

# Inland Empire Brine Line Rate

FY 2017-18 (Proposed)

Effective July 1, 2017

FY 2018-19 (For Planning Purposes Only)

# Recommendation

- Commission adopt Resolution No. 2017.08, establishing new Inland Empire Brine Line rates effective July 1, 2017

# Brine Line Rate

- Rate (5 components)
  - Pass-through BOD and TSS costs from OCSD
  
  - Flow:
    - OCSD Treatment
    - OCSD O&M of SARI in Orange County (SAWPA share)
    - Variable O&M (example: line cleaning)
    - Contribution to Flow Imbalance Fund
    - Contribution to Capital Program
  
  - Fixed Pipeline and Treatment:
    - Fixed O&M (example: Dig Alert markings)
    - Contributions to Flow Imbalance, Self Insurance Funds
    - Contribution to Capital Improvement, Pipeline Replacement
    - Debt Retirement, Self Insurance, OCSD Capital Program (SAWPA share)

# Brine Line Rate

- Proposed FY18 rates based on Financial Model
  - Flow projections
    - Chino Preserve (domestic) to IEUA RP-5
  - CIP
    - Repayment of SRF loan for re-lining of Reaches IV-A and IV-B (\$15.85M, 2012)
    - Reach V Repair, Nichols Road Relocation (Ongoing) (\$15.0M SRF loan, 2018)
    - Reach IV-D Corrosion Repair (2018/19) \$4.4M
    - Capital Repairs \$0.5M – seal Mission Tunnel, Access Structures, raise MAS lids
  - OCSD Costs
    - Rock Removal Project \$3.0M (76% SAWPA share of total)
    - O&M (SAWPA share for Reaches 1 – 8, 37.5% to 100%)
  - Maintain minimum reserves

# Brine Line Rate

- New “Whereas” – Lease Capacity Pool may be considered during FY18
  - Included as part of draft Ordinance No. 8

# Rates

	Fixed Pipe	Fixed Treatment
Current	\$5,639	\$11,433
FY 17-18	\$5,921	\$12,007
FY 18-19 (planning)	\$6,217	\$12,607

Notes:

1. Fixed Pipe Million Gallons (MG) per Month based on pipeline capacity owned
2. Fixed Treatment Million Gallons Per Month based on treatment capacity owned

# Rates

	Flow	BOD	TSS
Current	\$858	\$307	\$429
FY 17-18	\$901	\$307	\$429
FY 18-19 (planning)	\$946	\$313	\$438

Notes:

1. Flow in Million Gallons (MG), BOD and TSS per 1,000 pounds (lbs)
2. BOD, TSS rates are “pass-through” from OCSD

# Rates

<u>Waste Strength</u>	<u>BOD or TSS Concentration</u>	<u>FY 17-18</u>	<u>FY 18-19 (a)</u>
Brine	Less than 100 mg/l	\$ 0.012	\$ 0.012
Non-Brine Tier 1	100 to 999 mg/l	\$ 0.017	\$ 0.017
Non-Brine Tier 2	1,000 to 2,499 mg/l	\$ 0.035	\$ 0.036
Non-Brine Tier 3	2,500 and higher	(b)	

(a) Future rate for planning purposes only. The Commission will separately evaluate and set the rates annually for each FY.

(b) Concentrations over 2,500 mg/l will be charged based on the actual concentration of the waste discharged using the following costs components:

\$0.003/gallon, \$0.729/pound of BOD, and \$0.695/pound of TSS.



# Permit Fees

## No Change

- Direct Discharger \$550/year
- Indirect Discharger \$250/year
- Liquid Waste Hauler \$225/year
- Emergency \$1,000/year
  - Most emergency connections have no discharge
  - Permit preparation and administration, inspection, sampling, reporting still required

# Recommendation

- Commission adopt Resolution No. 2017.08, establishing new Inland Empire Brine Line rates effective July 1, 2017

END

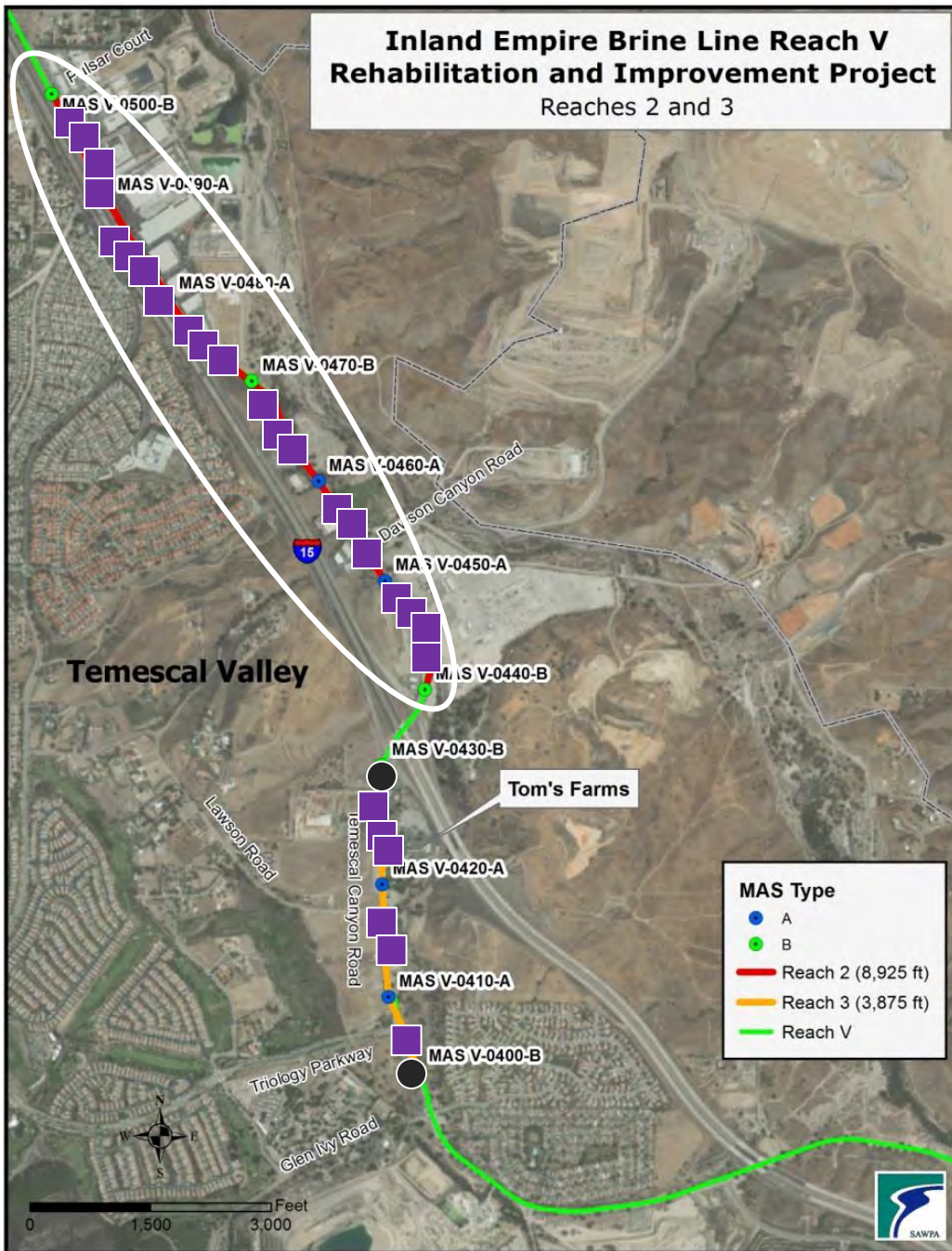
Inland Empire Brine Line  
Reach V Rehabilitation and  
Improvement Project – Phase 1

Item 7.E

May 16, 2017

# Inland Empire Brine Line Reach V Rehabilitation and Improvement Project

Reaches 2 and 3

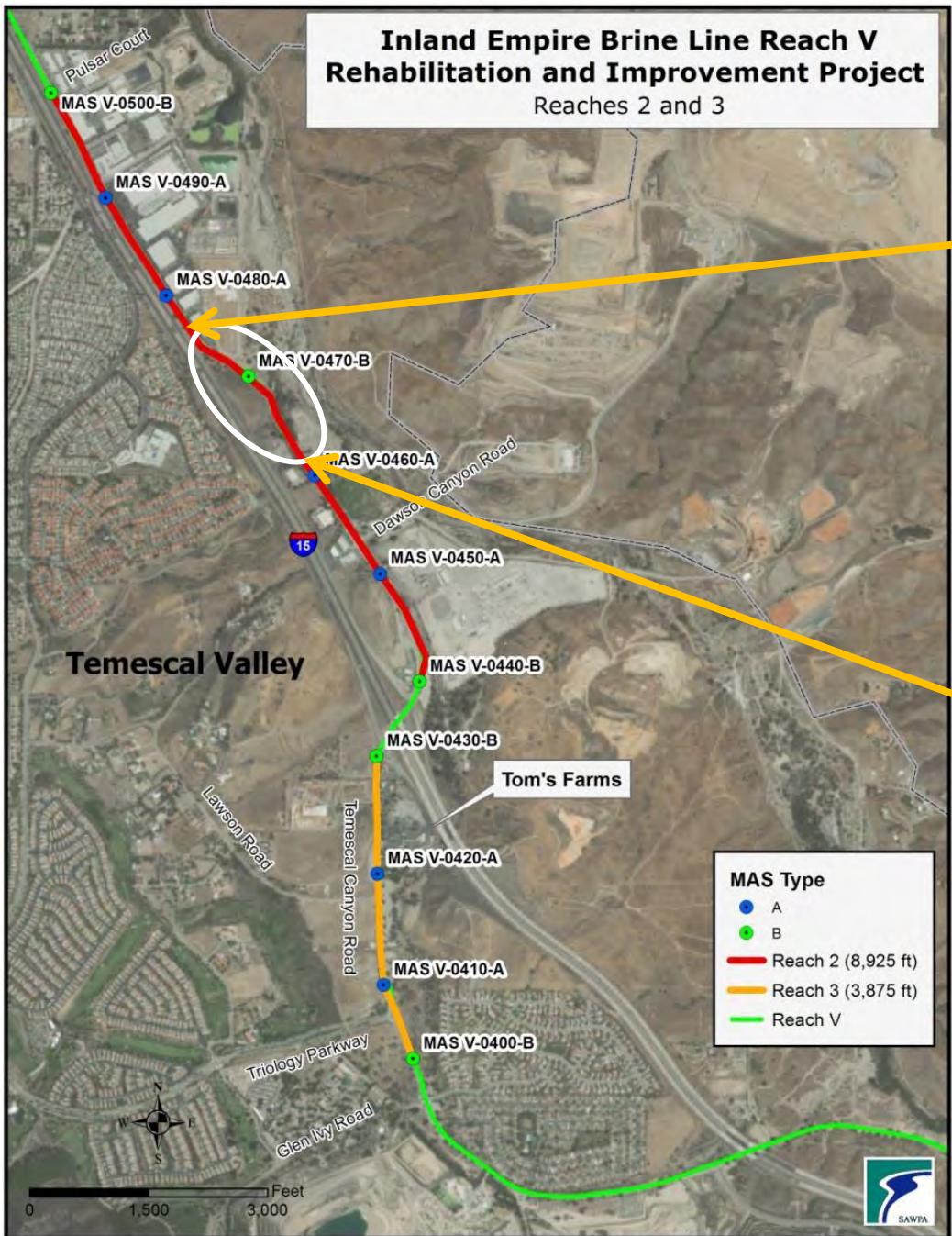


## Work Completed

- By-pass System
  - 13,200 ft (100%)
- Maintenance Access Structures ●
  - 2 (22%)
- Access Pits ■
  - 27 (73%)
- Line Cleaning ○
  - 8,925 ft. (70%)
- CCTV ○
  - 8,925 ft. (70%)
- Laser Profiling ○
  - 8,925 ft. (70%)
- CIPP Lining
  - 0.0 Ft. (0%)

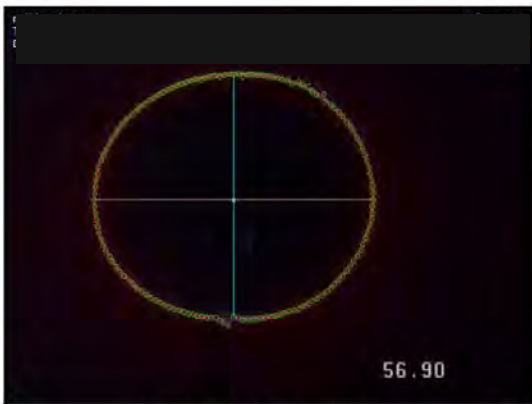
# Ovality Results

## Inland Empire Brine Line Reach V Rehabilitation and Improvement Project Reaches 2 and 3



- 11. Sta. 460+90 – 457+40
  - Range 0.7% - 9.0% / CIPP Line
- 12. Sta. 457+40 – 453+00
  - Range 0.7% - 9.0% / CIPP Line
- 13. Sta. 453+00 - 450+60
  - Range 1.5% - 10.0% / CIPP Line
  - One location 6 ft in length up to 12% Ovality
  - CIPP Line – Increase wall thickness at 12% Ovality
- 14. Sta. 446+00 – 450+60
  - Range 4.0% - 18%
  - Several locations 2 – 9 ft in length up to 14% Ovality
  - One location 9 feet in length up to 18% Ovality
  - Evaluate CIPP Liner with increase in wall thickness





