5750 Almaden Expressway, San Jose, CA 95118-3614 | (408) 265-2600 | www.valleywater.org

Santa Clara Valley Water District

October 2, 2015

MEETING NOTICE & REQUEST FOR RSVP

TO: ENVIRONMENTAL AND WATER RESOURCES COMMITTEE

Jurisdiction	Representative	Representative	Representative
District 1	Bonnie Bamburg	Loren Lewis	Rita Norton
District 2	Patricia Colombe	Elizabeth Sarmiento	
District 3	Hon. Dean Chu	Jess R. Gutierrez	Rev. Jethroe Moore, II
District 4	Bob Levy	Susan M. Landry	Richard R. Zahner
District 5	Marc Rauser	Melissa Rohde	Nancy Smith
District 6	Kit Gordon	Hon. Patrick Kwok	
District 7	Tess Byler	Arthur M. Keller, Ph.D.	Stephen A. Jordan

The regular meeting of the Environmental and Water Resources Committee is scheduled to be held on **Monday, October 19, 2015, at 6:00 p.m.** in the Headquarters Building Boardroom located at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California. Dinner will be available at 5:30 p.m.

Enclosed are the meeting agenda and corresponding materials. Please bring this packet with you to the meeting. Additional copies of this meeting packet are available on-line at http://www.valleywater.org/About/EnvironmentalandWaterResourcesCommittee.aspx.

A majority of the appointed membership is required to constitute a quorum, which is fifty percent plus one. A quorum for this meeting must be confirmed at least 48 hours prior to the scheduled meeting date or it will be canceled.

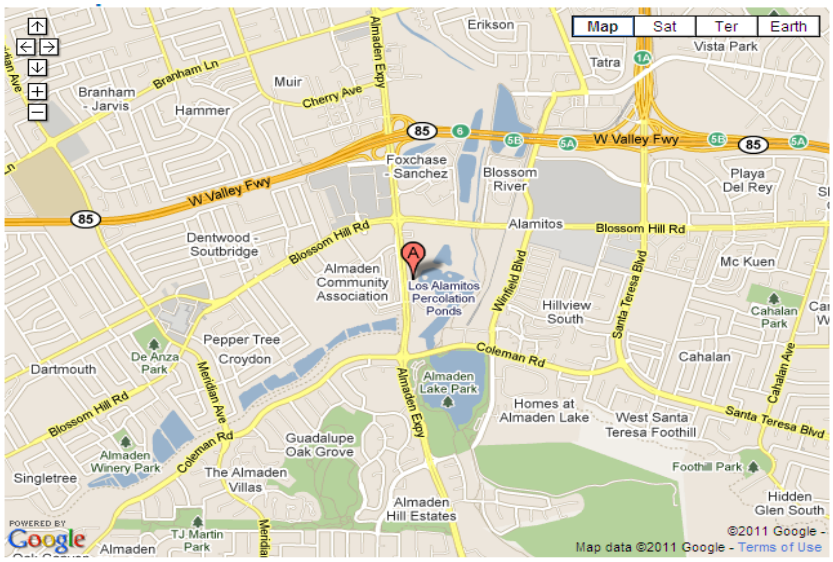
Further, a quorum must be present on the day of the scheduled meeting to call the meeting to order and take action on agenda items.

Members with two or more consecutive unexcused absences will be subject to rescinded membership.

Please confirm your attendance by contacting Michelle Critchlow at 1-408-630-2883, or mcritchlow@valleywater.org.

Enclosures

Santa Clara Valley Water District - Headquarters Building
5700 Almaden Expressway, San Jose, CA 95118



From Oakland:

- Take 880 South to 85 South
- Take 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Morgan Hill/Gilroy:

- Take 101 North to 85 North
- Take 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- Cross Blossom Hill Road
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Sunnyvale:

- Take Highway 87 South to 85 North
- Take Highway 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From San Francisco:

- Take 280 South to Highway 85 South
- Take Highway 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Downtown San Jose:

- Take Highway 87 - Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (first traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Walnut Creek, Concord and East Bay areas:

- Take 680 South to 280 North
- Exit Highway 87-Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

Committee Officers
Tess Byler, Committee Chair
Dean Chu, Committee Vice Chair

Board Representative
Tony Estremera, Board Representative
Dennis Kennedy, Alternate
Linda J. LeZotte, Board Representative

AGENDA

ENVIRONMENTAL AND WATER RESOURCES COMMITTEE

MONDAY, OCTOBER 19, 2015

6:00 p.m. – 8:00 p.m.

Santa Clara Valley Water District
Headquarters Building Boardroom
5700 Almaden Expressway
San Jose, CA 95118

Time Certain:
6:00 p.m. **1.** **Call to Order/Roll Call**

2. **Time Open for Public Comment on Any Item Not on Agenda**
Comments should be limited to two minutes. If the Committee wishes to discuss a subject raised by the speaker, it can request placement on a future agenda.

3. **Approval of Minutes**
3.1 Approval of Minutes – July 20, 2015, meeting

4. **Action Items**
4.1 Update on 2015 Water Supply and Drought Response (Vanessa De La Piedra)
a. Outreach and Messaging (Teresa Alvarado)
Recommendation: The Committee to receive the information, discuss, however, no action is required.

4.2 Discussion on Riparian Corridors in Santa Clara County (Liang Lee)
Recommendation: The Committee to receive the information, discuss, however, no action is required.

4.3 Receive Status Update from Working Groups (Committee Chair)
Recommendation: Provide comment to the Board in the implementation of the District's mission as it applies to the working groups' recommendations.

4.4 Discuss Triclosan Releases in the South Bay (Committee Chair)
Recommendation: Review the subject to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

4.5 Review of Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda (Committee Chair)
Recommendation: Review the Board-approved Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

5. Information Only Items

*Informational only items are not for discussion or action. However, clarifying questions may be asked, and will be called for by the Chair***.**

5.1 Receive Update on FAHCE Agreement (Debra Caldon)
Recommendation: This is an information item only and no action is required.

5.2 Status Report on the Water Resources Master Plan (Brian Mendenhall)
Recommendation: This is an information item only and no action is required.

5.3 Update on Bay Delta Conservation Plan and Imported Water with Respect to Board Ends Policy 2.1: Reliable Water (Garth Hall)
Recommendation: This is an information item only and no action is required.

6. Clerk Review and Clarification of Committee Requests to the Board

This is a review of the Committee's Requests, to the Board (from Item 4). The Committee may also request that the Board approve future agenda items for Committee discussion.

7. Reports

Directors, Managers, and Committee members may make brief reports and/or announcements on their activities. Unless a subject is specifically listed on the agenda, the Report is for information only and not discussion or decision. Questions for clarification are permitted.

7.1 Director's Report
7.2 Manager's Report
7.3 Committee Member Reports

8. Adjourn: Adjourn to next regularly scheduled meeting at 6:00 p.m., January 25, 2016, in the Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, CA 95118

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarter Building, 5700 Almaden Expressway, San Jose, CA., 95118, at the same time that the public records are distributed or made available to the legislative body.

The Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend committee meetings. Please advise the Clerk of the Board office of any special needs by calling 1-408-630-2277.

Environmental and Water Resources Committee's Purpose and Duties

The Environmental and Water Resources Committee of the Santa Clara Valley Water District is established to assist the Board of Directors (Board) with policies pertaining to water supply, flood protection and environmental stewardship.

The specific duties are:

- Prepare policy alternatives;
- Provide comment on activities in the implementation of the District's mission; and
- Produce and present to the Board an Annual Accomplishments Report that provides a synopsis of the annual discussions and actions.

In carrying out these duties, Committee members bring to the District their respective expertise and the interests of the communities they represent. In addition, Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

ENVIRONMENTAL AND WATER RESOURCES COMMITTEE MEETING

DRAFT MINUTES

MONDAY, JULY 20, 2015
6:00 PM

(Paragraph numbers coincide with agenda item numbers)

A regular scheduled meeting of the Environmental and Water Resources Committee (Committee) Meeting was held on July 20, 2015, in the Headquarters Building Boardroom at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER/ROLL CALL

Chair Ms. Tess Byler called the meeting to order at 6:00 p.m.
Chair introduced two new members, Mr. Stephen Jordan and Arthur M. Keller, Ph.D.

Members in attendance were:

District	Representative
District 1	Loren Lewis
	Rita Norton
District 2	Patricia Colombe
	Elizabeth Sarmiento
District 3	Jess Gutierrez
	Rev. Jethroe Moore, II*
District 4	Bob Levy
	Susan M. Landry
District 5	Nancy Smith
District 7	Tess Byler
	Stephen A. Jordan
	Arthur M. Keller, Ph.D.

Members not in attendance were:

District	Representative
District 3	Hon. Dean Chu
District 5	Marc Rauser
	Melissa Rohde
District 6	Kit Gordon
	Hon. Patrick S. Kwok

*Committee members arrived as indicated, below.

The Board members in attendance were: Director Tony Estremera, and Director Linda J. LeZotte, Board Representatives. Director Richard P. Santos was an observer.

Staff members in attendance were: Glenna Brambill, Debra Caldon, Rick Callender, Jim Fiedler, Garth Hall, and Liang Lee.

2. PUBLIC COMMENT

There was no one present who wished to speak.

3. APPROVAL OF MINUTES

It was moved by Ms. Rita Norton, seconded by Ms. Nancy Smith, and carried by majority vote, to approve the April 20, 2015, meeting minutes, as presented.
Mr. Stephen A. Jordan, Arthur M. Keller, Ph.D. and Ms. Elizabeth Sarmiento abstained.

*Rev. Jethroe Moore, II, arrived at 6:08 p.m.

4. ACTION ITEMS

4.1 Update on 2015 Water Supply and Drought Response

Mr. Garth Hall reviewed the materials as outlined in the agenda items.
Mr. Jim Fiedler, Director Linda J. LeZotte and Director Tony Estremera were available to answer questions.

No action was taken.

4.2 Discussion of California Environmental Quality Act (CEQA) Reform

Mr. Rick Callender reviewed the materials as outlined in the agenda items.

No action was taken.

4.3 Receive Status Update from Working Groups

Mr. Loren Lewis of the Homeless Working Group presented items for the Committee's consideration along with a handout. The Committee took the following action:

Action:

It was moved by Rev. Jethroe Moore, II, seconded by Mr. Loren Lewis, and unanimously carried, to approve the Committee's policy recommendation for Board's consideration:

The Committee is recommending the Homeless Encampment Dismantlement Program shall have the primary goal of removing homeless related trash that degrades the habitat of the riparian corridor and/or threatens to discharge to the creek, and shall have a secondary goal of preventing homeless encampment entrenchment along the creek.

All cleanups of homeless encampments effected by the District and its contractors and volunteer groups shall collectively result in the removal of all trash in the area of the dismantled encampment.

The District will develop an Action Plan within 6 months of adoption of this policy to achieve and maintain the goal of keeping creeks free of homeless related trash by using the Homeless Encampment Dismantlement Program, volunteer based cleanup programs, and contractor support for trash unsuitable for volunteer efforts.

Ms. Rita Norton, spokesperson for the Water Conservation Group reminded the committee she had presented items for the Committee's consideration of a comprehensive action plan for climate change at the April meeting.

4.4 Review of Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda

Chair Byler reviewed the materials as outlined in the agenda items.

No action was taken.

5. INFORMATION ONLY ITEMS

5.1 Receive Update on the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) Process

Ms. Debra Caldon reviewed the materials as outlined in the agenda items.

No action was taken.

6. Clerk Review and Clarification of Committee's Requests to the Board

Ms. Glenna Brambill reported there was one Committee action for the Board's consideration

Action:

The Committee approved policy recommendation for the Board's consideration:

The Committee is recommending the Homeless Encampment Dismantlement Program shall have the primary goal of removing homeless related trash that degrades the habitat of the riparian corridor and/or threatens to discharge to the creek, and shall have a secondary goal of preventing homeless encampment entrenchment along the creek.

All cleanups of homeless encampments effected by the District and its contractors and volunteer groups shall collectively result in the removal of all trash in the area of the dismantled encampment.

The District will develop an Action Plan within 6 months of adoption of this policy to achieve and maintain the goal of keeping creeks free of homeless related trash by using the Homeless Encampment Dismantlement Program, volunteer based cleanup programs, and contractor support for trash unsuitable for volunteer efforts.

7. REPORTS

7.1 Director's Report

Director Linda J. LeZotte reported on the following:

- Board Action
- Water District News
- Water Supply
- Community Outreach

7.2. Manager's Report

a. Sustainable Groundwater Management Act

Mr. Garth Hall reported on:

- Sustainable Groundwater Management Act

7.3 Committee Member Reports

Ms. Susan M. Landry reported on:

- Anyone wanting to attend the Planning Commission's meeting to discuss the Draft Environmental Report regarding the Dell Avenue Area Plan (DAAP), on Tuesday, July 28, 2015, at 7:30 p.m. in the City of Campbell Council Chambers.

Ms. Nancy Smith reported on:

- Anyone interested in an exploratory trip to Ecuador to learn more of the planned water project to contact her.

Mr. Stephen Jordan reported on:

- He attended the State Water Technology Conference held week of July 13th and is willing to share his report when completed.

Arthur M. Keller, Ph.D., reported on:

- The Sustainable Silicon Valley's On-Site Water Reuse Technology Symposium to be held on September 16, 2015, from 12:00 p.m. to 6:30 p.m., at the George E. Pake Auditorium, 3333 Coyote Hill Rd, Palo Alto CA 943404.

Ms. Tess Byler reported on:

- One Water Leadership (OWL) Summit in San Francisco, August 26-28, 2015, at the Grand Hyatt Hotel.

8. ADJOURNMENT

Chair Byler adjourned at 8:13 p.m. to the regular meeting on Monday, October 19, 2015, at 6:00 p.m., in the Santa Clara Valley Water District Headquarters Boardroom.

Glenna Brambill
Office of the Clerk of the Board

Approved:

Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	4.1
Unclassified Manger:	Garth Hall
Email:	ghall@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Update on 2015 Water Supply and Drought Response

RECOMMENDED ACTION:

Receive the information, discuss, however, no action is required.

SUMMARY:

On March 24, 2015, the Board called for 30 percent water use reductions, and recommended that retail water agencies, municipalities and the County implement mandatory measures as needed to accomplish that target, including a two day a week outdoor irrigation schedule. This action was based on the District's Water Shortage Contingency Plan and estimated 2015 water supply conditions that showed groundwater reserves could reach the Stage 4 ("Critical") level by the end of the calendar year if water use reduction measures are not implemented.

Current water supply conditions and District drought response activities are summarized in the following attachments: Water Supply and Drought Response PowerPoint Presentation (Attachment 1), September 2015 Water Tracker (Attachment 2); and September 2015 Groundwater Condition Report (Attachment 3).

BACKGROUND:

Additional background information can be found in the monthly Update on 2015 Water Supply and Drought Response Board Agenda Memos.

ATTACHMENT(S):

Attachment 1: PowerPoint Presentation
Attachment 2: September 2015 Water Tracker
Attachment 3: September 2015 Groundwater Condition Report

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Update on 2015 Water Supply and Drought Response

Environmental and Water Resources Committee

October 19, 2015

Santa Clara Valley Water District

Drought Response Efforts

DROUGHT STRATEGY ELEMENT	2015 URGENT	2016 NEAR TERM	2017 LONG TERM
	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
A. URGENT ACTION			
A1 Call for Additional Water Use Reductions			
A2 Expand Outreach/Media		?	
A3 Expand Water Waste Inspector Program		?	
A4 Extend Water Conservation Rebates		?	
A5 Secure (Purchase) Additional Water Supplies			
B. AWARENESS TO ACTION			
B1 Summit - Elected Officials			
B2 Summit - Retailers			
B3 Update Local Ordinances			
B4 Update Existing Building Code			
B5 Pursue Legislation (e.g. enforcement)	Identify	Pursue	
C. PERMANENT SOLUTIONS			
C1 Accelerated Purified Water (Expedited Program Under Development)	Planning	Design/Build to 2020+	

2015 Retail Water Use and Savings

2015	North County Ground water	South County Ground water	Treated Water	SFPUC	SJWC Surface	2015 Monthly Use	2015 Cumulative Use	*Cumulative District Source Savings*	*Cumulative NonDistrict Source Savings*	All Sources Cumulative %Savings from 2013 <+> savings	Statewide Cumulative Savings (since Jan 2015)
Jan	5,656	1,144	5,616	2,908	339	**15,663**	**15,663**	*-23%*	*38%*	**-2%**	**7%**
Feb	5,172	1,126	4,307	3,085	1,020	**14,711**	**30,374**	*-8%*	*29%*	**4%**	**5%**
Mar	5,661	1,367	6,468	3,558	1,473	**18,527**	**48,901**	*1%*	*15%*	**5%**	**4%**
Apr	5,831	1,402	6,937	3,570	749	**18,489**	**67,390**	*10%*	*15%*	**11%**	**7%**
May	4,195	1,627	9,503	3,682	485	**19,491**	**86,881**	*18%*	*19%*	**18%**	**13%**
Jun	3,881	1,628	10,290	4,005	484	**20,288**	**107,169**	*23%*	*20%*	**22%**	**16%**
Jul	3,966	1,705	11,247	3,928	253	**21,098**	**128,267**	*26%*	*21%*	**25%**	***Not Available***
Aug	-	-	-	-	-	-					
Sep	-	-	-	-	-	-					
Oct	-	-	-	-	-	-					
Nov	-	-	-	-	-	-					
Dec	-	-	-	-	-	-					
Jan to Current	**34,362**	**10,000**	**54,368**	**24,735**	**4,802**	**128,267**					
%Savings by Source of Supply	**26%**	**24%**	**25%**	**23%**	**15%**	**25%**					

Current monthly water use data is preliminary and subject to change.

These water use data sets do not include recycled water or surface water sales by the District

Percent savings are shown in positive values where savings have been made and negative percent values where water use is higher than the base year period (2013)

July data does not include Purissima or Stanford data due to mid month meter reads by SFPUC

2015 Water Savings by Major Retailers

Water Retailer	Retailer Call for Savings	Cumulative Use Jan to July (AF)	Monthly Savings June 2015	Monthly Savings July 2015	Cumulative Savings Jan to July 2015
San Jose Water Co.	30%	62,179	35%	38%	**25%**
Santa Clara (City)	30%	10,413	29%	20%	**16%**
Sunnyvale	30%	9,313	36%	37%	**26%**
San Jose Municipal	30%	9,399	33%	35%	**25%**
California Water Service	32%	6,098	40%	39%	**29%**
Palo Alto	24%	5,936	31%	27%	**26%**
Mountain View	16%	5,364	33%	31%	**25%**
Great Oaks	30%	5,327	37%	36%	**26%**
Milpitas	30%	5,085	24%	28%	**18%**
Gilroy	30%	3,992	33%	35%	**25%**
Morgan Hill	30%	3,451	35%	42%	**30%**
Purissima Hills Water[1]	[2]	786[1]	40%	[1]	[1]
Stanford[1]	[3]	924[1]	35%	[1]	[1]
Total		128,267	34%	**36%**	**25%**

[1] July data not available as of August 18, 2015
[2] 2-day/week water restrictions
[3] No percent reduction targets for domestic use

Questions?

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Water Tracker

Santa Clara Valley Water District

A monthly assessment of trends in water supply and use for Santa Clara County, California

Outlook as of September 1, 2015

Santa Clara County residents and businesses continued the upward trend in water savings in July, achieving a cumulative 25% reduction in water use through the first seven months of 2015 compared to 2013. The community is encouraged to continue the good work in reducing water use in order to meet the District Board of Directors target of 30%. Please remember that most areas in the county have a restriction on irrigating ornamental landscape with potable water to two days a week.

The rainfall year that ended on June 30th was another below-average year in the county and imported supplies continue to be limited.

The District continues to recharge the groundwater aquifers in 2015 using the available, limited quantities of surface and imported waters. There has been some improvement in groundwater storage in the north county compared to last year. However, total groundwater storage is predicted to remain in the Severe Stage through the end of 2015 if cumulative water use reduction for the rest of the year continues to remain below 30%.

Weather

Rainfall in San Jose

- Month of August = 0.0 inches
- The average daily high temperature for August was 81.7 degrees Fahrenheit. Temperatures were slightly above normal for the month

Local Reservoirs

- Total September 1 storage = 67,511 acre-feet
  - » 71% of 20-year average for that date
  - » 40% of total capacity
  - » 55% of restricted capacity storage (169,009 acre-feet total storage capacity limited by seismic restrictions to 122,924 acre-feet)
- Approximately 117 acre-feet of Imported Water delivered into local reservoirs during August 2015
- Total releases to streams (local and imported water) during August = 5,448 acre-feet

Groundwater

- Groundwater (GW) Storage: End of 2015 storage is predicted to fall within Stage 3 (Severe) of the Water Shortage Contingency Plan:

	Santa Clara Subbasin		Llagas Subbasin
	Santa Clara Plain	Coyote Valley	
August managed recharge estimate (AF)	3,300	550	2,100
YTD managed recharge estimate (AF)	13,900	4,300	10,400
YTD managed recharge, % of 5-year average	36%	49%	63%
August pumping estimate (AF)	6,100	900	5,000
YTD pumping estimate (AF)	44,000	6,000	24,100
YTD pumping, % of 5-year average	73%	79%	86%
General GW level trend compared to last August	Increase	Similar	Decrease

(YTD = Year-to-Date) (AF) = acre-feet

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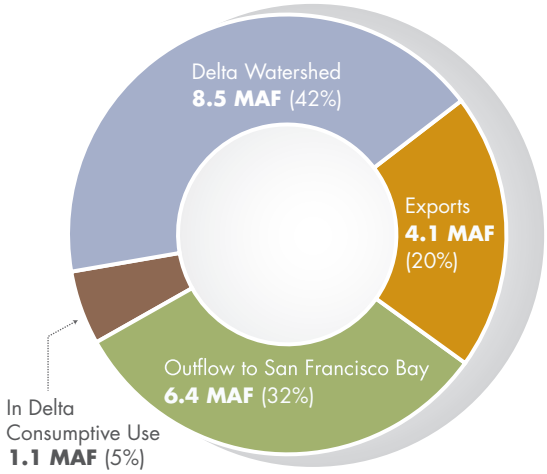
Imported Water

- 2015 State Water Project (SWP) and Central Valley Project (CVP) allocations:
  - » 2015 SWP allocation: 20% = 20,000 acre-feet
  - » 2015 CVP allocations: Municipal and Industrial users South-of-Delta will receive enough water to meet health and safety needs or 25% of historic use, whichever is greater, 0% for Irrigation. A total of 40,300 acre-feet is anticipated to be delivered
- Reservoir storage information, as of September 1, 2015:
  - » Shasta Reservoir at 40% of capacity (62% of average for this date)
  - » Oroville Reservoir at 31% of capacity (46% of average for this date)
  - » San Luis Reservoir at 19% of capacity (45% of average for this date)
- District's Semitropic groundwater bank reserves: An estimated 210,400 acre-feet as of September 1, 2015. District is pursuing maximum allowable withdrawals in 2015
- Estimated Hetch Hetchy deliveries to Santa Clara County:
  - » Month of August = 4,756 acre-feet
  - » Year-to-date = 32,621 acre-feet, or 100% of the five-year average

Flows into and from the Delta
Typical annual balance
Dry/Critical Years (20.1 MAF)



Treated Water

- Below average demands of 11,100 acre-feet delivered in August
- This total is 83% of the five-year average for August
- Estimated year-to-date = 65,445 acre-feet or 83% of the five-year average

Conserved Water

- Saved 59,300 acre-feet in FY14 from long-term program (baseline year is 1992)
- Long-term program goal is to save nearly 63,000 acre-feet in FY15
- The Board has called for a 30% reduction and a limit of two days per week for irrigation of ornamental landscape with potable water
- Achieved a 25% reduction in water use through the first seven months of 2015 compared to 2013

Recycled Water

- Estimated August 2015 production = 2,300 acre-feet
- Estimated year-to-date through August = 14,400 acre-feet or 118% of the five-year average
- Silicon Valley Advanced Water Purification Center produced an estimated 2,631 million gallons (8,075 acre-feet) of advanced purified recycled water since March 25, 2014. The purified water is blended with existing tertiary recycled water for South Bay Water Recycling Program's customers

CONTACT US

For more information, contact **Customer relations** at **(408) 630-2880**, or visit our website at valleywater.org and use our **Access Valley Water** customer request and information system. With three easy steps, you can use this service to find out the latest information on district projects or to submit questions, complaints or compliments directly to a district staff person.

Follow us on: /scvwd /valleywater /valleywater

To get eNews, email info@valleywater.org

- Groundwater Storage: Total storage at the end of 2015 is predicted to fall within Stage 3 (Severe) of the Water Shortage Contingency Plan if the countywide water use reduction from August to December 2015 is similar to the first seven months of the year.

- Santa Clara Plain:

    - The August managed recharge estimate is 3,300 acre-feet. The year-to-date managed recharge estimate is 13,900 acre-feet, or 36% of the five-year average.
    - The August groundwater pumping estimate is 6,100 acre-feet. The year-to-date groundwater pumping estimate is 44,000 acre-feet, or 73% of the five-year average.
    - The groundwater level in the Santa Clara Plain (San Jose) is about 21 feet higher than August last year and about 9 feet lower than the five-year average.

- Coyote Valley:

    - The August managed recharge estimate is 550 acre-feet. The year-to-date managed recharge estimate is 4,300 acre-feet, or 49% of the five-year average.
    - The August groundwater pumping estimate is 900 acre-feet. The year-to-date groundwater pumping estimate is 6,000 acre-feet, or 79% of the five-year average.
    - The groundwater level in Coyote Valley is about one foot lower than August last year and 10 feet lower than the five-year average.

- Llagas Subbasin:

    - The August managed recharge estimate is 2,100 acre-feet. The year-to-date managed recharge estimate is 10,400 acre-feet, or 63% of the five-year average.
    - The August groundwater pumping estimate is 5,000 acre-feet. The year-to-date groundwater pumping estimate is 24,100 acre-feet, or 86% of the five-year average.
    - The groundwater level in Llagas Subbasin (San Martin) is about 6 feet lower than August last year and 34 feet lower than the five-year average.

Contact Us For questions, contact
Vanessa De La Piedra at **(408) 630-2788**

Santa Clara Valley Water District

Groundwater Recharge

The estimated managed recharge for August 2015 is lower than the average of the last five years (2010-2014) for all three groundwater areas. Managed recharge is dependent on a number of factors, including water availability and facility maintenance schedules. Due to limited available surface water, 2015 managed recharge is curtailed. Figures 1, 2, and 3 compare monthly managed recharge for August 2015 to the five-year average.

Figure 1 - Estimated Managed Recharge in the Santa Clara Plain

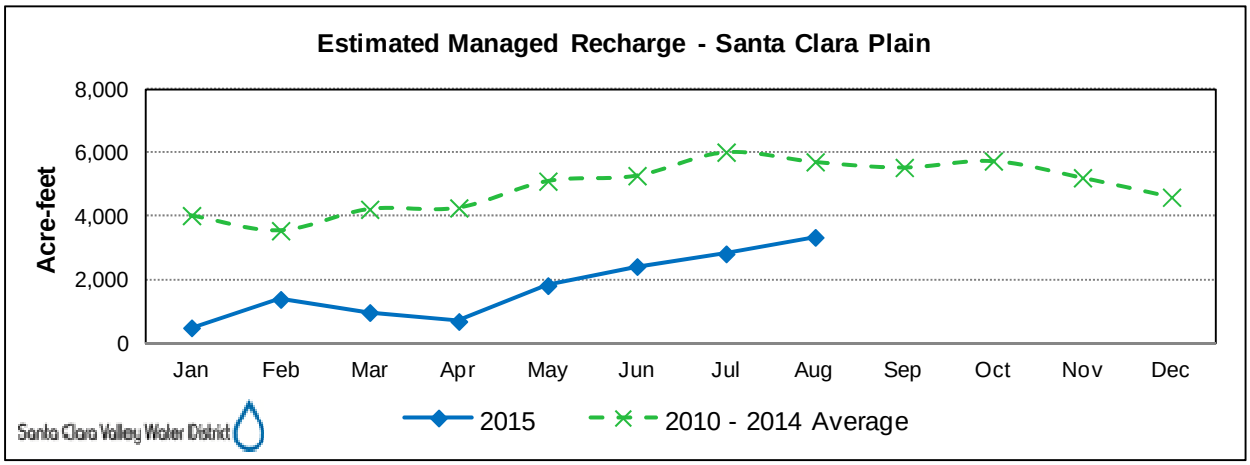


Figure 2 - Estimated Managed Recharge in the Coyote Valley

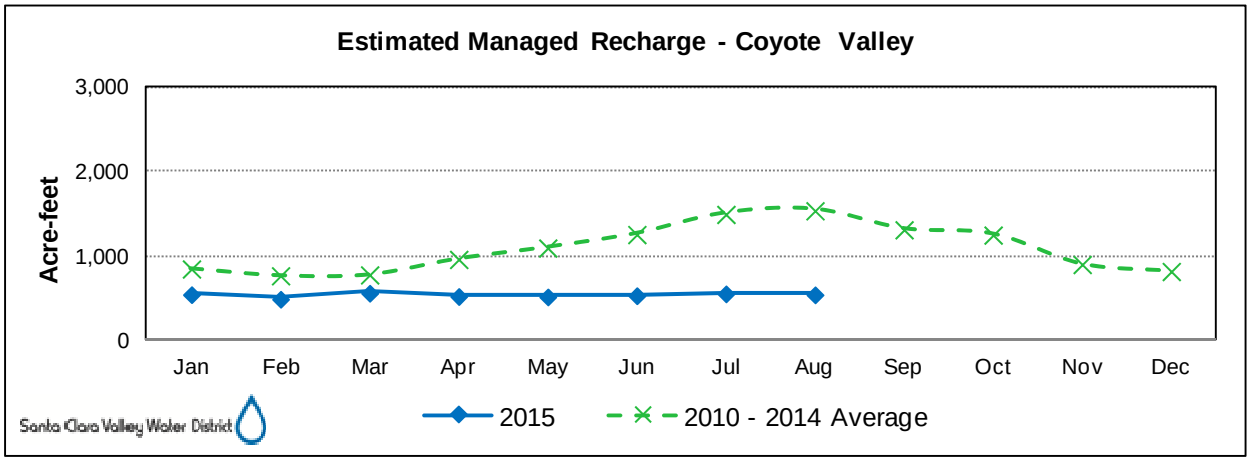
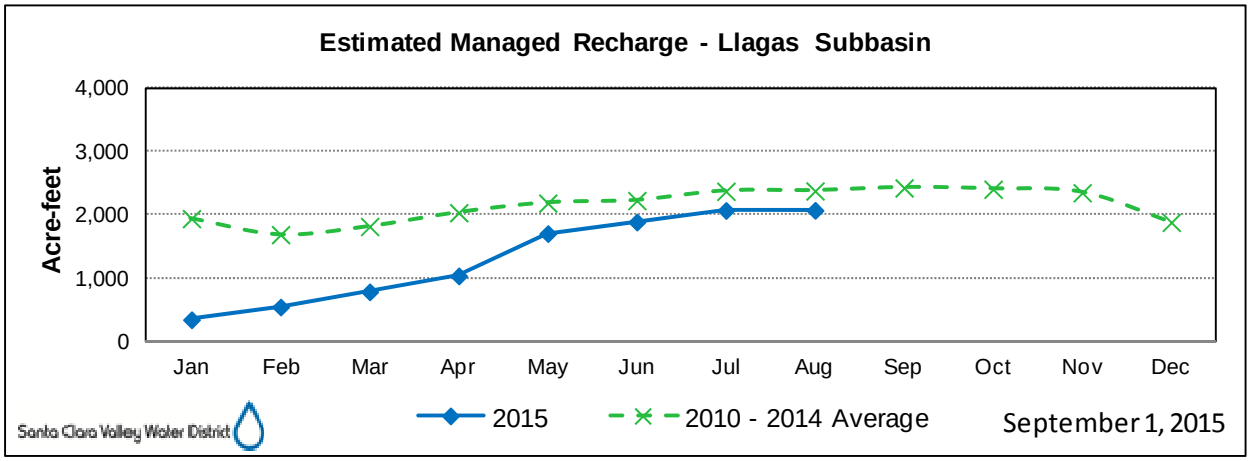


Figure 3 - Estimated Managed Recharge in the Llagas Subbasin



Groundwater Pumping

The estimated pumping for August 2015 is lower for all three groundwater areas than the average of the last five years (2010-2014). The August 2015 groundwater pumping comparison to the five-year average is illustrated in Figures 4, 5, and 6.

Figure 4 – Estimated Santa Clara Plain Pumping

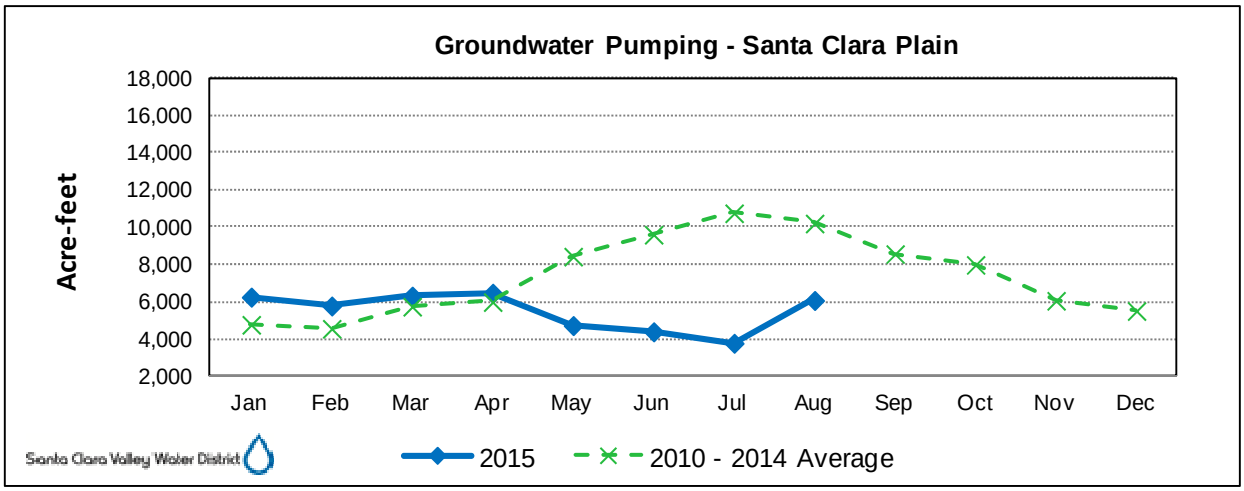


Figure 5 – Estimated Coyote Valley Pumping

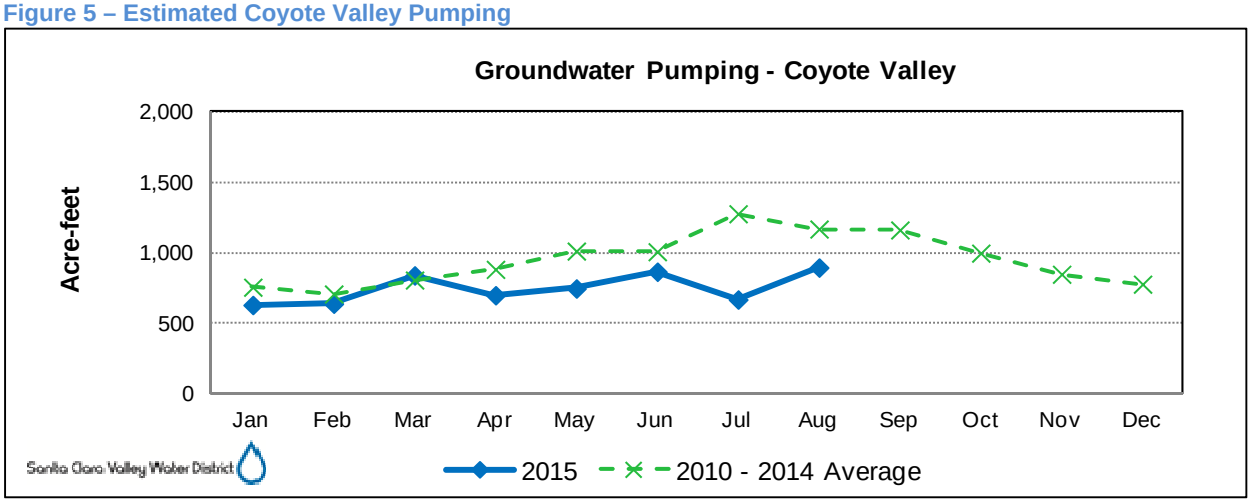
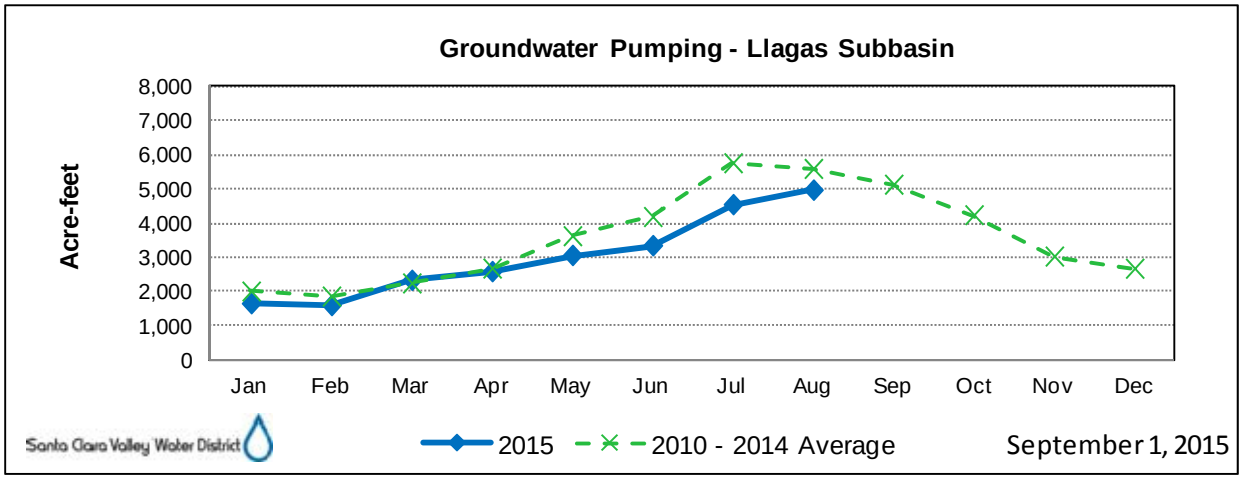


Figure 6 – Estimated Llagas Subbasin Pumping



Groundwater Levels

Groundwater levels at selected monitoring wells (Figure 7) are compared to the groundwater levels of August 1987 (a dry year), August 2004 (a normal year), and the five-year average of August measurements for 2010-2014. This information is presented in individual well groundwater hydrographs in Figures 8 through 18. The Campbell index well is a municipal well that is being taken out of service. For this report, the index well is being replaced with a nearby well with similar construction and water levels. For continuity, both the former and replacement Campbell index wells are displayed on Figure 13 below.

August 2015 groundwater levels were lower than July 2015 levels in six index wells, and higher in four index wells. From August 2014 to August 2015, six wells showed water level increases ranging from 2 to 48 feet, while four wells showed decreases ranging from 1 to 12 feet. The August 2015 levels were lower than August 2004 levels by 0.2 to 36 feet in seven wells, two wells were 0.3 and 22 feet higher than August 2004, and one well lacks 2004 data. August 2015 levels were also lower than the five-year average of August measurements in eight wells by 4 to 34 feet, and two wells were higher than the five-year average of August measurements by 7 to 14 feet. August 2015 groundwater levels were higher than August 1987 levels in the six Santa Clara Plain index wells with available measurements, and lower than August 1987 levels in the Coyote, Morgan Hill, San Martin, and Gilroy index wells.

