November 2024

Delta Adapts: Draft Adaptation Plan

Delta Stewardship Council

A CALIFORNIA STATE AGENCY

SUMMER 2021

Vulnerability Assessment Findings

Flooding

Extreme Heat

- More flooding
- Climate change will impact Delta residents disproportionately

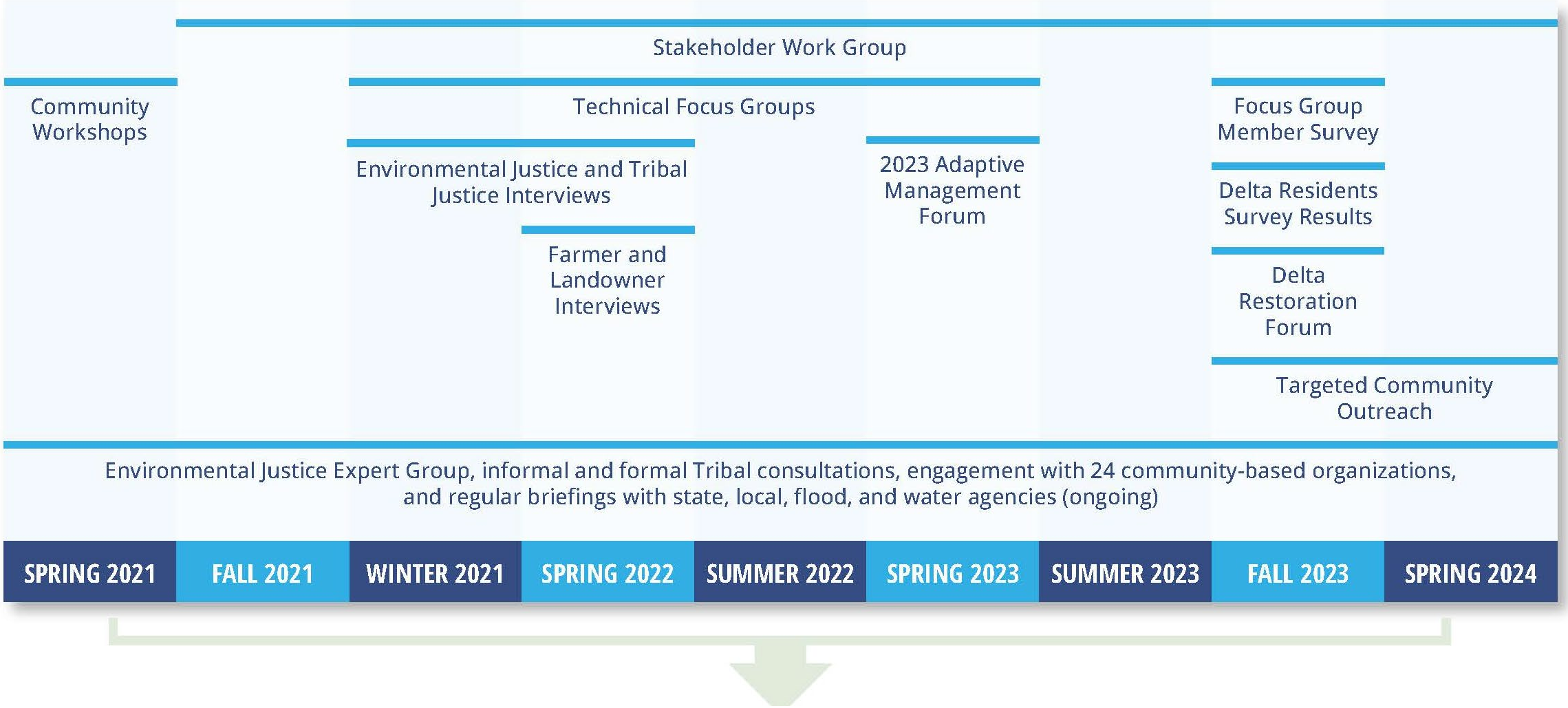
- Less reliable Delta water exports
- Periodic decreases in water quality for in-Delta users

