

Cedar River Sockeye Hatchery Program Adaptive Management Plan: Technical Work Group Charter and Operating Guidelines

Preamble

There are several reasons for preparing a work group charter. First, it documents the work group's purpose and clearly defines individual and group roles, responsibilities, and operating rules. Next, it establishes procedures for both the work group and agency staff on communicating, reporting, and decision-making procedures. It lays out a blueprint for conducting business for the programmatic objectives, and defines how the team works in an empowered manner, including setting out responsibility and authority. Finally, it facilitates stakeholder acceptance by including key members in the decision making process. The intent of this document is to provide a conceptual framework for the operation of the Technical Work Group (TWG) and to guide interactions with other parts of the adaptive management process for the Cedar Sockeye Salmon Hatchery.

Because there are a wide variety of work groups, group sizes, and organizational protocols, no two charters will ever be identical. This variation gives members latitude in determining what information should or should not be incorporated into the charter. The key in evaluating charter content is to ask the question: "Will this information tend to minimize conflict or confusion later in the project?" If the answer is "yes," then that component of the work group charter should be incorporated.

Work group charters formalize information that is frequently given as "understood" among members. As such, some members (particularly those with years of service in an organization) may balk at the notion that they should document how their relationships with their peers should function. Also, work group charters generally have little or no enforcement capability. The success of the charter frequently hinges on work group members' capacity to police themselves, and adhere to the spirit, if not the letter, of the operating guidelines. If members are encouraged to follow the guidance of the work group charter, it becomes more effective over time.

1. Introduction

a. Background and context

- The Seattle Public Utilities (SPU) Adaptive Management Plan (AMP) defines an operating and management framework for the Cedar River Replacement Sockeye Hatchery Program ("the Hatchery") as a legal component of the Landsburg Mitigation Agreement (as further

described in section 2.b.iv(3)). The Adaptive Management Work Group (AMWG) and the Technical Work Group (TWG) are specified in the AMP as responsible for overseeing research and monitoring under the Adaptive Management Plan for the Cedar River Sockeye Salmon Hatchery (see section 2.b.i details about governance structure of the AMWG, and see section 2.b.iv(1) regarding the TWG). The AMWG is composed of representatives from agencies and stakeholders with an interest in the Cedar River Sockeye Hatchery Program, and formulates recommendations to the Landsburg Mitigation Agreement (LMA) Parties regarding operation of the Hatchery. The AMP provides direction for exploring and responding to “key scientific uncertainties” related to the effects of operating the Hatchery. The “key uncertainties,” as described in the AMP, are those which require a higher level of monitoring and research than has typically been available for Hatchery programs and are not part of the routine uncertainties that would be encountered in any Hatchery program. The TWG is composed of up to seven technical experts with expertise on different subjects relevant to the AMP.

b. Vision

- To best address key scientific uncertainties related to the operation of the Cedar River Sockeye Hatchery and to further the science of best Hatchery management practices.

c. Purpose

- To implement a long-term research and monitoring program that is scientifically and statistically sound, which addresses scientific uncertainties associated with the Hatchery Adaptive Management Program.

d. Objective

- Serve as the primary source of scientific expertise for implementation of the Cedar Sockeye Hatchery Adaptive Management Plan .

2. **Governance**

a. Organizational Hierarchy (see also attached “Governance Structure” diagram)

- The Technical Work Group is the center of the scientific investigation process for the Hatchery. It is accountable to the AMWG who are responsible for implementing the AMP. The TWG is responsible for recommending a prioritized scientific research program, including recommendations for specific studies, and for overseeing the monitoring and research conducted in support of the science program. The evaluation of TWG recommended research proposals, as well as recommendations that derive from completed research, is the central purpose of the AMWG. The AMWG will direct the activities of the TWG in conducting the research. The AMWG, in consultation with the TWG, will then provide reports and recommendations for operational changes to the LMA Parties for approval as needed.

