habitat Office at (509) 962-8911 x227 or email at Diane.Driscoll@noaa.gov.

Sincerely,

William W. Stelle, Jr.
Regional Administrator

APPENDIX B

Cultural Resources

(Same letters sent to all parties listed in Section 5.4.)

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
201 NORTH THIRD AVENUE
WALLA WALLA WA 99362-1876

REPLY TO
ATTENTION OF:

June 28, 2012

Planning, Programs, and Project
Management Division

Dr. Robert Whitlam
Washington State Department
of Archaeology and Historic Preservation
P.O. Box 48343
Olympia, Washington 98504-8343

Dear Dr. Whitlam:

The U.S. Army Corps of Engineers, Walla Walla District (Corps) is initiating consultation for the proposed planting of native species in riparian and upland habitats in Lower Snake River Habitat Management Units (HMUs) (Environmental Compliance Project Number PM-EC-2012-0112). A programmatic Environmental Assessment is being prepared for this undertaking, and when completed, copies of the EA will be provided for your review and comment.

The *Lower Snake River Fish and Wildlife Compensation Plan* (Comp Plan) was published in June 1975 and was authorized by the Water Resources Development Act (WRDA) of 1976. Originally, the Comp Plan required a certain animal count be achieved as mitigation for lost species/habitat. This approach was later found to be untenable and the procedure was changed from animal counts to the Habitat Evaluation Procedure (HEP), which allows for the creation of habitat as a method to increase animal species on Corps lands. In 2007, WRDA was amended to authorize the Secretary to "conduct studies and implement aquatic and riparian ecosystem restorations and improvements specifically for fisheries and wildlife."

The Corps is proposing to plant native vegetation along HMUs in the Lower Snake River Projects to create wildlife habitat and meet mitigation requirements outlined in the Comp Plan. We are in the process of identifying potential planting designs that will create sustainable wildlife habitat utilizing native species.

In order to avoid adverse impacts to historic properties, the Corps has contracted an intensive archaeological survey of 1,700 acres. Applied Earthworks was awarded the contract and began survey in May 2012 of HMUs in the Lower Monumental, Little Goose, and Lower Granite projects. Survey areas were primarily selected based on slope and proximity to water. Contractor tasks include updating documentation for previously identified archaeological sites, documenting new sites, preparing an ethnographic study based on available literature, and preparing native plant design plans. Minimal subsurface archaeological testing is proposed inside of previously

identified archaeological sites, occurring mainly at the edges to delineate site boundaries. Fieldwork is expected to be completed in mid-August of this year. Additional HMUs that were intensively surveyed in the past few years for the Corps by archaeologists from the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Confederated Tribes of the Colville Reservation (CCT), Confederated Tribes and Bands of the Yakama Reservation (YN), and Paragon Research Associates (Paragon) will also be included in this planting undertaking.

We would appreciate hearing any questions or comments that you may have regarding this upcoming undertaking. A copy this letter has been sent to the Nez Perce Tribe, the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakama Reservation, and the Wanapum Band. If you have questions, please contact Ms. Erin Hudson at 509 527-7286, or Erin.J.Hudson@usace.army.mil, or me at 509-527-7288, or Michael.Francis@usace.army.mil.

Sincerely,

Michael S. Francis
Chief, Environmental Compliance Section

Enclosures:

1. Map of the Habitat Management Units that are being archaeologically surveyed as part of this contract and previous contracts (3 pages).

Table 1. HMUs Included in the Upland and Riparian Planting Programmatic Environmental Assessment.

Location	HMU Name	Surveyor and Year Surveyed
Lower Monumental	Ayers	Applied Earthworks (2012)
	Joso	Applied Earthworks (2012)
	Magellon	Applied Earthworks (2012)
	No Name	Applied Earthworks (2012)
	No Name 2	Applied Earthworks (2012)
	Skookum	CTUIR (2010)
Little Goose	Beckwith Bar	Paragon (2005), YN (2010)
	Central Ferry Park (Potential Future HMU)	Applied Earthworks (2012)
	Illia	YN (2011)
	Little Goose Landing	Applied Earthworks (2012)
	New York Bar	YN (2011)
	New York Island	Applied Earthworks (2012)
	Purrington	Applied Earthworks (2012)
	Rice Bar	Paragon (2003), CCT (2011)
	Ridpath	Applied Earthworks (2012)
	Schultz Bar	Applied Earthworks (2012)
	Swift Bar	YN (2011)
	Willow Bar	CCT (2011)
Lower Granite	Kelly Bar	Applied Earthworks (2012)
	Knoxway Canyon	Applied Earthworks (2012)
	Moses	Applied Earthworks (2012)
	No Name	Applied Earthworks (2012)

