Appendix 2: Summary and synthesis of the OREHP Visioning focus group

Photo: Joy Hazell

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Marine Region
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Submitted by:
California Sea Grant
Scripps Institution of Oceanography
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Project no. P2170016

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Executive summary

The 2017 Ocean Resources Enhancement and Hatchery Program (OREHP) Evaluation revealed successes in improving understanding of marine finfish biology and hatchery science, but highlighted challenges such as low contribution to wild stocks and limited integration with fisheries management. In 2020, California Legislature passed AB 1949 which mandated reform of the Program with an evaluation to be completed by 2028, in part based on stakeholder input. California Sea Grant was contracted in 2022 to obtain the stakeholder input for this reform process consisting of an initial situation assessment that informed a stakeholder focus group, the methods and results of which are presented in this report, and a subsequent stakeholder (Ocean Enhancement Validation holder) survey.

The situation assessment consisted of a review of relevant developments since the 2017 OREHP Evaluation and a series of in-depth, semi-structured interviews conducted with twenty-four OREHP stakeholders. The assessment revealed varied stakeholder perspectives on the Program's intended goal and contribution rates to the wild stock, concerns about a lack of integration with fisheries management and lost partnership opportunities to make this happen, a lack of inclusive decision-making, and potentially under-prioritized social benefits of the Program. The design of the participatory process (focus group and survey), therefore, included activities and questions that sought to gather more information about stakeholder perceptions and understanding of the OREHP.

A focus group of 16 members representing 14 stakeholder groups and varied experience with the OREHP was convened in facilitated meetings held both in person and virtually. The focus group discussions aimed to create a shared understanding of goals and a set of criteria that stakeholders found important for the OREHP to work. The focus group collaboratively identified five important elements of the OREHP: research discoveries, enhancement, integration with fisheries and ocean management, public education and engagement, and transparent and inclusive governance. This group also developed an initial, prioritized list of success criteria for each Program element. The findings of the focus group informed the development of the Ocean Enhancement Validation holder survey.

Summary and synthesis of the OREHP Visioning focus group

Introduction

A component of the stakeholder participation phase of the project "Developing a vision, criteria and options for the future of OREHP" was to form a focus group with OREHP stakeholders to i) create a shared understanding of the Program goals and ii) develop potential success criteria. Such criteria are needed both for the long-term, ultimate goals of the Program and for the short term to help evaluate OREHP progress by a legislative evaluation deadline set for 2027.

The aims and compositions of this focus group were informed by a situation analysis conducted in 2022-2023. The focus group aimed to achieve a balanced representation of key stakeholder groups and levels of previous involvement with the OREHP. A list of potential invitees was developed based on the situation assessment. Some names on the list had been interviewees for the situation analysis and other names came up as data during the interviews (Table 1)

Table 1. OREHP Visioning focus group participant names, their stakeholder sector affiliation, and their level of experience with the OREHP. Focus group met in August and October, 2023.

Stakeholder No.	Sector Affiliation	OREHP experience level
1 Kirsten Ramey	CDFW; OREAP	High
2 Travis Garwick	K-12	Partial
3 Randy Lovell	Government aquaculture; CDFW	High
4 Lee Blankenship	Science; SAC	High
5 Bill Shedd	Sportfishing industry; coastal conservation nonprofit; HSWRI	High
6 Wayne Kotow	Coastal conservation nonprofit; OREAP	High
7 Peter Halmay	Commercial fishing	Partial
8 Scott Aalbers	Science	High
9 Anai Novoa	Underserved community	Low/no
10 Gary Moiritzen	Sportfishing club	Low/no
11 Sophia Uribe	Tribe	Low/no
12 Isaiah Hilton	K-12	Low/no
13 Mark Drawbridge	HSWRI; science	High
14 Merit McCrea	Sportfishing industry group; OREAP	High
15 Marie Diaz	e-NGO	Low/no

Stakeholder No.	Sector Affiliation	OREHP experience level
16 Christina Santa Maria	e-NGO	Low/no

Some invitees were very familiar with the OREHP, having had a history with it and often having worn several hats within the Program's operations. Others had little to no experience with the Program, providing fresh perspectives from groups identified in the situation assessment as relevant to but lacking in Program participation so far (for instance, environmental and community-based NGOs, under-served groups, and tribes; Table 1).

A total of 16 participants (Table 1) accepted the invitation to participate. The focus group meetings were held in person in La Jolla, CA on August 7-8, 2023 and virtually on October 9-10, 2023 (2 hrs each evening). Participants received a stipend as well as travel expenses and accommodation for the in-person meeting.

The focus group meetings were designed to create a space where respectful dialogue and productive discussions could lead to a shared understanding of goals and development of a set of success criteria. As a participatory process involving extended engagement with a small group of key stakeholders, the focus group was intended to provide in-depth qualitative information. The outcomes from the focus group were rich in a breadth of perspectives and also served as guidance for the design of a survey – another component of the stakeholder participatory process – which collected quantitative information on views and perspectives from a larger, representative sample of commercial and recreational validation holders.

Focus group objectives, approaches & outcomes

The objectives of the focus group were to:

1. Build community and trust among participants
2. Create a shared understanding of the goal of the OREHP
3. Identify criteria for OREHP success – how do we know the Program is working?
4. Provide recommendations to set and achieve "success" criteria by the 2027 evaluation
5. Review and gather feedback on the survey

Both in-person and virtual focus group activities varied and included short presentations; whole group Q&A and discussions; pairwise and small group brainstorming and discussions; scenario planning exercises; and rating, ranking, voting, and sorting of elements and ideas. Use of varied approaches allowed for the collection of information in multiple ways and for reflections and revisiting of discussions and outputs. Each activity yielded information and outcomes that satisfied multiple objectives. Below, each objective is listed and followed by a brief description of the key approaches, any discussion needed for context or clarity, and the resulting outcomes.

