


# Water Action Plan

1. Make conservation a California way of life;
  2. Increase regional self-reliance and integrated water management across all levels of government;
  3. Achieve the co-equal goals for the Delta;
  4. Protect and restore important ecosystems;
  5. Manage and prepare for dry periods;
  6. Expand water storage capacity and improve groundwater management;
  7. Provide safe water for all communities;
  8. Increase flood protection;
  9. Increase operational and regulatory efficiency;
  10. Identify sustainable and integrated financing opportunities.
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# Boil repair to Mandeville Island – June 2013



**Probable Cause:  
an abandoned  
historic box culvert  
located within the  
levee prism**











Placement of Imported Fill

Location of Boil

Location of Sheet Pile Wall

All locations are approximate based on visual inspection during 6/11/2013 site visit.

Source: Esri, DigitalGlobe, GeoEye, iSat, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, swisstopo, and the GIS User Community







# Other Subventions Work























# Delta Levees Program

## Subventions

## Special Projects

Multi-benefit PSP, addressing **co-equal goals**

**West Delta** (Subsidence Reversal and Carbon Sequestration Waterfowl Wetlands)

## Delta Knowledge Improvement Program

100-yr Hydrology Update (USACE), Peat (UCLA), InSAR (NASA), LiDAR

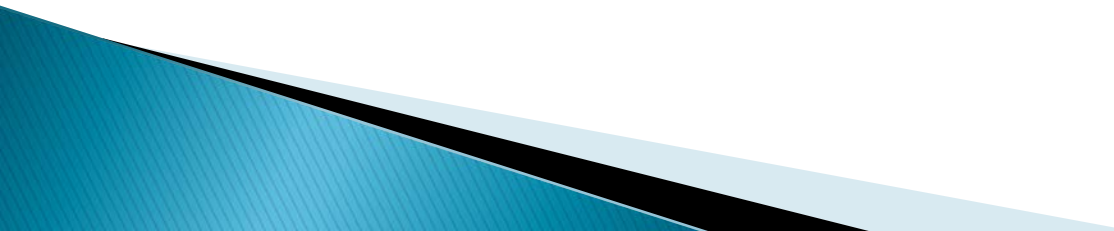
Delta Islands and Levees Feasibility Study (USACE)

**Delta Enhancement:** Dutch Slough SEIR and NOD filed (tidal restoration), McCormack Williamson Tract (decreases flood stage and provides floodplain restoration), Yolano RD