Distance: 59.596', Ovality: 7.2%



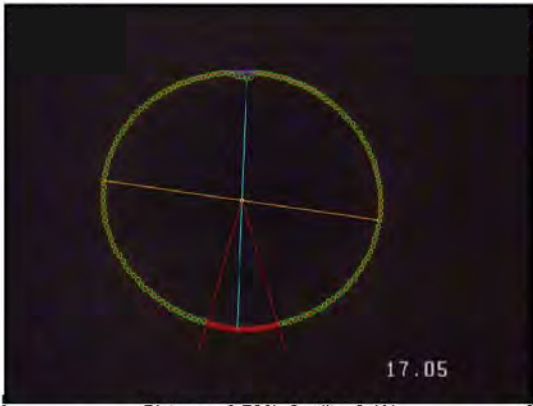
Distance: 66.814', Ovality: 8.9%



Distance: 75.344', Ovality: 5.3%



- 11. Sta. 460+90 – 457+40
  - Range 0.7% - 9.0% / CIPP Line



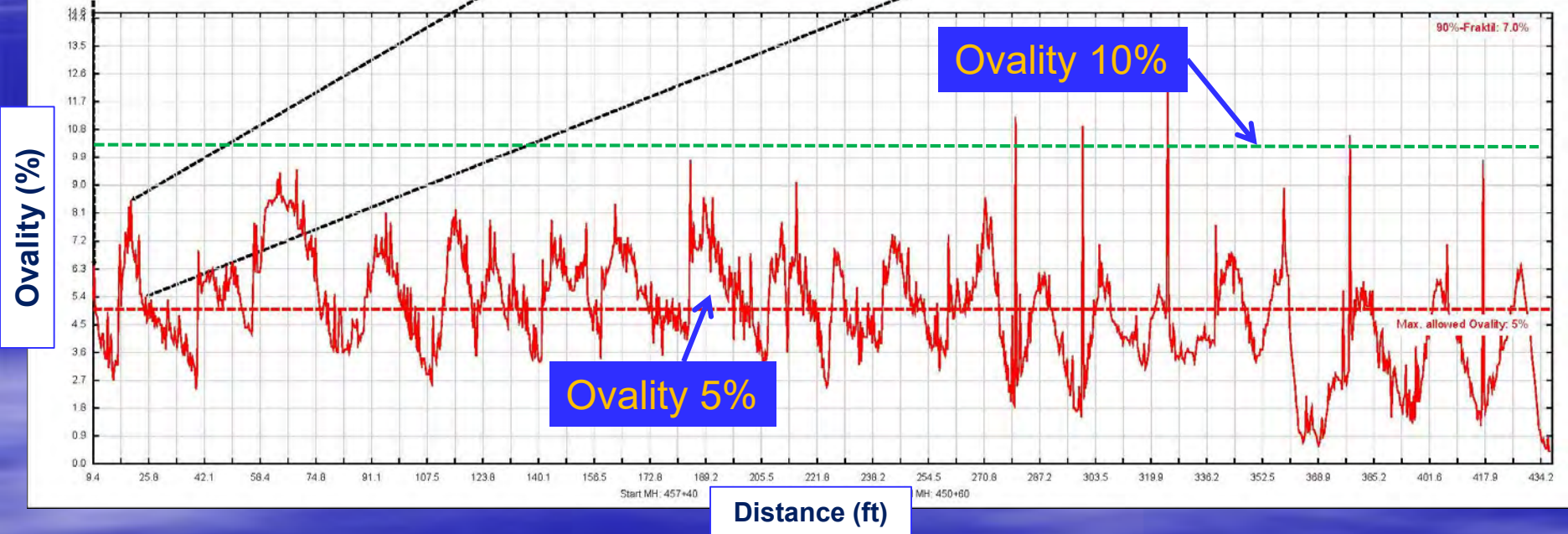
Distance: 9.760', Ovality: 6.4%



Distance: 20.587', Ovality: 8.5%



Distance: 24.852', Ovality: 5.4%



- 12. Sta. 457+40 – 453+00
  - Range 0.7% - 9.0% / CIPP Line

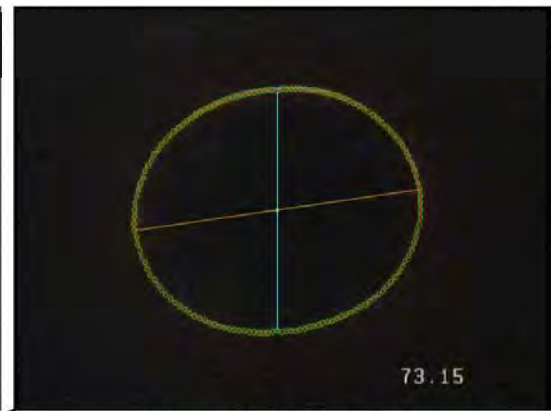




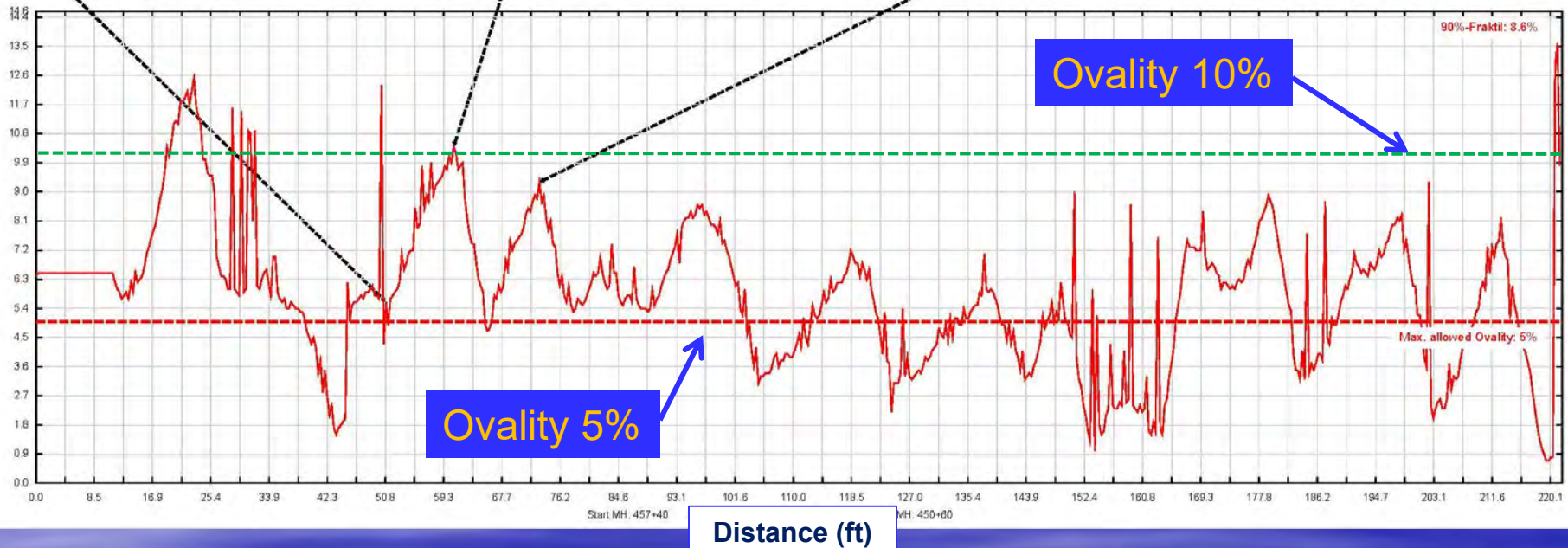
Distance: 50.853', Ovality: 5.6%



Distance: 60.696', Ovality: 10.4%



Distance: 73.163', Ovality: 9.3%



- 13. Sta. 453+00 - 450+60
  - Range 1.5% - 10.0% / CIPP Line
  - One location 6 ft in length up to 12%
  - CIPP Line possible thicker liner at 12% location



Distance: 181.493', Ovality: 9.7%

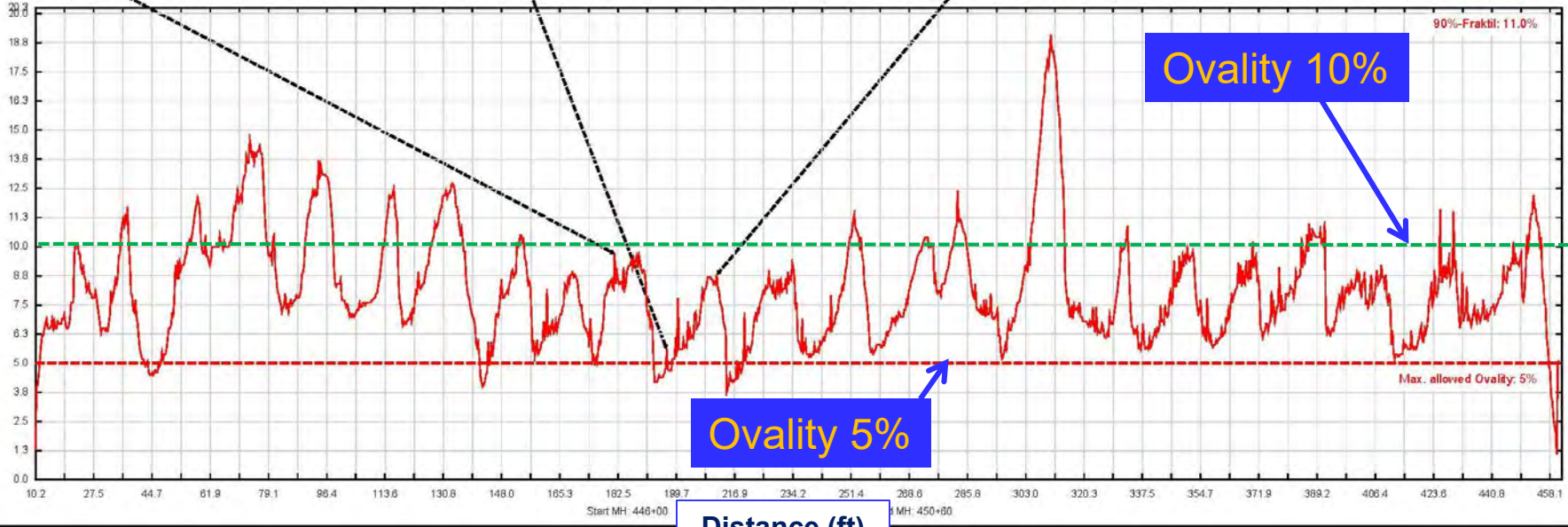


Distance: 196.913', Ovality: 5.6%



Distance: 211.677', Ovality: 8.8%

Ovality (%)

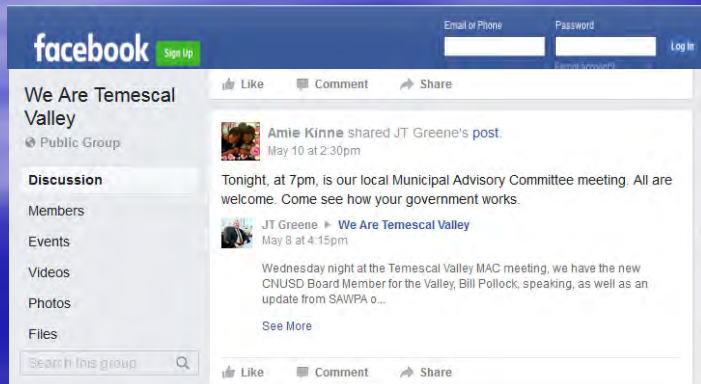


Distance (ft)

- 14. Sta. 446+00 – 450+60
  - Range 4.0% - 18%
  - Several locations 2 – 9 ft in Length >10%
  - One location 9 feet in length up to 18%
  - Evaluate CIPP Liner with increase in wall thickness

# Public Outreach

- Attend Temescal Valley MAC Meeting
- Attend Temescal Valley Community Faire
- Project Website



Issue 17 | May 12, 2017



## PIPELINE PROJECT UPDATE

**WHAT'S NEW AND WHY**

Work is proceeding on schedule in the project area from Pukar Court to Glen Ivy Road on Temescal Canyon Road. About 70% of the pipe has been cleaned and inspected to determine the extent of necessary repairs. Starting next week, materials for the pipeline fortifications will be manufactured off site.

**WHAT IT MEANS TO YOU**

As crews prepare the pipeline for repair, activity will increase within the project construction yard near Dawson Canyon Road. Meanwhile, the pipe installer will use roadway access points to confirm measurements for upgrades to the underground pipe. Workers on site will continue to minimize any traffic delays.

**PROCESS AND TIMELINE**

All aspects of the project remain fast-tracked to diminish public inconvenience while ensuring high-quality work. Please share any concerns, questions or feedback with us at: [construction@sawpa.org](mailto:construction@sawpa.org)

**Project Overview**

SAWPA is working to test, fortify and/or replace 5 miles of the Brine Line, an underground pipeline that conveys salty water from the Inland Empire to the Pacific Ocean. The brackish water comes from key sectors of the Inland economy, including power plants, manufacturers, and groundwater desalters that produce large volumes of drinking water.

The project calls for placing new pipes within older pipes which have lost their shape over time. With loss of shape comes increased risk of spills, and the upgrades follow a 2011 Brine Line leak that was remediated. Water from the Brine Line poses no health risk but, if left untreated, could damage the local environment.




Santa Ana Watershed Project Authority  
Inland Empire Brine Line  
11615 Sterling Avenue  
Riverside, CA 92503

Tell us what you think.  
Hotline: 951.354.4250  
Email: [construction@sawpa.org](mailto:construction@sawpa.org)  
For updates: [www.sawpa.org/brineline](http://www.sawpa.org/brineline)



## Construction Updates

951.354.4250  
[construction@sawpa.org](mailto:construction@sawpa.org)

