Alaska Hatchery Research Program Science Panel meeting May 29-30, 2019

ADF&G Anchorage Office, Aerie Conference Room

Summarized meeting notes and decision points

Attendees

Unless otherwise indicated, attendees were present for both days of this meeting. An asterisk (*) indicates attendance by teleconference.

Science Panel
Milo Adkison, University of Alaska
John Burke, Southern Southeast Regional Aquaculture Association (SSRAA)
*John H. Clark, ADF&G
Chris Habicht, ADF&G
*Jeff Hard, Northwest Fisheries Science Center, National Marine Fisheries Service (NMFS)
*Ron Josephson, ADF&G (retired)
William (Bill) Smoker, University of Alaska (retired)
William (Bill) Templin, ADF&G
*Alex Wertheimer, NMFS (retired), May 29 only
Peter Westley, University of Alaska, May 30 only

Other Attendees
Casey Campbell, Prince William Sound Aquaculture Corporation (PWSAC)
Eric Prestegard, Douglas Island Pink and Chum Corporation (DIPAC)
Sam Rabung, ADF&G
Steve Reifenstuhl, Northern Southeast Regional Aquaculture Association (NSRAA), former Science Panel Member
*Thomas (Tommy) Sheridan, member of the public, former Science Panel Member
*Mike Wells, Valdez Fisheries Development Association (VFDA)
Kyle Shedd, ADF&G, May 30 PM only
Erica Chenoweth, ADF&G

Summarized meeting notes and decision points

Discussion surrounding program history and background, what we set out to accomplish, and what has been accomplished so far

- Study was designed to answer the three questions spelled out in the Request for Proposals. Still looking for clear idea of what transition at project end looks like. Bill T.: in the end it will be someone "telling the ADF&G commissioner: here's what this means for this given permit, here's what this means for these aquaculture actions, or fish transport, etc." ADF&G will be making policy decisions based on this and other work.
- Accomplishments to date discussed, included:

- Robust estimates of hatchery proportions by District and Area for 3 years in PWS (pink and chum salmon) and SEAK (chum salmon)
- Unbiased run-reconstruction for hatchery and wild fish for 3 years (PWS pink and chum salmon)
- Genetic map of the pink salmon genome and development of 300 SNP panel for parentage analysis
- Proof of concept for parentage analysis in wild streams without weirs

- Proposed potential products in the near future:
  - A document on the AHRP website, definitions of terms, understandings of certain concepts (straying etc); to make sure we improve the conversation - **Bill T.** will initiate**.**
  - Add a reference section/page to the website (would list relevant papers, Tyler's publications etc) – **Sam R.** will initiate.

Status of publications: PWS and SEAK straying manuscripts and RRS reports and publications

- Population structure
  - Wei's contemporary odd-year genetic population structure paper on pink salmon: going into ADF&G report series (already reviewed by Science Panel (SP))
  - Wei's contemporary even-year genetic population structure paper on pink salmon: draft in internal review; will be distributed to SP for review this summer
  - Wei is still working on analyses of relationship between historical and contemporary samples for population structure
- Straying manuscripts
  - PWS hatchery proportion of pink/chum (also has ocean test fish sampling and estimates of run size) – **Bill T.** and **Peter W.** will review and determine if it should be broken up into two publications instead of one (end of June) then SP review; aiming to submit to scientific journal for publication in August
  - SEAK Chum hatchery proportions paper that Ron J. has worked on – waiting on **Bill T**. edits (end of June) then SP review; aiming to submit in August
  - **Milo A.** volunteered to help with editing as needed on PWS and SEAK hatchery proportion papers
- RRS reports and publications
  - Two Funding Agency reports: One has been submitted to the North Pacific Research Board. One is being circulated to SP for review in preparation for a June 30 submission to Saltonstall-Kennedy; SP comments are needed before then.
  - General consensus that work is still needed on the Relative Reproductive Success (RRS) analyses before ready for publication in peer-reviewed journal:
    - Identify and articulate assumptions associated with RRS estimates
    - Make sure to tease sampling biases out; must be confident that RRS estimates take into account variables that affect RRS. This is particularly needed since samples may not be representative of the full population to which we are extrapolating.