# Delta Levees Program, cont.

- ✓ Emergency Response Training (Twitchell Island)
  - ✓ Carbon Protocols with UC and ARB
  - ✓ Inter-Agency Agreement with DSC for Levee Prioritization
  - ✓ Inter-Agency Agreement with DPC for Delta-wide Levee Assessment District
  - ✓ Inter-Agency Agreement with DC for Habitat Enhancement
  - ✓ Advance Bulk Acquisition of Mitigation Credits
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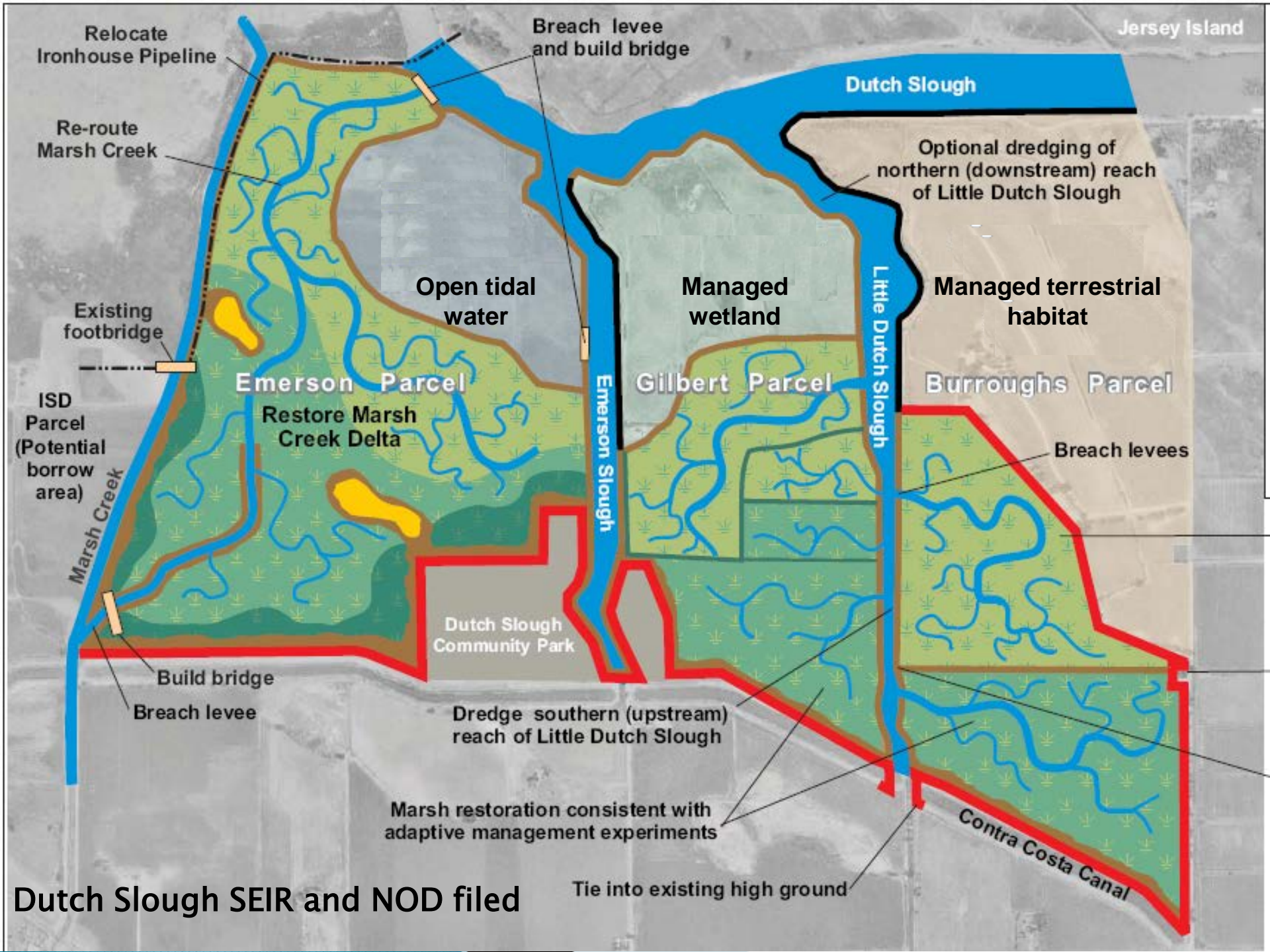


# Delta Levees

## Estimating Future Mitigation Needs through FY 2015-16

<i>Total Estimated Project Costs from FY 2012 - 2016 = \$560 million (Special Projects and Subventions)</i>	<i>Multiplier</i>	<i>Estimated Mitigation Need through FY 2015 - 2016 (Multiplier/ Total Estimated Project Costs from FY 2012 - 2016)</i>	<i>Credits Purchased through the Bulk Credit Program</i>	<i>Remaining Estimated Mitigation Credit Need</i>	<i>Outstanding Mitigation (from CDFW) as of July 2013</i>
<i>Riparian Forest (Acre)</i>	0.46	258	50	208	28.66
<i>Scrub Shrub (Acre)</i>	0.116	65	38	27	31.63
<i>Shaded Riverine Aquatic (linear feet)</i>	8.52	4780	4000	780	3665
<i>Freshwater Marsh (Acre)</i>	0	0	2.5	0	0