## Inland Empire Brine Line Reach V Rehabilitation and Improvement Project Reaches 2 and 3

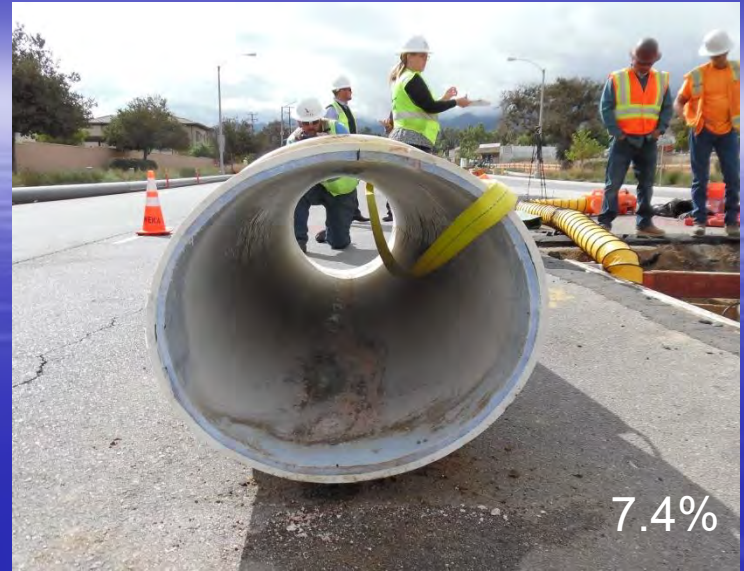


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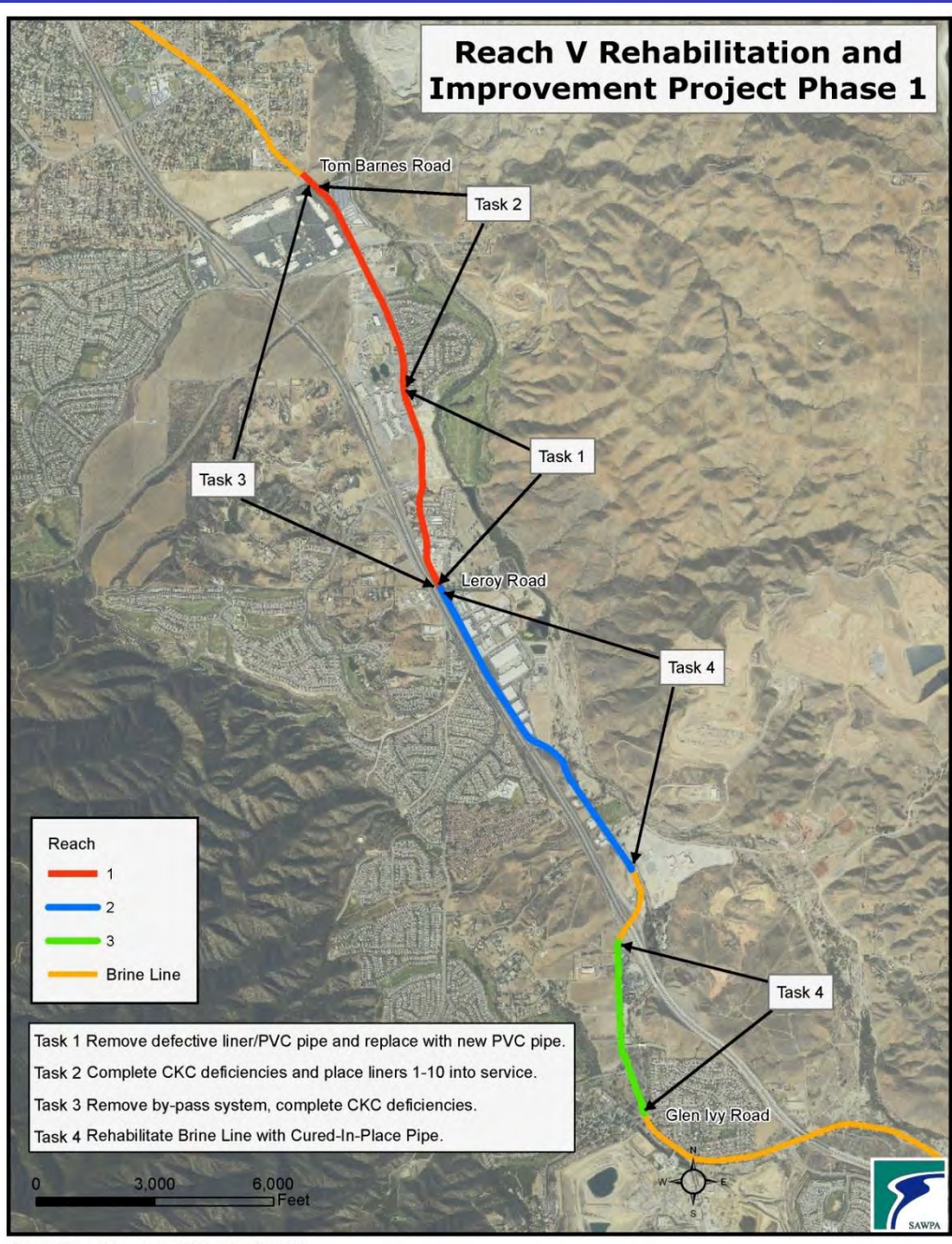
## What's Next

- Manufacture CIPP Liner
- Clean/CCTV/Laser Profile Reach 3
- Receive and Review Laser Profile Data Reach 2
- Preparation for Liner Installation
- Install Liners 1 – 4
  - Beginning June 6<sup>th</sup>

Questions?



# Reach V Rehabilitation and Improvement Project Phase 1





# Disadvantaged Communities Involvement Program



**Mike Antos, Ph.D.**  
**Senior Watershed Manager**

SAWPA Commission Meeting  
May 16, 2017





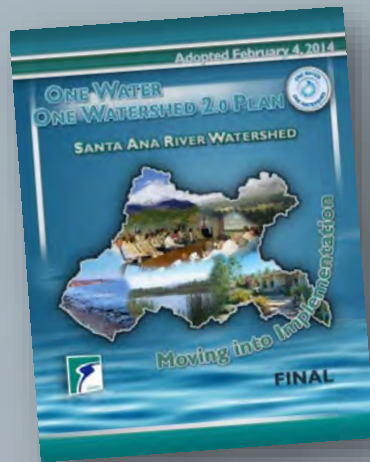
# OWOW Business Line - Critical Success Factors

Active  
Participation  
of a diverse  
group of  
stakeholders



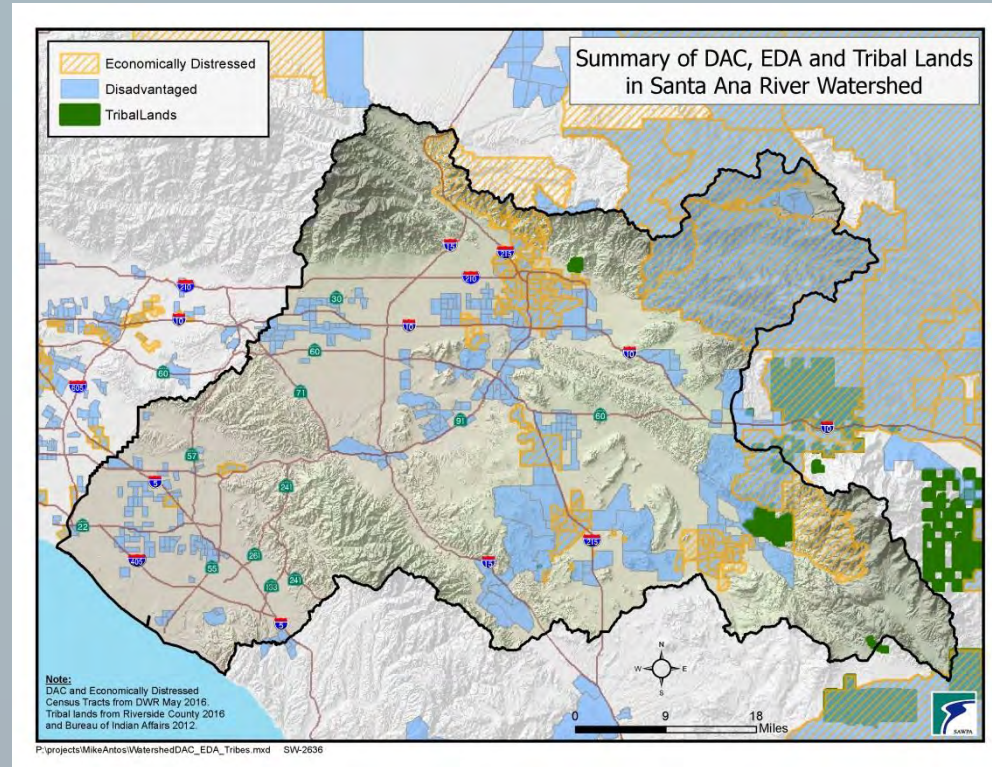
# OWOW Business Line - Critical Success Factors

Successful implementation of an integrated regional water resource plan

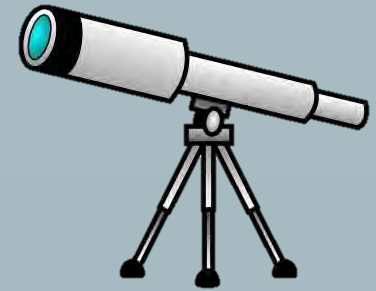


# DCI Program Background

- Scope was developed through significant stakeholder and partner engagement throughout 2016.
- OWOW Steering Committee feedback was instrumental and helped refine the scope.
- Funded entirely by Prop 1 grant to SAWPA



# DCI Program Scope



- Three Program Elements

- Strengths & Needs Assessment (\$793,644)
- Education & Engagement (\$1,853,068)
- Project Development (\$3,338,288)
  
- Grant Administration (\$315,000)

- Each element has multiple specific tasks



# DCI Program Partners



**Local  
Government  
Commission**



**WATER EDUCATION  
FOUNDATION**



# The memo recommends:

1. That the Commission adopt Resolution No. 2017.9 authorizing the General Manager, or designee, to execute the Disadvantaged Community Involvement Program Grant Agreement 4600011889, and associated sub-agreements.





# Homelessness & Water Symposium



**Mike Antos, Ph.D.**  
**Senior Watershed Manager**

SAWPA Commission Meeting  
May 16, 2017



# OWOW Business Line - Critical Success Factors

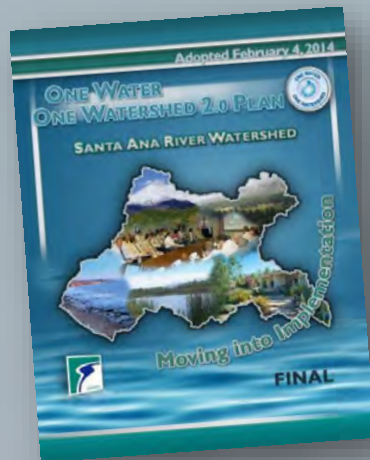
Active  
Participation  
of a diverse  
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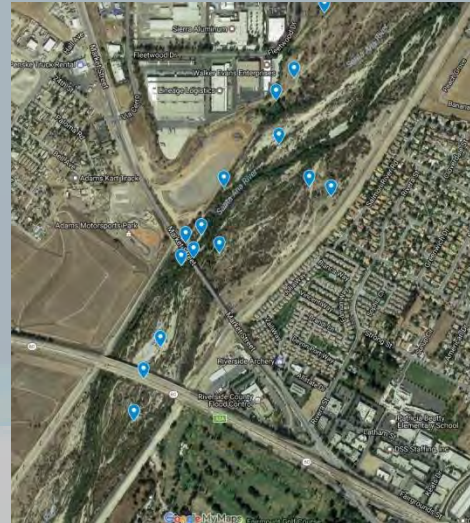
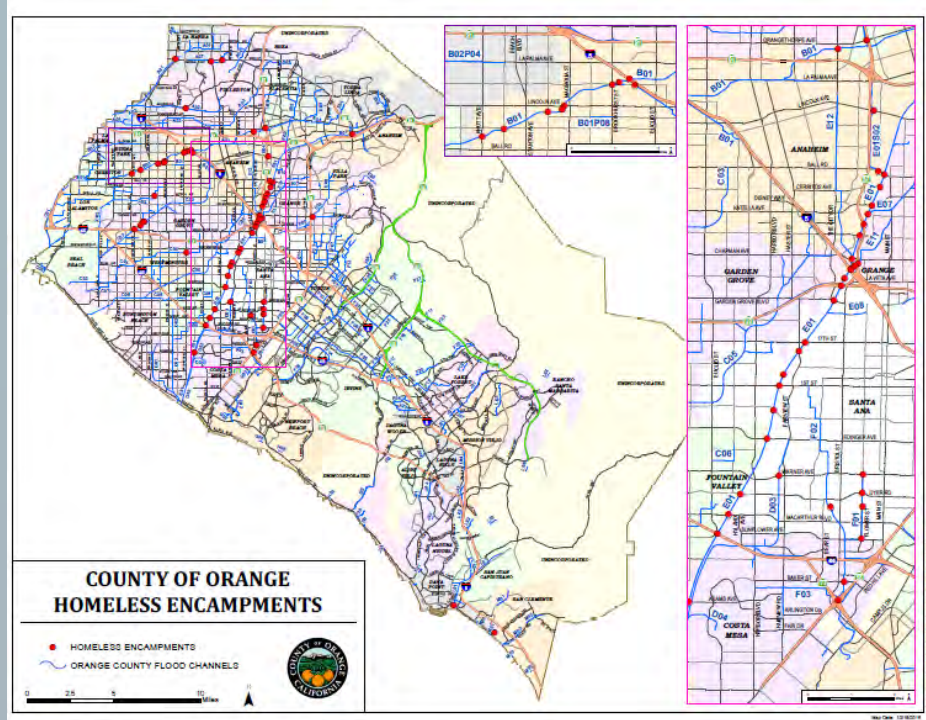
# OWOW Business Line - Critical Success Factors

Successful implementation of an integrated regional water resource plan



# Symposium Background

- DCI Program serves underrepresented communities
- During outreach, unsheltered people were recommended by several as a community to engage
- Organized by SAWPA staff, CivicSpark Fellows, and hired contractor



# Symposium Contractor

- Selected IEWK from three proposals
- Will be a not-to-exceed \$18,000 contract
- DCI Program Grant supports the symposium



**INLAND EMPIRE WATERKEEPER.**

*Advocacy • Education • Research • Restoration • Enforcement*



# Symposium Purpose

- Create or strengthen relationships between individuals and organizations in the water and social services sectors.
- Link water management efforts to regional partnerships seeking to serve homeless people.
- Share best practices from water management through the region (and beyond), to engage social services sector with these approaches.
- Consider what water sector policies can be revised or added to support unsheltered people.



# Symposium Logistics



- June 29, 2017, 8am – 1pm
- Stewarts Boathouse at Fairmount Park in Riverside
- Invitees:
  - Will be broadcast on OWOW Mailing list, as well as distributed by social services partners (county departments, sheriffs, advocates)
  - Hope to have water sector staff, public social service department staff, water quality advocates, homelessness advocates, water regulatory staff, perhaps some elected official staff.
  - Press release / media attendance expected
  - Between 60-100 expected



# Symposium Panels (invited)

## Panel 1 - **The State of Homelessness in the Santa Ana River Watershed**

- Michelle Davis, Riverside Housing Authority
- Eve Garrow, ACLU
- Mike Jones, San Bernardino Sheriff's HOPE team
- Susan von Zabern, Riverside DPSS

## Panel 2 - **Considering a Human Right to Water in California**

- Rev. Amanda Ford, Environmental Justice Coalition for Water
- Hope Smythe, Santa Ana Regional Water Quality Control Board
- A person who was formerly homeless (via SBC Sheriffs Dept)
- Anne Rios, Think Dignity

Keynote - Chris Brokate of the Clean River Alliance



# The memo recommends:

1. That the Commission receive and file this informational report.



# SAWPA

A blue fountain pen with a silver nib is positioned diagonally across the center of the image. The pen is resting on a financial chart that features a line graph with a blue line and a bar chart with blue bars. A magnifying glass is positioned over the right side of the chart, focusing on a specific data point. The background is a light blue gradient with a subtle grid pattern. The overall image conveys a sense of financial analysis and budgeting.

