

# Memo

## Initial summary of values related to salmon recovery in the Central Valley

From: The Reorienting to Recovery Project Planning Team

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### In a nutshell:

- The Reorienting to Recovery Project has begun broad engagement of interested parties across the Central Valley and to solicit social, cultural, ecological, and economic values that could be affected by potential salmon recovery actions.
- We have collected >550 “value statements” from participants through online questionnaires and a remote Storytelling Workshop series in June 2022.
- We synthesized these statements into a smaller set of draft values that captured common themes.
- We identified 29 “decision values” that can be affected by different recovery scenarios (Table 1) and sorted these into six categories: (1) salmon (biological); (2) ecological (ecosystem function and native species), (3) traditional, recreational opportunities; (4) water quality and supply reliability; (5) agriculture; and (6) other economic values.
- Additionally, ten “process values” can be affected by and shape the overall process (Table 2).
- The list of values can be reviewed by all interested parties and further discussed, revised, added to, and condensed as the Project progresses, and will ultimately help us evaluate, compare, and identify broadly supported salmon recovery scenarios.

## 1 Overview: The Reorienting to Recovery Project and values

The Reorienting to Recovery Project (“Project”) was initiated in 2020 by members of the Collaborative Science and Adaptive Management Program (CSAMP), a consortium of State of California and federal resource management agencies, Public Water Agencies, and Non-Governmental Organizations. The Project’s purpose is to develop an effective and implementable strategy for recovering listed and non-listed salmonids in California’s Central Valley while balancing other social, ecological, and economic interests in the region.

Phase 1 of the Project engaged scientists to develop a draft Salmon Recovery Definition Framework, which included measurable biological objectives for salmon recovery, quantitative metrics that can be used to track the degree objectives are being met, and targets or benchmarks that define the numerical values of desired future conditions.

Phase 2 (still in progress) seeks to broaden engagement with all interested parties in the Central Valley, solicit input on other ecological, social, cultural, and economic values/interests that relate to salmon recovery efforts, and solicit information/data needed to model consequences of recovery efforts across Central Valley watersheds.

Phase 3 will use a structured decision making (SDM) approach with interested parties and modelers across the Central Valley to collectively assess different combinations of management actions (referred to as draft recovery scenarios) and evaluate their effects on the set of salmon, ecological, social, cultural, and economic values identified in previous phases. The process will allow interested parties to discuss potential tradeoffs across these values and work towards identifying a broadly supported draft recovery strategy.

More information about the Reorienting to Recovery Project can be found on the [project website](#), hosted by CSAMP.

## **2 Soliciting and synthesizing initial values related to salmon recovery**

This memo provides an overview of values related to salmon recovery efforts shared by interested parties across the Central Valley to date in the Project. The Project Planning Team solicited people's values through two avenues: (1) a "Values Questionnaire" distributed broadly over email to interested parties, and (2) discussions at a Storytelling Workshop series on June 7, 8, and 16, 2022. A total of 106 people responded to the questionnaire, and 117 people from state and federal agencies, PWAs, NGOs, Tribes, and other interested parties attended at least one day of the workshop series. The workshop series had three key objectives:

- 1) Build understanding, trust, and buy-in to the Project that facilitates further engagement with interested parties across the Central Valley;
- 2) Share stories and perspectives related to salmon recovery to build understanding of shared and competing values (also known as interests or objectives in this process) among participants; and
- 3) Distill people's stories into ecological, social, cultural, and economic values and begin discussing translation of values into quantitative metrics for the purpose of evaluating various potential recovery actions.

Through the questionnaire and workshops, we collected and reviewed over 550 distinct value statements (see the accompanying Excel Workbook). Following the workshop, we synthesized these value statements into a smaller set of initial, draft, refined value statements that captured common themes represented in the original list. We highlight that there is unavoidable subjectivity in refining complex values, but multiple Project Planning Team members independently reviewed and categorized original value statements to strive for consistency in how they were being interpreted.

We sorted value statements into two broad categories at first: "decision values" and "process values." These concepts were discussed during the Storytelling Workshop. These are defined in the graphic below.