Objective 1. Build community and trust among participants

This objective was part of the process design. A stakeholder engagement process that is intentionally designed and professionally facilitated creates a unique space for difficult conversations. A trained facilitator, who was neutral and remained transparent throughout the

process, led the focus group meetings and employed tools such as having common ground rules and icebreaker activities to work towards this objective.

The initial in-person focus group of two days allowed rapport to be built among stakeholders and the project team and the establishment of a baseline understanding of the OREHP, its objectives, and its accomplishments. The group activities required participants from different backgrounds to work as a team and did not require confrontation of ideas but building on each other's ideas (Figure 1). There were ample opportunities to create connections and to humanize "other" groups outside of one's own. For example, having moments to socialize and working in pairs helps nurture personal relationships. Not to say that everybody formed a bond, but having a space where one could put a face to those involved in the issue and be aided by a trained facilitator to have important and difficult dialogues with the help of intentionally designed activities was a hub for building community and trust.

Figure 1. Members of the OREHP visioning focus group facilitated by California Sea Grant staff as they collaboratively work on a scenario planning activity to flesh out a shared understanding of the OREHP goals and objectives. Photo: Kai Lorenzen, August 8, 2023, La Jolla, CA.

Objective 2. Create a shared understanding of the goal of the OREHP

There are and have been different interpretations of what the OREHP should be striving towards. Both, earlier versions of the legislation underpinning the Program and the current AB 1949 (Table 2) set out a purpose for the Program, principally emphasizing research toward understanding and conducting ocean stock enhancement. However, public interpretation of the legislative language has solicited both support for and criticism of the OREHP from stakeholders. For example, when the 2017 Program evaluation concluded that fisheries enhancement rates were <1% (CSG 2017), Program supporters cited the goal of "conducting

research” as evidence of the Program’s success while Program critics simultaneously cited the goal of “stock enhancement” as evidence of OREHP’s failure.

A goal of this focus group was, therefore, to develop a commonly accepted understanding of the goal of the OREHP. To develop this common understanding, goals and major themes identified by focus group members using various interactive activities (e.g., scenario planning, small group brainstorming, ranking/rating) throughout the first, in-person meeting (Figures 1, 2) were compiled and synthesized initially by focus group members (Figure 3) and then the project team in preparation for interactive feedback during the 2nd meeting. While alignment of the emerging themes (hereafter “elements" of the Program) with the current legislation (AB1949 2020) was not an explicit part of the process, there ended up being consistency with the goal and objectives in the Legislation, namely: research, enhancement, education and engagement, integration with fisheries and ocean management, and transparent governance. Draft language for the five emerging Programprogram elements was presented to the focus group for approval and comment using EastRetro.io, a virtual collaborative tool (Table 3) that allows anonymous voting and commenting. Discussion about the elements followed the activity with clarifications and further details were captured in the meeting notes and used to inform conclusions.

Table 2. Legislative language surrounding the purpose of the Ocean Resources Enhancement and Hatchery Program as amended and published on January 17, 2020. **AB 1949 (2020). Fisheries: California Ocean Resources Enhancement and Hatchery Program**

Page or Section No.	Legislative Language
Page 3 or 94, SECTION 1	Section 6590 (b): The purpose of this article is to determine if hatchery-released fish can enhance certain stocks of desirable species and contribute to research and scientific understanding of marine hatchery operations and benefits.
Page 3 or 94, SEC. 3	Section 6592: There is hereby established in state government the California Ocean Resources Enhancement and Hatchery Program. The purpose of the Program is to advance research on the artificial propagation, rearing, stocking, and distribution of marine fish species that are important to sport and commercial fishing in the ocean waters off the coast of California south of a line extending due west from Point Arguello, including research on the efficacy of artificial enhancement of stocks of these marine fish species through hatchery production

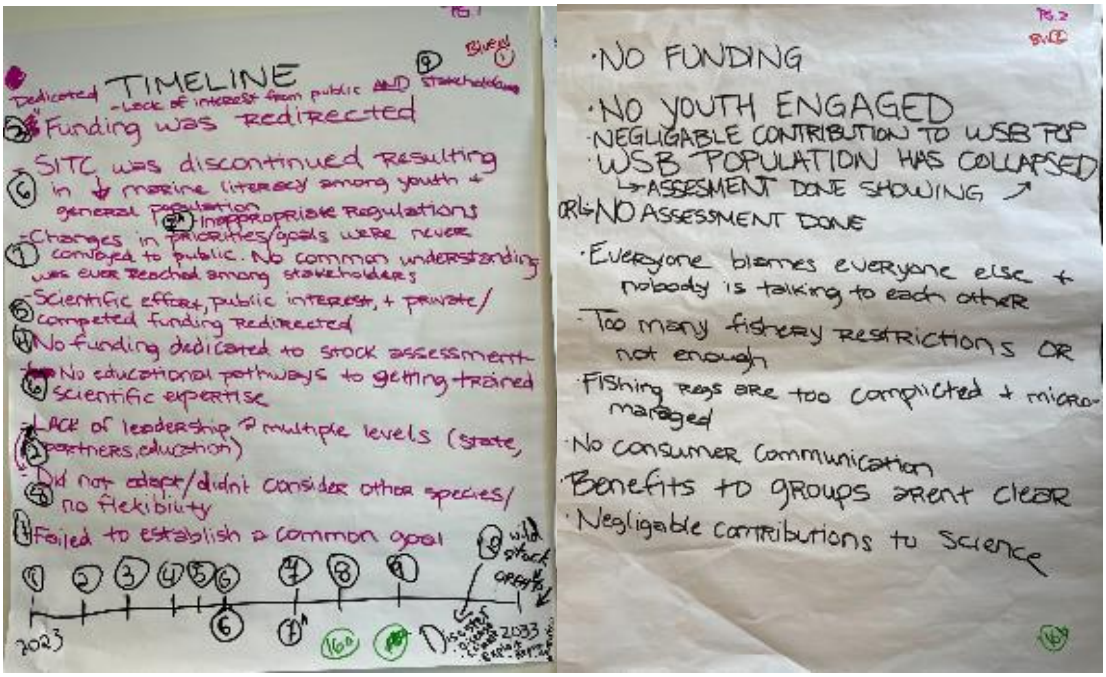
Available at: https://legiscan.com/CA/text/AB1949/id/2190348/California-2019-AB1949-Amended.html

