



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
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Portland, Oregon 97232-4181



FEB 09 2015

## Memorandum

To: Fishery Resources Project Leaders

From: Assistant Regional Director, Fishery Resources, Region 1 

Subject: Pacific Region National Fish Hatchery Parentage Based Tagging Sampling Guidance

**Purpose.** To provide guidance and ensure consistency across Pacific Region National Fish Hatcheries (NFHs) and assist NFH Managers responding to requests for samples to be used in Parentage Based Tagging (PBT) analyses.

**Guidance.** The FWS views PBT as a valuable analytical tool that has potential when used in appropriate applications. The FWS supports ongoing efforts to determine the feasibility of multi-purpose applications of PBT, including requests for PBT sample collection at NFHs. Requests to use PBT techniques on salmon and steelhead from NFHs will be evaluated and approved based on the following processes and criteria:

- Requests for PBT samples will be made through the Hatchery Evaluation Team (HET) associated with the NFH in question (see attached protocol).
- The NFH Manager will provide a preliminary review of the request to ensure the request meets the following criteria.
- All requests must be approved prior to the start of sampling. Any changes to sampling methodology or protocols must be approved prior to the start of sampling.
- Criteria for request approval:
  - Be timely and in writing.
  - Follow FWS protocol (attached).
  - Be submitted through the appropriate HET.
  - Have scientific and/or management validity.
  - Will not impede the normal activities and goals of the NFH in question.
  - Identify resources and funding necessary for sample collection, storage, and analysis.

**Effective Date.** This guidance is effective immediately and applies to any future requests and those currently under consideration or new this year.

**Background.** The technique termed Parentage Based Tagging, PBT, involves comparing the genotype of offspring (either as juveniles or adults) to a database of potential parent genotypes.

PBT requires the annual collection and genotyping of hatchery broodstock to create a parent database. The genotypes of offspring collected as either juveniles or returning adults are then compared to this database of potential parents to determine the hatchery and brood year of origin. If an individual's parents are not included in the database (i.e. if it is from a wild population or a hatchery population for which PBT is not implemented), that individual can still be identified as to population and/or hatchery (but not brood year).

Our partners and stakeholders have demonstrated strong interest in the application of PBT to answer management questions relating to production programs (for example, stray rates, comparison of hatchery origin vs natural origin fish, identification of different populations of interest, etc.). Currently, partners using PBT include, Columbia River Inter-Tribal Fish Commission, Northwest Indian Fish Commission, Idaho Department of Fish and Game, Department of Fisheries and Oceans Canada, California Department of Fish and Wildlife, and NOAA Santa Cruz. As a result, external researchers have made a number of requests for different Pacific Region NFHs to initiate PBT sampling.

If you have questions please contact Judy Gordon, Center Director, Abernathy Fish Technology Center, at (360) 425-6072, ext. 350, or [judith\\_gordon@fws.gov](mailto:judith_gordon@fws.gov).

**Pacific Region Fishery Resources**  
**National Fish Hatchery**  
**Protocol for Processing Parentage Based Tagging Sampling Requests**  
**January 20, 2015**

**I.** The Pacific Region Fisheries Program has developed the following steps and requirements for initiating a Parentage Based Tagging (PBT) marking program at a Pacific Region National Fish Hatchery (NFH). These steps are not intended to impede the application of a new technology that can potentially yield significant benefits. Instead, the following steps are intended to increase the likelihood that PBT programs, once initiated, will have a high likelihood of success for the Service, its partners, and stakeholders.

**II.** All requests should be forwarded to the NFH Hatchery Evaluation Team (HET) which consists of representatives from the NFH, Fish Health, Fishery Resource Office, and Abernathy Fish Technology Center, preferably two months prior to the anticipated start of sample collection. While it is assumed that the point of contact for the HET is the Hatchery Manager, other HET members may be the first point of contact (please see contact list).