### “Decision values”

What they are: Things that matter that can be affected by different recovery scenarios

What they do: Help us compare & identify preferred scenarios

e.g., salmon abundance, water supply

### “Process values”

What they are: Things that matter about the process we use to make decisions

What they do: Help design a satisfactory process for all parties

e.g., collaboration, transparency

We sorted 29 initial **decision values** into six categories (Table 1): (1) Salmon (biological) values that were developed in Phase 1; (2) Ecological values related to ecosystem and native species outcomes; (3) Traditional, recreational opportunities; (4) Water quality and supply reliability; (5) Agriculture values; (6) Other economic values. Additionally, we identified at least ten **process values** that represent distinct themes heard in the set of original value statements (Table 2). We include one or more representative statements (taken from the original list of value statements) for each refined value in Table 1 and 2 to provide more detailed examples of the value and track how original statements were interpreted.

It is impossible to capture all people’s values that could be impacted by salmon recovery efforts, and we heard many value statements that were more vague or difficult to categorize but nonetheless important. Examples of these statements include, “time spent in nature,” “health for people,” “sharing salmon with kids,” “psychological benefits of nature and salmon,” “connection to place,” “concern about setting unachievable goals that will set us up for failure,” and “feelings of alarm, urgency.” Again, see the accompanying Excel Workbook for a complete list of original value statements received.

However, this synthesized list of values likely captures many key interests that can be used as a starting point when evaluating and comparing salmon recovery scenarios. Next steps in the Project will:

- a) Use this preliminary list of values to develop quantitative metrics (e.g., based on the number and distribution of salmon) that can be predicted for an initial set of recovery scenarios, which will be coordinated by the Project Team, salmon modelers, and an independent Science Team,
- b) Work with all interested parties to review these predicted outcomes and discuss tradeoffs across the preliminary set of values and scenarios – highlighting any additional values that are important but missing, can be measured, and can help differentiate between scenarios,
- c) Revise, add to, and condense the list of values based on preferences and insights that emerge; develop and refine quantitative metrics; and predict outcomes for another set of recovery scenarios,
- d) Repeat rounds of discussion with all interested parties, refinement of values and recovery scenarios, and evaluation of those scenarios by salmon modelers and an independent Science Team.

We would like to thank all who have participated in the Project so far, and we look forward to any and all feedback.

*Disclaimer: This memo describes initial statements of people's values across the Central Valley that were shared through the Values Questionnaire and the Storytelling Workshop series in the Reorienting to Recovery Project. Project participants will discuss and refine these values and their groupings as the Project progresses.*

**Table 1. Initial draft *decision values* expressed so far in the Reorienting to Recovery Project that could be affected by different salmon recovery actions. Decision values are grouped into general categories (light blue rows) to aid interpretation.**

| Decision value                                                             | Representative statement(s) from participants                                                                                                                                                                                |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Salmon (biological)</i></b>                                          |                                                                                                                                                                                                                              |
| Abundance                                                                  | Abundance sufficient to support viable populations that result in low extinction risk, abundant natural origin spawners, a full range of ecological roles                                                                    |
| Productivity                                                               | Productivity sufficient to support viability (as defined by VSP guidelines) and broad-sense recovery                                                                                                                         |
| Spatial structure                                                          | Representation and redundancy of populations across the Central Valley sufficient to support local adaptation, minimize risk of extinction from catastrophes, and support natural levels of connectivity between populations |
| Genetic diversity                                                          | Recover and preserve genetic diversity, including achieving a low proportion of hatchery-origin spawners (pHOS) and high genetic effective population size                                                                   |
| Life history diversity                                                     | Recovery and preserve life history diversity, including achieving diversity in habitat use, migration and spawning timing, and age distribution of spawning adults                                                           |
| <b><i>Ecological</i></b>                                                   |                                                                                                                                                                                                                              |
| Ecosystem health: Land                                                     | Healthier, complex and dynamic freshwater, estuarine and ocean environments and riparian areas; improved habitat quality                                                                                                     |
| Ecosystem health: Water                                                    | Increased water quality, flow; freedom of rivers, integrity of waterways                                                                                                                                                     |
| Ecosystem connectivity                                                     | Connection between river and ocean / between water and land                                                                                                                                                                  |
| Managed wetlands                                                           | Concerned about impacts to managed wetlands throughout the valley                                                                                                                                                            |
| Native species                                                             | Existence and persistence of native biological diversity                                                                                                                                                                     |
| <b><i>Traditional, recreational opportunities</i></b>                      |                                                                                                                                                                                                                              |
| Indigenous/cultural: Access to salmon habitat                              | Maintaining and preserving indigenous culture around salmon, including increasing access and rights to lands/rivers                                                                                                          |
| Indigenous/cultural: Harvest and cultural uses of salmon                   | Maintaining and preserving indigenous culture around salmon, including use of salmon as food                                                                                                                                 |
| Recreational: Access to habitat and fishing opportunities                  | Increased recreational opportunities for fishing and sharing this with my children, connecting with nature                                                                                                                   |
| Recreational: Opportunities and access to habitat for non-salmonid species | Impacts to recreational waterfowl hunting; recreational opportunities including fishing, boating, and hiking                                                                                                                 |