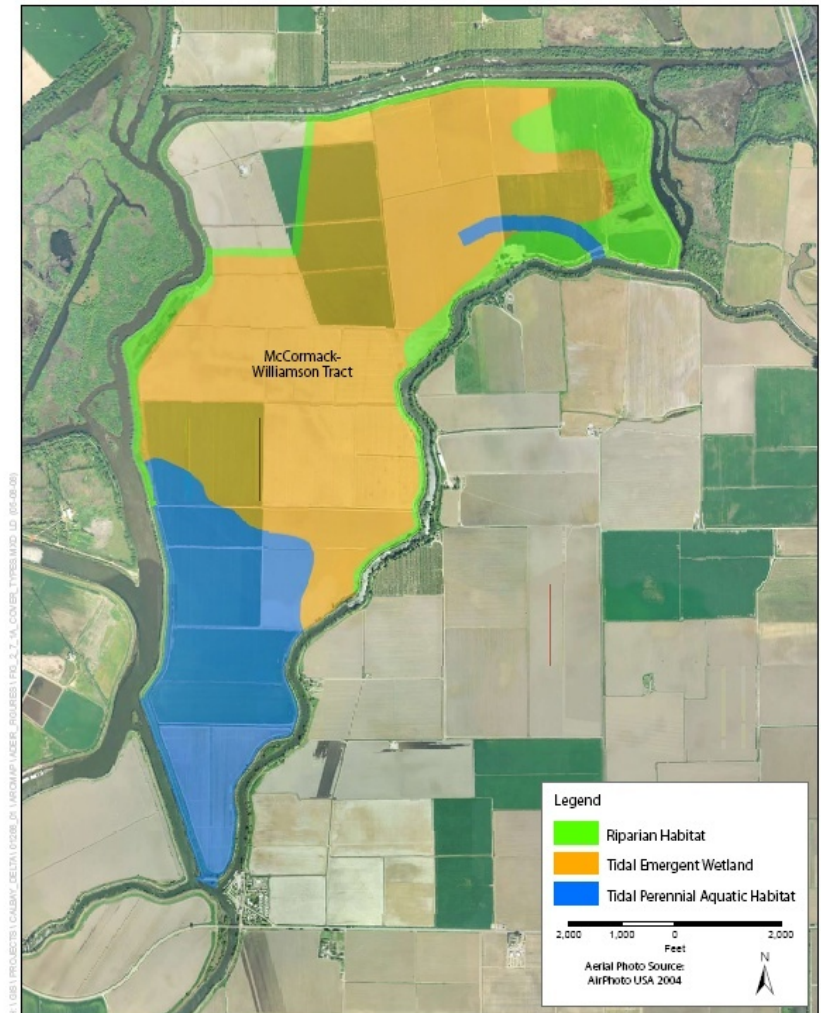






# McCormack–Williamson Tract

- ✓ Reduce chance of uncontrolled flooding
- ✓ Reduce consequences of flooding
- ✓ Sustain economic growth
- ✓ Protect and enhance ecosystems
- ✓ Promote sustainability