        - Write a methods paper that outlines best practices for this kind of data/methods paper, given the AHRP experimental design, not an RRS publication
            - Discuss power analysis and show ability to detect differences in RRS of two groups without putting in preliminary results
            - **Chris H.** will work with **Kyle S., Emily L.,** and **John H. C.** to develop an outline for SP review, **Milo A.** volunteered to help write or edit
            - Bring in outside expertise for advice (Todd Seamons from WDFW was suggested)
    - Authorship (General consensus):
        - Include everybody who substantially contributed to the writing of the paper. In addition, allow opt-in for SP members who substantially contributed in other ways (e.g. finding funding, developing the plans, developing original ideas, and seeing project through).
        - Include boilerplate paragraph outlining the AHRP program, SP involvement in study design and oversight, and funding in all publications directly resulting from the AHRP. **Chris H. and Bill T.** will write a draft for SP review.
    - SP review of reports and publications (General consensus): All reports and publications will be provided to the SP for review. Lead authors will make final determinations addressing edits and comments.
    - Documenting evolution of reports and publications: There was a general consensus that transparency in AHRP publications is good for the program (and may head off FOIA requests). One option discussed was to have the lead author document edits and comments to reports and publications and then post this document on the website, along with the final report or publication. Concerns raised included workload on the author, embarrassment of the authors, and use of this information by stakeholders to critique results of the program. Decision was made to move forward and propose methods for SP review**. Chris H. and Bill T.** will write a draft for SP review.
    - Timing of Relative Reproductive Success (RRS) publications: Consensus among original SP members that the original plan for publication release was to have all RRS results all generations and all 5 streams released at once. When we accepted outside funding, we locked ourselves into releasing partial results. Now that those are done, the consensus was to 1) write a methods report, as discussed above, and 2) wait until all the RRS results before writing a final RRS (for each species).

Budget status

- **Sam R**. committed to keeping Proforma budget up-to-date and available
- Project will be in the red in FY22 (without disaster funding)
- Disaster funding still stuck in OMB; estimated $2.5M. This funding is expected to generally replace, not augment, current funding. Additional Disaster funding may be available, but is less certain.

- Contingency plan will be implemented if Disaster funding becomes available, consensus on priority of increasing lab throughput per year (from 20,000 to 30,000 samples)
    - Increase throughput will require additional personnel for extractions. Given hiring freeze, Chris H. will need to determine best methods to accomplish this goal
        - One method that might work is to contract crew from PWSAC; Casey C. was supportive.
        - Chris H. will wait until we have funding in place before pursuing increased throughput options.
- Shortfall of funds for the GCL was identified in the current Proforma: To get all genetic samples analyzed, the Proforma should show a total allocation of $6.776M; current Proforma shows total allocation of $4.826M, a $1.950M shortfall, some of this shortfall has been filled with in-kind contributions from the department. Processing the remaining fish will cost **$1.014M** more than available in the current Proforma (see Chris' slide # 9 in PWS .pptx). In addition, more funding will be required by the Cordova otolith lab to read remaining otoliths; **Chris H.** work with Cordova otolith lab to develop estimate. There was a general consensus that the highest priority for additional funding is processing all useful genetic samples.
- **Chris H.** will add fry dig sample analysis costs into the budget.
- **Steve R.** dealing with Northern Fund difficulties for dispensation of final $10,000, **John H. C.** said to give Bill Auger and Angus a call to settle it
- Processor money for FY18/19 came through beginning of May, 2019.
- **Steve R.** will submit another proposal ($300K) to Northern Fund (call for proposals is our now) for SEAK sampling.

Discussion on clarifying the program objectives and scope

- General consensus that the program was to obtain the estimates associated with the three original questions, do appropriate analyses with the data collected to ensure estimates are robust, and describe shortcomings. In AHRP-related publications there will be some discussion about caveats regarding results, ways to understand the results, and/or what the results mean biologically, and the how the results fit into the literature.
- Four levels of scope were identified:1) Calculate numbers for the three questions, as outlined in the RFP; 2) Investigate variables that may bias these numbers and adjust numbers for the biases, if possible; 3) Investigate mechanisms that drive the findings; 4) Provide recommendations to policy makers. Eventually, all of these steps will be completed by the department, but they may not all be within the scope of the AHRP. General consensus that the first 2 levels are within the scope of AHRP. General consensus that mechanisms should be in discussion sections (helps answer the question: "what do these data not mean?"), but not be items for investigation under AHRP. Finally, providing recommendations to policy makers is outside the scope of the AHRP, however, we discussed developing a position paper with different perspectives (see below).