During the online activity, participants had to “like” and “comment” on the five elements to indicate what the goal of the OREHP was. Participants interacted with the online platform in real time so it was possible to see how numbers were changing. Initially, the “likes” for the research component began to increase more than the other components most visibly. It initially looked like research was considered the main engine of the Program. However, as time passed during the exercise, enhancement was considered a goal of the Programprogram by 10 people when allowed to reflect and comment on all the components (versus 11 people for research).

There was majority support for the five elements of the Programprogram as indicated by the number of “likes” added to each heading (Table 3). Only Education and Engagement received comments of disapproval. Comments on the board offered suggestions and clarifications for

each of the five elements and perspectives on how all five elements fit together (Table EzRet), which in turn were used to develop aim statements for each of the five Programprogram elements. The goal statements are listed below with a brief summary of related focus group comments or concerns.

A. "Unsuccessful" scenario



B. "Successful" scenario

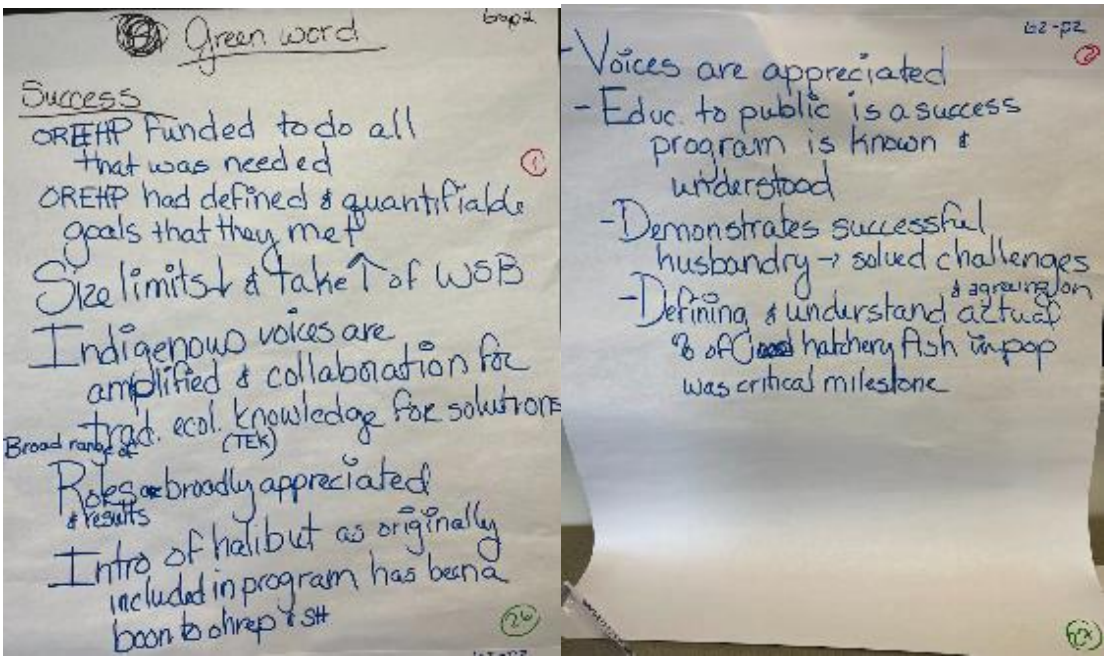


Figure 2. Examples of flip boards created by the focus group during a scenario planning exercise that required groups to envision an "unsuccessful" and a "successful" scenario for the OREHP in the future

and describe the characteristics of those states and a timeline of events and key players. Photos: Susana Hervas-Avila, August 9, 2023, La Jolla, CA.

Figure 3. Two photos of focus group members recording key discussion points during reflections and synthesis of interactive activities to jointly define OREHP success criteria. Photos: Kai Lorenzen, August 9, 2023, La Jolla, CA

Research. *Research into effective stock enhancement that is clearly and transparently communicated*.
While the accessibility of research outputs was part of the research element, there was concern expressed about sharing of data with the public. Our recommendation is to work with the SAC to develop a clear Data Sharing Plan that provides reasonable timelines for peer-reviewed publication of results and subsequent public data sharing, a simple process for requesting and/or accessing data (raw or summaries), and provisions for proprietary information.