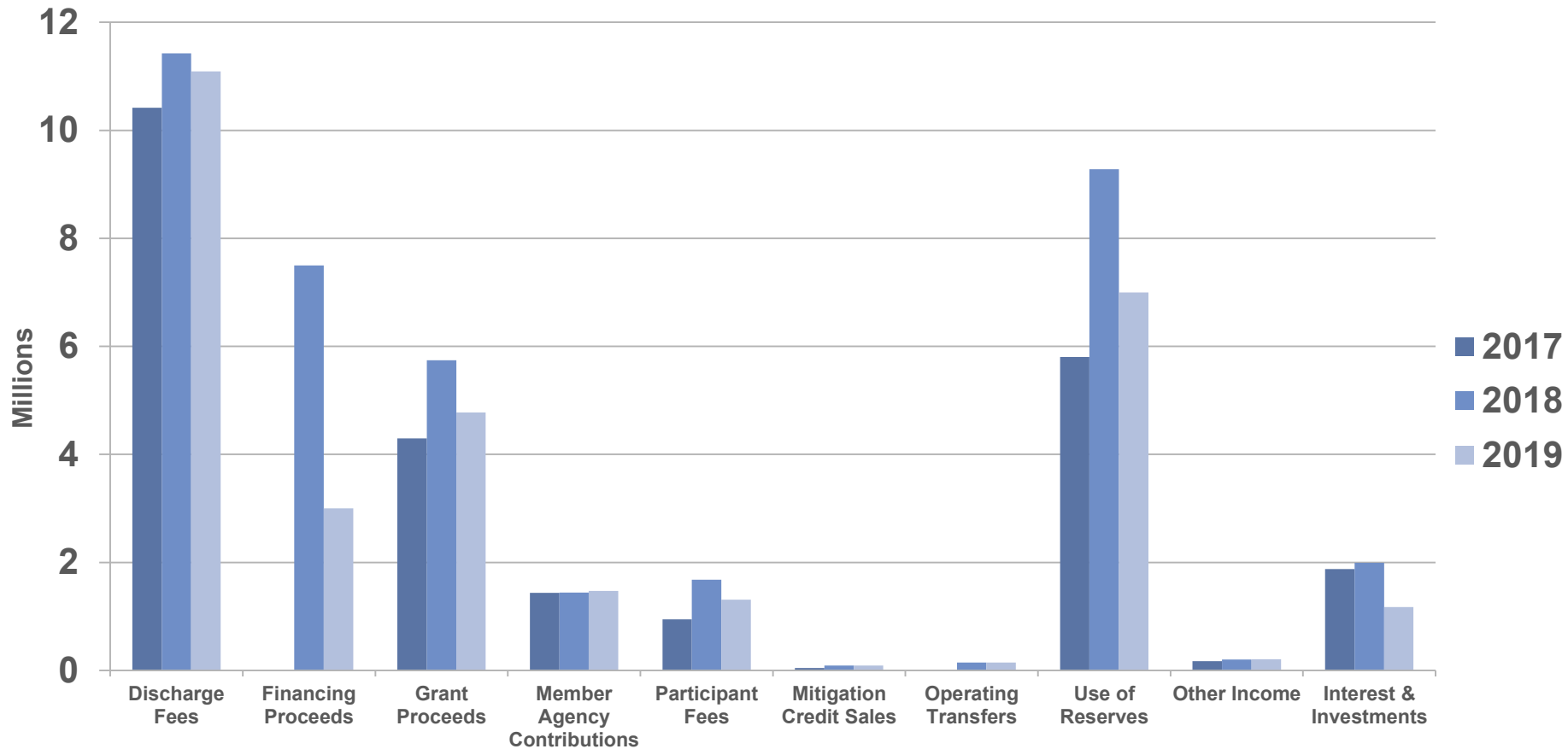
FYE 2018 and 2019 Budget





- 1 Combined Budget**
- 2 Budget Detail by Fund Type**
- 3 Assumptions Used**
- 4 Benefit and Indirect Cost Allocations**
- 5 Member Agency Contributions**

# Combined Revenues

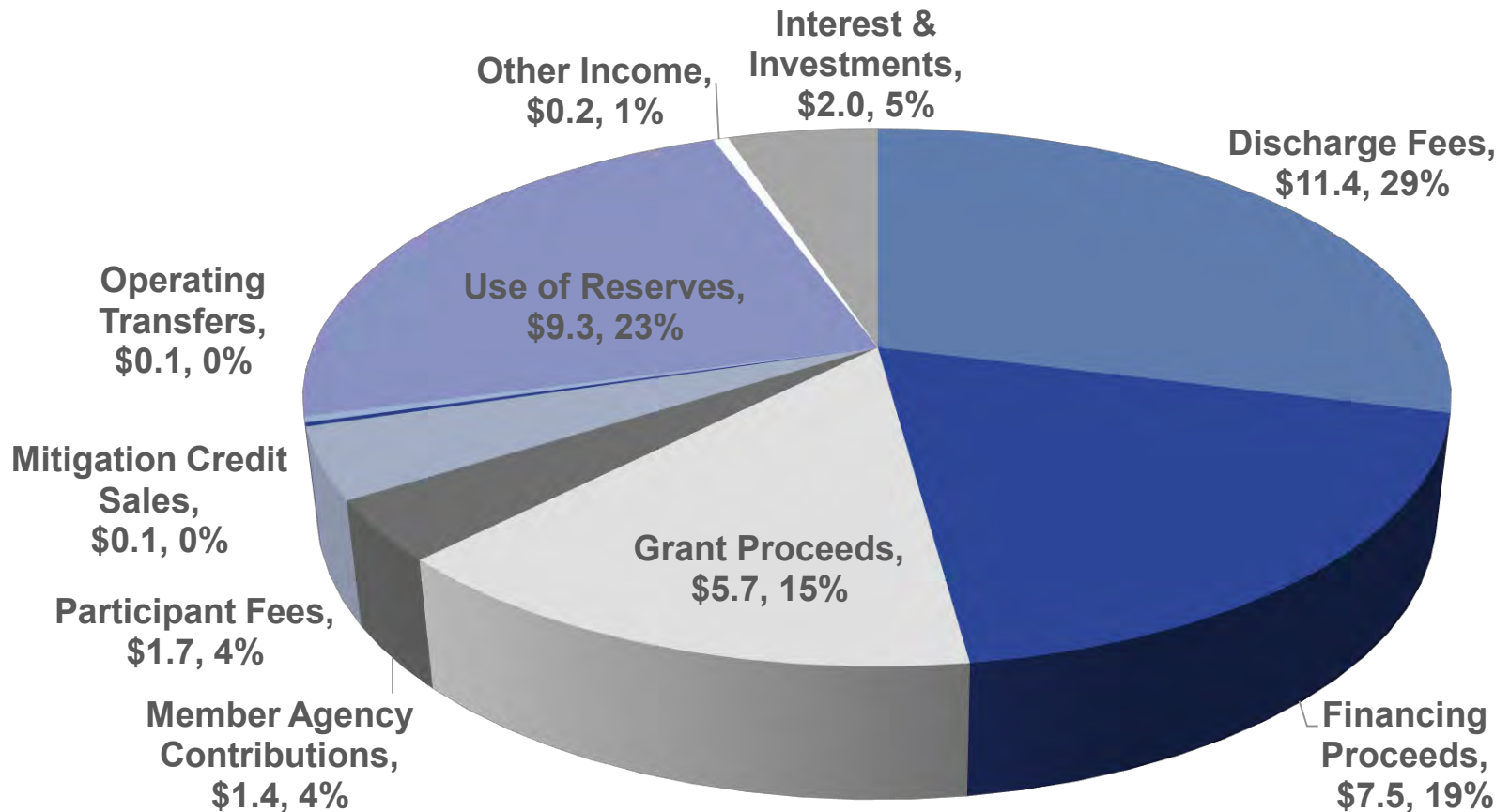


# Combined Revenues

Revenue	FYE 2017 Budget	FYE 2018 Budget	%(Inc.)/ Dcr.	FYE 2019 Budget	%(Inc.)/ Dcr.
Discharge Fees	\$10,417,136	\$11,427,616	(10.9%)	\$11,090,587	3.0%
Financing Proceeds	0	7,500,000	(100.0%)	3,000,000	60.0%
Grant Proceeds	4,296,936	5,741,297	(33.6%)	4,777,256	16.8%
Member Agency Contributions	1,439,307	1,442,118	(0.2%)	1,471,695	(2.1%)
Participant Fees	946,878	1,682,056	(77.6%)	1,309,273	22.2%
Mitigation Credit Sales	44,490	88,980	(100.0%)	88,980	0.0%
Operating Transfers	0	144,252	(100.0%)	144,252	0.0%
Use of Reserves	5,805,215	9,280,479	(59.9%)	6,995,901	24.6%
Other Income	171,782	202,027	(17.6%)	206,674	(2.3%)
Interest & Investments	1,878,952	1,994,772	(6.2%)	1,173,582	41.2%
<b>Total</b>	<b>\$25,000,696</b>	<b>\$39,503,596</b>	<b>(58.0%)</b>	<b>\$30,258,199</b>	<b>23.4%</b>

