Reorienting to Recovery (*R2R*)

A Case Study in Values Informed, Landscape Scale, Collaborative Decision Making Towards an Equitable Outcome

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Photo Credit: California Department of Water Resources

Presentation Overview

- **Rationale (Why R2R)**
  - The problem
  - Theory of change
  - An opportunity
- **Project Approach and Phases (The steps)**
  - A new approach (Vision, Objectives, Design, Team, Participants)
- **Outcomes and Accomplishments (What we achieved)**
  - A path to recovery
  - A new forum for and experience of collaboration
  - A case study
- **Next Steps (Where we're going)**
  - Integration with existing efforts (regulatory and non-regulatory)
  - Implementation (case studies)

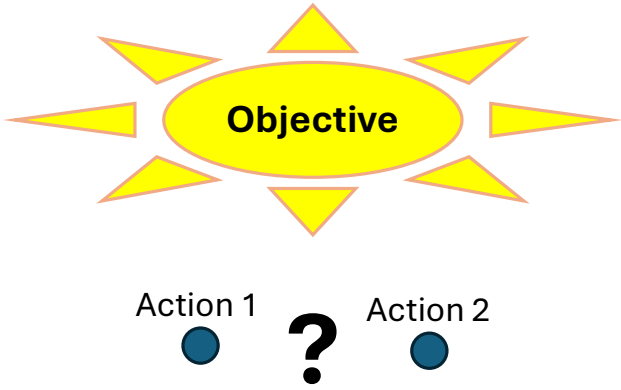
Rationale

The Problem(s):

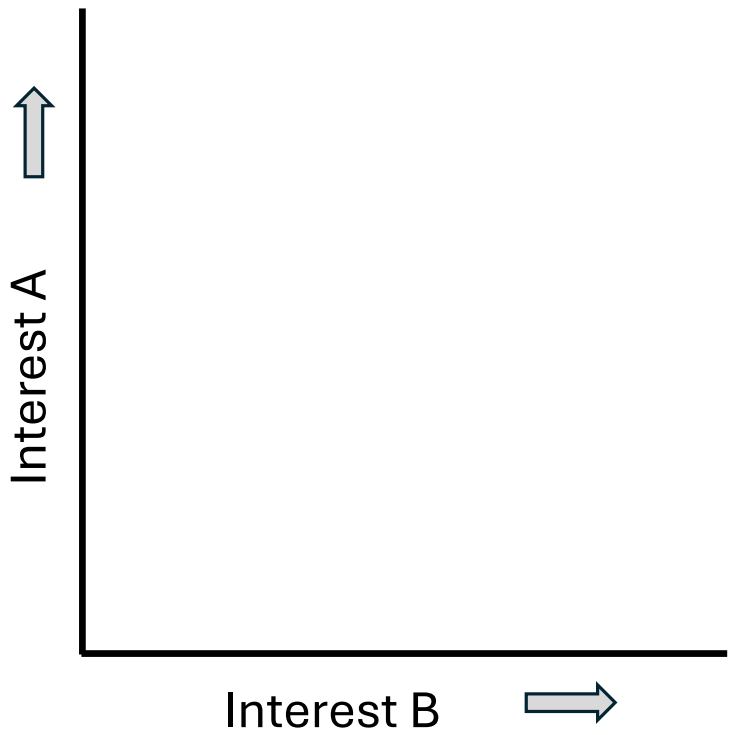
- **CV Salmon Populations in precipitous decline despite massive investments**
  - No single regulatory space positioned to recover Salmon on its own
  - Management interventions for habitat, hydrology, harvest and hatcheries (4Hs) applied incoherently
- **A fractured society**
  - Differing values
  - Culture of oppositional politics
  - Rampant distrust
  - Limited forums for dialogue across difference
  - Many conversations each/ all lacking key voices