**III.** All requests should follow a written scientific proposal format (see attached sample) and include the following basic information:

- introduction/background with a clear objective statement, including a statement if the request is for a limited timeframe (i.e. research) or long term/ongoing (i.e. monitoring & evaluation)
- methodology:
  - number of samples to be collected (from spawners, and juveniles if applicable)
  - collection methodology (from spawners, and juveniles if applicable)
  - specific role of FWS staff, if any
  - how collection activities will/will not impact existing spawning activities
  - how collection activities will/will not impact daily spawning start times
  - duration of sample collection (limited time frame or long term ongoing)
  - a contingency plan in the event that the responsible party is unavailable to carry out sample collection
- data generation and analysis methodologies
- products to be generated (i.e. interim and/or final reports, publications)
- due dates and timelines
- sample and data management and deposition (including product sharing with HET)
- funding amount and source, identifying funding specifically for FWS use if applicable

**IV.** All requests should be made early enough to allow sufficient time for review by HET members and for any needed revisions to be made. Thus an individual HET may decide to increase the minimum time for initial request submission. The HET may also consider an oral presentation or discussion of the request as part of a HET meeting.

**V.** An initial review by the NFH Manager should be done to determine completeness and timeliness of the submission. For example, a request which comes in two weeks before the proposed sample collection or if a request is lacking one or more of the items listed above in item

II, should be returned to the requester, with an explanation of FWS protocols, and follow-up discussion with requestor for resolution.

VI. The full HET review of any request should include:

- **completeness of the submission** – Is the objective clearly written? Is there enough background information to justify the management need for the work? Are roles clearly identified? Are detailed timelines provided? Has funding been obtained?
- **impact on NFH operations** – Will collection interfere with NFH operations? Are sufficient resources (staff, funding, sampling supplies) provided? Where will samples be stored post collection? Will samples be stored post data generation (where and how)? Where/how will data be stored? Will funding come directly to the FWS for its role (if any) in sample collection, data generation, and sample and/or data storage?
- **potential applicability to facility/production program management** – Is the work applicable to the management of the NFH? Is it related to any Hatchery Review Team recommendations? Are the co-managers aware of the request? Is it supported by the co-managers?

VII. HET members will reach consensus on the request, preferably within a month after receiving the initial submission. The decision will be provided to the requester via email from the NFH Manager and cc'd to the entire HET. If the HET cannot approve the request, the HET decision must be provided to Regional Office Field Supervisor as soon as possible, with the reasoning for this decision.

VIII. Copies of all interim and final reports and publications resulting from the request must be provided to the HET and made available to the public upon request. The HET may also choose to have the requester provide summaries (date, number and type of samples collected, quantities, etc.) to the HET at the close of each day of sample collection.

IX. Each HET will limit the number of revisions to accept from requesters to two, unless there is consensus among the HET that more revisions are appropriate. This will limit the duration of review and the amount of time until a decision on the request can be reached.

**NOTE:** The HET retains the right to

- a) review and approve any and all changes in sampling protocols prior to implementation.
- b) suspend sample collection activities if agreed upon guidelines or protocols are changed once sample collection has begun without prior HET approval.
- c) cancel HET approval for PBT sampling at any time for failure to meet previously agreed upon protocols and procedures.

## **National Fish Hatchery Evaluation Team Contacts:**

### **Carson NFH**

Hatchery Manager: Larry Zeigenfuss,  
Work Phone Number: (509) 427-5905  
Email: [larry\\_zeigenfuss@fws.gov](mailto:larry_zeigenfuss@fws.gov)

Secondary HET Contact: Doug Olson (CRFPO)  
Work Phone Number: (360) 604-2500  
Email: [doug\\_olson@fws.gov](mailto:doug_olson@fws.gov)

### **Dworshak NFH**

Hatchery Manager: Steve Rodgers  
Work Phone Number: (208) 476-2227  
Email: [steven\\_rodgers@fws.gov](mailto:steven_rodgers@fws.gov)

Secondary HET Contact: Chris Peery (IDFRO)  
Work Phone Number: (208) 476-2241  
Email: [chris\\_peery@fws.gov](mailto:chris_peery@fws.gov)

