



## Statement of Work Report

**Project Title:** Upper Columbia Spring Chinook and Steelhead Juvenile and Adult Abundance, Productivity and Spatial Structure Monitoring

**Project #:** 2010-034-00

**Contract Title:** 2010-034-00 EXP CCT-UPPER COLUMBIA - OKANOGAN- SPRING CHINOOK

**Contract #:** 48256 [ISSUED]

**Province:** Columbia Cascade      **Subbasin:** Methow

**Workorder ID:** 254215      **Task ID:** 1

**Perf. Period Budget:** \$99,000      **Perf. Period:** 7/1/2010 - 6/30/2011

**Contract Type:** Contract (IGC)      **Pricing Type:** Cost Reimbursement (CNF)

**Contractor(s):** Colville Confederated Tribes (Prime - COLVILLE00)

**BPA Internal Ref:** 48256

**[SOW Validation:](#)** Last validated 07/12/2010 with 0 problems, and 0 reviewable items

**Contract Documents:** [Budget - Contract \(04/14/2010\)](#)      LIB-CR-142326-project-2010-034-CCT

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**Work Element Table of Contents:**



<u>Work Element - Work Element Title</u>	<u>EC Needed*</u>	<u>Estimate</u>	<u>(%)</u>
A : 165. Produce Environmental Compliance Documentation - E. compliance documents for this project provided under CR-136226		\$0	(0%)
B : 119. Manage and Administer Projects - Manage and administer project		\$4,950	(5 %)
C : 114. Identify and Select Projects - Conduct site specific assessments and develop landowner agreements		\$19,800	(20 %)
D : 70. Install Fish Monitoring Equipment - Aid WDFW in the installation of permanent in-stream PIT tag arrays in preselected locations	*	\$27,225	(28 %)
E : 159. Transfer/Consolidate Regionally Standardized Data - Upload PIT tag data to PTAGIS database		\$14,850	(15 %)
F : 162. Analyze/Interpret Data - Estimate the number and age of hatchery and wild steelhead		\$9,900	(10 %)
G : 70. Install Fish Monitoring Equipment - Install temporary PIT tag arrays in preselected locations	*	\$19,800	(20 %)
H : 185. Produce Pisces Status Report - Periodic Status Reports for BPA		\$2,475	(3 %)
I : 132. Produce (Annual) Progress Report - Submit Progress Report for the period (July 2010) to (June 2011)			(0%)
<b>Total:</b>		<b>\$99,000</b>	

\* Environmental Compliance (EC) needed before work begins.

**Contract Description:**



This contract provides funding to expand BPA project # 2010-034-00 into the Okanogan subbasin to complete coverage of the entire Upper Columbia ESU for summer steelhead. The master project is part of a unique, well coordinated, and standardized group of monitoring and evaluation program(s) that exist in the Upper Columbia River Basin. Monitoring and evaluation programs are funded by a combination of federal (BPA, BOR, USFWS), State, Tribal, and regional (PUDs) entities. While all these various program contribute data to estimate VSP parameters for spring Chinook and summer steelhead, these programs also share common deficiencies related to precision and accuracy of the abundance estimates. Existing M & E activities combined with recent advances in PIT tag technology provide an opportunity to improve the quality of the data generated in order to make proper management decisions concerning ESA listed species. The overall objectives of the project are to: 1) evaluate precision and accuracy of the smolt monitoring methodology for both steelhead and spring Chinook, 2) estimate the proportion of hatchery steelhead in each primary population, 3) estimate the precision of redd counts for both steelhead and spring Chinook and 4) evaluate the accuracy of the steelhead spawning ground survey design. We also intend to conduct a steelhead radio telemetry study to independently validate estimates generated from PIT tags and to estimate steelhead population characteristics (overwinter survival, number of redds per female). These tasks address in part or fully the critical uncertainties identified under Supplementation in the Columbia River Basin Research Plan (2006-03) and steelhead population characteristics (abundance, productivity, and ratio of hatchery fish) under the Fish and Wildlife Program. Additionally, all of the studies in this proposal are directly consistent with RPAs for the FCRPS BiOp. In summary, this project seeks to build on the existing programs in all the subbasins and provide information and equipment needed for long term monitoring of VSP parameters with a known level of accuracy and precision. This contract will allow for inclusion of the Okanogan subbasins summer steelhead population to be a part of the relevant parts this experiment i.e. PITtag array deployment and development of precision and accuracy estimates, hatchery estimates, and enhanced age data collection.

WDFW will be the research lead for the project and obtain all necessary environmental compliance permits for the project which includes CR-142326. Andrew Murdoch will be the point of contact for WDFW. Colville Confederated Tribes (CCT) will be the primary contractor for the Okanogan Basin; CR-142326. John Arterburn is the point of contact for the CCT.