Figure 7 - Location of Selected Monitoring Wells

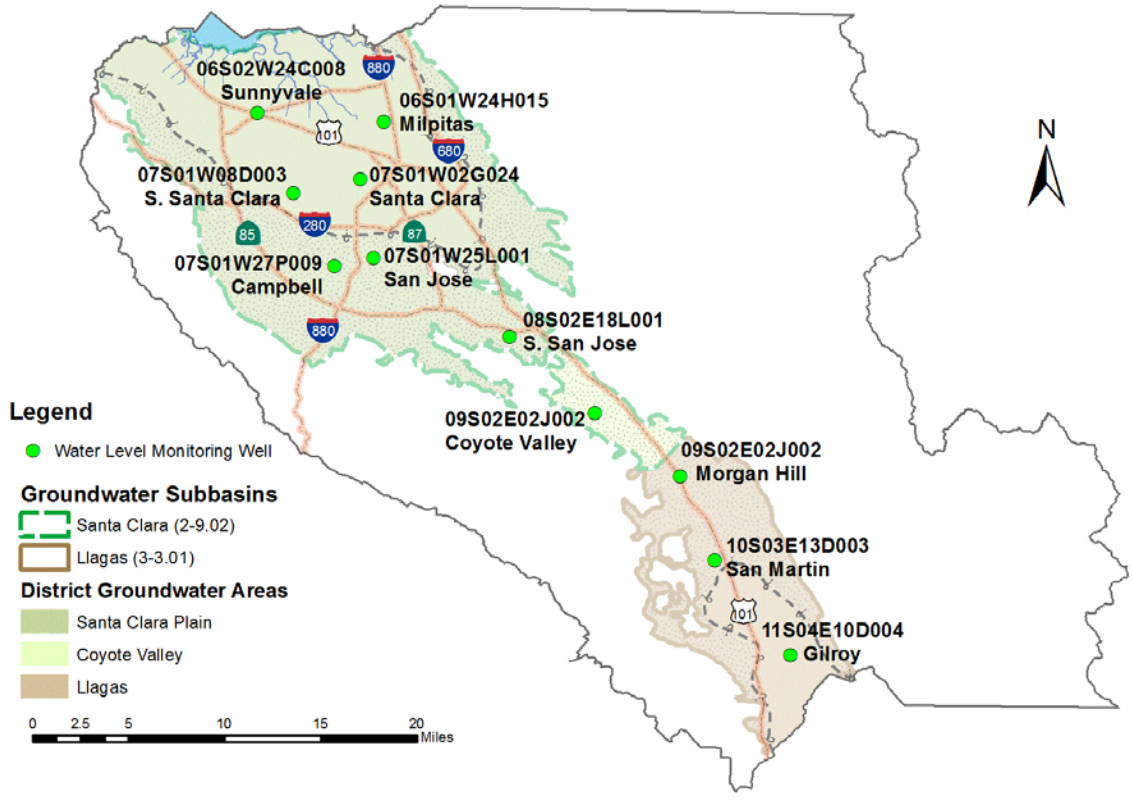


Figure 8 - Milpitas Well Hydrograph

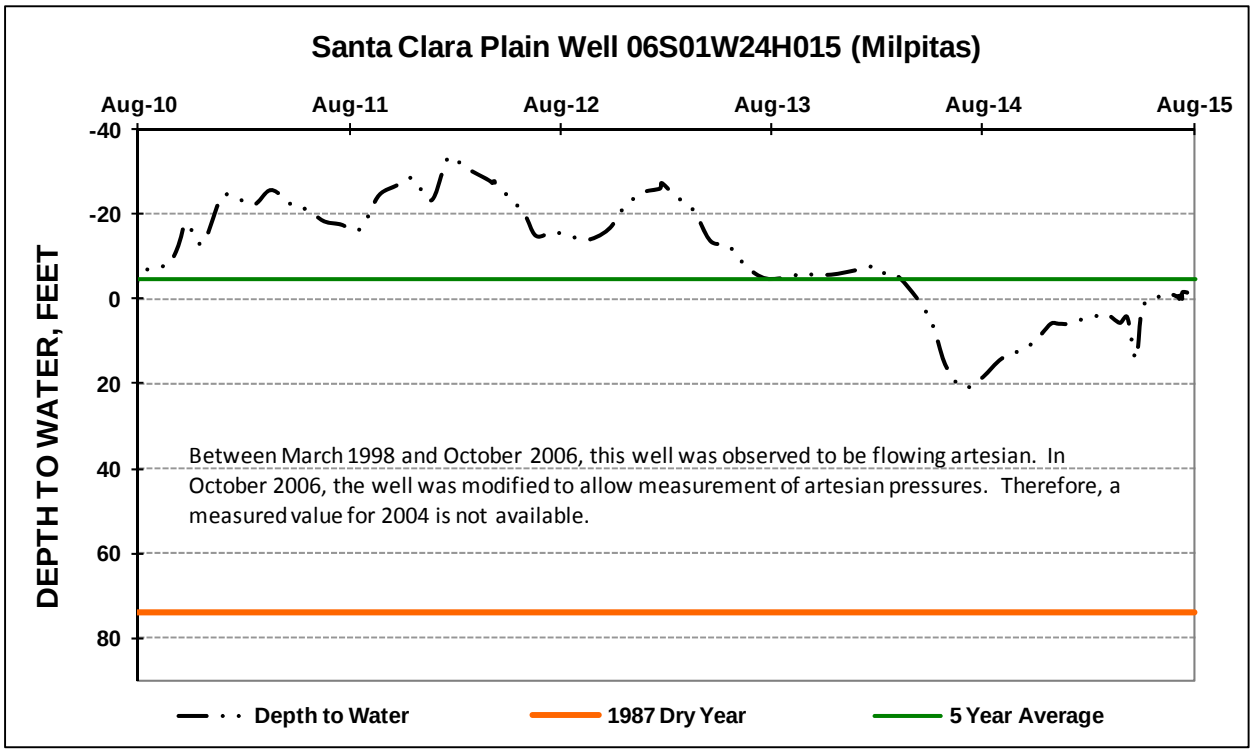


Figure 9 – Sunnyvale Well Hydrograph

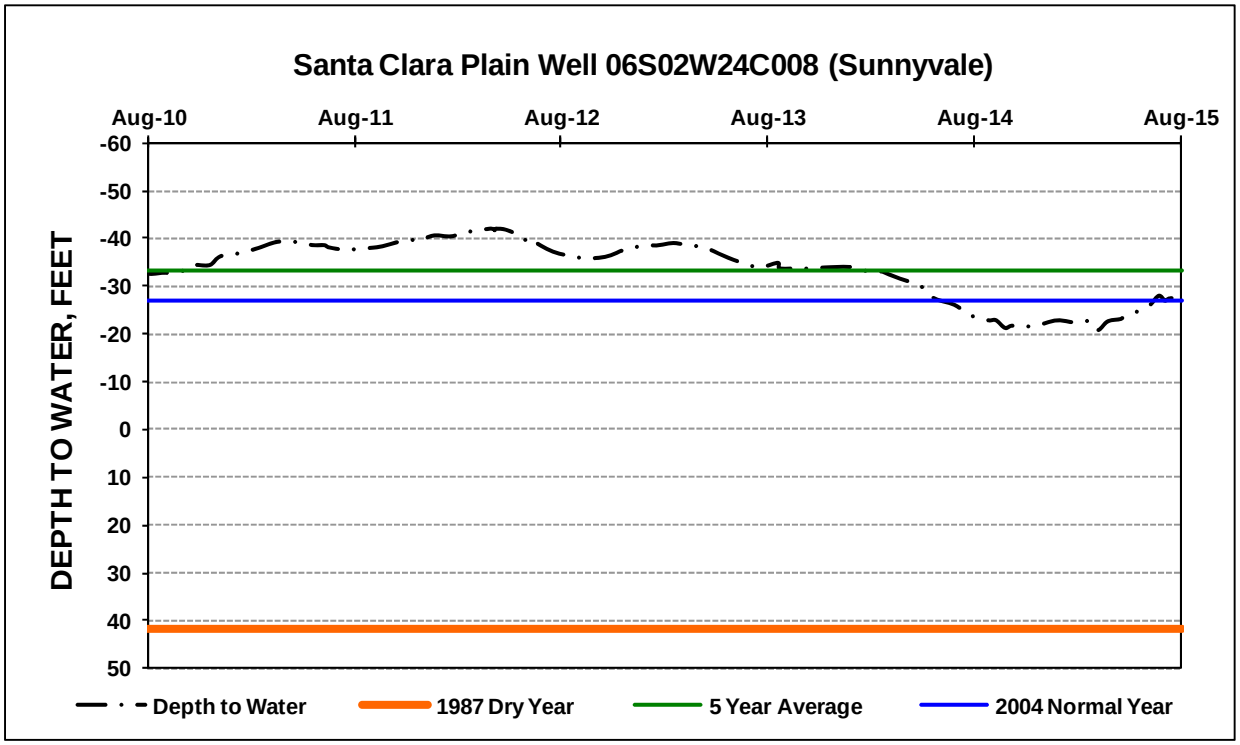


Figure 10 - San Jose Well Hydrograph

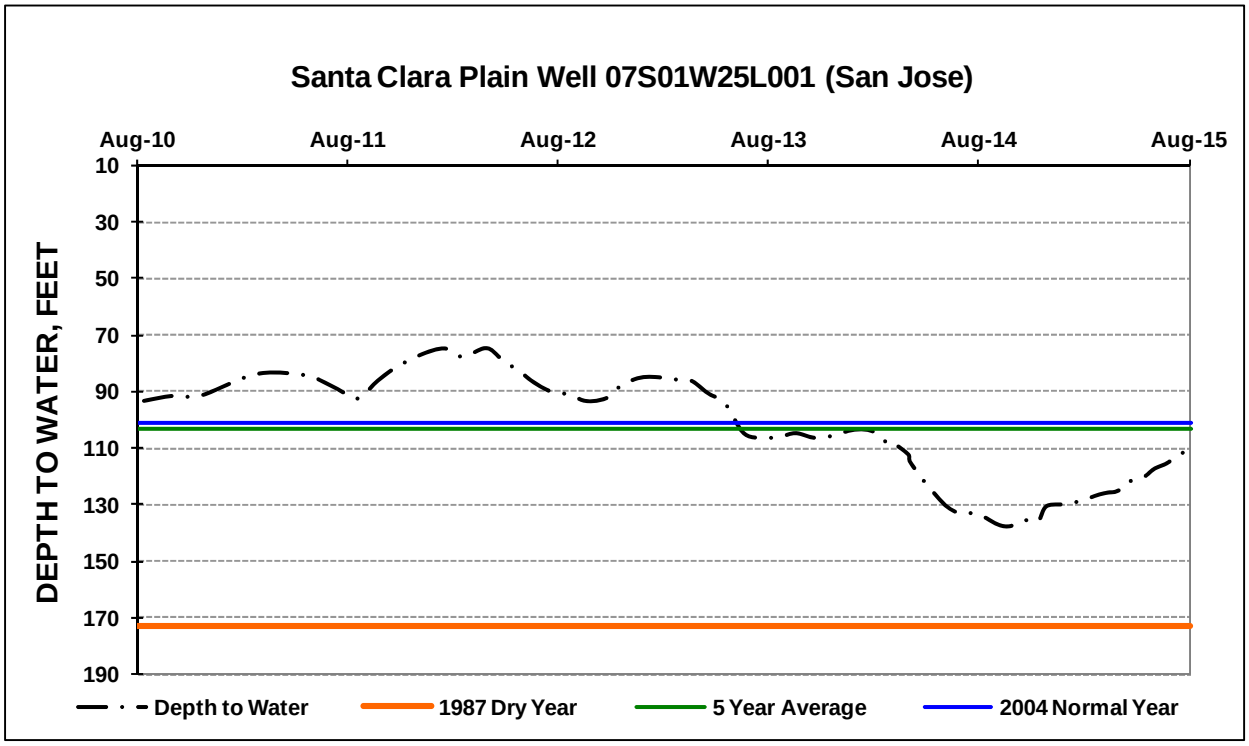


Figure 11 - Santa Clara Well Hydrograph

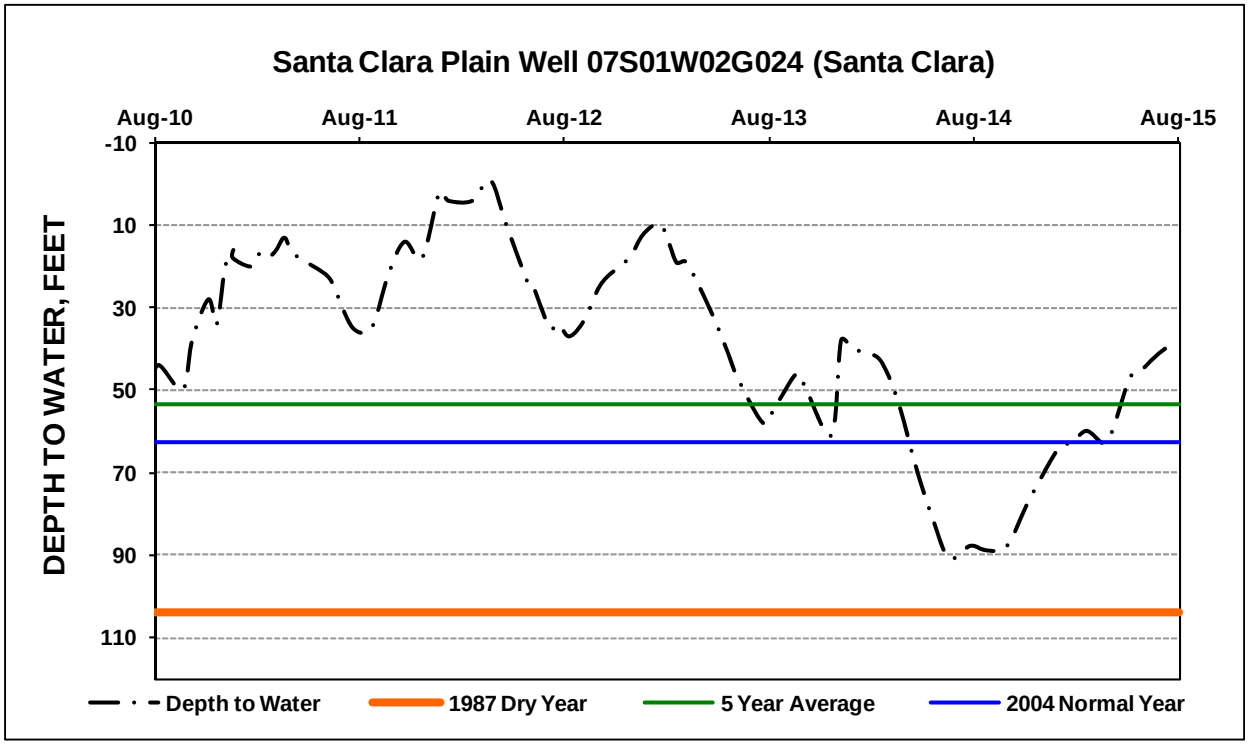


Figure 12 - South Santa Clara Well Hydrograph

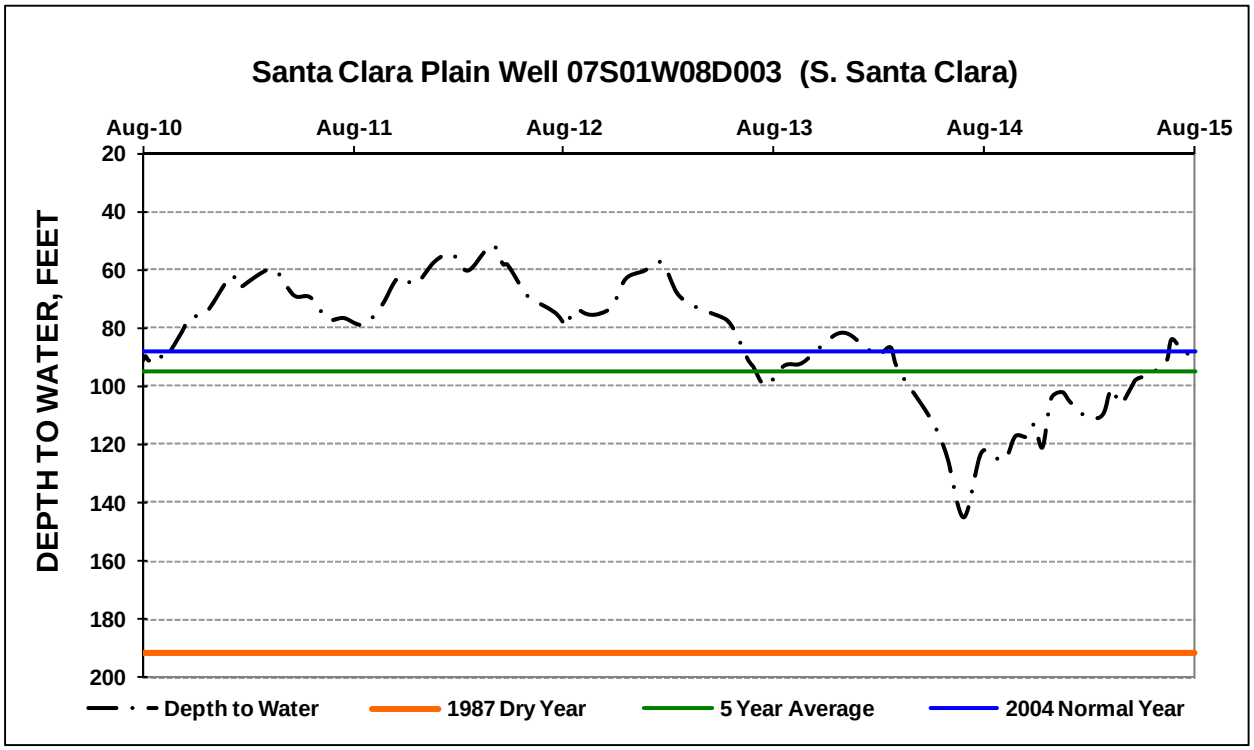


Figure 13 - Campbell Well Hydrograph

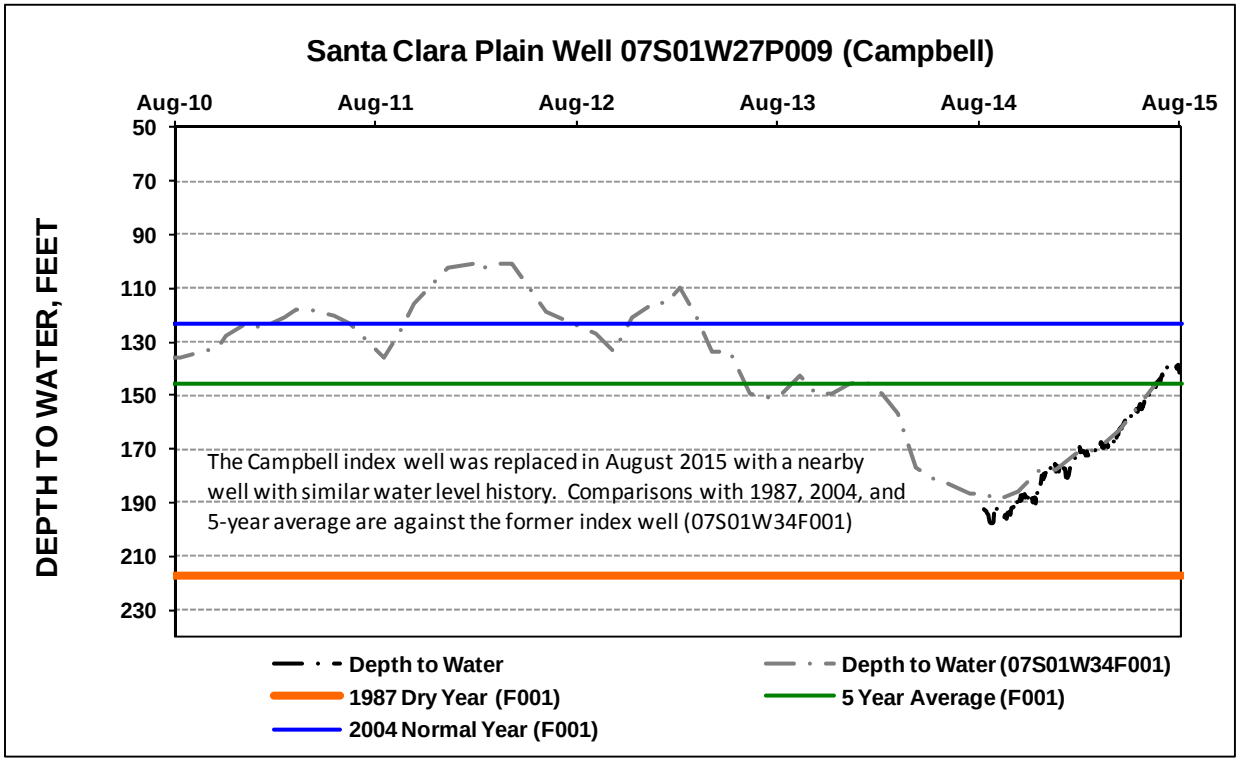


Figure 14 - South San Jose Well Hydrograph

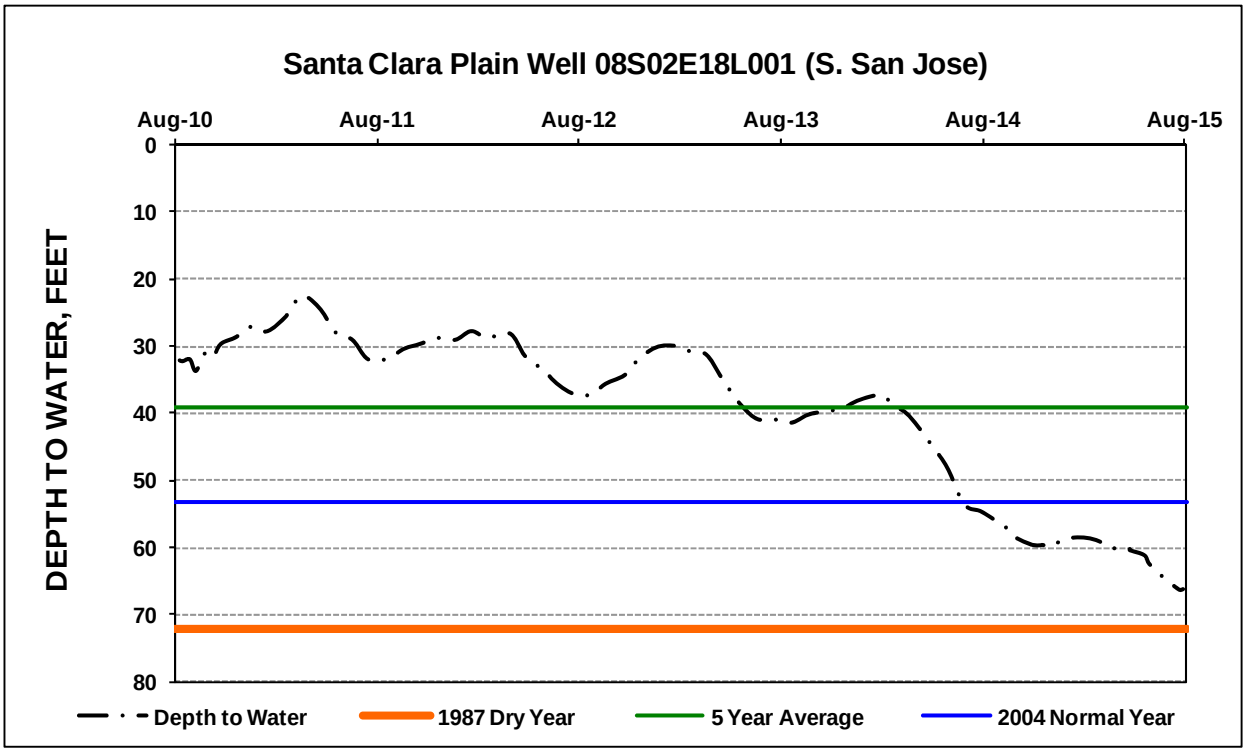


Figure 15 - Coyote Valley Well Hydrograph

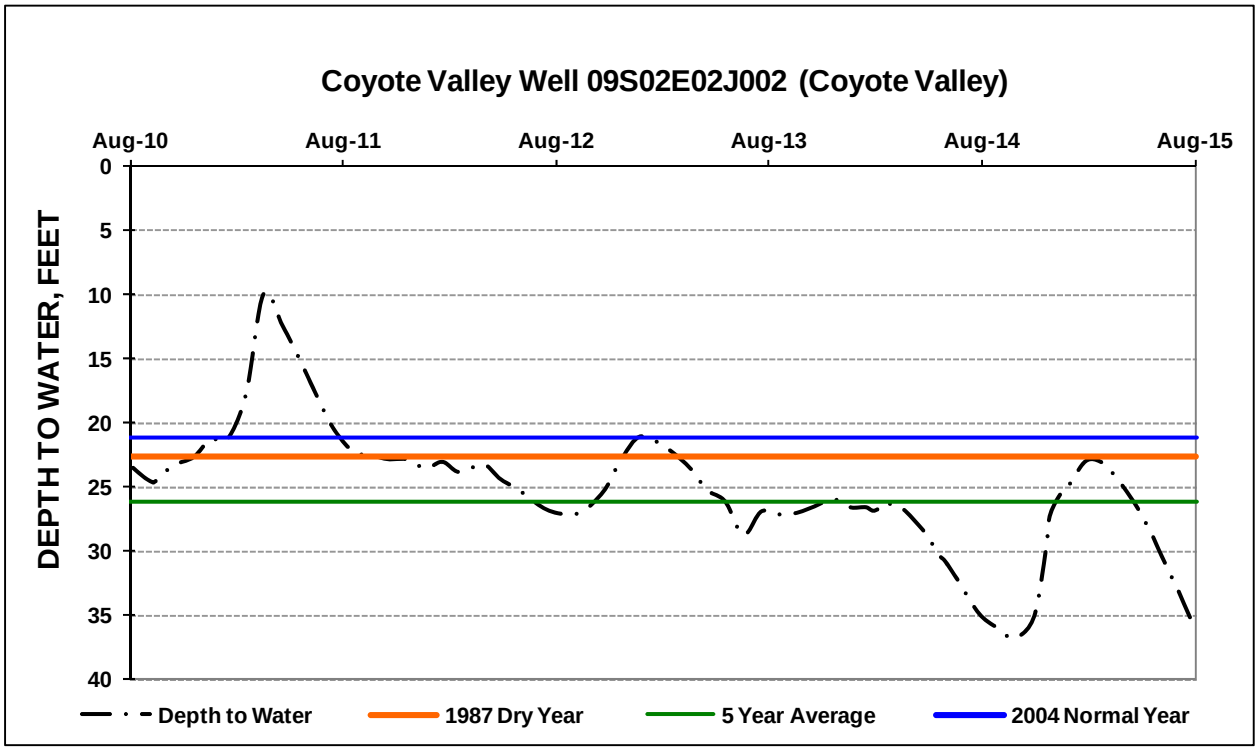


Figure 16 - Morgan Hill Well Hydrograph

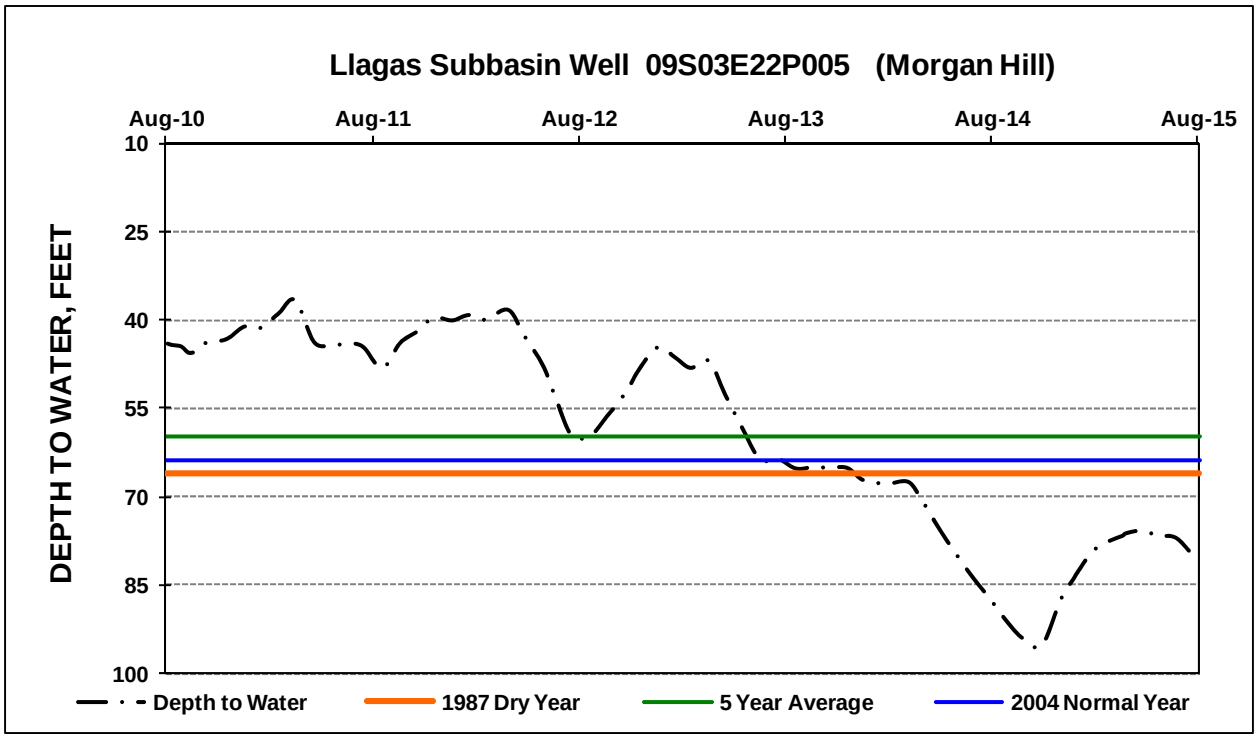


Figure 17 - San Martin Well Hydrograph

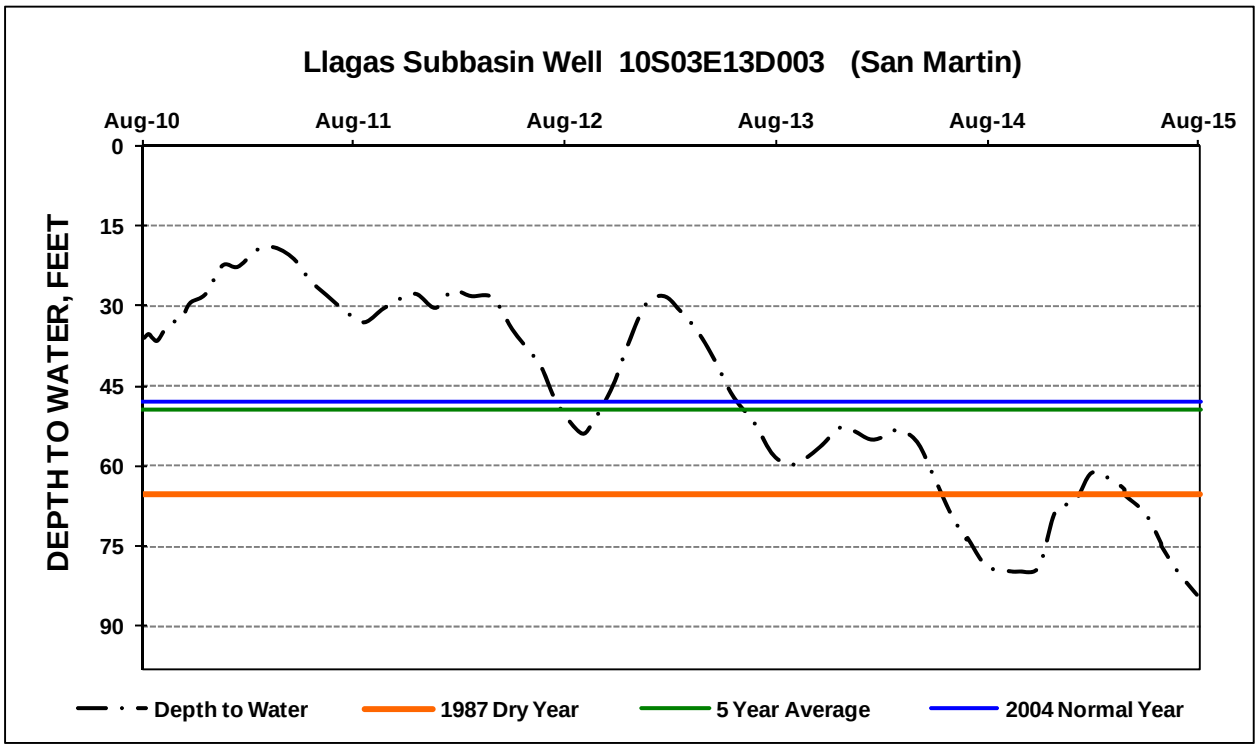
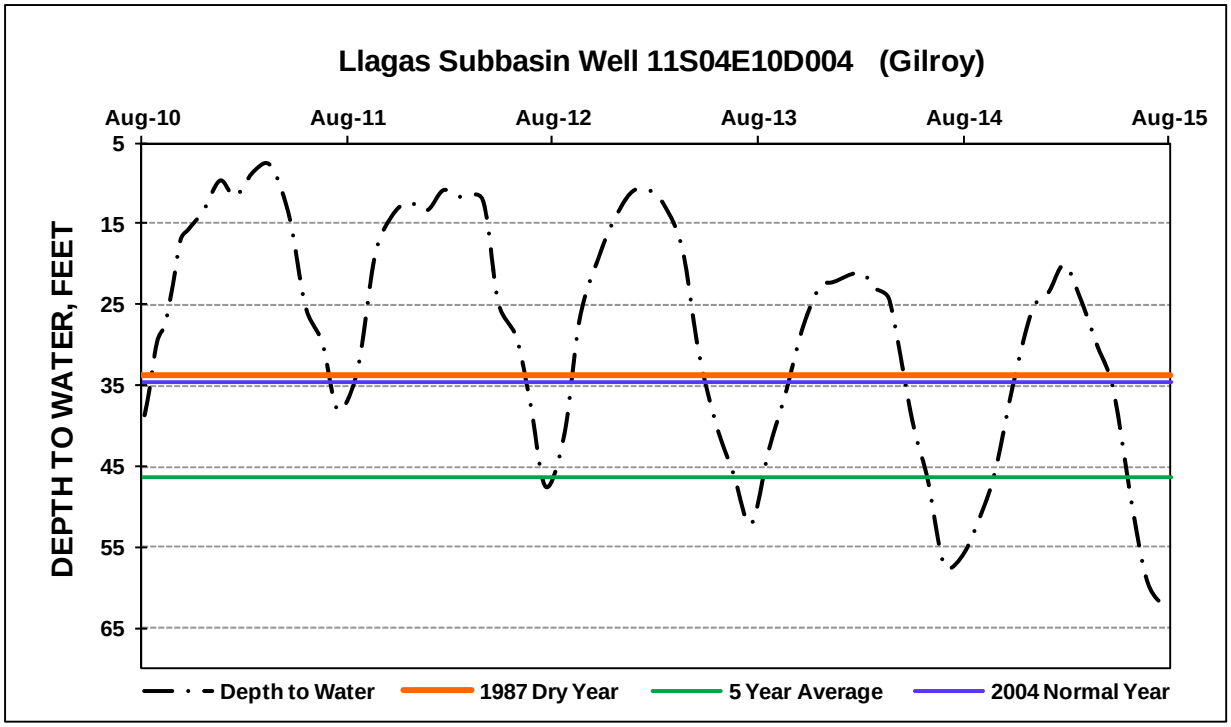


Figure 18 - Gilroy Well Hydrograph



Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	4.1a
Unclassified Manger:	Teresa Alvarado
Email:	talvarado@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Update on 2015 Water Supply and Drought Response—Outreach and Messaging

RECOMMENDED ACTION:

The Committee to receive the information, discuss, however, no action is required.

SUMMARY:

Staff will provide a verbal update on the status of various elements of the District's drought awareness campaign.

BACKGROUND:

The District Communications Unit has implemented a number of outreach campaign elements to help promote water saving actions in order to reach the Board's water use reduction target of 30% in 2015.

1. Staff has recognized those who are going above and beyond to reduce water use through our "Water Saving Heroes" monthly enewsletter, Board recognition, and a newspaper ad.
2. A special promotion with the Silicon Valley Business Journal encouraged businesses, business leaders, and associations to nominate themselves to be recognized as a "Water Saving Hero."
3. A workshop for landscapers and gardeners was scheduled on Sept. 26 at Santa Clara University. The workshop, presented by UC Davis's California Center for Urban Horticulture, was aimed at helping landscapers and gardeners adapt to California's climate by learning methods for using water efficiently and how to install and schedule water efficient irrigation equipment.
4. The District's annual newsletter will be mailed to every postal address in Santa Clara County. The annual newsletter highlights drought related messages, in addition to other District issues and projects.
5. An informational brochure was mailed to nearly 60,000 homes this summer.
6. In July, staff presented a webinar to reach local broadcast meteorologists. The webinar included an update on our local water supply conditions and water conservation efforts and key drought messages that meteorologists could convey to their audiences.
7. An advertising firm, Barnestorming Creative, developed our summer campaign, focusing on outdoor water use, our 2 day/week outdoor watering limit, rebate programs and other water saving tips. The campaign includes billboards, radio ads, print ads and television ads. There is a multi-lingual component in Spanish, Vietnamese and Chinese. All of the ads can be accessed at our new web site, watersavings.org.
8. To encourage residents and businesses to proclaim their efforts to reduce water use, nearly 3,000 lawn signs that proclaim, "We're fighting the drought, inside and out" have been distributed. They are in addition to the existing "Brown is the New Green" signs and shower collection buckets. In August, our "drought gear" was distributed at libraries in Santa Clara, San Jose, Palo Alto, Gilroy and Los Gatos. Staff continues to distribute them on request and at various events. The cities of Morgan Hill, Los Gatos, Saratoga, Los Altos and Los Altos Hills have offered to distribute shower buckets at their city hall locations.

9. The District participated in ACWA's "Save Our Water" statewide advertising campaign. Our investment of $48,000 was used to place ads on South Bay radio stations, billboards and digital media through June 2015.
10. Ads on Facebook built awareness of our team of water waste inspectors. A special Facebook page that advertises the four ways residents can report water waste garnered more than 4,000 page "likes."
11. Speakers bureau presentations continue to focus on the drought, as well as other topics.

ATTACHMENT(S):

Attachment 1: New Drought Messaging Campaign

New Drought Messaging Campaign

Summer 2014 through June 2015

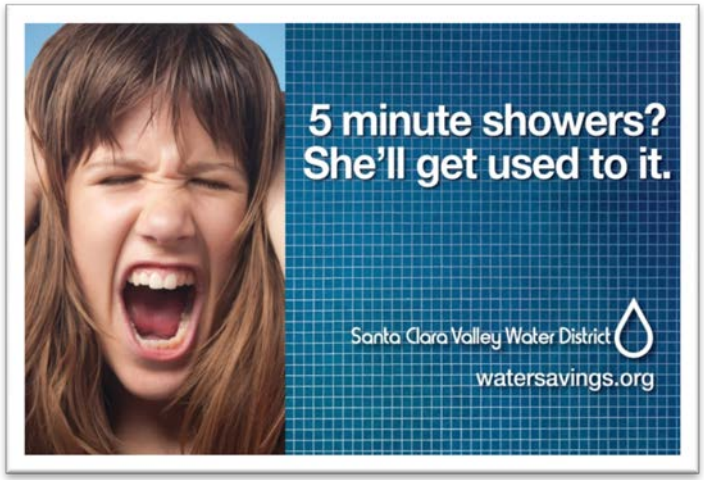
- Brown is the New Green campaign
- Rain or Shine campaign
- ACWA “Save Our Water” campaign

New Drought Messaging Campaign

June through October 2015

- "Let's fight the drought, inside and out" campaign
- Multimedia and multilingual elements
  - Radio, cable TV, outdoor, print, digital
- "Water Saving Heroes" ongoing & targeted recognition

New Drought Messaging Campaign



New Drought Messaging Campaign

Materials and publications

- Shower buckets, lawn signs distribution events
- Partnerships opportunities
  - Door hangers
  - Utility bill inserts
  - Banners, bumper stickers

New Drought Messaging Campaign

Mailings and education

- Direct mail
- Annual all-county mailer
- Webinar for meteorologists
- UC Davis Workshop for landscapers/gardeners (English/Spanish)
- Employee outreach

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Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	4.2
Unclassified Manger:	Liang Lee
Email:	llee@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Discussion on Riparian Corridors in Santa Clara County

RECOMMENDED ACTION:

Receive the information, discuss, however, no action is required.

SUMMARY:

The Environmental & Water Resources Committee (Committee) requested information on riparian corridor protection. The subject was added to the Committee's 2015 work plan, and approved by the Board on 12/9/2014.

This agenda item summarizes the current management framework for riparian corridors in the Santa Clara County, in terms of policies, ordinances and guidelines. It identifies several factors that may cause the riparian condition to deteriorate. It also describes the activities that the Santa Clara Valley Water District (District) is conducting to preserve the riparian corridor.

BACKGROUND:

Riparian Corridor is a term used in watershed management to address the land next to a stream that is vegetated, usually with trees and shrubs, that serves as a protective filter for streams. The riparian corridor is also an area that provides food, cover and protection to fish and other wildlife.

Current Practices in Riparian Corridor Protection

Protection of the riparian corridor is currently being achieved through three primary measures in Santa Clara County: 1) Guidelines and Standards for Land Use near Streams; 2) specific policies on riparian protection per general plans; and 3) the Santa Clara Valley Habitat Conservation Plan (VHP).

The cities in Santa Clara County (County), County, the District, and several other agencies and nonprofit organizations formed the Water Resources Protection Collaborative in the early 2000's to discuss riparian buffer protection. As a result the Guidelines & Standards for Land Use Near Streams were produced in 2006, aiding municipalities in their creation of riparian protection policies within their general plans. To date, most cities and the County have adopted ordinances or resolution to protect the riparian corridor. Some of these policies are presented in the PowerPoint presentation. These policies provide a general guideline, not law or regulation, for the agencies to follow. In 2012, the Santa Clara Valley Habitat Conservation Plan developed riparian setback requirements to which the participating agencies, including San Jose, Morgan Hill, Gilroy, County and the District have to abide.

The District does not have land use authority. Hence, it cannot require riparian setback. However, the District may work through the Integrated Water Resources Master Plan (Master Plan) to coordinate with other public agencies to manage the riparian area.

In order to provide protection of the riparian corridor, it will be necessary to identify how existing policies may be enhanced, and which components of riparian corridors are under stress, so that new policies and programs may be considered.

Riparian Corridors in an Urban Environment

The riparian corridors and streams in Santa Clara County have been adversely affected by population growth, urban development, creekside encampment, and climate change. Fortunately there is positive work being carried out by municipalities, stakeholder groups, the District, and the community at large to improve upon water supply, flood protection, and stewardship aspects related to riparian corridors.

The District Hydrology and Hydraulics unit is in the process of updating hydrologic and hydraulic models and the natural geomorphic channel geometries for each of the County's five major watersheds. This process will aid in the understanding of how stable stream channels and riparian corridors may be maintained.

The riparian habitat may be adversely affected if development encroaches into the area needed for wildlife or vegetation. The riparian corridor may also suffer when the creek channel is incised through increased discharges as a result of accelerated surface runoff and concentrated stormwater inflows to the creek. The District is currently conducting analysis of stream health using the California Rapid Assessment Method.

Efforts to Identify and Improve Upon Riparian Corridor Needs

Through the District's Integrated Water Resources Master Plan (Master Plan), several tools/processes will be utilized to better identify riparian needs and evaluate and prioritize opportunities for protection and improvement. Methods currently being considered include historical ecology, ecosystem services valuation, landscape futures analysis with San Francisco Estuary Institute, and geographic information system (GIS) analysis using designated riparian buffers including those defined by the VHP. The Master Plan will also conduct additional studies to understand stream and riparian corridor conditions.

GIS analysis on a watershed scale enables the District to better comprehend the environment on a systemic level rather than a project-based level. Part of this is looking at what is happening within buffers of the stream, such as land use, flood risk, habitat types, and water supply operations. Once we have a more complete picture of conditions, stakeholders, and opportunities, the Master Plan can move from planning to implementation.

With passage of the Safe, Clean Water and Natural Flood Protection program in November 2012, the District introduced the idea of Stream Corridor Priority Plans (SCPPs) under Project D3. These SCPPs are intended to help prioritize important work to preserve, protect and improve habitat within riparian corridors. While development of SCPPs is just beginning, components deemed necessary include invasive plant removal, native vegetation planting, gravel augmentation, channel stabilization through large woody debris installation, fish barrier removal and water quality improvements. Water supply and flood protection considerations may also be pertinent as they can impact the successful functioning of processes within the riparian corridor. Because all of these components are also considered in the Master Plan, the two will follow a similar schedule over the next several years.

ATTACHMENT(S):

Attachment 1: Discussion of Riparian Corridors PowerPoint Presentation

Discussion on the Riparian Corridor: Setbacks and More

October 2015 Update

Santa Clara Valley Water District

Definition

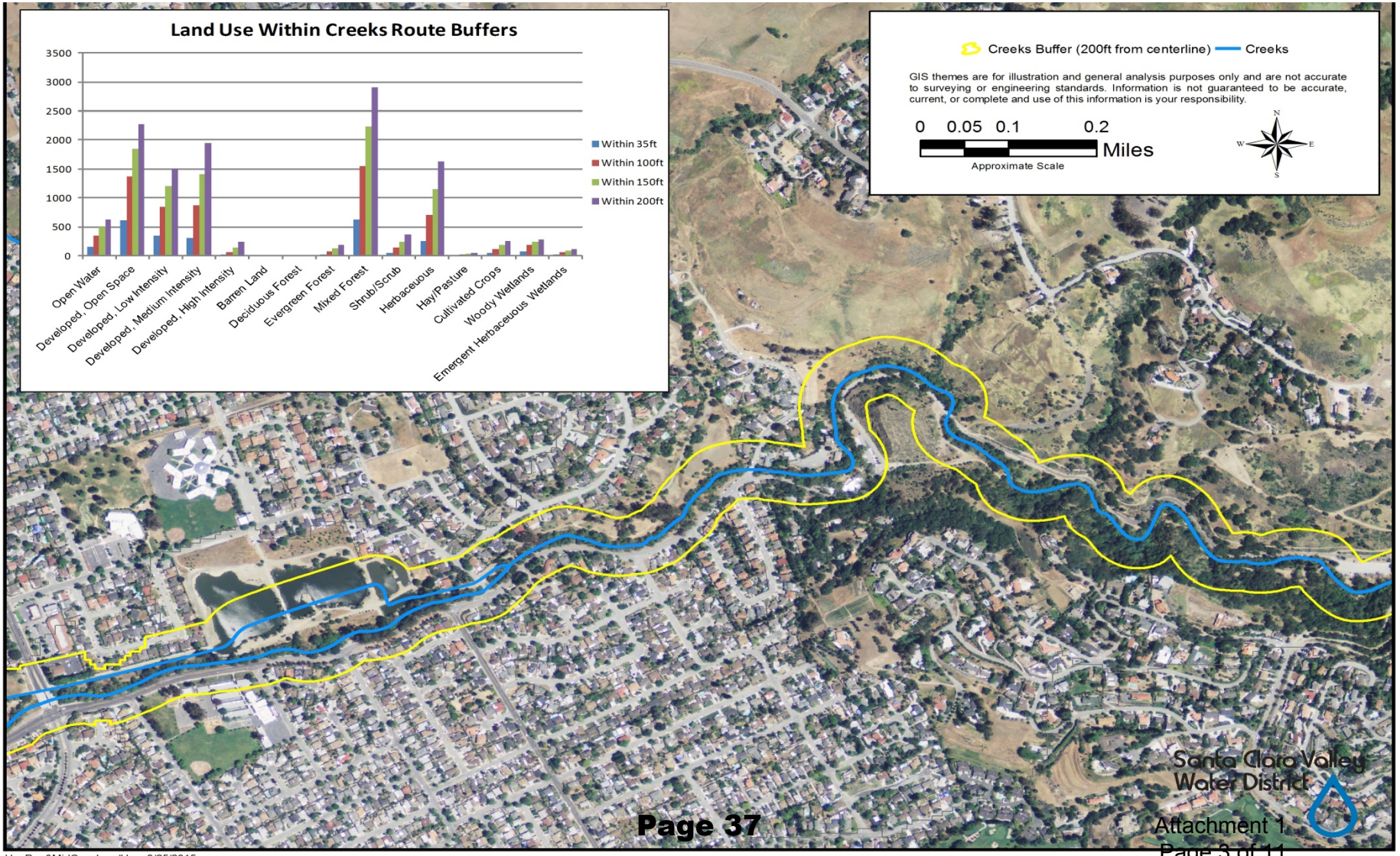
- **Riparian**: On, or pertaining to, the banks of a stream.
- **Riparian Buffer/Area**: Land next to a stream that is vegetated, usually with trees and shrubs, that serves as a protective filter for streams.

Reference: Guidelines & Standards for Land Use Near Streams, SCVWD

Aerial Map of Riparian Corridor

Upper Penitencia Creek Corridor

(Land Use Acres Within Upper Penitencia and Mid Coyote Watershed Riparian Buffers)



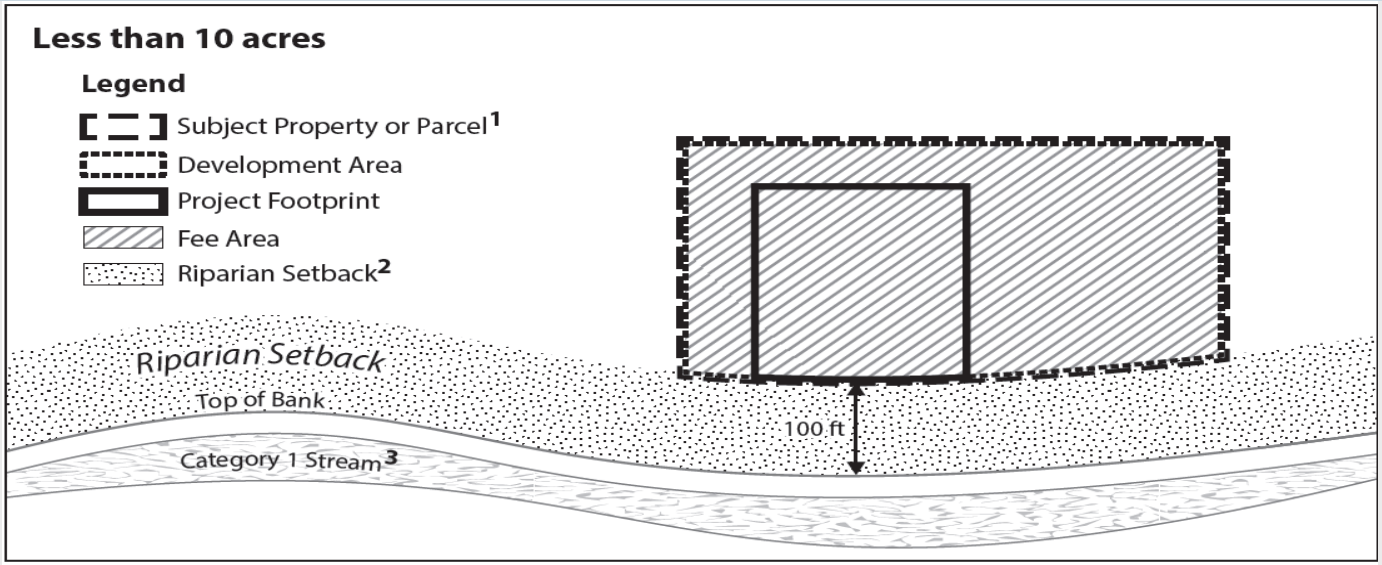
UppPen&MidCoy_LandUse, 8/25/2015

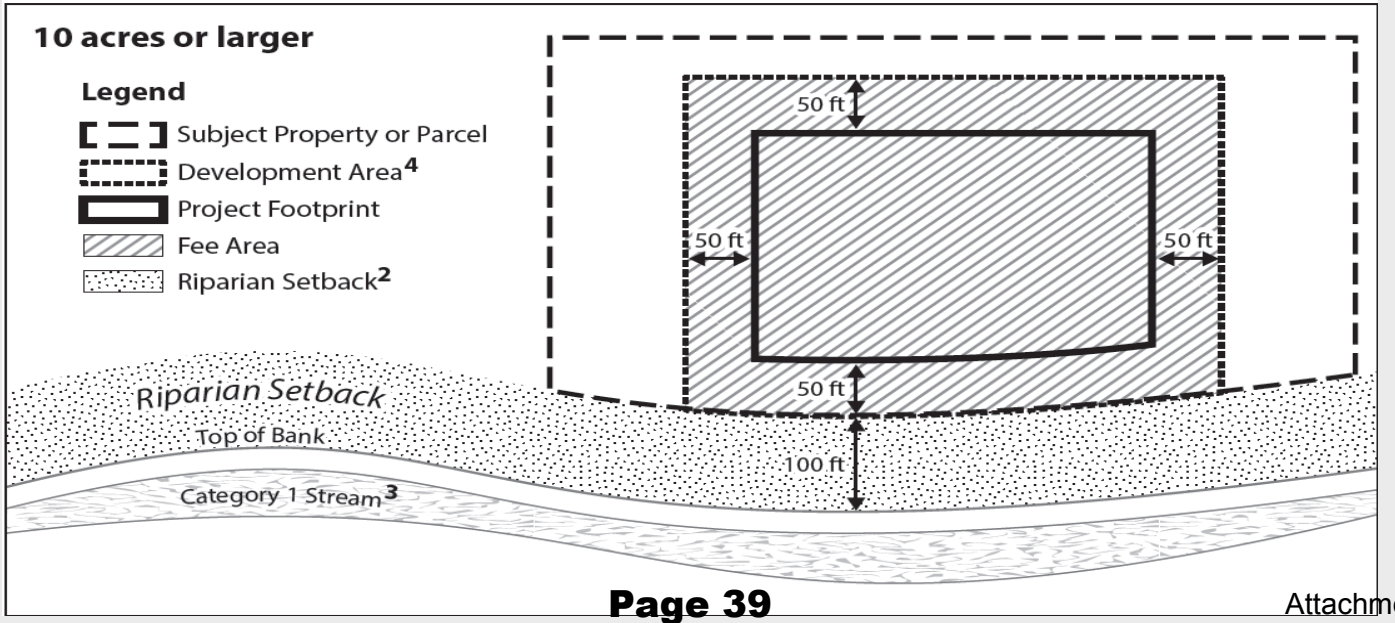
Current Practices in Riparian Corridor Protection

- **Santa Clara Valley Habitat Conservation Plan** – riparian setback **requirements** applicable to San Jose, Morgan Hill, Gilroy, County, SCVWD
- **Water Resources Protection Collaborative** (2006-07) provided **Guidelines** for riparian buffer protection
- Most cities adopted **Guidelines and Standards for Land Use near Streams** by resolution, but allow City staff to modify or adjust criteria
- **Santa Clara Valley Water District** does not have land use authority to require setbacks or buffer areas.

Valley Habitat Plan – Riparian Setback

Urban Service Area – Category 1 Streams supporting covered species

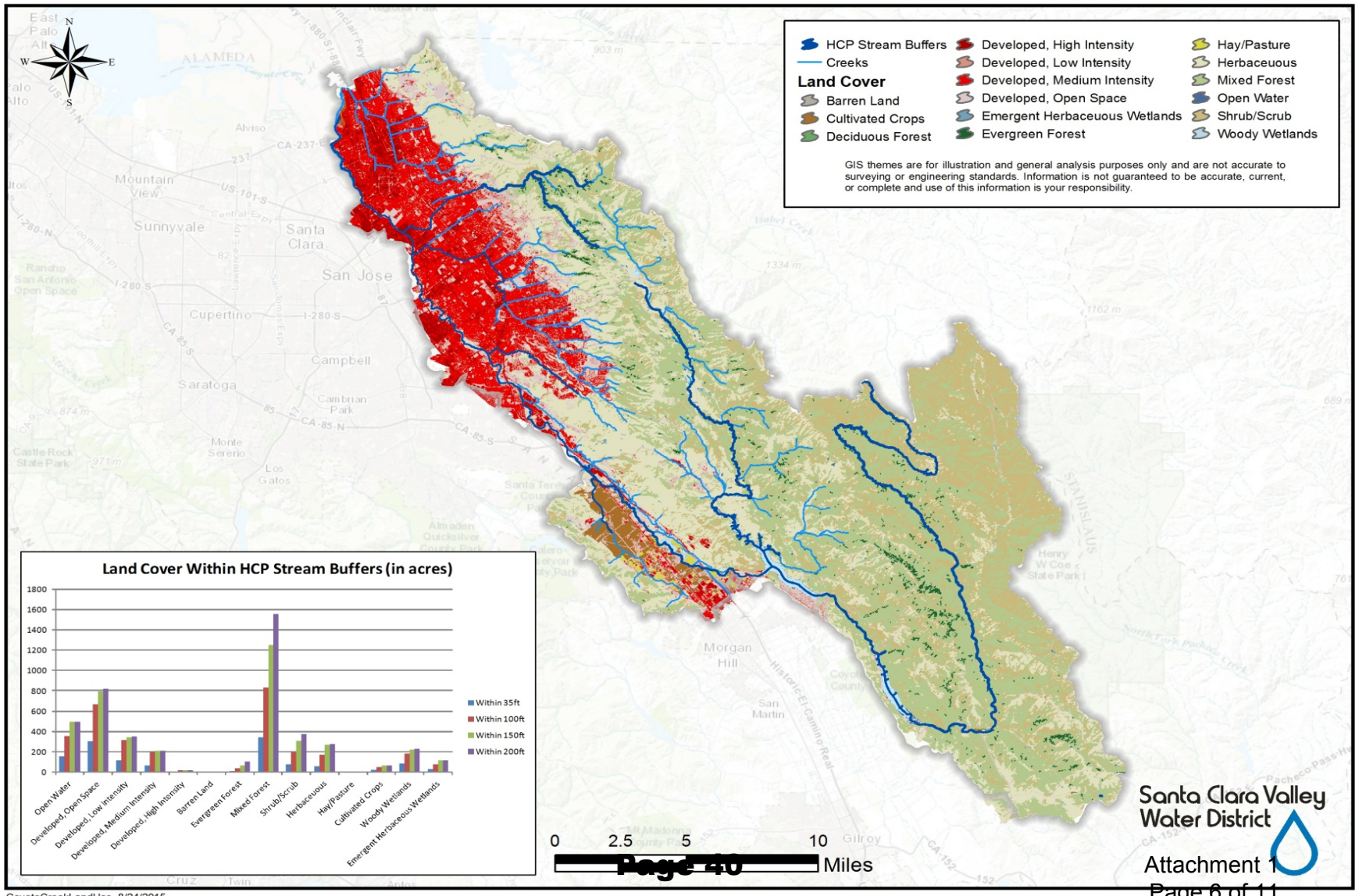




Reference: Santa Clara Valley Habitat Plan Aug 2012

Land Use Near Stream – Riparian Buffer

Coyote Creek - Land Cover Within HCP Stream Buffers



CoyoteCreekLandUse, 8/24/2015

Existing Policies for Riparian Corridor Protection

Excerpt from General Plans throughout Santa Clara County

City of San Jose

Goal ER-2 – Riparian Corridors
Preserve, protect, and restore the City's riparian resources in an environmentally responsible manner to protect them for habitat value and recreational purposes.

City of Milpitas

Policy 4 d-P-4:
Where consistent with other policies, preserve, create, or restore riparian corridors and wetlands. Where possible, set back development from these areas sufficiently to maximize habitat values.

City of Cupertino

Policy 5-27: Natural Water Courses
Retain and restore creek beds, riparian corridors, watercourses and associated vegetation in their natural state to protect wildlife habitat and recreation potential and assist groundwater percolation. Encourage land acquisition or dedication of such areas.

City of Campbell

Policy CNR-3.1 Riparian Corridor Preservation:
Preserve the aesthetic and habitat value of riparian corridors.

City of Morgan Hill

Policy 5a:
Encourage reclamation of degraded streams and riparian areas.

Town of Los Altos Hills

Policy 1.3
Preserve the integrity of riparian corridors as unique and environmentally sensitive resources.

City of Santa Clara

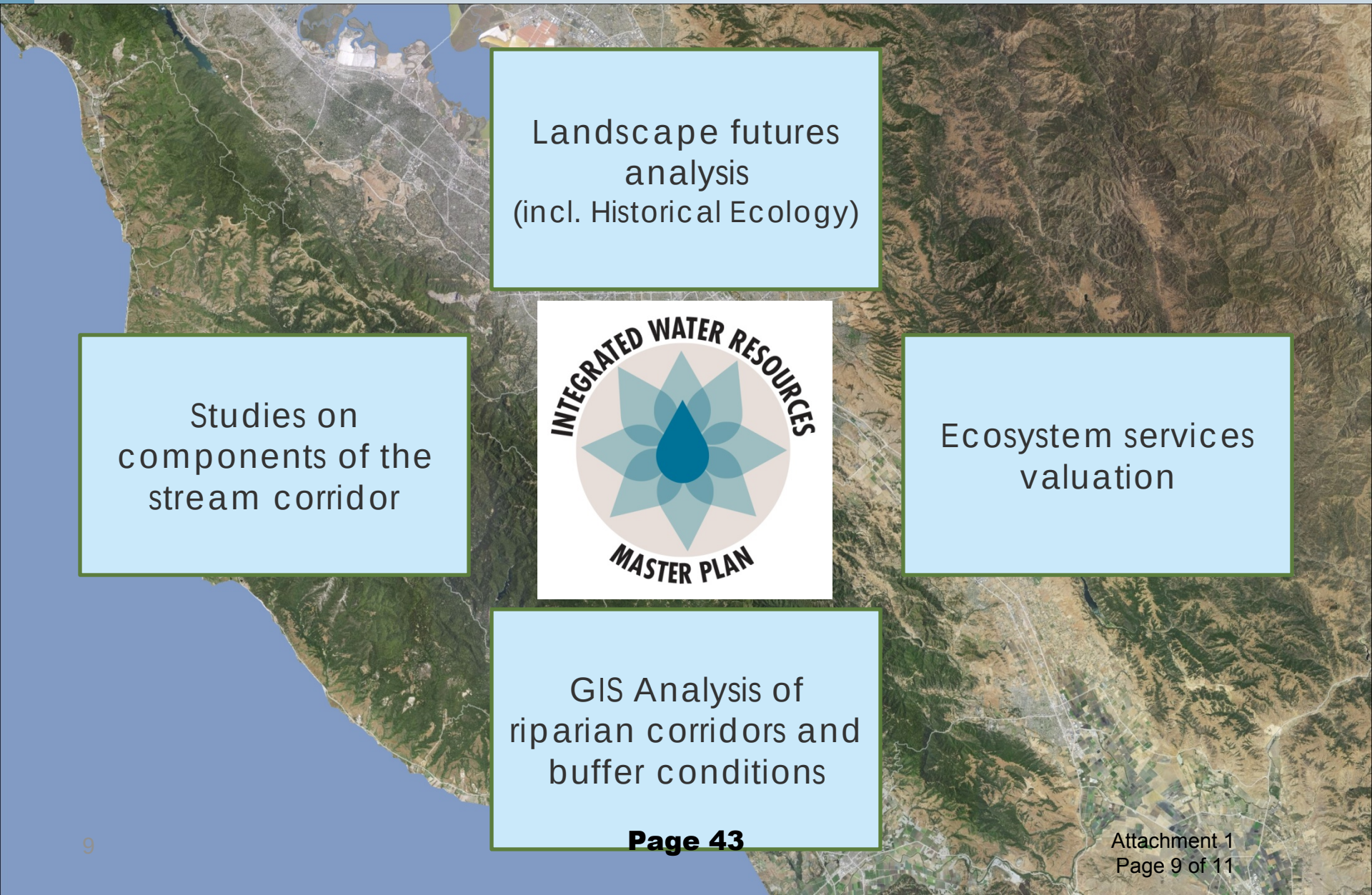
5.10.1-P5:
Encourage enhancement of land adjacent to creeks in order to foster the reinstatement of natural riparian corridors where possible.

Riparian Corridors at Risk

Calabazas Creek (11/16/2005)

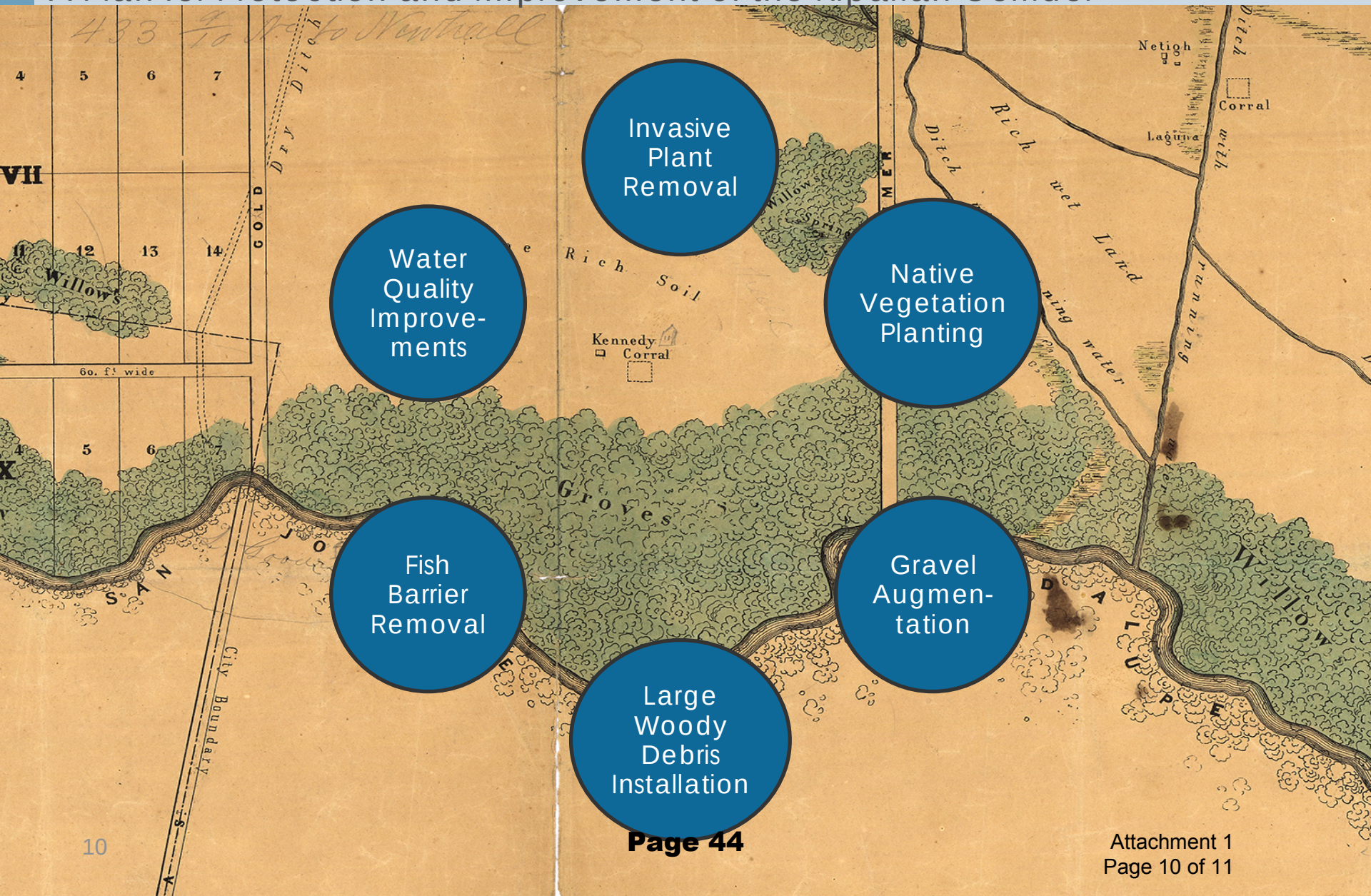
Thompson Creek (2/10/2010)

Tools for Investigating Riparian Corridor Needs



Next Steps - Stream Corridor Priority Plans

A Plan for Protection and Improvement of the Riparian Corridor



Riparian Corridor

- Q&A

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Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	4.3
Unclassified Manger:	Michele King
Email:	mking@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Receive Status Update from Working Groups

RECOMMENDED ACTION:

Provide comment to the Board in the implementation of the District's mission as it applies to the working groups' recommendations.

SUMMARY:

The Board approved the Committee's request to keep the Committee informed of the working groups' activities and results. This will be a standing agenda item.