### **Eagle Creek NFH**

Hatchery Manager: Caroline Peterschmidt  
Work Phone Number: (503) 630-6270  
Email: [caroline\\_peterschmidt@fws.gov](mailto:caroline_peterschmidt@fws.gov)

Secondary HET Contact: David Hand (CRFPO)  
Work Phone Number: (503) 630-6270  
Email: [david\\_hand@fws.gov](mailto:david_hand@fws.gov)

### **Entiat NFH**

Primary HET Contact: Chuck Hamstreet (MCRFRO)  
Work Phone Number: (509) 548-7573  
Email: [charles\\_hamstreet@fws.gov](mailto:charles_hamstreet@fws.gov)

Secondary HET Contact: Matt Cooper (MCRFRO)  
Work Phone Number: (509) 548-2992  
Email: [matt\\_cooper@fws.gov](mailto:matt_cooper@fws.gov)

### **Hagerman NFH**

Hatchery Manager: Craig Eaton  
Work Phone Number: (208)-837-4896  
Email: [craig\\_eaton@fws.gov](mailto:craig_eaton@fws.gov)

Secondary HET Contact: Chris Peery (IDFRO)  
Work Phone Number: (208) 476-2241  
Email: [chris\\_peery@fws.gov](mailto:chris_peery@fws.gov)

### **Kooskia NFH**

Hatchery Manager: Kent Hills  
Work Phone Number: (208) 926-4272  
Email: [kent\\_hills@fws.gov](mailto:kent_hills@fws.gov)

Secondary HET Contact: Chris Peery (IDFRO)  
Work Phone Number: (208) 476-2241  
Email: [chris\\_peery@fws.gov](mailto:chris_peery@fws.gov)

### **Leavenworth NFH**

Primary HET Contact: Chuck Hamstreet (MCRFRO)  
Work Phone Number: (509) 548-7573  
Email: [charles\\_hamstreet@fws.gov](mailto:charles_hamstreet@fws.gov)

Secondary HET Contact: Matt Cooper (MCRFRO)  
Work Phone Number: (509) 548-2992  
Email: [matt\\_cooper@fws.gov](mailto:matt_cooper@fws.gov)

### **Little White Salmon NFH**

Complex Manager: Vacant  
Secondary Manager Contact: Peter Long  
Work Phone Number: (509) 538-2755  
Email: [peter\\_long@fws.gov](mailto:peter_long@fws.gov)

Secondary HET Contact: Doug Olson (CRFPO)  
Work Phone Number: (360) 604-2500  
Email: [doug\\_olson@fws.gov](mailto:doug_olson@fws.gov)

### **Makah NFH**

Hatchery Manager: Jarrett Page  
Work Phone Number: (360)-645-2521  
Email: [jarrett\\_page@fws.gov](mailto:jarrett_page@fws.gov)

Secondary HET Contact: Denise Hawkins (WWFRO)  
Work Phone Number: (360) 753-9509  
Email: [denise\\_hawkins@fws.gov](mailto:denise_hawkins@fws.gov)

### **Quilcene NFH**

Hatchery Manager: Ron Wong  
Work Phone Number: (360) 765-3334 or 3330 ext 2  
Email: [ron\\_wong@fws.gov](mailto:ron_wong@fws.gov)

Secondary HET Contact: Denise Hawkins (WWFRO)  
Work Phone Number: (360) 753-9509  
Email: [denise\\_hawkins@fws.gov](mailto:denise_hawkins@fws.gov)

### **Quinault NFH**

Hatchery Manager: Ben Gilles  
Work Phone Number: (360) 288 2508  
Email: [benjamin\\_gilles@fws.gov](mailto:benjamin_gilles@fws.gov)

Secondary HET Contact: Denise Hawkins (WWFRO)  
Work Phone Number: (360) 753-9509  
Email: [denise\\_hawkins@fws.gov](mailto:denise_hawkins@fws.gov)

### **Spring Creek NFH**

Hatchery Manager: Mark Ahrens  
Work Phone Number: (509) 493-1730  
Email: [mark\\_ahrens@fws.gov](mailto:mark_ahrens@fws.gov)