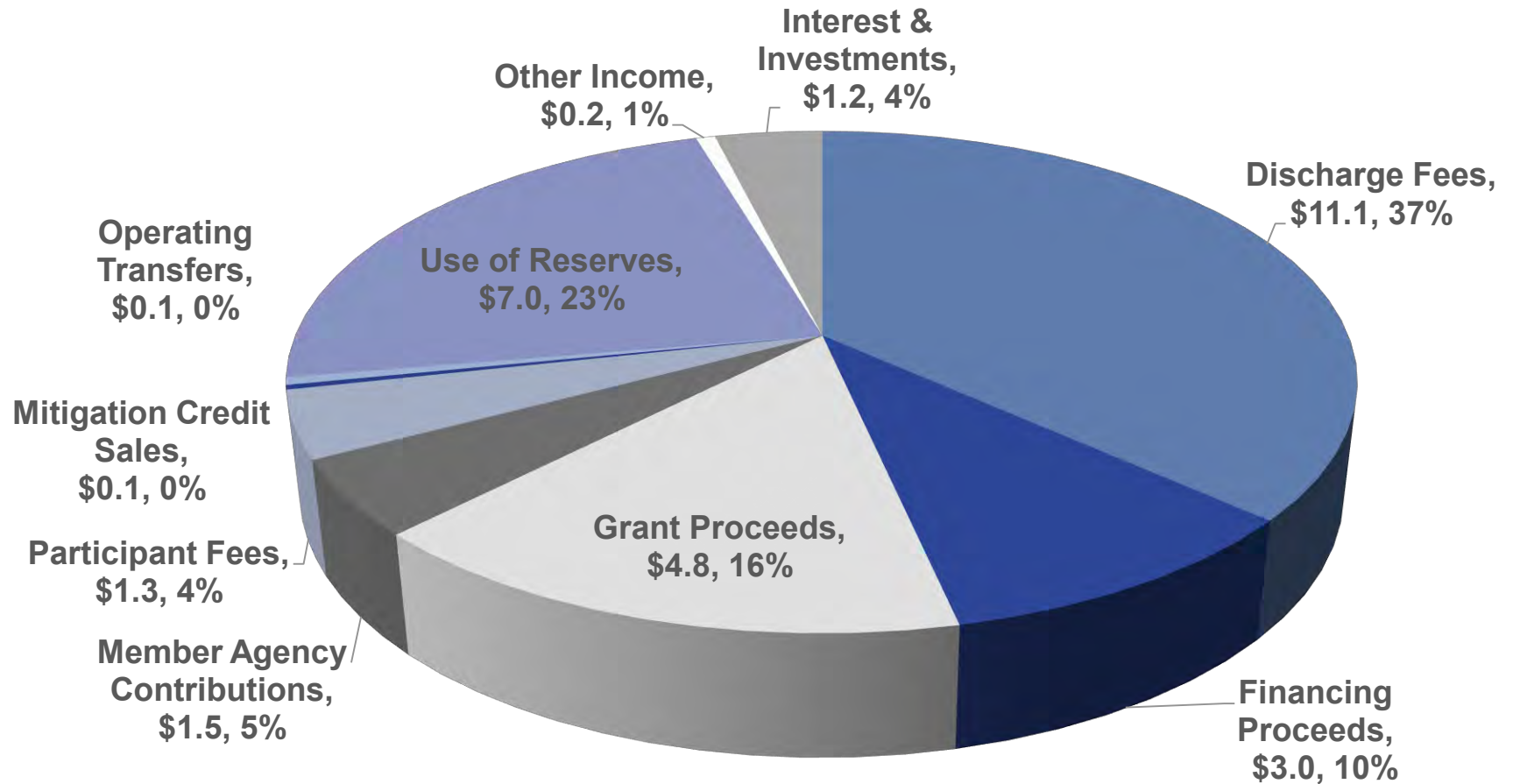
# Combined Budget

## FYE 2018 Revenues - \$39.5 M

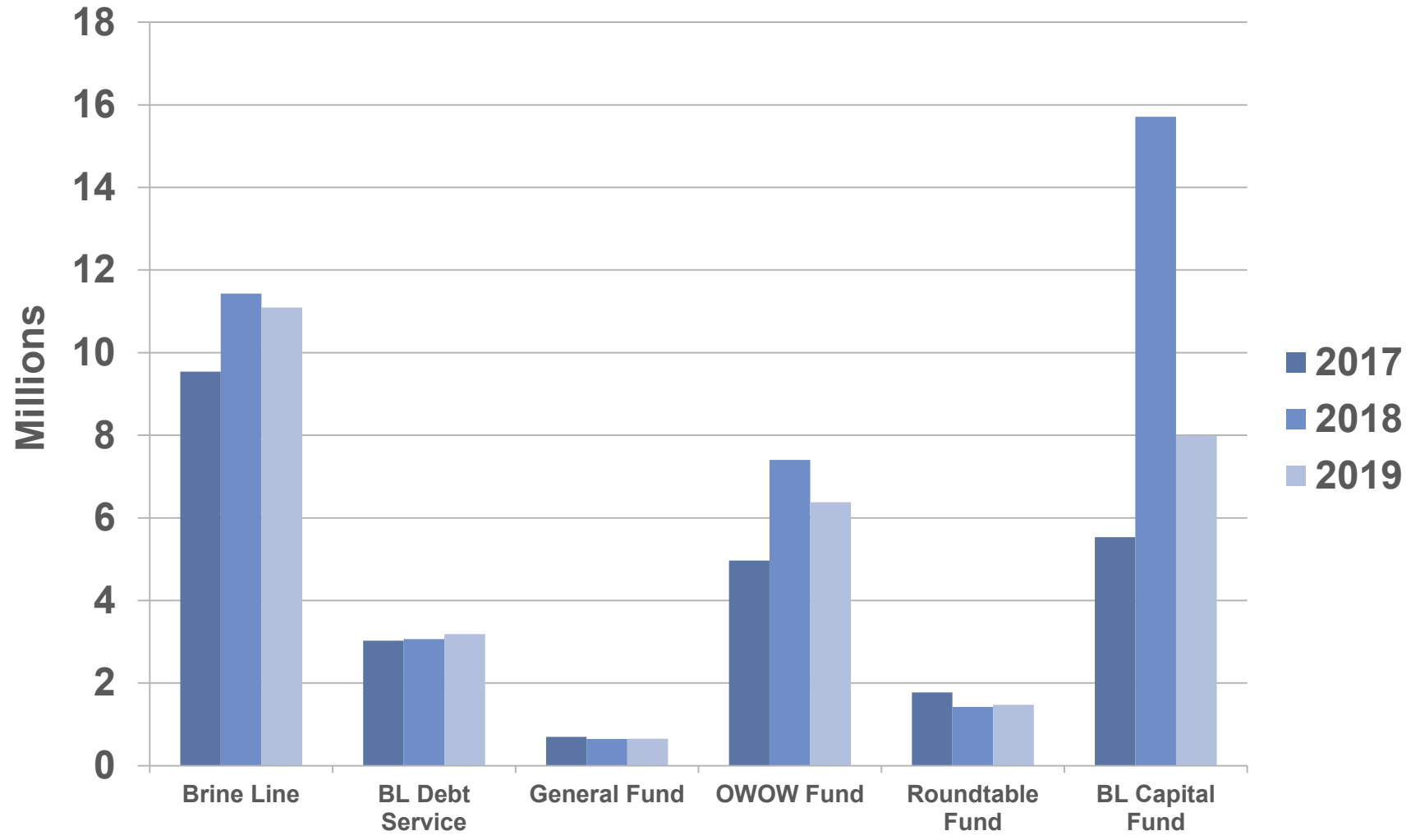


# Combined Budget

## FYE 2019 Revenues - \$30.3 M



# Combined Expenses



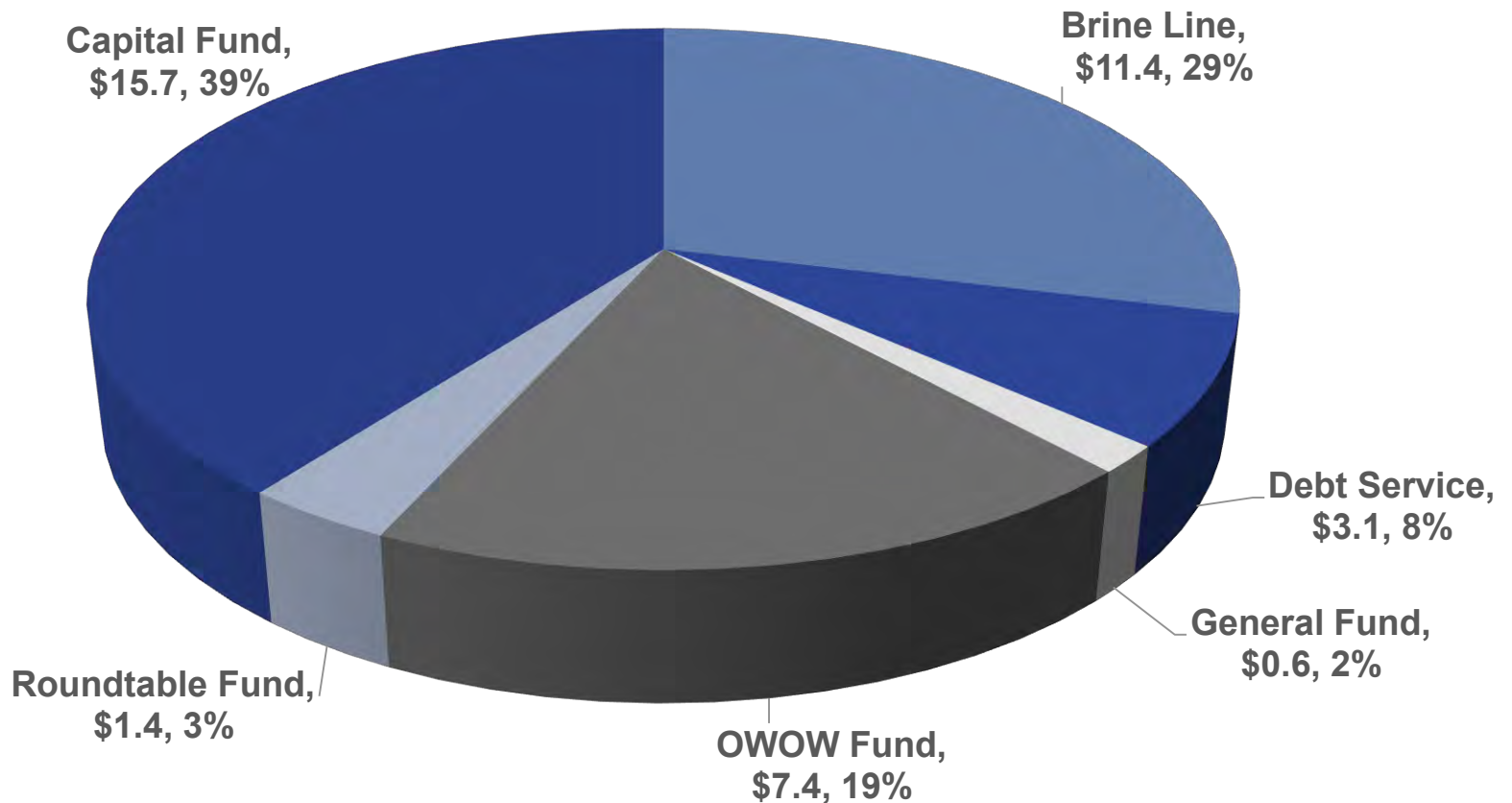


# Combined Expenses

Revenue	FYE 2017 Budget	FYE 2018 Budget	%(Inc.)/ Dcr.	FYE 2019 Budget	%(Inc.)/ Dcr.
Brine Line Enterprise Fund	\$9,539,179	\$11,427,616	(19.8%)	\$11,090,587	3.0%
Brine Line Debt Service	3,028,588	3,060,719	(1.1%)	3,183,451	(4.0%)
General Fund	699,307	646,118	7.6%	650,695	(0.7%)
OWOW Fund	4,963,864	7,403,317	(49.1%)	6,380,106	13.8%
Roundtables Fund	1,772,928	1,419,206	20.0%	1,475,981	(4.0%)
BL Capital Fund	5,533,536	15,714,532	(184.0%)	7,986,032	49.2%
<b>Total</b>	<b>\$25,537,400</b>	<b>\$39,671,508</b>	<b>(55.8%)</b>	<b>\$30,766,852</b>	<b>22.4%</b>

# Combined Budget

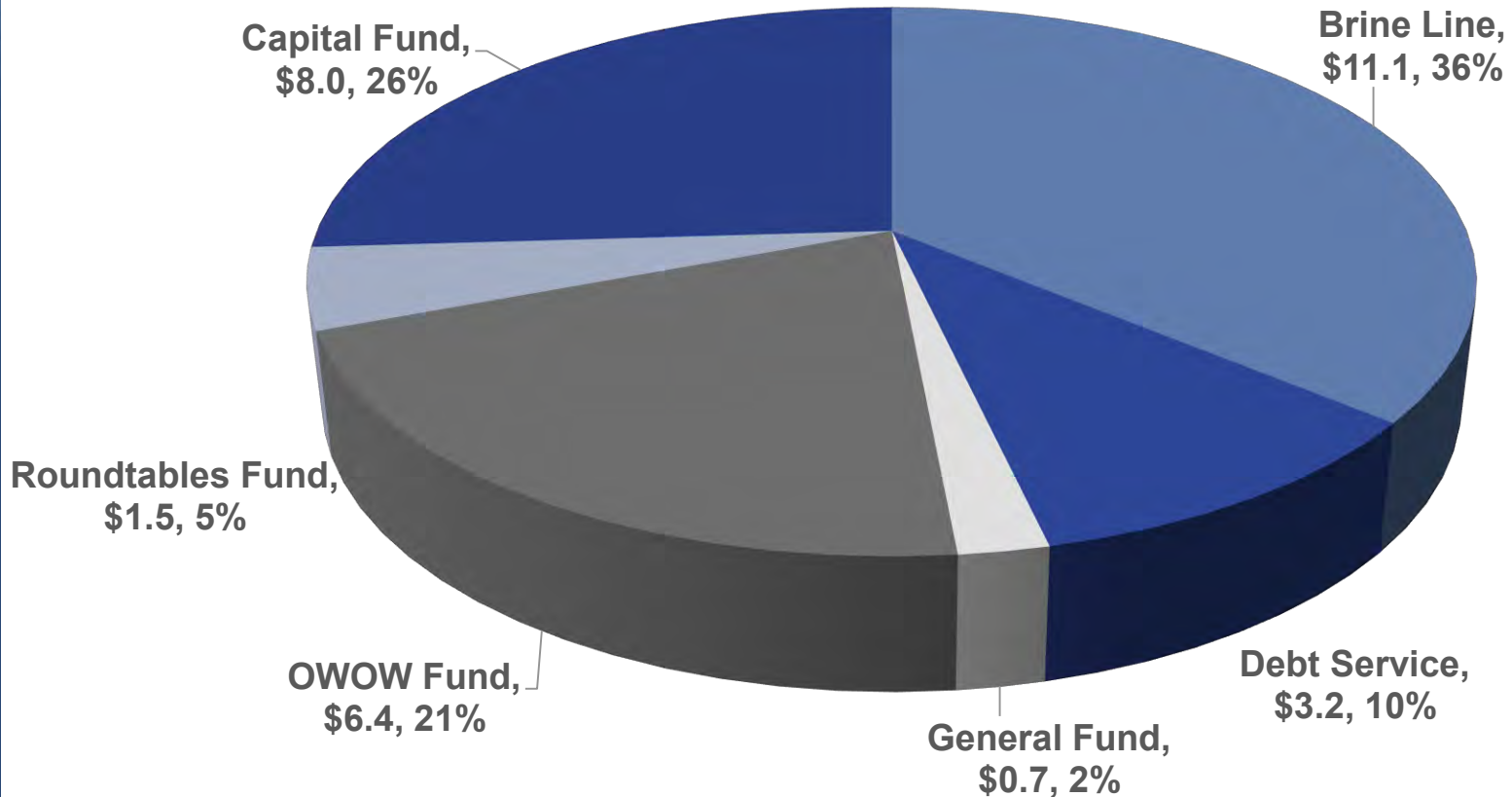
## FYE 2018 Expenses - \$39.7 M





# Combined Budget

## FYE 2019 Expenses - \$30.8 M



A close-up photograph of a silver fountain pen nib resting on a document. The document features a line graph with a blue line and a magnifying glass. The background is a dark blue gradient.

# Changes to Budget

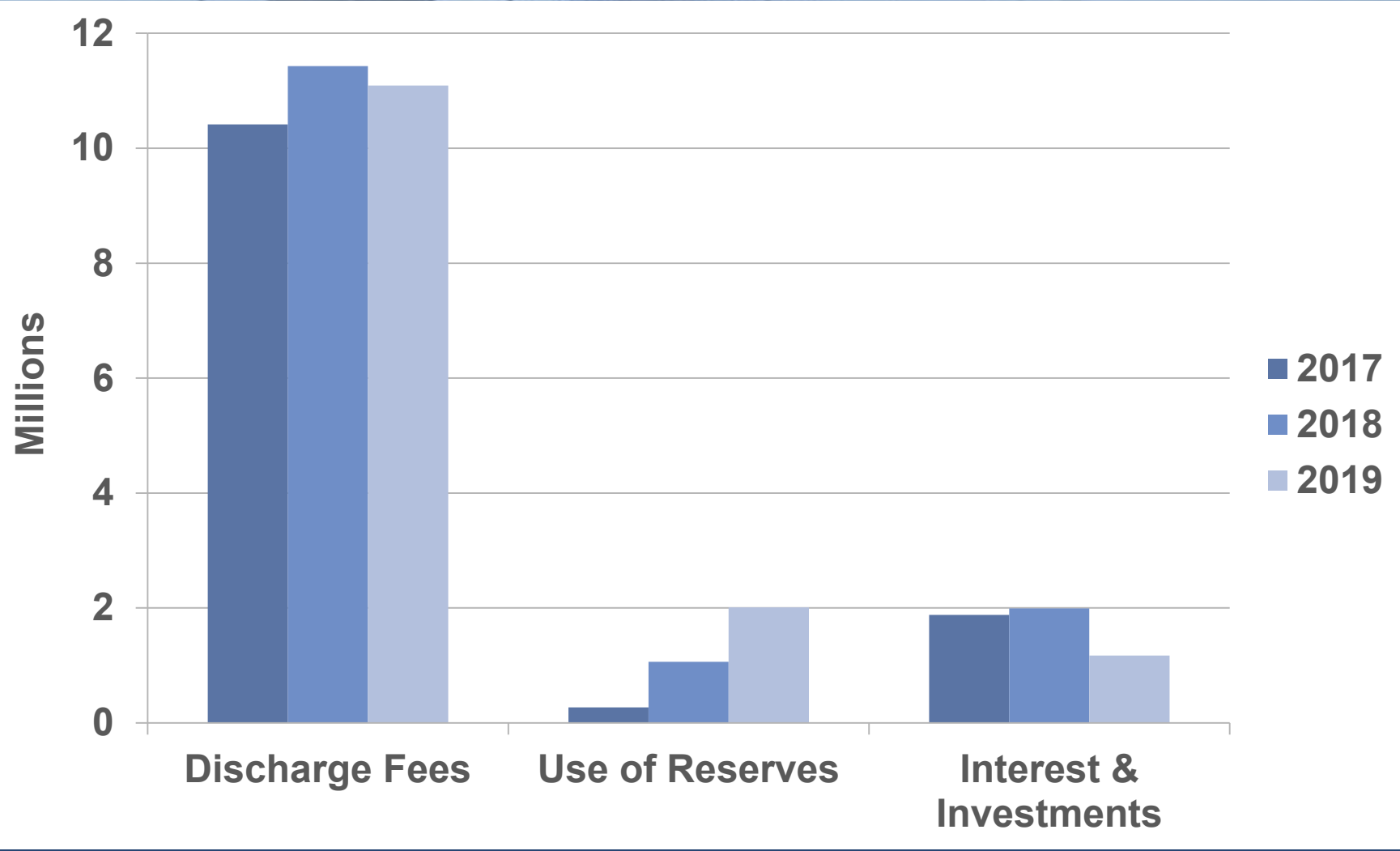
- Changed the BOD rate:
  - FYE 2018 from \$322 to \$307
  - FYE 2019 from \$330 to \$313
- Changed the TSS rate:
  - FYE 2018 from \$450 to \$429
  - FYE 2019 from \$462 to \$438
- Reduced Non-Recurring Costs by \$125K (FYE 2018) and \$130K (FYE 2019)
  - Reduced Consulting by \$40K per year
  - Reduced BL Operating Costs by \$30K (FYE 2018) and \$35K (FYE 2019)
  - Reduced Facility Repair & Maintenance by \$55K per year

A close-up photograph of a silver fountain pen nib resting on a document. The document features a line graph with a blue line and a magnifying glass. The background is a dark blue gradient.