Table 3. Transcription of the virtual EasyRetro.io board used during the focus group's 2nd meeting to collect input from the group on the five major "elements" of the OREHP that were initially identified during the August 2023 in-person meeting 1. Input was gathered on October 9, 2023.

Research: Transparent and openly accessible research discoveries. **Number of "likes": 11**	Enhancement: Actual stock enhancement **Number of "likes": 10**	Education & Engagement: Education and engagement of the public, with broad and inclusive public support **Number of "likes": 8**	Fisheries & Ocean Management: integration with fisheries and ocean management **Number of "likes": 10**	Governance: Transparent and inclusive governance **Number of "likes": 9**
Comments about the heading	*Comments about the heading*	*Comments about the heading*	*Comments about the heading*	*Comments about the heading*
Maybe change to 'Research discoveries are clearly and transparently communicated and made accessible	Depends on the status of the stock, and defining the % contribution to the wild stock that is considered successful	I don't believe that education and engagement were primary objectives of the OREHP objectives and don't think should be included as a primary goal at this point	This is important as the Program moves forwaard to combine the two efforts in to one fisheries management effort.	Latest statute, AB1949 was written to be inclusive to the current government standards for how Advisory Panels are seated.
Agreed to the language amendment	Maybe add to the Enhancement Heading 'Evidence of Stock Enhancememt'	Engagement pf public will increase support for this Program and others in both the present and future. This is vital for an educated public regarding California Fisheries.	Components of OREHP research are currently incorporated into fisheries management. Incorporating the enhancement component into the stock assessment and management strategy is important for future management decisions.	All AP and SAC meetings are open to the public and meeting minutes are publicly available
Research can be shared within the Program and managers but not always to the public	Needs to be clearly defined and make sure funding and staff are assigned to execute proper stock assessment	The problem is who is responsible for education and outreach to the public. CDFW has not proven to be able to reach the general public.	NO COMMENT	Updates to CDFW and legislature were put into legislation to broaden transparency to the Program
Findings or results should be open and transparent	I second the execution of proper stock assessment	Given that these goals will be serving a purpose of informing future programs--education and engagement is critical to incorporate	NO COMMENT	NO COMMENT
You can't achieve enhancement goals without including research as a component	Actual enhancement still needs clarification and definition	NO COMMENT	NO COMMENT	NO COMMENT
Additional Comments	*Additional Comments*	*Additional Comments*	*Additional Comments*	*Additional Comments*
Actual enhancement as knowing how to effectively enhance is gained from research efforts	To determine the efficacy of enhancement, one must try it. And to do so earnestly, and with sufficient resources to support the effort.	Education and public engagement are key aspects to keeping any publicly supported project going. Seabass in the Classroom provides valuable returns in student interest in all things marine as well as in developing scientific skills (math, observational, logic and related disciplines)	Management should consider all sources of recruitment as a given.	This is an overarching objective for all public policy

Comments that apply to all 5 elements: 1) Each of these components is integral to OREHP; 2) In order to respond to the outcomes of the research, i.e: manage the resource, there is a need for each of the components: education, fisheries/ocean mgt, and governance, and that's based on an implicit need or interest in enhancement

Enhancement. *Evidence of stock enhancement.*
Important aspects of providing evidence of stock enhancement include proper stock assessments, addressed under Integration with Fisheries and Ocean Management, and clearly defined success criteria surrounding science-based contributions rates (to be determined in

collaboration with the SAC.)

Education and Engagement. *Education and engagement with the public, with diverse and inclusive public support of and educational benefits from the Program.*
There was broad agreement that the education and engagement aspects of the Program are important for supporting the Program and for providing public education surrounding enhancement and fisheries science. There was however one expression of disapproval of this element being part of the primary goal of the Program. There was also an expression of concern of who would be responsible for achieving this goal given the limitations to public outreach capacity of CDFW and, presumably (based on comments throughout both focus group meetings), the capacity of other partners to fulfill this part of the goal. OREHP-supported public engagement includes the angler-engaged White Seabass head collection program and the volunteer-run growout pen network. A third valued and commonly cited education program, Seabass in the Classroom (SITC), is not supported by OREHP funds. If the success criteria metrics for this Education and Engagement element of the Program included SITC, support of the Program would have to be resolved.

Fisheries and Ocean Management. *Integration with fisheries and ocean management.*
The need for integration of the OREHP with fisheries management and, in particular, maintaining updated stock assessments to assess enhancement progress and manage the fishery, was highlighted in the comments for this activity and also brought up repeatedly throughout the two focus group meetings. The OREHP data collections can (and have), in turn, provide data for stock assessment efforts (e.g., fishery independent data). The importance of integration with other ocean management efforts to both account for the potential effects of this program and understand environmental influences on Program outcomes was also highlighted throughout the two focus group meetings.

Governance. *Transparent and inclusive governance.*
Comments highlighted the efforts of the 2020 amended legislation to increase representation on the OREAP, and ensure that OREHP meetings are open and transparent. Comments throughout focus group meetings also stressed the importance of inclusivity and transparency and suggested further broadening of engagement in governance to include (more) representation of non-governmental organizations (NGOs) and Traditional Ecological Knowledge (TEK) and Black, Indigenous, People of Color (BIPOC) groups, as well as integrating native voices, practices, and innovation science in the Program's science and management.

