

March 2026

Delta Adapts Adaptation Plan

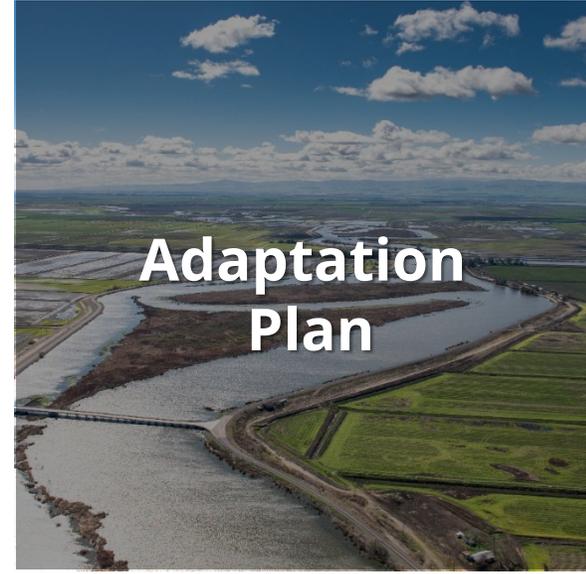
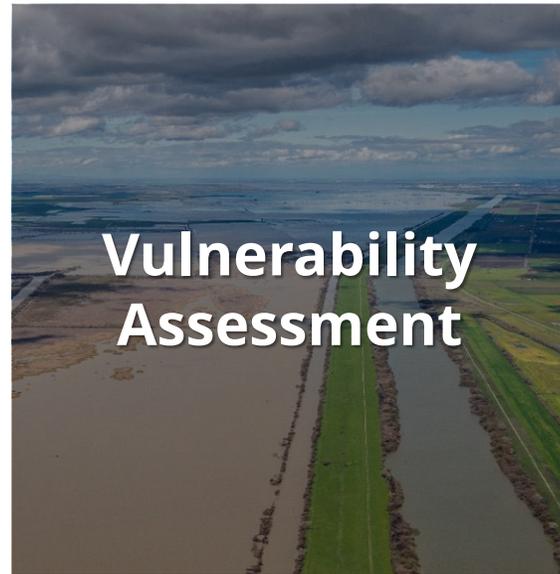
Morgan Chow, Environmental Program Manager
Annika Ragsdale, Senior Environmental Scientist



Delta
Stewardship
Council

A CALIFORNIA STATE AGENCY

Delta Adapts



Tribal Engagement & Community Outreach

- Tribes
- Farmers & landowners
- Vulnerable communities



Delta Adapts Adaptation Plan In Action



5th Climate Assessment Delta Report Topics

- Importance of the Delta to the rest of the state
- One of the most flood prone regions of the state
- Faces chronic underinvestment relative to the need
- Adaptation governance in the Delta is young and evolving
- Despite advances in science, climate change research gaps and needs still exist in the Delta



Adaptation Strategies



FLOOD RISK REDUCTION

**DELTA
ADAPTS**



Focus Area

Vulnerabilities

Climate-induced hydrologic variability and sea level rise are expected to **intensify flooding** across the entire Delta region

The Delta's **1,100 miles of levees** are designed to operate under historical conditions that did not consider climate change, which will stress the whole system

Strategies

Develop climate-informed understanding of Delta flood dynamics

Strengthen and upgrade Delta levee system

Restore ecosystems for flood mitigation

Improve emergency preparedness and response

Manage and expand upstream water storage capability

Use technology and land use planning to reduce risk



WATER SUPPLY RELIABILITY

**DELTA
ADAPTS**



Focus Area

Vulnerabilities

Water supply will likely decrease while demand increases due to heat, more variable precipitation, decreased snowpack, and sea level rise

Drought and salinity intrusion will increasingly harm **water quality**

Extreme weather could damage the network of **water conveyance** infrastructure and levees that protect water from salinity intrusion

Strategies

Reduce reliance on the Delta through conservation and local water supply development

Increase storage of surface and groundwater supplies

Modify reservoir operations

Modify water quality standards

Modify water infrastructure



ECOSYSTEM

**DELTA
ADAPTS**



Focus Area

Vulnerabilities

Land development and insufficient shallow water areas **leave little room for habitats and species to migrate**

Increasing heat, variable precipitation, sea level rise, and climate extremes impact **ecosystem health and biodiversity**

Strategies

Restore ecosystems to adapt and support native species

Build capacity and partnerships for ecosystem resilience

Protect ecosystems by halting and reversing subsidence

Use nature-based solutions to increase resilience of developed areas



AGRICULTURE

**DELTA
ADAPTS**



Focus Area

Vulnerabilities

Heat, drought, flooding, reduced chill hours, sea level rise, and decreased water quality can all decreased **crop yield and quality**

The above vulnerabilities and market forces impact the **economic stability of industry**

Subsidence, saline soils, and land use changes impact **land viability for agriculture**

Strategies

Equitable food system

Climate-smart farming

Diversification of revenue on agricultural land

Strategic land retirement

Climate-Smart Catalog

Catalog covers climate-smart ag strategies suitable for the Delta:

- transitioning to rice cultivation,
- cover cropping,
- targeted grazing,
- windbreaks,
- precision agriculture,
- whole orchard recycling,
- planting resilient crop types, and
- improving water use efficiency.