b. Role and responsibilities

i. Role and responsibility of Technical Work Group

- (1) The Technical Work Group is the engine powering the science of the AMP. It provides the AMWG with recommendations for prioritizing data needs and overseeing monitoring, scientific data collection, information storage and access, and research requested by the AMWG to inform the best management of the Hatchery.
- (2) The TWG may undertake these activities:
 - Reviewing and, if necessary, updating the Key Uncertainties section of the LMA Adaptive Management Plan.
 - Drafting monitoring and research objectives, protocols, and plans to address scientific uncertainties related to the management or effects of the Hatchery.
 - Making recommendations for research and monitoring activities to the AMWG.
 - Directing research and monitoring project implementation in consultation with the AMWG.
 - Reviewing monitoring and research reports.
 - Providing input on data management and analysis approach.
 - Reviewing and recommending the criteria and thresholds that would indicate the point at which either changes should be made to the Hatchery program, or formal evaluation should occur, as appropriate.
 - Recommending appropriate changes to the criteria and thresholds when appropriate.
 - Providing technical review of the Annual Report on Hatchery operations.
 - Recommending changes to the Annual Operating Plan for the Hatchery.
 - Evaluating the effects of Hatchery management actions.
 - Recommending the responses in Hatchery operation when pre-determined technical thresholds are surpassed for areas of key uncertainty.
- (3) As the work group with the greatest technical understanding of the challenges, opportunities, and potential impacts of the Hatchery program, the TWG may formally submit a recommendation or proposal to the AMWG at any time. However, the AMWG holds the authority to determine and approve the recommended research and monitoring activities, and AMWG approval will be required before implementation of specific research or monitoring recommendations by the TWG begin.
- (4) The TWG members serve at the pleasure of the LMA Parties, and the LMA Parties have exclusive authority over what recommendations to partially or fully adopt or reject from any work group or committee in this AMP process. In addition, the LMA Parties may make requests of the AMWG for technical inquiry and the AMWG will

respond timely to any such requests. The AMWG will then promptly inform the TWG of any such requests.

- (5) In the course of implementing the AMP, the TWG may wish to further discuss technical issues with the AMWG or vice versa, and either work group may request a joint meeting of the workgroups to discuss and resolve technical and/or operational issues at any time.
- ii. Role and authority of the Scientific Coordinator, as the TWG Chair
 - (1) The TWG members will select among themselves a recommended Scientific Coordinator who will act as Chair of the Work Group. That member will then be recommended to the LMA Parties for approval as the TWG Scientific Coordinator. The Scientific Coordinator has the primary duty of calling all meetings to order and officially presiding over the Work Group meetings. This includes preparation and dissemination of the agenda at least five days in advance, and the recognition and assignment of official action items and the review of past action items at each meeting. The Scientific Coordinator has a single, equal vote on all issues officially voted upon by the TWG.
 - (2) The Scientific Coordinator will also serve as the primary liaison to all other groups in the AMP process on behalf of the TWG. The Scientific Coordinator will be supported in his or her duties by the SPU AMP Lead Staff as described below.
 - (3) The Scientific Coordinator and the AMWG Chair will serve as the primary contacts for communications occurring between the two work groups as further described in the “Communications” section 3 below.
 - (4) The Scientific Coordinator will serve in this role until they wish to leave this duty.
 - iii. Role and responsibility of SPU AMP lead staff
 - The AMP lead staff is assigned to facilitate the success of the AMP process. This includes coordination within and among the groups involved in the AMP process and with individual members of the groups and their respective agencies. The AMP lead staff does not have a vote in any official decisions made by the AMWG, but will often participate in deliberations by the work groups. The AMP lead staff will conduct programmatic duties as requested by the AMWG, the TWG, and SPU in support of the AMP process.
 - iv. Roles and responsibility of other organizations/workgroups
 - (1) Adaptive Management Work Group:
 - The AMWG steers the AMP. It’s primary role is to direct the use of science to address uncertainties associated with the operation of the Hatchery—especially

the five key uncertainties identified in the AMP—and to use lessons learned to make recommendations for improvements to Hatchery operations. All recommendations for actions to be taken by the LMA Parties with regards to operation of the Hatchery are made by the AMWG.