Objectives 3 & 4. Identify criteria for OREHP success and provide recommendations to set and achieve success criteria by 2027

Several in-person activities, including scenario planning, goal setting (Figure 4), and group discussions (Figure 5) provided the project team with a rich set of information from the focus group that was synthesized into a list of draft success criteria.

The draft criteria were, in turn, presented to the focus group during the subsequent virtual meeting to discuss, finalize, and rate the importance (Obj. 3) and urgency/criticalness (i.e., can or should be accomplished by the 2027 evaluation date; Obj. 4) of each. This list incorporates all the aspects that had emerged throughout the focus group's activities and were categorized into the five program elements of i) research, ii) enhancement, iii) education and engagement, iv) fishery and ocean management, and v) governance.

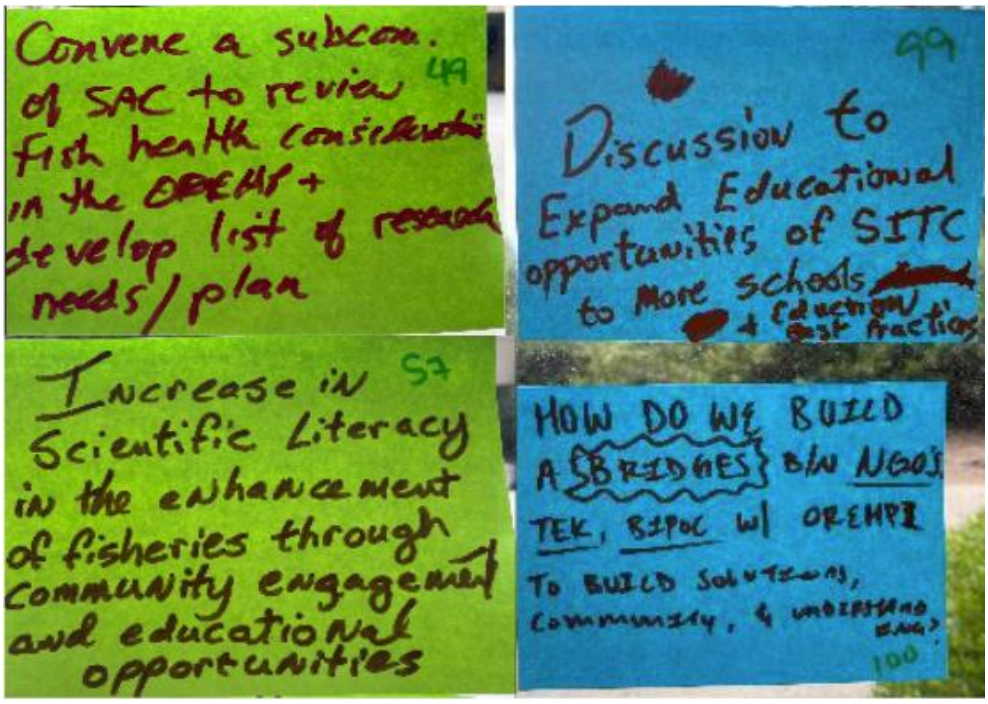


Figure 4. Examples from the goal setting in-person activity. Focus group members were instructed to build upon the “successful” future of the OREHP exercise and brainstorm goals which were then written on sticky notes and subsequently organized during the group discussion. Photos: Susana Hervas-Avila, August 9, 2023, La Jolla, CA.

Figure 5. A photo of the focus group discussing the themes surrounding the OREHP goals they had written on sticky notes and organized as part of the initial development of the OREHP success criteria. Photo: Kai Lorenzen, August 9, 2023, La Jolla, CA.

In one activity, the software Jamboard was used by the focus group to review each success criterion statement to determine its validity, make edits including re-wording, deleting or adding criteria, and assign short-term (by the July 2027 evaluation deadline) or long-term (beyond the 2027 deadline) designation. There was no unanimity in any criteria being solely short or long-

term. This shows that some criteria, or particular aspects of each criterion, were seen as urgent and also were deemed necessary to maintain with time.

A second activity to prioritize the full list of criteria (including new ones) included a poll for participants to rate the importance of each (importance scale - 1: very unimportant, 2: unimportant, 3: neither important nor unimportant, 4: important, 5: very important). The results of this rating should not be over-generalized since reliable quantitative results of stakeholder views cannot be based on only 15 focus group participants. Furthermore, some criteria were favored by a minority of participants, but this does not mean those ideas should be overlooked (e.g. incorporating TEK). Overall, the criterion with the lowest rating had 3.38 on average (out of 5), meaning that all criteria on the list were deemed at least somewhat important (Table 4). The criteria for enhancement and research were all above a mean of 4.0 (i.e. important and very important; Table 4).

A third activity consisted of a poll sent out after the second focus group meeting that asked participants to vote on which criteria were most urgent or critical (hereafter "urgent/critical") for demonstrating success of the Program considering the July 2027 evaluation deadline. All but one of the criteria were deemed urgent/critical by at least one focus group member. In particular, *setting enhancement rate targets* and *assessing* both *enhancement rates*, including the use of genetic methodologies, *and fisheries stocks* were deemed the most urgent/critical by the most focus group members (Table 4).

