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## EXECUTIVE OFFICER'S REPORT May 27, 2015

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### ~ PROGRAM UPDATE ~

#### *Ecosystem Restoration*

California Eco Restore: On April 30, 2015 the Governor announced new near-term (five-year) targets for ecosystem restoration in the Delta and a decoupling of those targets from the construction of alternate conveyance. The attached fact sheet indicates that the Conservancy will facilitate the development of regional and locally-led restoration plans for the Cache Slough, West Delta, Cosumnes, and South Delta sub regions. This is consistent with the work we have initiated in the West Delta, Cosumnes (Northeast Delta), and South Delta areas. We anticipate an increase in effort for these areas and will begin planning to commence work in the Cache Slough area. The document also identifies the Conservancy as the lead for restoration projects identified in the planning processes. This is consistent with our expectations for Proposition 1 funding with an expected first project solicitation date of August 1, 2015.

Delta Restoration Network (DRN): A subset of the DRN that includes scientists from the San Francisco Estuary Institute, the Delta Science Program, The Nature Conservancy and the Intelligent Ecosystem Institute have produced a draft work plan for the development of a Landscape Vision and Decision Support Framework for the Northeast Delta. This effort is a pilot for the Restoration Hub that will result in a restoration plan for the Northeast Delta and support for final design of the McCormack-Williamson project. The project will be guided by interdisciplinary science experts, stakeholders, and key agency representatives. The vision and decision support framework will offer an adaptive roadmap for management of restoration progress in the region. This project is identified as one of the regional planning efforts in California Eco Restore. A two page overview of the effort is attached.

#### *Water Quality*

Delta Environmental Data for the Understanding of a California Estuary (DEDUCE): The DEDUCE workgroup met on April 22<sup>nd</sup> to continue working to expand the San Francisco Regional Data Center to include Delta water quality data. The workgroup reviewed potential priority water quality datasets for inclusion into the estuary-wide data repository and discussed a timeline for incorporating these datasets. The Conservancy is using a prioritization framework developed by the workgroup to identify the data that addresses management questions and meets minimum data quality standards. The workgroup will reconvene in July to provide input on additional priority datasets. This project is a component of the Delta Watershed Initiative Network (DWIN).

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### *Economic Development*

Delta Awareness Campaign: The Conservancy and Delta Protection Commission (Commission) continue to partner on the development of a 5-year marketing plan. Conservancy and Commission staff have been meeting with Delta stakeholders to identify the focus of the marketing plan and coordinating with the marketing consultant on the creation of a travel and tourism website. The Delta Marketing Task Force met on May 2<sup>nd</sup> to discuss how best to promote the Delta through festivals—existing and potentially new ones. This information will be used by the marketing consultant to develop the marketing plan.

### *Education and Outreach*

Environmental Education in the Classroom: Conservancy staff visited Clarksburg Middle School and Rio Vista High School and taught approximately 100 students about watershed science and stewardship. During the visits, students learned how to use water monitoring kits to take measurements of water quality. Students applied this knowledge on a field trip, took measurements of water quality, and made observations about wetlands and wildlife. These environmental education activities were funded by a \$5,000 grant from the Teichert Foundation which was awarded in May 2014. The Conservancy received positive feedback about these events from Delta teachers and families. This project is a component of the Delta Watershed Initiative Network (DWIN).

Waterway Cleanup: In celebration of Creek Week, the Conservancy hosted two cleanup sites on April 18<sup>th</sup>, one in Sherman Island and another at Lower Morrison Creek and conducted education and outreach to promote stewardship of water quality. The Conservancy partnered with the Sacramento Area Creeks Council, Rio Vista Windsurfing Association and Sherman Island Kiteboarding Organization, Sacramento Regional County Sanitation District, Sacramento County Regional Parks, and Bridgestone Tires to host this event. More than 60 volunteers attended and two tons of trash were collected. A tire recycling event was held on Sherman Island for illegally dumped tires; 25 tires were recycled. Volunteers at the Lower Morrison Creek Site were provided with training on how to take water quality measurements as citizen scientists and reported their results to the Conservancy. This project is a component of the Delta Watershed Initiative Network (DWIN).

Delta Mercury Exposure Reduction Program (MERP): The Delta MERP small grants program administered by the California Department of Public Health awarded three community based organizations \$15,000 each. This funding will support community based organizations to incorporate educational messages regarding mercury exposure from contaminated fish. These projects will develop educational materials and conduct outreach to clinics, schools, and non-English speaking communities who eat fish caught in the Delta as a main part of their diet. Delta MERP partners will be working closely with these organizations to support the successful implementation of these projects.

Environmental Education for Public Outreach: The Conservancy, in coordination with the Water Education Foundation, will conduct three Delta specific workshops, develop white papers, produce a television documentary for public television on the Delta perspective, and conduct education and outreach efforts in support of Delta WIN, a Restoration Hub pilot project, and Delta Dialogues. The Conservancy will receive approximately \$1.8 million from Bureau of Reclamation to complete these projects over a five-year period. This is a continuation of the successful grant-funded projects completed between 2012 and 2015 which included several Delta workshops and flood preparedness brochure.

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Community Trainings: The Conservancy coordinated the last of three workshops in cooperation with the Sacramento Nonprofit Resource Center. Approximately fifteen Delta residents participated in the workshop in Rio Vista. The workshop focused on how to get your organization ready to apply for a grant and the basics of grant proposals.