Drought

Wildfire

- Increased loss and stress on ecosystems
- Decreased agricultural yields

Partner Input



FALL 2024

Water Supply Reliability

Ecosystem Restoration

Adaptation Plan

Agriculture

Flooding

- Adaptation strategies
- Responsible entities
- Funding and financing
- Governance best practices

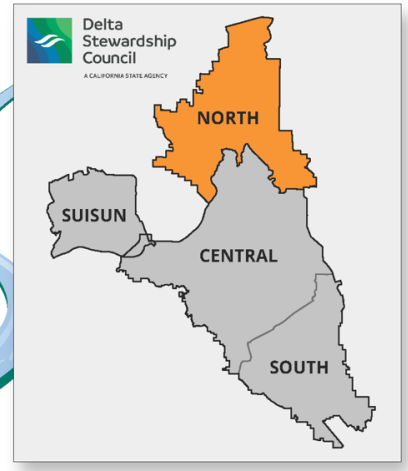
Equity in Adaptation

- Representation in project design and planning
- Investment in areas with high social vulnerability to climate impacts
- Communicate risk in new and effective ways to the most vulnerable communities

North Delta

IMPLEMENTATION ROADMAP

Primarily rural and agricultural, with many legacy communities



WATER SUPPLY

Key Adaptation Consideration

Water quality concerns due to organic carbon and pollutants.

Key Adaptation Strategies

- Develop local water storage and supply (WSR-1)
- Improve or modify water infrastructure [WSR-3]
- Install salinity barriers (WSR-3)
- Modify upstream reservoir operations (WSR-4)
- Review water quality standards (WSR-5)

FLOOD RISK

Key Adaptation Consideration

Lower flood risk than other parts of the Delta, but vulnerabilities still exist.

Key Adaptation Strategies

- Improve and modernize levees (FL-2)
- Habitat restoration as flood buffers (FL-3)
- Improve emergency preparedness (FL-4)
- Promote new farming practices (FL-5)
- Communicate flood risks (FL-6)

AGRICULTURE

Key Adaptation Consideration

Shifts to permanent crops may increase water demand.

Key Adaptation Strategies

- Expand climate-smart agricultural practices (AG-1)
- Enhance local food security (AG-2)
- Diversify income opportunities on working lands (AG-3)
- Explore multi-benefit land uses (AG-4)

ECOSYSTEM

Key Adaptation Consideration

High near-term adaptation potential.

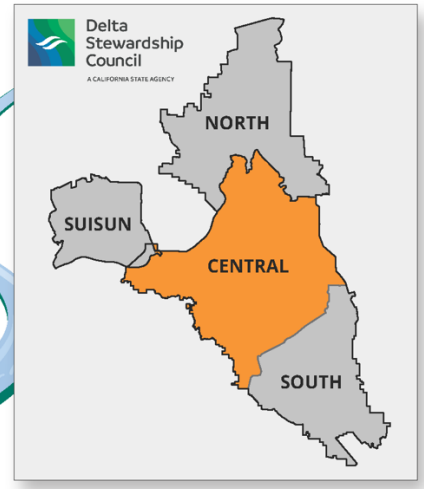
Key Adaptation Strategies

- Improve ecosystem capacity to adapt through restoration (ECO-1)
- Halt or reverse subsidence and reduce levee failure risk (ECO-2)
- Increase capacity for coordination among interested parties (ECO-3)
- Implement nature-based solutions to protect urban areas (ECO-4)

Central Delta

IMPLEMENTATION ROADMAP

Severe subsidence is a core challenge for flood risks, farming, and ecosystems



WATER SUPPLY

Key Adaptation Consideration

Flood management and subsidence reversal practices can benefit water quality.

Key Adaptation Strategies

- Improve or develop new water infrastructure (WSR-3)
- Install salinity barriers (WSR-4)
- Modify upstream reservoir operations (WSR-4)

FLOOD RISK

Key Adaptation Considerations

High flood risk due to deep subsidence. Legacy communities have high social vulnerability.

