

ABBREVIATED NOAA ENVIRONMENTAL COMPLIANCE QUESTIONNAIRE

Instructions: Answer EVERY question in the yellow square below it. Questions are selected from the full 62-question NOAA Environmental Compliance Questionnaire (available at www.nepa.noaa.gov), as such questions are not in numerical order.

Grant number and/or Project ID (if available)
Project Title
NEPA Worksheet Labwork Example
Name and contact information for the person completing this form
Rebecca Certner (rebecca.certner@noaa.gov)
State Sea Grant Program
National Sea Grant Office
<u>PROPOSED ACTIVITY</u>
1. Describe the proposed activity, including: <ul style="list-style-type: none">● Explain the purpose, objectives, and goals; and● Explain whether the proposed activity would occur in different locations and/or have multiple phases.
<p>Wild and hatchery salmon stocks contribute hundreds of millions of dollars to the Alaska economy annually. However, there is minimal understanding of how well hatchery production protocols mimic natural mating strategies or how these protocols impact the maintenance of genetic variation and individual fish size in hatchery broodstock. We will examine reproductive success of alternative mating strategies (jacks versus full-size males) and the mating structure of a wild coho salmon population using existing samples collected from the NOAA-operated Auke Creek Weir (i.e., one site with data spanning from 2012-2018). We will examine the effects of the alternative mating strategies on female salmon size and compare these results to practices used in Southeast Alaska coho hatcheries. We will explore how the incorporation (wild) or exclusion (hatchery) of jack males affects the maintenance of population level genetic variation and the size of female offspring in hatchery broodstock.</p> <p>This projects seeks to use existing demographic and new genetic data from existing samples of Auke Creek oho salmon spanning a decade to:</p> <ol style="list-style-type: none">1. Quantify the relative fitness (survival and reproductive success) of jacks and large males in wild populations of coho salmon.2. Determine whether jacks are more likely to sire jacks and larger female offspring than are full-size males.3. Assess the contribution of jacks to the maintenance of genetic diversity in wild and hatchery populations of coho salmon.
2. Is the proposed activity a continuation or part of an ongoing activity? If yes, then: <ul style="list-style-type: none">● Describe any changes to the proposed activity since it was initiated, including progress toward achieving its objectives/goals; and● Provide any additional information, previous environmental review documents, and/or reports from previous years.

No, this is a new project. However, we will be analyzing data from tissue samples previously collected from the NOAA-operated Auke Creek weir.

3. Describe sampling, collecting, or observation protocols and operational procedures

We will make use of an unprecedented collection of high-quality coho salmon abundance data coupled with genetic samples collected from the NOAA-operated Auke Creek weir. Genotypes from all returning adult coho offspring (2012-2018) of individuals that spawned in 2010, 2012, 2013 and 2014 will allow us to examine the fitness of jacks and full-size males, the size of their offspring, and how hatchery broodstock management affects the maintenance of genetic variation. This project will rely on data and samples already collected by NOAA at Auke Creek weir. All proposed work is lab-based and will take place using existing samples. We will also incorporate modeling and statistical analysis.

4. Will the proposed activity require the cataloging and compiling of sources of socioeconomic data? If yes, then please explain.

No.

5. Does the proposed activity consist solely of software research and manipulation? If yes, please explain.

No.

6. Does the proposed activity utilize a new or untested scientific technology or method? If yes, then describe briefly the technological process or methodology and potential environmental effects of the proposed activity.

No.

7. For the proposed action, what amount (total numbers and/or weight) of fish or invertebrates are proposed to be caught? What is the size (weight, length, and age class) of each species targeted for capture?

None.

8. List non-target species that may occur in the proposed sampling area and specify how many of each non-targeted species are expected to be caught.

None.

9. Will the proposed activity introduce genetically modified organisms, species bred for specific traits (e.g. disease resistant stocks), or non-indigenous species into an area?

No.

10. Describe the data processing methods to be used to conduct the research.

DNA extraction and genotyping will be performed on existing salmon tissue samples previously collected by NOAA.