### **Coordination and Collaboration**

Invasive Species Coordination (ISC): The ISC work group met for its quarterly meeting on May 7<sup>th</sup>. The workgroup reviewed suggested research topics and discussed prioritization criteria to develop a list of priorities for potential funding opportunities. The workgroup also discussed opportunities to assist the Department of Parks, Division of Boating and Waterways' efforts on the Delta Area-Wide Aquatic Weeds Control Project. The next ISC meeting is scheduled for August 2015.

Land Management Work Group: The Delta Land Management Work Group has been meeting monthly to develop a vision for the western Delta that addresses flood, ecosystem, and agricultural needs. Conservancy staff is currently drafting a vision document that identifies constraints and opportunities for each of the western Delta islands. This project is identified as one of the regional planning efforts in California Eco Restore.

Delta Dialogues: A sub-group of Delta Dialogues has been meeting regularly to develop a vision for the south Delta that addresses flood, ecosystem, and other priorities. A white paper is currently being developed by sub-group participants, which outlines the vision and opportunities for collaboration. Participants have also met with San Joaquin County officials and plan to meet with other stakeholders in the south Delta. This project is identified as one of the regional planning efforts in California Eco Restore.

### **March 25, 2015 - BOARD MEETING DIRECTIVES AND RESPONSES**

#### **BOARD DIRECTIVES TO STAFF**

1. Staff will provide more detailed meeting summaries.

*Staff Response: A more detailed meeting summary was prepared for the March 25<sup>th</sup> Board meeting. Staff will continue to prepare more detailed summaries in the future.*

2. Staff will post the Proposition 1 Grant Guidelines and Grant Application Packet to the Resources Agency and Conservancy's websites and schedule three public meetings for May 2015 to solicit public comments on the draft Proposition 1 grant documents.

*Staff Response: Staff posted the Proposition 1 Grant Guidelines and Grant Application Packet to the Conservancy's web site. Three public meetings were scheduled and held on May 12<sup>th</sup>, May 13<sup>th</sup>, and May 14<sup>th</sup> to solicit public comments on the Proposition 1 grant documents*

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3. Staff will bring the Grant Guidelines and Grant Application Packet, a summary of public comments, and any outstanding issues to the May 18<sup>th</sup> PPS meeting.

*Staff Response: Staff presented a summary of public comments made on the Grant Guidelines and Grant Application Packet, and any outstanding issues during the May 18<sup>th</sup> PPS meeting.*

#### **DELTA CONSERVANCY BUDGET UPDATE**

Agenda Item 6.3: Delta Conservancy FY 2014-15 Budget Plan and Update

#### **OUTREACH-DELTA MEETING MATRIX**

Agenda Item 6.4: Outreach-Delta Meeting Matrix including most recent events and key dates of future meetings




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# RESTORING THE SACRAMENTO-SAN JOAQUIN DELTA ECOSYSTEM

California EcoRestore (EcoRestore) will accelerate and implement a comprehensive suite of habitat restoration actions to support the long-term health of the Sacramento-San Joaquin Delta's (Delta) native fish and wildlife species.



 <p>Implement multiple fish passage improvement projects in the Yolo Bypass and other key locations</p>	 <p>Coordinate with existing local Habitat Conservation Plans and Natural Community Conservation Plans (HCP/NCCP)</p>	 <p>Through the Delta Stewardship Council's Delta Science Plan, leverage collaborative Delta science efforts such as the Interagency Ecological Program and Interim Science Action Agenda, and undertake investigations that support adaptive management and long-term understanding of Delta systems.</p>
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Over the next 5 years, California will pursue more than 30,000 acres of critical Delta restoration under the EcoRestore program, and pursuant to pre-existing regulatory requirements and various enhancements to improve the overall health of the Delta. **Proposition 1 funds and other state public dollars will be directed exclusively for public benefits unassociated with any regulatory compliance responsibilities.**

Additional priority restoration projects will be identified through regional and locally-led planning processes facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process for integrated planning in the Yolo Bypass is underway. The Delta Conservancy will lead the implementation of identified restoration projects, in collaboration with local governments and with a priority on using public lands in the Delta.