BACKGROUND:

The District Act provides for the creation of advisory boards, committees, or commissions by resolution to serve at the pleasure of the Board.

Accordingly, the Board has established Board Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Board Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

Further, in accordance with Governance Process Policy-3, when requested by the Board, the Board's Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

ATTACHMENT(S):

Attachment 1: 2015 Policy Governance Work Study Session on Wednesday, July 29, 2015

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Dear Board of Directors, Santa Clara Valley Water District: (please distribute)

Subject: 2015 Policy Governance Work Study Session on Wednesday, July 29, 2015

Date: July 29, 2015

I wish you all a very productive policy setting workshop as we all face new and daunting challenges ahead.

As the SCVWD Board commences discussion on updating the policies that frame the work of the District, I wish to bring to your attention the work of the Environmental Water Resources Committee (EWRC), an Advisory Committee formed by the Board for input and review.

During this year, the EWRC spent considerable time and effort studying issues and preparing recommendations, both in Committee and through the Independent Working Groups (IWGs).

In your materials, your will find staff summarily objects to and dismisses adoption of these recommendations at this time.

I bring to your attention, these recommendations filed in your packets along with the many other items that come before you. In organizing the materials, there has not been a formal process that requested the EWRC present and explain these recommendations to the Board.

I recommend that these recommendations be discussed by the Board and there be a time certain for Advisory Committee members to present why it makes sense to formally consider these new priorities.

I am unable to make this meeting tonight but regard my service on this Committee as important pro bono work on behalf of the community and encourage you to continue to seek new ways to use the input of the Committee and the expertise of the members. I thank you for the honoring of serving the Board in this capacity.

Sincerely,

Rita Norton

Chair, Water Conservation Independent Working Group,

Member of the EWRC

cc: Members of the SCVWD Environmental Water Resources Advisory Committee (a note to District staff, please)

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Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	4.4
Unclassified Manger:	Michele King
Email:	mking@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Discuss Triclosan Releases in the South Bay

RECOMMENDED ACTION:

Review the subject to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:

The Chair of the Environmental and Water Resources has requested the Committee discuss Triclosan. The point of the Triclosan discussion is to recommend a purchasing policy that precludes the District from purchasing of products that contain Triclosan.

BACKGROUND:

Ms. Tess Byler raised this topic in 2014 but was told that Santa Clara Valley Water District did not purchase products containing Triclosan. However, in picking up supplies from the drought response initiative, the District is currently providing toilet flappers that contain Triclosan (as Microban, a trade name).

ATTACHMENT(S):

Attachment 1: Power point presentation

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Management Approaches for Reducing Triclosan Releases in South Bay:

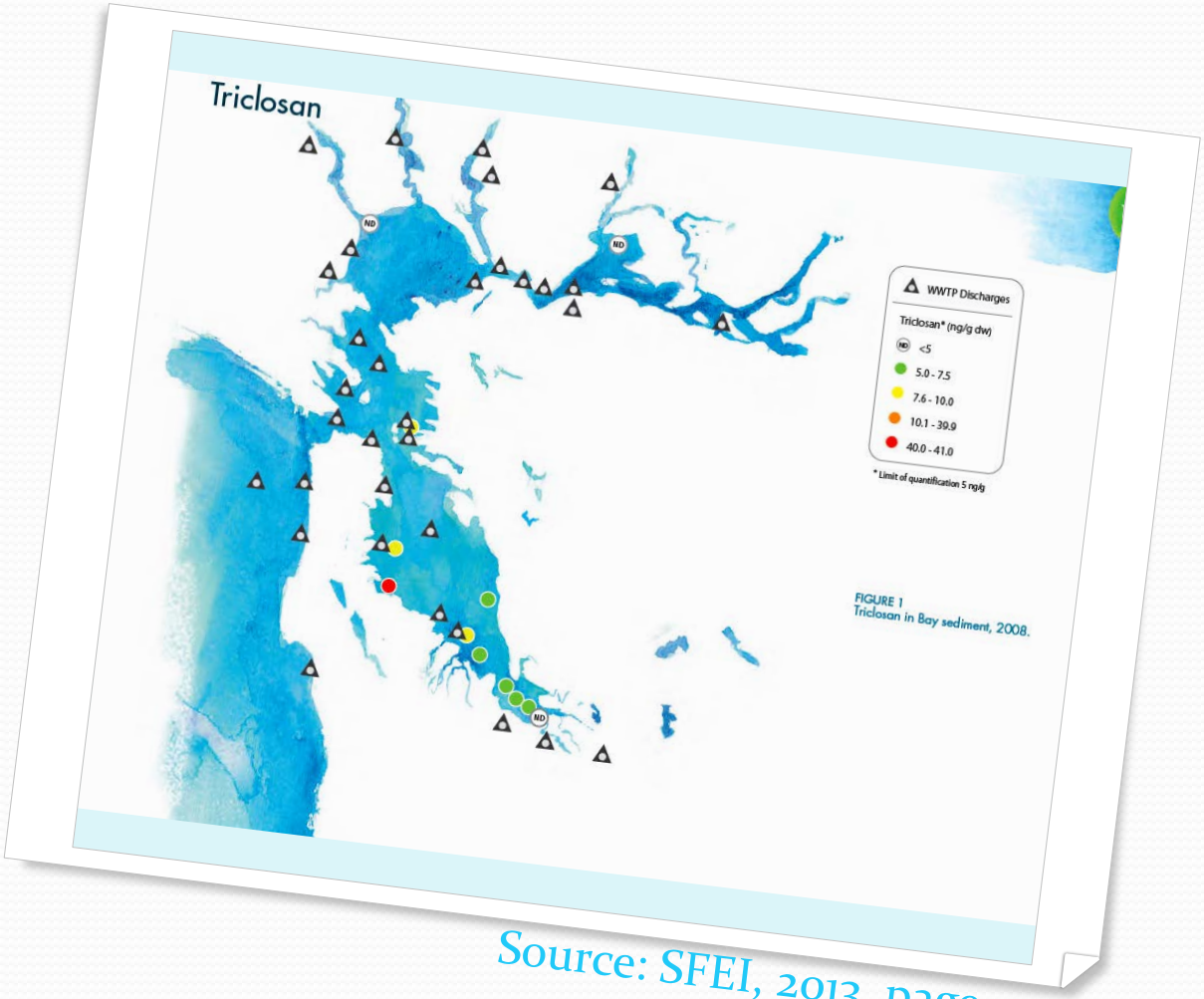
Recommendation for Purchasing Policy at SCVWD

Tess Byler, PG, CHG
Sustainable Watershed Management

SCVWD EWRC
October 19, 2015

Why Should You Care?

- It has been detected in 97% human breast milk samples, 47% plasma and 75% urine samples (N=2517, 2003-4, CDC).
- Laboratory studies suggest that triclosan can act as an endocrine disrupter in fish and mammals.
- In a 1999-2000 U.S. Geological study, triclosan was detected in 58% of 89 sampled U.S. waterways.
- One of the most frequently detected chemical in treatment plant effluent and stormwater runoff
- Degradation products are more resistant and toxic



Source: SFEI, 2013, page 77

Products Containing Triclosan

Soaps

- Dial® Liquid Soap
- Softsoap® Antibacterial Liquid Hand Soap
- Tea Tree Therapy™ Liquid Soap
- Provon® Soap
- Clearasil® Daily Face Wash
- Dermatologica® Skin Purifying Wipes
- Clean & Clear Foaming Facial Cleanser
- DermaKleen™ Antibacterial Lotion Soap
- Naturade Aloe Vera 80® Antibacterial Soap
- CVS Antibacterial Soap
- pHisoderm Antibacterial Skin Cleanser
- Bath and Body Works Anti-Bacterial Moisturizing Hand Lotions

Other Personal Care Products

- Gillette® Complete Skin Care MultiGel Aerosol Shave Gel
- Murad Acne Complex® Kit®
- Diabet-x™ Cream
- T.Taio™ sponges and wipes
- Aveeno Therapeutic Shave Gel

Dental Care

- Colgate Total®;
- Breeze™ Triclosan Mouthwash
- Reach® Antibacterial Toothbrush
- Janina Diamond Whitening Toothpaste

Cosmetics

- Supre® Café Bronzer™
- TotalSkinCare Makeup Kit
- Garden Botanika® Powder Foundation
- Mavala Lip Base
- Jason Natural Cosmetics
- Blemish Cover Stick
- Movate® Skin Litening Cream HQ
- Paul Mitchell Detangler Comb
- Revlon ColorStay LipSHINE Lipcolor Plus Gloss
- Dazzle

Source: BeyondPesticides.org

Products Containing Triclosan

Deodorants

- Old Spice High Endurance Stick Deodorant
- Right Guard Sport Deodorant
- Queen Helene® Tea Trea Oil Deodorant and Aloe Deodorant
- Nature De France Le Stick Natural Stick Deodorant
- DeCleor Deodorant Stick
- Epoch® Deodorant with Citrisomes
- X Air Maximum Strength Deodorant

First Aid

- SyDERMA® Skin Protectant plus First Aid Antiseptic
- Solarcaine®
- First Aid Medicated Spray; Nexcare™ First Aid
- Skin Crack Care
- First Aid/Burn Cream
- HealWell® Night Splint
- 11-1X1: Universal Cervical Collar with Microban

Kitchenware

- Farberware® Microban Steakknife Set and Cutting Boards
- Franklin Machine Products FMP Ice Cream Scoop SZ 20 Microban
- Hobart Semi-Automatic Slicer
- Chix® Food Service Wipes with Microban
- Compact Web Foot® Wet Mop Heads

Computer Equipment

Fellowes Cordless Microban Keyboard and Microban Mouse Pad

Clothes:

- Merrell Shoes
- Sabatier Chef's Apron
- Dickies Socks
- Fruit of the Loom Socks
- Biofresh® Socks

Source: BeyondPesticides.org

Products Containing Triclosan

Other

- Bionare® Cool Mist Humidifier
- Microban® All Weather Reinforced Hose
- Thomasville® Furniture
- Deciguard AB Ear Plugs
- Bauer® 5000 Helmet
- Aquatic Whirlpools
- Miller Paint Interior Paint
- QVC® Collapsible 40-Can Cooler
- Holmes Foot Buddy™ Foot Warmer
- Blue Mountain Wall Coverings
- California Paints®
- EHC AMRail Escalator Handrails
- Dupont™ Air Filters
- Durelle™ Carpet Cushions
- Advanta One Laminate Floors
- San Luis Blankets
- J Cloth® towels
- JERMEX mops

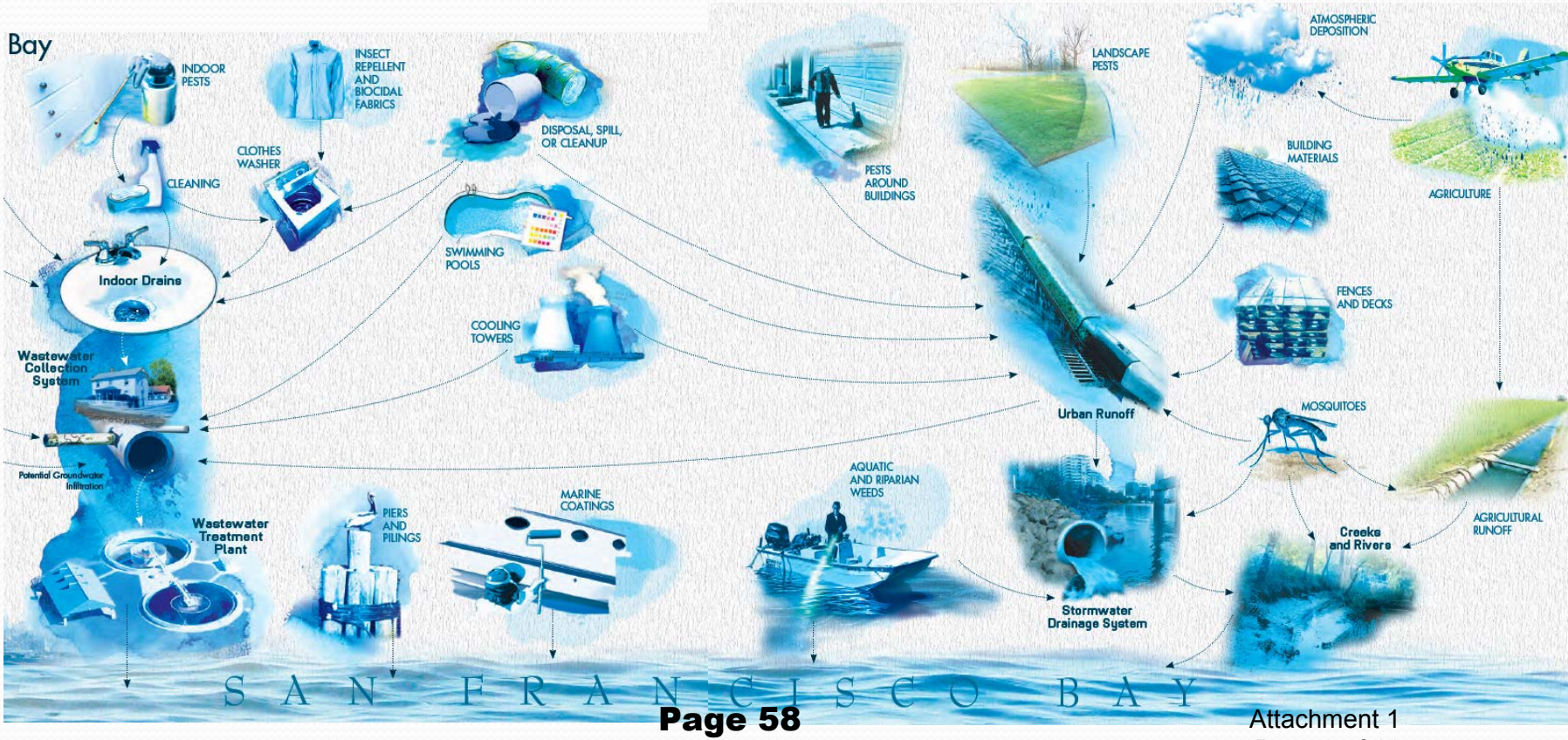
Children's Toys

- Playskool® :
  Stack 'n Scoop Whale
  Rockin' Radio
  Hourglass
  Sounds Around Driver
  Roll 'n' Rattle Ball
  Animal Sounds Phone
  Busy Beads Pal
  Pop 'n' Spin Top
  Lights 'n' Surprise Laptop

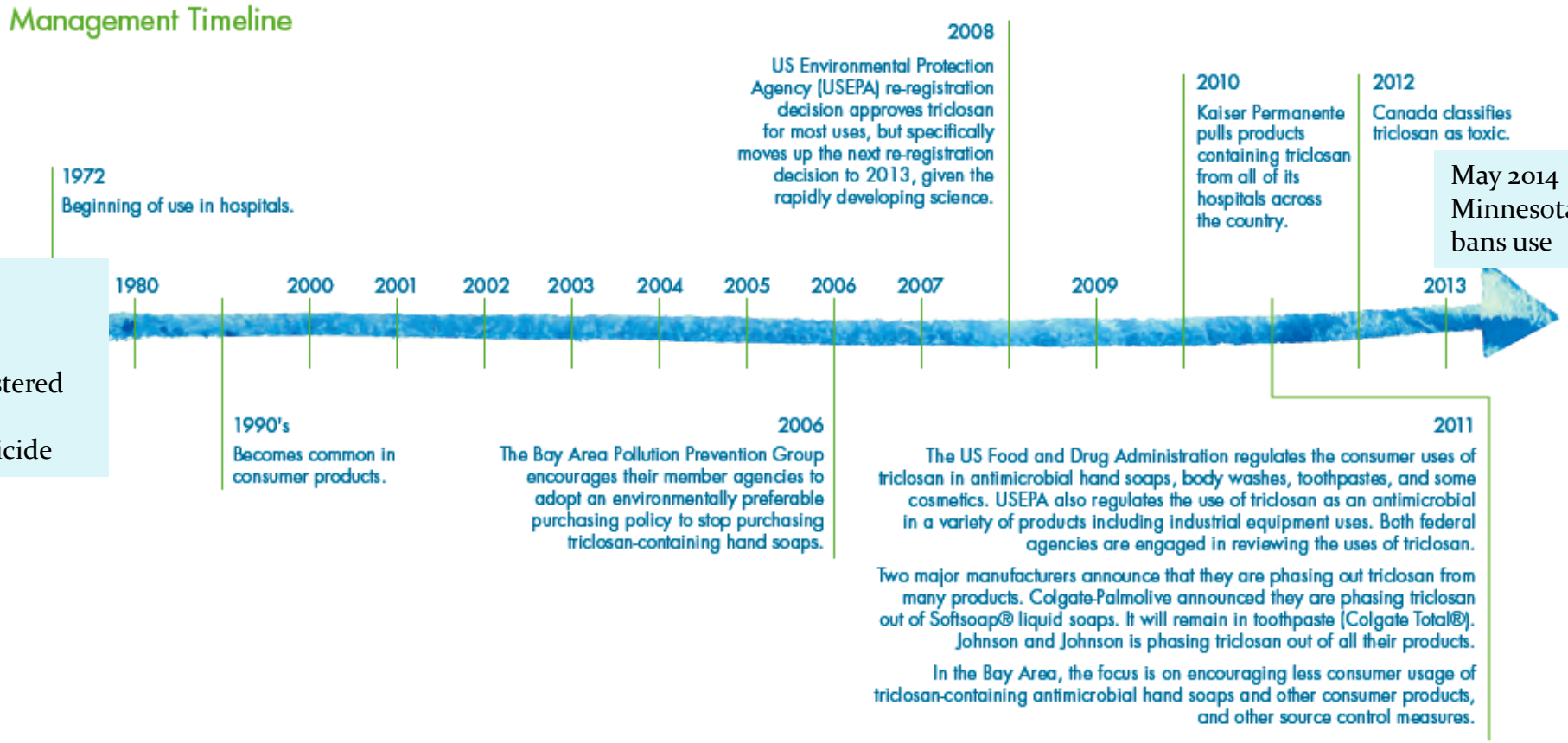
Source: BeyondPesticides.org

Conceptual Model

Primary pathways to environment are treatment plant effluent and stormwater runoff

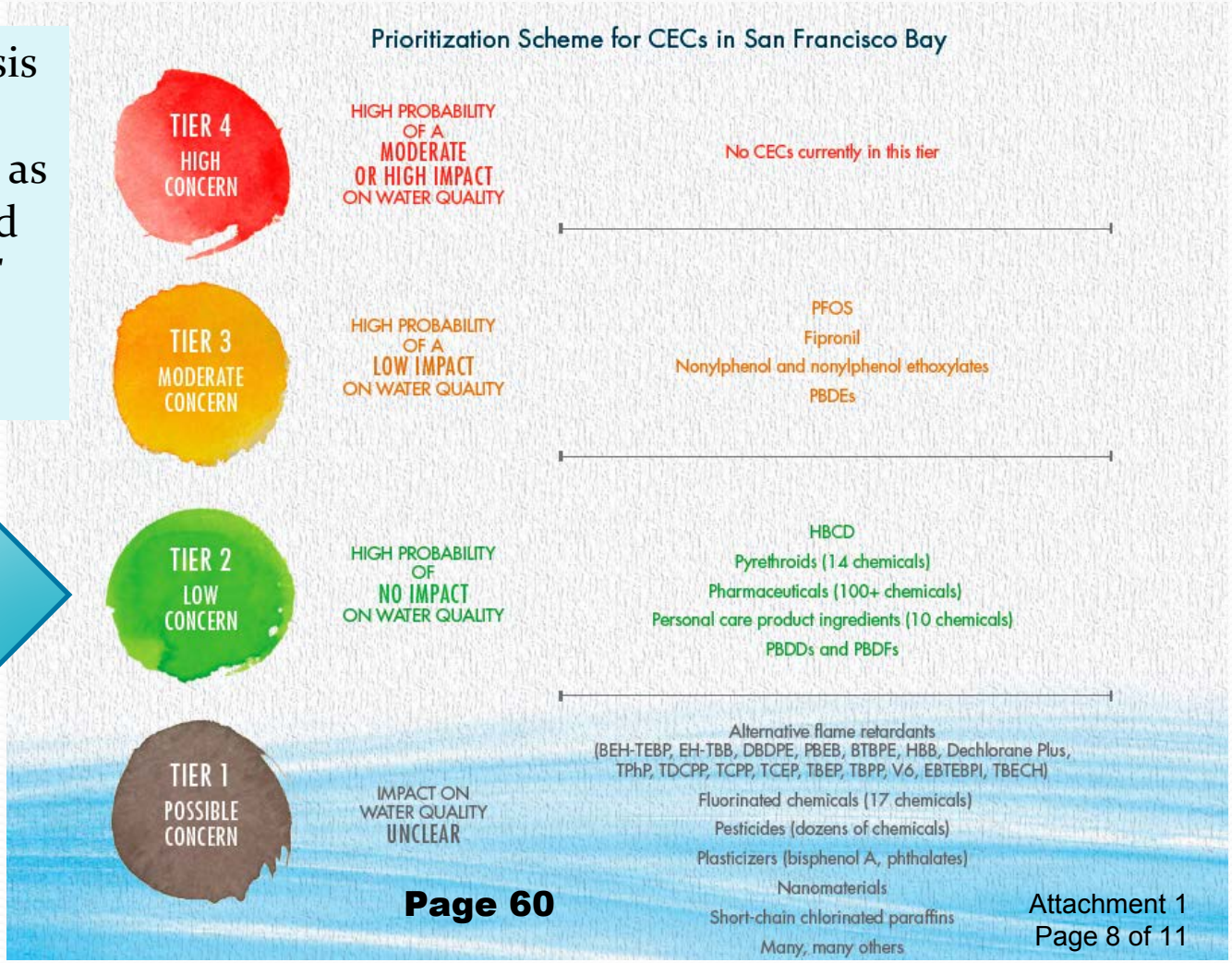


Timeline


Management Timeline
1969
First registered as a pesticide
1972
Beginning of use in hospitals.
1980
1990's
Becomes common in consumer products.
2000
2001
2002
2003
2004
2005
2006
2006
The Bay Area Pollution Prevention Group encourages their member agencies to adopt an environmentally preferable purchasing policy to stop purchasing triclosan-containing hand soaps.
2007
2008
US Environmental Protection Agency (USEPA) re-registration decision approves triclosan for most uses, but specifically moves up the next re-registration decision to 2013, given the rapidly developing science.
2009
2010
Kaiser Permanente pulls products containing triclosan from all of its hospitals across the country.
2011
The US Food and Drug Administration regulates the consumer uses of triclosan in antimicrobial hand soaps, body washes, toothpastes, and some cosmetics. USEPA also regulates the use of triclosan as an antimicrobial in a variety of products including industrial equipment uses. Both federal agencies are engaged in reviewing the uses of triclosan.
Two major manufacturers announce that they are phasing out triclosan from many products. Colgate-Palmolive announced they are phasing triclosan out of Softsoap® liquid soaps. It will remain in toothpaste (Colgate Total®). Johnson and Johnson is phasing triclosan out of all their products.
In the Bay Area, the focus is on encouraging less consumer usage of triclosan-containing antimicrobial hand soaps and other consumer products, and other source control measures.
2012
Canada classifies triclosan as toxic.
2013
May 2014 Minnesota bans use

2013 RMP Classification

2015 SFEI Analysis found Methyl Triclosan as a newly identified constituent in SF Bay wildlife.



Current Strategy: Prevention

- Source control via public awareness and voluntary elimination is the primary management strategy.
- Recommendations from 2006 largely implemented. The following entities no longer purchase triclosan-containing soaps: Palo Alto, San Jose, EBMUD, Central Contra Costa Sanitation District and many more (Karin North, City of Palo Alto, February 3, 2014)
- Remaining data gaps to be addressed using adaptive management approach.
- Decreased loading is suggested from widespread addition of activated sludge wastewater treatment (Cantwell et all 2010).
- December 17, 2013 Proposed Rule by FDA requires that companies prove that that triclosan is safe and more effective than plain soap. In addition, FDA will scrutinize for hormonal disruption and bacterial resistance. Final rule expected in 2016.
- We have not selected regulation, compared to Minnesota and the European Union

CONCLUSION: *too early to tell if success story*

What Can you Do?

- ☛Don't use antibacterial hand soaps or washes
- ☛Don't use other products with triclosan or triclocarban
- ☛Support and develop corporate purchasing policies (e.g. Kaiser) to ban buying products with triclosan.
- ☛Support voluntary phase-out plans by Procter & Gamble (by 2014?) and Johnson & Johnson (by 2015)
- ☛Tell your friends and family to do the same!

Acknowledgments

- Meg Sedlak, San Francisco Estuary Institute (SFEI)
- Rebecca Sutton, Ph.D., SFEI
- Karin North, City of Palo Alto

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Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	4.5
Unclassified Manger:	Michele King
Email:	mking@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Review of Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda.

RECOMMENDED ACTION:

Review the Board-approved Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:

The attached Work Plan outlines the Board-approved topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan is agendized at each meeting as accomplishments are updated and to review additional work plan assignments by the Board.

BACKGROUND:

Governance Process Policy-8:

The District Act provides for the creation of advisory boards, committees, or commissions by resolution to serve at the pleasure of the Board.

Accordingly, the Board has established Advisory Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Advisory Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

Further, in accordance with Governance Process Policy-3, when requested by the Board, the Advisory Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

ATTACHMENT(S):

Attachment 1: Environmental and Water Resources Committee 2015 Work Plan
Attachment 2: Environmental and Water Resources Committee January 2016 Draft Agenda

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2015 Work Plan: Environmental and Water Resources Committee

Update: October 2015

GP8. Accordingly, the Board has established Advisory Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Advisory Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

The annual work plan establishes a framework for committee discussion and action during the annual meeting schedule. The committee work plan is a dynamic document, subject to change as external and internal issues impacting the District occur and are recommended for committee discussion. Subsequently, an annual committee accomplishments report is developed based on the work plan and presented to the District Board of Directors.

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
1	**Annual Accomplishments Report**	January 26	• Review and approve 2014 Accomplishments Report for presentation to the Board. ***(Action)*** • Submit requests to the Board, as appropriate.	**Accomplished January 26, 2015:** The Committee reviewed and approved 2014 Accomplishments Report for presentation to the Board. *The Board received the Accomplishments Report at its March 10, 2015, meeting.*
2	**Election of Chair and Vice Chair for 2015**	January 26	• Committee Elects Chair and Vice Chair for 2015. **(Action)**	**Accomplished January 26, 2015:** The Committee elected the 2015 Committee Chair and Vice-Chair, Ms. Tess Byler and Hon. Dean Chu respectively.
3	**Review Committee Purpose, Structure, Roles, and Responsibilities**	January 26	• Review the committee purpose, structure roles and responsibilities. ***(Information)*** • Submit requests to the Board, as appropriate.	**Accomplished January 26, 2015:** The Committee reviewed the committee purpose, structure, roles and responsibilities and took the following action: The Committee approved by majority vote for the Advisory Committee Ad Hoc Committee's consideration, of having a 21 member committee.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
				The Advisory Committee Ad Hoc Committee received the Committee's request at its February 2015 meeting and brought it to the Board of Director's March 24, 2015, meeting and will be discussed at the April 14, 2015, meeting. *The Board approved the Committee's request for a 21 Committee member structure.*
4	**Update on 2015 Water Supply and Drought Response**	January 26 April 20 July 20 October 19	• Receive update on water supply and drought response. ***(Action)*** • Provide comments to the Board, as necessary.	**Accomplished January 26, 2015:** The Committee received information on the water supply and drought response and took the following action: The Committee requested for the Board's consideration to have the Committee receive quarterly updates on Water Conservation efforts. *The Board approved the Committee's request at its March 10, 2015, meeting.* **Accomplished April 20, 2015:** The Committee received information on the water supply and drought response and took no action: **Accomplished July 20, 2015:** The Committee received information on the water supply and drought response and took no action:

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
5	**Review of Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda**	January 26 April 20 July 20 October 19	• Receive and review the 2015 Board-approved Committee work plan**. *(Action)*** • Submit requests to the Board, as appropriate.	**Accomplished January 26, 2015:** The Committee reviewed the 2015 Committee Work Plan and took no action. **Accomplished April 20, 2015:** The Committee reviewed the 2015 Committee Work Plan and took no action. **Accomplished July 20, 2015:** The Committee reviewed the 2015 Committee Work Plan and took no action.

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
6	**Update of Status of Working Groups**	January 26 April 20 July 20 October 19	• Receive updates on the status of the working groups. ***(Action)*** • Submit requests to the Board, as appropriate.	**Accomplished January 26, 2015:** The Committee received updates on the status of the working groups and took the following action: The Committee request for the Board's consideration that they receive quarterly updates FAHCE agreement and corresponding actions taken at their quarterly meetings. *The Board approved the Committee's request at its March 10, 2015, meeting.* The Committee request for the Board's consideration that the Water District take immediate action in approving placing trash services on District land and update existing policy 4.1.1 *The Board received the Committee's request at its March 10, 2015, meeting and will discuss this during its July 2015 Policy Workshop.*

Accomplished April 20, 2015:
The Committee received updates on the status of the working groups and took no action.

Accomplished July 20, 2015:
The Committee received updates on the status of the working groups and took the following action:

Committee Recommendation:
Recommended the Homeless Encampment Dismantlement Program shall have the primary goal of removing homeless related trash that degrades the habitat of the riparian corridor and/or threatens to discharge to the creek, and shall have a secondary goal of preventing homeless encampment entrenchment along the

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
creek. All cleanups of homeless encampments effected by the District and its contractors and volunteer groups shall collectively result in the removal of all trash in the area of the dismantled encampment. The District will develop an Action Plan within 6 months of adoption of this policy to achieve and maintain the goal of keeping creeks free of homeless related trash by using the Homeless Encampment Dismantlement Program, volunteer based cleanup programs, and contractor support for trash unsuitable for volunteer efforts. *The Board received the Committee's request at its September 8, 2015, meeting and approved staff's analysis-noted below:* **Staff Analysis:** The Environmental and Water Resources Committee's (EWRC) recommended policy is \already covered under existing Board policy 4.1.1 (Preserve creeks, bay and ecosystems through environmental stewardship). In addition, the BAO Interpretation includes strategies and outcome measures that support the District's ongoing coordination with local cities and agencies to cleanup large creekside encampments that contaminate waterways. This cooperative effort includes local police departments, social services, and nonprofit advocacy groups that help provide alternatives to homelessness. Therefore, a program suggested by the Committee already exists and is currently being implemented. The focus of the Safe, Clean Water Good Neighbor encampment cleanup program is to prevent re-encampments and reduce the amount of trash/debris along the creeks. The current cleanup program includes using volunteers, non-governmental organizations (NGO's) and contractors for cleanup efforts, funding park rangers for security and enforcement, and utilizing grants and partnerships to secure more community involvement. Volunteers are being used extensively for ongoing maintenance of cleaned up areas, including removing trash and debris from sites previously occupied by encampment structures. The intent is to achieve a consistent level of service through regular volunteer clean up events along major creeks that should deter re-encampments. Removal of encampments along creeks is a continuous and an ongoing project due, in part, to a shortage of permanent supportive housing throughout Santa Clara County. In support of housing efforts in Santa Clara County, the District's CEO serves on the board of the *Destination:Homes*, a local non-profit that has developed a plan, endorsed by the District Board, to create a community-wide roadmap for ending homelessness for the next five years. The "Community Plan to End Homelessness in Santa Clara County" will guide governmental entities, nonprofits, and other community members in Santa Clara County by developing strategies and innovative prototypes that transform the systems related to housing homeless people. ***NOTE:*** ***The Board received all committee policy comments and suggestions for consideration during the Board's policy work study sessions this year.*** ***Through a facilitated effort, the Board is currently exploring modifications to its governance framework and corresponding policy review process. As a result, the Board directed to defer several policy suggestions to a future discussion.***			
7	**Review and Comment to the Board on the Fiscal Year 2016 Proposed Groundwater Production Charges.**	April 20	• Review and comment to the Board on the Fiscal Year 2016 Proposed Groundwater Production Charges. ***(Action)***	**Accomplished April 20, 2015:** The Committee reviewed and commented to the board on the fiscal year 2016 proposed groundwater production charges, with the following action:

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
			• Provide comments to the Board, as necessary.	**Committee Action**: The Committee approved staff's recommendations of Fiscal Year 2016 Proposed Groundwater Production Charges not to exceed the costs presented at the April 20, 2015, meeting and to include the Committee's comments for Board consideration: **Comments:** • considering expediting/expanding recycled water usage • purple piping increases around major pipelines and tapping into those systems (north county that is traveling south) • have a drought 'surcharge' during times of drought • concerned with new growth developments impacting water usage (whereas the rate increase does not solve the real issues-need to strive toward 'efficiencies') • when looking at the rates, regarding the Integrated Water Resource Master Plan, is it possible to look at retailers' such as San Jose Water's service fee/water fee—to ensure water is affordable and review any impacts on seniors and/or low income people, through the various programs retailers may have) *The Board received the Committee's*

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
				comments at its June 30, 2015, meeting
8	**Discussion of Specific Policy(ies) for the Board's 2015 Policy Workshops in July 2015.**	April 20	• Discuss specific policy(ies) for the Board's 2015 Policy Workshiops. ***(Action)*** • Provide comments to the Board, as necessary.	**Accomplished April 20, 2015:** The committee discussed policies and took the following action: **Action 1:** The Committee approved policy recommendation for Board's consideration to add language to several policies/strategies and CEO interpretations:

Ends policy 2.1.1 "Aggressively protect groundwater from the threat of contamination and maintain and develop groundwater to optimize reliability and to minimize land subsidence and salt water intrusion."

Proposed Language
Aggressively protect groundwater from the threat of climate change and contamination in order to maintain and develop groundwater to optimize reliability and to avoid land subsidence and salt water intrusion.

Add CEO Interpretations:
1. The District shall enact the authority to limit sales to water retailers and other users in accordance to their water conservation performance.
2. Increase groundwater recharge and storage capacity through greater integration of stormwater and treated wastewater.

Ends Policy 2.1.4 "Protect, maintain, and develop recycled water."

Add *Outcome Measures:*
At least 25% of annual recycled water production as a percentage of total County water demands by 2025.

Add Strategies:
1. Form partnerships with the County, cities, and local water providers to develop new water supplies (i.e. recycled water for non-potable reuse and purified water for indirect/direct potable reuse).
2. Develop a Water Supply Climate Action Plan that builds resiliency through the prioritization of recycled water projects that supplement forecasted reductions

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME

in the Sierra snowpack and imported water.

Ends Policy 2.1.5 Maximize water use efficiency, water conservation, and demand management opportunities:

Add Outcome Measures:
OM 2.1.5a. At Least 98,5000 acre-feet of annual County-wide water conservation saving by 2030.

OM 2.1.5.b Award up to $1 million to test new conservation activities through 2023. (SCWA2)
Consider increasing budget for conservation incentives to achieve strategies.

Add CEO Interpretations:
The District shall define Water Waste and specify what examples fall into this category.

Add Glossary of Terms:
Water Waste - the indiscriminate, unreasonable, or excessive running or dissipation of water **See example from Monterey Peninsula Management District (***www.mpwmd.dst.ca.us/wdd/Forms/Water%20Waste%20Definition.pdf***)**

Add Strategies:
1. Develop and implement water conservation outreach and communication plans. **Evaluate and update water conservation outreach and communication plan to meet current state water cut mandates.
2. Build resilience and reliability in our water supply and demand to protect ourselves and the natural habitat against state-wide shortages in water supply.
3. Recognize and respond to state-wide shortages in water supply.Work with the California Public Utility Commission (CPUC) and other entities responsible for the approval of tiered conservation rates and decoupling revenue from expenditures for water conservation programs.
4. Develop partnerships with retail water agencies and others to implement conservation projects, programs and activities that collectively achieve conservation targets established in most recent Urban Water Management Plan.
5. Develop partnerships with land use planning agencies to implement ordinances for greywater in new and existing residential, commercial and industrial buildings and water use reduction measures consistent with applicable water shortage contingency plans.
6. Work with retail water agencies and others to implement advance meter monitoring technologies in order to detect leaks and other water waste to provide better reporting to water users.
7. Assist agricultural water users in adopting advances in water saving technology.
8. Work with municipalities, retailers, suppliers and other regional jurisdictions to identify role and responsibilities for Water Utility emergency management and provisions for rationing, restrictions and penalty structures.

NFP Objective 3.1.2 “Preserve Flood conveyance capacity and structural integrity of stream banks, while minimizing impacts on the environment and protecting

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
habitat values." Proposed language: 3.1.2 Preserve Flood conveyance capacity and structural integrity of stream banks, while integrating environment and habitat values.				
WRS Goal 4.1. "Protect and restore creek, bay, and other aquatic ecosystems." Add Strategies:' 1. Implement programs to protect or promote groundwater quality to support beneficial uses. 2. Protect groundwater recharge areas in creeks and riparian corridors. *3.* Preserve, enhance, rehabilitate, and restore stream, riparian, and wetland habitats to promote healthy ecosystems, support wildlife diversity, and increase connectivity, including wildlife corridors*.* Add CEO Interpretations: A portion of conserved water shall be allocated to streams where habitat metrics indicate emergent loss of specific aquatic conditions and species.				
WRS Objective 4.1.2. "Improve watersheds, streams, and natural resources." Add Outcome Measures: *OM 4.1.2.b. Update 3 creek hydrology and temperature models annually.* *OM 4.1.2.m. Develop and implement a long-term monitoring program for steelhead to assess trends in population abundance, productivity, spatial structure, and diversity.* *OM 4.1.2n. Conduct studies to identify habitat impairments that limit steelhead productivity and use the information to develop habitat enhancement/restoration plans.* **Action 2:** The Committee approved for the Board's consideration to integrate their policy recommendations from the January 2015 meeting on the homeless (see Attachment 1), and add another recommendation for the Board's consideration; to solicit grants/partnerships proposals from public and private entities to increase trash removal from creekside locations affected by homeless-related trash at an intensity, frequency and geographic extent to prevent or minimize trash discharge to the creeks. **Action 3:** The Committee approved policy recommendation for the Board's reconsideration of the Committee's July 2014 policy recommendations: to add Water Supply				

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
Ends Policy 2.4 "Adequate quality and quantity of water is delivered to streams to assure protection of instream environmental beneficial uses." Also, Add Objective 2.4.1 under Water Supply Ends Policy 2.4: During periods of drought, instream environmental beneficial uses of water shall be maintained by a combination of 1. Discharge from reservoirs and/or groundwater pumping to streams upstream of groundwater recharge facilities and 2. Restriction on water consumption to prevent groundwater depletion. or.. during periods of drought, reductions in water deliveries or use shall be implement in a manner that seeks to assure that essential human health and safety needs are met, that reasonable needs for municipal and industrial uses are met, that the unreasonable or wasteful use of water for ornamental landscape irrigation is prohibited, and that instream species survival needs are met to the extent within the District's legal authority. *The Board received the Committee's requests at its June 30, 2015, meeting.* ***NOTE:*** ***The Board received all committee policy comments and suggestions for consideration during the Board's policy work study sessions this year.*** ***Through a facilitated effort, the Board is currently exploring modifications to its governance framework and corresponding policy review process. As a result, the Board directed to defer several policy suggestions to a future discussion.***				
9	**Discussion of California Environmental Quality Act (CEQA) Reform**	July 20	• Receive an update on the California Environmental Qualit Act (CEQA) Reform. ***(Action)*** • Provide comments to the Board, as necessary.	**Accomplished July 20, 2015:** The Committee received an update on the California Environmental Quality Act (CEQA) Reform and took no action.
10	**Sustainable Groundwater Management Act**	July 20	• Receive information on the Sustainable Groundwater Management Act **(Information)**	**Accomplished July 20, 2015:** The Committee received information on the Sustainable Groundwater Management Act and took no action.
11	**Receive Update on the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) Process**	July 20 October 19	• Receive updates on Fisheries Aquatic Habitat Collaborative Efforts Process**.** • Submit requests to the Board, as appropriate.	**Accomplished July 20, 2015:** The Committee received information on the Fisheries Aquatic Habitat Collaborative Efforts Process and took no action.
12	**Status Report on the Water Resources Master Plan.**	October 19	• Receive an update on the Water Resources Master Plan.	

Yellow = Update Since Last Meeting
Blue = Action taken by the Board of Directors

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
			(Information)	
12	**Update on Bay Delta Conservation Plan and Imported Water with Respect to Board Ends Policy 2.1: Reliable Water**	October 19	• Receive an update on the Bay Delta Conservation Plan and Imported Water with Respect to Board Ends Policy 2.1:Reliable Water ***(Information)***	
13	**Discussion on Riparian Corridors in Santa Cla County**	October 19	• Receive an update on Riparian Corridors in Santa Clara County ***(Information)*** • Provide comments to the Board, as necessary.	

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Santa Clara Valley Water District

Committee Officers
Tess Byler, Committee Chair
Dean Chu, Committee Vice Chair

Board Representative
Tony Estremera, Board Representative
Dennis Kennedy, Alternate
Linda J. LeZotte, Board Representative

DRAFT AGENDA

ENVIRONMENTAL AND WATER RESOURCES COMMITTEE

MONDAY, JANUARY 25, 2016

6:00 p.m. – 8:00 p.m.

Santa Clara Valley Water District
Headquarters Building Boardroom
5700 Almaden Expressway
San Jose, CA 95118

Time Certain:
6:00 p.m. **1.** **Call to Order/Roll Call**

2. **Time Open for Public Comment on Any Item Not on Agenda**
Comments should be limited to two minutes. If the Committee wishes to discuss a subject raised by the speaker, it can request placement on a future agenda.

3. **Approval of Minutes**
3.1 Approval of Minutes – July 20, 2015, meeting

4. **Election of Chair and Vice Chair**

5. **Action Items**
5.1 Update on 20169 Water Supply and Drought Response (Vanessa De La Piedra)
a. Outreach and Messaging (Teresa Alvarado)
Recommendation: This is an information item only and no action is required.

5.2. Review and Approve 2015 Annual Accomplishments Report for Presentation to the Board (Committee Chair)
Recommendation: This is an action item to provide comments to the Committee Chair to share with the Board as part of the Accomplishments Report presentation pertaining to the purpose, structure, and function of the Committee.

5.3 Receive Status Update from Working Groups (Committee Chair)
Recommendation: Provide comment to the Board in the implementation of the District's mission as it applies to the working groups' recommendations.

5.4 Review of Environmental and Water Resources Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda (Committee Chair)
Recommendation: Review the Board-approved Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

6. **Information Only Items**

*Informational only items are not for discussion or action. However, clarifying questions may be asked, and will be called for by the Chair***.**

5.1 Receive Update on FAHCE Agreement (Debra Caldon)

Recommendation: This is an information item only and no action is required.

7. **Clerk Review and Clarification of Committee Requests to the Board**

This is a review of the Committee's Requests, to the Board (from Item 5). The Committee may also request that the Board approve future agenda items for Committee discussion.

8. **Reports**

Directors, Managers, and Committee members may make brief reports and/or announcements on their activities. Unless a subject is specifically listed on the agenda, the Report is for information only and not discussion or decision. Questions for clarification are permitted.

8.1 Director's Report
8.2 Manager's Report
8.3 Committee Member Reports

9. **Adjourn:** Adjourn to next regularly scheduled meeting at 6:00 p.m., April 18, 2016, in the Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, CA 95118

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarter Building, 5700 Almaden Expressway, San Jose, CA., 95118, at the same time that the public records are distributed or made available to the legislative body.

The Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend committee meetings. Please advise the Clerk of the Board office of any special needs by calling 1-408-630-2277.

Environmental and Water Resources Committee's Purpose and Duties

The Environmental and Water Resources Committee of the Santa Clara Valley Water District is established to assist the Board of Directors (Board) with policies pertaining to water supply, flood protection and environmental stewardship.

The specific duties are:

- Prepare policy alternatives;
- Provide comment on activities in the implementation of the District's mission; and
- Produce and present to the Board an Annual Accomplishments Report that provides a synopsis of the annual discussions and actions.

In carrying out these duties, Committee members bring to the District their respective expertise and the interests of the communities they represent. In addition, Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	5.1
Unclassified Manger:	Frank Maitski
Email:	fmaitski@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Update on the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE)

RECOMMENDED ACTION:

This is an information item only. No action is required.

SUMMARY:

This item updates the Committee on the State Water Resources Control Board (SWRCB) water rights petition process and resolution of the Settlement Agreement with the Guadalupe Coyote Resource Conservation District (GCRCD) and Trout Unlimited. The update also discusses milestones for the development of the Fish Habitat Restoration Plan, its related Draft EIR and the biological monitoring program.

The Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) Settlement Agreement was initialed in 2003 by the District, GCRCD, Trout Unlimited, Pacific Coast Federation of Fishermen's Association, California Trout, Inc. and the resource agencies—California Department of Fish and Wildlife (CDFW); U. S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS), to address a SWRCB water rights complaint (Water Rights Complaint) filed by the GCRCD on July 12, 1996. The complaint alleges that District water supply operations conflict with laws protecting natural resources and water quality in Coyote Creek, Guadalupe River, and Stevens Creek ("Three Creeks") by impacting steelhead trout and Chinook salmon.

A key Settlement Agreement provision is implementation of a Fish Habitat Restoration Plan (Habitat Restoration Plan) that includes changes in reservoir releases to support flows for fish, and measures to remove fish passage barriers, enhance stream habitat, conduct biological monitoring under an adaptive management program, and complete certain feasibility studies.

BACKGROUND:

On June 9, and June 22, 2015 meetings, the Board reiterated its commitment to balance fishery protection and water supply objectives to achieve a more timely resolution of the Water Rights Complaint. As directed at its September 23, 2014, meeting, the Board's goal is to expedite implementation of fish habitat restoration measures by incorporating FAHCE fish habitat restoration measures into the SWRCB order as a term in the district's fifteen water rights licenses that authorize diversions in Coyote Creek, Guadalupe River, Stevens Creek and their tributaries. The fifteen Petitions for Change to Water Rights, submitted to the SWRCB, demonstrate that commitment by requesting that the Purpose of Use authorized by these rights be changed from domestic water supply and irrigation to Municipal Water Supply and Fish and Wildlife Protection and Enhancement.

An administrative draft Fish Habitat Restoration Plan was reviewed by the Settlement Agreement initialing parties to address the water rights petition process.

Per the schedule, an administrative draft of the proposed Fish Habitat Restoration Plan (Habitat Restoration Plan) was shared with the initialing parties of the Settlement Agreement on June 19, 2014. The Habitat Restoration Plan describes FAHCE Settlement Agreement measures to be implemented to support the fifteen water rights change petitions and will ultimately be incorporated into a SWRCB-issued water rights order to amend the District water rights licenses in the Three Creeks.

Comments from the initialing parties were received in August. Remaining issues include the status of Chinook salmon as an endemic species, and the level of specificity in the Habitat Restoration Plan implementation schedule. Several comments suggested ways to modify the Habitat Restoration Plan to facilitate the process of incorporating FAHCE Settlement Agreement measures into the SWRCB water rights order and to ensure compliance tracking.

Ongoing Discussions with Agreement Signatories

Meetings are being held with the signatories to the Initialed Settlement Agreement to discuss possible changes to the agreement language reflecting the regulatory pathway of seeking SWRCB approval of the water right change petitions and reflecting the current status of the commitments called out in the agreement. Meetings with the initialing parties were held on June 10, and August 13, and September 15.

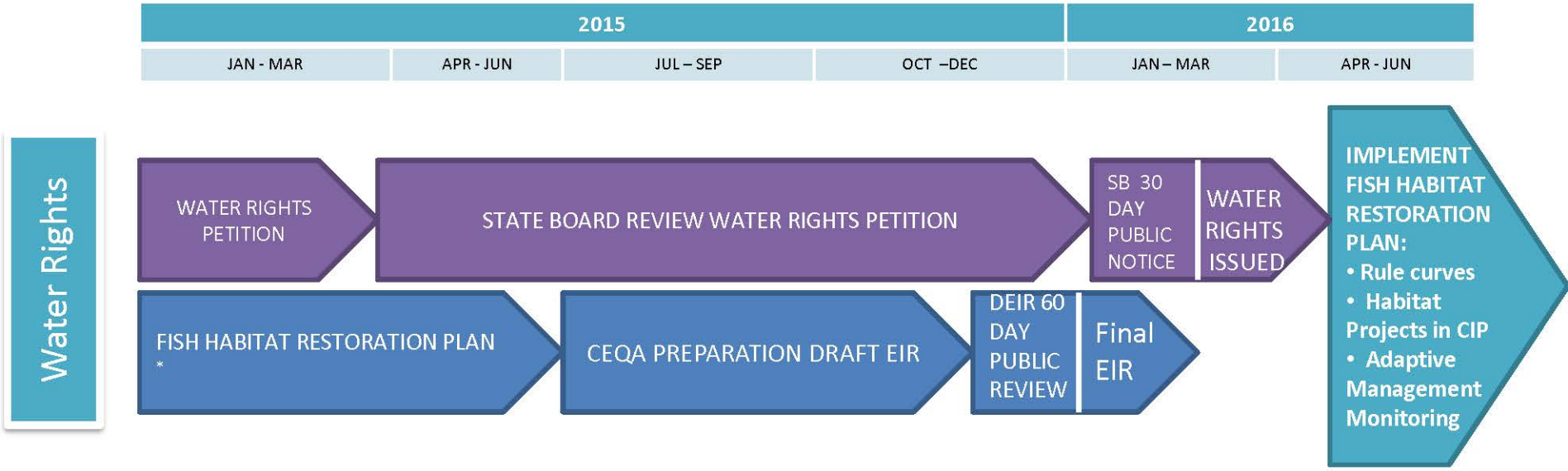
A group of experts in the field of fishery restoration representing GCRCD and Trout Unlimited, and staff from the National Marine Fisheries Service and the California Department of Fish and Wildlife, met with district staff and consultants in July, August, and September to discuss CEQA alternatives analysis of the FAHCE reservoir reoperations rule curves. These comments are the basis to revise the technical aspects of the Habitat Restoration Plan and complete the FAHCE Draft Environmental Impact Report (DEIR). The Habitat Restoration Plan includes a proposed biological monitoring program to demonstrate the efficacy of implementing the elements described in the Settlement Agreement. An overview of the proposed monitoring is provided in Attachment 1.