During the 2010 contract period we plan to accomplish the following tasks; 1) work with landowners to secure agreements to place PIT-tag arrays on private property to locate detection sites at the downstream extent of each sub-watershed, 2) Survey these properties and assess the best location for each PIT-tag array to be installed, 3) Install both permanent and temporary arrays prior to summer steelhead spawning activity (March) in 2011 and remove the temporary arrays once data collection has been completed, 4) Upload data to the PITAGIS database and trouble shoot these arrays to assure continuous data flow when operating, 5) Collect and assess critical age and origin data on upper Columbia summer steelhead.

WDFW will be the research lead for the project and will obtain all necessary environmental compliance permits under CR-136226 for the project which includes CR-142326. Andrew Murdoch will be the point of contact for WDFW. Colville Confederated Tribes (CCT) will be the primary contractor for the Okanogan Basin. John Arterburn is the point of contact for the CCT.

## Statement of Work Report

### Work Element Details

#### A: 165. Produce Environmental Compliance Documentation

**Title:** E. compliance documents for this project provided under CR-136226

**Description:** All permit and environmental compliance documents will be part of CR-136226 with WDFW as this contract is primarily to maintain these sites once installed.

WDFW will be the research lead for the project and obtain all necessary environmental compliance permits for the project which includes CR-142326. Andrew Murdoch will be the point of contact for WDFW. Colville Confederated Tribes (CCT) will be the primary contractor for the Okanogan Basin; CR-142326. John Arterburn is the point of contact for the CCT.

**Deliverable Specification:** Provided under CR-136226



**Planned Metrics:** Are herbicides used as part of work performed under this contract?: No

Milestone Title	Start Date	End Date	Status	Milestone Description
A. All permits are provided through CR-136226	7/1/2010	7/1/2010	Completed	All permits for this contract will be obtained by the WDFW under CR-136226 and provided to CCT.  WDFW will be the research lead for the project and obtain all necessary environmental compliance permits for the project which includes CR-142326. Andrew Murdoch will be the point of contact for WDFW. Colville Confederated Tribes (CCT) will be the primary contractor for the Okanogan Basin; CR-142326. John Arteburn is the point of contact for the CCT.
<b>Deliverable: B. Environmental Compliance documents provided under CR-136226</b>		7/1/2010	Completed	<i>See the Deliverable Specification above</i>

**B: 119. Manage and Administer Projects**

**Title:** Manage and administer project  
**Description:** Overall project management to include BPA SOW and budget development and submittal as well as Colville Tribes contracting and budget development and coordination and annual budget review with WDFW.  
**Deliverable Specification:** Submit next year's SOW, Budget, and Property Inventory (if applicable) to the BPA COTR. The SOW should include location information (latitude and longitude) for those work elements that require it. If contractor or contractor's organization takes longer than 30 days to sign the contract, the contractor will need to send this funding package to BPA more than 90 days before the end of the current contract.

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Manage & Administer Project	7/1/2010	6/30/2011	Active	Provide copies of contractual and administrative documents as requested. Attend conference calls to communicate project status and needs with BPA's COTR.
B. Submit invoices to BPA consistent with BPA's contract management manual.	8/1/2010	6/30/2011	Active	Invoices will be prepared and submitted to BPA consistent with their contract management manual.
C. Accrual - Submit September estimate to BPA	8/1/2010	9/10/2010	Completed	Provide BPA with an estimate of contract work that will occur prior to September 30 but will not be billed until October 1 or later. Generally, this should be done by September 10.
D. Funding Package - Conduct internal review (e.g., Supervisor or Interagency)	2/1/2011	3/1/2011	Active	If necessary, submit next year's SOW and Budget for internal contractor review before submitting to BPA. Assuming this review takes 30 days, start this milestone 120 days before the end of the current contract.
E. Per COTR, revise/finalize the new contract package, (SOW, EC docs, budget and property inventory)	3/1/2011	4/1/2011	Active	Work with the COTR to revise and finalize the draft contracting package.
<b>Deliverable: F. Project managed. Draft contracting package including SOW, LIB, &amp; PI submitted to COTR</b>		6/30/2011	Active	<i>See the Deliverable Specification above</i>

**C: 114. Identify and Select Projects**

**Title:** Conduct site specific assessments and develop landowner agreements  
**Description:** A preliminary design for the installation and location of multiple PIT tag detection arrays located throughout the Okanogan Subbasin has been compiled based upon designs to have PIT tag detection of adult and juvenile summer steelhead downstream of each discernible natal stream and/or spawning area. However, work will still need to be done to get landowner agreements at each site if these PIT tag arrays properly for this plan to be realized.  
**Deliverable Specification:** A list of latitude and longitude coordinates for each PIT-tag array to be installed in the Okanogan subbasin wide PIT-tag array location table.