<https://ucdavis.app.box.com/s/in2qkh0a7edyswopkbbm6718jscrlu0i>

Adaptation Accelerators

Examples

Flood Risk Reduction

- Integrate climate change and socioeconomic factors into flood risk management (**FL-1-1**)
- Integrate climate risks and equity into the Delta Levees Investment Strategy (**FL-2-2**)
- Prioritize levee improvements in socially vulnerable communities (**FL-2-6**)

Ecosystems

- Prioritize multi-benefit projects (**ECO-1-4**)
- Incentivize land use that halts and reverses subsidence (**ECO-2-1**)
- Work with tribes to implement nature-based solutions and co-manage restored public areas (**ECO-3-2**)

Agriculture

- Improve and expand irrigation efficiency management practices (**AG-1-1**)
- Create training, employment, and land access programs for the next generation of farmers (**AG-2-2**)
- Support and fund environmental credits (e.g., wildlife-friendly farming incentives) (**AG-3-3**)

Water Supply Reliability

- Invest in Flood-Managed Aquifer Recharge (**WSR-2-4**)
- Improve Delta levees (**WSR-3-1**)
- Coordinate with all partners to review Bay-Delta Plan water quality standards (**WSR-5-1**)

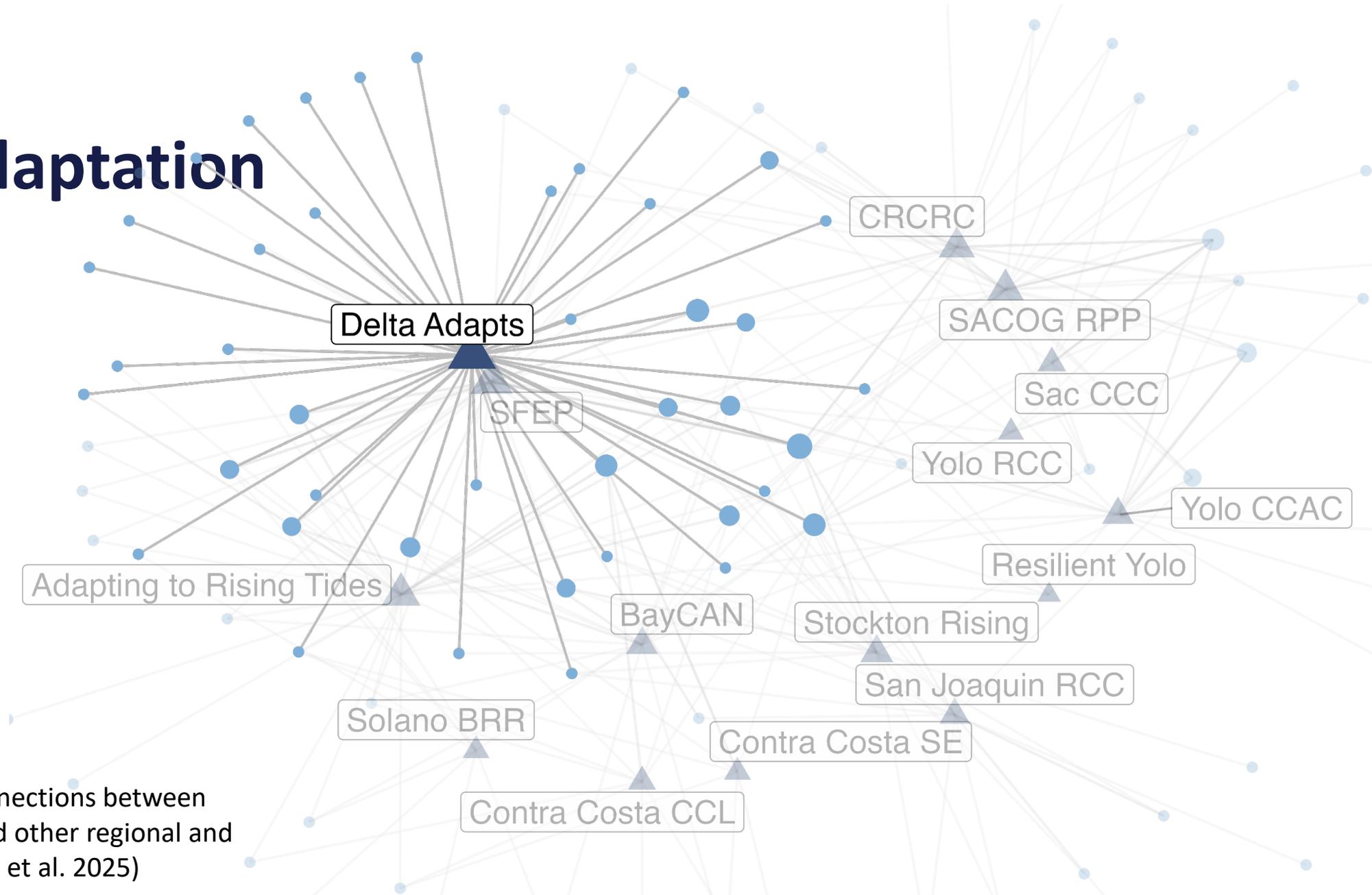
Draft Strategies Dashboard

- Search for strategies and actions by recommended lead or partner
- Search through types of actions and their benefits



Agriculture		Ecosystem		Flood		Water Supply Reliability																														
<div style="display: flex; justify-content: space-between; align-items: center;"> Home Page Filters </div> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <table border="1" style="width: 70%;"> <thead> <tr> <th>ID</th> <th>Adaptation Strategy</th> <th>Lead</th> <th>Action ID</th> <th>Action Description</th> </tr> </thead> <tbody> <tr> <td rowspan="7">AG-1</td> <td rowspan="7">Expand adoption and support implementation of climate-smart farming practices across Delta agricultural lands</td> <td rowspan="7">CDFA</td> <td>AG-01-01</td> <td>Improve and expand irrigation efficiency management practices</td> </tr> <tr> <td>AG-01-02</td> <td>Consult with immigrant farm workers and related groups to identify recommendations for agricultural practices</td> </tr> <tr> <td>AG-01-03</td> <td>Build soil health</td> </tr> <tr> <td>AG-01-04</td> <td>Increase plant diversity</td> </tr> <tr> <td>AG-01-05</td> <td>Implement integrated pest management</td> </tr> <tr> <td>AG-01-06</td> <td>Crop switching</td> </tr> <tr> <td>AG-01-07</td> <td>Consider practicing rotational fallowing to conserve water and diversify economic portfolios</td> </tr> <tr> <td rowspan="2">AG-2</td> <td rowspan="2">Build a sustainable, equitable regional food system</td> <td rowspan="2">CDFA</td> <td>AG-02-01</td> <td>Support and retain labor and workforce development by securing funding for education and training</td> </tr> <tr> <td>AG-02-02</td> <td>Create training, employment, and land access programs and opportunities for the next generation of farmers</td> </tr> </tbody> </table> <div style="width: 25%;"> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;">Lead</div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;">(All)</div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;">Adaptation Accelerator</div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;">(All)</div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;">Hazards