LOCATION

11. Describe the proposed activity location, including, if available and appropriate, geographic coordinates (latitude, longitude in DD MM.MMM), river mile markers, etc. for all distinct phases of the proposed activity.

All activity for this project will take place in a laboratory either at the researchers' home institution (University of Alaska, Fairbanks) or the contracted lab (Eurofins BioDiagnostics). Samples were previously collected from the Auke Creek weir in Juneau, Alaska (58.381 N, 134.641 W). No new sampling activity will take place.

12. Are there pre-existing or ongoing uses at the location of the proposed activity? If yes, then describe and explain the pre-existing or ongoing uses at the location of the proposed activity or, if not known, describe how pre-existing/ongoing uses will be determined.

The study location is a university laboratory and a commercial laboratory. Routine genetic analyses are conducted at both of these locations.

13. Describe the characteristics of the location of the proposed activity by:

- Indicate degree to which the location has been disturbed. Examples include highly developed, light development, active harbor use, public beach, open space, etc.
- Indicate whether the area is a unique geographic area of notable recreational, ecological, scientific, cultural, historical, scenic, economic, or aesthetic importance;
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- Identify ESA-listed and/or MMPA species that may occur and overlap with the proposed activity;
- Describe any anticipated changes over time to the natural landscape and/or viewshed that would result from the proposed activity;
- List any ecologically significant or critical (e.g., spawning, nursery, or foraging grounds) areas in the location of the proposed activity, including areas that are normally inundated by water (wetlands including permanent or temporary wetlands) or other aquatic habitat or areas within the 100-year flood plain;
- List any designated Essential Fish Habitat and Habitat Areas of Particular Concern designated under the Magnuson-Stevens Fishery Conservation and Management Act;
- List any critical habitat areas for Endangered Species Act-listed species;
- List any marine protected areas including national marine sanctuaries and national marine monuments in the location of the proposed activity;
- List any National Wildlife Refuge areas, wild or scenic rivers, wetlands, or prime/unique farmland in the location of the proposed activity;
- List any properties listed or eligible for listing on the National Register of Historic Places, National Historic Landmarks, or National Monuments; and
- List any religious or cultural sites of any federally recognized Indian Tribes or Native Hawaiian organizations in the proposed activity area.
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Our study locations do not include any areas covered by the above regulations. All work will take place in a laboratory at the University of Alaska, Fairbanks or at Eurofins BioDiagnostics.

PROJECT PARTNERS, PERMITS AND CONSULTATIONS

14. List all other interested or affected Federal, state, and local agencies, Native American tribes or Native Hawaiian organizations, non-governmental organizations, and private individuals which may potentially be interested and/or affected by the action.

NOAA is a partner in this work and will be providing all tissue samples.

15. Are Federal, state, or local permits, authorizations, waivers, determinations, or consultations required for the proposed activity to comply with all applicable environmental laws and regulations? If yes, then:

- List and provide the status of all required Federal, state, or local permits, authorizations, waivers, determinations, conditions, and consultations, as applicable; and
- Provide copies of all required Federal, state, or local permits, authorizations, waivers, or determinations that you have secured.
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No permits are necessary for this work as it is entirely lab-based.

SAFETY

16. Describe potential unique or unknown risks to human health or the environment from the proposed activity.

None.

17. Describe the potential to generate, use, store, transport, or dispose of hazardous or toxic substances. Please include the following:

- A list of any hazardous substances (as defined by 29 C.F.R. 1910.120(a)(3)) that will be involved in this project and any hazardous wastes (as defined by 40 C.F.R. 261.3) that could potentially be generated during the proposed activity;
- Any hazardous contaminants that may be uncovered and/or disturbed by the proposed activity;
- A list of the procedures/protocols that will be followed to ensure safe handling, storage, use, collection and transport of hazardous substances and proper disposal of all hazardous wastes
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Some routine chemical waste will be generated as part of the aforementioned laboratory protocols. All use, storage, handling, and disposal of this waste will be done in accordance with the University of Alaska Environmental Health and Safety office. This includes use of personal protective equipment, laboratory fume hoods, etc.