Milestone Title	Start Date	End Date	Status	Milestone Description
A. Get landowner agreement near the location of each 2010 PIT-tag array	7/1/2010	6/30/2011	Active	For each PIT-tag array location landowners will have to be identified, contacted, and agree to having a PIT tag detection array located in their property. Arrays designed to be installed in 2010 will be the highest priority with other sites being completed as time and resources allow.
B. Survey the landowners property for the best site to locate the PIT tag array	7/1/2010	6/30/2011	Active	Good sites for locating PIT tag arrays includes proximity to power source, concealment, and access for maintenance at the lowest point in the spawning area of natal stream of interest. Arrays designed to be installed in 2010 will be the highest priority with other sites being completed as time and resources allow.
<b>Deliverable: C. Conducted site specific assessments and developed landowner agreements</b>		6/30/2011	Active	See the Deliverable Specification above

**D: 70. Install Fish Monitoring Equipment**

**Title:** Aid WDFW in the installation of permanent in-stream PIT tag arrays in preselected locations  
**Description:** Help in the installation of permanent PIT arrays in selected tributaries of the Okanogan River subbasin.  
**Deliverable Specification:** Help with the installation and operate permanent PIT tag arrays at selected locations.

**Primary Focal Species:** Steelhead - Upper Columbia River DPS  
**Country:** US **NPCC Subbasin:** OKANOGAN  
**State:** WA **HUC5 Watershed:** Multiple  
**County:** OKANOGAN **HUC6 Name:** Multiple  
**Salmonid ESUs Present:** Outside legal CKUCS (Upper Columbia River Spring-run Chinook Salmon ESU) boundary (accessible) | Upper Columbia River Steelhead DPS (accessible)

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Environmental compliance requirements complete	7/1/2010	7/1/2010	Completed	On-the-ground work associated with this work element cannot proceed until this milestone is complete. Milestone is complete when final documentation is received from BPA environmental compliance staff (completion can be based on pre-existing environmental documentation from BPA).
B. Identify specific sites in target streams	7/1/2010	6/30/2011	Active	Identify locations and acquire permission to access and install arrays. Record location using GPS and record stream width to determine antenna length and width.
C. Installation and operation of the equipment or facility	7/2/2010	6/30/2011	Active	Install and operate permanent arrays as conditions permit.
<b>Deliverable: D. Aided WDFW in the installation of permanent PIT tag arrays</b>		6/30/2011	Active	See the Deliverable Specification above

**E: 159. Transfer/Consolidate Regionally Standardized Data**

**Title:** Upload PIT tag data to PTAGIS database  
**Description:** Collect raw PIT tag data from arrays, convert as appropriate, and upload to PTAGIS database on weekly basis.  
**Deliverable Specification:** Upload data to regional PTAGIS database on a weekly basis

**Primary Focal Species:** Steelhead - Upper Columbia River DPS

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Upload PIT tag data to PTAGIS database	7/1/2010	6/30/2011	Active	Coordinate with PTAGIS data manager regarding new permanent sites. Upload data on weekly basis to database
<b>Deliverable: B. PIT tag recapture data uploaded</b>		6/30/2011	Active	See the Deliverable Specification above

**F: 162. Analyze/Interpret Data**

**Title:** Estimate the number and age of hatchery and wild steelhead  
**Description:** Use recently developed software application to determine the number of hatchery and wild steelhead that spawned upstream of a selected array. Also apply age date attached to PTAGIS files to age returning adults.  
**Deliverable Specification:** Estimate total number of hatchery and wild steelhead by expanding recaptures by brood year specific tagging rates.



- Planned Metrics:**
- \* Primary R, M, and E Focal Area : Population Status
  - \* Primary R, M, and E Type : Status and Trend Monitoring
  - \* Secondary R, M, and E Type : Action Effectiveness Research
  - \* Secondary R, M, and E Focal Area : Hatchery

**Primary Focal Species:** Steelhead - Upper Columbia River DPS

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Determine number of steelhead at each array	7/1/2010	6/30/2011	Active	Query new software database for steelhead that spawned upstream of the array.
B. Estimate total number and age of steelhead	6/1/2011	6/30/2011	Active	Expand steelhead recaptures by brood year specific PIT tag rates. Estimate total number of hatchery and wild steelhead that spawned upstream of the array.
<b>Deliverable: C. Number and age of hatchery and wild steelhead based upon PIT tag detections estimated</b>		6/30/2011	Active	<i>See the Deliverable Specification above</i>

**G: 70. Install Fish Monitoring Equipment**

**Title:** Install temporary PIT tag arrays in preselected locations  
**Description:** Construct and install temporary PIT tag arrays to help define distribution of steelhead spawning habitat and proportions of summer steelhead spawning in small tributaries or above migration impediments. Remove antennas when spawning is complete.  
**Deliverable Specification:** Number of temporary antennas built, installed and removed annually.