Theory of Change:
Beyond Transactional Decision Making

- Two potential actions to achieve an objective



- Enter multiple interests…

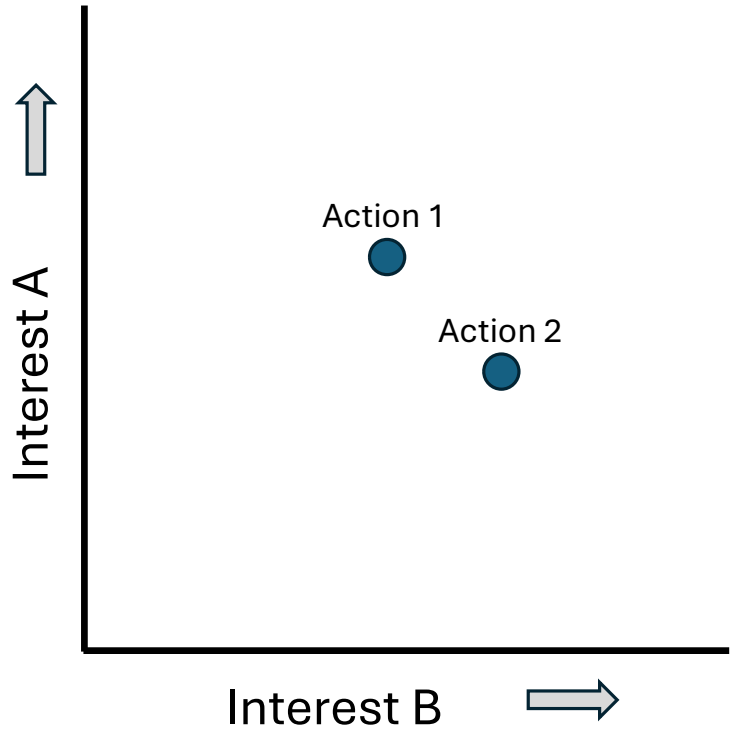


Interests **= Value(s) + Objectives**

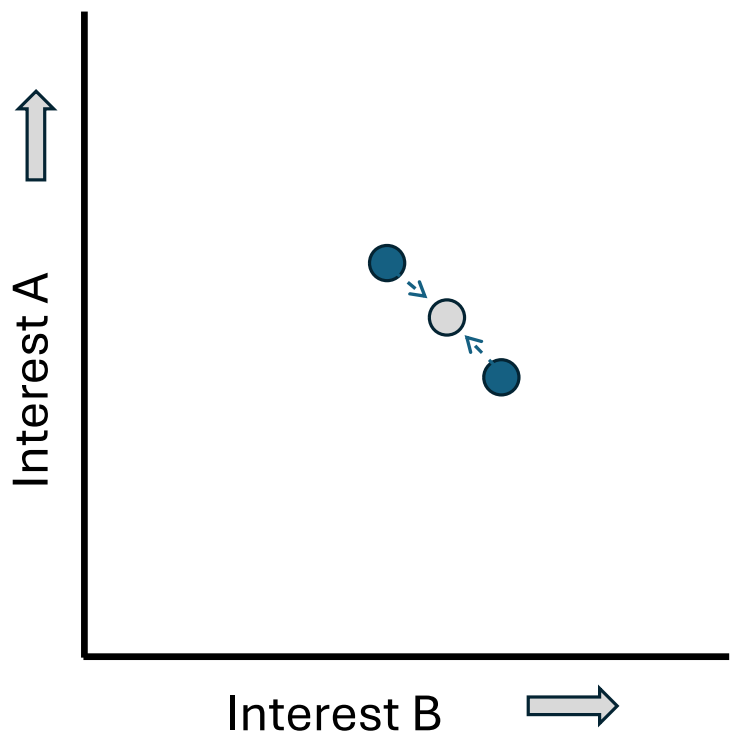
- Often also includes a suite of actions assumed to be supportive of values by advancing objectives

Decision making with competing interests:

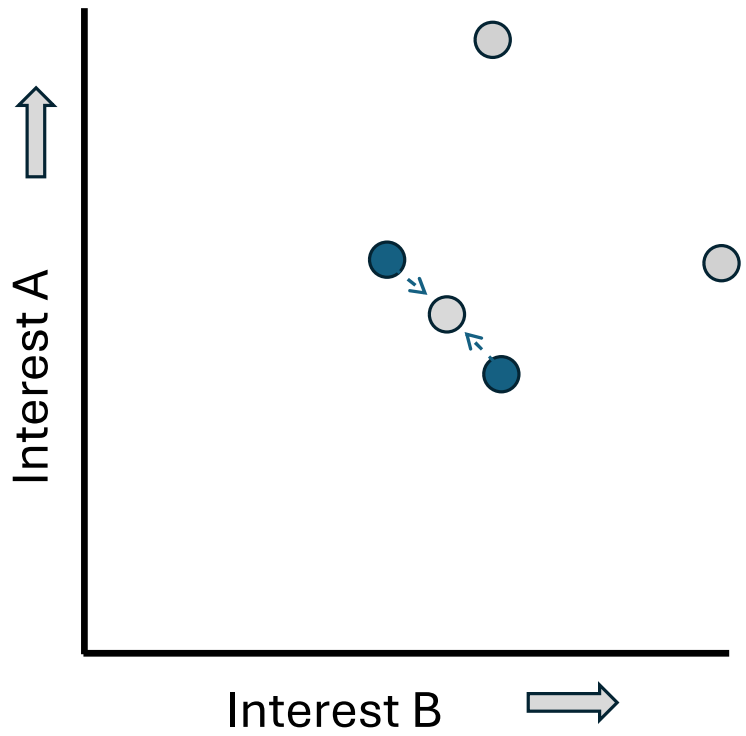
- Relating actions to interests as a basis for selection



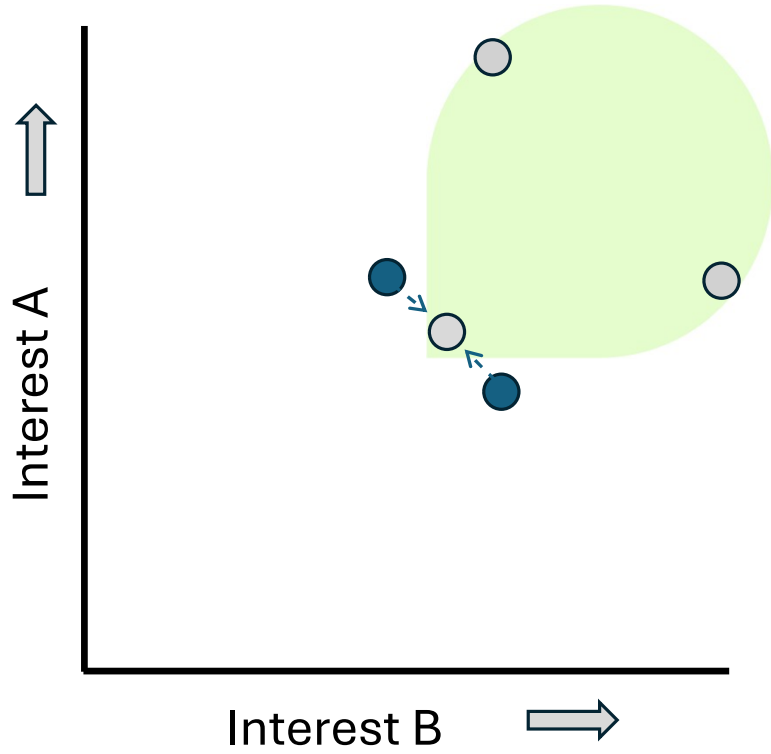
- Splitting the different (everyone loses a little)