ATTACHMENT(S):

Attachment 1: FAHCE Monitoring and Adaptive Management Approach

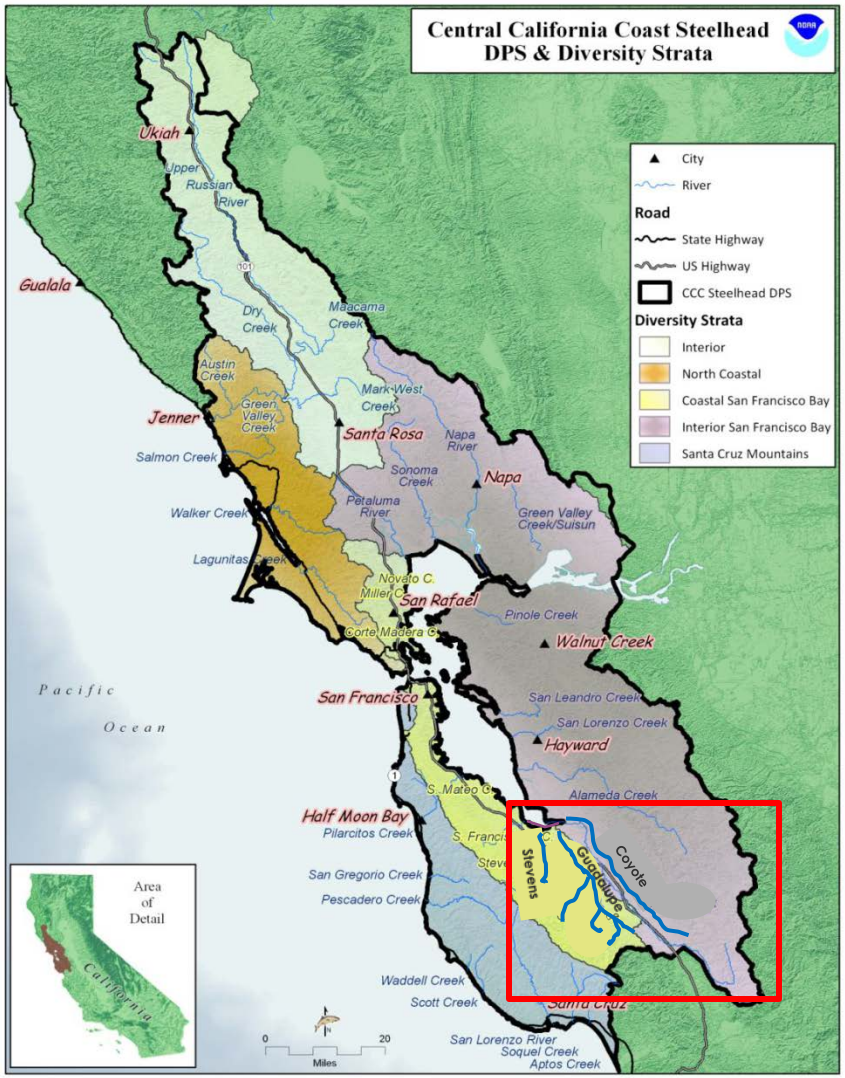
FAHCE Program Monitoring and Adaptive Management Approach

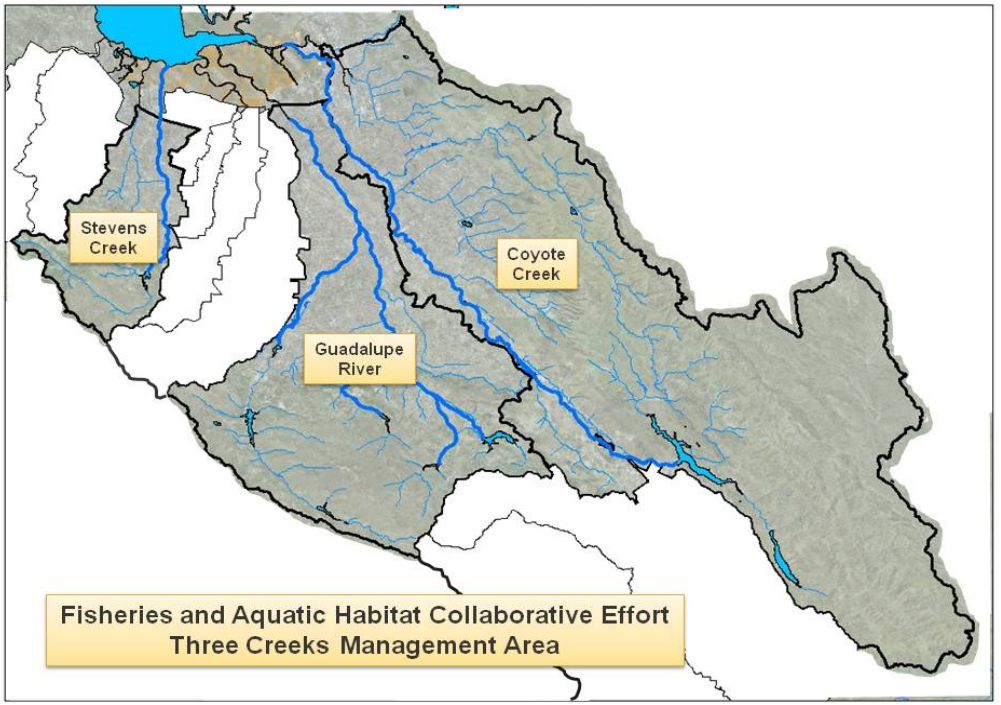
WATER RIGHTS COMPLAINT RESOLUTION SCHEDULE



Updated 8/4/15

FAHCE-Three Creeks





Santa Clara Valley Water District

FAHCE Parameters

- **Balance water supply with instream flow for fish**

1. **Enough water**
2. **Right temperature**
3. **Right time of year**

FHRP Actions Support Multiple Life-Stages

JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
				adults immigrate							
						spawning					
						egg incubation					
								fry emerge			
juvenile rearing											
						smolts emigrate					

Photo: Vaki Riverwatcher

Migration

- Barrier Improvement
- Winter Base Flow
- Winter Pulse Flow

Photo: Shawn Welch

Spawning

- Spawning Gravel
- Temperature
- Winter Base Flow

Photo: Navroop Jassal

Rearing

- Habitat Restoration
- Temperature
- Summer Base Flow

Santa Clara Valley Water District

FHRP Fisheries Approach

Population dynamics

- Understand where salmonids live
- Understand what drives fish distribution

Guide restoration

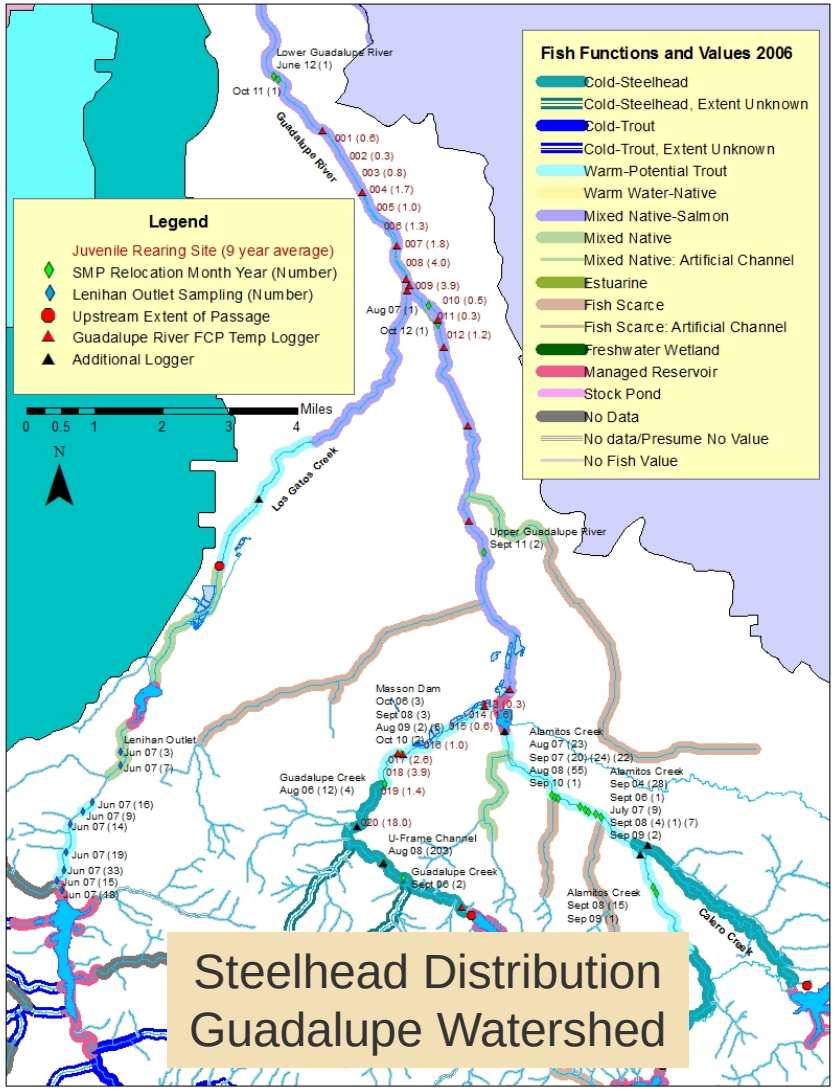
- Habitat, Gravel, Barriers
- Predict fisheries response

Adaptively manage

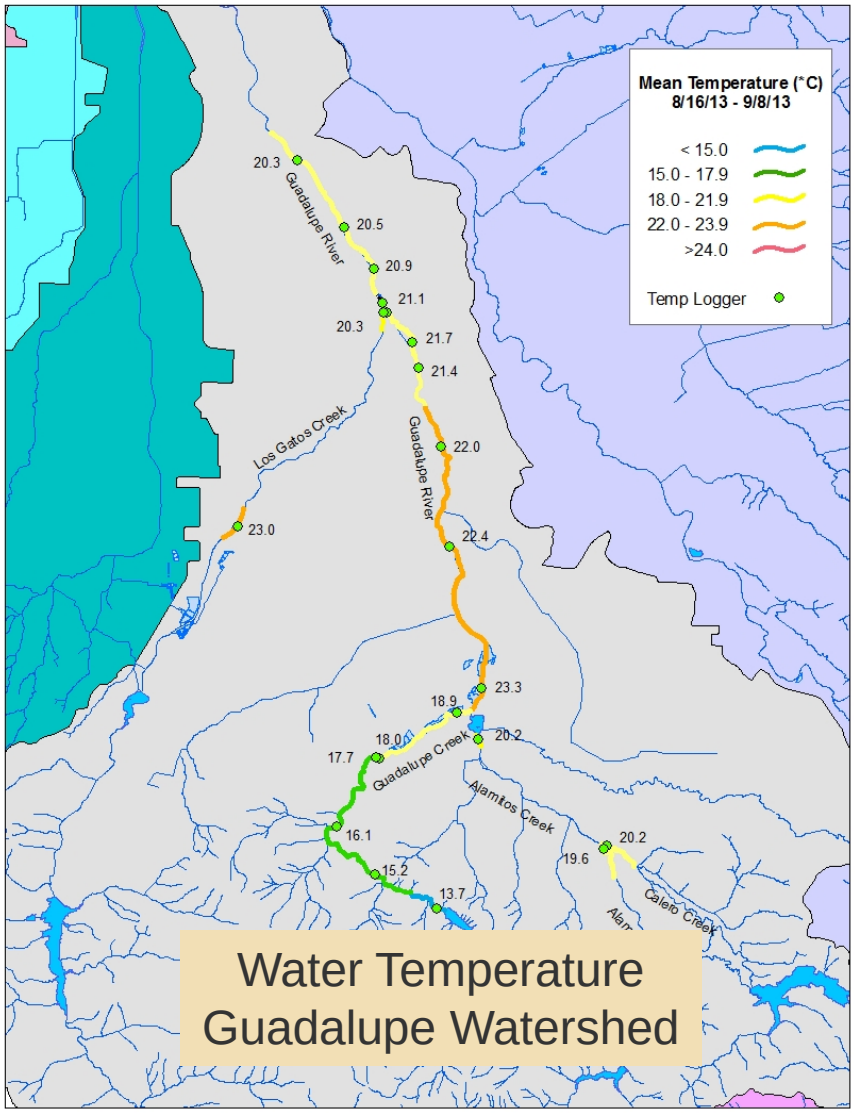
- Evaluate Restoration Effectiveness
- Evaluate Rule Curves

Santa Clara Valley Water District

Guadalupe Watershed Existing Data



Steelhead Distribution
Guadalupe Watershed



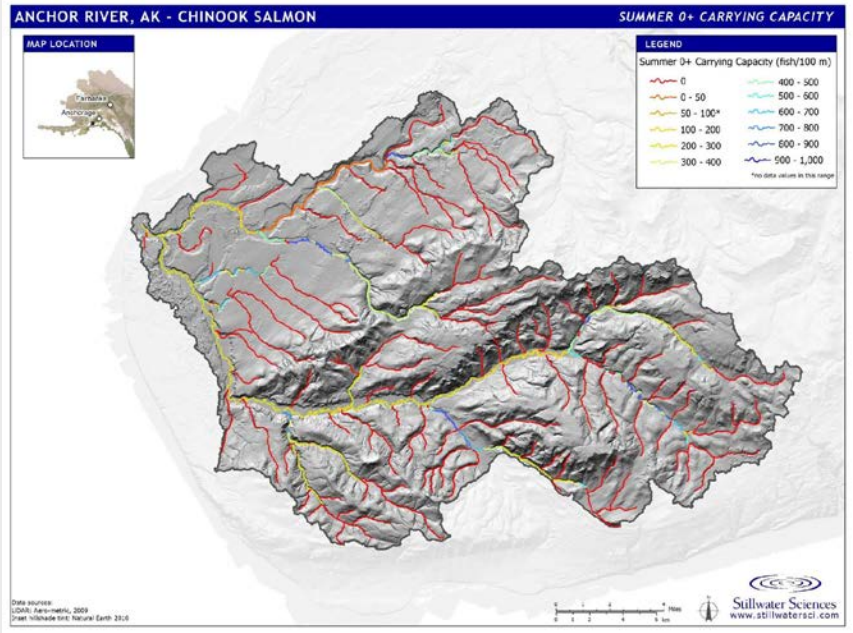
Water Temperature
Guadalupe Watershed

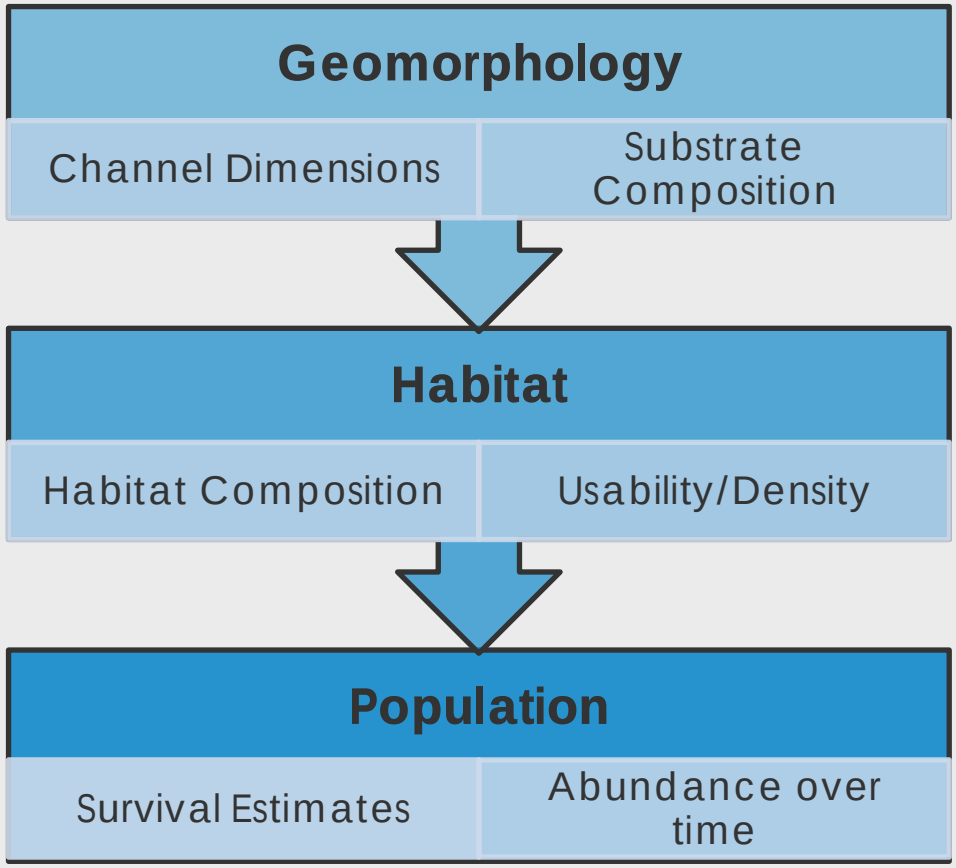
Attachment 1

Model guides restoration actions

RIPPLE Model

Stillwater Sciences/UC Berkeley





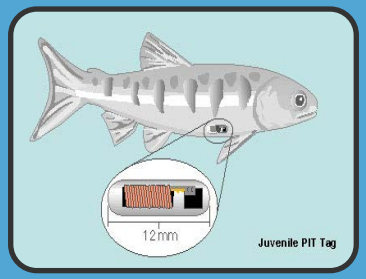
Source: Stillwater Sciences

Need Additional Information

Juvenile Rearing- Where do fish live?

- Guide restoration
- Feeds RIPPLE Model

Photo: Jerry Smith



Passive Integrated Transponder (PIT) Tag

- Unique code for identification of fish

http://www.nwd.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/2128/Article/475828/anadromous-fish-evaluation-program.aspx

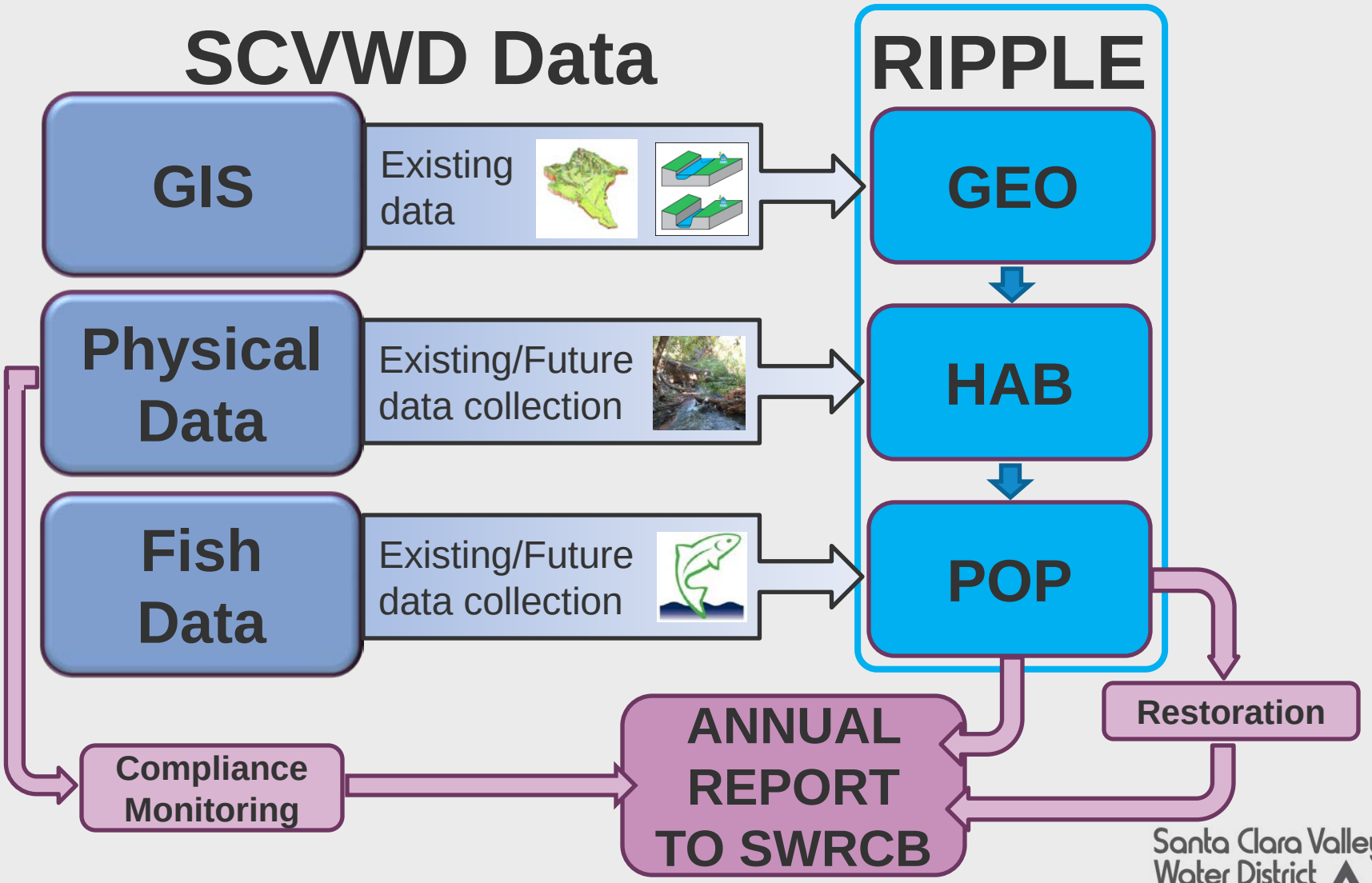
PIT Tag Array

- Track fish movements to understand when they move and why

http://www.nwfsc.noaa.gov/research/divisions/fe/instream/fc-antenna-design.cfm

Santa Clara Valley Water District

FHRP Linkages



Santa Clara Valley Water District

FHRP Timeline

FHRP Progress	• Administrative draft Fisheries Habitat Restoration Plan – Released June 19, 2015 • Release of Draft EIR for public review – October 2015
FHRP Biological Monitoring	• Watershed Habitat/Fish Population Model (RIPPLE)- Begin end of 2015 • Juvenile Rearing/PIT Tag Array- Begin 2016 • Temperature Logger Array- Begin 2016
Habitat Restoration	• Guided by Model Results/Biological Monitoring

Santa Clara Valley Water District

FAHCE-Three Creeks

Questions?

Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	5.2
Unclassified Manger:	Liang Lee
Email:	llee@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Status Report on the Water Resources Master Plan

RECOMMENDED ACTION:

Receive information on the District's One Water: Integrated Water Resources Master Plan.

SUMMARY:

The purpose of the One Water: Integrated Water Resources Master Plan (IWRMP) is to create a comprehensive plan, bringing together staff and stakeholders in support of the District Act and District mission, under the Board governance policies, resulting in a proactive planning process. The IWRMP is particularly valuable for several reasons including: development of a vision to determine what the District should do for water resources management; an aligned approach that considers plans and efforts within our organization as well as our partnering municipalities, resources agencies, non-profits, and community groups; and a science based prioritization process complete with an implementation plan that identifies funding sources, schedules and required partnerships. All of these things amount to a roadmap for water resources management for Santa Clara County. The Integrated Water Resources Master Plan is being brought to the Committee as an item where input is needed for future Board consideration (see Attachment 1).

BACKGROUND:

Why Develop A Master Plan?
While several planning efforts have been completed in recent history, by both the District and other agencies, the IWRMP is unique for two specific reasons: it is the first plan in the County to simultaneously consider water supply, flood protection, and environmental stewardship; and it is the first large scale planning that aids in prioritizing partnership opportunities, prioritizing and utilizing existing funding, and preparing more thoroughly for possible future funding measures that benefit the community.

Linkage to other planning efforts will be a key piece of the IWRMP. Staff recognizes the value in analyzing other District plans as well as other agency plans. Examples internally are the Water Supply and Infrastructure Master Plan and the District's obligations under the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) settlement agreement; externally the City of San Jose's Envision 2040 Plan as well as Department of Water Resources' California Water Plan are worthy examples.

Policy
Development of the IWRMP follows a path from vision to integrated goals, SMART objectives, strategies, and finally a plan of opportunities (i.e., prioritized programs, projects, policies, and partnerships) (see Attachment 2, Integrated Goals and Draft Objectives). This structure is similar to the Board policy 'Ends' structure; however is not intended to replace Board policy. Rather it is driven by Board Policy and supports the District mission and Act. Pulling together each of these pieces has included an established stakeholder engagement process based on a collaborative model.

Stakeholder Engagement

Input for the IWRMP is being incorporated from District subject matter experts; other District staff, management and the Board of Directors; the IWRMP Stakeholder Work Group; resources agencies through an established Agency Planning Team; and additional outreach to established working groups, organizations, agencies, and interested parties. The Stakeholder Work Group, established with the assistance of facilitators Center for Collaborative Policy, is a diverse group intended to represent the interests of the community; as such it includes environmental advocacy representatives.

Implementing the Vision

The IWRMP will not change already identified priorities such as capital improvement projects already under design and construction, nor will it alter requirements or permits for existing projects and programs such as those related to reservoir operations. The IWRMP, including a countywide overview (Tier 1) and watershed-specific plans (Tier 2, beginning with Coyote), will create change in the way project opportunities are identified, prioritized, funded and implemented in Santa Clara County. While it is a District managed plan, it cannot be accomplished solely by the District. Due to the District's limited land holdings across the county and primarily along creeks and water bodies, partnerships are increasingly going to be necessary to accomplish the goals and objectives laid out in the plan. Analysis of opportunities on a watershed scale, along with detailed prioritization and development of implementation plans based on this work, set this Plan apart from previous long term planning efforts.

ATTACHMENT(S):

Attachment 1: Water Resources Master Plan PowerPoint Presentation
Attachment 2: Integrated Goals and Draft Objectives
Attachment 3: Collection of Fact Sheets on the Water Resources Master Plan

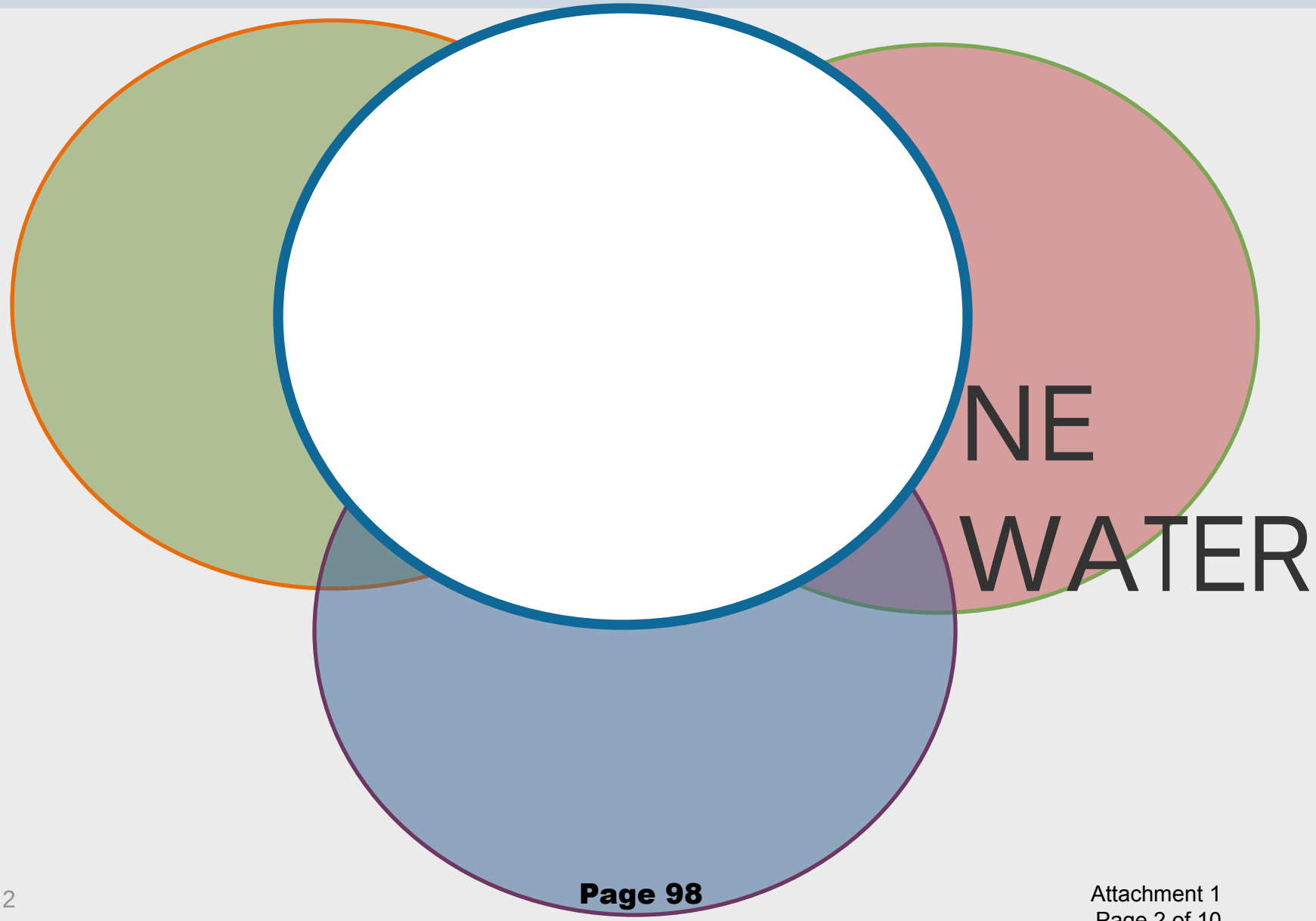
One Water

An Integrated Water Resources Master Plan

October 2015 Update

Santa Clara Valley Water District

Incorporation of District Mission Components



One Water Plan is Driven by Board Policy

Why do this Master Plan?

Integrated Approach:
Water Supply + Flood Protection + Environmental Stewardship

Watershed View

Preparation For Future Funding Measures

Multi-objective prioritization

Alignment of District programs internally + with other agency programs

From Vision to Projects

Water Resources Vision

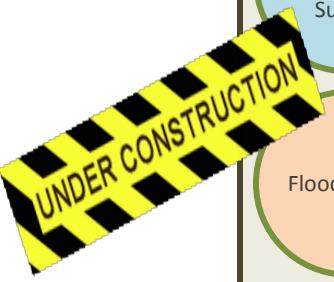
The District manages water resources holistically and sustainably to benefit people and the environment in a way that is informed by community values.

Integrated Goals (Why)

- Manage rainwater to improve flood protection, water supply, and ecosystems
- Enhance the quantity and quality of water to support beneficial uses
- Protect, enhance and sustain healthy and resilient stream ecosystems
- Protect, enhance and sustain healthy and resilient baylands ecosystems and infrastructure
- Work in partnership with an engaged community to champion wise decisions on water resources

Objectives (What)

- Reliable Water Supply
- Community Engage-ment
- Resilient Habitat
- Emergency Prep
- Flood Mgmt
- Sustainable Ground-water
- Expanded Floodplains
- Surface & GW Quality
- Climate Change
- Supportive Stream Flows



Strategies (How)

Projects & Programs (Where)

Goal - A general direction-setter expressed as an ideal future related to the end. A goal may be abstract in nature and expressed as a general state. It is generally not quantifiable or time-dependant

Objective – An intermediate step toward attaining a goal(s). It may pertain to one particular aspect of a goal(s) or be one of several successive steps toward a goal(s).

Targets – SMART targets are associated with each objective.

Strategy - A particular course of action, product, or service that describes the means to support objectives and achieve targets. It is clear and unambiguous, clarifying levels of responsibilities, and starts with a verb

Projects and Programs

Planning Elements – Identify Key Issues

Vegetation

Wildlife

Fisheries

[Ecological Resources]

Trails

Open Space

[Landscape Resources]

Flood Protection

Water Quality
(incl. storm water)

Water Supply

Baylands

Climate Change

Tiered Approach

Integrated Water Resources Master Plan

TIER I

Countywide Overview
(FY 2015-2016)

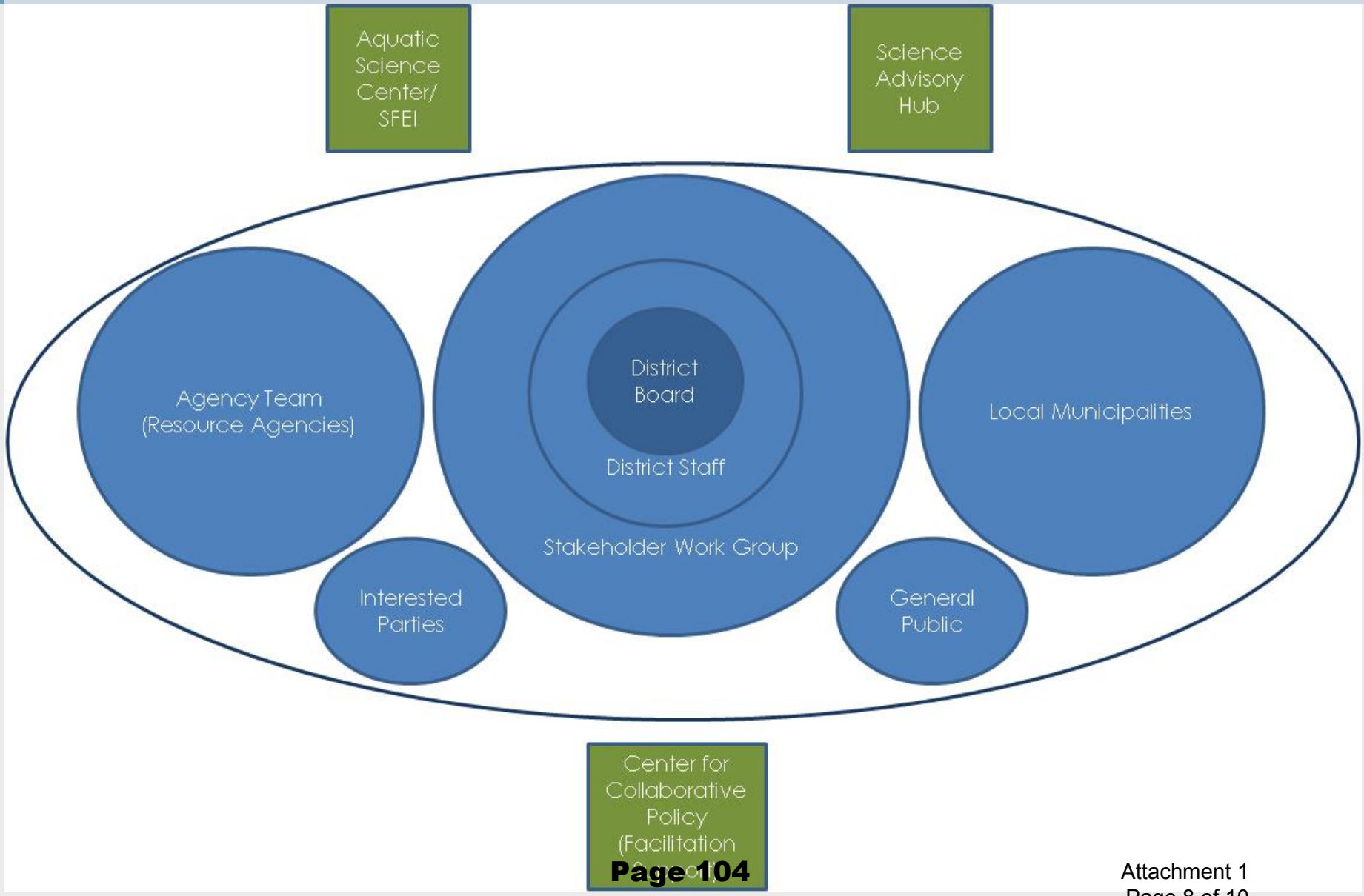
TIER II

Coyote Watershed (FY 2016-2017)	Guadalupe Watershed (FY 2017)	Lower Peninsula Watershed (FY 2017)	West Valley Watershed (FY 2018)	Uvas/Llagas Watershed (FY2018)

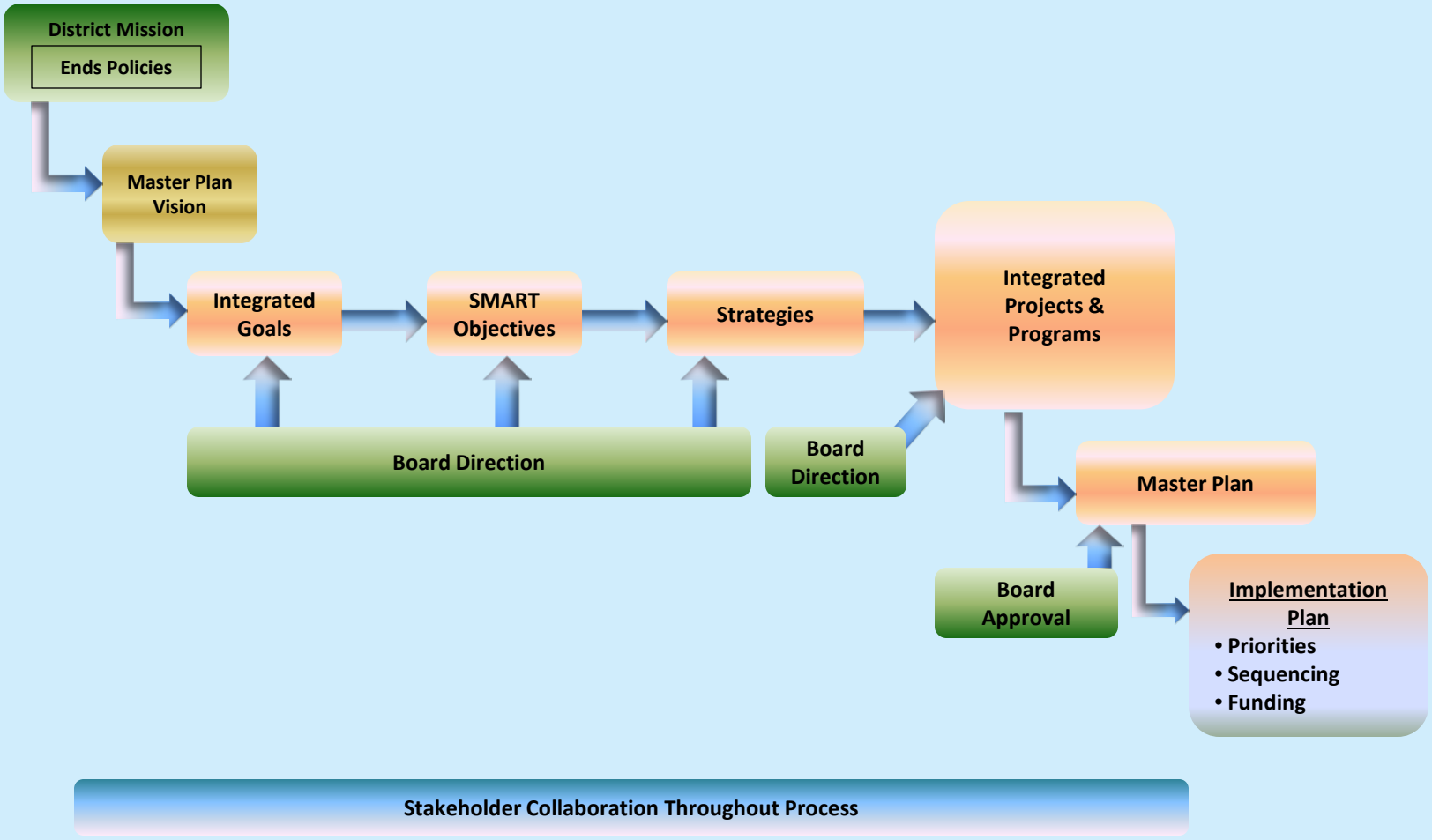
Prioritized Projects

Funding sources, schedule and plan

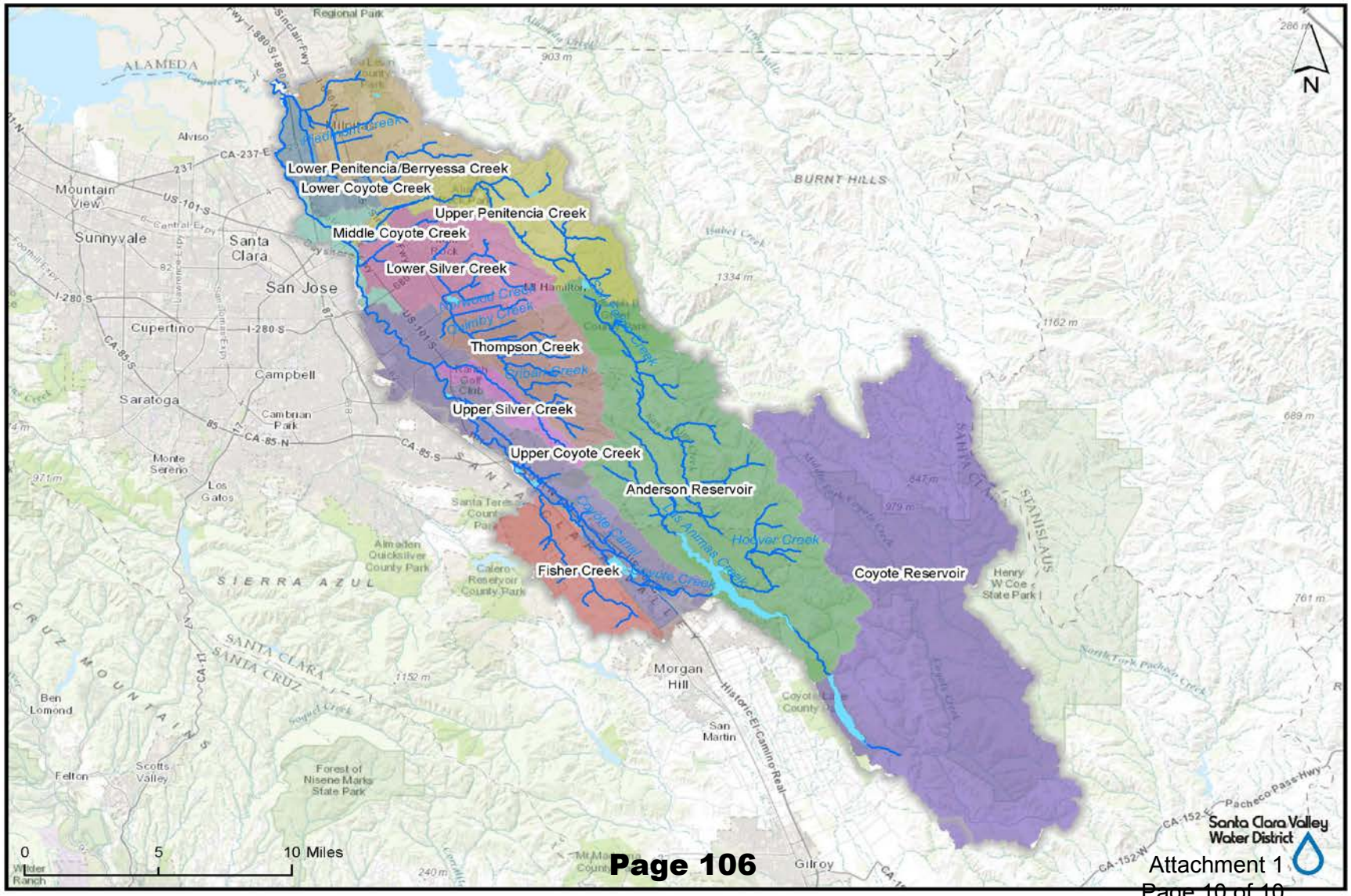
Stakeholder Engagement



Master Planning Process



Coyote Creek Major Drainages



One Water: An Integrated Water Resources Master Plan

GOALS

1. Valued Rain

Manage rainwater to improve flood protection, water supply, and ecosystems

2. Healthful & Plentiful Water

Enhance the quantity and quality of water to support beneficial uses

3. Ecologically Effective Streams/ Watersheds

Protect, enhance and sustain healthy and resilient stream ecosystems

4. Resilient Baylands

Protect, enhance and sustain healthy and resilient baylands ecosystems and infrastructure

5. Community Collaboration

Work in partnership with an engaged community to champion wise decisions on water resources

DRAFT OBJECTIVES

		Goal 1 Valued Rain	Goal 2 Healthful & Plentiful Water	Goal 3 Ecologically Effective Streams/ Watersheds	Goal 4 Resilient Baylands	Goal 5 Community Collaboration
1	Resilient habitats and resources for native species					
2	Stream Flows Support Natural Processes					
3	Reliable and Effective Flood Risk Reduction Using an IntegratedApproach					
4	Expanded Floodplains and Lands Adjacent to Water Bodies					
5	Reliable current and future water supply for urban, rural, agricultural, and environmental needs					
6	Sustainable Groundwater Subbasins					
7	High Quality Surface Water and Groundwater					
8	Adapt to and Prepare for Climate Change					
9	Anticipate and Prepare for Emergencies					
10	Effective Community and Tribal Engagement					

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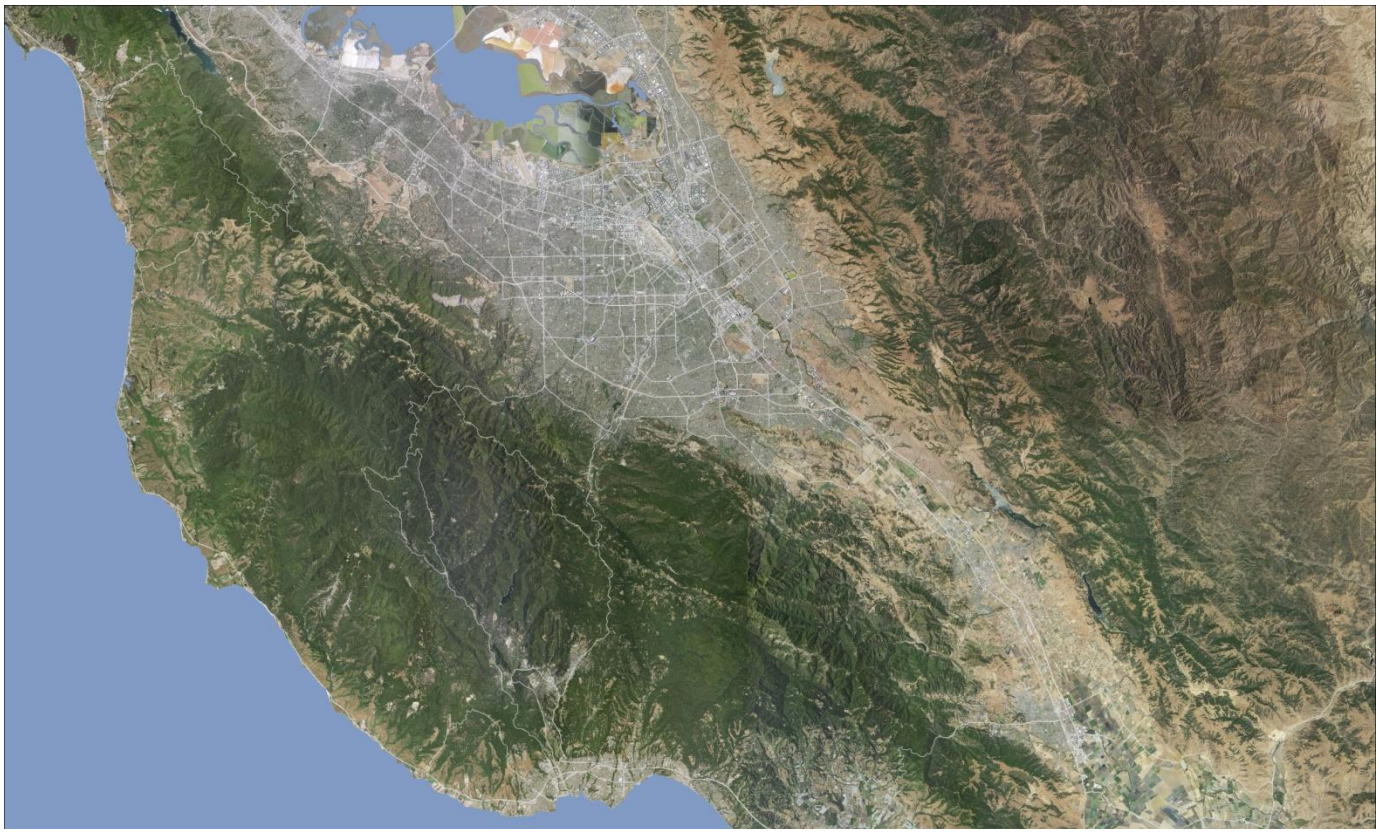
The Master Plan Process

The master plan process is an effort to develop a framework for long-term management of Santa Clara County water resources, which the District is calling its *One Water Plan*. *One Water* aims to plan and prioritize projects that maximize established water supply, flood protection, and environmental stewardship by emphasizing the interconnected nature of the District's water management goals. Born out of District expertise and refined based on feedback from local communities and organizations, scientific experts, and land use agencies, the plan reflects a commitment to scientific rigor, integrated watershed-scale considerations, and stakeholder engagement. The Master Plan will incorporate knowledge from past planning efforts, build on current related planning efforts, and coordinate with relevant District and stakeholder or partner programs.

The District Vision:

To provide Silicon Valley safe, clean water for a healthy life, environment, and economy.

A Watershed is an area of land that drains to a common waterway. Santa Clara County creeks and rivers catch rain and runoff from overland flow and storm drains and carry the water north to San Francisco Bay or south to Monterey Bay.



The Santa Clara Valley. Nestled between the Diablo and Santa Cruz Mountain ranges, the Valley is dominated by a wide, mostly flat plain. In the 19th and early 20th century, this area was a prolific agricultural region, a tradition which has been maintained in the southern part of the county, which drains toward Monterey Bay. In contrast, the northern part of the county, bordering the San Francisco Bay has been almost completely urbanized, and is now better known as Silicon Valley, the global technology mecca. In order to serve this population and economic center, over the past century the District has taken part in the transformation of the Valley's water resources, replumbing the natural stream network for water supply and flood control.

Re-imagining Long Term Planning

The Master Plan is being developed in two tiers:

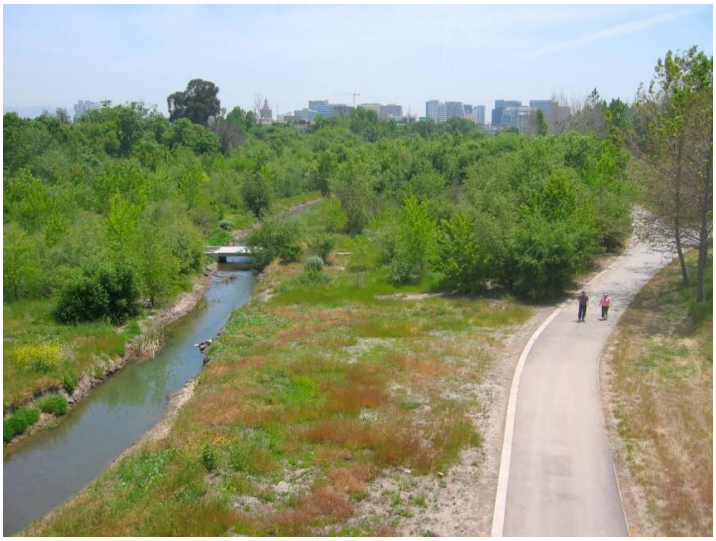
- **Tier 1** (FY2015-16) provides a countywide overview, covering key issues of major resources areas.
- **Tier II** (FY2016 to FY2018) includes greater detail on each of the county's five major watersheds and will develop goals, objectives, multi-objective strategies and implementation plans for management of these resources.

This County and Watershed-level planning will enable the district to more effectively:

- Integrate and align objectives and strategies;
- Develop collaborative relationships to achieve common goals;
- Identify integrated projects for future funding;
- Foster sustainable communities and healthy ecosystems; and
- Adapt to climate change impacts;
- Efficiently use public funds;
- Increase public support for a prioritized, implementable plan.

Maximizing Watershed Investments

Planning at larger scale (e.g. watersheds) will allow for better identification of issues, challenges and opportunities that may then be prioritized and addressed via projects that provide the largest benefit to the watershed as a whole. This type of planning lends itself to integrated projects whereby an issue can be addressed from multiple points of view. The District is ready to consider all three aspects of water resource management together, and to plan a way forward that is mutually beneficial.



The Guadalupe River Project represents one of the District's most successful efforts in multi-benefit planning. Adopting many principles of natural flood protection, the project widened the riparian corridor, in the process also creating extensive park and recreation areas for downtown San Jose residents (*top).* By using natural materials and stepwise design along the river, planners created areas for floodwaters to safely spread, while also improving habitat for fish and other species and creating scenic seating areas


Water Supply & Demand


Floodwater Management


Water Quality


Ecological Resources

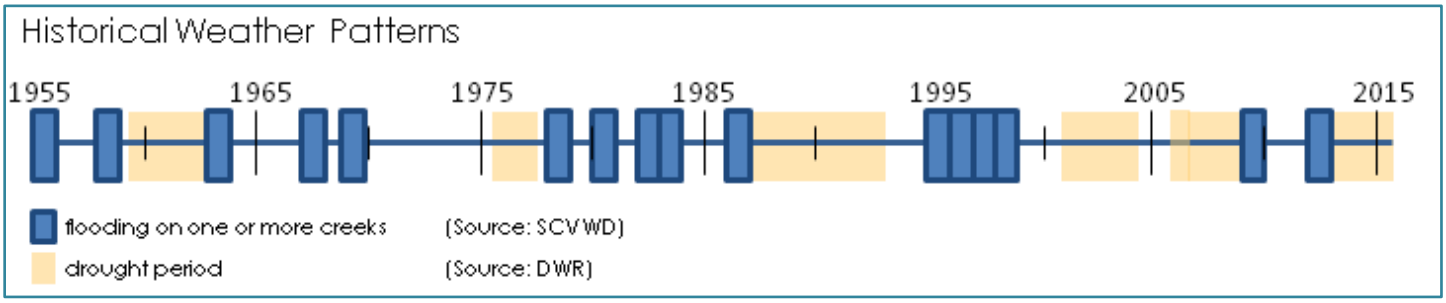

Landscape Resources


Climate Change


Baylands

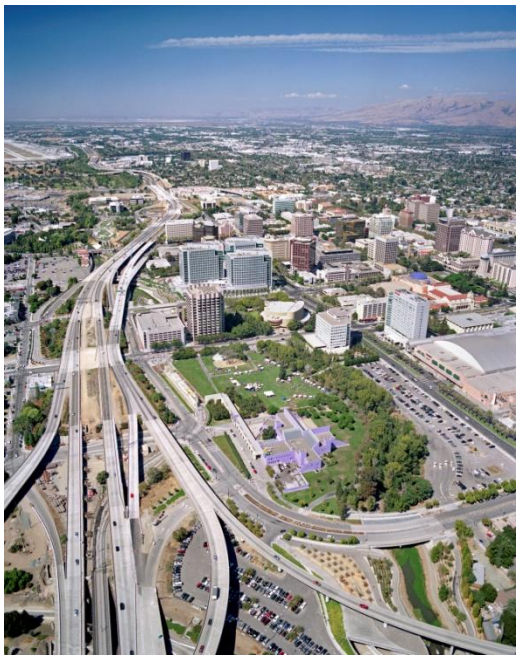
Key Resource Areas

The District has identified seven key planning elements to use as a basis for its *One Water* efforts (at left). These are areas that the District already works in actively and wants to consciously incorporate as part of its Master Plan programs. The factsheets enclosed here summarize these resource areas, describing their current statuses and the challenges the District faces in managing them into the future.



Santa Clara Valley: A Land of Extremes

The Santa Clara Valley is a land distinguished by extremes: even as the District has protected more and more properties from flooding, the Valley's distinct floodplain topography still makes it vulnerable to heavy rainfall. The drought currently squeezing local and imported resources is not a new phenomenon, and similar periods may become more frequent under climate change. In its long-term aims, the *One Water* Plan envisions embracing these extremes, creating water management solutions that are resilient and adaptive under changing conditions.