Secondary HET Contact: Doug Olson (CRFPO)  
Work Phone Number: (360) 604-2500  
Email: [doug\\_olson@fws.gov](mailto:doug_olson@fws.gov)

### **Warm Springs NFH**

Hatchery Manager: Mary Bayer  
Work Phone Number: (541) 553-1692  
Email: [mary\\_bayer@fws.gov](mailto:mary_bayer@fws.gov)

Secondary HET Contact: David Hand (CRFPO)  
Work Phone Number: (360) 604-2518  
Email: [david\\_hand@fws.gov](mailto:david_hand@fws.gov)

### **Willard NFH**

Hatchery Manager: Steve Wingert  
Work Phone Number: (509) 538-2305  
Email: [steve\\_wingert@fws.gov](mailto:steve_wingert@fws.gov)

Secondary HET Contact: Doug Olson (CRFPO)  
Work Phone Number: (360) 604-2500  
Email: [doug\\_olson@fws.gov](mailto:doug_olson@fws.gov)

### **Winthrop NFH**

Primary HET Contact: Chuck Hamstreet (MCRFRO)  
Work Phone Number: (509) 548-7573  
Email: [charles\\_hamstreet@fws.gov](mailto:charles_hamstreet@fws.gov)

Secondary HET Contact: Matt Cooper (MCRFRO)  
Work Phone Number: (509) 548-2992  
Email: [matt\\_cooper@fws.gov](mailto:matt_cooper@fws.gov)

**U.S. Fish and Wildlife Service  
Pacific Region – Fishery Resources Program  
Request for National Fish Hatchery Sample Collection**

**Directions.** All requests must be in the form of a written scientific proposal and must be submitted to the individual NFH Hatchery Evaluation Team for the facility in question via the NFH Hatchery Manager. The request must be received, at a minimum, not less than two months prior to the start of spawning activities.

**Project Title (200 characters or less):**

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**Principal Investigator Name and Address:**

Name		
Title		
Affiliation		
Address 1		
Address 2		
Street		
City, State		
Telephone		Email:

**Cooperators: Please attach one page for additional cooperators, if necessary.**

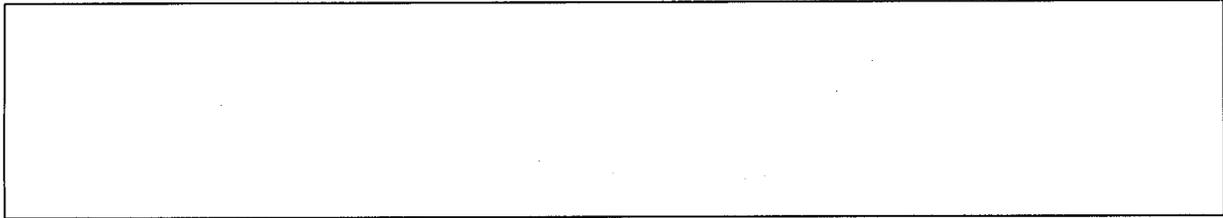
Name	Affiliation
1.	
2.	
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4.	