Table 4. Final list of success criteria developed by the OREHP stakeholder focus group throughout August and October 2023. Shown for each criterion is the average (±1 standard deviation) rank of importance (n=15) and the number of participants (n=11) who deemed each criterion as "urgent" or "critical" for meeting the 2027 legislative evaluation deadline. Rank of importance: 1=very unimportant, 2=unimportant, 3=neither important nor unimportant, 4-important, 5=very important

Topic of Interest	Criteria	Mean importance	SD	No. urgent or critical votes
Research	● **Post-release survival research**. Better understand how to optimize survival of released fish (ex. discoveries that inform effective release methods) (dependent on funding).	4.54	0.63	5
Research	● **Assess enhancement rates**. Generate enough information and ensure scientific rigor in assessing enhancement rates.	4.46	0.84	6
Research	● **Survival determination research**. Determine and agree on best practices for determining survival rates of released hatchery fish.	4.46	0.75	3
Research	● **Broodstock genetics research**. Improve methods to maintain appropriate variability & types of broodstock genetic diversity (ex. similar variability in hatchery & wild fish).	4.38	0.74	3
Research	● **Tagging research**. Better understand which tag/marking methods are best to identify hatchery fish &/or long(er)-term effectiveness of current CWT methods.	4.38	0.62	4

Topic of Interest	Criteria	Mean importance	SD	No. urgent or critical votes
Research	• **Genetic research**. Determine & agree on appropriate (scientifically justified) parentage & hatchery contribution rates to the wild stock.	4.31	0.82	6
Research	• **Genetic methods research**. Determine & agree on appropriate parentage assessment (ex. minimize error rates; feasible for types & quantities of samples).	4.31	0.82	3
Research	• **Growout practices research**. Better understand & agree on best practices for maximizing fish survival rates & vigor, & minimizing impacts of environmental disturbances.	4.31	0.82	0
Research	• **Adaptive research**. Identify & address priority research questions that add to knowledge & reveal info gaps, challenges & opportunities that inform next research.	4.31	0.61	4
Research	• **Hatchery practices research**. Improve methods to spawn & rear optimal numbers of healthy, vigorous fish while minimizing economic & environmental impacts (Continue to identify disease concerns and address them in hatchery practice).	4.15	0.95	3
Enhancement	• **Responsible hatchery production**. Management of potential environmental impacts; fish health & disease risks.	4.77	0.80	3
Enhancement	• **Genetic diversity management**. No genetic impacts to wild stock, proper maintenance of broodstock genetic variability.	4.38	0.84	3
Enhancement	• **Specific targets.** Particular rates of enhancement or hatchery fish survival at particular age classes.	4.23	1.05	8
Enhancement	• **Optimized hatchery production**. Produce max amounts of healthy, genetically diverse fish; methods can be scaled up to a production-driven program.	4.00	1.24	5
Enhancement	• **Increased fishery landings**. Increase efficiency of landings (head collection and scanning).**	3.62	1.00	4
Education and Engagement	• **Consistent messaging in outreach**. OREHP entities & partners work together to provide & distribute consistent, accurate messaging.	4.15	0.53	4
Education and Engagement	• **Publicly available information**. Ensure that data & information outputs of the Program are equitably accessible.	4.00	0.68	4
Education and Engagement	• **Public engagement**. Community &/or stampholder recognition of & engagement in all aspects of the Program.	3.92	0.62	4
Education and Engagement	• **Science literacy**. Contribute to public literacy surrounding fisheries enhancement through community engagement and educational opportunities.	3.85	0.77	3
Education and Engagement	• **Youth education**. Provide/expand educational opportunities for K-12 (e.g., expand the SITC to more schools) (if school/district can fund and prog only do fish delivery and within geographic boundaries of So Cal).	3.54	0.84	3

Topic of Interest	Criteria	Mean importance	SD	No. urgent or critical votes
Education and Engagement	• **Inclusive engagement & access**. Integrate diverse voices, practices, innovation science & people throughout the Program in partnership with TEK, BIPOC, NGO entities.	3.54	1.01	3
Fisheries and Ocean Management	• **Stock assessment capability**. Contribute to data, resources, partnerships needed to keep stock assessments updated (use existing data to supplement assessments (otoliths, length/weight)).	4.31	0.61	9
Fisheries and Ocean Management	• **Environmental processes & disturbances**. Consider other factors, ex. climate change effects, resource use/impacts, "natural" variability & wild stock fluctuation (short term processes).	3.77	1.19	1
Fisheries and Ocean Management	• **Increased fishery landings**. Ensure sufficient availability & integration of data, resources, management practices to improve & better understand landings.	3.69	0.99	3
Fisheries and Ocean Management	• **Explore Ecosystem support**. Contribute to nearshore ecosystem conservation & restoration to improve water quality, focal species & prey habitat, other ecosystem services.	3.38	1.08	3
Governance	• **Program leadership**. Coordination of leadership among partners: CDFW, SAC, OREAP, contractors, educators, key volunteers.	4.62	0.49	7
Governance	• **Probability of success**. Demonstrate it (ex. funding vs costs; sufficient info to assess Program impacts; target species culture, survival, monitoring feasibility) (do an initial assessment between now and the 2027 evaluation).	4.31	0.72	6
Governance	• **Adaptive management**. Demonstrate ability to adapt Program given progress (ex. shift focal species or research, redirect resources to fill gaps).	3.92	1.14	4
Governance	• Demonstration of stronger OREHP **leadership by CDFW.**	3.69	0.91	4
Governance	• **Integration of TEK.** Include native voices, practices, and innovation science in the science and management.	3.46	1.08	2

****** Follow-up discussion revealed that this criterion was interpreted in a couple of different ways, including 1. higher proportions of tagged fish in landings, 2. improved legal-sized head collection and tag scanning processes. Its importance to the focus group cannot, therefore, be reliably interpreted