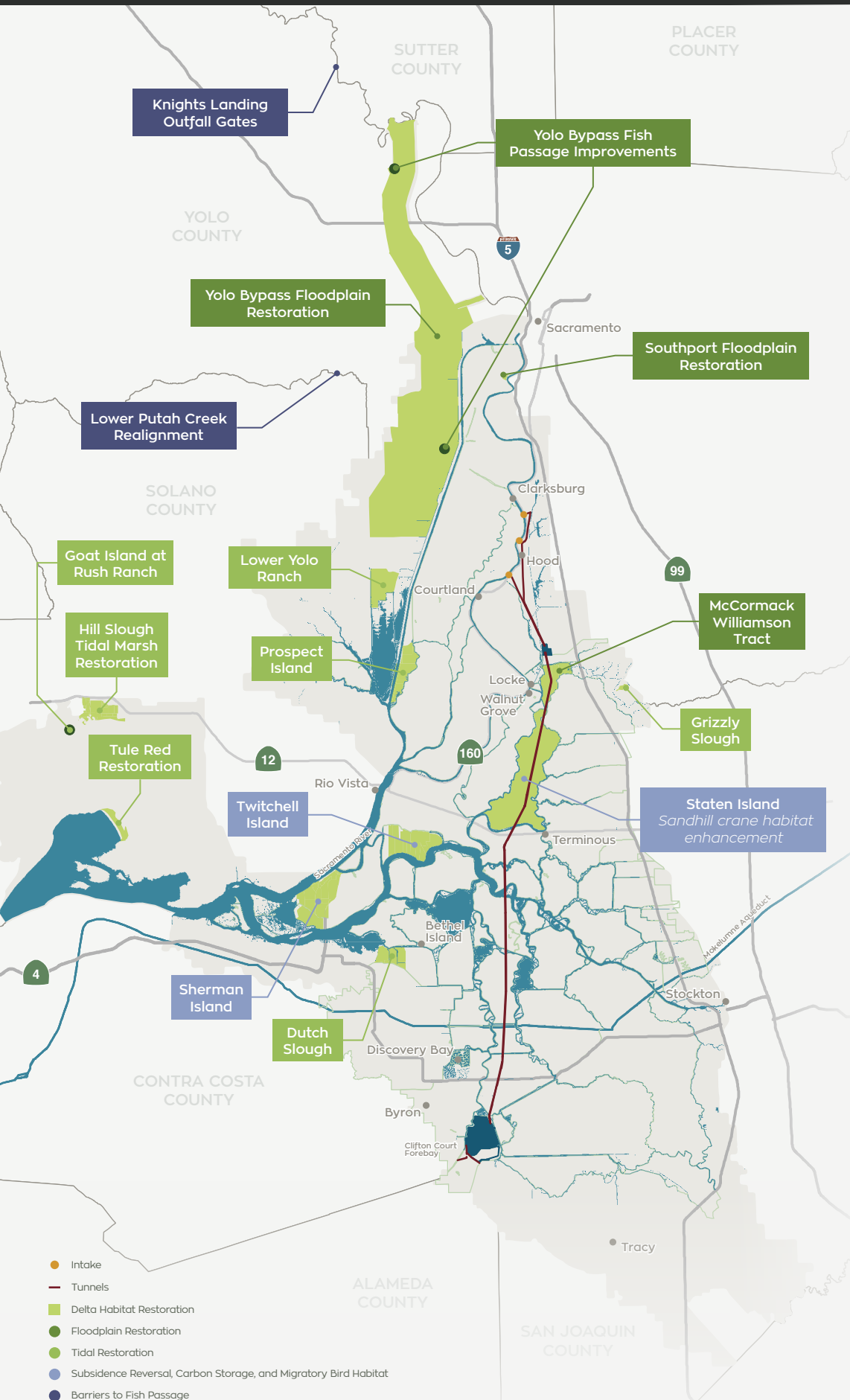
## ADDITIONAL ACTIONS:

- Engagement of the Delta's local governments to determine community supported restoration practices
- Solicit and receive support from federal agencies and other partners
- Support and engage in inter-agency and stakeholder joint venture efforts aimed to recover Central Valley salmon and steelhead populations
- Coordinate with non-governmental organizations, academia, and other stakeholders throughout California to address various stressors in the Delta, such as invasive species and methylmercury

## FUNDING FOR RESTORATION PROJECTS WILL BE PROVIDED THROUGH MULTIPLE SOURCES

- Floodplain and tidal/sub-tidal habit restoration required by existing regulatory frameworks will be funded by state and federal water contractors
- Wetlands restored for subsidence reversal and carbon management will be supported by the AB 32 Greenhouse Gas Reduction Fund and other sources
- Various aquatic, riparian, and upland restoration and multi-benefit flood management projects will be supported by Proposition 1 & 1E
- Additional projects will be supported by various local and federal partners





**PRIORITY RESTORATION OBJECTIVES  
BREAKING GROUND BETWEEN  
2015 AND 2018**



For more information please visit: [http://resources.ca.gov/california\\_water\\_action\\_plan](http://resources.ca.gov/california_water_action_plan)

# A STATE-OF-THE-ART SOLUTION

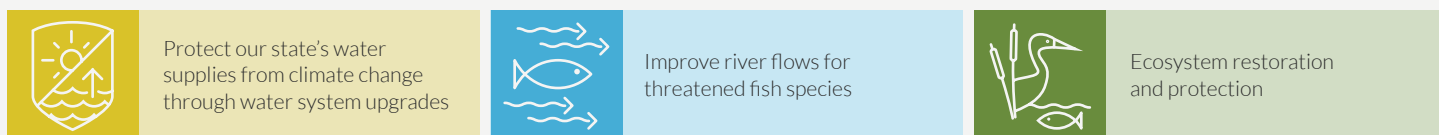
## SCIENCE, TECHNOLOGY, AND INNOVATION

This prudent, realistic, science-driven, and achievable approach will fix California's aging water delivery system and protect our economy and public safety. This approach responds to an unprecedented level of public review and comment.

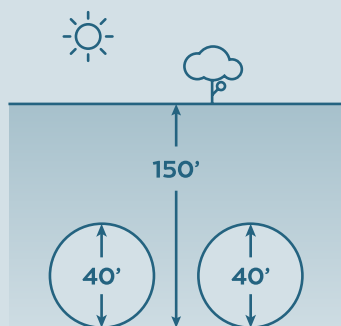
The project covers five main areas:



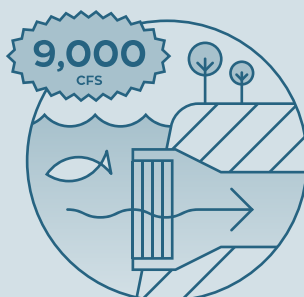
Upgrading our water delivery system would improve the natural direction of river flows, help native fish species migrate to and from the ocean, guard against water supply disruptions, and ensure that local water projects like recycling and groundwater recharge work better.