# Changes to Budget

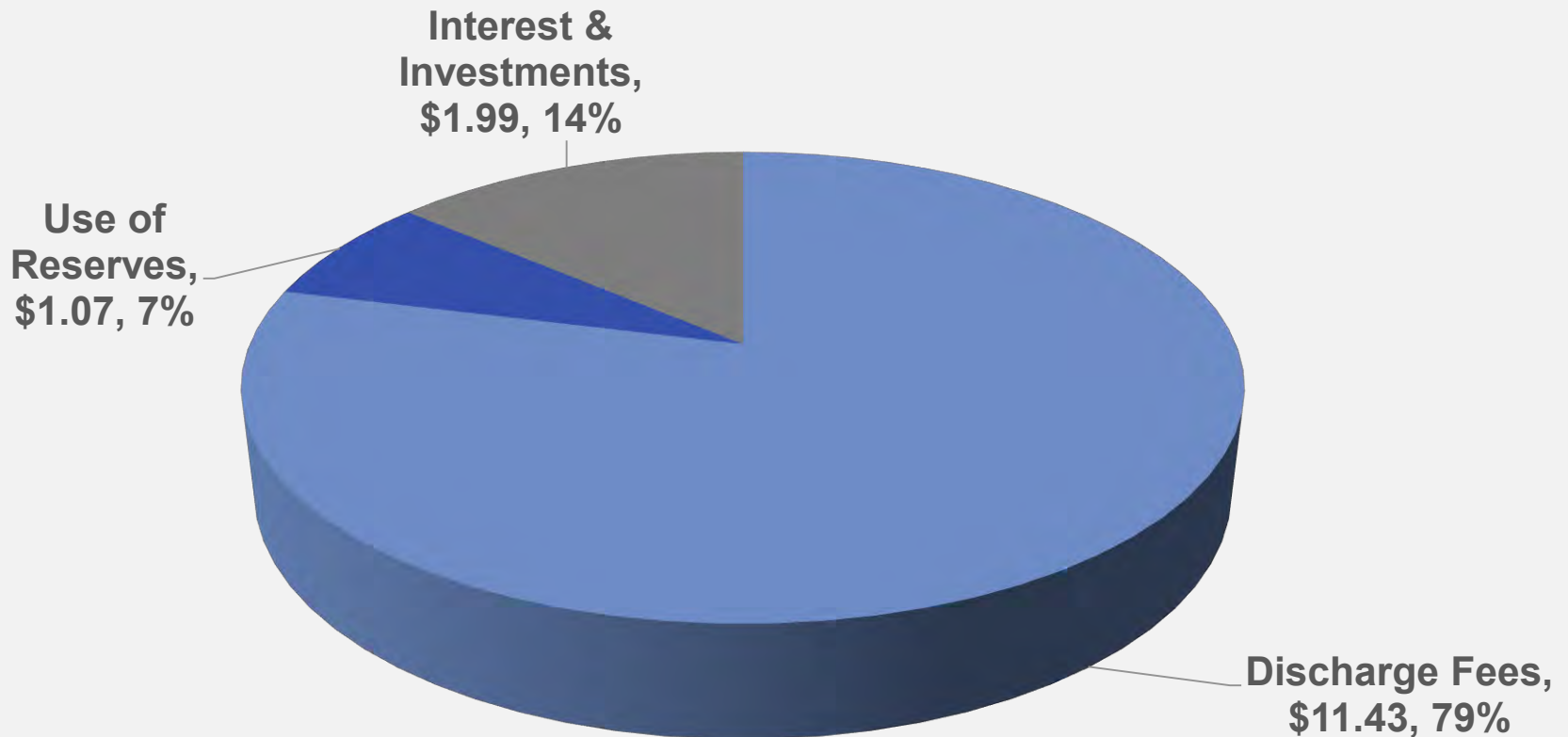
- Increased Reserve Contributions by \$125K (FYE 2018) and \$130K (FYE 2019)
- Revenue change
  - FYE 2018 reduced by \$127,545
  - FYE 2019 reduced by \$118,280
- Expense change
  - FYE 2018 reduced by \$252,545
    - BOD/TSS Costs \$127,545
    - Operating Costs \$125,000
  - FYE 2019 reduced by \$248,280
    - BOD/TSS Costs \$118,280
    - Operating Costs \$130,000