Enhancement

Responsible hatchery production and *genetic diversity management* were rated the most important criteria on average. These represent a priority on environmental and animal husbandry and responsibility, including minimizing environmental impacts due to hatchery operations, fish health & disease risks, and genetic impacts on wild populations, and maintaining genetically diverse broodstock. However, when focusing on urgency, those were criteria deemed the least urgent/critical. The most urgent/critical needs were to achieve *specific targets* (8 of 11 deemed this urgent/critical; see Enhancement in Table 4) and *assess enhancement rates* (6 of 11 deemed this urgent/critical, see Research in Table 4). These

priorities were also reflected throughout the focus group discussions, where hatchery contribution rates came up repeatedly. For example, a couple of respondents explicitly stated that there should be a contribution of between 4% and 6%. In another instance, a participant expressed concern by saying (paraphrased): *Let's assume that a contribution of <1% is true. Then the sportfishing community would want to disband the White Seabass program and move on to halibut*[1]*.* However, not all focus group members felt that achieving particular contribution rates was important or urgent/critical. At least one participant defended a 1%[2] contribution as being positive. Their rationale was that if 1% is a positive number, then it means that the wild stock is not being harmed and there is an overall positive outcome. Others shifted importance away from contribution and towards research, and some expressed uncertainty about what the contribution should be.

Research

In line with the important enhancement success criteria, the most important research criterion, as well as one of the most urgent ones, was *post-release survival research*. Specifically, there was an identified need to better understand how to optimize survival. Interestingly, the third most important (out of ten) was *survival determination research* to agree upon best practices for determining survival rates, but this was seen as one of the least critical or urgent components. Therefore, the respondents wanted to see survival of fish increase, but agreeing on how survival rates are determined was not viewed as urgent.

Similarly, *genetic research* - in particular, research to determine and agree on *appropriate (scientifically justified) parentage* and *hatchery contribution rates to the wild stock* - was rated as only the sixth most important research component (out of ten), but was deemed the most critical and urgent of the ten components. This seeming contradiction in priority may be explained by a relatively high priority placed on using genetics to determine contribution rates - especially given the current situation with the genetics evaluation - and a lower priority on using genetics to assess parentage rates. This also aligned with the high priority rank and critical/urgent status of generating enough information for *Assessing enhancement rates (Research)*.

In both cases - survival rate and hatchery contribution - there was a sense of urgency/criticalness with obtaining the result of an increase in survival and hatchery contribution. However, a secondary priority was placed on achieving scientific agreement on best methodologies. Another contradiction in priorities arose between the importance and urgency/criticalness of *increasing post-release survival* rates and the lack of urgency/criticalness for *growout practices research,* which involves better understanding and agreeing on best practices to maximize fish survival rates and vigor. Without appropriate and rigorous methodologies in place, reliable assessments of survival and contribution cannot be made, thereby hindering adaptive management, future planning, and securing of funding.

With a small sample size like this focus group of 16, high variability and anomalies in responses are expected. That there were, however, several examples of disconnects between a high priority on outcomes - namely, *specific enhancement targets* and *increasing survival rates* - and a lower priority on approaches for achieving those outcomes (e.g., research into methods to accurately assess rates or to improve outcomes) revealed a need for a more holistic approach

[1] It should be noted that this comment was made during a discussion about the true goal of the OREHP – research vs enhancement and not during a conversation about the importance or urgency/critical rating of success criteria.

[2] The actual contribution of the hatchery to the wild stock is currently calculated to be <1%. Recent discussions of genetics research estimated this number to be above 40%. However, a later scientific peer-review of the genetics research challenged this value due to the methodology used.

to achieving the research success criteria. In fact, identification and agreement on best practices and scientifically rigorous methods to achieve outcome-based criteria are not only a logical starting place, but may be more feasible to achieve by the 2027 evaluation deadline than increasing survival and enhancement rates or even attempting to set some sort of targets in the absence of information.

Education and Engagement

There was alignment between the rankings of importance and the assignment of urgency/criticalness for the education and engagement success criteria. The criteria were, however, considered by fewer people overall to be urgent/critical with only 3 or 4 people expressing a sense of urgency/criticalness for each criterion. *Consistent messaging in outreach*, having *publicly available information,* and *public engagement* were ranked as the most important (3.92-4.15) and the most urgent/critical (4 of 11 people). *Science literacy, youth education,* and *inclusive engagement & access* were fairly similar in rank of importance (3.54-3.85) and urgent/critical rating (3 of 11).

The OREHP's narrative has been around research, enhancement, and education/outreach. A theme surrounding education and outreach discussed throughout the meetings was the concept of *community* due to the Program bringing value to schools and youth, and engaging growout pen volunteers (largely from recreational fishing groups). However, some participants new to the Program suggested that the OREHP *community* should better reflect the diversity of the greater population and be integrated into both the decision-making processes and the education and outreach opportunities. In particular, more voices including those representing lower income and under-resourced areas, tribes and other indigenous groups, and BIPOC and other groups underrepresented in STEM and fishing should be integrated throughout the Program.

Traditional Ecological Knowledge (TEK) was brought up throughout the meetings by at least one participant who was familiar with and advocated for it. As participants became more aware of what *TEK* was, it was discussed by more of the group as part of the narrative of the Program. However, during the exercises rating importance and assigning urgent/critical status to the success criteria, *TEK* was seen as the least important and urgent/critical element for governance. Further, *TEK*, *inclusive engagement and access* (inclusion of TEK and diverse voices) and *youth education* were all rated among the least important and least urgent/critical of all the criteria across all categories.