Key Adaptation Strategies

- Improve and modernize levees (FL-2)
- Habitat restoration as flood buffers (FL-3)
- Halt or reverse subsidence and reduce levee failure risk (ECO-2)
- Improve emergency preparedness (FL-4)
- Communicate flood risks (FL-6)

AGRICULTURE

Key Adaptation Consideration

Subsidence impacts water quality, drainage, and soil quality for farmers, with high pumping costs.

Key Adaptation Strategies

- Soil-carbon sequestration and rice planting to reverse subsidence and increase soil health (AG-1)
- Retire marginal land for subsidence reversal (AG-4)

ECOSYSTEM

Key Adaptation Consideration

Carefully designed ecosystem strategies to benefit water quality and subsidence reversal.

Key Adaptation Strategies

- Restore habitats in the Delta and its watershed (ECO-1)
- Halt or reverse subsidence and reduce levee failure risk (ECO-2)

South Delta

IMPLEMENTATION ROADMAP

Critical to water supply for California

WATER SUPPLY

Key Adaptation Consideration

Flood protection for the State Water Project and Central Valley Project will benefit water supply and quality.

Key Adaptation Strategies

- Dredge or pump clogged, sedimented channels
- Improve or build new water infrastructure (WSR-3)
- Update water quality standards (WSR-5)

FLOOD RISK

Key Adaptation Consideration

High flood risk due to sea level rise and channel sedimentation.

Key Adaptation Strategies

- Improve and modernize levees and emergency preparedness measures (FL-2)
- Nature-based solutions (FL-3)

AGRICULTURE

Key Adaptation Consideration

Salinity management and poor water quality are key challenges.

Key Adaptation Strategies

- Expand climate-smart agricultural practices (AG-1)
- Diversify income opportunities on working lands (AG-3)
- Support wetting for subsidence reversal or wetland conversion on marginal farm lands (AG-4)

ECOSYSTEM

Key Adaptation Consideration

Partnerships are key to restoration due to high share of privately owned lands.

Key Adaptation Strategies

- Partner with Tribes to restore Tribal access (ECO-1, ECO-3)
- Incentivize ecosystem-friendly land management practices (ECO-3)
- Implement nature-based solutions to protect urban areas (ECO-4)

Suisun Marsh

IMPLEMENTATION ROADMAP

Estuarine wetlands support wildlife and recreation

WATER SUPPLY

Key Adaptation Consideration

Saltwater intrusion and drought can increase salinity concentrations, deteriorating water quality.

Key Adaptation Strategies

- Coordinate Suisun Marsh Salinity Control gate operations with communities (WSR-4)
- Modify upstream reservoir operations (WSR-4)
- Update water quality standards (WSR-5)

FLOOD RISK

Key Adaptation Considerations

Sea level rise-related flooding can permanently impact habitats.

Key Adaptation Strategies

- Establish upstream flows to mobilize sediment and support restoration (ECO-1)
- Restore ecosystems, including tidal wetlands (FL-3, ECO-1)
- Improve and modernize levees (FL-2)

AGRICULTURE

Key Adaptation Consideration

Invasive species, levee failures, and tidal wetland expansion are challenges for agriculture and duck clubs.

Key Adaptation Strategies

- Diversify income opportunities on grazing lands and duck clubs to support landowners and achieve ecosystem goals (AG-3)