**Project /Management Objective.** Please describe the project objective in 250 characters or less.

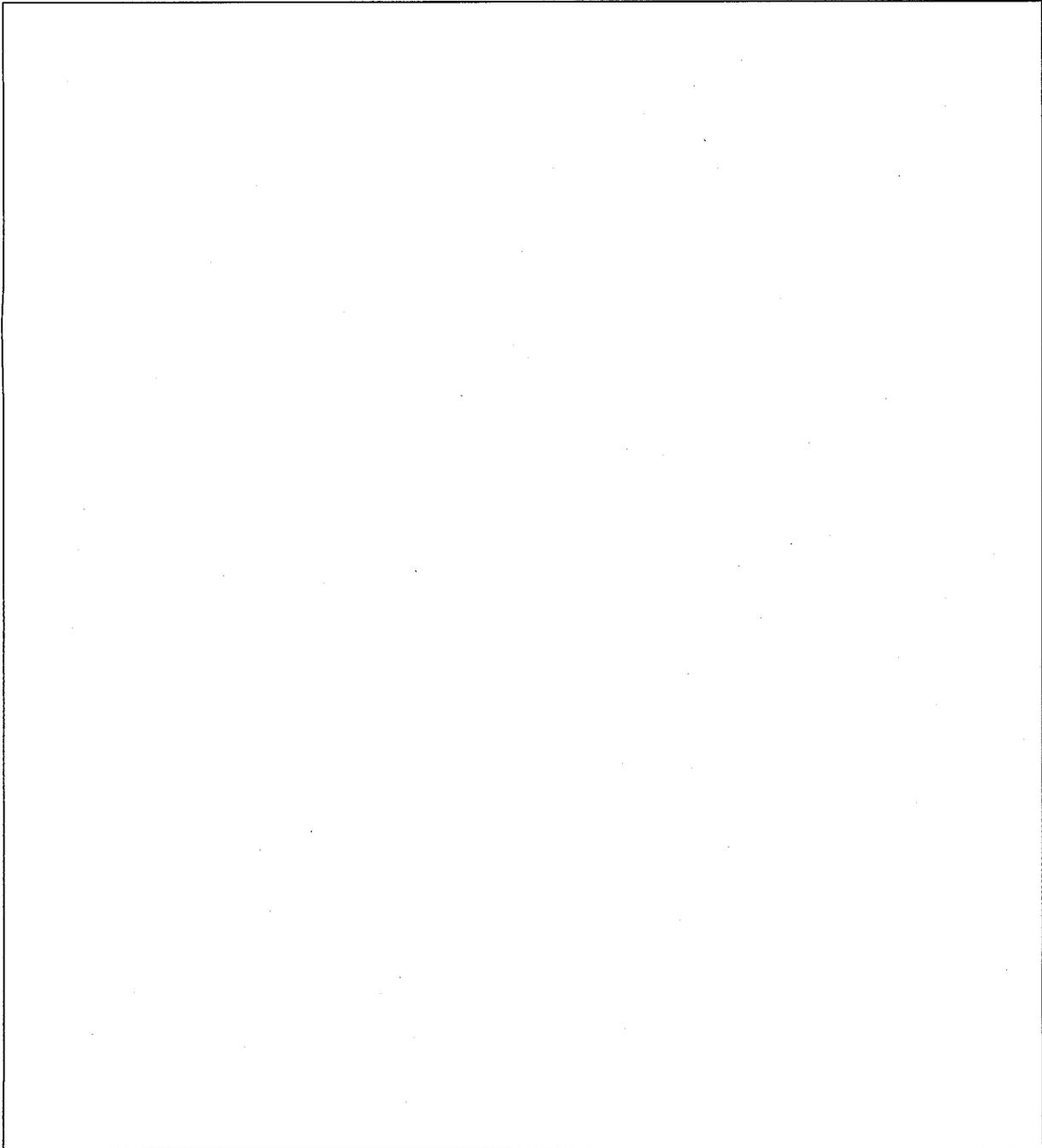
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**Introduction.** In 1200 characters or less describe the work to be done. Include a description of the need, objectives, and if the request is for a limited timeframe (research) or long term monitoring (i.e. monitoring and evaluation).