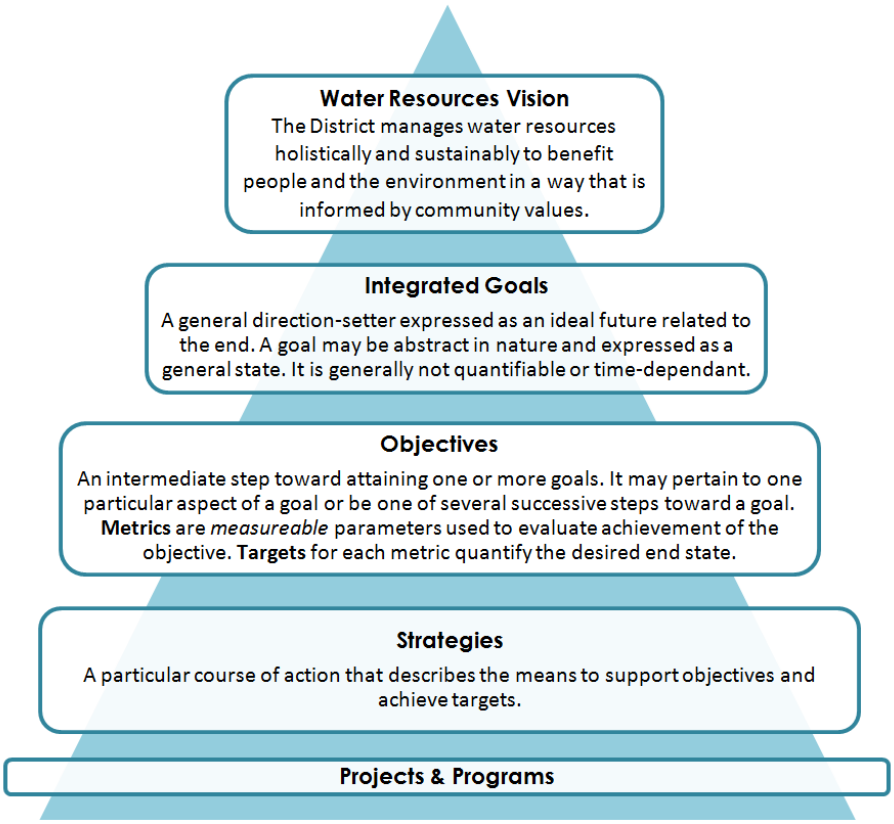


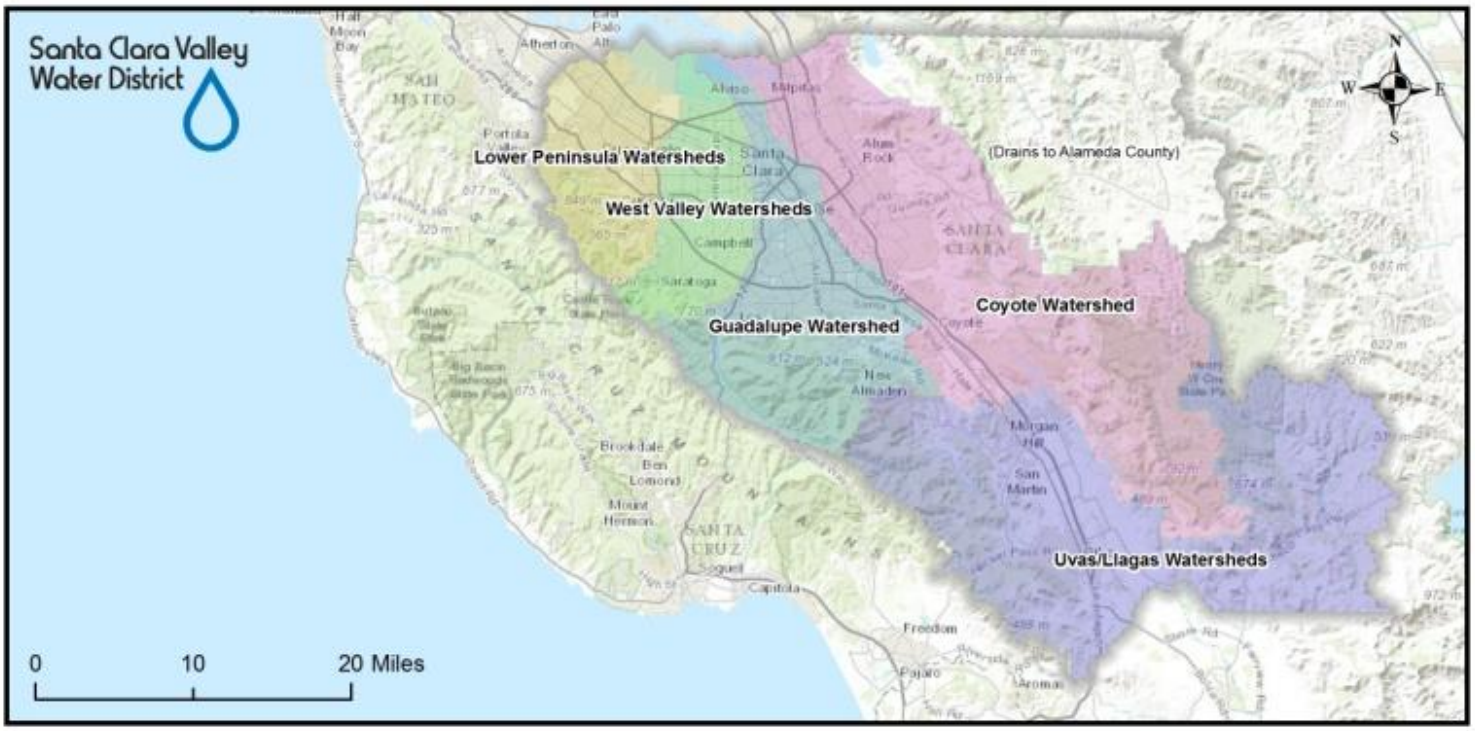
From the Valley of the Heart's Delight to Silicon Valley *(above left to above right)*. Our Valley has changed many times over, from a primarily agricultural oasis to a densely developed technology mecca. Though our waterways are often obscured within the urban landscape, they continue to flow throughout the floodplain, like the Guadalupe River here in downtown San Jose.

(Above left to right) A time series of **Blackberry Farm Park in the Stevens Creek Corridor Project.** An impermeable parking lot was transformed into a brand new creek channel as part of a larger restoration effort that expanded habitat, removed fish barriers, and installed a pedestrian-bike bridge to maximize local recreation in the area.

Building an Integrated Framework: From Vision to Projects

The *One Water* Plan is an opportunity for the District and its stakeholders to imagine what they hope the county's water resources will look like in twenty, fifty, even one hundred years. The *One Water* Vision and Goals articulate the District's aspirations, and the subsequent objectives and strategies deliberately plot out how those goals can be achieved over time. Projects and programs based on these strategies are beginning to be outlined at a countywide level for the Tier I plan and will become more specific in subsequent planning Tiers. All of these elements are being developed as part of a highly iterative process involving District Staff, scientific experts, resource agency advisors, and a diverse group of community stakeholders.





The major watersheds of the Santa Clara Valley, highlighted *above,* will each be addressed in individual Tier II Masterplans.

Contact us: http://www.valleywater.org/iwrmp/

Historical Ecology of the Santa Clara Valley

Freshwater wetland complexes, like the Laguna Seca (*above,* 1916*),* were once common across the valley. **Early maps** depict valley rivers bordered by lush riparian vegetation (*below:* Detail of Duval 1850, El Potrero de Santa Clara; photo courtesy of the Office of the Santa Clara Surveyor).

Putting the Present in Context

Over the two past centuries, the Santa Clara Valley has transformed from the *Llano de los Robles* ("Plain of the Valley Oaks") to the internationally renowned Silicon Valley. During this time, vast oak savannas have been turned into housing subdivisions, lush meadowlands into office parks, and expansive tidal marshes into managed salt ponds. Although fragments of the former landscape remain today, the wholesale reworking of the Valley has had considerable impacts on the native plants and animals and the ecological services the Valley provided, such as natural flood protection and groundwater recharge.

Over the past decade, several detailed reconstructions of the Valley's historical landscape have provided glimpses into what the Valley once was. These studies have revealed the type and amount of change since European American settlement in the 19th century and in doing so have highlighted potential opportunities for supporting resilient and diverse ecosystems in the future.

A Landscape of Change

A parkland of oaks. The Santa Clara Valley was historically dominated by stately oaks stretching from Palo Alto all the way to the Pajaro River. These oaks formed savannas and woodlands that covered more than half of the valley, providing food and shelter for dozens of native species. Though most of the oaks were cut down during the agricultural expansion and subsequent urbanization of the Valley, a few remain integrated into the valley's streetscapes, parklands, and backyards.

Wetland oases. In low-lying areas of the Valley, clay soils and high groundwater levels precluded oaks from thriving. In these places, vast wetland complexes provided lush oases for native wildlife, often extending through the dry season. These complexes included mosaics of seasonally flooded meadowlands, freshwater marshes, springs, ponds, and willow groves that covered thousands of acres. The vast majority of these wetland complexes were drained to allow for agriculture and development, leaving only remnants.

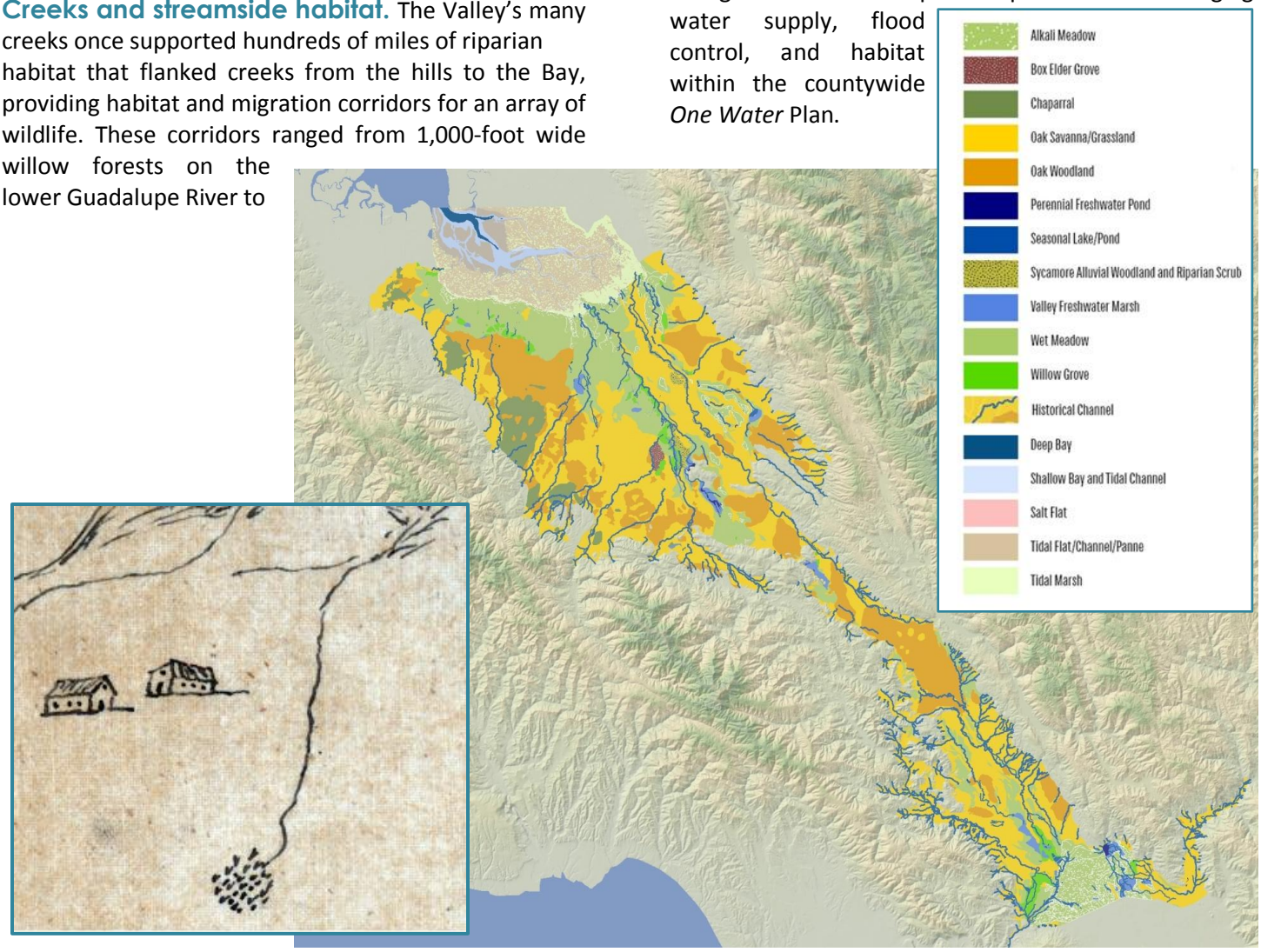
Tidal marshes ringed the Bay. In the lowest portions of the Valley adjacent to San Francisco Bay, intricate mosaics of tidal marsh, tidal channels, and salt flats provided habitat for wildlife and buffered storm surges. The vast majority of historical marshland was filled to allow for development or diked and converted into industrial salt ponds.

Historical Ecology

A natural water storage system. Historically, the Valley stream network was not a continuous, channelized flow: many creeks entered the valley and spread out into wetlands or disappeared into porous alluvial soils. These processes contributed to aquifer recharge and the creation of wetland complexes that retained water even during the dry season. In contrast, over the past century, watercourses were connected together to flow directly to the Bay, thereby reducing overland flooding but decreasing natural wetland habitat.

Creeks and streamside habitat. The Valley's many creeks once supported hundreds of miles of riparian habitat that flanked creeks from the hills to the Bay, providing habitat and migration corridors for an array of wildlife. These corridors ranged from 1,000-foot wide willow forests on the lower Guadalupe River to even broader sycamore-alluvial woodlands on intermittent reaches of Coyote, Llagas, and other creeks. Much of this riparian habitat was cleared to make way for agriculture and development, and remaining areas are relatively small and fragmented.

Restoring some of these altered landscape features or at least rehabilitating their ecologically-functional equivalents is essential for long-term watershed management that supports people and habitat for native species. The Santa Clara Valley Water District and partners will be using information related to landscape change over time to help develop a vision for managing water supply, flood control, and habitat within the countywide *One Water* Plan.



(Large Map Above) **Santa Clara Valley's** pre-western settlement habitat distribution, based on historical ecology analysis (courtesy of The San Francisco Estuary Institute). (*Inset above)* Early American maps of the Valley, like this one of **Berryessa Creek**, show discontinuous streams flowing from the mountains and disappearing into willow groves or marshes (courtesy of the Bancroft Library, UC Berkley).

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The Evolution of Floodwater Management

(Above) **1958 Flood at Palo Alto Airport**

Historically, periodic flooding sustained the abundant ecosystems and helped to create the rich agricultural lands of the Santa Clara Valley. The Diablo and Santa Cruz ranges catch rainfall and direct it to steep streams that transition to a much flatter valley floor. This abrupt shift onto the plain was partially responsible for historically frequent shallow but widespread flooding, which deposited soil eroded from the adjacent ranges over many centuries.

Floodwater management:
Efforts to confine high creekflows to creek corridors or detain in reservoirs to protect developed areas

While these floods generated the fertile land that first attracted people to the area, they proved increasingly destructive as the region rapidly urbanized, especially after WWII. During the post-war construction boom, the dangers of building on a low-lying floodplain were frequently overlooked. After the region experienced devastating floods in 1955, flood control efforts were accelerated.

By then, buildings had been constructed right up to the banks of many creeks, leaving no room for natural buffers. Flood protection necessitated flood walls and levees to contain high flows and steep, smooth channels to convey the flows quickly away. These major public investments replumbed the valley's natural waterways, reassuring investors that it was safe to build even more densely across the region.

Continued development – roads, homes, and pavement— has decreased the amount of land able to absorb rainfall and increased the need for speedy drainage of the area. The water running off these surfaces is concentrated into stormdrains and discharged into creeks, where the intense flow can erode banks and undercut trees, roads, and other creek-side structures, including the levees intended to contain the water. Eroded soil from creek banks ultimately settles downstream, reducing a creek's conveyance capacity and increasing the likelihood of overbanking and the need for continual sediment maintenance.

68,777 Properties,
56 miles of highway,
& **57** critical facilities remain
in the flood-prone area

Even as flood protection efforts have expanded over the past 65 years, flooding has never been totally eliminated: since 1950, seventeen years witnessed significant flooding from one or more of the valley's rivers.

(*Above)* **1998 Floods, Lower Berryessa Creek, Milpitas** *(Mercury News).*

Current Efforts: *Natural Flood Protection*

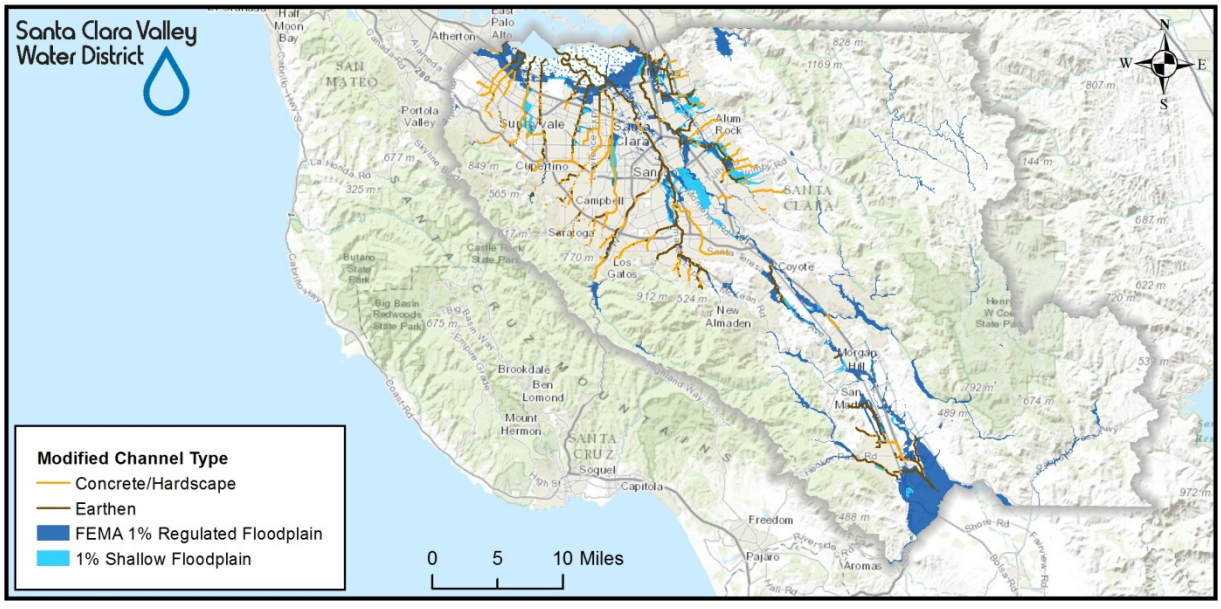
Increasingly, water managers have recognized that large, heavily engineered river modification projects lack the resilience of natural river systems. The use of concrete on a large scale eliminated creek corridor habitats and the associated ecosystem services. In response, the District now embraces a multi-objective approach it calls *natural flood protection (NFP).* NFP aims to balance property protection with natural resource preservation, community benefits, and the costs of building and maintaining projects over the long term. For instance, in designing the Guadalupe River Project through downtown San Jose, the District aimed to protect more than 7,000 properties from a 1% risk of flooding, while also improving the river's ecology, hydrology, fisheries, and habitat. In partnership with the US Army Corps of Engineers, the District widened and planted extensively in the floodplain and upland areas to decrease erosion and increase habitat space. Upriver, the District is working to stabilize the channel and expand habitat for steelhead trout and other native fish.

The District has targeted projects that will reduce flood damages to the valley as a whole, especially the urban core. With most of the economically feasible projects expected to be completed by 2029, the District now works continuously to maintain the valley creeks. This includes removing sediment, restoring eroded banks, inspecting levees, and managing vegetation, so that waterways continue to effectively carry floodwaters and serve as fish habitat. Other activities also reduce flood risks – education and outreach, flood warning programs, and ordinances or codes to manage development in floodplains. Local land use agencies play a critical role in these "nonstructural" activities to keep people and property safe in floodprone areas.

Looking Ahead: Flexibility & Resilience

Like most of the state's water infrastructure, Santa Clara County's flood infrastructure is aging: nearly half of its flood protection projects are over 40 years old. With most projects originally planned for a 50 year life, many will need to be rehabilitated or replaced in the near future. While this is a major budgetary concern, it is also an opportunity to replace old concrete or barren earth channels with more resilient, environmentally integrated landscapes.

Existing structures will also need to be re-evaluated in the face of climate change. Projects have been designed based on statistical analyses of past events. Climate change models suggest that our future may look very different from the past: storms are likely to be more intense and less predictable, and sea level rise brings a new level of risk to bayside areas. Combined, these changes necessitate a vigorous analysis of old projects' adequacy and a new approach to planning in which resilience and flexibility are highly valued.



Santa Clara Valley Floodwater Management Projects. Brown and orange lines show river channels modified for flood protection. Despite extensive work throughout the floodplain, large areas at either end of the valley remain vulnerable (a 1% chance each year) to flooding.

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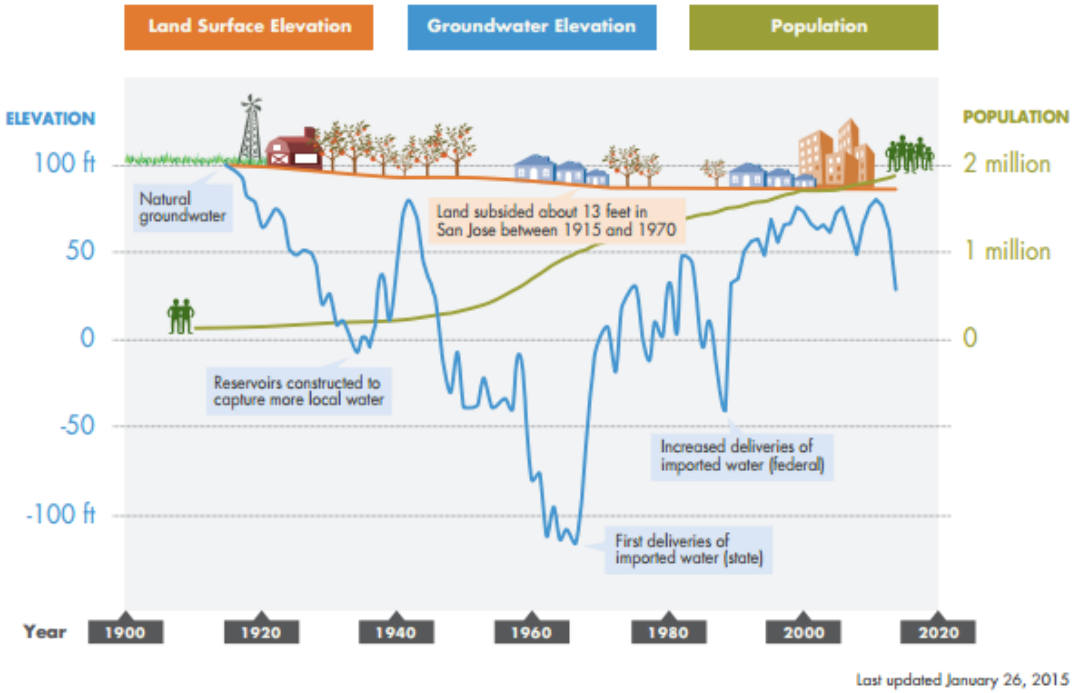
A Water Supply Strategy

The Santa Clara Valley has relied on groundwater since the 1850s. By the 1920s, more water was being pumped than nature could replenish, resulting in steeply declining groundwater elevations and permanent land subsidence, the broad sagging of the land surface over many miles. This increased flood risk in the Valley and caused saline water from the bay to flow inland, contaminating shallow groundwater.



A graphic representation not intended as a technical exhibit.

Groundwater recharge. On average, the amount of groundwater pumped from the sub-basins is almost two times the amount that nature replenishes. Without the managed recharge program, the county would face a severely diminished water supply.

As a result, the District turned to an integrated management strategy, which now includes using local and imported water to recharge groundwater and supply drinking water treatment plants, recycling water, and administering water conservation programs. No single source of water in the county can meet all its needs. The water district uses all of the various sources of water together to ensure a reliable clean water supply.

Local Water

Groundwater and local surface water are the county's original sources of water supply. Much local rainfall and runoff now flows into reservoirs for storage. That water is subsequently released into over 90 miles of creeks and 300 acres of ponds to augment natural percolation and maintain groundwater levels. Some of the local surface water is processed at drinking water treatment plants. The treated water is sold to local water retailers who use their own distribution systems to serve customers. Water pumped from the groundwater aquifer through wells is used by private well owners, farmers, and water retailers.

Imported Water

Half of Santa Clara County's water supply comes from hundreds of miles away - first as snow or rain in the Sierra Nevada and Cascade ranges of northern and eastern California, then as water in rivers that flow into the Sacramento-San Joaquin River Delta or directly to water conveyance systems. Often called "imported water," it is brought into the county through the complex infrastructure of the State Water Project, the federal Central Valley Project, and San Francisco's Regional Water System.

Recycled Water

A small but important and growing source of water is recycled water. Used primarily for irrigation, industry and agriculture, recycled water is wastewater that has been purified to meet strict standards set by the California Department of Health Services. Using recycled water helps conserve drinking water and groundwater supplies; provides a dependable, drought-

Our water sources...

55% District imported water

- 40% through Delta to replenish groundwater and supply water to drinking water treatment plants
- 15% from Hetch Hetchy system

40% local water

- natural groundwater
- from reservoirs to groundwater
- from reservoirs to drinking water treatment plants

5% recycled water

100% TOTAL SUPPLIES

Based on average values from 2010 to 2014.

proof, locally-controlled water supply; reduces dependency on imported water and groundwater; and helps preserve tidal habitat by reducing discharges to the bay. The District is also testing technology for using purified recycled water for groundwater recharge.

Water Conservation

Water conservation is another critical part of the District's water supply program. Because of the investments the District and its retailer customers have made in water conservation since 1992, water use in the county has remained relatively flat despite a 25 percent increase in population over the same time period.

(At right, from top to bottom) **Anderson Reservoir** is the largest of twelve District reservoirs operating for water supply; **this map** depicts the complex infrastructure required to import, store, treat, and deliver safe and reliable water to Santa Clara County; the **Alamitos ponds** lie just outside District Headquarters and are operated as groundwater recharge sites; similarly, the **Church Avenue Ponds** act as large areas to spread imported and local water to recharge the aquifers below.

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The Role of Functioning Watersheds

In a well-functioning watershed, natural processes work to sustain good water quality – water in which native fish and other biota thrive and which humans can safely use. Water quality can be naturally maintained through the interaction of water with riparian vegetation, topography, and soils. For instance, wetlands remove harmful pollutants from water by trapping metals and organic materials; soil microbes degrade organic waste, rendering it less harmful. Vegetation and root biomass trap sediment and the attached nutrients, diminishing the eroding action of wind and water along creek beds. Stream vegetation and rocks enhance "stream roughness" which mixes and slows down the water, again decreasing erosion and oxygenating the water.

Water Quality in the Urban Environment

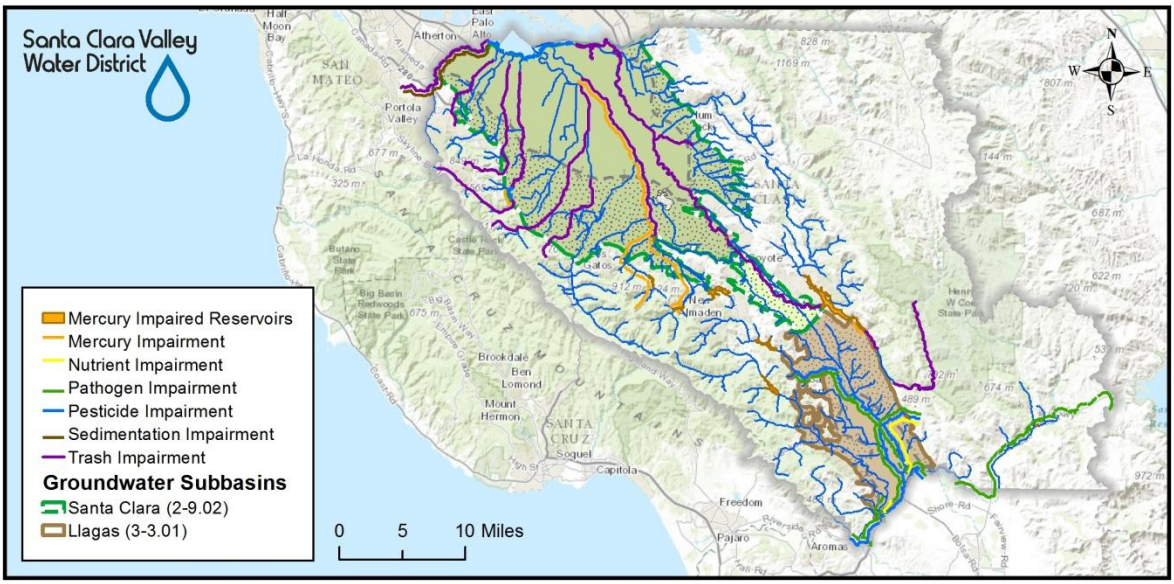
Continuous changes in land use and population have occurred since the Gold Rush. Mining, ranching, agriculture, urbanization and the construction of water supply and flood infrastructure altered many streams' natural dynamics, increasing erosion and pollution, decreasing riparian vegetation, and changing the flows in the creeks. Excess nutrients can cause excessive plant and algal growth, which can clog stream channels, increase the likelihood of floods, and ultimately decompose, depleting the oxygen in the water body and killing off aquatic life.

The Challenge of Diffuse Pollution

The most challenging sources of pollution generally originate from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. Unlike pollution from industrial and sewage treatment plants, this more diffuse pollution is carried by rainfall moving over and through the ground. As the runoff moves, it picks up natural and human-made pollutants and deposits them into lakes, rivers, wetlands, coastal waters and ground waters. These pollutants include:

- Excess fertilizers, herbicides and insecticides from agricultural lands and residential areas;
- Oil, grease and toxic chemicals from urban runoff and energy production;
- Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks;
- Salt from irrigation practices and acid drainage from abandoned mines;
- Bacteria and nutrients from livestock, pet wastes and faulty septic systems.

Santa Clara Valley Water Quality Challenges. Colored lines designate dominant pollution issues in that river or creek. The river corridors within the more urban Santa Clara Subbasin are largely impaired by trash, while the Llagas Subbasin faces pollution challenges more characteristic of agricultural areas -- pesticide, nutrient, and pathogens.



Water Quality

Today, livestock in the upper watersheds are usually managed to minimize their access to and impact on the streams, which feed the county's water supply reservoirs. Below the reservoirs, human impacts are more significant, since urban areas pollute the creeks with excess sediment, pesticides, fertilizer, trash, and animal and human waste. Groundwater quality is threatened by industrial releases, leaking underground storage tanks, the excess application of fertilizers and pesticides, and other land use activities.

In partnership with the cities and the County, the District is actively monitoring and addressing the following water quality issues within the county's watersheds:

Trash	Trash accumulation is an issue in the urban reaches of almost every county creek. Prominent sources include windblown and waterborne litter from surrounding neighborhoods and highways, illegal dumping of old furniture and appliances, and refuse from creekside homeless encampments. Trash is such a pervasive problem in the county that it has been listed as a pollutant under the federal Clean Water Act, and the development of a maximum regulatory limit is underway.
Sediment & Nutrients	Due to stormwater runoff from urban areas, large, intense volumes of water – and eroded sediment-- are carried into the creeks. Nutrients like nitrogen and phosphorus are often attached to sediments, and when they settle into pools made worse by historical subsidence in the creeks, they encourage excess algal growth. Due to low flows, these sediments can sit in the stream bed for periods of 10 to 20 years. Elevated nitrate levels in groundwater are an ongoing concern, particularly in South Santa Clara County, due to both historic and ongoing sources, including fertilizers, septic systems, and animal waste.
Low Dissolved Oxygen	The excess plant and algal growth described above decomposes and uses up the oxygen in the water, making it hard or impossible for aquatic life to survive in those areas. The problem is compounded by the lack of naturally rough streambeds that once churned the water, incorporating oxygen in the process.
Water Temperature	Low flow rates below reservoirs and the removal of shady stream-side vegetation have raised water temperatures in the lower reaches of the county creeks, compared to historical conditions.
Pathogens	Pathogens in natural waterways generally result from wildlife defecation, septic tank leaks, or waste from homeless encampments.
Salts	Salts from residential and agricultural fertilizers may enter streams from rainfall runoff, increasing stream salinity. After irrigated water evaporates, salts it carries are left to accumulate in soil and groundwater. Detergents and other household sources also contain salts that may reach groundwater from septic systems or sewer lines. Some shallow groundwater near San Francisco Bay has elevated salinity due to the inland movement of salt and brackish water through tidally-influenced streams, a phenomenon exacerbated by historical land subsidence.
Pesticides & Toxins	Includes Diazinon, Mercury, Selenium, PCBs, solvents, and fuel oils. Carried by runoff from landscaping, agriculture, mining, urban streets, and industry, the above substances can surpass safe levels in surface waters, especially after large storms. These toxins can also be discharged to the ground and may impact groundwater. Diazinon, Mercury, and PCBs are all monitored via state-established limits on how much of each can safely be allowed in each water body.

A Rich Ecological History

Historically, the Santa Clara Valley supported abundant and diverse wildlife. Chaparral-covered uplands gave way to sycamores, oaks, and grasslands on the valley floor, crisscrossed by a sinuous network of streams and freshwater wetlands. Grizzly bears, elk, pronghorn antelope, deer, and mountain lions roamed the valley's foothills. Ducks, geese, great horned owls, and goldfinches nested across its alluvial woodlands and marshes. Steelhead trout made their migration up its streams. The Ohlone people used many of these resources as sources of food, clothing, and tools, but as a whole their modifications to the landscape were minor.

Since the arrival of Spanish missionaries in the late 1700s, the natural environment of Santa Clara Valley has been radically altered: agriculture, urbanization, and the associated channelization and damming of natural waterways for water supply and flood control have changed the timing and flows of rivers and altered habitat types which historically were prevalent on the valley floor. Salt ponds and bayside development have replaced tidal marshes; the urban core has displaced grasslands, woodlands, and wetlands; and narrowed stream corridors exclude native riparian species like sycamores. In addition to shrinking habitat, both plant and wildlife populations face the influx of invasive species, which can out-compete them for limited resources.

Streams' Role as Resource Centers

Streams are a focal point for wildlife resources, since food, water, and cover – the primary components of habitat—are most readily available there. Channelized streambeds that have been narrowed, however, often eliminate space for adjacent wetlands and riparian woodland. In the absence of streamside habitat, animals often move into adjacent urban areas in search of food and cover. Natural flood protection planning looks to revitalize creek corridors: complete stream ecosystems have the potential to provide necessary flood control benefits, while also meeting the needs of wildlife.

Wildlife along Santa Clara County's Riparian Corridors (*clockwise from top left*): Salt Marsh Harvest Mouse (photo by Nina Merrill); Steelhead (photo by Shawn Welch); Northern Harrier, aka marsh hawk (photo by ©Glenn Nevill); *Ensatina*, aka lungless salamander (photo by Clayton Leal); Bay Checkerspot Butterfly; Killdeer nest.

Habitat Mosaic

To thrive, the valley's native fish and wildlife species require access to a complex variety of habitat types that were characteristic of the valley's original floodplain and riparian corridors. Different environments are needed for reproduction, feeding, and shelter during different periods of a species' lifecycle. Fish lifecycles also depend on a mosaic of habitat types (e.g. freshwater wetlands, sycamore groves, alkali meadows, and freshwater ponds) that are created by variable flows of water and natural material. Reservoirs, artificial impoundments, in-stream weirs, and other stream modifications impede delivery of gravels and woody debris that create the dynamic habitats (e.g. riffles, pools) aquatic fauna rely upon.

Connectivity is Key

Access to a habitat mosaic requires the ability to move safely between habitat types. The riparian and wetland matrix that remains across the valley *is* patchy and almost entirely disconnected from the adjacent upland, hampering wildlife access to the foothills, the most intact habitat in the valley. The absence of natural corridors along the waterways instead pushes wildlife onto the urban streets and into traffic. There, they must compete with invasive species better adapted to coexist closely with humans (e.g. feral cats and dogs; crows, raccoons, and opossums).

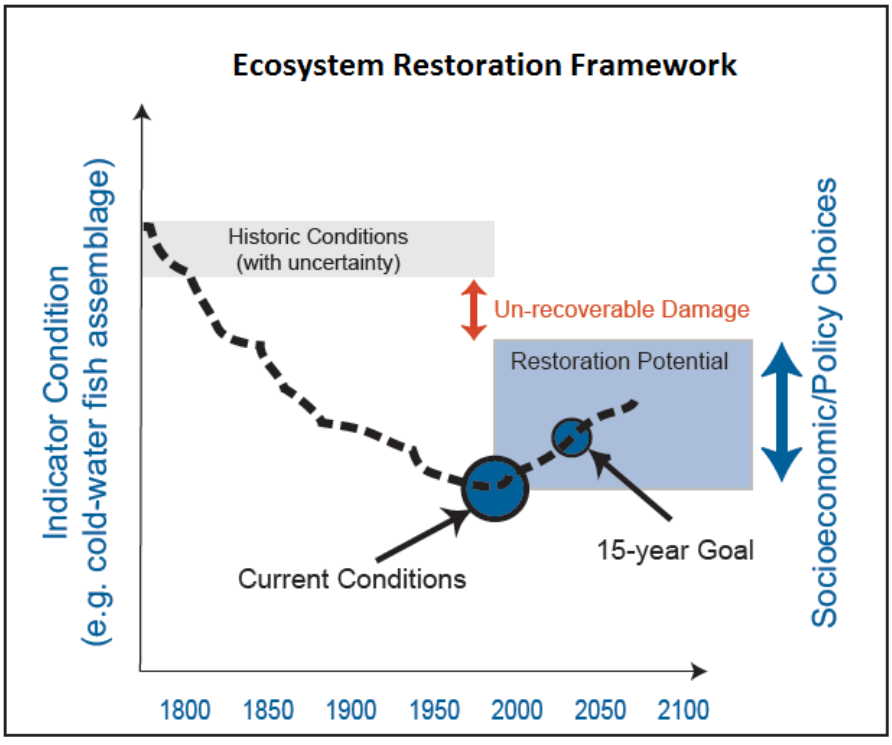
Challenges for Habitat Conservation

While changes in riparian habitats have had dramatic effects on the county's fish and wildlife, the chief stressors are difficult to isolate. Urbanization is the culmination of many human activities, many of which impact the natural ecosystem. For example, research in California shows that a number of factors are strongly linked to decreases in native fish abundance, including changed temperature and flow below reservoirs, reservoirs' role as barriers to passage to upstream habitat, water diversions, land use changes, nonnative fish (competition or predation), habitat and stream channel modifications, and pollution. More analysis is needed to determine which changed factors have had the largest impacts on this county's fish and wildlife.

A Long-Term Vision

Implementing habitat restoration on a watershed scale requires a long-term approach. Using the framework illustrated in the graph below, the District can determine which projects, policies, and partnerships will help restore stream conditions and diversity of vegetation adequate to support natural processes within our stream corridors, while also taking into account economic and social constraints. For instance, purchase of creekside properties as they become available may be prudent as part of future planning for both flood protection and restoration efforts. In the face of climate change, droughts, and floods, wider riparian corridors will support changes in vegetation and community structure. This buffer space will make the county's plants, fish, and wildlife all more resilient to external disturbances.

Ecosystem Restoration Framework (*below)*: With a landscape radically changed from the one that existed prior to European settlement, complete restoration can be physically and/or economically impossible. This graphic representation can help policymakers visualize how set ambitious, but realistic goals for restoration projects.



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A Rich Natural History

The extensive network of ponds for salt production at the southern end of San Francisco Bay was developed about 100 years ago. Before then, the shallow waters of the south bay were surrounded by a band of tidal mudflats and, closer to shore, an expansive area of marshland. Inlets of water (sloughs) and tidally-filled ponds (pannes) branched throughout the marshlands. Historically, water at the landward edges of these ponds evaporated during the summer, and salt was harvested. For the most part, the marshlands merged inland into gently sloping alluvial valleys and plains, and the tidal sloughs melded with the outlets of the larger creeks. This interface between the tidal and fluvial flows created a unique ecology, influenced by the salt content, tidal fluctuations, and bay mud substrates. Sediment carried landward by large tides and bayward by river flows would meet, slow, and be deposited, leaving areas of great ecological fertility.

A distinctive array of plants adapted to thrive in the adjacent marshes, but commercial crops were not suited to the salty soils. Until salt development, the main industry in the marshes was waterfowl hunting, since resident and migratory birds flocked to the rich habitat.

Large swaths of original habitat were eliminated when salt production moved to an industrial scale: levees were built along the bayside edges of the marshes, isolating them from the tidal flows, and internal levees allowed progressive, stepwise evaporation as the water moved from one pond to another, in order to concentrate and collect salt. Brackish marshlands remain around the fringes of the levees and along the sloughs, and new wildlife has colonized the shallow salt pond habitat, which makes up 60% of the total former marsh area. Purchased from the Cargill Company by the state and federal government in 2003, these ponds, a total of 16,500 acres, now have the potential to be restored to productive ecosystems.

Alviso Salt Ponds *(clockwise from bottom left):* (1) Internal levee dividing two ponds; (2) black-necked stilt in flight over newly restored Pond A16; (3) levee breach opens Pond A17 to tidal flows from Coyote Creek as part of South Bay Salt Pond Restoration Project; (4) restored marsh in Pond A21 has already begun to support small populations of endangered salt marsh harvest mice (Photo 1 by Peter Iannone. Photos 2 & 3, by Judy Irving, © Pelican Media. Photo 4 by Steve Martarano/ USFWS).

Flood Challenges

Because we now live and work in areas inside the original tidal zone and as a result of historical land subsidence, flooding is a potential problem during storms or extremely high tides. The bayfront levees were designed for salt production, not flood protection. Although they have successfully kept most of Santa Clara County free from tidal flooding, they were not built to FEMA flood standards. In addition, the soils were not engineered or compacted during construction, so the levees continue to settle, erode and deform over time. These levees need on-going maintenance to continue to provide the current level of flood protection.

Because of overpumping of groundwater early in the 1900s, the baylands subsided by two to eight feet between 1912 and 1967. Although the District has halted subsidence through an extensive, on-going managed recharge program, this subsidence is irreversible. Many South Bay communities like Alviso now sit below sea level. With sea levels rising due to climate change, the potential for bay water to overtop the levees and flood these areas is increasing.

The US Fish and Wildlife Service, with assistance from the District, now maintains the salt pond levees, but long-term flood protection is being addressed as part of larger coordinated baylands restoration and flood protection projects.

Flood Protection & Restoration Opportunities

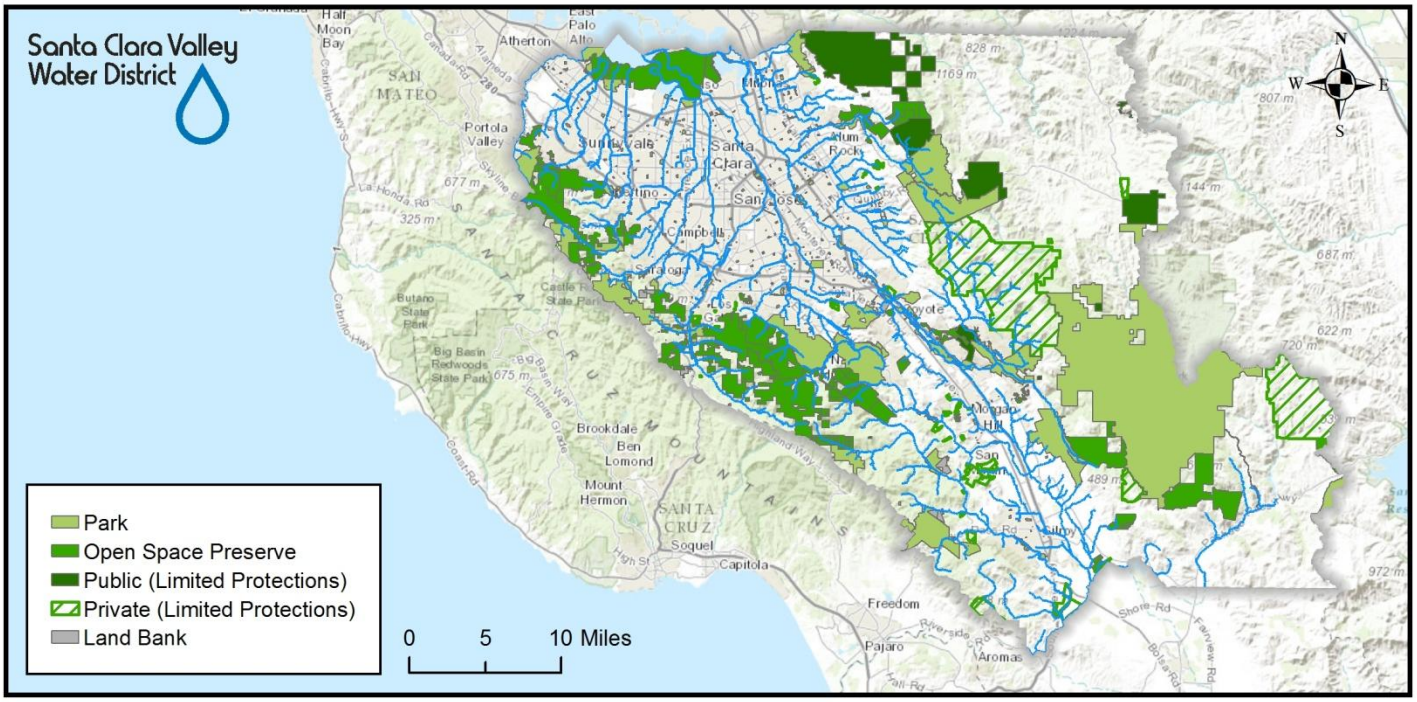
The District is a partner in two closely aligned projects that propose to restore portions of the marshlands and provide flood protection.

The US Army Corps of Engineers (Corps) is the lead agency on the Shoreline Study, a proposal to construct flood-protection levees, starting near Alviso. The project would recreate some of the transitional upland habitat that was lost due to the creation of ponds and other development. The project also aims to account for sea-level rise. If the project is authorized and funded by Congress, it could break ground as early as 2017.

The South Bay Salt Pond Restoration Project, led by the California State Coastal Conservancy, is a complementary restoration effort to remove or breach many of the old salt pond levees and return tidal and fluvial dynamics to the bayshore ecosystem. It will restore habitat for native plant, animal, and aquatic species. The improved wetland is also intended to serve as a coastal buffer against storms and tidal flooding, as well as improve overall water quality in the Bay and provide extensive recreation opportunities. Implementation of this project, which includes flood protection works, habitat restoration, and trail features, will take place in phases over the next 50 years and is expected to cost in the hundreds of millions of dollars.

The South Bay Salt Pond Project aims to restore the former salt pond areas to ecologically functioning tidal marsh. *Above,* Pond A21, part of the Alviso Pond Cluster, was part of the first restoration efforts: the levees separating it from the Bay were breached in 2006, after which up to two feet of sediment accumulated and native marsh plants began to colonize the area.

Landscape Resources: Open Space, Recreational Trails, & Agricultural Lands



The **Santa Clara Valley** is dotted with fragments of open space under different ownership or oversight. The valley's streams and creeks offer natural connectivity between these areas and could be leveraged as a framework for trail development to increase public access to them.

Why Open Space?

Protecting and expanding open space in Santa Clara County has the potential to support all three of the District's primary objectives: reliable local water supply via groundwater recharge; flood protection by preserving natural floodplains; and ecological stewardship by fostering natural habitats.

Urbanization has vastly increased the amount of area in the county covered by buildings, roads, and other paved surfaces –which prevents water from sinking into the earth. In contrast, land left in its natural state or lightly developed for recreational uses provides area for rainfall or floodwaters to absorb into the soil. Open space areas adjacent to creeks can reduce the need to invest in expansive flood management infrastructure and can decrease the amount of sediment and pollution that is carried downstream. These kinds of proactive investments can also earn credit from FEMA, in a program that reduces flood insurance costs for the public. As part of a multi-objective approach, the District has increasingly tried to incorporate open space elements into capital flood protection projects to maximize both flood mitigation and riparian habitat.

Meanwhile, groundwater recharge through these soils can increase the sustainability and reliability of the District's water supply by reducing reliance on imported water. Currently, natural recharge accounts for about 15% of the water supply in an average year. Maximizing this contribution can help insulate the District against fluctuations in local and imported water supplies.

Why are Open Space & Trails a Challenge?

The District faces significant logistical and monetary challenges in expanding the amount of open space in the county. Land in Santa Clara County is expensive. Parks and trail networks require not only front end planning and construction but also ongoing maintenance to ensure public safety. Beyond these factors, even as the District partners to increase public access to natural areas for recreation, those same habitats must also be protected from erosion, pollution, and other forms of degradation. These responsibilities require a carefully studied placement of public parks and trails, particularly when they lie within the riparian zone.

Planning for Recreation and Trails

The District sees open land and trails as valuable public resources, opportunities for citizens to engage with the Valley's waterways and nature. Since trail development is outside the District's usual purview, it partners with other local agencies that plan, design, construct, and maintain trails for public use. The areas along the District's creeks, groundwater recharge ponds, reservoirs, and pipeline corridors can be seen as potential components of an underlying structure for a county-wide network of trails. Using cooperative interagency agreements, the District shares its land and resources, allowing partners like the City of San Jose, the Santa Clara County Open Space Authority, and Santa Clara County Parks and Recreation to bring their green space visions to reality. Though the costs and maintenance responsibilities for trails fall to these other agencies, the District actively helps them with funding through a robust grant program. District grants and partnership funds helped build over 70 miles of trails in the County between 2001 and 2013 and were further expanded with the adoption of the Safe, Clean Water Program in 2012.

Clockwise from top left:
Red bell peppers have ranked as one of the top three grossing crops in the county for over ten years. **Purple pipe** delivers about 600 acre feet of water to farmers a year, a volume the District hopes to grow. **Trails along the Alviso levees** are popular with birdwatchers and runners alike.

Increasingly, the District aims to align its open space goals with other public agencies to facilitate further partnerships. Using District land to achieve multiple objectives – for water supply, flood control, improved ecosystem health, and community use, improves quality of life for all the county's inhabitants.

Remembering Our Roots: Agricultural Lands

Today, Santa Clara County is most often defined by the tech powerhouses lining San Francisco Bay, but "Silicon Valley" is a relatively recent phenomenon. Santa Clara Valley's legacy stretches back much farther, intimately tied to its beginnings as an abundant farming community, dubbed the "Valley of Heart's Delight" for its expansive orchards. By the 1920s and 30s, use of groundwater for irrigation had outstripped rainfall's ability to naturally replenish it, lowering water levels and resulting in widespread subsidence. The situation compelled both North and South County to form Water Conservation Districts to manage groundwater recharge. These Districts later united into today's SCVWD, an organization born out of an agricultural mission and which continues to serve a 260 million dollar agricultural economy in the county.

While agriculture uses less than 1 percent of the water consumed in North County, it demands nearly half of South County water, of which over 90% is groundwater, sustained by both natural rainfall and the District's managed recharge program.

Responsible farming is vital to the District's long term vision:

- Preserved farmland is preserved open space, which increases land available for infiltration, increasing local water supplies and reducing the volume of stormwater reaching our flood infrastructure;
- Productive farmlands preserve rural space from urban development, facilitating movement of native species between bordering habitat fragments;
- Efficient irrigation systems and expanded use of recycled water on crops can reduce demand on groundwater;
- Well-managed farms can reduce the amount of nutrient and sediment pollution flowing into creeks.

Contact us: http://valleywater.org/iwrmp/

Climate Change

The Source When greenhouse gases accumulate in the atmosphere, they absorb heat and slow or prevent the loss of heat to space, increasing the overall global temperature. This global warming has been accelerated by human actions such as burning fossil fuels and converting open space to urban areas.

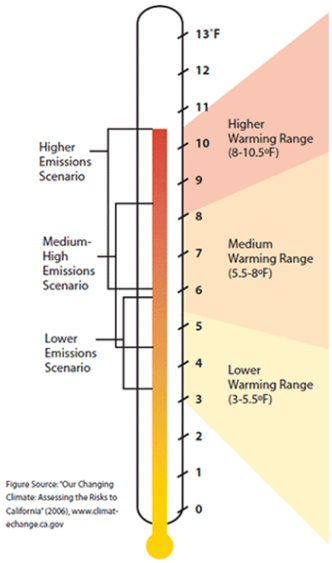


Figure Source: "Our Changing Climate: Assessing the Risks to California" (2006), www.climatechange.ca.gov

Average Temperatures
in San Jose Increase by
3.3 to 5.7° F by 2099*

Extreme Heat Days in CA
Today: 6 wks/yr
By 2099: 10-12 or 15-19 wks/yr*

25-40% Less Sierra Nevada Snowpack
than the historical average by 2050

Sea Level Rise
in San Francisco Bay
By 2050: 4-16 inches
By 2100: up to 55 inches

Drought & Flood
Risk and Intensity Increase

* Different estimates based on a low and a high emissions trajectory.

The Impacts While warming of the planet is all but certain, the magnitude and pace of future temperature increases remain uncertain. Regardless of the rate of warming, however, many of the general consequences of climate change are well-established (see box at left).

How do these changes affect the Water District's work?

The District mission is to provide three things to the public: *a reliable, safe water supply, protection from floods, and stewardship of our watershed ecosystems*. Climate change will likely impact all three of these missions-- although the magnitude of these changes is difficult to predict or quantify precisely. (see other side)

Climate Change will impact water resources across the landscape. The following are possible consequences:

Less Reliable Water Supply
- Reduced snowpack
- Increased occurrence and magnitude of droughts
- Reduced water quality in the Delta
- Reduced Delta exports – thereby reducing the reliability of imported water

Increased Demand for Water
- Increased evapotranspiration rates from plants, soils, and open water surfaces
- Soil moisture deficits in non-irrigated agriculture, landscapes and natural areas
- Increased urban and agricultural irrigation needs

Changes in Flood Risk
- Increased stress on salt pond levees in the Bay due to sea level rise
- Increased flood risk due to changes in storm patterns and intensities
- Increased bay front and tidal flooding from sea level rise

Watershed Stewardship
- Decreased water quality due to impacts of higher temperatures and changes in flow
- Changes in habitat types and, therefore, characteristic species in a given area
- Transformation of bayside ecosystems due to sea level rise

Why is there so much uncertainty about how much warming to expect, and what impacts it will have?

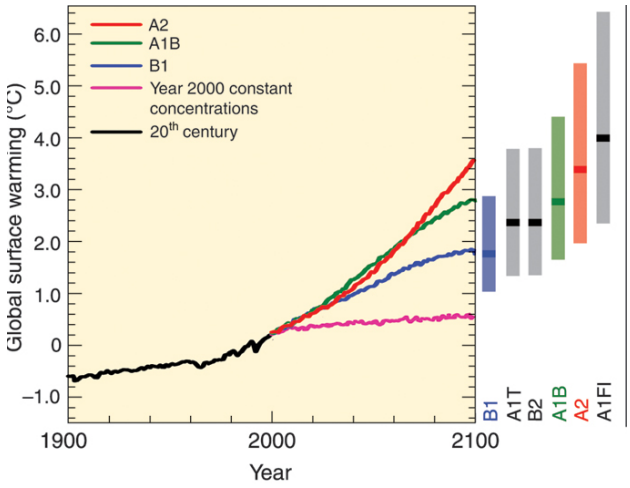
Modeling climate change involves several different layers of uncertainty.

1. **We don't know how much CO_2 and other greenhouse gases will be emitted globally.** The ranges of global warming are dependent on the extent to which nations enact aggressive carbon cutting policies and on the extent of individual behavioral changes. Scientists look at a wide range of possible scenarios to make predictions.

2. **Some climate feedback loops are hard to predict.** For instance, polar ice reflects a lot of sunlight (and therefore, heat!), rather than absorbing it. If rising temperatures melt that ice, the darker soil beneath will absorb the incoming rays instead, driving further melting. It is almost impossible to fully predict the outcomes of these feedback loops.

3. **Global climate models are designed to project and estimate relative change on global scales, not local ones.** To begin to estimate local impacts, it is necessary to downscale climate model results, which adds more uncertainty. Furthermore, regions such as this already have dramatic annual extremes and localized microclimates that make modeling more complicated. Therefore, adequately projecting climate change impacts, especially changes in precipitation is very challenging.