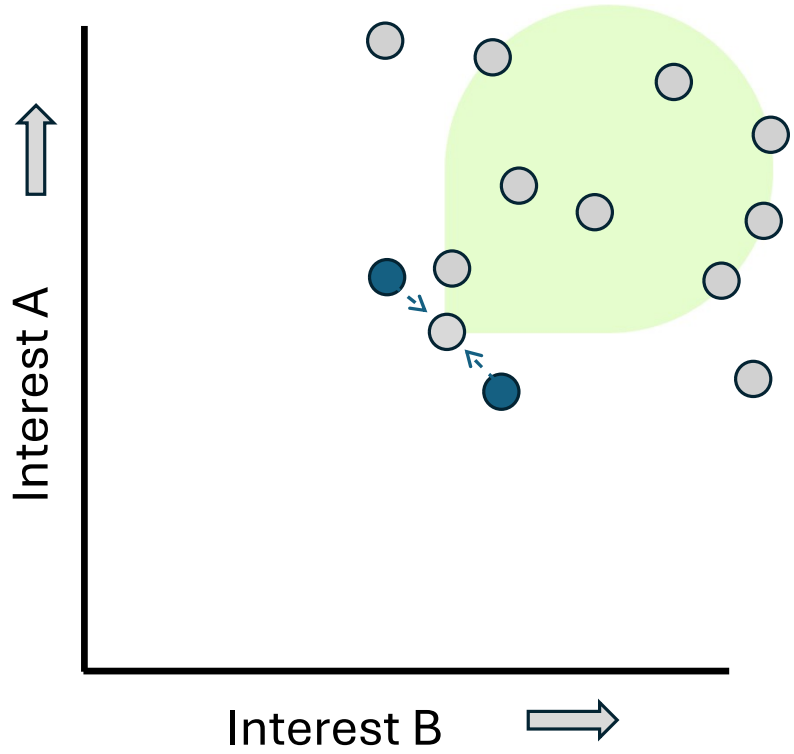
- Potential for other opportunities



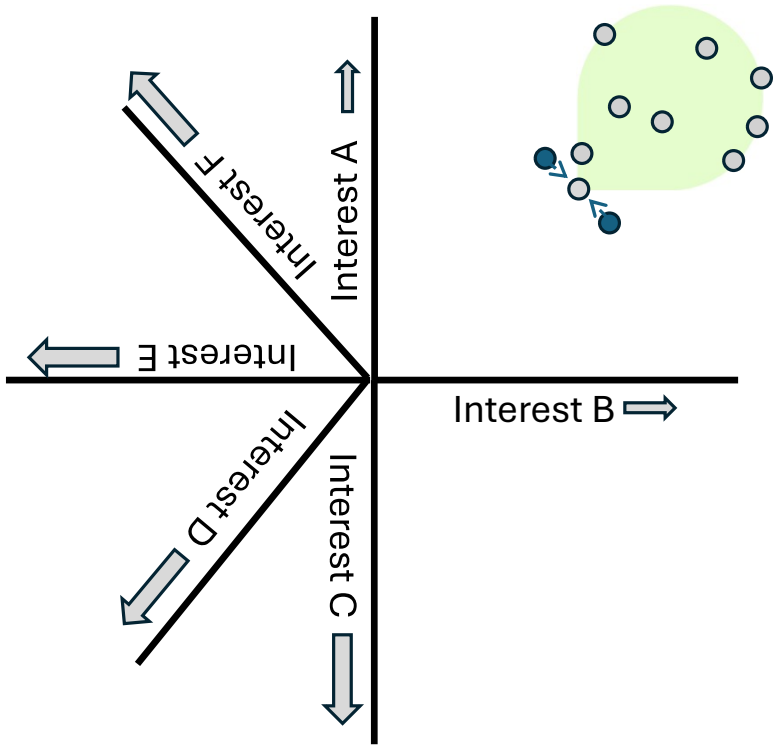
- Transparent structured process (e.g. SDM) can define /reveal the opportunity space



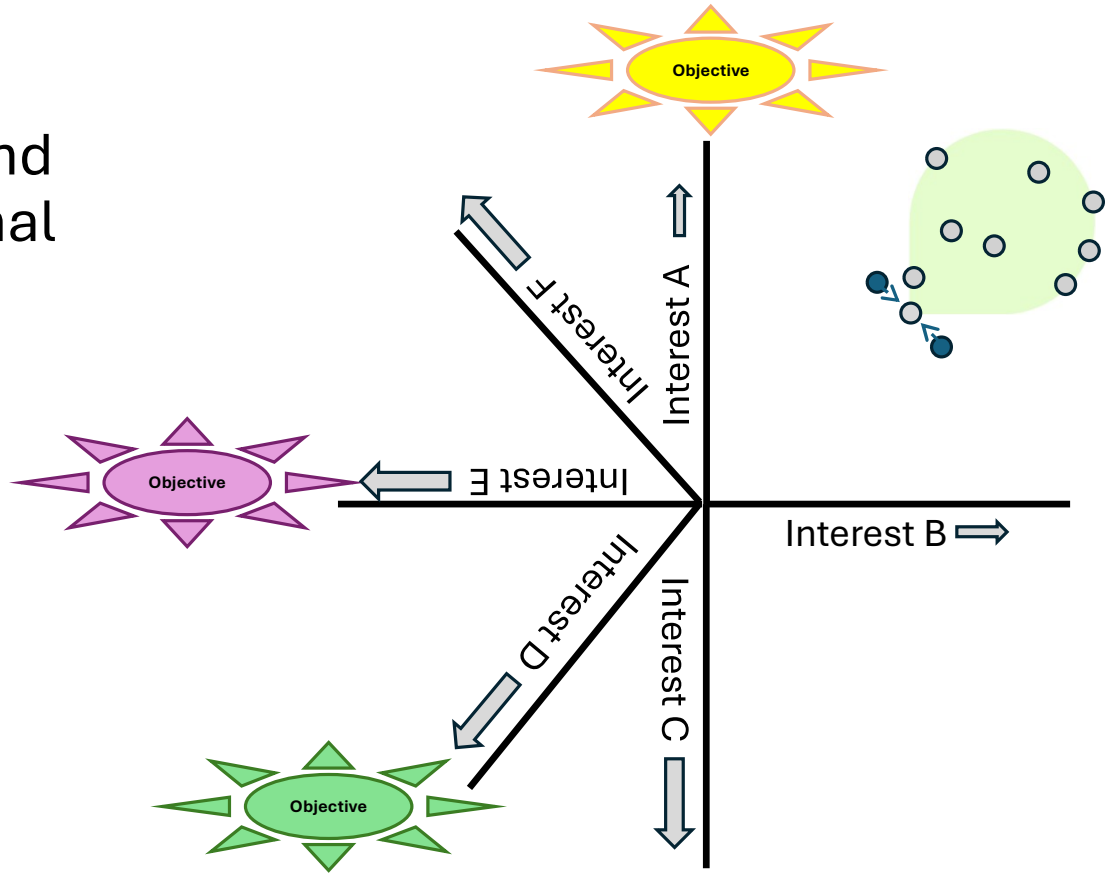
- …And a broader range of possible actions