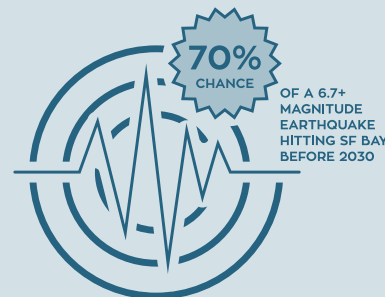
## WATER DELIVERY UPGRADE



2 tunnels up to 150' below ground designed to protect California's water supplies



3 new intakes, each with 3,000 cubic-feet per second (cfs) capacity. Average annual yield of 4.9 million acre-feet.

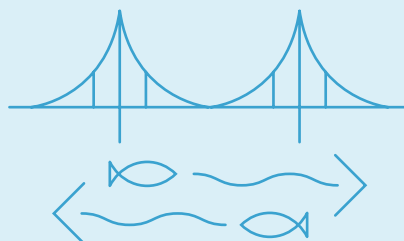


Protection against water supply disruption from failure of aging levees due to sea-level rise, earthquakes and flood events

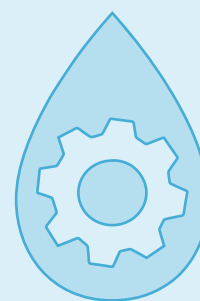
## IMPROVED RIVER FLOWS



Reinstate a more natural direction of river flows in the South Delta by 46-160 percent



New criteria to protect spring outflow to San Francisco Bay



Criteria to protect Sacramento River flows and fish



## NEW ENVIRONMENTAL MITIGATION

California WaterFix will include ~2,100\* acres of habitat restoration to mitigate for the construction and operation of the new water facilities. These costs will be paid for exclusively by water agencies benefiting from the project. Over the next 5 years, California will pursue more than 30,000 acres of critical Delta restoration under the California EcoRestore program, and pursuant to pre-existing regulatory requirements and various enhancements to improve the overall health of the Delta. **Proposition 1 funds and other state public dollars will be directed exclusively for public benefits unassociated with any regulatory compliance responsibilities.**



Improve habitat conditions along five miles of important juvenile salmon migration routes



Restore tidal and non-tidal wetland habitat to sustain habitat functions for native wildlife, such as the giant garter snake and salmon



Restore native riparian forest and scrub to support habitat for riverside species and improve linkages for terrestrial and other native species



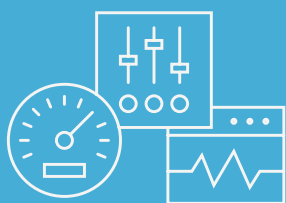
Improve connectivity among existing patches of grassland and other natural habitats



For more details on the full scope of environmental enhancements and government agency responsibilities, please visit:  
[http://resources.ca.gov/california\\_water\\_action\\_plan](http://resources.ca.gov/california_water_action_plan)



The cost to fix California's primary water delivery system is estimated at \$14.9 billion – or about \$5 a month for urban water users – and will be paid for by public water agencies that rely on the supplies.



An Adaptive Management and Monitoring Program will guide real-time operations of the system.



Our communities — farms, businesses, homes — and economy depend upon reliable, affordable, high-quality water supplies.



The time to act is now. Californians cannot afford a broken and unreliable water delivery system.

For more information please visit [californiawaterfix.com](http://californiawaterfix.com).



# PROTECTING WATER SUPPLIES

Water flows from the Sierra Nevada mountains through the Sacramento-San Joaquin Delta (Delta), a critical link in California's water supply network. **The existing system is outdated, inefficient and in need of repair.**

Hundreds of miles of dirt and rock levees are all that protect our state's water supplies from saltwater intrusion and disruption. Without fixes to our water supply infrastructure, the Delta and the state's economy face threats:

①

## CLIMATE CHANGE



- **Sea levels continue to rise**, putting pressure on aging levees, some protecting islands more than 20 feet below sea level.
- With warmer average temperatures expected, more intense storms and floods are likely, **increasing pressure on dirt levees.**

②

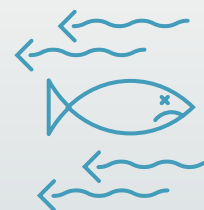
## SEISMIC RISK



- Five active fault lines and many more inactive **fault lines pose a threat to our existing water delivery system.**
- A major earthquake or storm could cause flooding on as many as 20 islands at once and **jeopardize statewide water supplies.**

③

## ENVIRONMENTAL DECLINE



- **Existing operations cause reverse river flows**, trap and kill migrating salmon, and have contributed to a severe decline in delta smelt.

## THE PROPOSED FACILITY IS THE RIGHT SIZE

### A SMALLER PROJECT COSTS MORE AND WASTES WATER IN WET YEARS

The charts on the right depict the effectiveness of a 9,000 cubic feet per second (cfs) facility, which captures maximum water supplies when all environmental flow improvements are met.

A 9,000 (cfs) facility is **40 percent smaller** than the existing system and provides the **greatest complement to local water supply projects** by allowing the safe capture of water in wet and above-normal years so that it can be stored and used in dry years.

