

# Geoduck Task Force Meeting 5

October 22, 2024 1-4pm

## AGENDA

- I. Introduction, Welcome, and Thank You
- II. Review of Task Force Purpose and Goals
- III. Review of Enhancement Factsheet and Report
  - a. Confluence presentation of draft document
  - b. Discussion and Q&A
- IV. Next Steps and Close Out
  - a. DNR Review Timeline

## ATTENDEES:

Billy Plauché (Plauché and Carr), Amanda Carr (Plauché and Carr), Chris Cziesla (Confluence), Kelly McDonald (Confluence), Alexis Huynh (Confluence), Todd Hass (Puget Sound Partnership), Alex Gouley (Skokomish Tribe), Abby Barnes (DNR), Austin Paul (Point No Point Treaty Council), Blain Reeves (DNR), Blair Paul (Skokomish Tribe), Chris Eardley (WDFW), Franchesca Perez (Stillaguamish Tribe), George Stearns (Puyallup Tribe), Jason Haveman (Port Gamble S'Klallam Tribe), Joshua Bagley (Suquamish Tribe), Katalin Plummer (DNR), Kyle Lentz (Chelsea Farms), Leslie Connelly (Ecology), Liz Tobin (Jamestown S'Klallam Tribe), Margaret Homerding (Nisqually Indian Tribe), Matt Beirne (Lower Elwha Klallam Tribe), Max Showalter (DNR), Scott Berbells (DOH), Viviane Barry (Suquamish Tribe), Paul Williams (Suquamish Tribe), Jim Gibbons (Seattle Shellfish), Tom Gorman (DNR), P. Sean McDonald (UW)

## ACTION ITEMS:

- Confluence to conduct follow up with Bonnie Becker.
- Confluence will share the report once finalized and submitted to the legislature by DNR.

## SUMMARY:

The final Task Force meeting opened with a review of the Task Force purpose and goals. Prior to the meeting, a draft of the Enhancement Factsheet was circulated to the members of the Task Force. Confluence presented an overview of each section of the report and participants provided feedback on content and recommendations. While discussing the opportunities and risks of geoduck population enhancement, a suggestion was made to include potential use conflict with other fisheries using the same area as geoduck tracts, such as the crab fishery. Other suggestions include adding an acknowledgement that some priority areas for potential pilot enhancement projects were not identified through this Task Force effort, revising recommendations to consider siting larval recruitment and survival, and incorporating the development of genetics work group into a recommendation to advise best practices for future genetics work.

## NOTES:

### **II. Review of Task Force Purpose and Goals**

- Task Force established by legislative proviso to investigate increasing and sustaining harvestable geoduck for the state and tribes.
- Subgroups of the Task Force:
  - Water Quality
  - Harvest Restrictions
  - Geoduck Population Enhancement
- Overview of Enhancement subgroup work:
  - Distributed annotated outline of document and received feedback from subgroup.
  - Confluence drafted enhancement factsheet and report and circulated to subgroup for feedback.
  - Enhancement subgroup members have joined this meeting to provide additional feedback on the draft document.

### **III. Review of Enhancement Factsheet and Report (circulated on 10/18/24)**

- 1.1 - Goals of Enhancement
  - Discusses overall goal of enhancement, which is to enhance the wild stock geoduck population in Puget Sound in support of continued and sustainable harvest.
  - Two approaches described:
    - Plant geoduck seed and enhance survival for the purpose of direct harvest
    - Plant geoduck seed and/or protect adults to enhance broodstock (i.e., create “broodstock reserve”)
  - Discussion:
    - Might want to be more specific about “seed”; maybe specify that larvae will be used.
      - Confluence will look to add a Terms and Definitions page to the document.
      - Concept was raised in context of commercial tracts, specifics of broodstock reserves were not defined.

- From chat: In regards to the "broodstock reserves", I believe we recommend developing models to identify areas that would likely have the best retention (likely Tarang).
- 1.2 - Enhancement Efforts to Date
  - Summary of work primarily by WDFW early on in geoduck fishery management.
  - Efforts focused on planting of geoduck juveniles and larvae – key result was that predator exclusion is important.
  - Subsequent development of geoduck aquaculture methodology lies on predator exclusion devices
- 1.3 - Factors Driving Population Size and Structure
  - Genetics of geoduck populations, larval availability and production, geoduck settlement, and predation pressure and survival
  - This section is a review of information on what we know on these topics.
- 1.4 - Enhancement Opportunities and Risks
  - Opportunities:
    - Geoduck are long-lived (efforts could benefit population for decades)
    - Could support harvest in the near term and sustainability in the longer term
    - Hatchery seed is available
    - Enhancement efforts would be location specific
    - Enhancement could support overall larval availability
    - Build on strong foundation of geoduck aquaculture (i.e., not starting from scratch)
    - Population genetic structure has been studied
  - Risks:
    - Sampling limitations make it hard to assess success
    - Introduction of hatchery-raised individuals
    - Disease introduction
    - Susceptibility to predation
    - Geoduck settlement poorly understood
    - Costs of enhancement
    - Availability of seed is variable
    - Complex regulatory framework
    - Stakeholder objections related to intertidal aquaculture
  - These are intended to capture overall considerations when thinking about geoduck population enhancement.
  - Discussion:
    - Should there be a discussion about when an enhancement crosses over and becomes an aquaculture effort? Where is the line between population enhancement and aquaculture?
      - Last two bullets under Risks addresses part of those questions around regulatory framework.
    - Risk to flag or include: interaction with other fisheries in the same area, like crab, that occur on the same grounds as the geoduck tracts.
- 2.0 Research Questions