(2) Independent Science Advisors (ISA)

- The ISA is a roster of scientists not otherwise closely involved in the implementation of the AMP, who will periodically be asked to review studies and recommendations from the TWG and assist the AMWG in its evaluation of information and recommendations from the TWG on an *ad hoc* and “as needed” basis.

(3) LMA Parties

- The legal oversight of all management activities related to the Cedar Sockeye Hatchery is provided by the LMA Parties according to the terms of the Landsburg Mitigation Agreement and also by the Muckleshoot Indian Tribe Settlement Agreement. The LMA Parties include: City of Seattle, U.S. Fish and Wildlife Service, NOAA Fisheries, the Washington Department of Fish and Wildlife, and the Muckleshoot Indian Tribe (by the powers provided in the MIT Settlement Agreement).

(4) Anadromous Fish Committee (AFC)

- The AFC is an advisory group formed in the LMA to support the implementation and oversight of the LMA. The AMWG is made up of representatives of the same organizations as the AFC, but does not assign representation to individuals, only their constituent organizations.

(5) Hatchery Manager

- The Hatchery is to be managed by the Washington Department of Fish and Wildlife under contract with Seattle Public Utilities.

c. Membership

- i. The AMP process provides for up to seven technical experts to serve on the TWG. Members participate as experts within various technical disciplines, and not as representatives of specific agencies. The disciplines represented in the work group at any time are not intended to be the only, or the exact, set of scientific expertise that might be represented among the seven members. The membership of the inaugural TWG is:
 - (1) Thomas Quinn: Salmon and trout biology/ecology
 - (2) David Beauchamp: Lake Washington ecology, food web ecology
 - (3) Kenneth Warheit: Genetics

- (4) James Winton: Fish health
- (5) Andrew Appleby: Hatchery reform science
- (6) Kurt Fresh: At-large scientist (1)
- (7) Vacant: At-large scientist (2)

- ii. Membership on the TWG is entirely voluntary on the part of each member. Members are expected to serve multiple years on the Work Group, and agree to provide substantial written notice to the AMWG before resignation from the TWG. There is no term limit for participation by any member. The TWG will work with any outgoing member(s) to plan for their transition(s) such that no more than two outgoing members depart prior to empty positions being refilled.
- iii. Members serve voluntarily on the TWG and are paid by their primary employer for the duties provided to the TWG. However, some remuneration for member time contribution may be negotiated with the members' constituent organizations, provided that such a form of payment does not constitute a financial or scientific conflict of interest for any individual member. Any contracted research or monitoring work performed by a member's constituent agency/organization does not represent a conflict of interest either, but must be conducted according to the terms described in section 2.e.vii below.
- iv. When the TWG wishes to fill a vacant seat on the work group it may do so by nominating a member candidate and then formally recommending to the AMWG that it invite that candidate for membership on the TWG. Membership candidates are to be identified by the technical discipline they offer to the work group. The AMWG will then have the responsibility to formally invite that membership candidate to join the TWG, or to respond to the TWG with any questions or concerns about nomination of the candidate.

d. Meetings

- i. The TWG will meet at least quarterly or more frequently as approved by the Scientific Coordinator. These meetings are to discuss Hatchery operational activities and issues related to monitoring and research in the AMP process.
- ii. Meetings will be conducted as working sessions where each topic is presented to the attending members by fellow members, the AMWG Chair, the AMP lead staff, or other requested attendees.
- iii. The TWG will participate with the AMWG in a regular joint scientific review workshop that will be open to the public, for a review and discussion of the status of the research and monitoring activities of the AMP. Additional joint meetings of the two groups may also be intermittently scheduled as described in section 2.b.i(5)above.