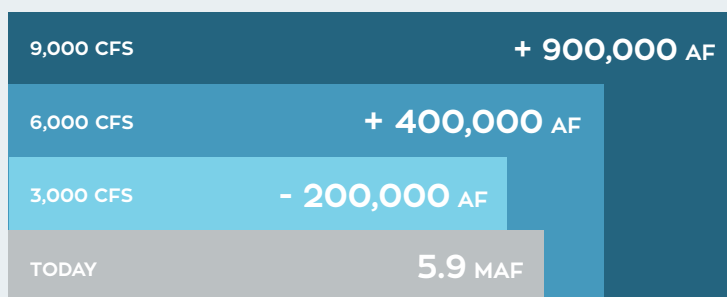
A smaller facility would provide much less water. The proposed 9,000 cfs facility is the best option for:

- Reducing reverse flows and minimizing the trapping of migrating fish
- Enhancing the ability to store surplus outflows and reduce diversions during critical fish migration periods
- Improving drinking water quality to meet public health standards
- Expanding groundwater recharge and recycling at the local level
- Protecting against water outages due to climate change, flooding, and earthquakes

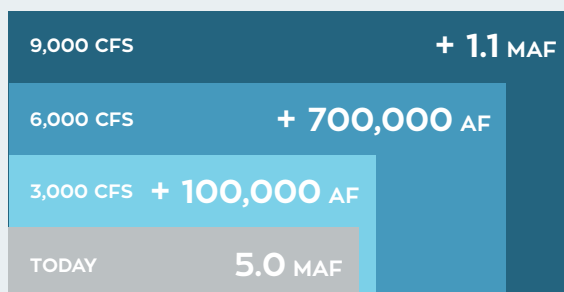
The cost of building the tunnels as a result of an emergency outage would range anywhere from \$3.6 - \$18.2 billion more than it would cost to build them now.

### A 9,000 CFS FACILITY WOULD PROVIDE AN AVERAGE ANNUAL YIELD OF 4.9 MILLION ACRE-FEET

#### WET YEAR



#### ABOVE-NORMAL YEAR

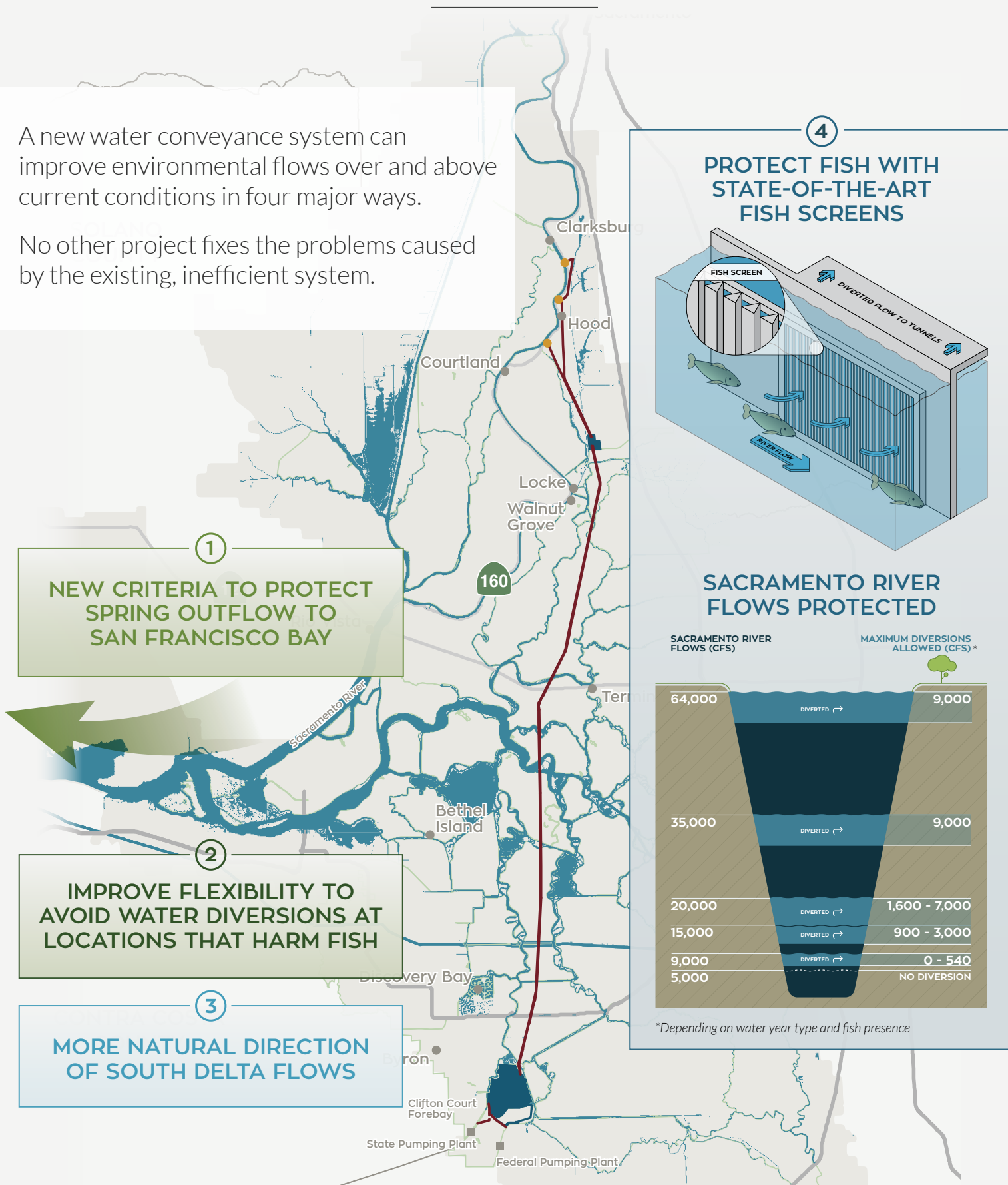


*The yields depicted account for climate change, which is expected to cause more intense storms and flood events.*

# PROTECTING FISH

A new water conveyance system can improve environmental flows over and above current conditions in four major ways.