# Brine Line Enterprise - Revenue



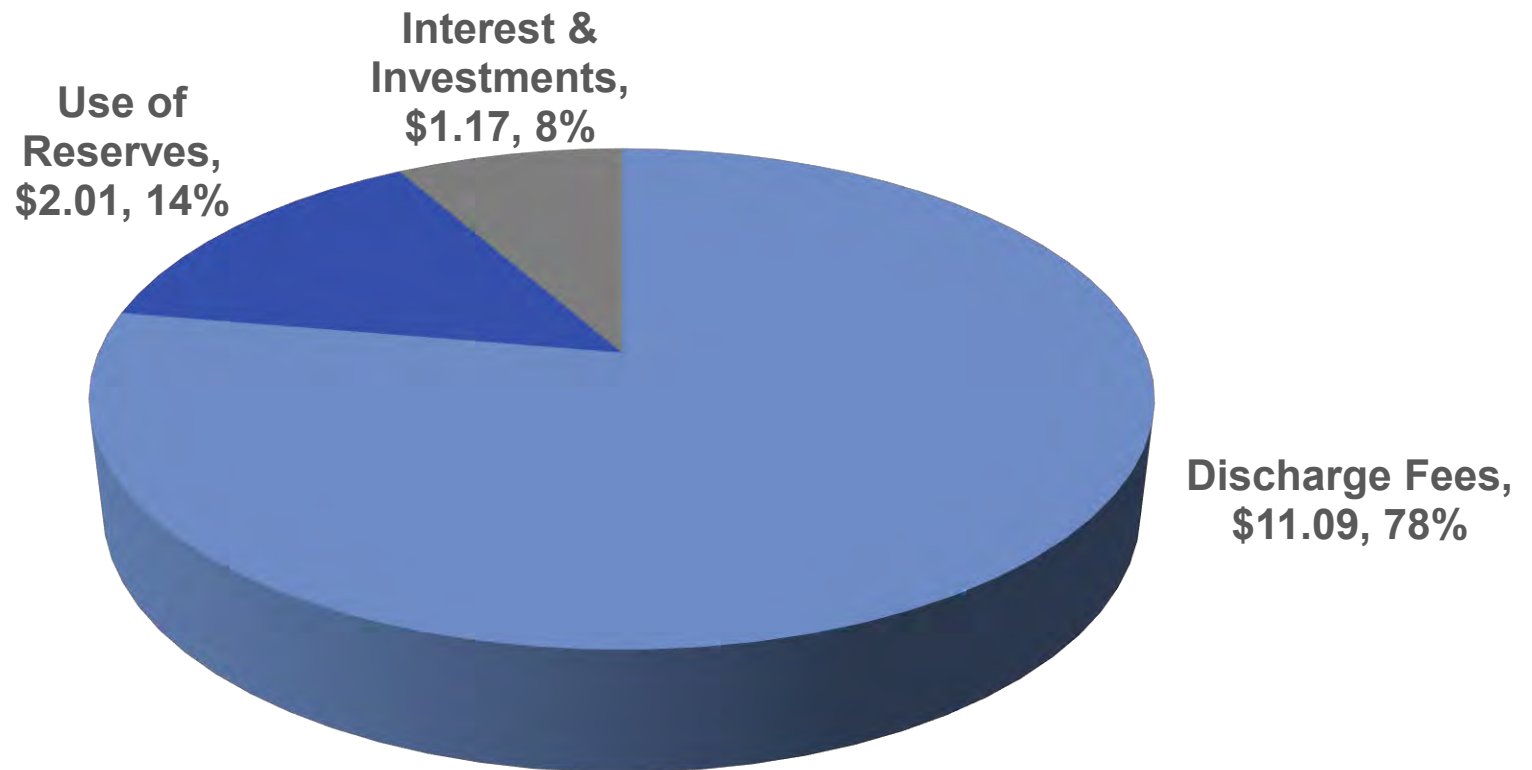
**FYE 2018**

**Brine Line Revenues \$14.49 M**

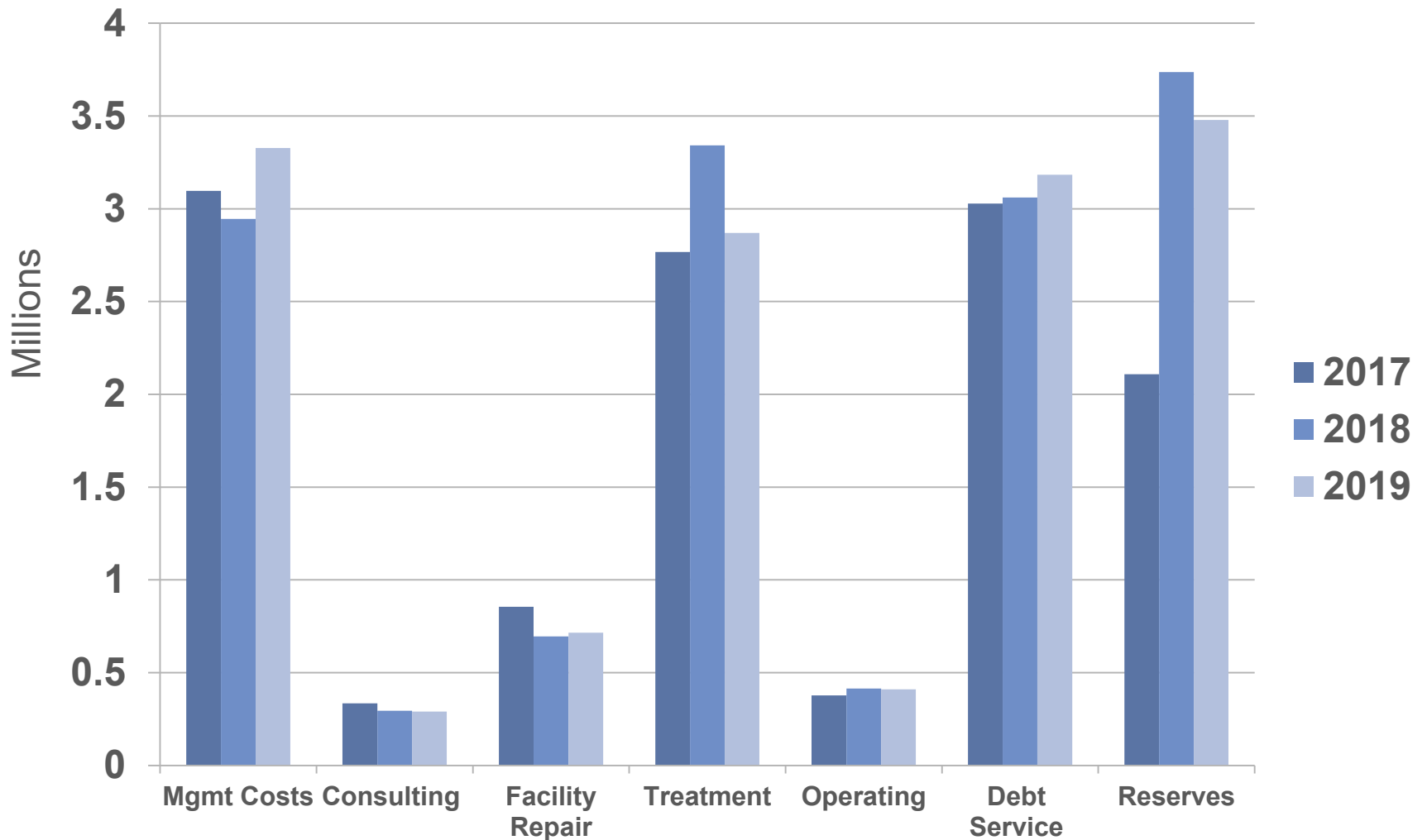


**FYE 2019**

**Brine Line Revenues \$14.27 M**

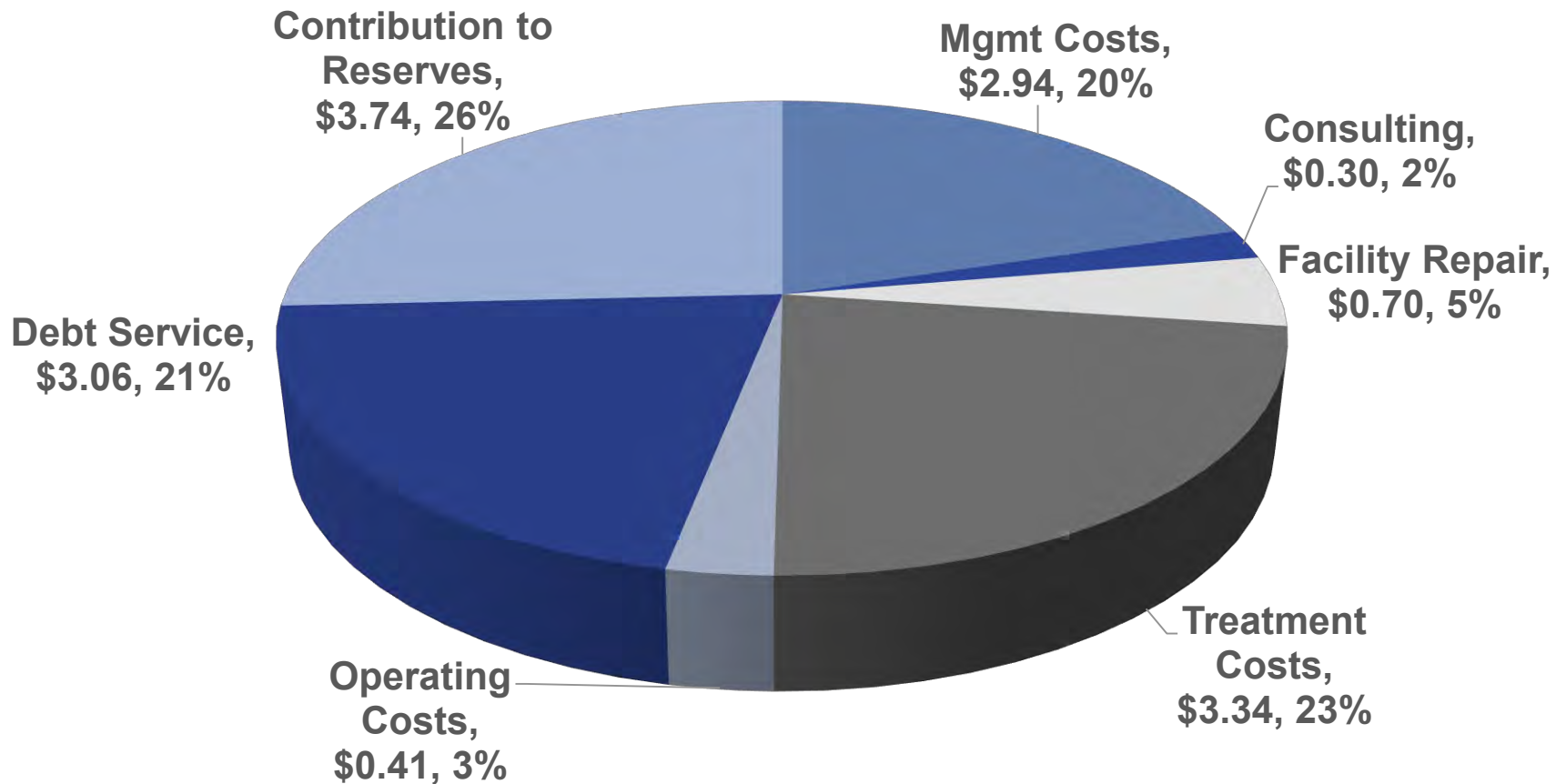


# Brine Line Enterprise - Expenses



**FYE 2018**

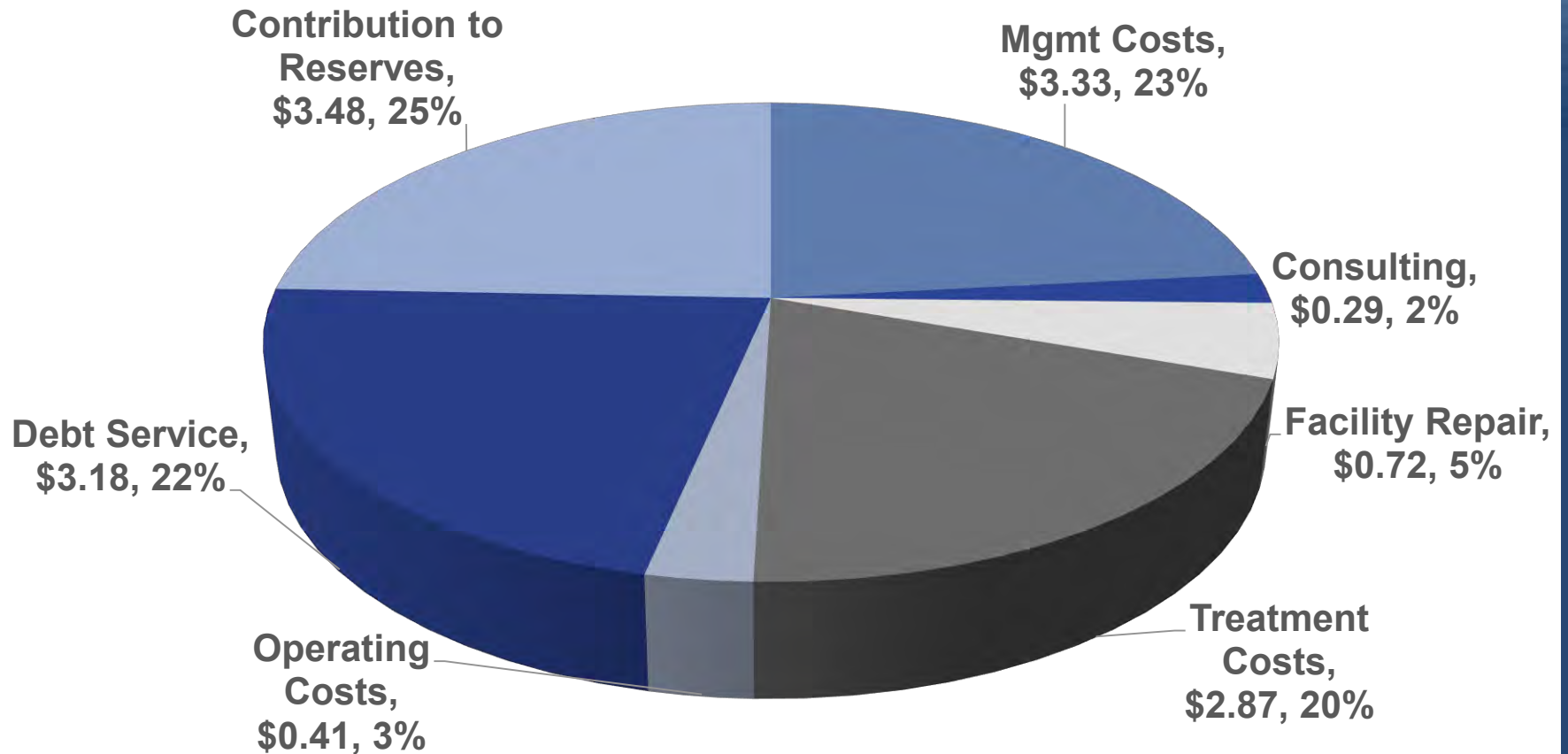
**Brine Line Expenses \$14.49 M**





**FYE 2019**

**Brine Line Expenses \$14.27 M**





# Reserve Contributions

Fund	FYE 2018	FYE 2019
Pipeline Repair/Replacement	\$1,500,000	\$1,500,000
Self Insurance Reserve	100,000	100,000
Debt Service Reserve	2,136,173	1,879,144
<b>Total Contribution to Reserves</b>	<b>\$3,736,173</b>	<b>\$3,479,144</b>



# Reserve Transfers – FYE 2018

Fund	From	To
Pipeline Repair/Replacement	\$0	\$5,843,450
OCSD Rehabilitation Reserve	4,000,000	0
Brine Line Operating Reserve	1,843,450	0
<b>Total Contribution to Reserves</b>	<b>\$5,843,450</b>	<b>\$5,843,450</b>



# Reserve Balance (EOY)

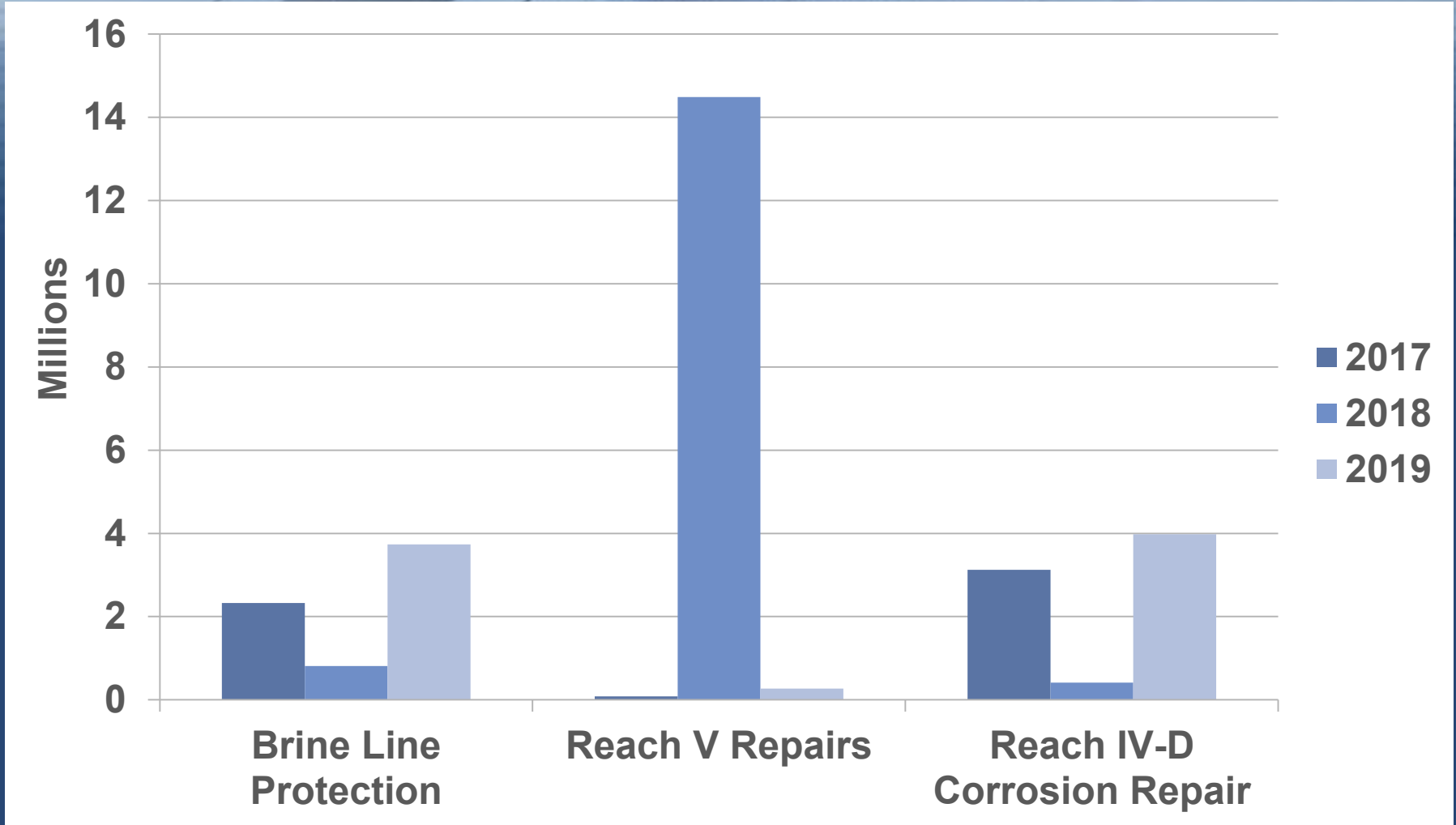
Reserve	FYE 2018	FYE 2019
Pipeline Repair/Replacement	\$13,519,815	\$13,033,783
OCSD Rehabilitation	3,491,290	491,290
OCSD Future Capacity	1,722,932	1,722,932
Self-Insurance Reserve	3,937,788	4,037,788
Flow Imbalance Reserve	83,645	83,645
Debt Service Reserve	4,774,603	2,756,741
Capacity Management	7,815,546	7,815,546
Operating Reserve	2,000,000	2,000,000
<b>Total Reserves</b>	<b>\$37,345,619</b>	<b>\$31,941,726</b>



# Proposed Brine Line Rates

Component	Actual FYE 2017	FYE 2018	FYE 2019
Flow	\$858 <sup>+ 5%</sup> →	\$901 <sup>+ 5%</sup> →	\$946
BOD (per 1,000 lbs.)	\$307 <sup>+ 0%</sup> →	\$307 <sup>+ 2%</sup> →	\$313
TSS (per 1,000 lbs.)	\$429 <sup>+ 0%</sup> →	\$429 <sup>+ 2%</sup> →	\$438
Fixed Pipeline	\$5,639 <sup>+ 5%</sup> →	\$5,921 <sup>+ 5%</sup> →	\$6,217
Fixed Treatment	\$11,433 <sup>+ 5%</sup> →	\$12,007 <sup>+ 5%</sup> →	\$12,607

# Capital Improvement Projects





**Brine Line  
Protection**

**Reach V  
Repairs**

**Reach IV-D  
Corrosion  
Repair**

Reserves

SRF Loan

SRF Loan

Reserves

Reserves



# Capital Project Funding – FYE 2018

Project	Reserves	SRF Loan	Total
Brine Line Protection	\$812,572	\$0	\$812,572
Reach V Repairs	6,987,574	7,500,000	14,487,574
Reach IV-D Corrosion Repairs	414,386	0	414,386
<b>Total</b>	<b>\$8,214,532</b>	<b>\$7,500,000</b>	<b>\$15,714,532</b>