- iv. The SPU AMP lead staff will be responsible for providing a note taker at the meetings and for disseminating meeting notes prior to the subsequent meeting. Notes will be reviewed, edited as necessary, and then approved at the following meeting.
- e. Decision making
- i. Discussions between TWG members and any other consulted parties will be held to clarify details and understandings in the process of developing recommendations for the AMWG and LMA Parties from research, monitoring, or other technical data considered.
 - ii. The TWG will strive to make all formal work group decisions regarding study recommendations, Hatchery management, or other technical issues, by full consensus of a quorum of TWG members. Should the work group fail to reach consensus on an issue, the Scientific Coordinator may—upon seconded motion of the work group members—call for a vote by the TWG. The motion shall be carried with a majority of votes, so long as a quorum has been met as described immediately below.
 - iii. The TWG shall be considered to have a quorum when at least four members are present.
 - iv. In the event of a non-consensus, majority-voted recommendation, those members in the minority may provide a minority supported counter-recommendation statement to the AMWG Chair, should they view it necessary. Upon evaluation, the AMWG will forward the information to the LMA Parties.
 - v. It is the goal of the TWG, and the AMP process generally, that all recommendations and decisions be made by consensus when, and if, possible. In the event of an irresolvable dispute (a “split decision” of a quorum of members) over a recommendation or technical decision, the AMWG will be provided with a summary assessment and recommendation or opinion statement by each equal portion of the TWG membership. The AMWG will consult with and advise the LMA Parties, and the Parties will retain sole authority over how or if a response to the split opinion will be provided.
 - vi. It is expected that members or the organizations with whom they are employed, may at times have a conflict of interest, or the appearance thereof, when considering decisions about proposed research activities which could later provide scientific work for the member/member organization. In such cases, any member of the TWG may voluntarily recuse himself/herself from participating in the decision by the work group.
 - vii. In developing implementation plans for technical investigations, a member or member’s organization may be recommended for a specific project commissioned by the TWG. In order to prevent any conflict of interest, the TWG must unanimously approve of the use of that member/organization for the project, and will also request that the AMWG

approve the use of the recommended TWG member/organization to further prevent an appearance of conflict of interest.

f. Process for responding when thresholds are exceeded

- The Adaptive Management Plan establishes specific primary statistical thresholds for results associated with each of the five AMP “key uncertainties”. The goal of the thresholds is to provide for an objective, quantitative, decision point for use by the TWG and the AMWG to prompt response actions to unusual or undesirable Hatchery-generated outcomes. It is of great importance that the TWG consider and include these thresholds in deliberations about research, monitoring, and any potential operational changes to the Hatchery that may come from threshold exceedance and the implications thereof in the adaptive management process. Section 4.8 of the AMP delineates the process by which the TWG and AMWG will consider and respond to cases where thresholds are exceeded.

3. **Communications**

a. General communication expectations

- It is the belief of the TWG that the process of employing rigorous and objective scientific inquiry in support of the operation of the Cedar Sockeye Hatchery will be best met when communications and interactions within the work group and among the work groups are highly transparent to all involved.

b. External communication expectations

- In the course of executing the research and monitoring program for the AMP, TWG members will likely hold conversations with scientists and peers from various other organizations. These dialogues will likely be helpful in the collection of information and its interpretation. The TWG will participate with the AMWG in its meetings as necessary, and will also participate in a regular joint scientific review workshop that will be open to the public, for a review and discussion of the status of the research and monitoring activities of the AMP.

c. Communications with AMWG

- i. The AMWG is expected to communicate both formally and informally with the TWG in the process of implementing the AMP. Requests for discussion of technical issues, research, or monitoring by the TWG must be made through a formal request by the AMWG as described immediately below. Informal dialogue between individual members of the work groups is very important to building shared understandings and debating important technical issues in the AMP process. This type of discussion between members should foster mutual collaboration between the work groups. However, it is the duty of individuals in both work groups to elevate conversations that have potential

bearing on the development or evaluation of recommendations to the LMA Parties. It is the responsibility of the AMWG Chair and the Scientific Coordinator to provide both work groups with sufficient notice and information about the topics of discussion that bear directly on the development of formal recommendations by the TWG.