Jones & Stokes

**Figure 2-7**  
Anticipated Cover Types from Fluvial Process Optimization  
(Alternative 1-A)

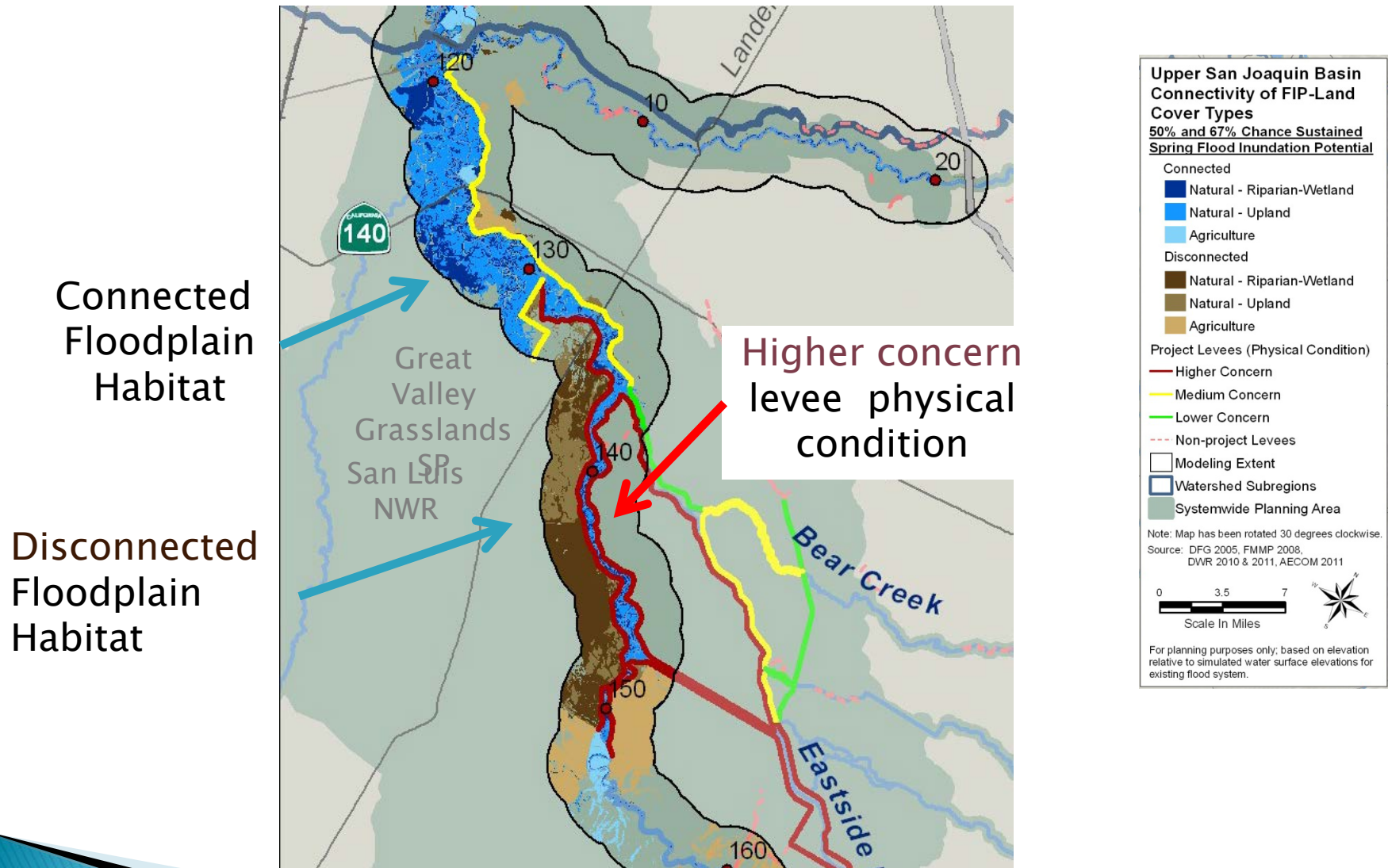


# Conservation Strategy

- **Integrated, multi-benefit flood management**
- **Tools and data for Regional and State-wide Planning**
  - ✓ **Connections to other conservation plans and actions**
- **More efficient and effective flood project delivery**
  - ✓ **Regional permitting strategies (Feather)**
  - ✓ **Advance mitigation projects and banking**

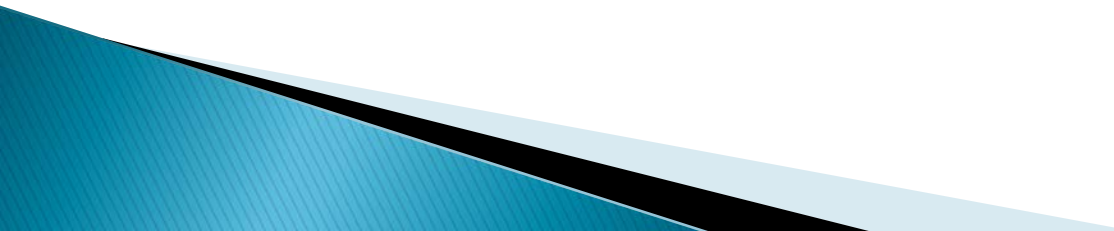


# Floodplain Inundation Restoration Potential





# Advance Mitigation Provides

- ▶ Efficient project delivery
  - ▶ Cost effective, meaningful mitigation
  - ▶ Protection of landscape scale ecosystems and ecosystem functions
  - ▶ Investments in regional conservation priorities
  - ▶ Decreased O&M costs
  - ▶ No temporal loss for species and habitats
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# Hidden Valley Acquisition