With global warming and the resulting climatic changes expected over the next century, **we can no longer rely on the past to predict the future.** The potential effects of climate change will be considered in all areas of the *One Water* Plan.



(*Above*) **Warming Depends on Emissions.** Solid lines are anticipated global average surface warming (relative to the 1980-1999 average temp) under different policy/emissions scenarios. The bars at the right represent the possible range of temperatures under the corresponding scenario, with the dark band representing the best estimate (sourced from IPCC AR4, 2007).

How does this uncertainty impact how the District does its work?

Water management requires advanced planning. As a water resource agency for over 80 years, the District is accustomed to managing resources within a changing and sometimes unpredictable environment: precipitation varies between years; droughts happen. Up to now, we have been able to rely on a historic understanding of ranges of weather and climate when doing planning.

However, future uncertainties in increasing extremes and changes in temperature and precipitation—like that we face due to climate change—makes reliable predictions about the future more difficult. The District can begin to anticipate the areas in which it may need to adjust and take these potential impacts into account as we design strategies to meet their *One Water* goals.

As a result, flexibility– and an emphasis on adaptable, rather than rigid, processes and infrastructure—is key to successful water management under climate change.

Committee:	Environmental and Water Resources
Meeting Date:	10/19/15
Agenda Item No.:	5.3
Unclassified Manger:	Garth Hall
Email:	ghall@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Update on Bay Delta Conservation Plan (BDCP) and Imported Water with Respect to Board Ends Policy 2.1: Reliable Water

RECOMMENDED ACTION:

This is an information item only and no action is required.

SUMMARY:

Santa Clara County relies on imported water to meet 55 percent, on average, of its water needs, with 40 percent conveyed through the Sacramento-San Joaquin Delta. This agenda item provides an opportunity to receive information and discuss ongoing Delta planning efforts that are critical both to restore the health of the Delta ecosystem, and to ensure the long-term reliability of water supplies conveyed through the Delta.

On July 9, 2015 the California Department of Water Resources and U.S. Bureau of Reclamation issued a Notice of Availability for the partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Bay Delta Conservation Plan (BDCP). The recirculated draft includes engineering refinements made to the water conveyance facilities; new sub-alternatives including Alternative 4A, known as "the California WaterFix"; multiple regulatory approaches; and updated environmental analyses that were conducted in response to the changes and issues raised in the more than 12,000 comments received on the 2013 Draft EIR/EIS. The California WaterFix is the new California Environmental Quality Act (CEQA) Preferred Alternative, replacing Alternative 4 (the proposed BDCP). The California WaterFix is also the National Environmental Policy Act Preferred Alternative.

BACKGROUND:

Santa Clara County relies on imported water to meet, on average, 55 percent of its water needs, with 40 percent conveyed through the Sacramento-San Joaquin Delta by the State Water Project (SWP) and Central Valley Project (CVP). The District's SWP and CVP water supplies are vulnerable to risks and challenges concerning the Delta. To reduce these risks, the District joined with other public water agencies* and state and federal agencies since 2006 to develop the BDCP, consistent with District Board policy and CEO direction (see Attachment 1).

Until recently, the BDCP had been developed as a Natural Communities Conservation Plan and Habitat Conservation Plan, under the state Natural Communities Conservation Planning Act and Section 10 of the federal Endangered Species Act, respectively. The goals of the plan were to restore the health of the Delta ecosystem and improve the reliability of water supplies conveyed through the Delta by implementing 22 conservation measures (CMs). These measures included restoration and protection of up to 150,000 acres of habitat, implementation of measures to reduce environmental stressors such as predation and invasive

* Public water agencies are State Water Project and Central Valley Project water contractors, including Alameda County-Zone 7 Water Agency, Kern County Water Agency, Metropolitan Water District of Southern California, Santa Clara Valley Water District, San Luis & Delta-Mendota Water Authority, and Westlands Water District.

species, and construction and operation of a conveyance facility that would help restore natural flow patterns in the Delta and reduce entrainment in the South Delta. Since October 2013, six Board workshops and four Board agenda items have been held on the BDCP. A list of topics covered during these and previous board presentations is included in Attachment 2. In addition, the Board BDCP Ad Hoc Committee has met 14 times since its inception in early 2013 to discuss BDCP issues in depth.

The Public Review Draft BDCP and EIR/EIS were released on December 13, 2013 for a 120-day public review period, and staff submitted comments on the document on July 29, 2014. In response to numerous comments, the State has proposed a modified sub-alternative (4A) to the previously proposed Alternative 4 in the BDCP Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Alternative 4A (also called the "California Water Fix"), includes the conveyance facilities (mainly intakes and tunnels) proposed under Alternative 4 but does not include the elements of a Habitat Conservation Plan and Natural Communities Conservation Plan previously packaged as an integral part of BDCP. This allows for a different regulatory approach to gaining necessary permits and authorizations under both the federal and state Endangered Species Act. The State is proposing to scale down the quantity of habitat restoration in the California WaterFix and pursue restoration under a separate program called California EcoRestore. Under California EcoRestore the State plans to accelerate restoration of 30,000 acres of habitat over the next five years, utilizing a combination of funding by State and federal water contractors, Proposition 1 and other public funding.

On July 9, 2015 the California Department of Water Resources and U.S. Bureau of Reclamation released revisions to the draft BDCP EIR/EIS that reflect the new Alternative 4A, as well as comments received on the public draft documents and revised analyses. The State's new plan is described in several fact sheets (see Attachments 3 -8). District staff will be reviewing the documents and providing comments during the public comment period which runs from July 10 to October 30, 2015. All substantive comments received during the formal comment periods on the both the RDEIR/SDEIS and the 2013 Draft EIR/EIS will be considered in the Final EIR/EIS and decision-making process.

ATTACHMENT(S):

Attachment 1: Board Policy & CEO Interpretations Related to a Long-Term Delta Solution
Attachment 2: Previous Bay Delta Conservation Plan Updates and Special Board Meetings in Delta Planning Efforts
Attachment 3: California WaterFix Fact Sheet: A State-of-the-Art Solution
Attachment 4: California WaterFix Fact Sheet: Protecting Water Supplies and Fish
Attachment 5: California WaterFix Fact Sheet: Refined Tunnel Option and Intake Design
Attachment 6: California EcoRestore Fact Sheet: Restoring the Sacramento-San Joaquin Delta Ecosystem
Attachment 7: Bay Delta Conservation Plan / California WaterFix Fast Facts, July 2015
Attachment 8: California WaterFix (Alternative 4A) / Recirculated Environmental Analysis Frequently Asked Questions, July 2015
Attachment 9: Staff Presentation

Board Policy and CEO Interpretations
Related to a Long-Term Delta Solution

Board Governance Policy provides the following guidance in addressing Delta issues related to the District's imported water supplies **(type in blue reflects recommended changes, pending the current Board review process [2015])**:

Global Policy

GP-1: The purpose of the Board, on behalf of the people of Santa Clara County, is to see to it that the District provides Silicon Valley safe, clean water for a healthy life, environment, and economy.

Ends Policies

E-2: There is a reliable, clean water supply for current and future generations

WS Goal E-2.1: Current and future water supply for municipalities, industries, agriculture and the environment is reliable.

WS Objective 2.1.3: Protect, maintain and develop imported water.

CEO Strategy S.2.1.3.1: Develop and maintain imported water contracts and water management **(e.g. transfers, exchanges)** partnerships.

CEO Strategy S.2.1.3.2: Aggressively pursue ~~**the**~~ Delta solution**(s)** to achieve the coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem, ~~**all in a manner that protects and enhances**~~ **in balance with** the unique **and ever-evolving** cultural, recreational, natural resource, and agricultural values of the Delta ~~**as an evolving place**~~.

CEO Direction:

- D 2.1.3.2.a. The District's desired outcome is a cost-effective, comprehensive, long-term solution for the Delta that meets the water supply, water supply reliability, and water quality needs of Santa Clara County while balancing other beneficial uses and providing a sustainable Delta ecosystem.

- D 2.1.3.2.b. The District supports ~~**moving forward with**~~ **completing** environmental review and feasibility studies for a long-term Delta solution~~**, including analyses of a dual Delta conveyance and a full range of isolated facility sizes**~~.

- D 2.1.3.2.c. Continuing to rely solely on existing through-Delta conveyance for the District's imported water supplies is not acceptable because of the instability of existing Delta levees, underlying seismic risks, ~~**increasing threats of altered hydrology and sea level rise due to**~~ climate change, and ongoing regulatory uncertainty and concerns over the **Delta's** environmental health ~~**of the Delta**~~.

- D.2.1.3.2.d. ~~**The**~~ **L**ong-term Delta solution**(s)** should promote a resilient Delta ecosystem by basing all actions on sound science and addressing the full range of

environmental stressors, including toxics, invasive species, and all watershed diverters.

Executive Limitations

EL-4.2: The Board Appointed Officer shall "spend in ways that are cost-efficient."

CEO Interpretation:

- *Costs of the long-term Delta solution should be allocated* ***equitably*** ~~***fairly to all beneficiaries***~~*.*

- The District favors a flexible approach to cost allocation that maximizes the opportunity for discretionary allocations of cost based on incremental benefits.

EL-6.5: The Board Appointed Officer shall "protect water rights and rights of way."

CEO Interpretation:

- Governance structures and operating agreements related to the long-term Delta solution must provide the ability to protect the value of the District's imported water assets, including water supply and banking contracts.

Previous Bay Delta Conservation Plan (BDCP) Updates and Special Board Meetings on Delta Planning Efforts

May 26, 2015	Board Agenda Item	Staff provided an update on the BDCP and described the new approach proposed by the State to separately develop California WaterFix and EcoRestore.
January 22, 2015	Board Workshop	Staff and a panel of invited guests described the BDCP adaptive management strategy and the current scientific understanding of habitat restoration in general as well as with respect to BDCP restoration actions.
September 23, 2014	Board Agenda Item	Staff responded to questions and concerns raised by Board Members and the League of Women Voters of California with various aspects of the BDCP.
July 22, 2014	Board Agenda Item	Staff presented draft District comments on the Public Review Draft BDCP and its EIR/EIS and on the draft BDCP Implementing Agreement for Board review for consistency with Board Policy. Staff also presented an update on the BDCP and responses to additional Board questions.
May 27, 2014	Board Agenda Item	Following the five 2013–2014 District Board Workshops on BDCP, staff provided an update on Bay Delta Conservation Plan, a summary of the workshops, and responses to Board questions raised during and after the workshops.
January 27, 2014	Board Workshop	Former Director of the San Francisco Public Utilities Commission's Water System Improvement Program, Julie Labonte, and President and CEO of Hallmark Group Capital Program Management, Chuck Gardner, described implementation of large water supply infrastructure construction projects.
December 9, 2013	Board Workshop	Secretary of California Natural Resources Agency, John Laird and other invited guests provided perspectives on the importance of BDCP to the State, County and economy of Silicon Valley. Staff provided a preliminary analysis of BDCP benefits and costs to Santa Clara County.
November 14, 2013	Board Workshop	Director of Department of Fish and Wildlife Chuck Bonham, technical experts in Delta risks, and BDCP project managers discussed Delta risks, the relevance of BDCP to Delta fisheries, and plan components and analysis.
November 8, 2013	Board Workshop	California Department of Fish and Wildlife staff and several representatives of environmental and in-Delta interests discussed habitat restoration and conservation in the Delta and the perspectives of in-Delta users.

October 11, 2013	Board Workshop	Director of California Department of Water Resources, Mark Cowin, Undersecretary of California Department of Food and Agriculture, Sandra Schubert, and Economist David Sunding provided an overview of BDCP in relation to other State planning efforts and discussed the statewide economic impacts and perspective on BDCP.
February 26, 2013	Board Agenda Item	Prior to the release of the second Administrative Draft of the BDCP, staff provided an update on the BDCP and established a Board Ad Hoc Committee to assist the Board with developing policies relating to the District's engagement in the BDCP.
August 7, 2012	Board Agenda Item	Following the July 25th announcement by the Governor and Obama Administration on key elements of the BDCP proposed project, staff provided an update on the Bay Delta Conservation Plan and results of an opinion survey.
May 15, 2012	Board Agenda Item	Staff prepared a BDCP update following release of the preliminary administrative draft of the BDCP.
March 28, 2012	Board Workshop	Several elected officials and residents of Delta counties discussed the in-Delta perspective on BDCP, along with perspectives from Senior Policy Fellow at the Public Policy Institute of California, Ellen Hanak.
October 14, 2011	Board Workshop	Deputy Secretary of the California Natural Resources Agency, Gerald Meral, and several general managers of California water agencies discussed the water supply reliability goal of the BDCP.
August 26, 2011	Board Workshop	Secretary of California Natural Resources Agency, John Laird, and several representatives of environmental groups discussed the ecosystem restoration goal of the BDCP.
May 10, 2011	Board Agenda Item	Overview of Delta Issues

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:

WATER SECURITY | CLIMATE CHANGE ADAPTATION | ENVIRONMENTAL PROTECTION | SEISMIC SAFETY | AFFORDABILITY

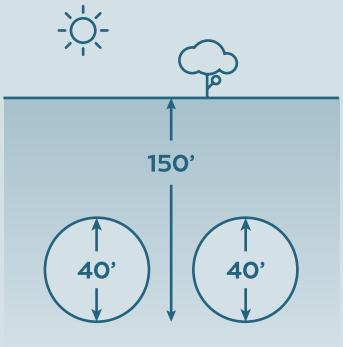
Upgrading our water delivery system would improve the natural direction of river flows, help native fish species migrate to and from the ocean, guard against water supply disruptions, and ensure that local water projects like recycling and groundwater recharge work better.

Protect our state's water supplies from climate change through water system upgrades

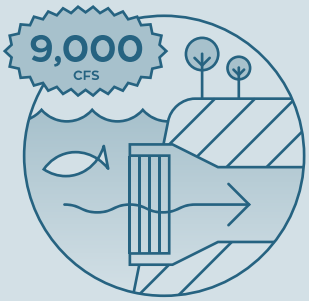
Improve river flows for threatened fish species

Ecosystem restoration and protection

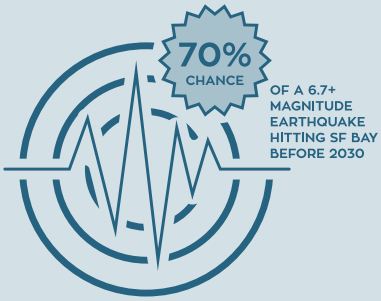
WATER DELIVERY UPGRADE



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

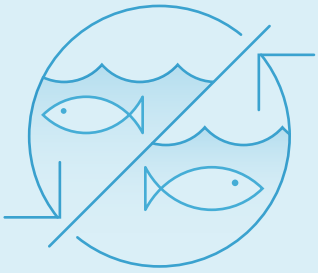


3 new intakes, each with 3,000 cubic-feet per second (cfs) capacity. **Average annual yield of 4.9 million acre-feet.**

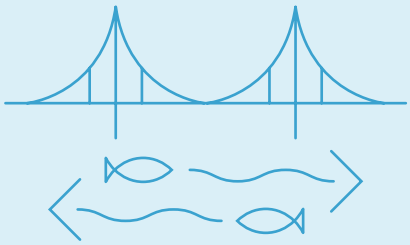


Protection against water supply disruption from failure of aging levees due to sea-level rise, earthquakes and flood events

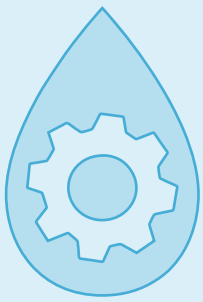
IMPROVED RIVER FLOWS



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

Based on ongoing review of potential construction and operational impacts, mitigation for California WaterFix construction and operation will include about 2,300 acres of habitat restoration and up to 13,300 acres of habitat protection (e.g. conservation easements). This additional acreage will focus primarily on preserving the habitat and working landscape values in the Delta. DWR and Bureau of Reclamation anticipate these revised acreage targets for habitat restoration and protection will be the maximum amount required for mitigation. Final determinations will be based on actual project impacts and consultation with fish and wildlife agencies. All habitat restoration and protection costs for California WaterFix will be paid for exclusively by water agencies benefiting from the project.

CALIFORNIA ECO RESTORE
A STRONGER DELTA ECOSYSTEM.

Separate from California WaterFix and over the next 5 years, California will pursue more than 30,000 acres of critical Delta restoration under the California EcoRestore program, pursuant to pre-existing regulatory requirements such as the 2008 and 2009 biological opinions and various enhancements to improve the overall health of the Delta ecosystem.

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

~2,300 ACRES OF HABITAT RESTORATION

- **1,070 ACRES** GRASSLAND RESTORATION
- **925 ACRES** SEASONAL, TIDAL & NON-TIDAL WETLAND RESTORATION
- **351 ACRES** RIPARIAN HABITAT RESTORATION

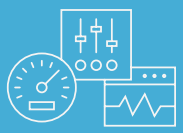
*Preliminary, subject to change.

~13,300 ACRES OF HABITAT PROTECTION

- **11,870 ACRES** CULTIVATED LAND PROTECTION
- **269 ACRES** SEASONAL & NON-TIDAL WETLAND PROTECTION
- **1,060 ACRES** GRASSLAND PROTECTION
- **103 ACRES** RIPARIAN HABITAT PROTECTION

For more details on the full scope of environmental enhancements and government agency responsibilities, please visit:
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.

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:

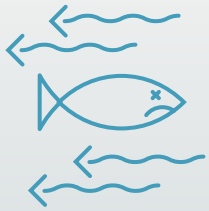
1 CLIMATE CHANGE

- **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

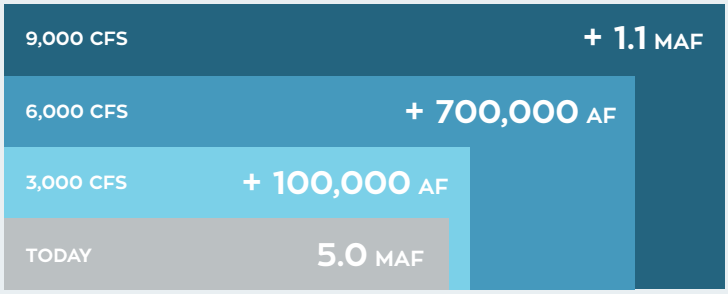


- **Existing operations cause reverse river flows, trap migrating fish, and have led to a decline in native fish populations.**

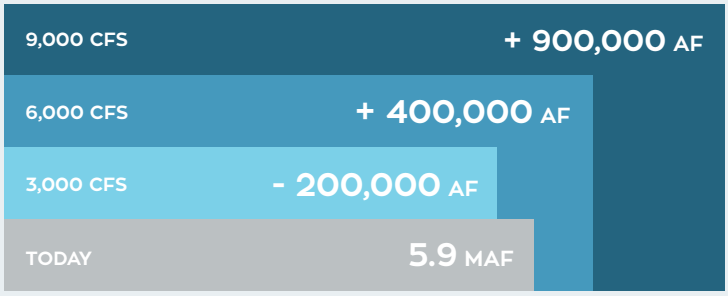
THE PROPOSED FACILITY IS THE RIGHT SIZE

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

ABOVE-NORMAL YEAR



WET YEAR



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

A SMALLER PROJECT COSTS MORE AND WASTES WATER IN WET YEARS

The charts on the left 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:

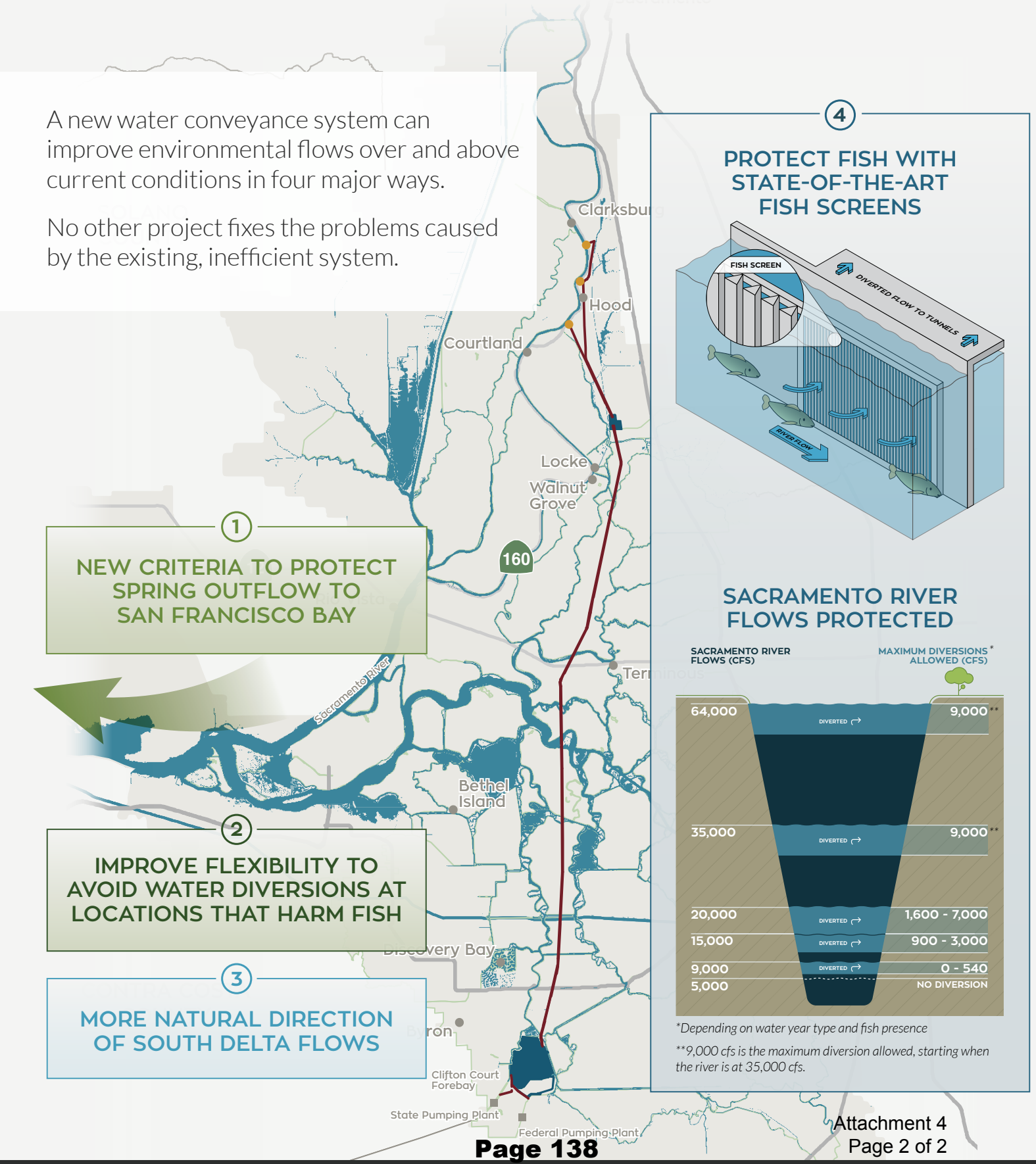
- Reducing reverse flows and minimizing the trapping of migrating fish
- Enhancing the ability to store surplus outflows and reduce diversions during critical fish migration periods
- Improving drinking water quality to meet public health standards
- Expanding groundwater recharge and recycling at the 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.

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.



1 NEW CRITERIA TO PROTECT SPRING OUTFLOW TO SAN FRANCISCO BAY

2 IMPROVE FLEXIBILITY TO AVOID WATER DIVERSIONS AT LOCATIONS THAT HARM FISH

3 MORE NATURAL DIRECTION OF SOUTH DELTA FLOWS

4 PROTECT FISH WITH STATE-OF-THE-ART FISH SCREENS

SACRAMENTO RIVER FLOWS PROTECTED

*Depending on water year type and fish presence

**9,000 cfs is the maximum diversion allowed, starting when the river is at 35,000 cfs.

REFINED TUNNEL OPTION AND INTAKE DESIGN

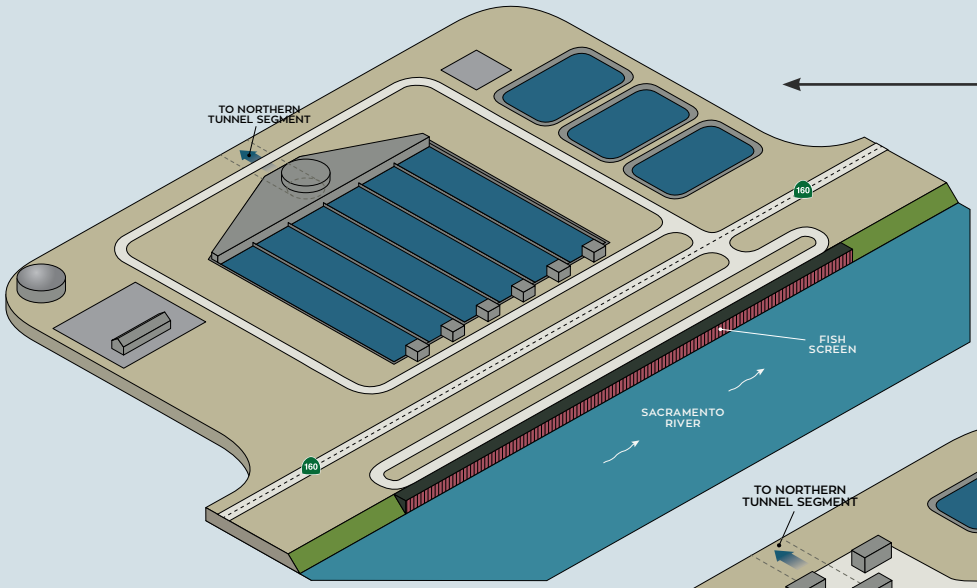
MAPPING A BETTER ROUTE FORWARD

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

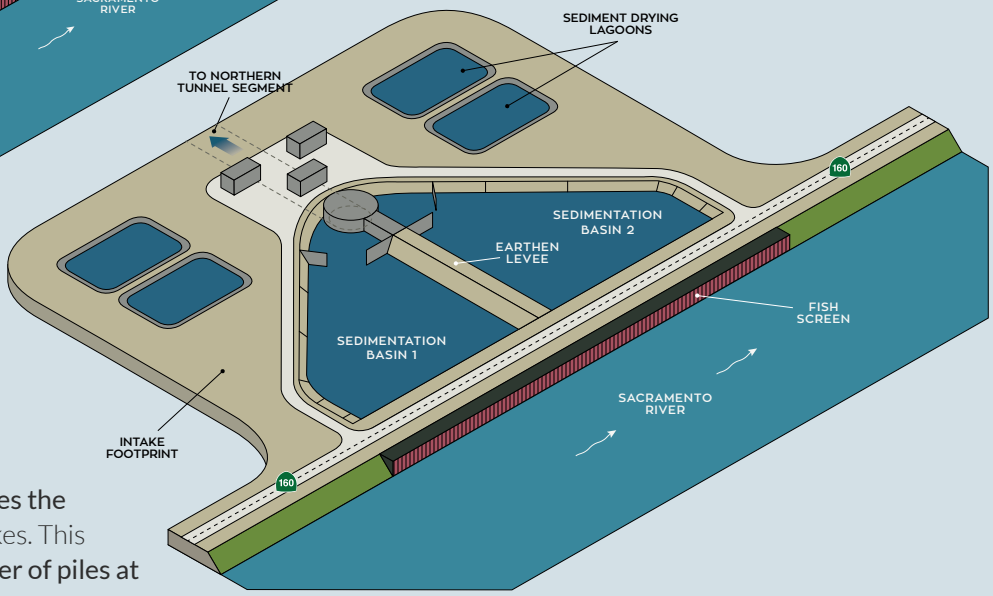


2014 PROPOSED DESIGN

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

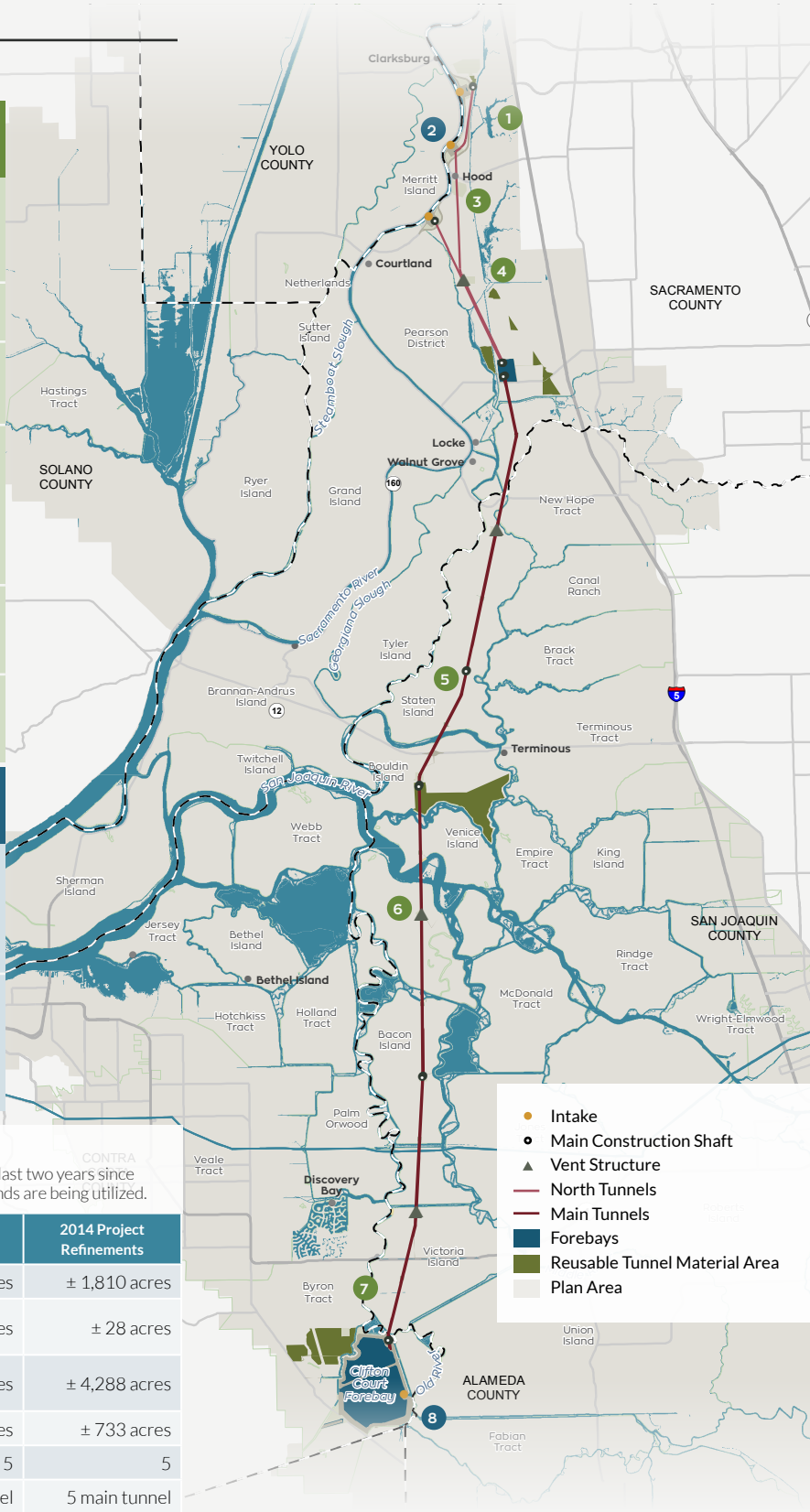
Reducing environmental impacts and improving operations

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 to reduce environmental and construction impacts.



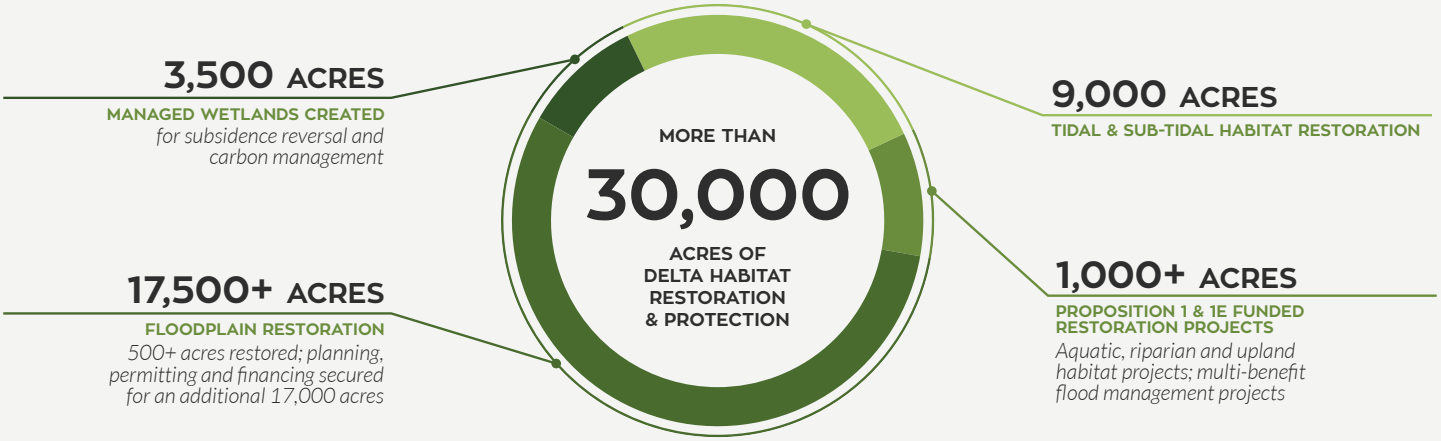
PROJECT REFINEMENTS

The chart below shows how the California WaterFix project has been refined in the last two years since the initial BDCP Draft. Fewer overall acres are being impacted, while more public lands are being utilized.

Project Refinements	Administrative Draft EIR / EIS	2013 Project Refinements	2014 Project Refinements
Water Facility Footprint	± 3,654 acres	± 1,851 acres	± 1,810 acres
Intermediate Forebay Size (Surface Acreage)	± 750 acres	± 40 acres	± 28 acres
Private Property Impacts - Permanent and Temporary	± 5,965 acres	± 5,557 acres	± 4,288 acres
Public Lands Utilized	± 240 acres	± 657 acres	± 733 acres
Number of Tunnel Reaches	6	5	5
Number of Launch and Retrieval Shaft Locations	7 main tunnel shafts	5 main tunnel shafts	5 main tunnel shafts
Agricultural Impacts	± 6,105 acres	± 6,033 acres	± 4,890 acres

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.



- Implement multiple fish passage improvement projects in the Yolo Bypass and other key locations
- Coordinate with existing local Habitat Conservation Plans and Natural Community Conservation Plans (HCP/NCCP)
- 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.

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.**

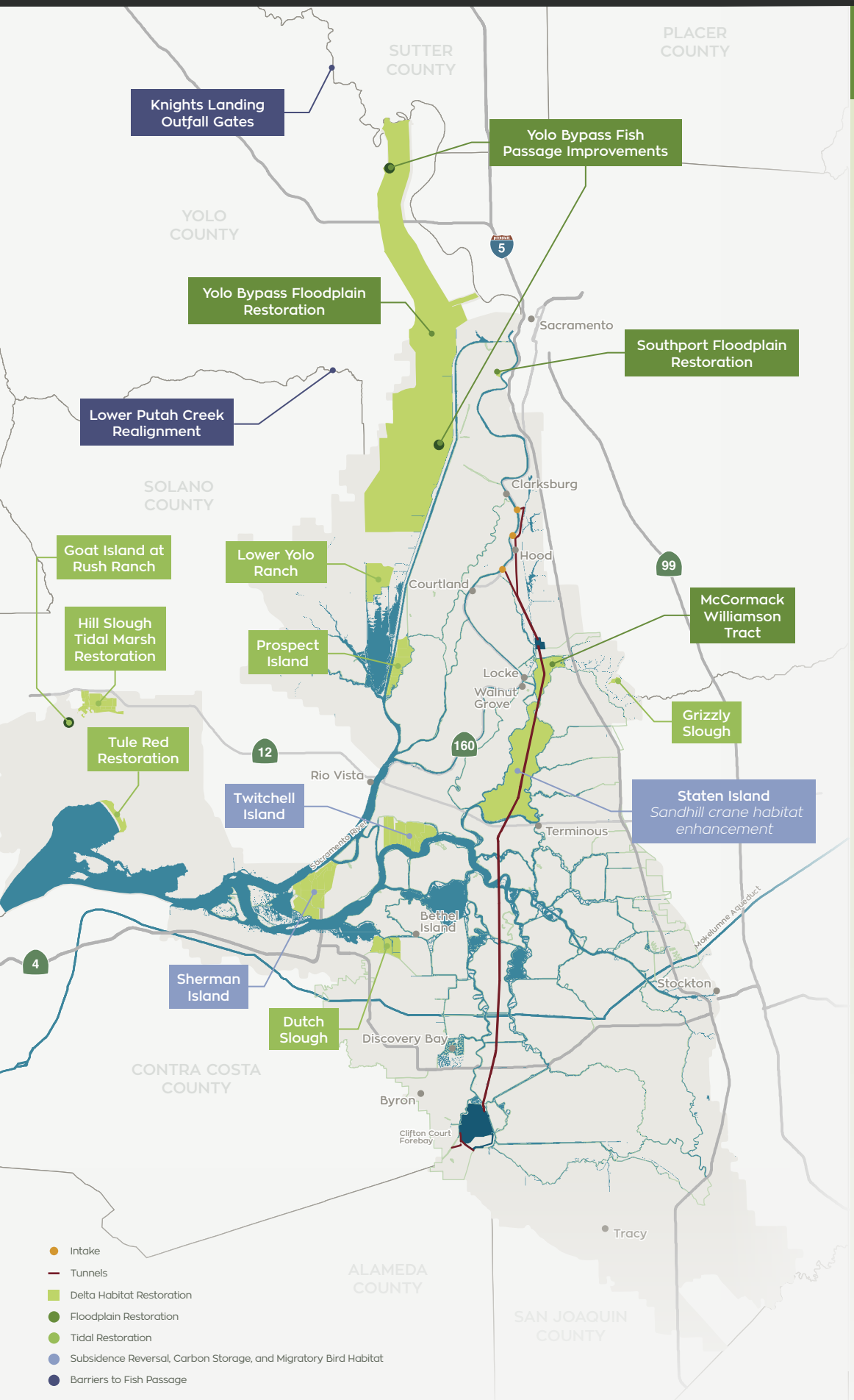
Additional priority restoration projects will be identified through regional and locally-led planning processes facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process 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 habitat 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

2015
- Dutch Slough
- Knights Landing Outfall Gates

2016
- Southport
- McCormack-Williamson Tract
- Hill Slough
- Goat Island at Rush Ranch
- Tule Red Restoration

2017
- Lower Yolo Ranch
- Prospect Island
- Wallace Weir and Tule Canal Ag Crossings
- Lower Putah Creek Realignment

2018
- Grizzly Slough
- Sherman Island
- Twitchell Island
- Staten Island
  Sandhill crane habitat enhancement
- *Additional Sandhill crane habitat enhancements, as necessary*

2019

For more information please visit: http://resources.ca.gov/california_water_action_plan

FAST FACTS

PARTIALLY RECIRCULATED DRAFT ENVIRONMENTAL ANALYSIS

Since 2006, state and federal agencies have pursued an ambitious and comprehensive conservation plan under Section 10 of the Endangered Species Act intended to both secure water supplies and restore Sacramento-San Joaquin Delta habitat in one regulatory package. As part of that effort, public comments were solicited through July 2014 on a draft plan and environmental review document. A thorough review of public comments and a re-evaluation of project assumptions was made after July 2014. The review drew upon eight years of scientific inquiry and extensive modeling. The revised proposal represents a prudent, realistic, science-driven and achievable approach to address water supply reliability and habitat protection.

The California Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation), as state and federal lead agencies under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), have issued a joint Partially Recirculated Draft Environmental Impact Report/ Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the proposed Bay Delta Conservation Plan (BDCP)/ California WaterFix.

The primary purposes of the RDEIR/SDEIS are to provide the public and interested agencies with updated environmental analysis to address certain revisions to the Draft BDCP, to introduce new sub-alternatives (Alternatives 4A, 2D, and 5A), and to address certain issues raised in comments received on the Draft EIR/EIS.

PROPOSED PROJECT: ALTERNATIVE 4A (CALIFORNIA WATER FIX)

Alternative 4A (California WaterFix) has been developed as the new CEQA and NEPA Preferred Alternative, replacing Alternative 4 (the proposed BDCP). Alternative 4A includes the conveyance facilities proposed under Alternative 4 and those mitigation measures and environmental commitments needed to obtain necessary permits and authorizations for implementation under Section 7 of the federal Endangered Species Act and through the California Department of Fish and Wildlife's 2081(b) process. Alternative 4A (California WaterFix) achieves the co-equal goals by:

- Securing state water supplies from climate change and seismic risk
- Improving operations and environmental criteria to benefit fish species

More information on Alternative 4A, California WaterFix is available online at: *www.californiawaterfix.com.*

WHAT'S CHANGED SINCE THE 2013 BDCP DRAFT EIR/EIS?

- **Design modifications to Alternative 4 (also applied to new sub-alternatives)** to reduce impacts to Delta communities, minimize disturbances or dislocation to greater sandhill cranes, and improve the long-term reliability and operation of the conveyance facilities.
- **Introduction of three new sub-alternatives,** including Alternative 4A (California WaterFix) as the new preferred alternative. Alternatives 4A, 2D, and 5A were designed to reduce environmental effects, respond to public and agency input, and explore multiple regulatory approaches.
- **Updated environmental analysis** includes:
  - Fish and Aquatic Habitat – includes additional rationale for impact conclusions and methods for determining impacts. Revisions serve to better articulate the analysis.
  - Water Quality – describes additional analyses and modeling updates undertaken to more accurately characterize the potential for exceedances of water quality standards. Constituent sections that received the most updates are electrical conductivity, chloride, selenium, bromide, and *Microcystis*. The additional analysis resulted in the reduction of several water quality impacts to less than significant.
  - Effects Downstream of the Delta - includes an assessment of water quality and fish and aquatic resources in the San Francisco Bay.
  - Air Quality, Health Risk Assessment, Traffic and Noise – includes the latest engineering design changes, construction assumptions, performance standards and air quality models for impact analysis.
  - Geotechnical Investigations – provides an explanation about the method for incorporating analyses of geotechnical investigations into the analysis of the water conveyance facilities construction.
  - Inclusion of Additional NEPA Determinations – includes NEPA determinations on conclusions previously deemed "No Determination."

RDEIR/SDEIS ENVIRONMENTAL ANALYSIS OBJECTIVES

DEVELOP REASONABLE ALTERNATIVES
to meet the project objectives and avoid or minimize impacts

ANALYZE
environmental impacts

DEVELOP MITIGATION MEASURES
to reduce or avoid impacts

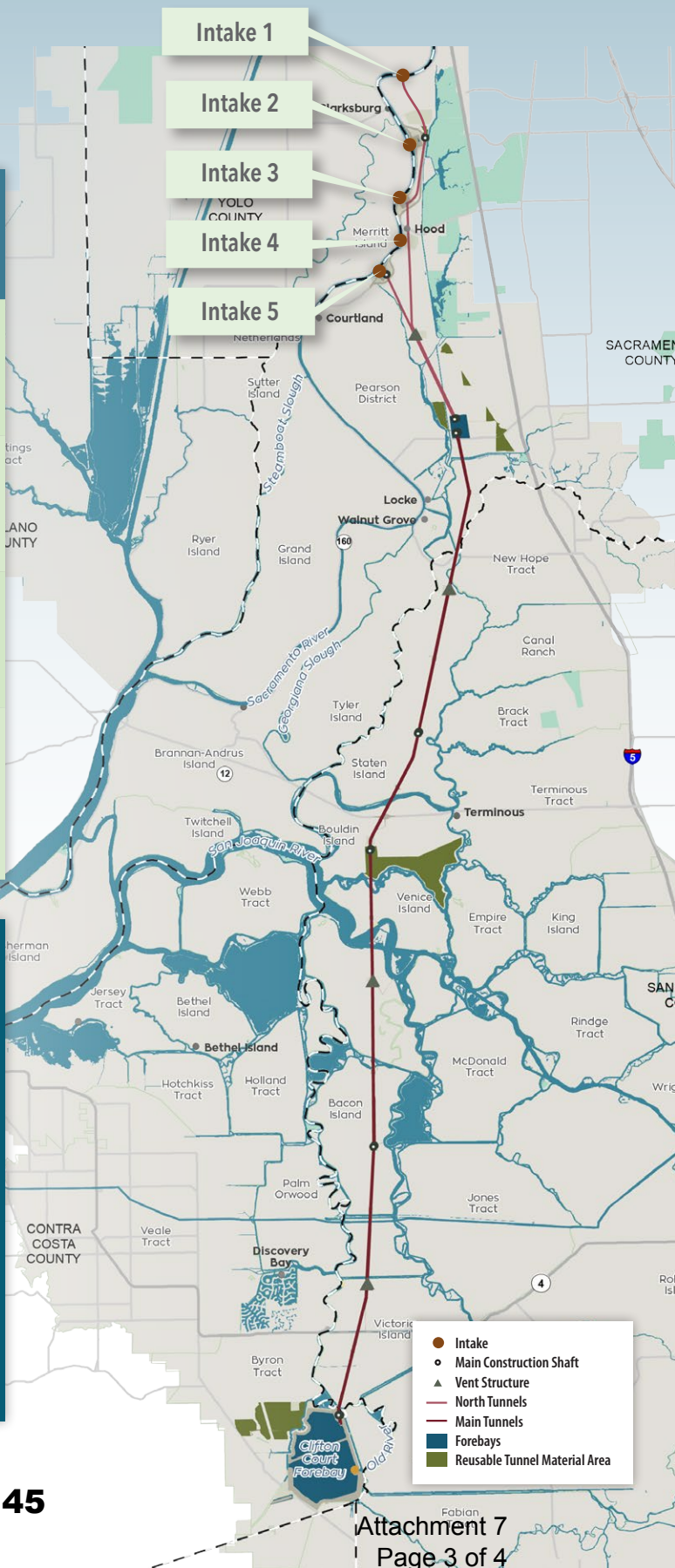
PREPARE INFORMATION
for public and stakeholder review and comment

DISCLOSE
project impacts and mitigation

RDEIR/SDEIS ALTERNATIVES

The RDEIR/SDEIS alternatives are designed to ensure the provision of a reasonable range of alternatives by which to compare and evaluate the proposed project, Alternative 4A (California WaterFix), and fully explore multiple regulatory approaches.

Alternative	Maximum North Delta Diversions	Intakes	Regulatory Approach
4 Modified Pipeline/Tunnel	9,000 cfs	2, 3 & 5	Section 10 (HCP)/NCCPA (NCCP)
2D Modified Pipeline/Tunnel	15,000 cfs	1-5	Section 7/ 2081(b) permit
4A Modified Pipeline/Tunnel	9,000 cfs	2, 3 & 5	Section 7/ 2081(b) permit
5A Modified Pipeline/Tunnel	3,000 cfs	2	Section 7/ 2081(b) permit



More than 30,000 acres of Delta habitat restoration will occur separately through California EcoRestore.

These activities will be streamlined and implemented on an accelerated timeline independent of the proposed water conveyance facilities, with additional habitat restoration measures being planned and funded in the near future. Learn more about California EcoRestore at:

http://resources.ca.gov/ecorestore/

COMMENTING ON THE BAY DELTA CONSERVATION PLAN/CALIFORNIA WATER FIX PARTIALLY RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/ SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (RDEIR/SDEIS)

The Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) is being made available to the public July 10, 2015-August 31, 2015 for review and comment[1]. The RDEIR/SDEIS is available at the Department of Water Resources, 3500 Industrial Blvd., Room 117, West Sacramento, CA 95691 and at the Bureau of Reclamation, MP100, 2800 Cottage Way, Sacramento, CA 95825, on the project website at *www.BayDeltaConservationPlan.com* and at libraries throughout the state. Visit *www.BayDeltaConservationPlan.com* to find a location near you. Electronic copies of the documents referenced in the RDEIR/SDEIS will be available at the DWR Office at 3500 Industrial Blvd., Room 117, West Sacramento, CA 95691.

The comment period is from July 10, 2015 - August 31, 2015

Comments must be received electronically or postmarked on or before August 31, 2015

HOW TO MAKE EFFECTIVE COMMENTS

Comments received on the RDEIR/SDEIS will be considered in the Final EIR/EIS[2] and decision-making process. Commenters may want to consider the following guidelines when providing comments:

- The most effective comments focus directly on the analysis in the RDEIR/SDEIS and should not provide comments on any issues not directly included in the RDEIR/SDEIS, including those sections of the Draft EIR/EIS that are not being recirculated for review.
- Comments should identify the specific part of the RDEIR/SDEIS at issue and should include supporting evidence and facts.
- The commenter should provide complete references and/or citations, particularly when referring to websites (that is, provide a specific URL address rather than simply citing "DWR website," for example).

HOW TO COMMENT

Mail to:
BDCP/WaterFix Comments
P.O. Box 1919
Sacramento, CA 95812

Email to:
BDCPComments@icfi.com

In person at a public meeting (see below)

PUBLIC MEETINGS

You are invited to attend a public open house meeting to learn more about the RDEIR/SDEIS and submit comments.

SACRAMENTO
Tuesday, July 28, 2015, 3:00 – 7:00 p.m.
Sheraton Grand Sacramento Hotel, Magnolia Room
1230 J Street, Sacramento, CA 95814

WALNUT GROVE
Wednesday, July 29, 2015, 3:00 – 7:00 p.m.
Jean Harvie Senior and Community Center
14273 River Road, Walnut Grove, CA 95690

Public meetings will be an open house format. There will not be any formal presentations or panel to receive public comments. Informational exhibits and project team members will be available throughout the meeting for one-on-one discussions and a sign-up sheet will be provided for those wishing to give verbal comments to a court reporter. Those wishing to give verbal comments will have a three minute time limit so that others may also provide verbal comments. Written comments of any length may be submitted. In order to encourage full participation, video recording will not be permitted.

For more information, assistance in locating the documents or if you have special needs, contact 1-866-924-9955.
Para más información por favor llame al 1-866-924-9955
Để biết thêm thông tin, xin gọi số 1-866-924-9955
Para sa karagdagang impormasyon, mangyaring tumawag sa 1-866-924-9955
如欲瞭解更多資訊，請致電 1-866-924-9955
Kom tau lus qhia ntxiv, thov hu 1-866-924-9955
សំរាប់ព័ត៌មានថែមទៀត សូមទូរស័ព្ទមកលេខ 1-866-924-9955

[1]The RDEIR/SDEIS are being made available for public review in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The comment period ends 45-days after the publication of the Environmental Protection Agency's (EPA) Federal Register notice. No final decisions have been made regarding going forward with the proposed project or in selecting an alternative; those decisions will only occur after completion of the CEQA and NEPA processes.

[2]The Final EIR/EIS will consider substantive comments received during the public review periods for the Draft EIR/EIS (December 13, 2013 through July 29, 2014) and the RDEIR/SDEIS (July 10, 2015 through August 31, 2015).

July 2015

California WaterFix (Alternative 4A)/Recirculated Environmental Analysis
Frequently Asked Questions

1. **What is the purpose and need for California WaterFix (Alternative 4A)?**
   The California Department of Water Resources' (DWR's) primary purpose in proposing California WaterFix (Alternative 4A) is to make the physical and operational improvements to the California's main water delivery system in the Sacramento-San Joaquin Delta (Delta) that will protect water supplies, restore and protect ecosystem health, and improve water quality within a stable regulatory framework.

   The Delta has long been an important resource for California, providing municipal, industrial, agricultural and recreational uses, fish and wildlife habitat, and water supply for 25 million Californians. However, the Delta is in crisis. There is an urgent need to improve the conditions for threatened and endangered fish species within the Delta. Improvements to the conveyance system are needed to respond to increased demands upon and risks to water supply reliability, water quality, and the aquatic ecosystem.

2. **What is the new California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) preferred alternative?**
   California WaterFix (Alternative 4A) has been identified as the new CEQA and NEPA Preferred Alternative, replacing Alternative 4 (the proposed Bay Delta Conservation Plan). Alternative 4A includes an underground conveyance facility, three northern intakes capable of diverting a combined total of up to 9,000 cubic feet per second, and mitigation measures and environmental commitments to meet the requirements of CEQA, NEPA, the federal Endangered Species Act (ESA) Section 7, section 2081(b) of the California Endangered Species Act (CESA), and other environmental requirements. California WaterFix (Alternative 4A) achieves the co-equal goals by securing state water supplies from climate change and seismic risk, and improving operations and environmental conditions to benefit fish species. California WaterFix (Alternative 4A) was developed in response to public and agency input, as well as an interest in exploring multiple regulatory approaches (e.g. Section 7 consultation) to achieving the dual goals.

3. **Who are the lead agencies for California WaterFix (Alternative 4A)?**
   The Partially Recirculated Draft Environmental Impact Report/Supplement Draft Environmental Impact Statement (RDEIR/SDEIS) associated with California WaterFix (Alternative 4A) is a joint document prepared by DWR as the CEQA lead

agency and the Bureau of Reclamation (Reclamation) as the NEPA lead agency. The National Marine Fisheries Service (NMFS) and United States Fish and Wildlife Service (USFWS) serve as NEPA cooperating agencies, and the lead agencies will consult with NMFS and USFWS under Section 7 of the ESA. The California Department of Fish and Wildlife serves as a CEQA responsible and trustee agency and will be considering the issuance of the Section 2081(b) permit after EIR/EIS approval.

4. **Why is there a recirculated environmental document?**
   The RDEIR/SDEIS has been prepared to provide the public and interested agencies an opportunity to review engineering refinements made to the water conveyance facilities; to introduce new sub-alternatives (Alternatives 4A, or California WaterFix, 2D and 5A); and, to include updated environmental analyses that in part were conducted in response to issues raised in the more than 12,000 comments received on the 2013 Bay Delta Conservation Plan (BDCP) Draft EIR/EIS.