- Maximize Success and Effectiveness
  - Water circulation and current speed effects on geoduck recruitment?
  - Effects of environmental conditions?
  - Drivers of settlement?
- Methods and Evaluation
  - Differential success in survival related to seed size? Method of seeding?
  - Sampling methods for juvenile geoduck?
- Hatchery Practices and Other Considerations
  - Hatchery practices to limit genetic effects?
  - Cost benefit analysis?
  - Social acceptance of geoduck enhancement?
- 3.0 Proposed Pilot Projects
  - Enhancement Trials at Big Beef and Dash Point
    - Describing proposed pilot-scale projects at a conceptual level.
    - A thorough cost-benefit analysis would need to be conducted before implementation of a pilot project.
  - Transplantation
    - Limited knowledge methods and drivers for success in conducting enhancement projects through transplantation.
    - Proposed pilot project in North Sound region using transplantation may also be beneficial for kelp or other shellfish restoration.
  - Discussion:
    - Potential projects for enhancement will be driven and focused on who's involved. Report should acknowledge that there could be projects of priority that weren't identified.
    - Areas that are known to be low and high natural recruitment – it would be good to see one enhancement project at each type of site.
- 4.0 Recommendations
  1. Provide funding, as appropriate, for pilot projects, like those described in Section 3.0, to test enhancement methodology, better understand survival and success of planted individuals, and evaluate the feasibility of transplanting adult geoduck in support of enhancement.
  2. Conduct research in support of establishing broodstock reserves (i.e., locations with adult geoduck intended to support larval availability), including consideration of siting, larval movement, and geoduck settlement information. High-resolution water circulation modeling could inform appropriate siting.
  3. Evaluate available information on the genetics and population structure of geoduck in Puget Sound, conduct additional research, as needed, and establish best practices for hatchery production that minimize the potential effects of introducing hatchery-raised individuals into the wild stock population.
  4. For relevant enhancement activities, including seeding for direct harvest and establishment of broodstock reserves, conduct a cost-benefit analysis to determine upfront capital investments, scale dependence, and potential profitability on a project basis.

- Discussion:
  - For #1, would it be worth calling out risk? Normal funding cycle would struggle to pick up results. Projects are typically on a longer-term study.
  - Look at Bonnie Becker’s work with larval recruitment – might be missing natural larval movement. Including consideration of siting larval recruitment and survival. Bonnie Becker might be a good expert to include in this research.
    - Confluence to conduct follow up with Bonnie Becker.
  - From chat: survival = recruitment into the fishery or survival until age of sexual maturity
    - Response from chat: Liz - this is important. I agree that we need to definite terms more precisely within the document.
  - For #3, Genetic information is outdated – markers may not have power to fully uncover genetic information. Suggest adding it as a research need.
  - Prior genetic work may need to be updated. Recommending the development of genetics work group to advise best practices could help address need for updating outdated information.
  - Would like to see some study on larvae sampling in water and what’s out there. Larvae is a good starting point.
  - Does the sequence of how recommendations are ordered matter? Might add language to clarify that there’s no prioritization and reorder the list so that it flows in the same way as the document.
  - Evaluating genetics work is great and conducting additional research with more accurate technologies. We should keep in mind that it opens the door to look at geoduck aquaculture – which can’t be completely separated (both intertidal and subtidal). If we’re going back and redoing genetic analysis of stock in Puget Sound, it might impact some of the geoduck aquaculture issues.
  - Lot of stakeholders involved in geoduck; is there a way to address that there are already folks working on these issues, like co-managers? Is there a more efficient way to appoint these recommendations? RFP, co-managers, etc.?
    - Could provide discussion of implementation more generally rather than specific options for each recommendation.
    - From chat: In response to Blair’s comment, I am reminded of the Geoduck Aquaculture Research Fund, which was implemented by the legislature to provide funding for research. It seemed to work pretty well.

#### **IV. Next Steps and Close Out**

- Confluence will share the report once finalized and submitted to the legislature by DNR.
- Thank you to everyone for your time spent on this effort!