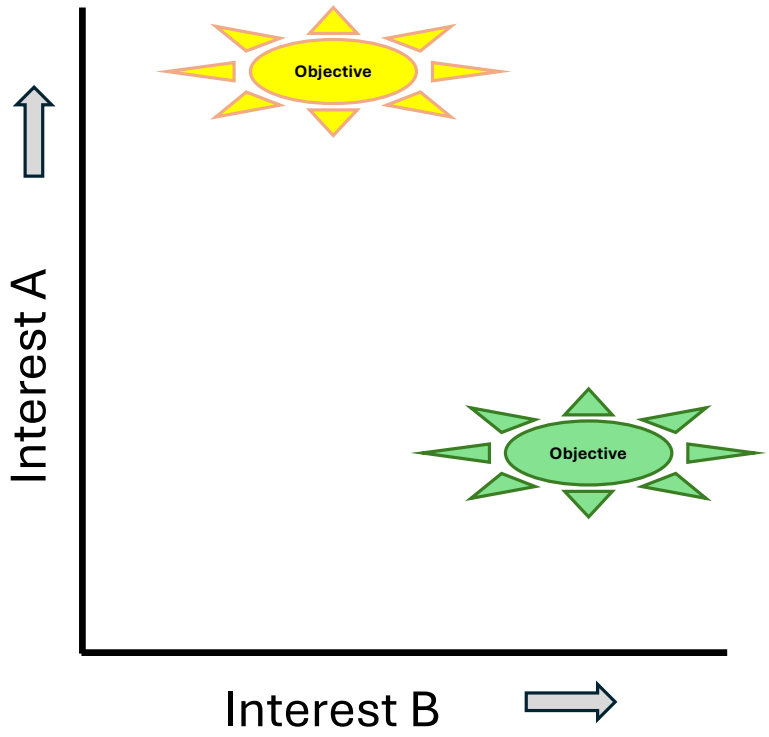
- …BUT… As a greater number of interests are added the decision space/ choice becomes increasingly complex



- ...Also... objectives tend to multiply as additional interests engage...



- And before long…



Reorienting to Recovery (R2R) - Intentions

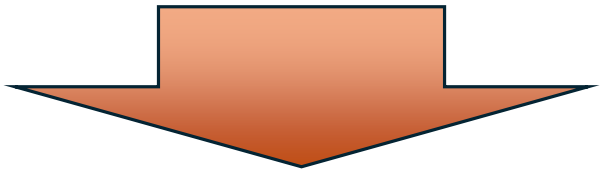
1. Collaboratively develop a scenario (suite of actions) that **achieve CV salmon recovery** and **equitably balances the cost/ benefit** (pain and the gain) across the range of participant values.

2. Work together in a way that moves **away from the transactional** and towards **collective interest.**

From Transactional to Collective

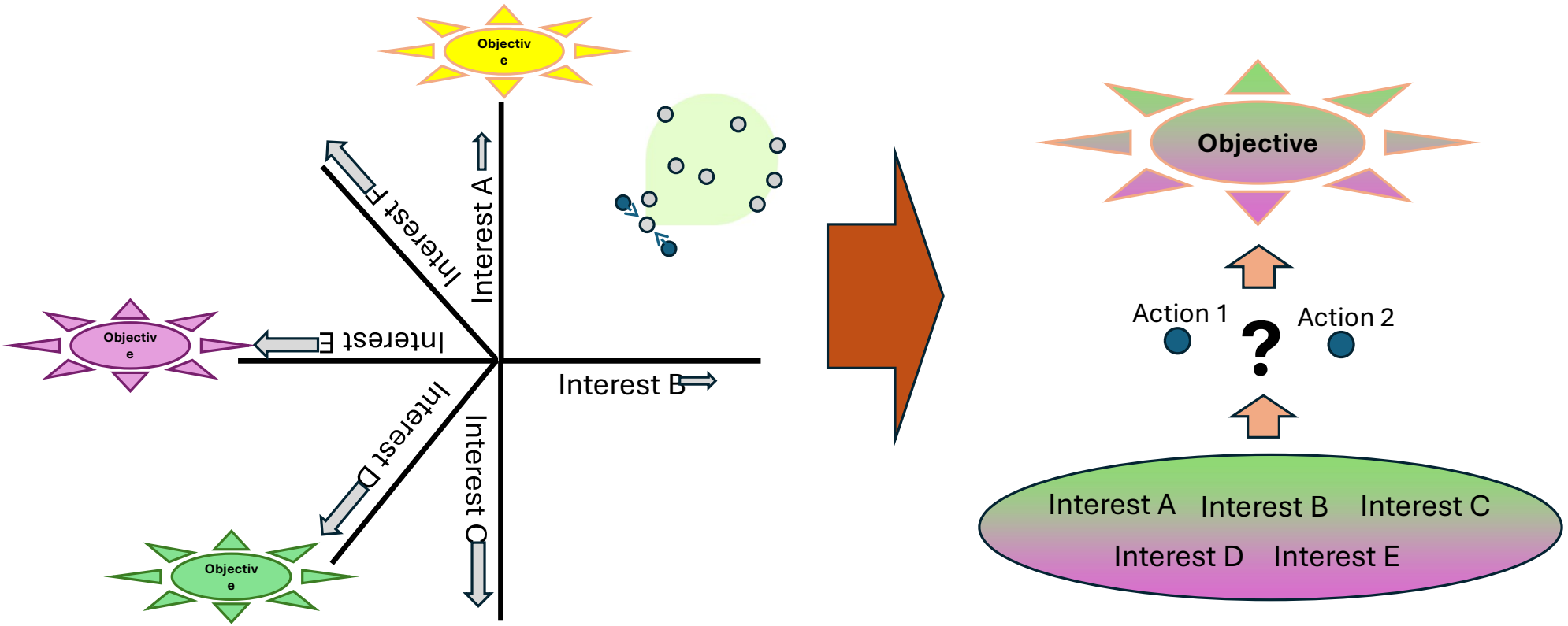
1. **Establish a common objective** → Decouples objectives from values
   Deconstructs interests
2. **Make Values Transparent** → **Reveals the needs of the whole**
   Facilitates values being shared
3. **Pursue objective while equitably balancing values**