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
201 NORTH THIRD AVENUE
WALLA WALLA WA 99362-1876

REPLY TO
ATTENTION OF:

June 3, 2013

Planning, Programs, and Project
Management Division

Dr. Robert Whitlam
Washington State Department of Archaeology
and Historic Preservation
P.O. Box 48343
Olympia, Washington 98504-8343

Dear Dr. Whitlam:

One June 28, 2012, the U.S. Army Corps of Engineers, Walla Walla District (Corps) initiated Section 106 consultation for the proposed planting of native species in riparian and upland habitats in Lower Snake River Habitat Management Units (HMUs) in Washington (Corp Project PM-EC-2012-0112; DAHP Log 070912-11-COE-WW). Since that time, the Corps has decided to expand the undertaking to include all Lower Snake River lands, including not only HMUs, but also other Corps land in Washington and Idaho that may be appropriate for planting. A programmatic Environmental Assessment is being written for this undertaking, and when completed, copies of the EA will be provided for your review and comment. We expect to complete the EA this summer.

The purpose of this letter is to notify consulting parties and Tribes of the expansion of the Area of Potential Effect for this undertaking (Washington State Department of Archaeology and Historic Preservation (DAHP), the Nez Perce Tribe, the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakama Nation, and the Wanapum Band), and to initiate consultation with the Idaho State Historic Preservation Office (SHPO). We have also enclosed a report describing last summer's archaeological survey and native planting designs for your review and comment.

The *Lower Snake River Fish and Wildlife Compensation Plan* (Comp Plan) was published in June 1975 and was authorized by the Water Resources Development Act (WRDA) of 1976. Originally, the Comp Plan required a certain animal count be achieved as mitigation for lost species/habitat. This approach was later found to be untenable and the procedure was changed from animal counts to the Habitat Evaluation Procedure (HEP), which allows for the creation of habitat as a method to increase animal species on Corps lands. In 2007, WRDA was amended to authorize the Secretary to "conduct studies and implement aquatic and riparian ecosystem restorations and improvements specifically for fisheries and wildlife."

In order to avoid adverse impacts to historic properties, the Corps has contracted surface intensive and intensive archaeological surveys of HMUs and other project lands along the Lower Snake River in Washington and Idaho. In 2012, Applied Earthworks performed an intensive archaeological survey of 2,592 acres of HMU lands in the Lower Monumental, Little Goose, and Lower Granite projects. Survey areas were primarily selected based on slope and proximity to water. Contractor tasks include updating documentation for previously identified archaeological sites, documenting new sites, preparing an ethnographic study based on available literature, and preparing native plant design plans. Minimal subsurface archaeological testing was conducted inside of previously identified archaeological sites, occurring mainly at the edges to delineate site boundaries.

A copy of the archaeological survey report and a cd containing the 2012 survey and planting design reports has been included with the letters being sent to the SHPOs and Tribal Historic Preservation Officers. The reports are meant to provide background information on archaeological sites and HMU lands, a review of available ethnographic literature, as well as planting design information. As not all Lower Snake River project lands have been archaeologically surveyed, additional lands will be inventoried as planting projects are identified.

We would appreciate hearing any questions or comments that you may have regarding this undertaking. A copy of this letter has been sent to DAHP, the Idaho SHPO, the Nez Perce Tribe, the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakama Nation, and the Wanapum Band. If you have questions, please contact me at Alice.K.Roberts@usace.army.mil or (509) 527-7274.

Sincerely,

ROBERTS.ALICE.K.1392453993

Digitally signed by ROBERTS.ALICE.K.1392453993
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=ROBERTS.ALICE.K.1392453993
Date: 2013.06.06 09:37:25 -07'00'

Alice K.S. Roberts
Tribal Relations and Cultural Resources