5. **What is the difference in the regulatory strategy between the BDCP (Alternative 4) and California WaterFix (Alternative 4A)?**
   DWR's initial regulatory strategy proposed a habitat conservation plan, presented as Alternative 4 in the 2013 BDCP Draft EIR/EIS (i.e. a conservation plan that seeks 50-year permits as a Habitat Conservation Plan (HCP) through Section 10 of the ESA and a Natural Community Conservation Plan (NCCP) through the California Natural Community Conservation Planning Act (NCCPA)). The proposed habitat conservation plan would provide for both broad-scale regional habitat restoration and new Delta water delivery infrastructure for the State Water Project (SWP). California WaterFix (Alternative 4A) reflects an alternative regulatory strategy (through federal ESA Section 7 consultation and the CESA Section 2081(b) permit process) to meet the project purpose and need and includes the new Delta water delivery infrastructure for the SWP, the same as proposed in Alternative 4, without a habitat conservation plan. California WaterFix (Alternative 4A) allows for other state and federal programs to address broader habitat conservation efforts over a shorter timeframe.

   Both Alternative 4 and 4A propose new infrastructure (updated in the RDEIR/SDEIS) to modernize the SWP's water delivery system to address water supply reliability needs in conjunction with related ecosystem improvements, such as significantly reducing reverse flows and direct impacts to fish species associated with the existing south Delta intakes.

6. **Why did the state select the alternative regulatory strategy of California WaterFix (Alternative 4A) as the preferred alternative?**
   California WaterFix (Alternative 4A) would allow for an alternative implementation strategy for the new Delta water delivery infrastructure under

Section 7 of the ESA and Section 2081(b) of CESA, and reflects the lead agencies interest in exploring alternate regulatory approaches that could facilitate expeditious progress on Delta solutions. California WaterFix (Alternative 4A) was developed in response to input from the 2013 BDCP Draft EIR/EIS comment period as well as from agencies' comments regarding the challenges with meeting the standards required to issue long-term assurances associated with compliance with Section 10 of the ESA and the NCCPA. These challenges relate to the difficulties in assessing species status and issuing assurances over a 50-year period, in light of climate change, and accurately factoring in the benefits of long-term conservation in contributing to the recovery of the covered species. There were also questions raised as to the ability to implement large-scale habitat restoration and an interest in early implementation of certain restoration actions, untethered to the water infrastructure approval.

7. **What is the difference between ESA Section 7 consultation and Section 10 permitting? What is the difference between compliance with the NCCPA and Section 2081 CESA permitting?**

   A project's compliance with the Federal ESA varies depending on federal agency involvement and the project's potential effects to listed species. Where a project is proposed by a non-federal entity and the proposed project would "take" a listed species, Section 10 of the ESA provides USFWS and NMFS with the authority to issue incidental take permits with an approved HCP. Where a project would involve the take of a species listed under CESA, the California Fish and Game Code provides the California Department of Fish and Wildlife (DFW) with the authority to allow for take of listed species and issue assurances for a larger list of covered species, with an approved NCCP and through a Section 2081(b) incidental take permit.

   The primary requirement for issuance of the incidental take permit is that the action must minimize and fully mitigate the impacts of the proposed take. Where long-term assurances are sought for a range of actions affecting a large list of covered species (as with the BDCP), the HCP/NCCP necessarily requires detailed documentation as to the potential effects to those species, sufficiency of mitigation for those effects, and sufficiency of funding for that mitigation over the entire permit term. Like the BDCP, these types of HCPs/NCCPs can also require a complicated Implementation Agreement to specify management actions over the life of the permit.

   Section 7 of the ESA requires that federal agencies ensure their actions do not jeopardize the continued existence of a listed species or adversely modify or destroy critical habitat. Section 7 may require formal consultation with USFWS and NMFS where the federal action could adversely affect a listed species, including where take could occur. Through formal consultation, USFWS and NMFS issue biological opinions that may, among other things, authorize the

taking of the listed species. Measures may be required as part of the opinion to minimize the impacts of take; however, because no long-term assurances are issued for a large list of covered species, the same level of detailed documentation as to the potential effects to species, sufficiency of mitigation for those effects, and sufficiency of funding for that mitigation over the entire permit term is not required. The duration of the ESA authorization under Section 7 does not have a "permit term" or Implementation Agreement and instead the authorization and management of actions relate to the triggers for re-initiation of consultation.

California WaterFix (Alternative 4A) is not presented as habitat conservation /natural community conservation plans according to ESA Section 10 and the NCCPA. A 50-year permit and long term assurances are not being sought and the proposed BDCP habitat restoration and stressor reduction measures (i.e., CM2 through CM21) that are presented in the Draft BDCP (and proposed to meet that stringent requirements of Section 10 of the ESA and NCCPA) are not carried forward fully for California WaterFix (Alternative 4A), except where elements of the former conservation measures are retained to mitigate the potential impacts of the proposed project in compliance with CEQA, NEPA, and other environmental regulatory permitting requirements. Under the proposed California WaterFix (Alternative 4A), compliance with the federal ESA would be achieved by Reclamation, and DWR as the permit applicant, under Section 7 through formal consultation with the USFWS and NMFS. Under California WaterFix (Alternative 4A), take authorization for state-listed species would be obtained by DWR through Section 2081(b) of CESA and DFW's incidental take permit process.

8. **Why is the BDCP still referenced in the environmental analysis?**
   All alternatives will be included for decision-makers to consider. The alternatives, including Alternative 4 (BDCP), and the environmental analysis in the 2013 BDCP Draft EIR/EIS, along with the additional alternatives and environmental analysis contained in the RDEIR/SDEIS and comments received on the both documents, will be considered in agency decision-making when preparing the Final EIR/EIS and determining whether to approve the proposed project. The analysis for Alternative 4 also forms the basis for California WaterFix (Alternative 4A) due to the overlap in the proposed conveyance facilities. California WaterFix (Alternative 4A) has been added to the environmental analysis as the new CEQA and NEPA preferred alternative. No final decisions have been made regarding the proposed action or in selecting an alternative; those decisions will only occur after the completion of the environmental review process.

9. **What has changed since the 2013-2014 Public Draft EIR/EIS?**
   The recirculated environmental documents cover several substantive changes, including:

- Introduction of three new sub-alternatives -- Alternative 4A (California WaterFix) as the new preferred alternative, Alternative 2D, and Alternative 5A. These alternatives were designed to reduce environmental effects, respond to public and agency input, and explore multiple regulatory approaches.
- Design modifications to Alternative 4 (also applied to Alternatives 4A, 2D and 5A) to reduce impacts to Delta communities, minimize disturbances or dislocation to greater sandhill cranes, and improve the long-term reliability and operation of the conveyance facilities.
- Updated Fish and Aquatic Habitat analysis to include additional rationale for impact conclusions and methods for determining impacts.
- Additional Water Quality analysis and modeling to more accurately characterize the potential for exceedances of water quality standards, resulting in the reduction of several water quality impacts to less than significant.
- Inclusion of downstream effects, including an assessment of water quality and fish and aquatic resources in the San Francisco Bay.
- Updated engineering, construction assumptions, performance standards, and air quality models for the Air Quality, Health Risk Assessment, Traffic and Noise impact analysis.
- Updated analyses of water facility construction to include geotechnical investigations
- Inclusion of Additional NEPA Determinations – includes NEPA determinations on conclusions previously deemed "No Determination."

10. Will the public have an opportunity to comment?

Yes. The public can comment on the recirculated environmental analysis from July 10, 2015 through August 31, 2015. Comments received on the RDEIR/SDEIS will be considered in the Final EIR/EIS and decision-making process.

11. What is the proposed operational structure for the conveyance facilities?

Implementation of California WaterFix (Alternative 4A) will include operations of both new and existing water conveyance facilities ("dual conveyance") once the new north Delta facilities are operational. The dual conveyance facilities will be operated as directed by California WaterFix environmental compliance requirements, and in compliance with the USFWS (2008) and NMFS (2009) Biological Opinions and D-1641 guidelines. These operations may be subject to adjustments through an adaptive management process consistent with and similar to the program already described in the 2008 and 2009 Biological Opinions. The proposed project incorporates existing criteria from the 2008 and 2009 Biological Opinions (including Fall X2) and adds additional criteria for spring outflow and new minimum flow criteria at Rio Vista from January through August.

12. **Will habitat restoration/protection be proposed as part of California WaterFix (Alternative 4A)?**
    Based on ongoing review of potential construction and operation impacts, mitigation for California WaterFix (Alternative 4A) construction and operation will include about 2,300 acres of habitat restoration and up to 13,300 acres of habitat protection (e.g. conservation easements). This additional acreage will focus primarily on preserving the existing cultivated lands habitat and working landscape values in the Delta. DWR and Reclamation anticipate these revised acreage targets for habitat restoration and protection will be the maximum amount required for mitigation. Final determinations will be based on actual project impacts and consultation with fish and wildlife agencies. All habitat restoration and protection costs for California WaterFix (Alternative 4A) will be paid for exclusively by water agencies benefiting from the project.

13. **What additional habitat restoration does the state of California plan to implement?**
    Separate from California WaterFix (Alternative 4A) and over the next 5 years, California will pursue more than 30,000 acres of critical Delta habitat restoration under the California EcoRestore program, pursuant to pre-existing regulatory requirements such as the 2008 and 2009 Biological Opinions and various enhancements to improve the overall health of the Delta ecosystem. Proposition 1 funds and other state public dollars will be directed exclusively for public benefits unassociated with any regulatory compliance responsibilities.

14. **What is the anticipated yield for California WaterFix (Alternative 4A)?**
    California WaterFix (Alternative 4A) is estimated to include an average annual yield of 4.9 million acre-feet 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.

15. **What is the anticipated cost for California WaterFix (Alternative 4A)?**
    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.

16. **When will the lead agencies respond to my comments on the Draft EIR/EIS and the recirculated environmental document?**
    DWR and Reclamation, as the state and federal lead agencies, will consider and prepare responses to all substantive comments received during the public review periods for the Draft EIR/EIS (December 13, 2013 through July 29, 2014) and RDEIR/SDEIS (July 10, 2015 through August 31, 2015). Responses will appear in the Final EIR/EIS, which is the next milestone in the environmental planning process. Comments will be sorted, coded, and logged into a tracking system,

categorized by subject area, and then a response to the comment will be drafted. The comments will be assessed both individually and collectively and the Final EIR/EIS will include copies of the comments received and the responses prepared. If the EIR/EIS was changed in response to comments, these changes will be referenced in the responses.

17. When can the public expect a Final EIR/EIS?

Following completion of the RDEIR/SDEIS public review period, DWR and Reclamation will prepare a Final EIR/EIS. The timing associated with preparation and publication of the Final EIR/EIS will depend on the volume and nature of the comments received on the Draft EIR/EIS and RDEIR/SDEIS. To allow sufficient time to adequately meet all requirements associated with completion of a Final EIR/EIS, it is anticipated this document will be available in late 2015 or early 2016.

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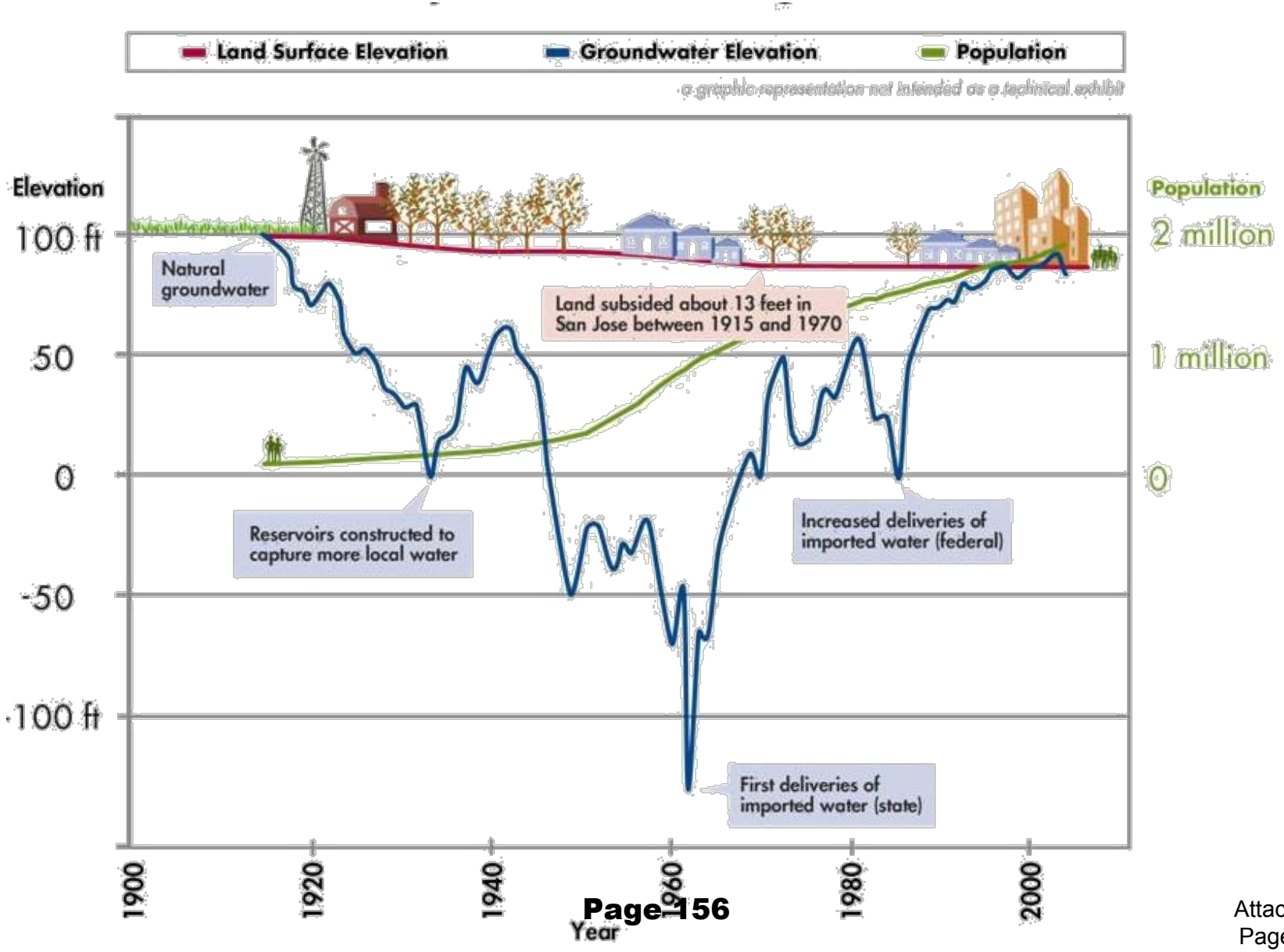
Update on Bay Delta Conservation Plan

Environmental and Water Resources Committee

October 19, 2015

Santa Clara Valley Water District

Protecting our groundwater basin

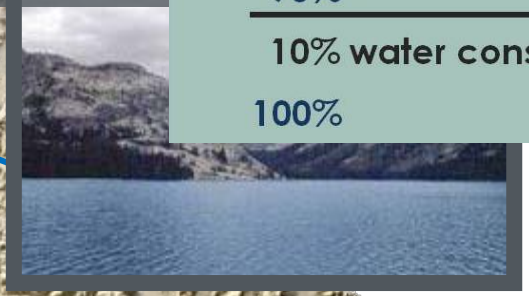


Imported water provides 55% of our supply

Shasta Lake
Federal Central Valley Project

Lake Oroville
State Water Project

Hetch Hetchy
San Francisco



Sacramento-San Joaquin River Delta

Santa Clara County

by the numbers

Water Supplies

- **30% local water**
  - 15% natural groundwater
  - 10% from reservoirs to groundwater
  - 5% from reservoirs to drinking water treatment plants
- **55% imported water**
  - **15% thru Delta to replenish groundwater**
  - **25% thru Delta to drinking water treatment plants**
  - 15% from Hetch Hetchy system
- **5% recycled water**

90%

10% water conservation

100%

Water Master Plan strategy

Secure existing supplies and infrastructure

Optimize the use of existing supplies and infrastructure

Increase water recycling and conservation

Meet drought year needs, adapt to climate change, manage uncertainty

BDCP part of an overall state water plan

The Bay Delta Conservation Plan supports the Delta Reform Act's co-equal goals:

- ✓ **water supply reliability**
- ✓ **ecosystem restoration of the Delta**

BDCP conservation measures (CM): 22 total

Delta conveyance (CM 1):

New diversion facilities with state of the art fish screens to help restore more natural flow patterns

Habitat development (CM 2-11):

Up to 113,000 acres of new and restored habitat, including 65,000 acres of tidal marsh and 5,000 acres of riparian forest

Other stressor reduction (CM 12-22):

Measures to address contaminants, in-Delta diversions, invasive species, illegal harvest, migratory pathways, and predation

State's new proposal

- Protects State's water supplies through Delta system upgrades
- Habitat restoration
  - ~15,600 acres
- Water contractor funded
  - Tunnel facilities and mitigation

- Supports long-term health of native fish & wildlife
- Habitat restoration
  - ~30,000 acres in 5 years
- Broader public funding

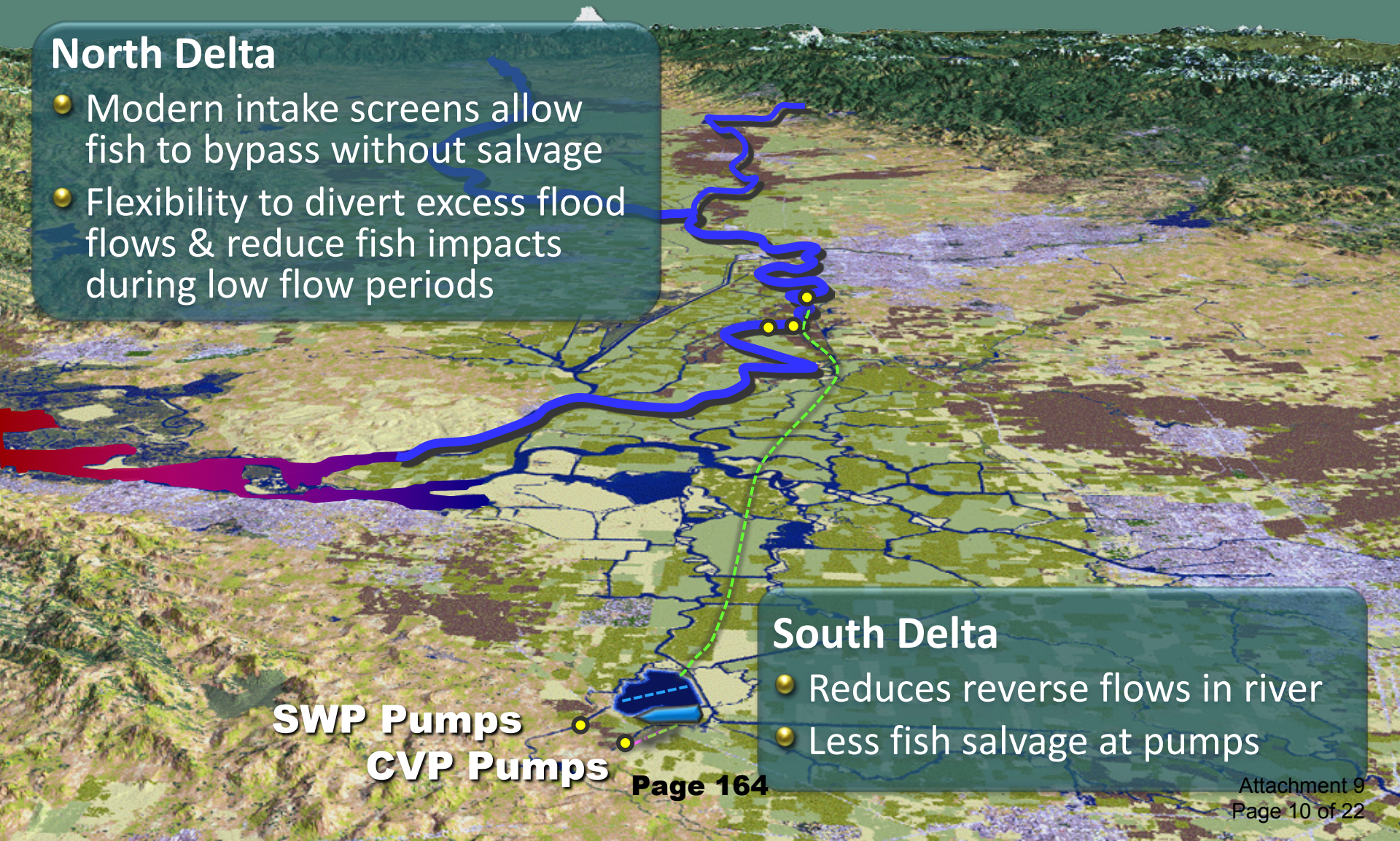
CA WaterFix – summary of key changes

- Design modifications
  - Improved tunnel operation and maintenance
  - Reduced power needs and power lines in the North Delta
- Construction impacts
  - Reduced impact on Delta community
  - Increased use of state-owned land
  - Decreased power requirements
- Water quality
  - Additional water quality analysis and modeling
  - Revised water quality impact conclusions
- Regulatory approach
  - Section 7/2081(b) permit

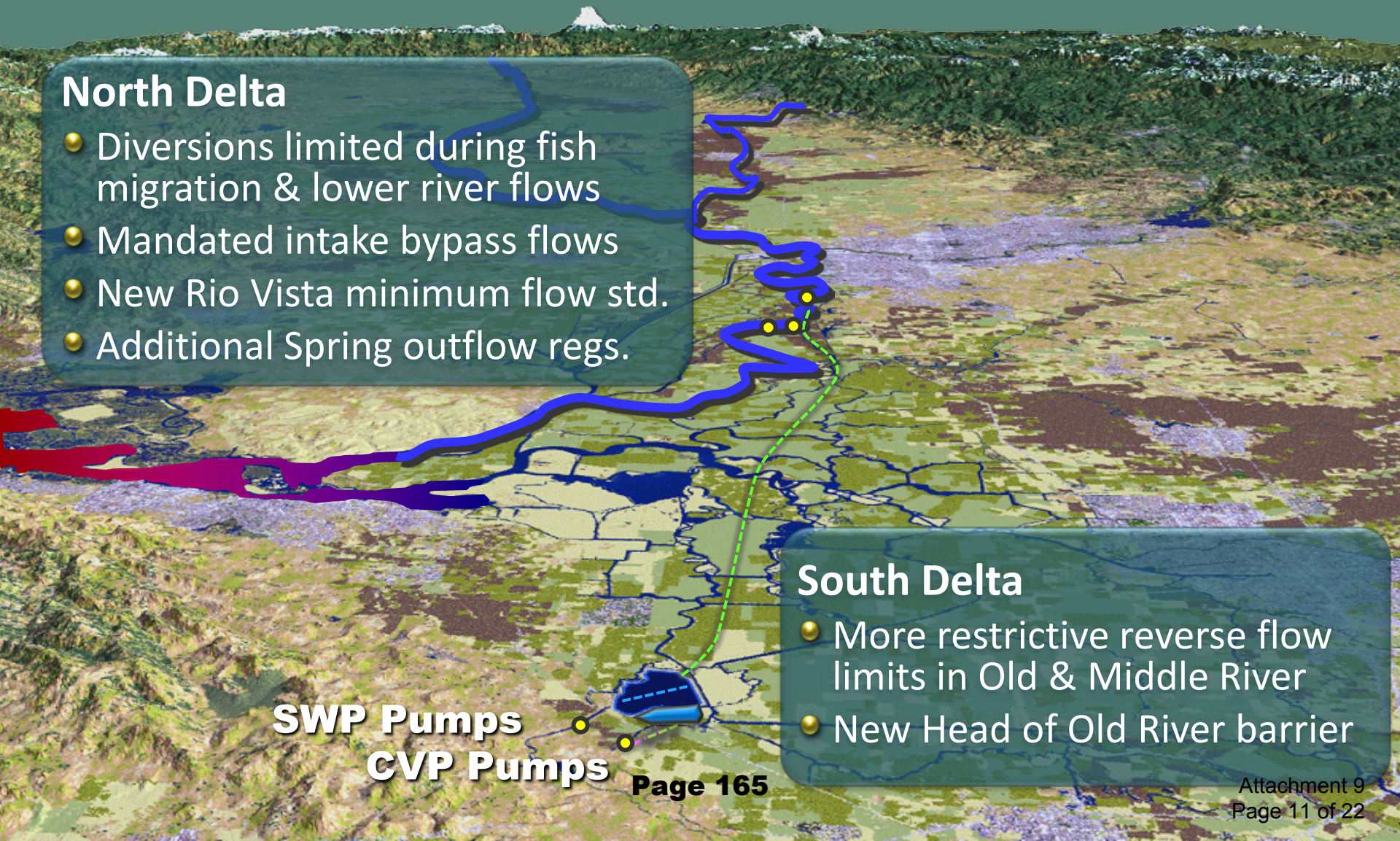
CA WaterFix – project refinements

	Administrative Draft EIR/EIS	2013 Project Refinements	2014 Project Refinements
Water Facility Footprint	± 3,654 acres	± 1,851 acres	± 1,810 acres
Intermediate Forebay Size (Surface Acreage)	± 750 acres	± 40 acres	± 28 acres
Private Party Impacts – Permanent and Temporary	± 5,965 acres	± 5,557 acres	± 4,288 acres
Public Lands Utilized	± 240 acres	± 657 acres	± 733 acres
Number of Launch and Retrieval Shaft Locations	7 main tunnel shafts	5 main tunnel shafts	5 main tunnel shafts
Agricultural Impacts	± 6,105 acres	± 6,033 acres	± 4,890 acres

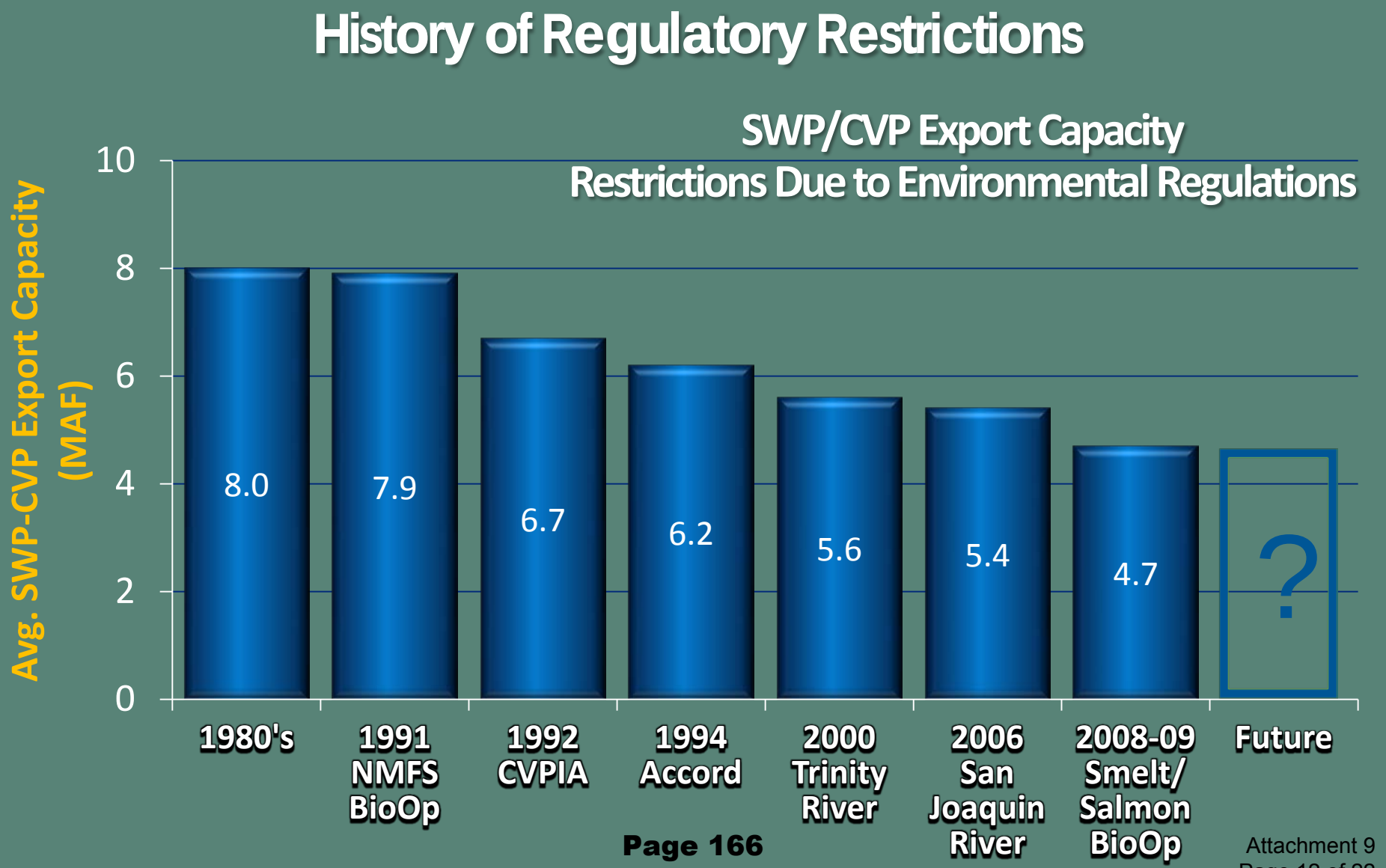
CA WaterFix – ecosystem benefits



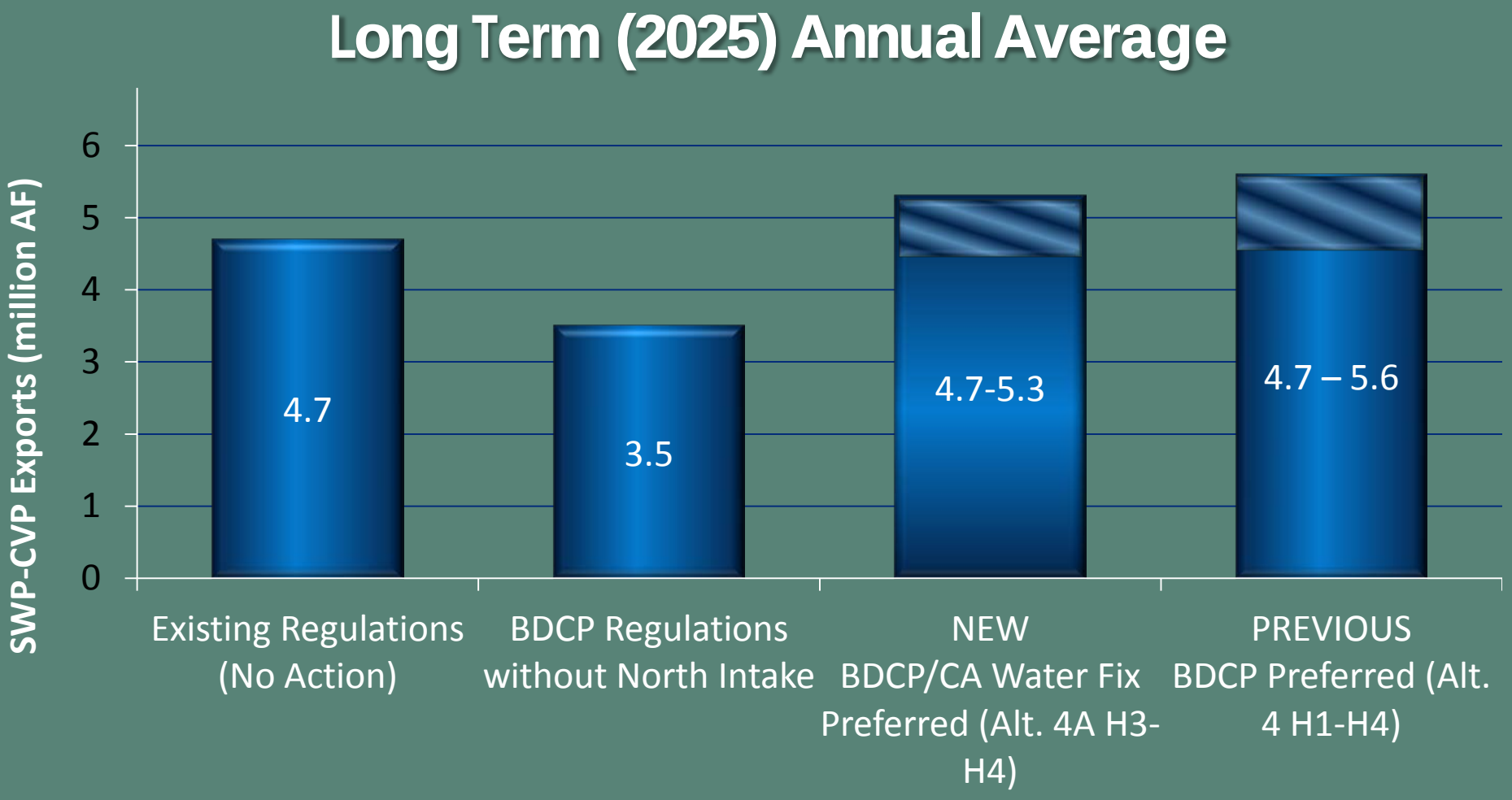
CA WaterFix – operational constraints



State & federal exports (million acre-ft/yr)

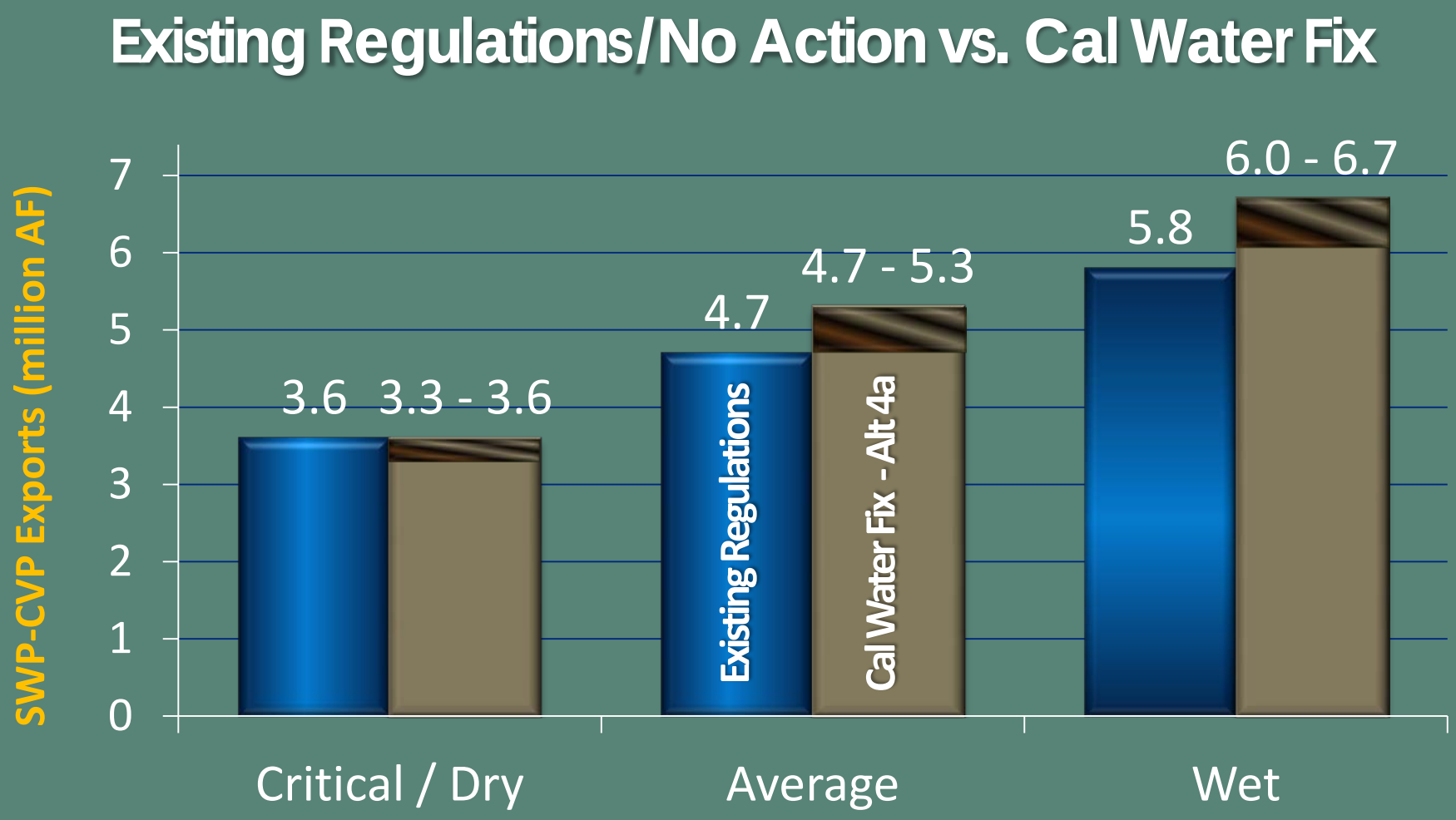


State & federal exports (million acre-ft/yr)



Data based on hydrological period (1922-2003); indicates average annual SWP & CVP water supply exports with climate change in 2025
Existing Regulations = No Action Alternative in 2025
BDCP Regulations without Northern Intake = the operational criteria under the BDCP high outflow scenario (Alt4-H4) which includes additional South Delta operational constraints and enhanced spring outflow compared to existing regulations

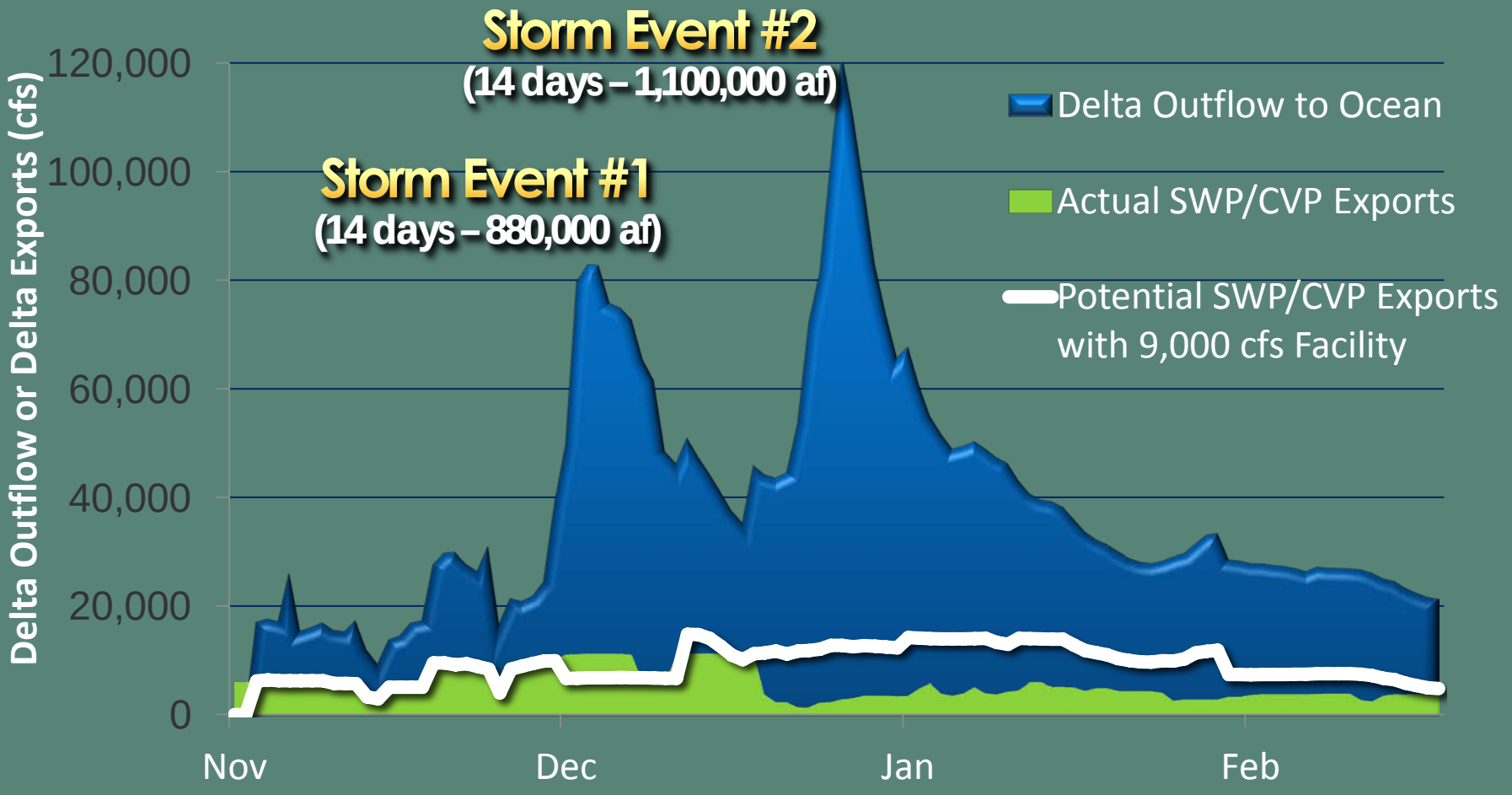
State & federal exports (million acre-ft/yr)



SWP & CVP water supply alternatives analysis in 2025; Data from Recirculated Draft EIR/S

Analysis of potential storm flow capture

Reoperation Analysis with CA WaterFix (WY 2012-2013)



Increased export with isolated facility ~ 781,000 acre-feet (thru Feb 17)
SWP/CVP export losses due to BiOp ~ 800,000 AF (larger amount of SWP loss)
Analysis by State Water Contractors – Feb 2013

Analysis of potential storm flow capture

Reoperation Analysis with BDCP (SWP/CVP Supplies)

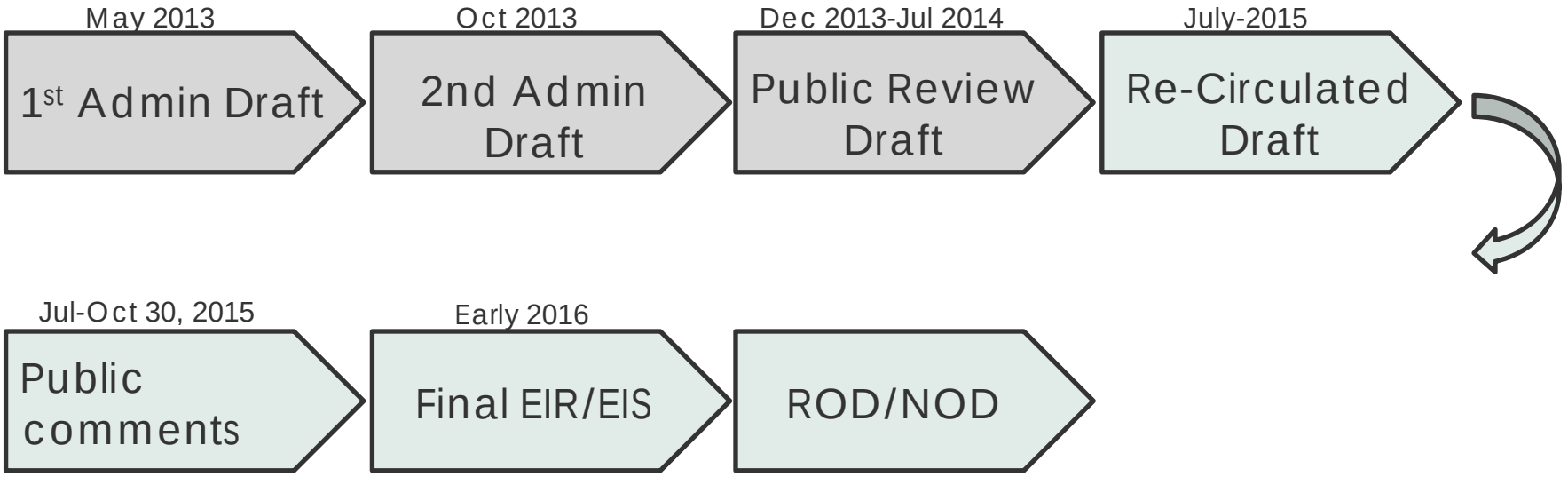
Water Year	Year Type	Storm Flow Period	Potential Capture
2010	Below Normal	1/20/2010-3/16/2010	451,000 AF
2011	Wet	12/07/2010 - 7/11/2011	2,531,000 AF
2012	Below Normal	1/23/2012-5/16/2012	806,000 AF
2013	Dry	12/1/2012-1/25/2013	474,000 AF
2014	Critical	2/9/2014-4/10/2014	207,000 AF
2015	Dry	12/12/2014-1/11/2015	200,000 AF

Analysis by Metropolitan Water District of Southern California

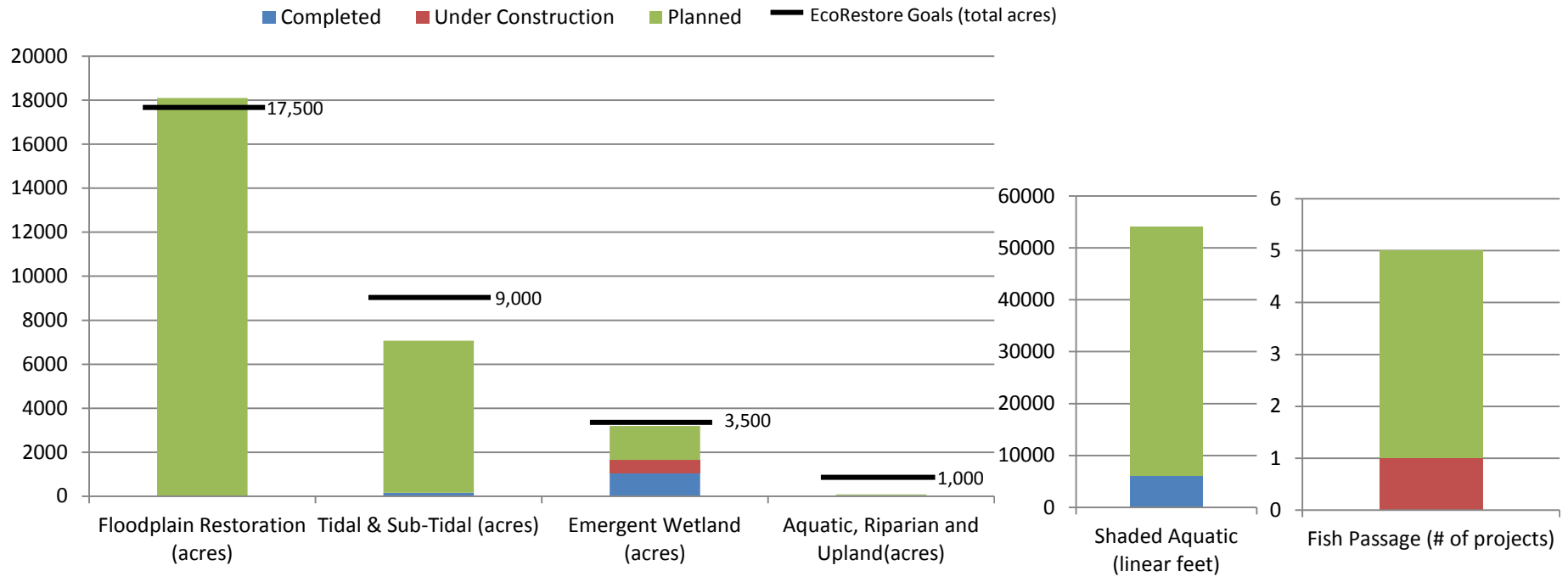
BDCP schedule

The Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) was released **July 9, 2015**.

The review period ends **October 30, 2015**.

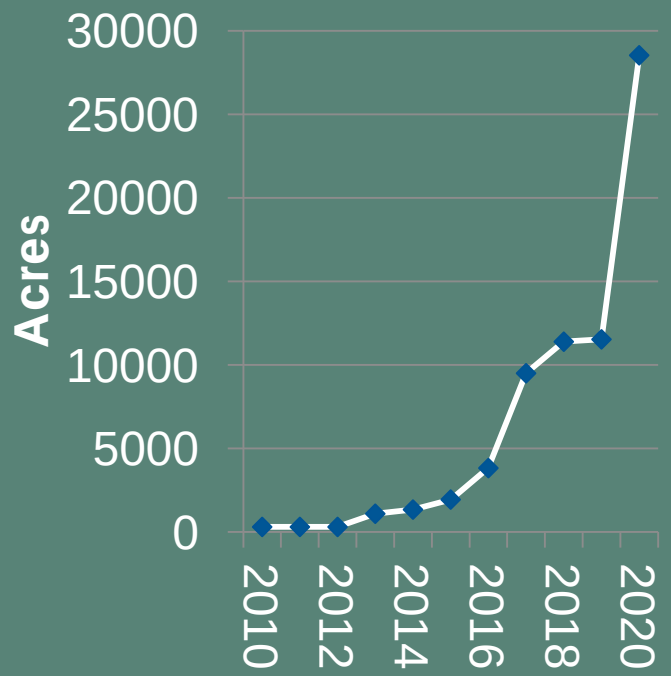


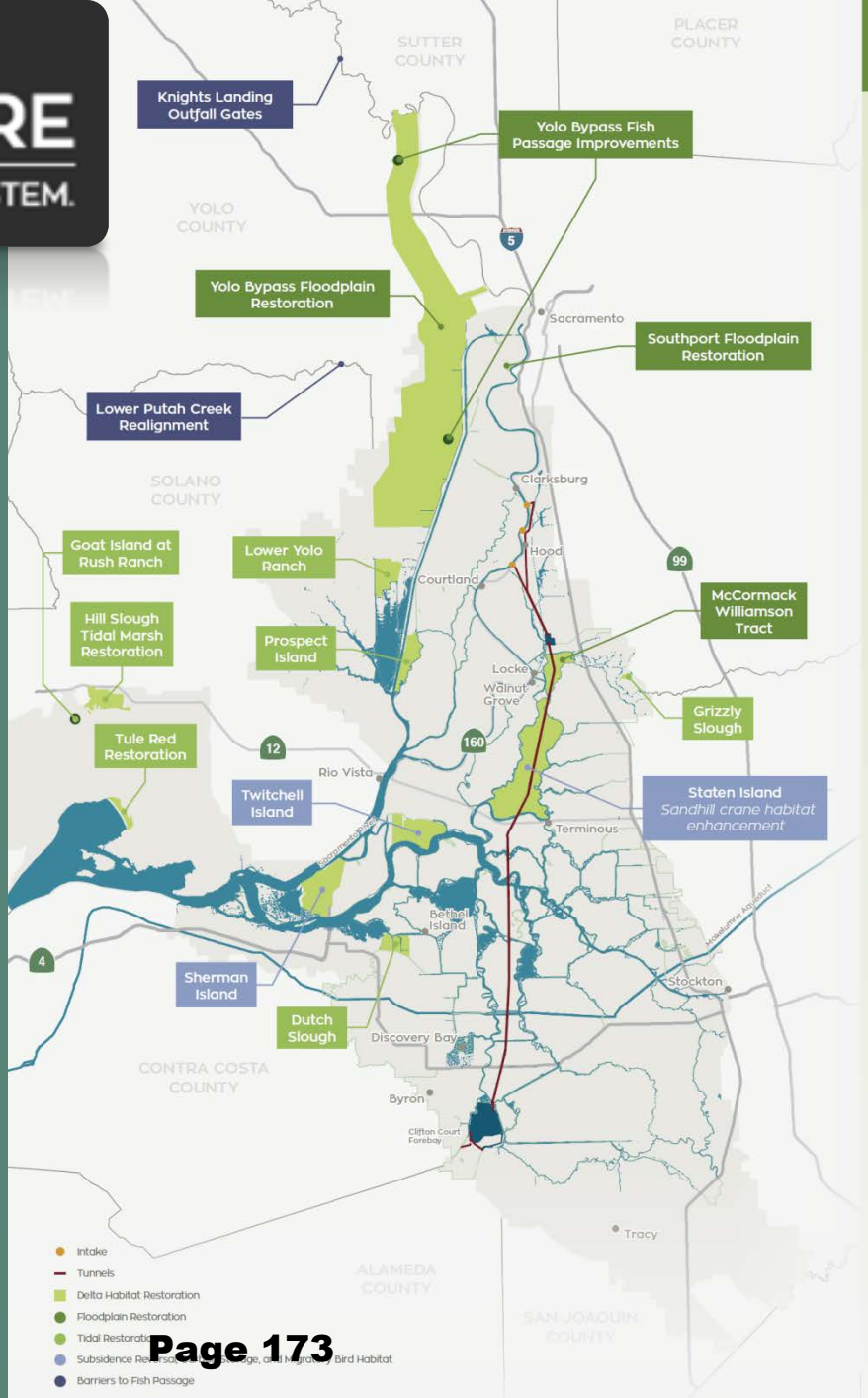
CA EcoRestore – goals



CALIFORNIA
ECO RESTORE
A STRONGER DELTA ECOSYSTEM.

Cumulative Acreage





PRIORITY RESTORATION OBJECTIVES BREAKING GROUND BETWEEN 2015 AND 2018

- 2015
  - Dutch Slough
  - Knights Landing Outfall Gates
- 2016
  - Southport
  - McCormack-Williamson Tract
  - Hill Slough
  - Goat Island at Rush Ranch
  - Tule Red Restoration
- 2017
  - Lower Yolo Ranch
  - Prospect Island
  - Wallace Weir and Tule Canal Ag Crossings
  - Lower Putah Creek Realignment
- 2018
  - Grizzly Slough
  - Sherman Island
  - Twitchell Island
  - Staten Island
    Sandhill crane habitat enhancement
  - *Additional Sandhill crane habitat enhancements, as necessary*

For more information please visit: **http://resources.ca.gov/california_water_action_plan**

Factors being considered in District analysis

Benefits Analysis

- Water supply reliability
  - Project yield
  - Climate change
  - Delta outage
  - Regulatory risk reduction
- Water quality benefits
- Ecosystem benefits
- Statewide benefits

Factors being considered in District analysis

Costs, Financing, and Funding

- Project costs
- Statewide costs
- Cost of no action
- Financing and funding options

Factors being considered in District analysis

Other Considerations

- Ecosystem impacts
- Other benefits and impacts
- Other Alternatives
  - For Santa Clara County
  - For State
- Regulatory assurances
- Opportunity costs
- Risks and unknowns

Handouts

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October 2015

Water Tracker

Santa Clara Valley Water District

A monthly assessment of trends in water supply and use for Santa Clara County, California

Outlook as of October 1, 2015

County water use was reduced by 35% from August 2013 due to the excellent conservation efforts by our community members. This brings the cumulative 2015 water savings through August to 26% compared to 2013, which remains below the District Board of Directors target of 30%. Please remember that most areas in the county have a restriction on irrigating ornamental landscape with potable water to two days a week. As we begin another water year, the District remains reservedly optimistic but will be proceeding with caution as the drought persists and supplies continue to be constrained. Although an El Niño winter is predicted by our federal agencies, there is no indication yet as to whether this condition will produce high precipitation in Northern California.