→ **Creates collective value set in pursuit of objective**
Deconstructs transactional collaboration



A **New Collective Interest**

In the end... :


Objectiv
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Interest A
Interest B
Interest C
Interest D
Interest E
Interest F
Objectiv
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Objective
Action 1
?
Action 2
Interest A
Interest B
Interest C
Interest D
Interest E

Rationale (cont.)

An Opportunity:

- **Convergent Evolution** (Two roads leading to the same place)
  - CSAMP expands focus beyond BIOPs to Salmon Recovery
  - Uncommon Dialogues → Unlikely connections and new understanding
    - TU and SWCs

- **Precedent from the Columbia Basin** (CBC, CBP)

- **Progress in existing CA forums** (CSAMP, CVPIA)

- **Diverse support** (SWCs, NOAA, BOR, DSP, DWR)

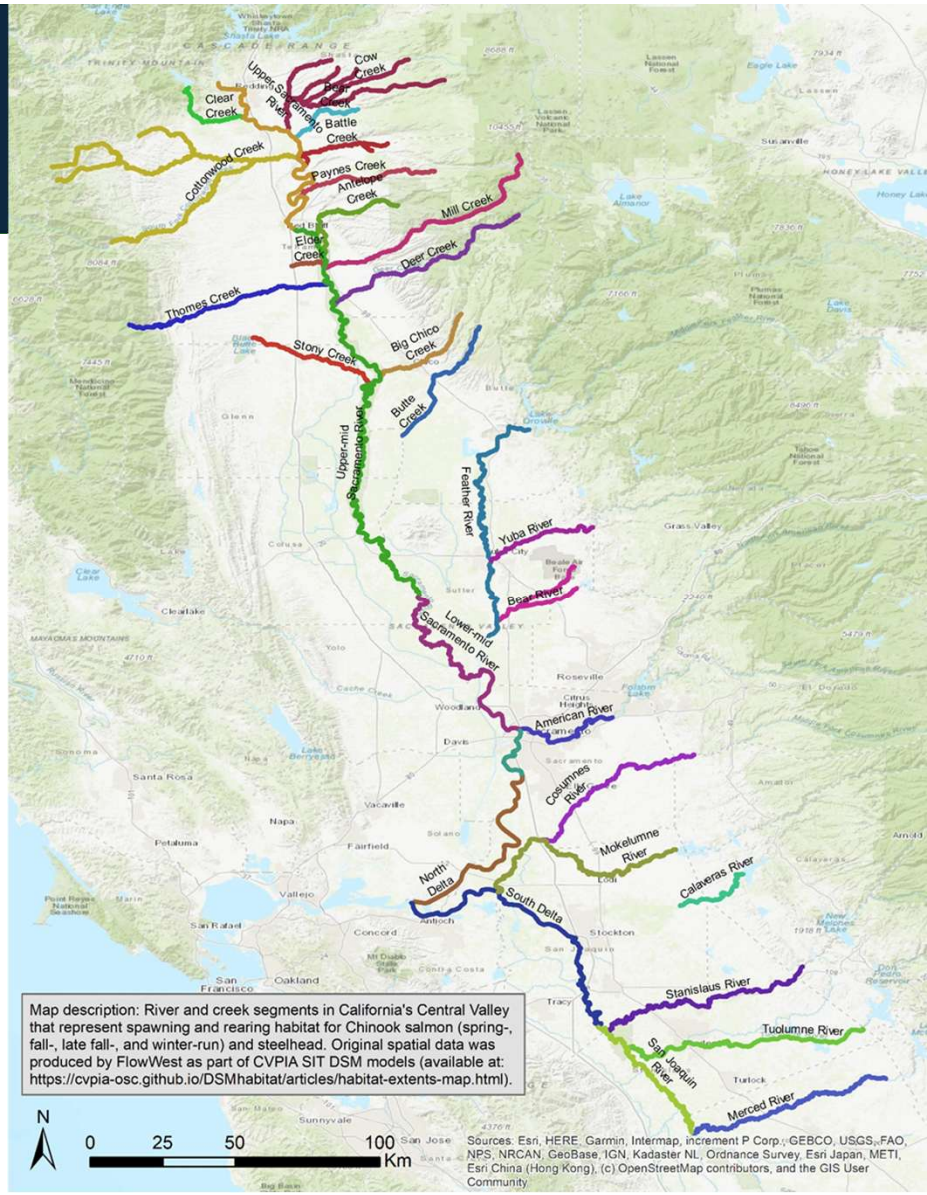
Project Approach and Phases

A New Approach:

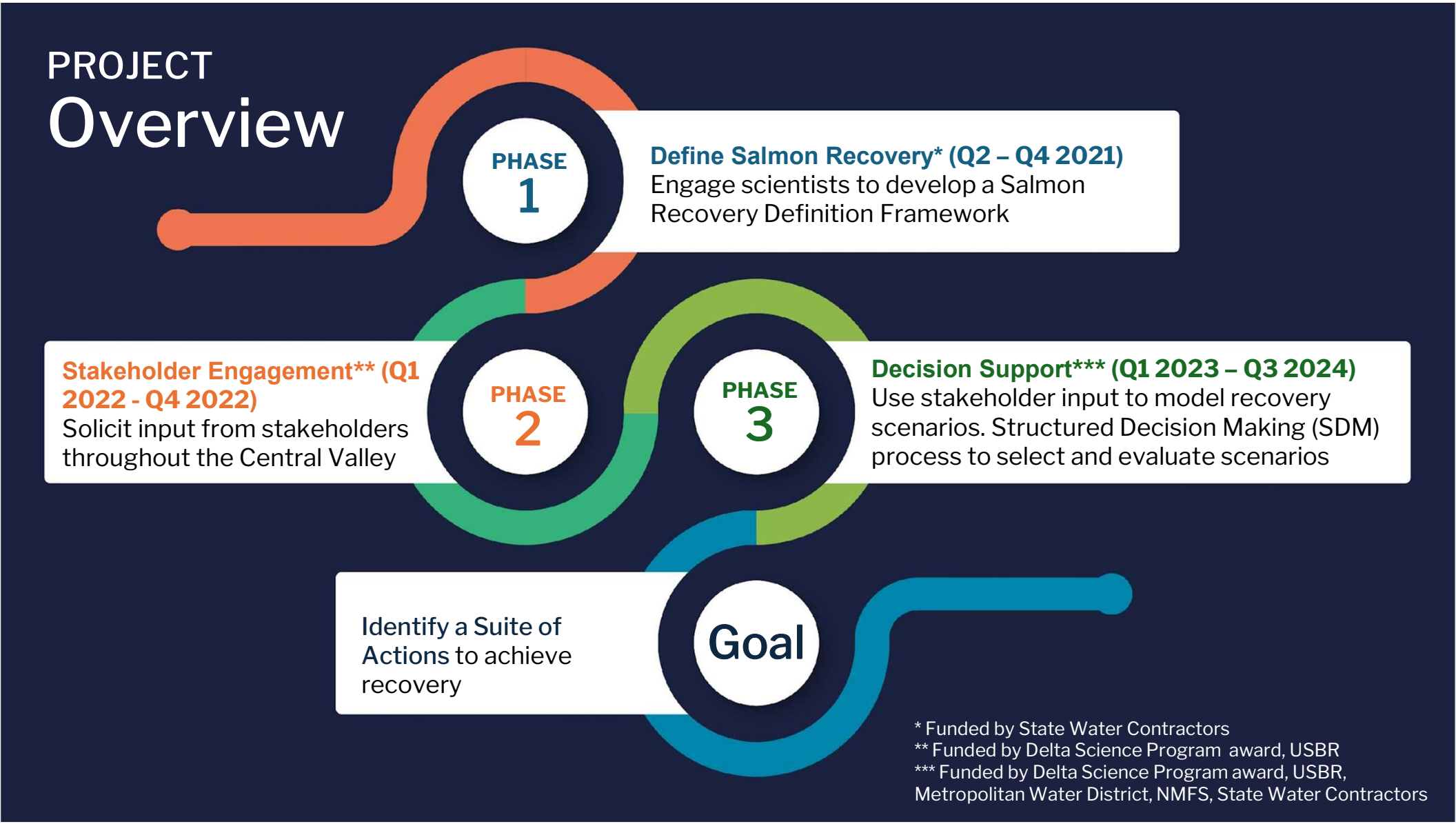
- Vision and Objectives:
  - **A new, non-regulatory, transparent, inclusive, process** to develop:
    - **A broadly supported scientific definition of Salmon Recovery**
    - **A summary of the other key values** (impacted (+ or -) by actions to recover salmon)
    - **A Salmon recovery scenario** (i.e. suite of actions) that:
      - Integrates actions across the 4Hs
      - Equitably distributes the pain and gain of achieving recovery across the range of values
  - **A model for/ experiment in a different way of operating**
    - Pan-regulatory, common objectives, collective value set

Reorienting to Recovery: Problem framing

- **To identify a preferred recovery scenario(s) that advances salmonid recovery, balances other interests, and achieves a critical mass of support**
- Considering all runs of CA CV salmon, beginning with fall-run
- Spatial: 31 reaches in the Sacramento & San Joaquin River systems, & ocean
- Temporal: 20-year time horizon



PROJECT Overview



* Funded by State Water Contractors
** Funded by Delta Science Program award, USBR
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Project Approach and Phases (cont.)

A New Approach (cont.)

- Team:
  - **Diverse Design Team** with broad skillset:
    - Senior (aka battle worn) representatives from NGOs and Water (*TBI, Valley Water*)
    - Technical leads from NGOs and Water (*TU, MET*)
    - Data Science and Lifecycle modelling (*FlowWest, Qeda, NMFS SWFSC*)
    - Outreach, communication, and facilitation (*K&W, ESSEX*)
    - Structured Decision Making (*Compass Resource Management*)
    - Tribal and Indigenous outreach and engagement (*California Indian Environmental Alliance*)

Project Planning Team

CA Indian Environmental Alliance	Michelle Rivera Sherri Norris
Compass Resource Management	Brian Crawford Michael Harstone
Essex Partnership	Bruce DiGennaro
FlowWest	Liz Stebbins Erin Cain Mark Tompkins
Kearns & West	Maryls Jeane Rafael Silberblatt
Qeda Consulting	Noble Hendrix
Metropolitan Water District	Alison Collins
NMFS Southwest Fisheries Science Center	Ann-Marie Osterback
State Water Contractors	Darcy Austin
Trout Unlimited	Natalie Stauffer-Olsen Rene Henery
The Bay Institute	Gary Bobker
Valley Water	Frances Brewster

Project Approach and Phases (cont.)

A New Approach (cont.)