- ✓ Expanded floodplain at the confluence of the San Joaquin and Tuolumne River, providing native fish habitat
- ✓ Transitory Storage
- ✓ Reduced flood pulse for downstream areas
- ✓ Improved habitat for T&E species
- ✓ Ground water recharge
- ✓ Riverside recreation
- ✓ Filtration of runoff, water quality





# Conservation Strategy

## Advance Mitigation for the SPFC:

### For the San Joaquin Basin

Grasslands for GGS (some credits for Delta Levees, too)

Hidden Valley for Riparian Forest And Transitory Storage

### For the Sacramento Basin

Bullock Bend for salmonids and possibly Swainson's hawk  
(Publicly Noticed)

TRILA Setback for Riparian forest, salmonids, yellow-billed  
cuckoo, and VELB





# Conservation Strategy, cont., and other Fish Passage Efforts

Fish Passage within the SPFC, prioritized

Fish Passage at large dams (Shasta with USBOR)

Fish Passage on tributaries (Calveras River)

Fish Passage at Fremont Weir (with Yolo Group)



# Fish Barrier Removal: Caprini Crossing



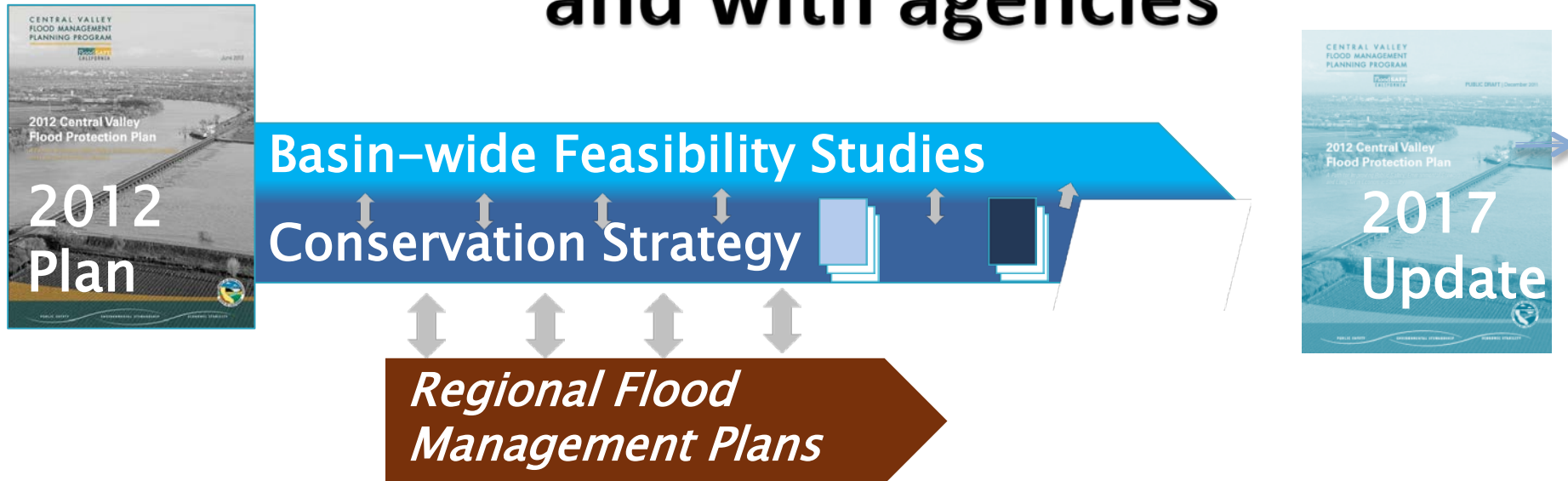
Connectivity and Cooridors



# Budiselich



# Refining the approach and integrating programs within DWR and with agencies



2012 / 2013 / 2014 / 2015 / 2016 / 2017