The District has maintained a reduced recharge program through the summer of 2015 to replenish the groundwater aquifers using available, limited quantities of local surface and imported waters. There has been some improvement in groundwater storage in the north county compared to last year. However, total groundwater storage is predicted to remain in the Severe Stage through the end of 2015 if cumulative water use reduction for the rest of the year continues to remain below 30%.

Weather

Rainfall in San Jose

- Month of September = 0.0 inches
- The average daily high temperature for September was 82.4 degrees Fahrenheit. Temperatures were slightly above normal for the month

Local Reservoirs

- Total October 1 storage = 61,934 acre-feet
  - » 71% of 20-year average for that date
  - » 37% of total capacity
  - » 50% of restricted capacity storage (169,009 acre-feet total storage capacity limited by seismic restrictions to 122,924 acre-feet)
- Approximately 14 acre-feet of Imported Water delivered into local reservoirs during September 2015
- Total releases to streams (local and imported water) during September = 5,498 acre-feet

Groundwater

- Groundwater (GW) Storage: End of 2015 storage is predicted to fall within Stage 3 (Severe) of the Water Shortage Contingency Plan:

	Santa Clara Subbasin		Llagas Subbasin
	Santa Clara Plain	Coyote Valley	
September managed recharge estimate (AF)	3,800	540	2,500
YTD managed recharge estimate (AF)	17,800	4,900	12,700
YTD managed recharge, % of 5-year average	41%	48%	67%
September pumping estimate (AF)	5,900	800	4,100
YTD pumping estimate (AF)	47,400	7,000	27,800
YTD pumping, % of 5-year average	69%	79%	84%
General GW level trend compared to last September	Increase	Similar	Decrease

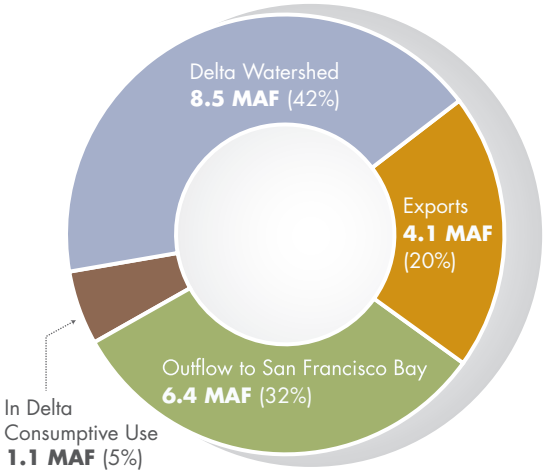
YTD = Year-to-Date AF = acre-feet

continued on back ►

Imported Water

- 2015 State Water Project (SWP) and Central Valley Project (CVP) allocations:
  - » 2015 SWP allocation: 20% = 20,000 acre-feet
  - » 2015 CVP allocations: Municipal and Industrial users South-of-Delta will receive enough water to meet health and safety needs or 25% of historic use, whichever is greater, 0% for Irrigation. A total of 40,300 acre-feet is anticipated to be delivered
- Reservoir storage information, as of October 1, 2015:
  - » Shasta Reservoir at 35% of capacity (59% of average for this date)
  - » Oroville Reservoir at 30% of capacity (48% of average for this date)
  - » San Luis Reservoir at 19% of capacity (42% of average for this date)
- District's Semitropic groundwater bank reserves: An estimated 210,000 acre-feet as of October 1, 2015. District is pursuing maximum allowable withdrawals in 2015
- Estimated Hetch Hetchy deliveries to Santa Clara County:
  - » Month of September = 4,825 acre-feet
  - » Year-to-date = 32,621 acre-feet, or 83% of the five-year average

Flows into and from the Delta
Typical annual balance
Dry/Critical Years (20.1 MAF)



Treated Water

- Below average quantity of 9,284 acre-feet delivered in September
- This total is 73% of the five-year average for September
- Year-to-date = 74,729 acre-feet or 82% of the five-year average

Conserved Water

- Saved 63,000 acre-feet in FY15 from long-term program (baseline year is 1992)
- Long-term program goal is to save nearly 68,000 acre-feet in FY16
- The Board has called for a 30% reduction and a limit of two days per week for irrigation of ornamental landscape with potable water
- Achieved a 26% reduction in water use through the first eight months of 2015 compared to 2013

Recycled Water

- Estimated September 2015 production = 2,000 acre-feet
- Estimated year-to-date through September = 16,400 acre-feet or 116% of the five-year average
- Silicon Valley Advanced Water Purification Center produced an estimated 2,800 million gallons (8,600 acre-feet) of advanced purified recycled water since March 25, 2014. The purified water is blended with existing tertiary recycled water for South Bay Water Recycling Program's customers

CONTACT US

For more information, contact **Customer relations** at **(408) 630-2880**, or visit our website at valleywater.org and use our **Access Valley Water** customer request and information system. With three easy steps, you can use this service to find out the latest information on district projects or to submit questions, complaints or compliments directly to a district staff person.

Follow us on: /scvwd /valleywater /valleywater

To get eNews, email info@valleywater.org

Groundwater Condition

REPORT | SANTA CLARA COUNTY

October 2015

- Groundwater Storage: Total storage at the end of 2015 is predicted to fall within Stage 3 (Severe) of the Water Shortage Contingency Plan if the countywide water use reduction from September to December 2015 is similar to the first eight months of the year.

- Santa Clara Plain:

    - The September managed recharge estimate is 3,800 acre-feet. The year-to-date managed recharge estimate is 17,800 acre-feet, or 41% of the five-year average.
    - The September groundwater pumping estimate is 5,900 acre-feet. The year-to-date groundwater pumping estimate is 47,400 acre-feet, or 69% of the five-year average.
    - The groundwater level in the Santa Clara Plain (San Jose) is about 25 feet higher than September last year and about 7 feet lower than the five-year average.

- Coyote Valley:

    - The September managed recharge estimate is 540 acre-feet. The year-to-date managed recharge estimate is 4,900 acre-feet, or 48% of the five-year average.
    - The September groundwater pumping estimate is 800 acre-feet. The year-to-date groundwater pumping estimate is 7,000 acre-feet, or 79% of the five-year average.
    - The groundwater level in Coyote Valley is about two feet lower than September last year and 10 feet lower than the five-year average.

- Llagas Subbasin:

    - The September managed recharge estimate is 2,500 acre-feet. The year-to-date managed recharge estimate is 12,700 acre-feet, or 67% of the five-year average.
    - The September groundwater pumping estimate is 4,100 acre-feet. The year-to-date groundwater pumping estimate is 27,800 acre-feet, or 84% of the five-year average.
    - The groundwater level in Llagas Subbasin (San Martin) is about five feet lower than September last year and 32 feet lower than the five-year average.

Contact Us For questions, contact
Vanessa De La Piedra at **(408) 630-2788**

Santa Clara Valley Water District

Groundwater Recharge

The estimated managed recharge for September 2015 is lower than the average of the last five years (2010-2014) for Santa Clara Plain and Coyote Valley, and about the same for Llagas Subbasin. Managed recharge is dependent on a number of factors, including water availability and facility maintenance schedules. Due to limited available surface water, 2015 managed recharge is curtailed. Figures 1, 2, and 3 compare monthly managed recharge for September 2015 to the five-year average.

Figure 1 - Estimated Managed Recharge in the Santa Clara Plain

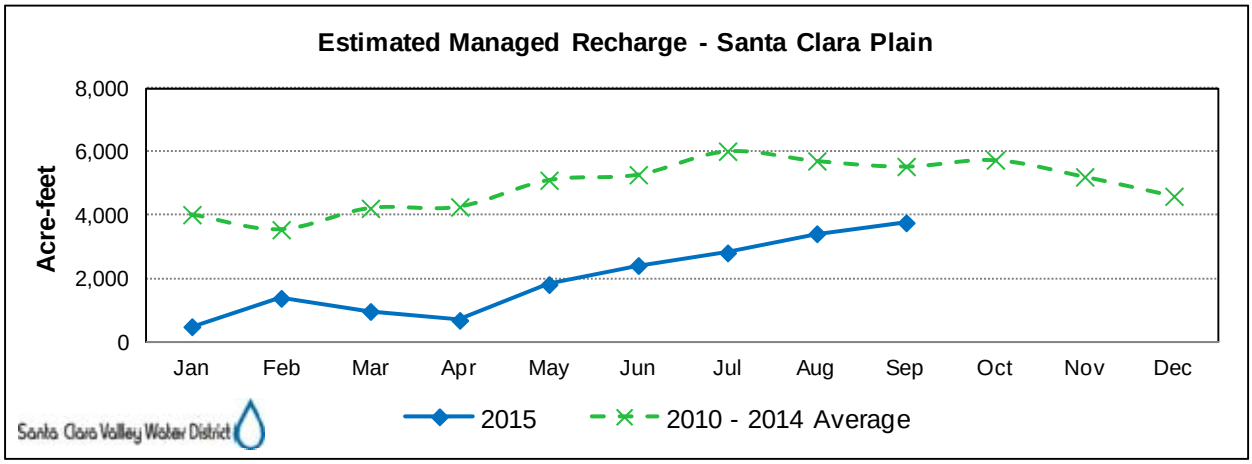


Figure 2 - Estimated Managed Recharge in the Coyote Valley

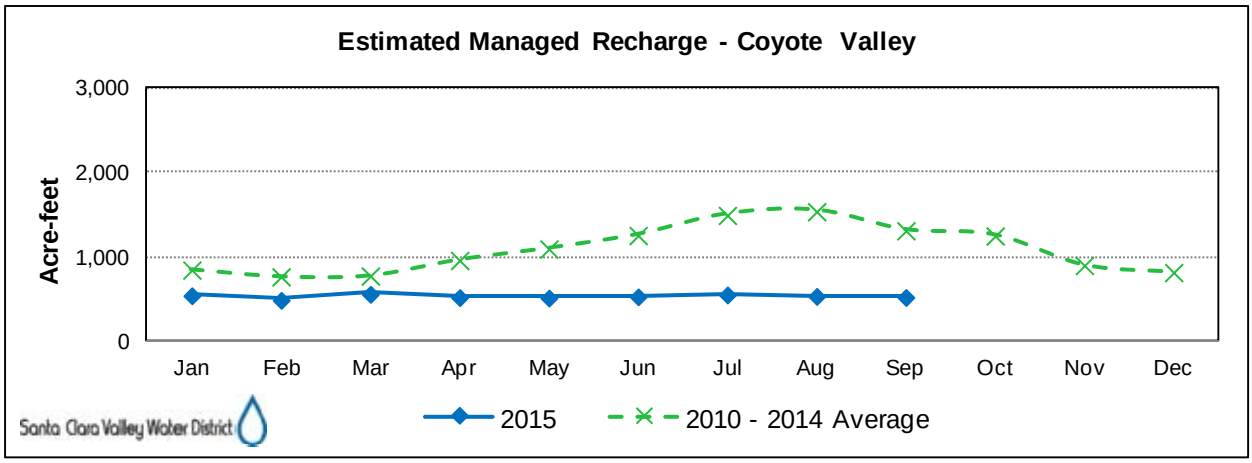
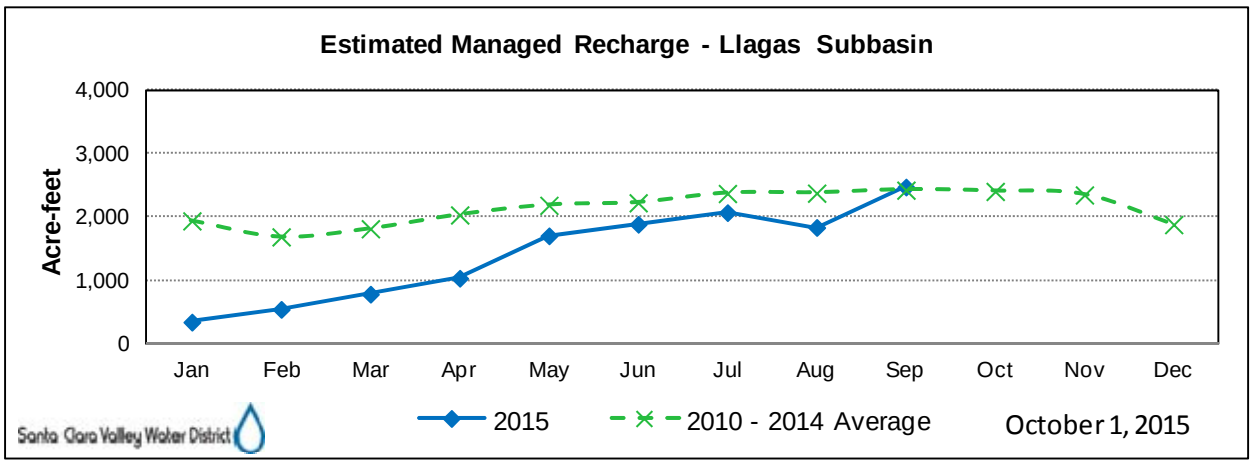


Figure 3 - Estimated Managed Recharge in the Llagas Subbasin



Groundwater Pumping

The estimated pumping for September 2015 is lower for all three groundwater areas than the average of the last five years (2010-2014). The September 2015 groundwater pumping comparison to the five-year average is illustrated in Figures 4, 5, and 6.

Figure 4 – Estimated Santa Clara Plain Pumping

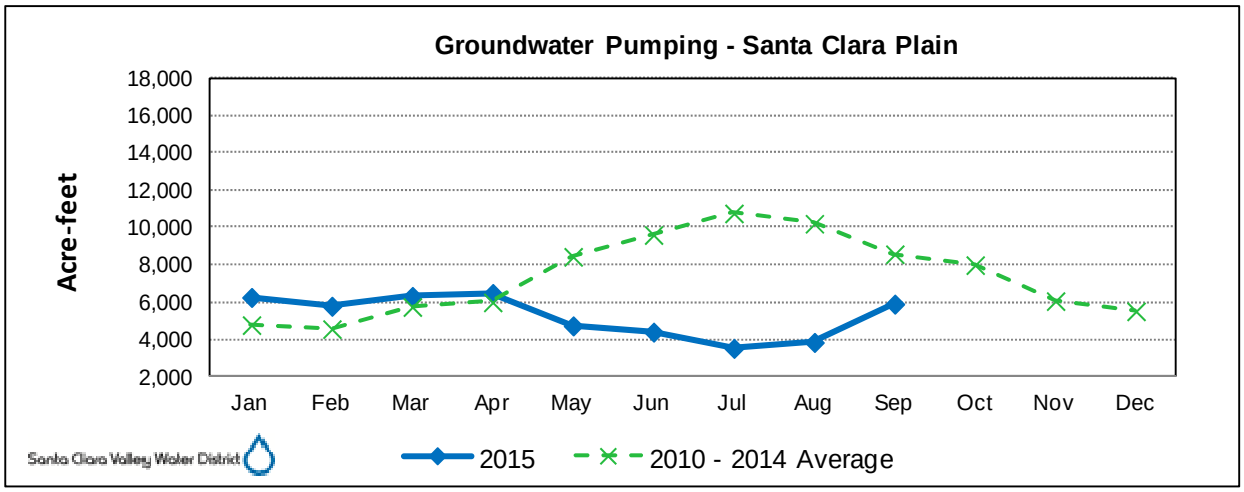


Figure 5 – Estimated Coyote Valley Pumping

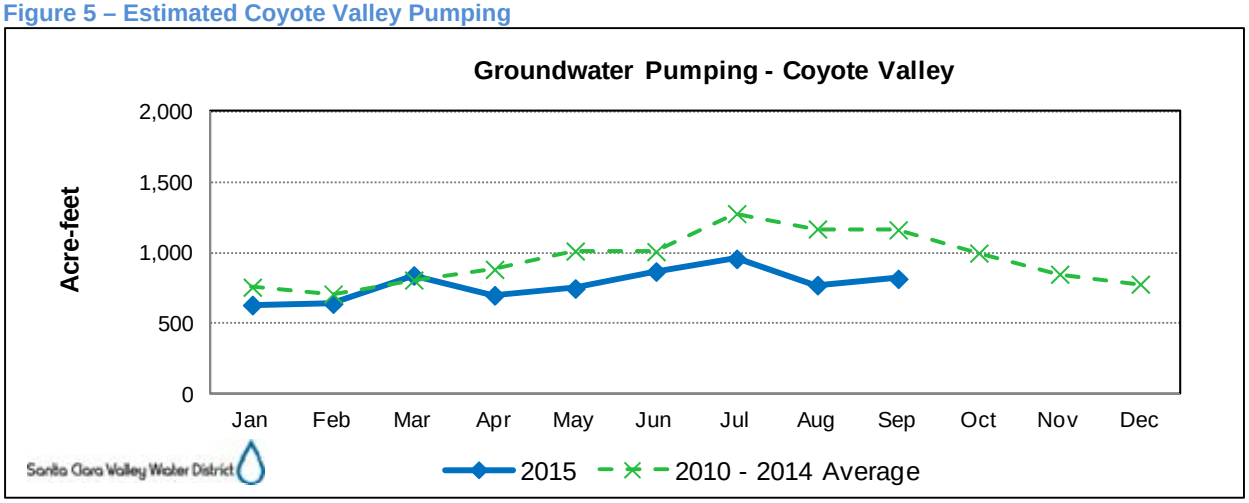
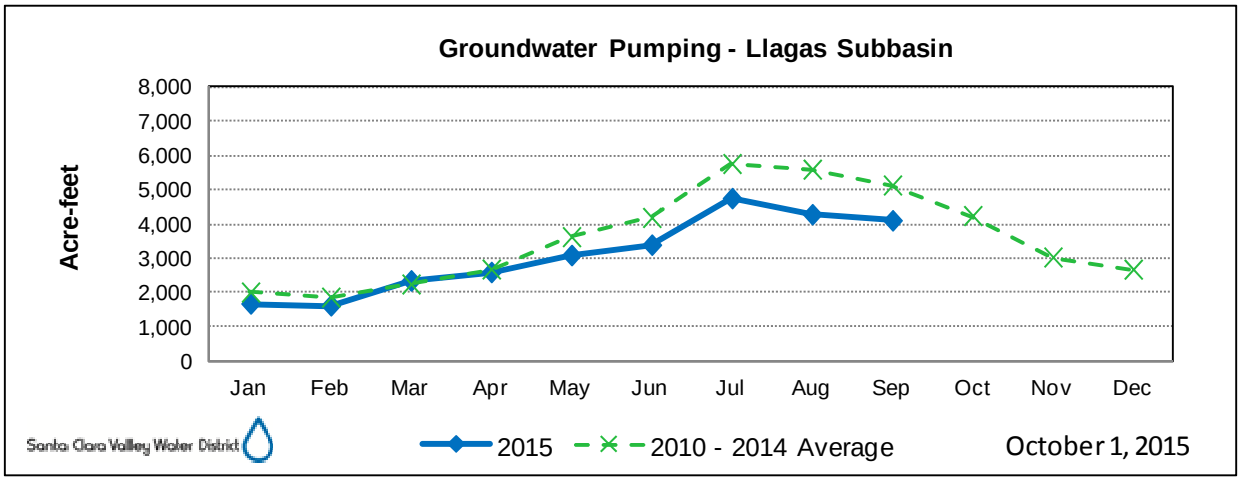


Figure 6 – Estimated Llagas Subbasin Pumping



Groundwater Levels

Groundwater levels at selected monitoring wells (Figure 7) are compared to the groundwater levels of September 1987 (a dry year), September 2004 (a normal year), and the five-year average of September measurements for 2010-2014. This information is presented in individual well groundwater hydrographs in Figures 8 through 18. The Campbell index well is a municipal well that is being taken out of service. For this report, the index well is being replaced with a nearby well with similar construction and water levels. For continuity, both the former and replacement Campbell index wells are displayed on Figure 13 below.

September 2015 groundwater levels were lower than August 2015 levels in eight index wells, and higher in three index wells. From September 2014 to September 2015, seven wells showed water level increases ranging from 5 to 45 feet, while four wells showed decreases ranging from 2 to 11 feet. The September 2015 levels were lower than September 2004 levels by 5 to 33 feet in seven wells, three wells were 0.6 to 19 feet higher than September 2004, and one well lacks 2004 data. September 2015 levels were also lower than the five-year average of September measurements in eight wells by 5 to 32 feet, and three wells were higher than the five-year average of September measurements by 2 to 4 feet. September 2015 groundwater levels were higher than September 1987 levels in the seven Santa Clara Plain index wells, and lower than September 1987 levels in the Coyote, Morgan Hill, San Martin, and Gilroy index wells.

Figure 7 - Location of Selected Monitoring Wells

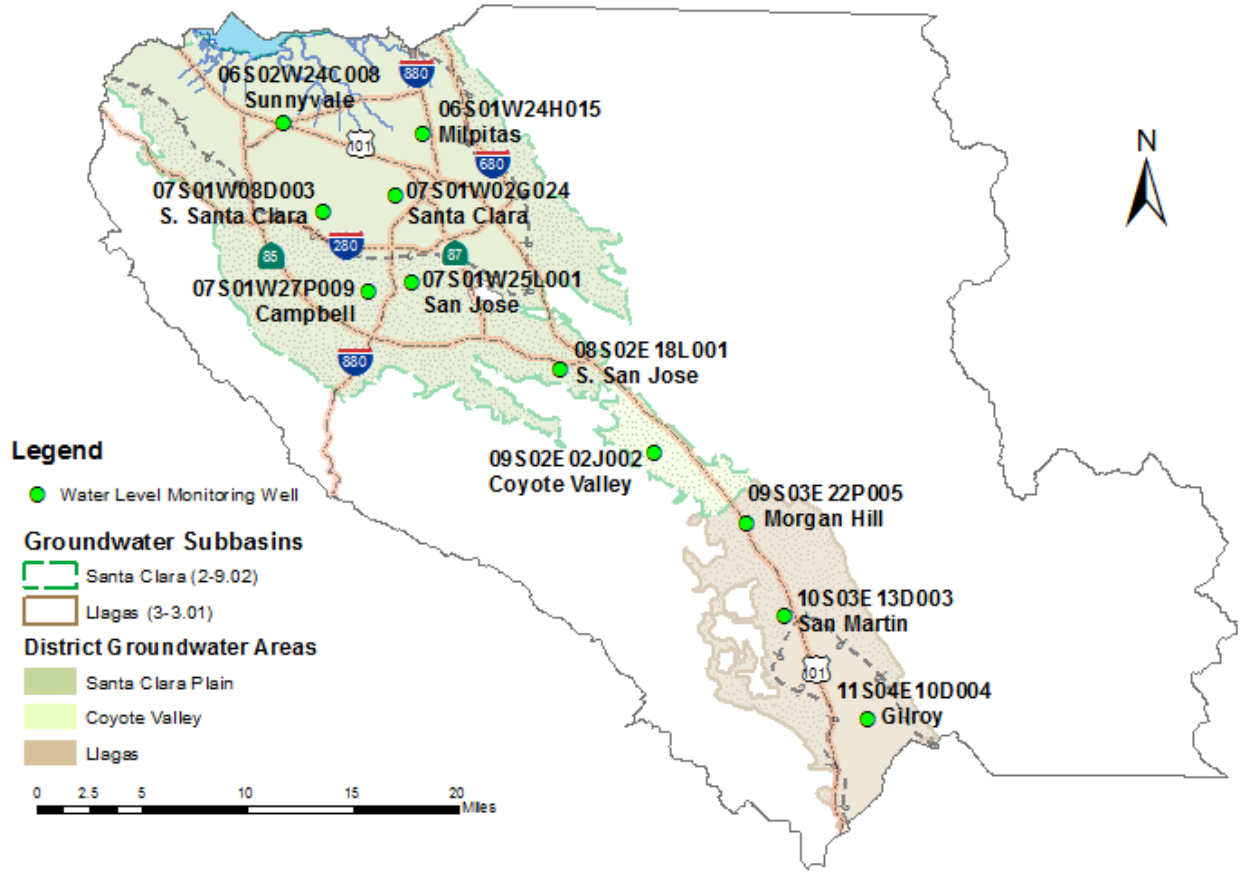


Figure 8 - Milpitas Well Hydrograph

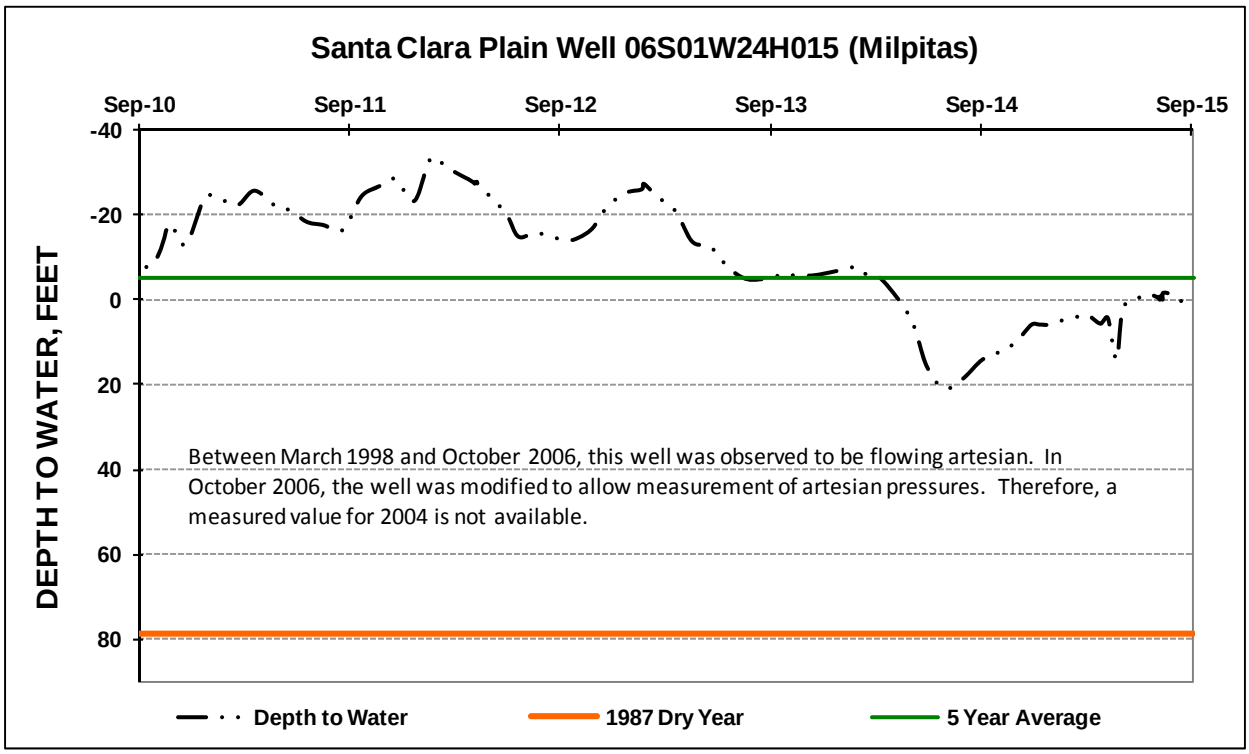


Figure 9 – Sunnyvale Well Hydrograph

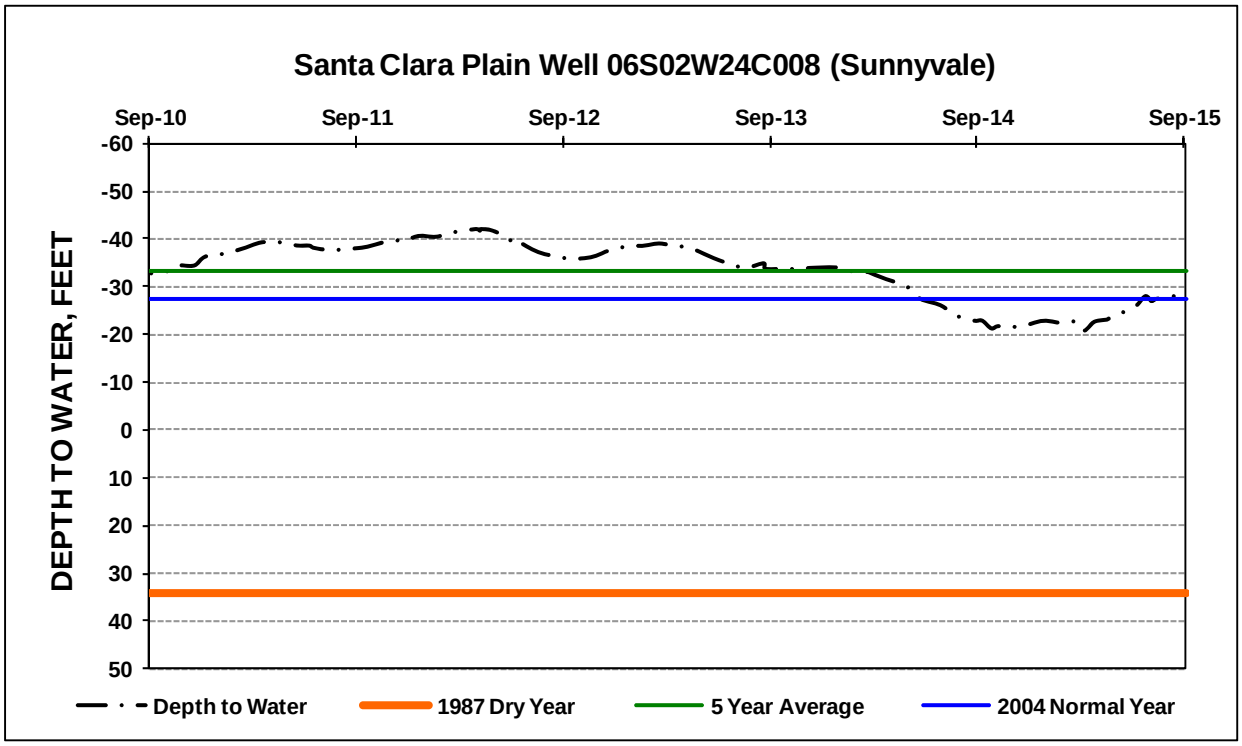


Figure 10 - San Jose Well Hydrograph

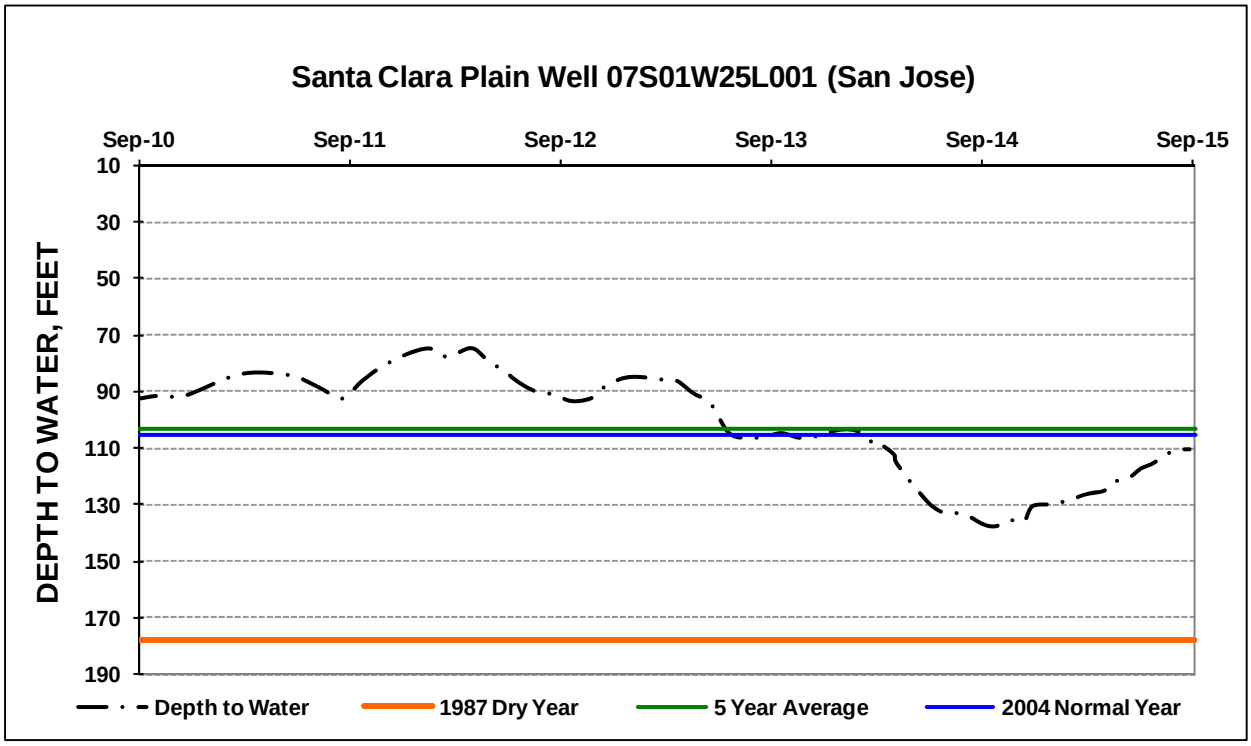


Figure 11 - Santa Clara Well Hydrograph

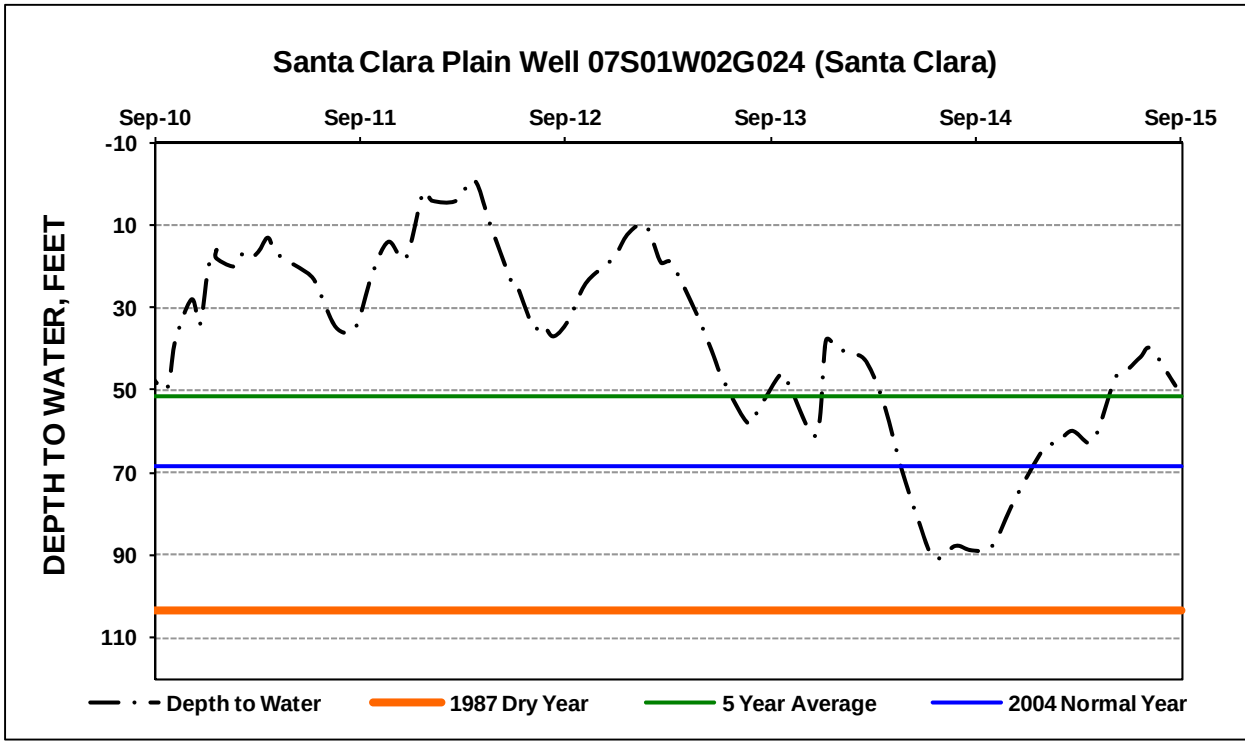


Figure 12 - South Santa Clara Well Hydrograph

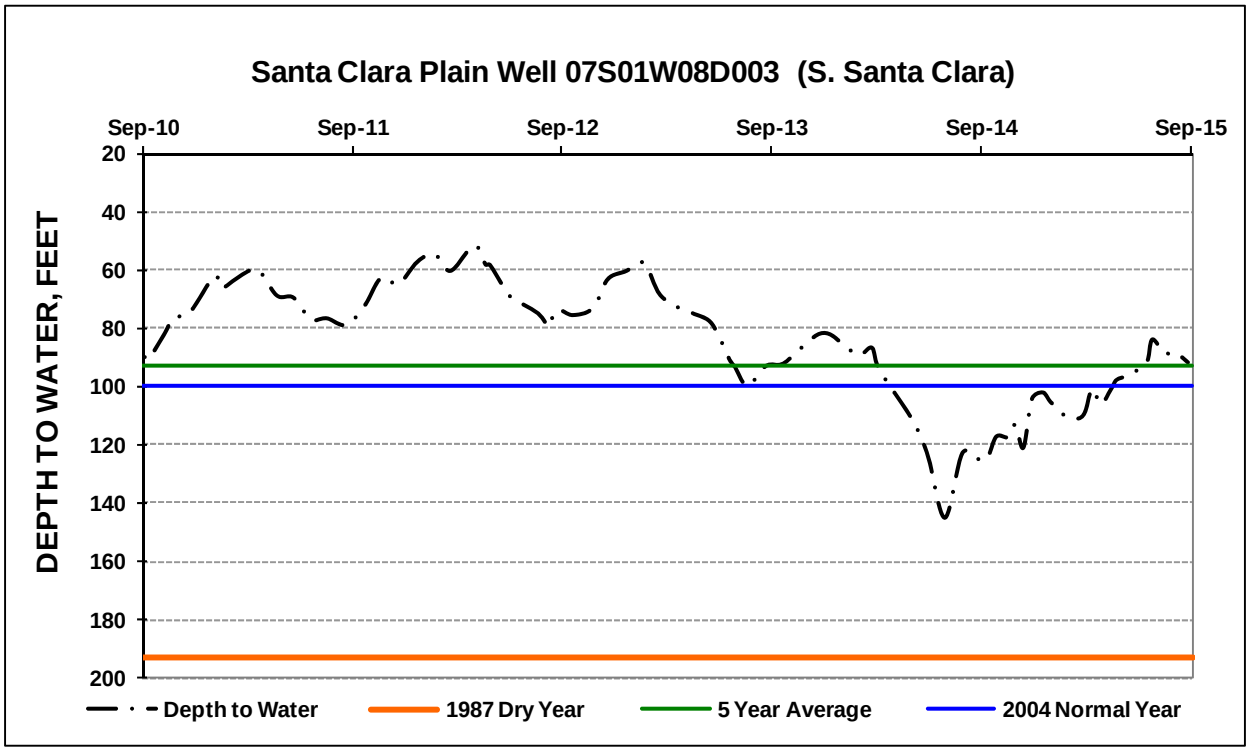


Figure 13 - Campbell Well Hydrograph

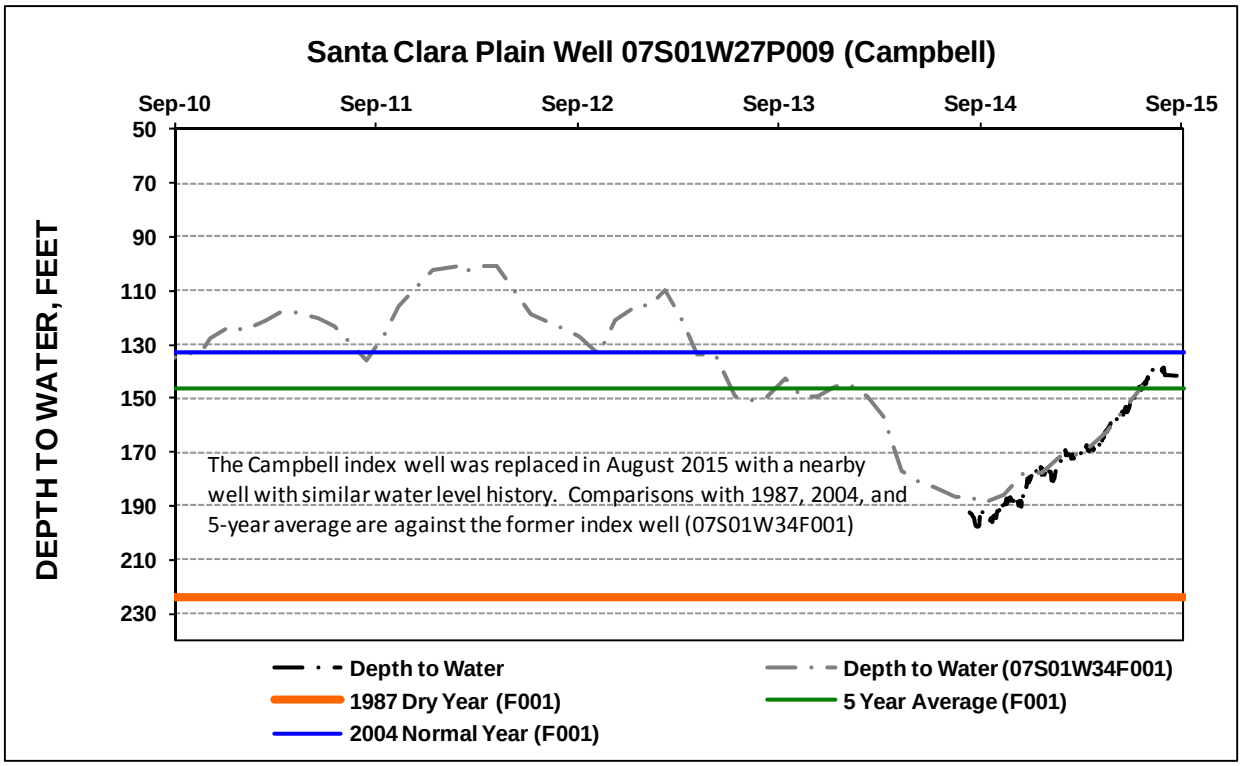


Figure 14 - South San Jose Well Hydrograph

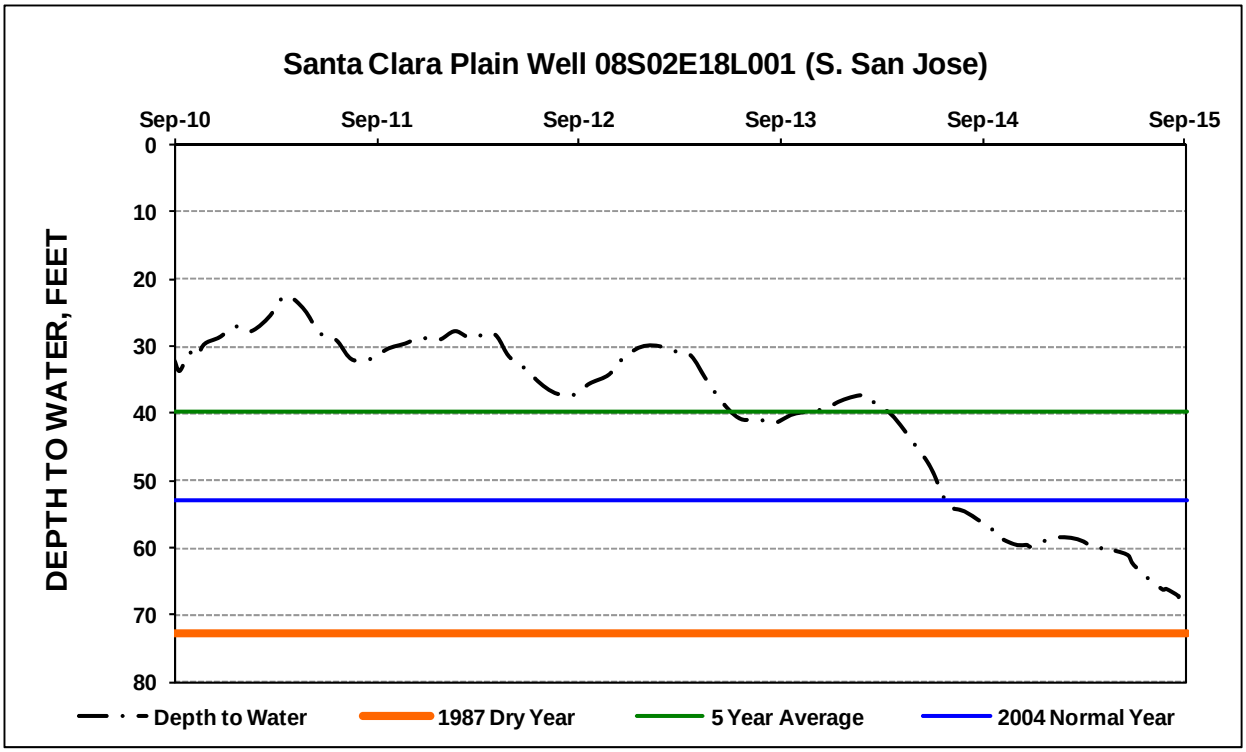


Figure 15 - Coyote Valley Well Hydrograph

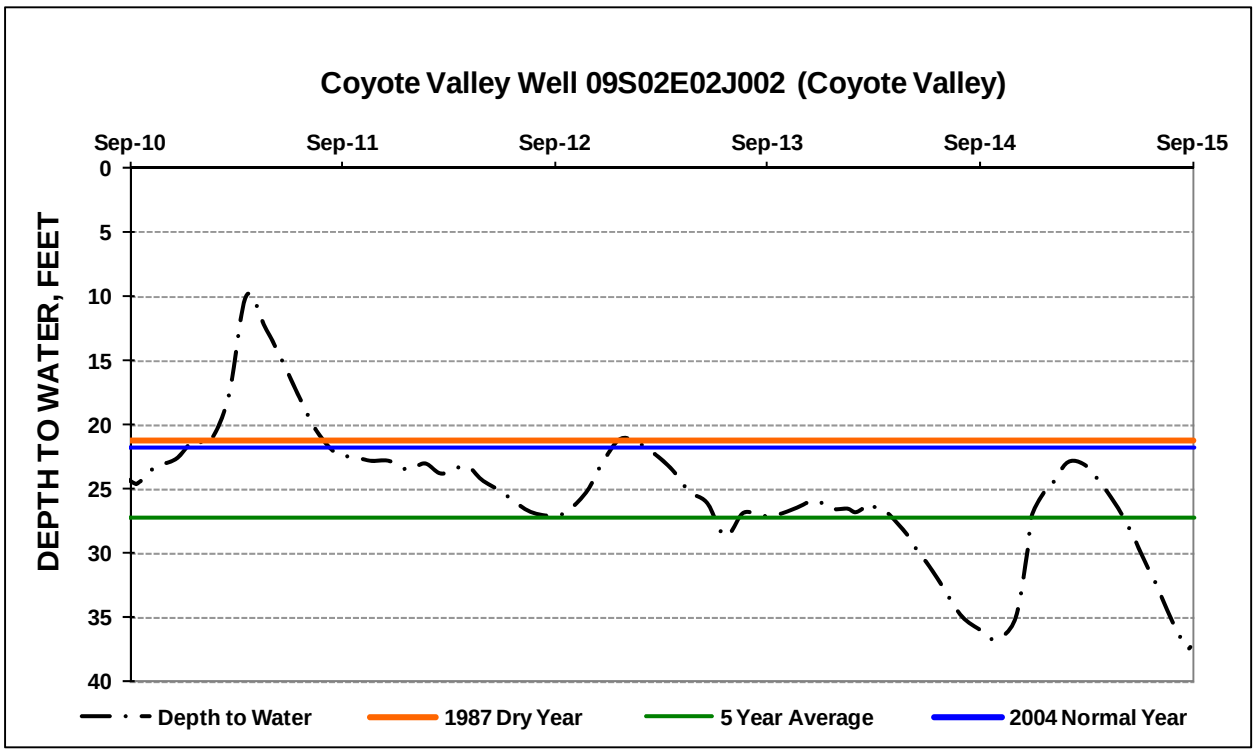


Figure 16 - Morgan Hill Well Hydrograph

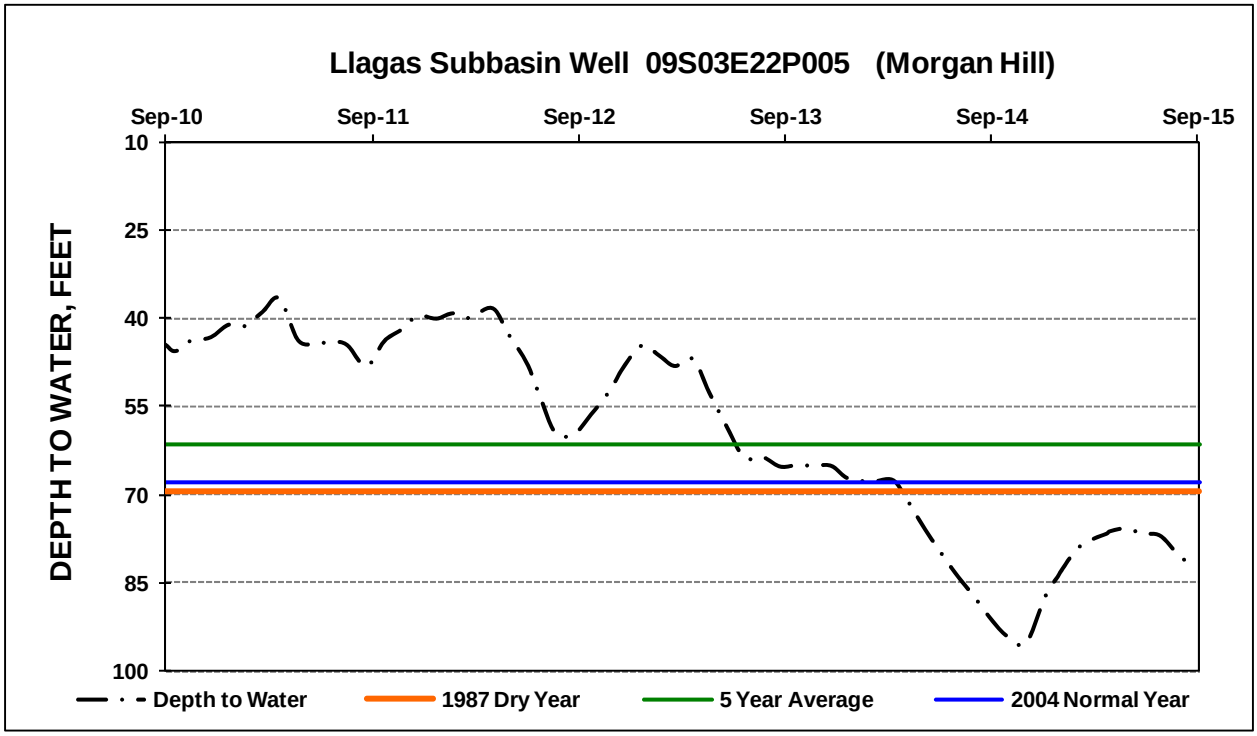


Figure 17 - San Martin Well Hydrograph

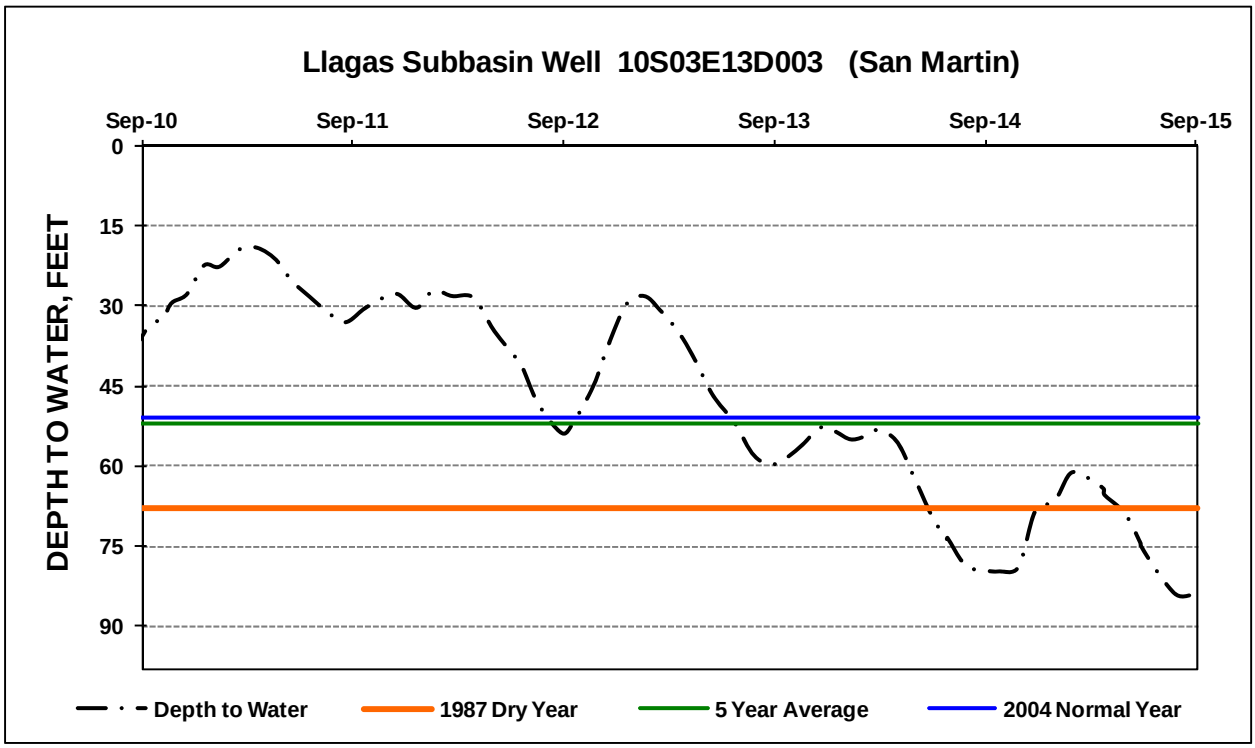


Figure 18 - Gilroy Well Hydrograph