- First RRS publication(s) will set precedent.
- **John B**. suggested potential publication contrasting different interpretations of AHRP data and results in the context of the literature. This idea was generally well received and would provide SP members to speak to mechanisms and policy issues.

Prioritizing this year's lab analyses within the budget constraints

- **Pink: Consensus to change priorities slightly to complete all Hogan and Stockdale samples before moving to other streams. New priority order:**
  - Stockdale 2016/2018 (6,986)
  - Hogan 2016/2018 (19,098)
  - Hogan and Stockdale natural-origin fish 2019 (estimate ~13,500 fish)
  - Gilmour 2014/2016/2018 (7,498)
  - Gilmour 2015/2017/natural-origin 2019 (10,483 + estimate ~ 6,000 fish)
  - Paddy 2014-2018 (23,019 fish)
  - Erb 2014-2018 (43,351 fish)
- **Chum: Sampling success dictates priority order:**
  - Fish Creek 2014, 2017, 2018, 2019 (approx. 5,000 fish). There was a recognition by the SP that, of all the creeks, this one will be the least useful for policy makers. However, this is the only creek with adequate sample sizes in the parental years.
  - Prospect and Sawmill will be sampled in 2019 (too late to change course).
  - Admiralty will NOT be sampled anymore. **Sam R.** will ask Sitka Science Center about dropping Admiralty Creek and redirect efforts to Prospect Creek.
  - Add Casey McConnell's Sawmill Creek samples from 2015 to the list. Only samples from the last half of the collections were taken for genetic analysis. However, may add these as parental year to the program. No decision made regarding priority.

Discussing near-term communications plans for both the upcoming SK report and point of contact

- Consensus that **Bill T.** will be the spokesperson (point of contact) for the AHRP
- Consensus that all SP members can speak independently about the AHRP, but they need to clarify that they are speaking as individual scientists and not as spokespersons for the AHRP.
- **Chris H. and Bill T.** will work on a 2019 synopsis and distribute to the SP for review.
- Other ideas for increasing communication with stakeholders included writing a paragraph to place on the website about the project and address some of the new results along with FAQ; If implemented, these would be reviewed by SP before release

Data Management and Data Sharing Plan

- Data Sharing

- Review of MOU for Madilyn Gamble at Dartmouth College; consensus that MOU was acceptable. Add a request for courtesy copy of any publications. **Chris H.** will wait for comments until Friday, June 7, before sending out.
- **Peter W.** will work with **Chris H.** to draft a more comprehensive document and use his two grad students as guinea pigs for process
- Consensus that during the project, data sharing will be reviewed on a case-by-case basis
    - 2 weeks will be given to SP members to decide if request is simple or complex. If simple, decision will be made within 2 weeks. If complex, SP members will provide estimate of time needed for review.
- Consensus that whenever publications for project released, that data used in that analysis are released at time of publication.
- Consensus that there should be a finite time frame after completion of the study (embargo period) before the data are available to anyone. The SP has right of refusal during the embargo period. 2 years proposed, but not set.
    - Multiple methods were discussed for how to make the data available, including: NCBI repository, Dryad csv files, AOS server, ADF&G database.
    - Multiple levels of data for release were discussed (e.g.: Sequence data, genotypes, pedigrees). Consensus that genotypes were the appropriate level for RRS data.
    - Costs and effort for this process needs to be determined. **Chris H./Kyle S.**
    - Funding for this effort may come from Legacy Grant funding.

- Data Management

  Currently all project data are in databases: Finsight (contractor data), OceanAK (some contractor and otolith data), LOKI (genotypes). Derived data are on project leader computers.

Set date and topics for next meeting

- Doodle poll will be sent out by **Chris H.** to the panel for September to October 22 to find date for next meeting, Anchorage is preferred
- Processors are thinking about sending a new liaison, Abby Frederickson, to the AHRP meetings
- Accumulate agenda topics as discuss over email; will circulate a draft agenda in early September that can be adapted – **Bill T./Chris H.**
- There was general agreement that a workshop in March before BOF (March 7-11) would be beneficial, especially given that there are three new Board of Fisheries members– **Peter W**. would help do leg work.