No other project fixes the problems caused by the existing, inefficient system.



# REFINED TUNNEL OPTION AND INTAKE DESIGN

## MAPPING A BETTER ROUTE FORWARD

In 2013, significant changes to the proposed water facilities and operations reduced the overall project footprint by one-half of its original size to minimize community impacts. In 2014, the water facilities were further refined to address engineering improvements and feedback received during the public comment period. Since then, additional changes have been made to the proposed facilities. Changes to the project:



Reduce construction impacts on Delta communities and the environment



Reduce power requirements



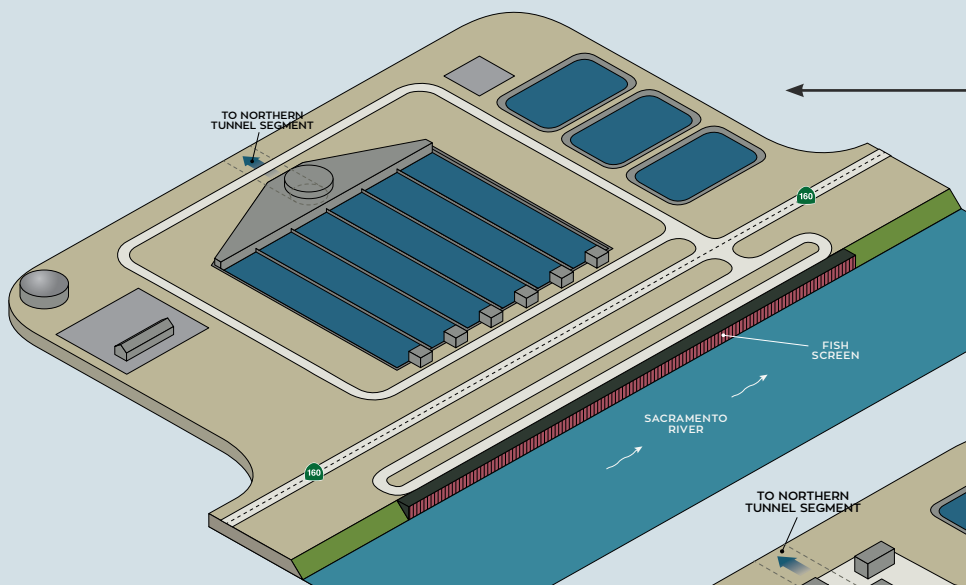
Increase use of state-owned property



Allow for gravity flow at certain river conditions

These changes, along with others, will be available for formal review and comment in the Partially Recirculated Draft Environmental Impact Report (EIR)/Supplemental Environmental Impact Statement (EIS) expected for release in June 2015.

## ENGINEERING CHANGES TO INTAKE FACILITIES

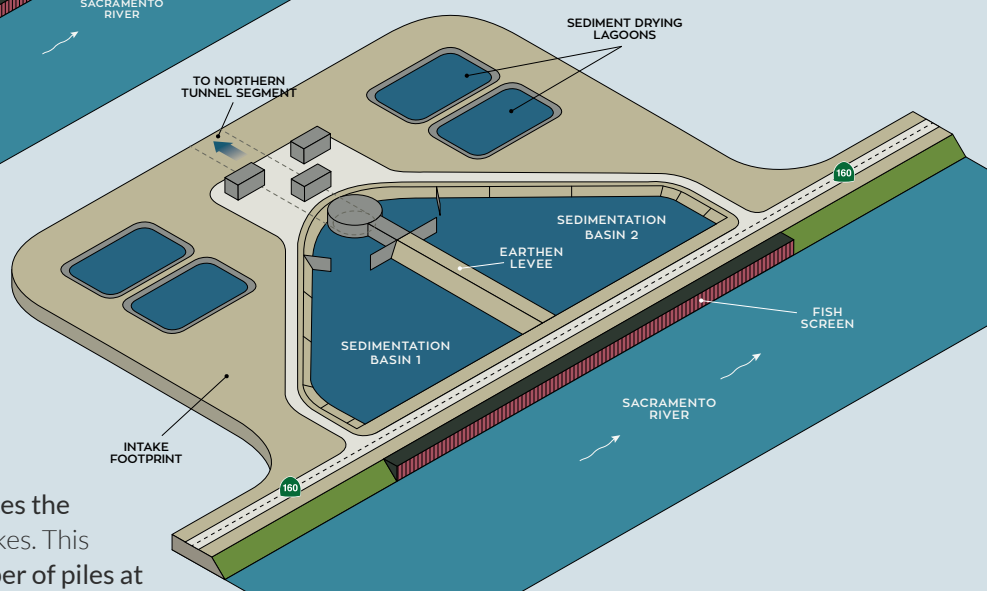


### 2014 PROPOSED DESIGN

In 2014, the three intakes were modified to **eliminate pumping plants and permanent power lines** from each intake site, which **reduced overall power needs**.

### 2015 PROPOSED DESIGN

The three intakes have been further refined to convert previously-proposed concrete sedimentation basins into two earthen bays. This change **eliminates the need to drive hundreds of piles (concrete pillars) into the ground, reduces equipment noise and truck trips, and significantly reduces the volume of concrete** needed to build the intakes. This modification is expected to **reduce the number of piles at each intake site by about 75 percent**.