Addressed</div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Drought </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Extreme Heat </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Flooding </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Water Quality </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Water Supply </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Wildfire </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> None </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;">Co-benefits</div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Biodiversity </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Community </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Economy </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Flood Management </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Food Security </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Greenhouse Gases </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Health </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Recreation </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Subsidence </div> <div style="background-color: #2e7d32; color: white; padding: 5px; margin-bottom: 5px;"> Water </div> </div> </div>								ID	Adaptation Strategy	Lead	Action ID	Action Description	AG-1	Expand adoption and support implementation of climate-smart farming practices across Delta agricultural lands	CDFA	AG-01-01	Improve and expand irrigation efficiency management practices	AG-01-02	Consult with immigrant farm workers and related groups to identify recommendations for agricultural practices	AG-01-03	Build soil health	AG-01-04	Increase plant diversity	AG-01-05	Implement integrated pest management	AG-01-06	Crop switching	AG-01-07	Consider practicing rotational fallowing to conserve water and diversify economic portfolios	AG-2	Build a sustainable, equitable regional food system	CDFA	AG-02-01	Support and retain labor and workforce development by securing funding for education and training	AG-02-02	Create training, employment, and land access programs and opportunities for the next generation of farmers
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Delta Climate Adaptation Team



Network plot illustrating connections between Delta Adopts participants and other regional and sub-regional initiatives (Pozzi et al. 2025)

Thank you!



Provide input on Delta
Adaptation Work Group



Visit the Council's Delta
Adapts webpage for more
information:
[deltacouncil.ca.gov/delta-
plan/climate-change](https://deltacouncil.ca.gov/delta-plan/climate-change)



Other Resources



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Delta Stewardship Council



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QUESTIONS AND DISCUSSION

Questions for this group

- Would you be interested in participating in the Delta Climate Adaptation Team? And do you know of others we should reach out to?
- What actions mentioned align with or relate to what you're working on? Do you have any insights/recommendations for our work?
- Do you have any thoughts or suggestions for how to better coordinate adaptation planning and implementation between the Delta and SF Bay Area (e.g., areas of overlap, challenges or barriers)?

EXTRA SLIDES