**Primary Focal Species:** Steelhead - Upper Columbia River DPS  
**Country:** US  
**State:** WA  
**County:** OKANOGAN  
**Salmonid ESUs Present:** Outside legal CKUCS (Upper Columbia River Spring-run Chinook Salmon ESU boundary (accessible) | Upper Columbia River Steelhead DPS (accessible)

**NPCC Subbasin:** OKANOGAN  
**HUC5 Watershed:** Multiple  
**HUC6 Name:** Multiple

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Environmental compliance requirements complete	7/1/2010	7/1/2010	Completed	On-the-ground work associated with this work element cannot proceed until this milestone is complete. Milestone is complete when final documentation is received from BPA environmental compliance staff (completion can be based on pre-existing environmental documentation from BPA).
B. Installation of the equipment or facility	8/1/2010	3/1/2011	Active	Build and install temporary PIT tag antennas arrays before summer steelhead spawning begins.
C. Operate and maintain temporary pit tag arrays	3/1/2011	5/31/2011	Active	Operate and maintain temporary PIT tag antennas arrays during the summer steelhead spawning period.
D. Remove antenna after spawning is complete	6/1/2011	6/30/2011	Active	Remove all temporary antennas after spawning is complete and all potential kelts have moved downstream.
<b>Deliverable: E. Installed, operated, and removed temporary PIT tag antennas</b>		6/30/2011	Active	<i>See the Deliverable Specification above</i>

**H: 185. Produce Pisces Status Report**

**Title:** Periodic Status Reports for BPA  
**Description:** The Contractor shall report on the status of milestones and deliverables in Pisces. Reports shall be completed quarterly as determined by the BPA COTR. Additionally, when indicating a deliverable milestone as COMPLETE, the contractor shall provide metrics and the final location (latitude and longitude) prior to submitting the report to the BPA COTR.  
**Deliverable Specification:**



Milestone Title	Start Date	End Date	Status	Milestone Description
A. Jul-Sep 2010 (7/1/2010 - 9/30/2010)	10/1/2010	10/15/2010	Completed	
B. Oct-Dec 2010 (10/1/2010 - 12/31/2010)	1/1/2011	1/15/2011	Active	
C. Jan-Mar 2011 (1/1/2011 - 3/31/2011)	4/1/2011	4/15/2011	Active	
D. Final Apr-Jun 2011 (4/1/2011 - 6/30/2011)	6/16/2011	6/30/2011	Active	

**I: 132. Produce (Annual) Progress Report**

**Title:** Submit Progress Report for the period (July 2010) to (June 2011)

**Description:** WDFW will be responsible for producing this report, however, it will not be submitted until the subsequent contract is in place in the summer of 2011.

Date range (July 2010) to (June 2011) is agreed upon by the COTR and the contractor. This will not coincide with the contract period. This is an ongoing project and a progress report covering the contract period will be submitted under the subsequent contract. This is approved by the COTR.

The progress report summarizes CR-136226 for which this contract is one small part and any work completed will be included in a single annual report. The annual report for CR-136226 will include the project goal, objectives, hypotheses, completed and uncompleted deliverables, problems encountered, lessons learned, and long-term planning. Examples of long-term planning include future improvements, new directions, or level of effort for contract implementation, including any ramping up or ramping down of contract components or of the project as a whole.

**Deliverable Specification:**

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Provide input for CR-136226 annual report	3/1/2011	6/30/2011	Active	WDFW will produce this report under WE "M" in CR-136226, however, it will not be submitted until the subsequent contract is in place in the summer of 2011.

**Inadvertent Discovery Instructions**

BPA is required by section 106 of the National Historic Preservation Act (NHPA) to consider the effects of its undertakings on historic properties (16 USC 470). Prior to approving the expenditure of funds or conducting a federal undertaking, BPA must follow the section 106 process as described at 36 CFR 800. Even though BPA has completed this process by the time an undertaking is implemented, if cultural materials are discovered during the implementation of a project, work within the immediate area must stop and the significance of the materials must be evaluated and adverse effects resolved before the project can continue (36 CFR 800.13(b)(3)). The Inadvertent Discovery of Cultural Resources Procedure form outlines the steps to be taken and notifications to be made. If the undertaking takes place on tribal lands (16 USC 470w), BPA must also "comply with applicable tribal regulations and procedures and obtain the concurrence of the Indian tribe on the proposed action" (36 CFR 800.13(d)).

Inadvertent Discovery of Cultural Resources Procedure form:

<http://www.efw.bpa.gov/IntegratedFWP/InadvertentDiscoveryProcedure.pdf>