# PROPOSED PROJECT CHANGES

## Reducing environmental impacts and improving operations



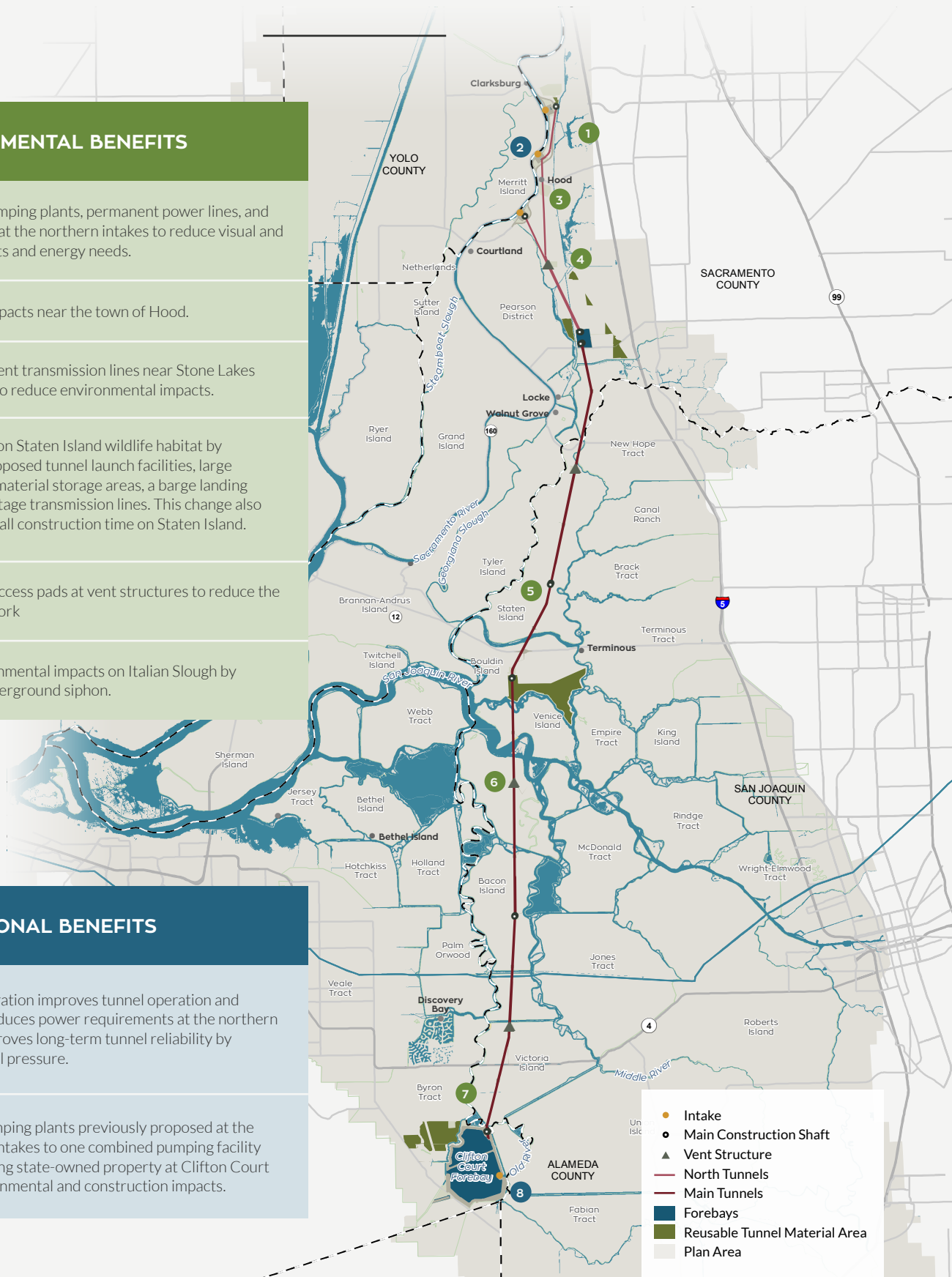
### ENVIRONMENTAL BENEFITS

- 1 Eliminate the pumping plants, permanent power lines, and sediment basins at the northern intakes to reduce visual and air quality impacts and energy needs.
- 3 Reduce visual impacts near the town of Hood.
- 4 Remove permanent transmission lines near Stone Lakes Wildlife Refuge to reduce environmental impacts.
- 5 Reduce impacts on Staten Island wildlife habitat by removing the proposed tunnel launch facilities, large reusable tunnel material storage areas, a barge landing site, and high voltage transmission lines. This change also reduces the overall construction time on Staten Island.
- 6 Eliminate large access pads at vent structures to reduce the need for earth work
- 7 Eliminate environmental impacts on Italian Slough by removing an underground siphon.



### OPERATIONAL BENEFITS

- 2 Gravity-fed operation improves tunnel operation and maintenance, reduces power requirements at the northern intakes, and improves long-term tunnel reliability by reducing internal pressure.
- 8 Consolidate pumping plants previously proposed at the three northern intakes to one combined pumping facility located on existing state-owned property at Clifton Court Forebay to reduce environmental and construction impacts.