ECOSYSTEM

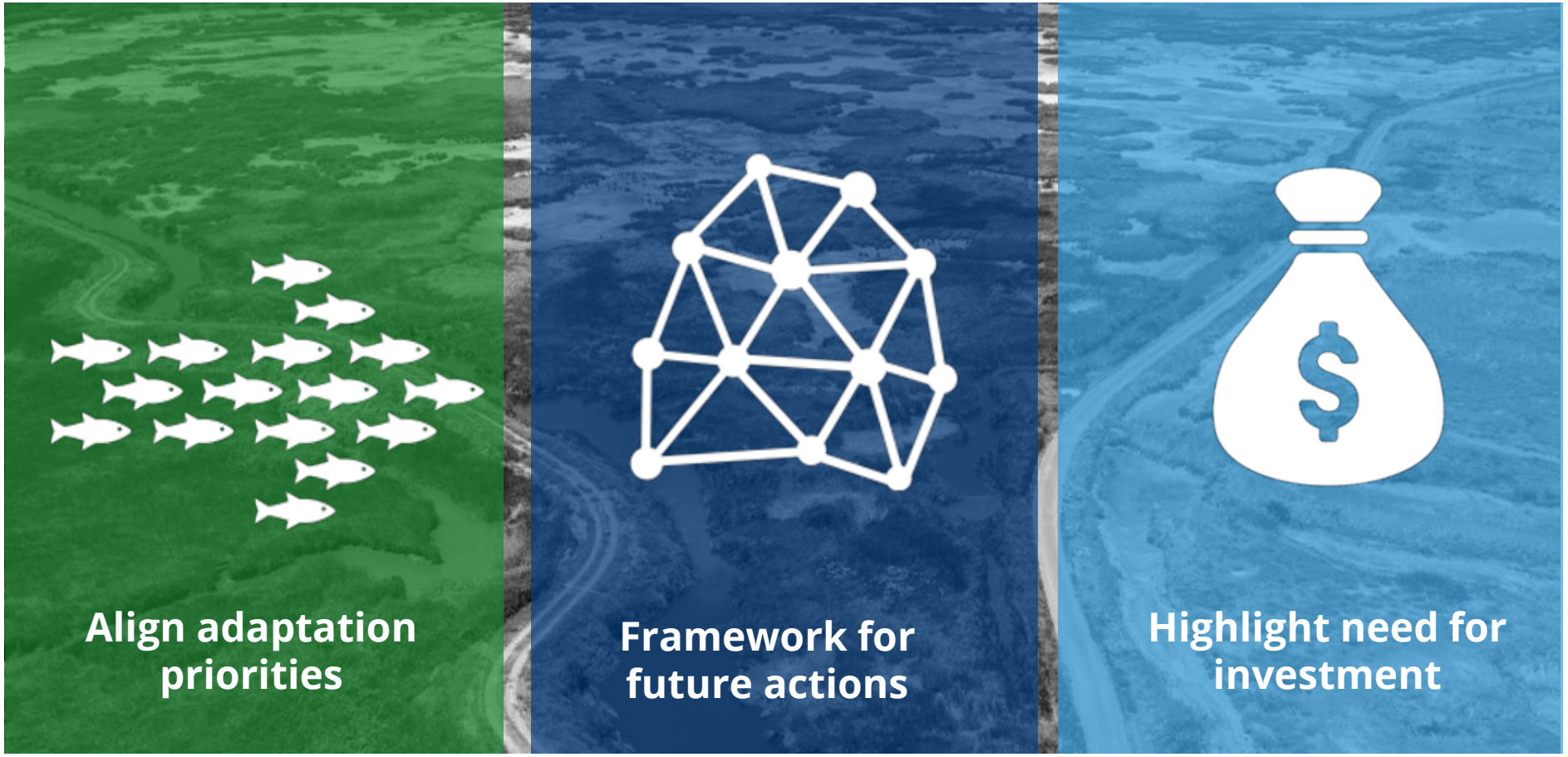
Key Adaptation Consideration

Suisun Marsh supports birds of global importance and other endangered species.

Key Adaptation Strategies

- Enhance wetland management and protect upland transition zone habitats (ECO-1)
- Incorporate climate change into other Suisun Marsh plans and goals (ECO-1)

Adaptation Plan In Action



Next Steps

Public Review Period

Tribal Roundtable and Consultation

Community Outreach

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

60 Day

Public Review Period

Tribal Outreach

Tribal Consultations

Tribal Round Table December 9th

Outreach

Community gatherings and meetings

Thank you

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QUESTIONS AND DISCUSSION