- ii. When a topic of scientific interest to the AMWG is to be discussed for potential recommendation of Hatchery management actions to the LMA Parties, that scientific interest will be formally discussed with the TWG for guidance prior to the formation of an AMWG recommendation to the LMA Parties. The protocol for this process will be a written request for consideration of an issue from the Chair of the AMWG to the TWG Scientific Coordinator. The Scientific Coordinator will then be responsible for informing the other members of the TWG, and for timely discussion of the issue at the next regular meeting of the TWG. The Scientific Coordinator will then direct the preparation of a written response to the AMWG with the TWG recommendation on the topic.

d. Communications with LMA Parties

- The TWG is a supporting work group to the AMP policy lead work group, the AMWG. As such, communication by the TWG will be directly to the AMWG, and the AMWG will direct all communications with the LMA Parties. However, it is important the TWG be able to raise concerns with the AMWG if members believe that TWG input has not been accurately represented to the LMA Parties. In such instances, the TWG may request a joint meeting of the workgroups (as described in section 2.b.i(5) above) to consider providing additional or revised information to the LMA Parties.

e. Communications with ISA

- The primary role of the ISA is to provide the AMWG with an independent peer review and technical assessment resource for improving the ability to evaluate recommendations and feedback from the TWG. There may be times, however, when a member of the TWG wishes to consult one or more of their peers on a technical issue. In general, this communication is expected and encouraged. However, at times when the AMWG is actively consulting members of the ISA on a TWG recommendation, the TWG member(s) will notify the AMWG Chair when any direct communication with any of those ISA members occurs.

f. Communications with SPU and Hatchery Management

- i. The TWG will frequently interact with the SPU and WDFW Hatchery Management staff in the process of designing experimental research and monitoring of Hatchery effects in the Cedar River ecosystem. It is intended that the TWG should have direct access to communicate with the Hatchery manager in developing information and recommendations related to the AMP process.

- ii. Any actual requests of the Hatchery managers by the TWG for operational or monitoring activities will be made in the form of recommendations to the AMWG.

4. Public Involvement in Adaptive Management Process

- a. Public input process
 - i. It is an important part of the scientific process for the Hatchery that it be open and visible to the public. Public input and comment to the AMP process will be made via the AMWG, Therefore, no explicit opportunity will be provided for public comment at the TWG meetings.
 - ii. Public comments or inquiries to the TWG will be routed to the AMWG for official public response.

5. Work Planning

The TWG will conduct regular work planning to include:

- a. Process for developing new research inquiries
 - The key scientific uncertainties related to the management of the Hatchery are described in the AMP. As the TWG refines its priorities for technical research and evaluation it may find that other issues are of necessary significance for monitoring or scientific evaluation. The TWG will provide the AMWG with formal written proposals for any new research inquiries not formerly approved by the AMWG or the LMA Parties.
- b. Annual monitoring plan
 - One of the most important fundamental duties of the TWG is to provide recommendations to the AMWG and Hatchery management staff for the program of monitoring to be undertaken during each calendar year.
- c. Annually updated Research Plan and Report
 - In addition to the annual monitoring plan, the TWG is responsible for providing an annually updated overall Research Plan and Annual Report to the AMWG for approval. The Research Plan will review the past year's activities and outcomes, and will characterize all recommended study activities under the AMP process including all data collection (monitoring), research, evaluation, and recommended activities by the Hatchery managers for the implementation of the AMP.

6. Funding

- a. SPU support for program
 - i. SPU has responsibility for the fiscal support of the AMP program. This means that SPU will provide funding for monitoring, research, data collection, and storage as required, and as available through the City's budget appropriations process.

- ii. SPU has preliminarily identified available funding for the AMP direct cost and administrative support of approximately \$300,000 per year. Specific budget allocations for monitoring and scientific study as well as administrative support will be developed by SPU and provided to the AMWG and TWG for timely consideration of each year's research agenda and monitoring plan.