## *Northeast Delta Landscape Vision and Strategy*

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The Delta Conservancy (DC), the Delta Science Program (DSP), The Nature Conservancy (TNC), the San Francisco Estuary Institute-Aquatic Science Center (SFEI-ASC), and the Intelligent Ecosystem Institute (IEI) propose to develop a *Northeast Delta Landscape Vision and Strategy* (Strategy). The region includes the Cosumnes-Mokelumne Confluence, Lower Cosumnes River, Stone Lakes, and near floodplain corridors. The project responds to the Governor's "Eco Restore" initiative that calls for 30,000 acres of critical Delta restoration. It also responds to the Delta Stewardship Council's call for *landscape-scale conceptual models* for each of the six priority restoration areas in the Delta Plan. It leverages recent advances by SFEI-ASC and TNC for visioning landscape ecological potential and functional metrics of success. The project will be guided by interdisciplinary science experts, stakeholder experts, and key agency representatives. The vision and decision support Strategy will offer an adaptive roadmap for management of restoration progress in the region. The Strategy will be applied as a pilot project for developing a refined design and science plan for the McCormack-Williamson project. The McCormack Williamson Project is an example of how restoration projects at the property or "project" scale can be completed while visioning possibilities for more effective landscape scale connections in the future.

The North Delta Landscape Vision and Strategy aims to make the best available science actionable by implementing advanced analytical tools, scientific knowledge base, and interdisciplinary expert collaboration for the task of reconnecting land and water for native species recovery and ecosystem resilience. In parallel, the Strategy will help scientists, stakeholders, and agencies envision how ecosystem restoration can be integrated with flood protection, agricultural economy, and heritage values of the Delta as an evolving place. The Strategy is intended to be operational *now* for in-progress restoration projects by applying the best available analytical tools and expert insight. In parallel, the Strategy will continuously improve the application of best available science by investing in integrated modeling, data analytics, and decision support tools. All together, the Strategy has three interrelated components (Figure 1):

1. ***Build Data, Analysis, and Decision Support Tools.*** First, the Strategy will integrate diverse data from physical and ecological processes to economics and demographics within an advanced data analytics and visualization platform. A formal decision support system that integrates ecosystem responses, land use complexities, and stakeholder preferences will also be developed. The goal is to produce modeling, data and decision support tools that can be exercised in real-time by stakeholders and systems expert alike as alternative futures are deliberated and shared.
2. ***Develop a Vision of Regional Ecological Potential.*** Second, using the data and modeling tools, stakeholder, scientist, and agency experts will assess the ecological potential of the northeast Delta region by analyzing ecological and physical trajectories and defining *operational landscape units* (OLUs). OLU's are conceptual landscape extents and connections that support native species resilience. The process will identify key metrics of ecosystem functions relevant to native species.
3. ***Develop Multi-Benefit Alternatives and Facilitate Decisions.*** Third, the Decision Support tools will focus a broad vision of alternative futures for the northeast Delta including strategies for integrating ecosystem restoration with flood protection, water quality, recreation, and Delta agricultural economy. We envision a facilitated and iterative collaboration among stakeholders, expert



## Northeast Delta Landscape Vision and Strategy

scientists and agency participants. The modeling and data analytics tools will support the collaborative decision process both between meetings and in real-time. The goal will be to produce alternative future scenarios that meet the coequal goals while clarifying costs, benefits, tradeoffs, and uncertainties. A facilitated decision support process among decision makers would negotiate workable scenario improvements. To be successful, the decision support process must be viewed as neutral, credible, and relevant to the needs of all participants. It must be a place where participants can express preferences and understand tradeoffs and uncertainties among alternative futures.

A core team from SFEI-ASC, the DC and the DSP will initiate the project by using existing landscape metrics, data analytics, and visualization platforms including EcoAtlas and Palantir. Landscape visions and the decision support framework will be developed and applied with regular input by a working panel of science experts, key agency representatives, and stakeholders including local agency and land owner representatives. Key products of this three-step Strategy will include maps and conceptual models of OLU and landscape visions/scenarios, ecological metric outputs, and key strategies for implementation of the landscape-scale approach.

**Support for the McCormack Williamson Project.** As a pilot for the Northeast Delta Landscape Vision and Strategy, the project will assist the development of a refined restoration design and science and monitoring plan for TNCs McCormack-Williamson restoration project. Science experts and stakeholders will utilize the modeling and data analytics tools to define and apply OLUs to meet target ecological functions. The McCormack Williamson Project is an example of how restoration projects at the property or “project” scale can be completed while leaving open the possibility for landscape scale connections in the future.

The Northeast Delta Landscape Vision and Strategy is adaptive management in action. From these collective efforts will emerge the beginnings of a landscape-scale conceptual model, as mandated in the Delta Plan and a process for achieving landscape-scale restoration that can be repeated throughout the Delta.

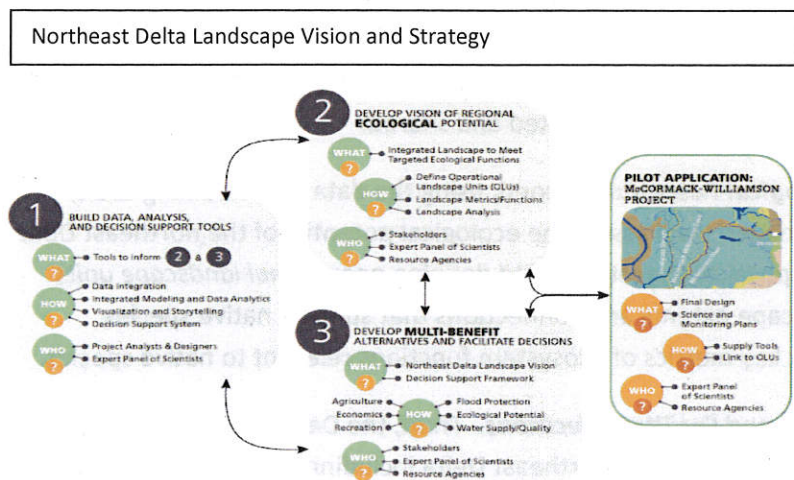


Figure 1