- Participation and Engagement
  - Multiple inclusive groups designed to support the different phases of the process:
    - Phase 1: Science Advisory Team (SAT)
    - Phase 2: Forum
    - Phase 3: Forum, SAT, SDM Working Group

Participant Groups

Forum	SDM Working Group	Science Advisory Team
All interested parties - open to anyone interested in the recovery of Central Valley salmonids (Over 200 participants from across the CV and representing diverse organizations and interests)	A representative subset of the Forum (~30 individuals representing key interest areas including Water Users, Agriculture, Environmental NGOs, Commercial Fishing, Recreations Fishing, State and Federal Agencies, Tribes)	Open to all recognized technical/traditional ecological knowledge experts (~40 Scientists and subject matter experts from State and Federal Agencies, NGOs, Private consulting firms, Universities, and Tribes)
Share values related to salmonid recovery, provide information on existing conditions, and provide feedback on Planning Team and SDM Working Group processes and deliverables.	Work with Planning Team to help develop and refine recovery actions with the goal of selecting a suite(s) of actions to move forward as recommendations	Provide advice on technical issues (e.g., further details of the recovery definition, modeling, and assessment of scenarios)

Project Approach and Phases (cont.)

A New Approach (cont.)

- **Diverse Funding Leveraged Strategically**
  - SWCs - Initiate project and Phase 1
  - Delta Science Program and BOR - funding for Phases 1, 2 and 3
  - MET, NOAA, - supplemental funding for phase 3
  - The Water Foundation, SWCs – Tribal engagement

Outcomes Phases 1,2

Phase 1 outcomes:

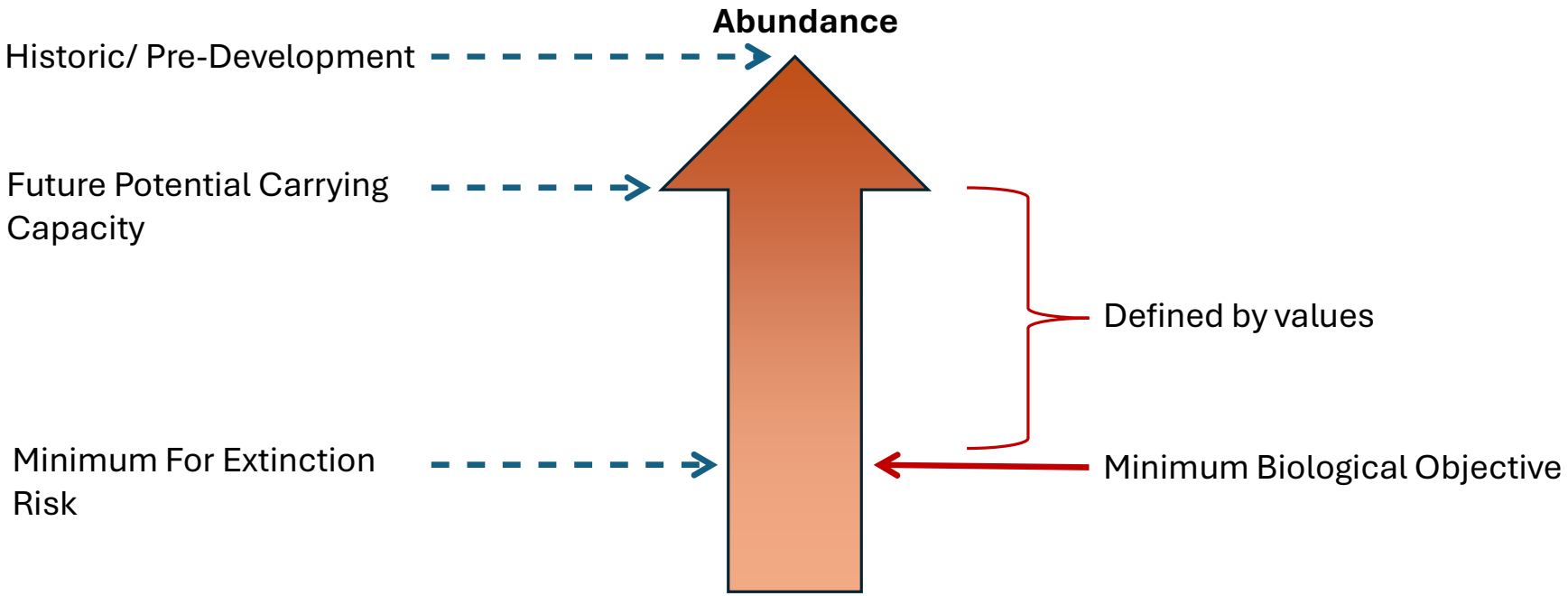
- **Scientific Broad Sense Recovery Definition Created**
  - VSP Parameters Met
  - Independent Populations recovered
  - **Abundance levels to prevent listing**
  - Trust and coherence built, consensus approach

Phase 2 outcomes:

- **563 Individual value statements collected**
- **Refined to 18 performance measures in a few objective categories**
  - Water (various human uses), Land (production, access), Salmon (human use and nature), Ecosystem and other species, $$
  - Process objectives as well (equity, education, etc.)
  - Awareness of shared values, trust built, mutual understanding gained

Reorienting to Recovery (R2R) Phases:

1. **Establish a common objective**: Define CV Salmon Recovery (Broad sense – beyond regulatory definition)



Outcomes Phase 3

Phase 3 outcomes:

- **Recovery Scenario identified** and consensed on for advancement and further refinement
- Scenarios focused on a single factor (habitat, hydrology, harvest or hatcheries) do not achieve recovery - **need all-H integration**
- **Recovery is possible** (*never-before modeled*) - multiple types of actions (4Hs) are needed
- **Currently planned actions** are **important but insufficient** – need to be part of a broader package to avoid continued declines and stranded assets
- Actions in **dry years are key to achieving recovery**

SDM Trajectory

Values → Performance metrics → Bookend scenarios → Blended scenarios → Balanced scenarios

Potential actions to model were collected via Forums and SDM workshops:

Bookend Scenarios included the following actions

- Run of River flows
- Max habitat
- No harvest
- 2x hatchery output

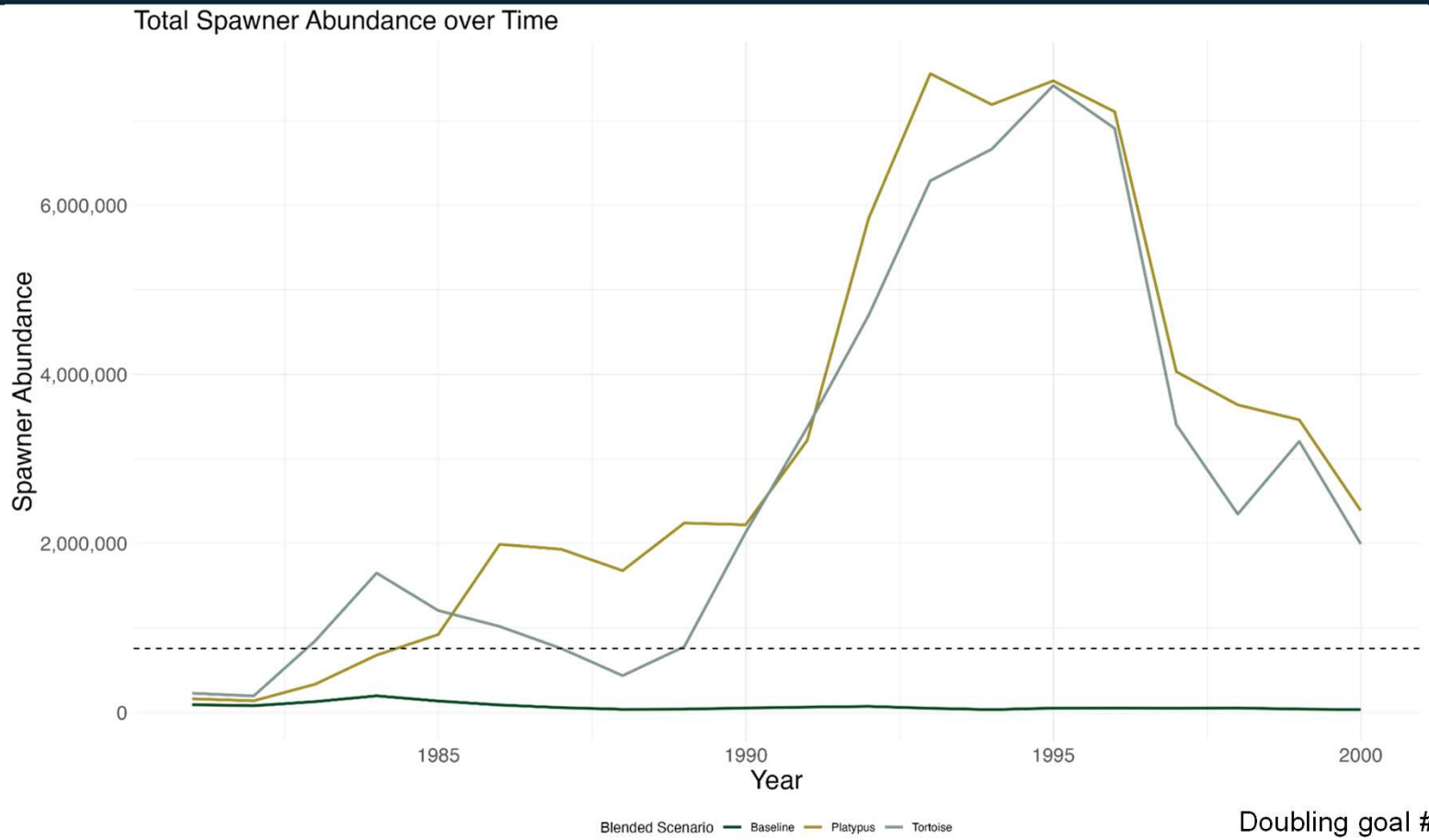
Blended Scenarios included the following actions:

- Ecological functional flows
- Rice field habitat
- Harvest of hatchery fish only
- Terminal hatcheries

Balanced Scenarios include the following actions:

- Habitat actions for San Joaquin
- Functional flows for San Joaquin
- HRL actions
- Phased hatchery practices
- Tribal harvest prioritized

Abundance Plot



Doubling goal

Doubling goal #s from Table 5-2. AFRP

Accomplishments

- **A broadly supported, pan-regulatory, scientific definition for CV salmon recovery**
  - Identification of a recovered abundance range as an expression of values
- **Demonstration (through life-cycle models) that recovery is possible**
- **A broadly supported high-level blueprint for achieving recovery**
  - Discovery of key components: 1) phased hatchery approach 2) dry year focused actions (flow and harvest/ stock management)
- **Initiated Case Study in transparent, landscape scale, collaborative planning**
  - A step towards multiple processes working to achieve a common larger goal

Accomplishments (cont.)

- Modified and made available **decision support models for 4H integrated planning**
  - across existing efforts (e.g. HRL, BIOPS, Hatchery Management, etc.)
  - ascertain the scale of different contributions, potential efficiencies, and gaps
  - set expectations and avert stranded assets

- **Cross pollination with other large efforts (UCSRB, CBC, Salmon Climate Initiative)**

- **First iteration of Communication tools for a broader audience** (ShinyApps, StoryMap)

Next Steps

Phase 4 - From Collective Vision to Collective Implementation

Map actions to existing efforts and identify and fill gaps (BIOps, Recovery Plans, Stock Assessment, Hatchery management, etc.)

- **Continue refining recovery scenarios** (specificity for actions, timing, location, finer resolution modeling)
- **Model flow component** (Develop CALSIM run with COEQWAL)

Resources

Website

Key Reports

- Phase 1
- Project Summary/ Phase 3

First iteration of Communication tools

- ShinyApps

Media

- Estuary News

Resources and Reports

Photo Credit: California Department of Water Resources