| Decision value                                           | Representative statement(s) from participants                                                                                                                                                                                |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Water quality &amp; supply reliability</i></b>     |                                                                                                                                                                                                                              |
| Water supply reliability for public water users          | Better water supply reliability through stable regulation and operations; concerned about higher water rates and/or restrictions (e.g., # of days outdoor watering permitted)                                                |
| Water cost                                               | Concerned about the increased cost of water and economic cascade                                                                                                                                                             |
| Water quality                                            | Better water quality through stable regulation and operations, habitat restoration and management                                                                                                                            |
| Flood risk and safety                                    | Concerned that removing dams could potentially cause increased flooding                                                                                                                                                      |
| Groundwater sustainability                               | Concerned about significant water supply from irrigation diverters to groundwater pumping will have a negative impact on groundwater sustainability                                                                          |
| Power generation                                         | Concerned that salmon recovery may impact the economical and environmentally-sound generation of power and delivery of water                                                                                                 |
| <b><i>Agriculture</i></b>                                |                                                                                                                                                                                                                              |
| Commercial and family farm industry production           | Concerned about reduced farming; allow irrigated ag to continue to produce food in the Valley                                                                                                                                |
| Water supply reliability for ag                          | Concerned about reducing water supply to farms that grow the food my family eats                                                                                                                                             |
| Ag/food cost                                             | Concerned that water management may reduce yields leading to higher ag prices                                                                                                                                                |
| <b><i>Economic</i></b>                                   |                                                                                                                                                                                                                              |
| Direct costs for salmon recovery actions                 | Concerned that some salmon recovery actions may be ineffective and require additional water or money; infrastructure costs                                                                                                   |
| Time and cost for permitting, agreements, and litigation | Concerned that salmon recovery may curtail hatchery operations leading to mitigation requirements that are difficult to achieve (which might in turn necessitate re-negotiating/re-writing licenses, agreements and permits) |
| Jobs related to salmon                                   | More people employed in salmon related jobs                                                                                                                                                                                  |
| Recreational: Fishery sustainability and revenue         | Financial impacts of fewer recreational opportunities                                                                                                                                                                        |
| Commercial: Fishing opportunities                        | Increased fisheries benefits, i.e., opportunities and regions to fish for salmon, increased season lengths, increased harvest quotas                                                                                         |
| Commercial: Fishery sustainability and revenue           | The ability to support sustainable long-term commercial (and recreational) harvest levels that are both ecologically sound and economically viable for the fishing industry                                                  |

**Table 2. Initial draft *process values* expressed so far in the Reorienting to Recovery Project that relate to things that matter about the overall process and inform the design of a satisfactory process.**

| Process value               | Representative statement(s) from participants                                                                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Collaboration               | Community and collaboration to work together towards common goals; coordination across efforts; moving past a conflict/adversarial dynamic                                                                                  |
| Inclusivity                 | Diversity of engagement, including Indigenous groups                                                                                                                                                                        |
| Equity                      | Speaking to each other's interests; concerned about equitably assigning financial and regulatory responsibility                                                                                                             |
| Transparency                | Transparency of communication                                                                                                                                                                                               |
| Learning                    | Improved scientific understanding and information to inform rational policy; the value/elevation of situated, place-based knowledge; borrowing/leveraging/sharing information from other systems outside the Central Valley |
| Scientific integrity        | Science as an important tool for understanding and supporting the process; use of best available science that is not misrepresented to promote a particular set of values                                                   |
| Awareness/education         | Raising public awareness; fostering appreciation for role of Salmon in California; communicating knowledge and science at different conceptual levels                                                                       |
| Efficiency of other efforts | Concerned that the Reorienting to Recovery project may be slow and thereby delay implementation of the Bay Delta Plan                                                                                                       |
| Climate change              | Need to recognize climate change                                                                                                                                                                                            |
| Optimism                    | Openness to environmental recovery, new ideas/new modes, making progress; need for collective creativity and hopeful mindset                                                                                                |