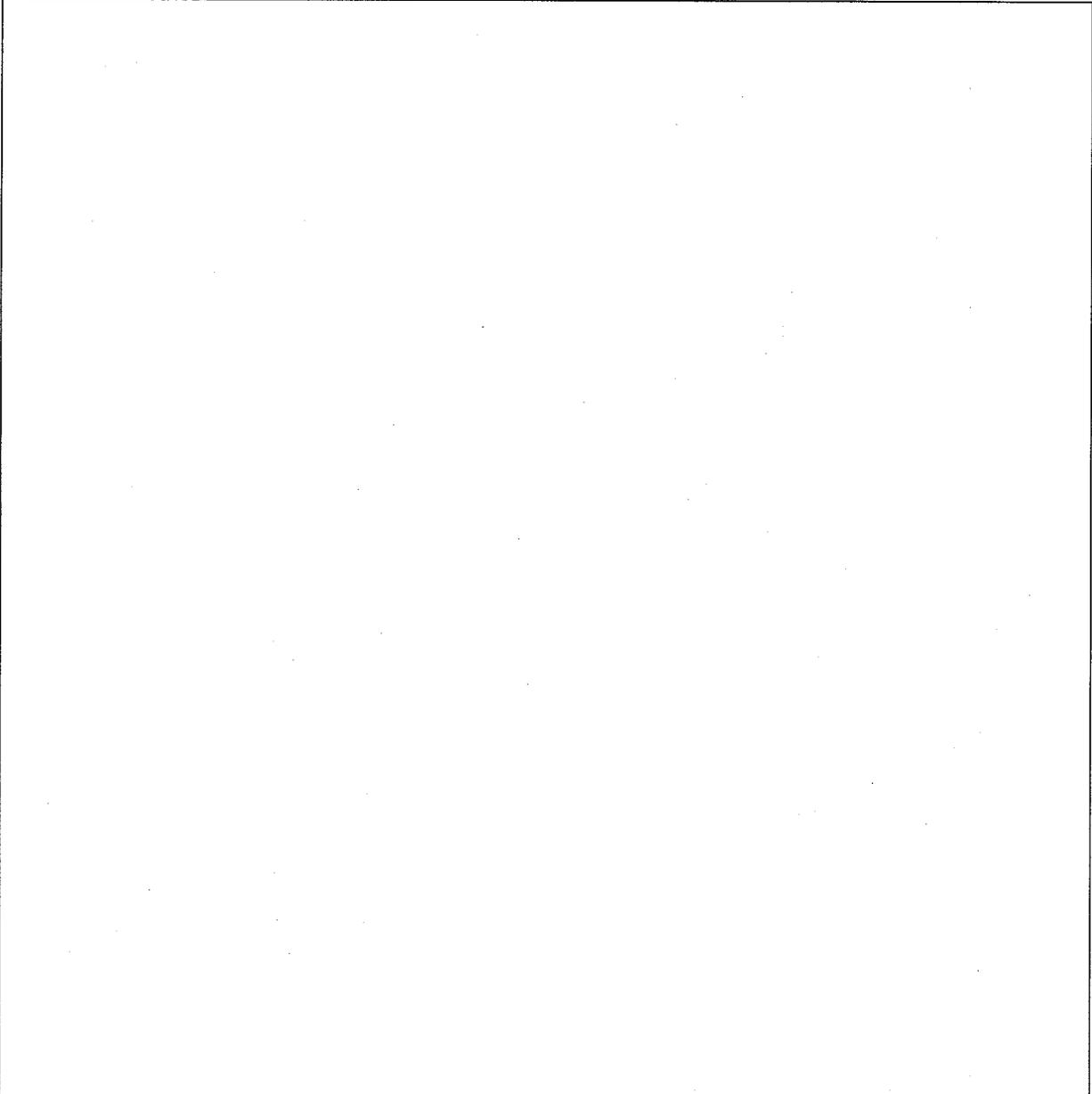
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**Project Methodology.** Please describe the methodology to be used in the sample collection. Include the number of samples to be collected, technique, specific role (if any) of USFWS staff, how collection activities will/will not impact spawning activities and start times, duration of sample collection activities (limited time frame or ongoing). Please include contingency plan information if responsible party is not available to carry out sample collection



**Project Products.** Please describe the anticipated project products (databases, interim and final reports, scientific tools, presentations/posters, peer-reviewed publications, etc.). Please include a description of samples and/or data to be generated, its management and deposition. Please address how the products will be shared with the USFWS.



**Budget.** Please attach a one page budget describing salary, supplies, equipment, travel, contract, overhead costs. List matching funds and/or in kind services separately. Clearly specify funding sources and the amount if any allocated for USFWS use.

**Timeline.** Please attach a one page timeline, including deliverables and due dates.