These outcomes of *education, inclusivity,* and *TEK* being rated as less important (but not unimportant) and urgent/critical priorities may be a function of the long-term focus of the Program on *research* and *enhancement* and, therefore, the relative newness of these ideas in the context of the OREHP for focus group members with longer histories with the Program. These elements may reflect the priorities of newer or future potential OREHP stakeholders– those who may find value in and add value to the Program, but who have not been involved due to a lack of awareness of the Program or limited resources or opportunities to access the Program. The rating of somewhat important and the discussions throughout the focus group meetings indicated that (more) integration of these elements into the Program is of interest acknowledging that integration in the Program will require relationship building, knowledge, effort, and intent.

Fisheries and Ocean Management

The importance of stock assessments was brought up repeatedly during the focus group meetings and this was reflected in the development and ranking of success criteria. *Stock assessment capability* was rated the most important criterion and the most urgent/critical by the focus group. It was also the one that most people (9) agreed on as being urgent/critical from the whole list of

criteria across program elements. The second most important criterion, *environmental processes and disturbances,* was considered more important but less urgent/critical than *increased fishery landings* and *exploring ecosystem support. The logic underlying increased fishery landings was that more and better fishery data (e.g., stock assessments), resources dedicated to collecting data and translating them to management, and coordination with other associated management practices (e.g, water quality) should lead to better-informed management and, on average, healthier (bigger) fish populations/stocks and ultimately more landings (acknowledging that population/stock size is only one factor underlying landing levels.)*

Stock assessments in OREHP and fisheries management were said to differ given the different origins of the data collected. Thus, discussions arose concerning the need for conducting more frequent and better quality stock assessments and integrating them into the fisheries management plan. For instance, a commercial fishing participant shared the importance of having good data collection (which commercial fishers could be a part of) to have good stock assessments.

Some of the new participants wanted more consideration of the environmental impacts and interactions of the hatchery and the releases. And even though environmental responsibility was rated highly in importance through the criteria of *responsible hatchery production* and *genetic diversity management* (in the hatchery element), *environmental processes and disturbances* was considered the least urgent/critical criteria of them all.

Governance

The ratings of the importance of the governance criteria aligned with assignments of urgency/criticalness. *Program leadership,* including coordination of leadership among OREHP partners (CDFW, OREAP, SAC, contractors, educators, volunteers), was the most important and urgent/critical. However, a demonstration of stronger OREHP leadership by CDFW alone was not seen as important or urgent/critical. Demonstration of the *probability of success* of program directions (e.g., species to be the target of program activities) from scientific, economic and practical perspectives as well as demonstration of adaptive management were both ranked as both important and urgent/critical. The idea of pivoting towards another species came up repeatedly in discussions. The rationale for this was: if it is demonstrated that enhancement doesn't work for White Seabass, is the Program done? Or do we look at different species? California Halibut came up as the most common alternative. But questions also arose, such as: Is halibut good to work with? Would commercial fishing be in favor of halibut? A halibut stock assessment would need to be done to inform that decision. *Integration of TEK* was ranked as least important, though not unimportant, and was deemed the least critical by this group (see the *Education and Engagement* section above).

The inconsistencies in the ratings of importance and urgency/criticalness between success criteria that should be at least somewhat complementary are reminders that 1) we are dealing with a small sample size of respondents, 2) there may be differences in interpretation of the criteria or different opinions about the various explicit and implicit aspects of any one criterion, 3) there may be nuances underlying the seeming contradiction that reflect the complex nature of the Program and stakeholder group with their diverse experiences, perceptions and priorities, and 4) there should be a strategic and holistic approach to tackling the success criteria.

Objective 5. Focus group feedback on the validation-holder survey

A survey draft was presented to the focus group participants for discussion and feedback. In response to focus group questions, the project team clarified that this was not a type of situation assessment, but a survey and that the situation assessment was not a survey, but a qualitative assessment of the *status quo* that informed the process design. There were then questions about the respondent selection process and what would constitute a good response rate. Overall, there was a positive reaction to the survey. A participant shared "*It covers the questions that need to be asked*", and another one appreciated that the survey would provide data on respondent preferences to fish stocking species.

A participant shared that it would be interesting to learn more about the perception among the recreational fishing community of White Seabass being an elitist fish, meaning a species only accessible by anglers with means (i.e., access and resources to fish offshore to target the fish). Instead of creating a direct question about people's perceptions of White Seabass as an elitist fish, it was integrated into the answers to existing survey questions (e.g., answers were modified to collect information about target species including White Seabass, types of gear used including boats, habitats fished, fishing trip costs, income) (See the survey responses report for outcomes.).

Understanding the relative importance of the OREHP by putting it in context with other programs that support fisheries and ocean conservation and management was considered a good approach. However, programs were missing from the draft list, so the participants were sent a quick survey at the end of the meeting to provide the names of other programs that could be included. The feedback received was included in the survey.

The focus group approved of the questions seeking to understand the value placed on the OREHP relative to other funded activities by rating the importance of each activity (e.g., hatchery program, stock assessments, regulations, artificial reef program).

Lastly, there was interest from the focus group in collecting information on willingness to pay. Specifically, understanding whether it would be useful to know answers to questions like: *"Do people think they are paying too much? Would they be willing to pay more? Do they know of other opportunities? How do they feel about what they are paying for the validation?"* Willingness to pay questions were added to the survey for both recreational and commercial fishers.