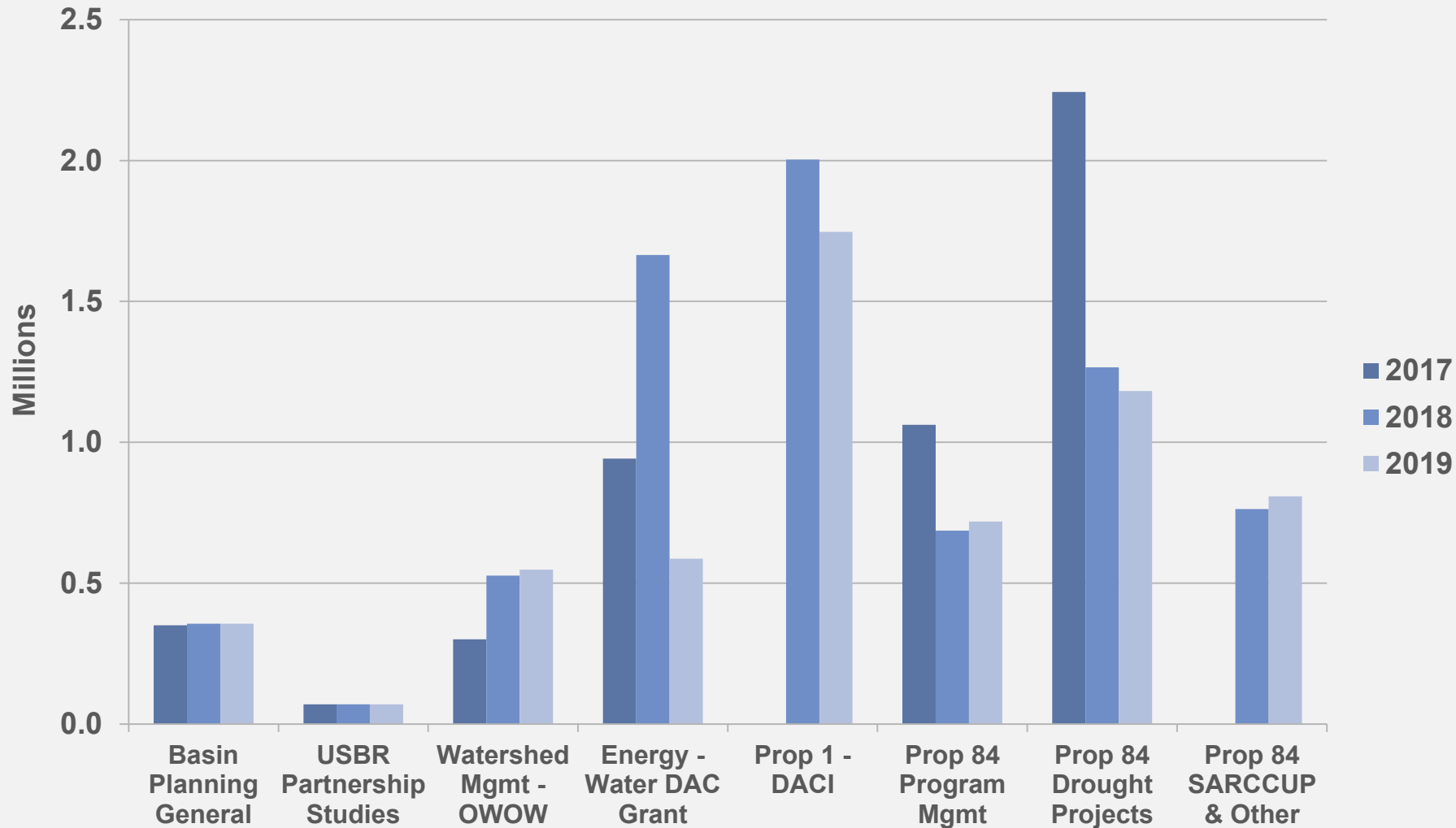




# Capital Project Funding – FYE 2019

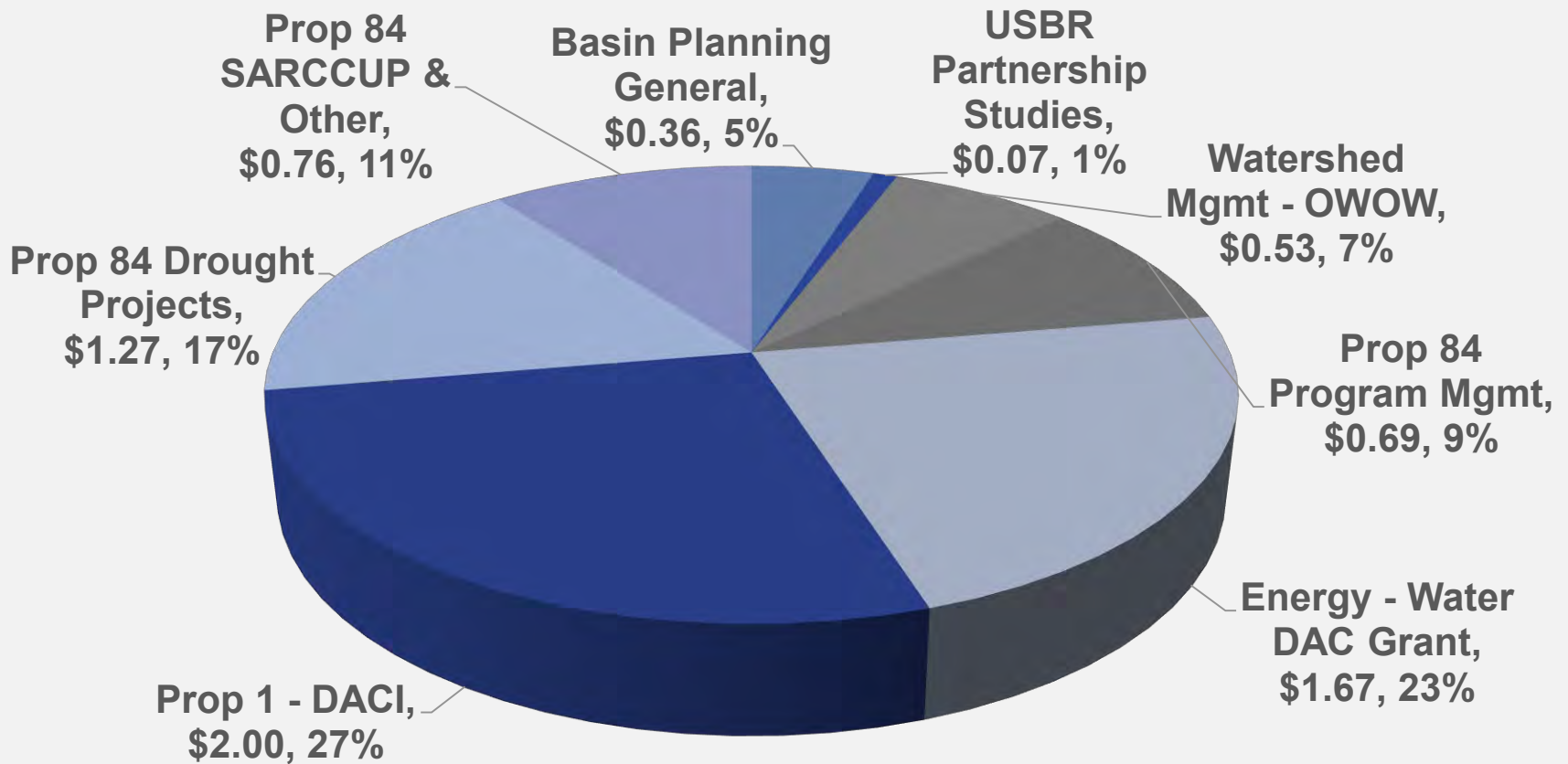
Project	Reserves	SRF Loan	Total
Brine Line Protection	\$3,736,548	\$0	\$3,736,548
Reach V Repairs	269,167	0	269,167
Reach IV-D Corrosion Repairs	980,317	3,000,000	3,980,317
<b>Total</b>	<b>\$4,986,032</b>	<b>\$3,000,000</b>	<b>\$7,986,032</b>

# OWOW Funds - Revenues



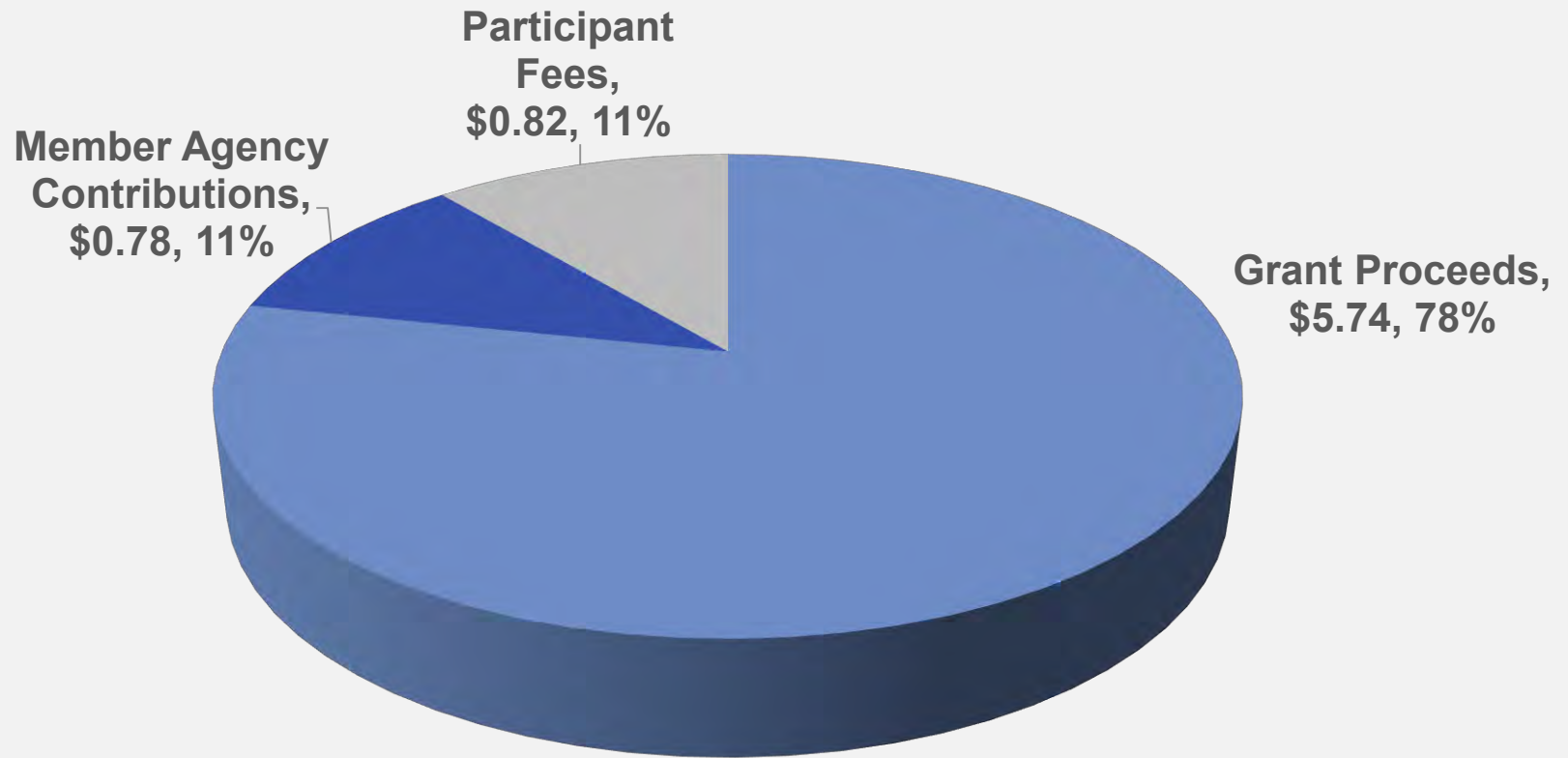
**FYE 2018**

**Revenues \$7.34 M**



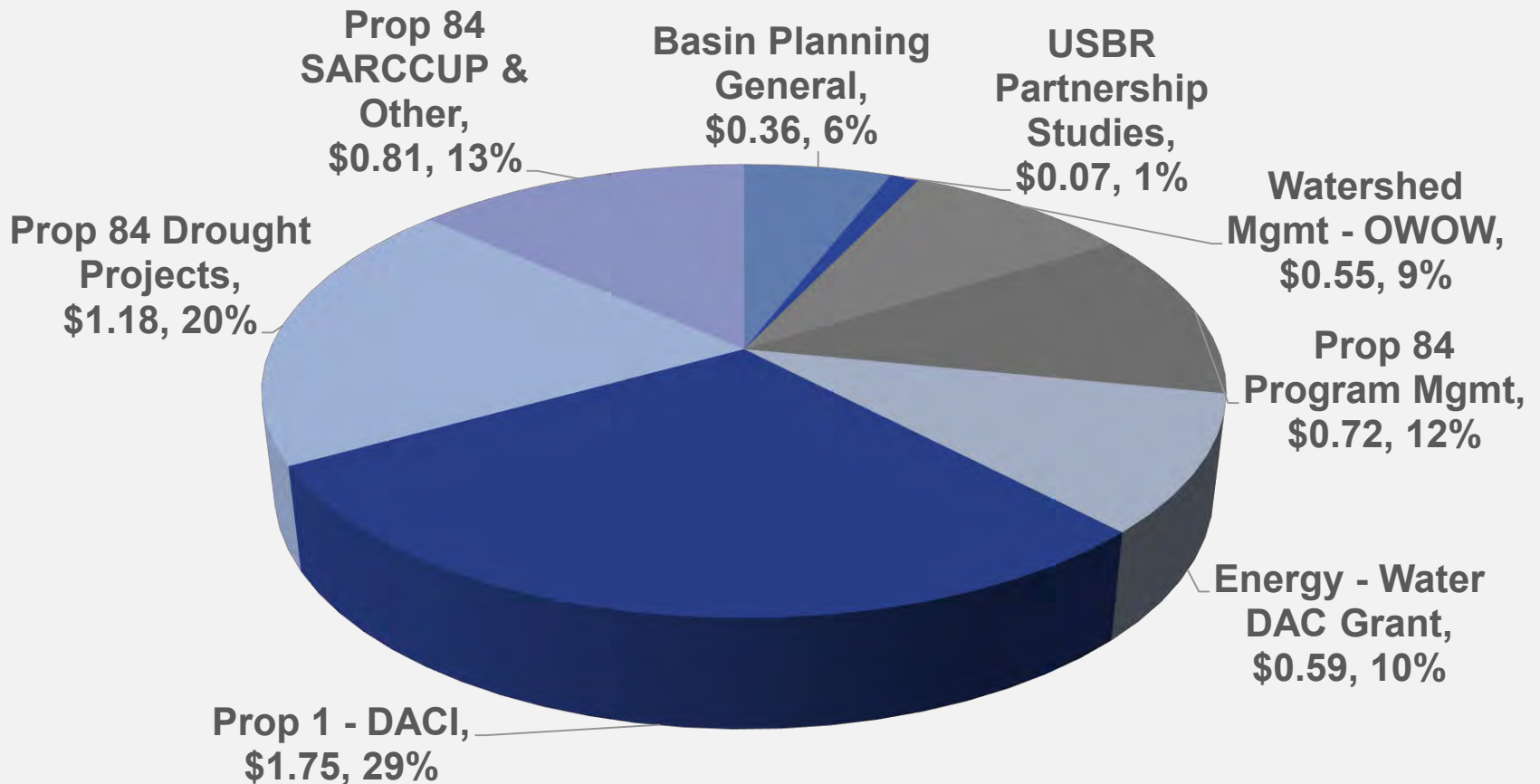
**FYE 2018**

**Revenues \$7.34 M**



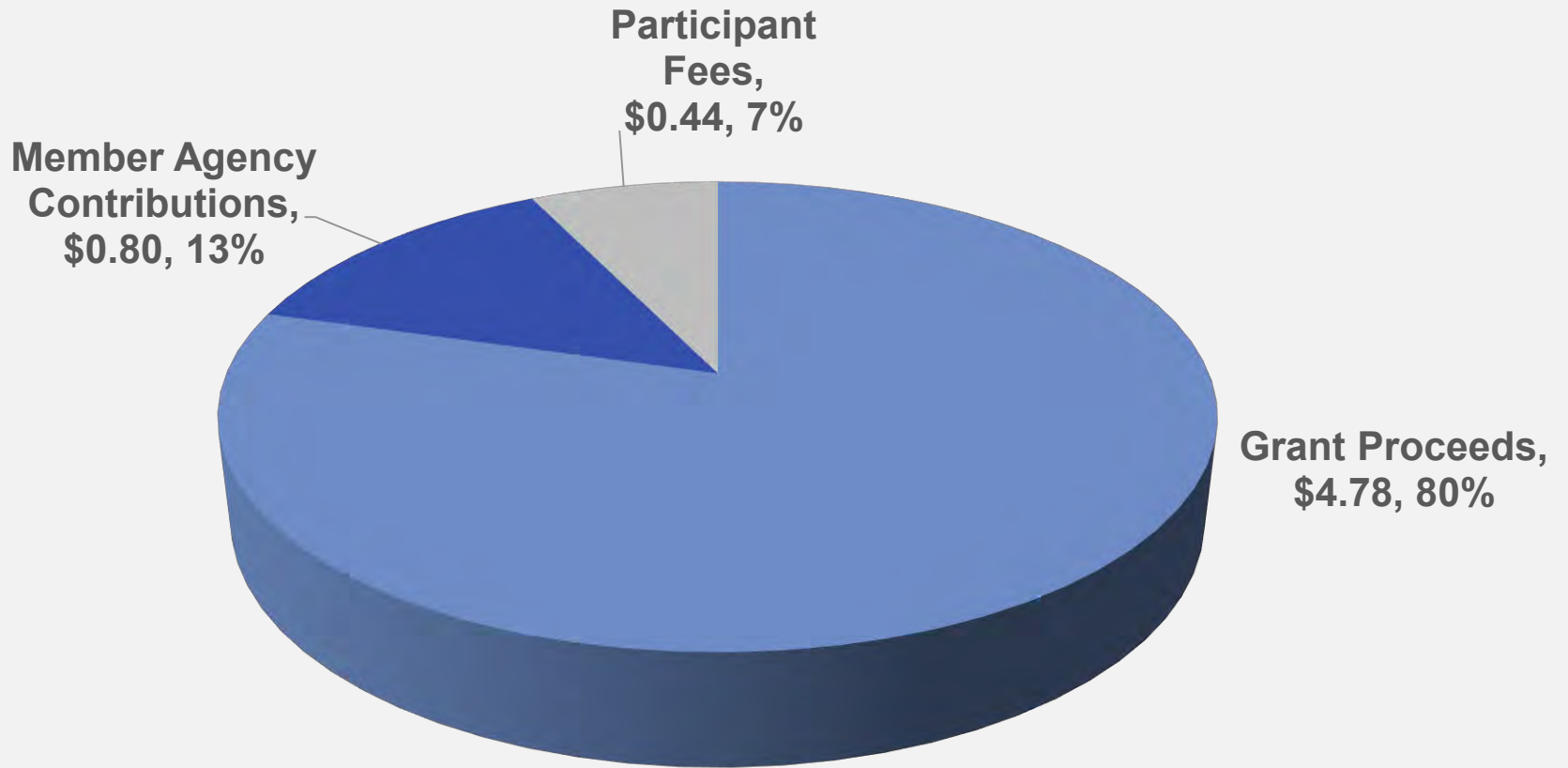
**FYE 2019**

**Revenues \$6.02 M**

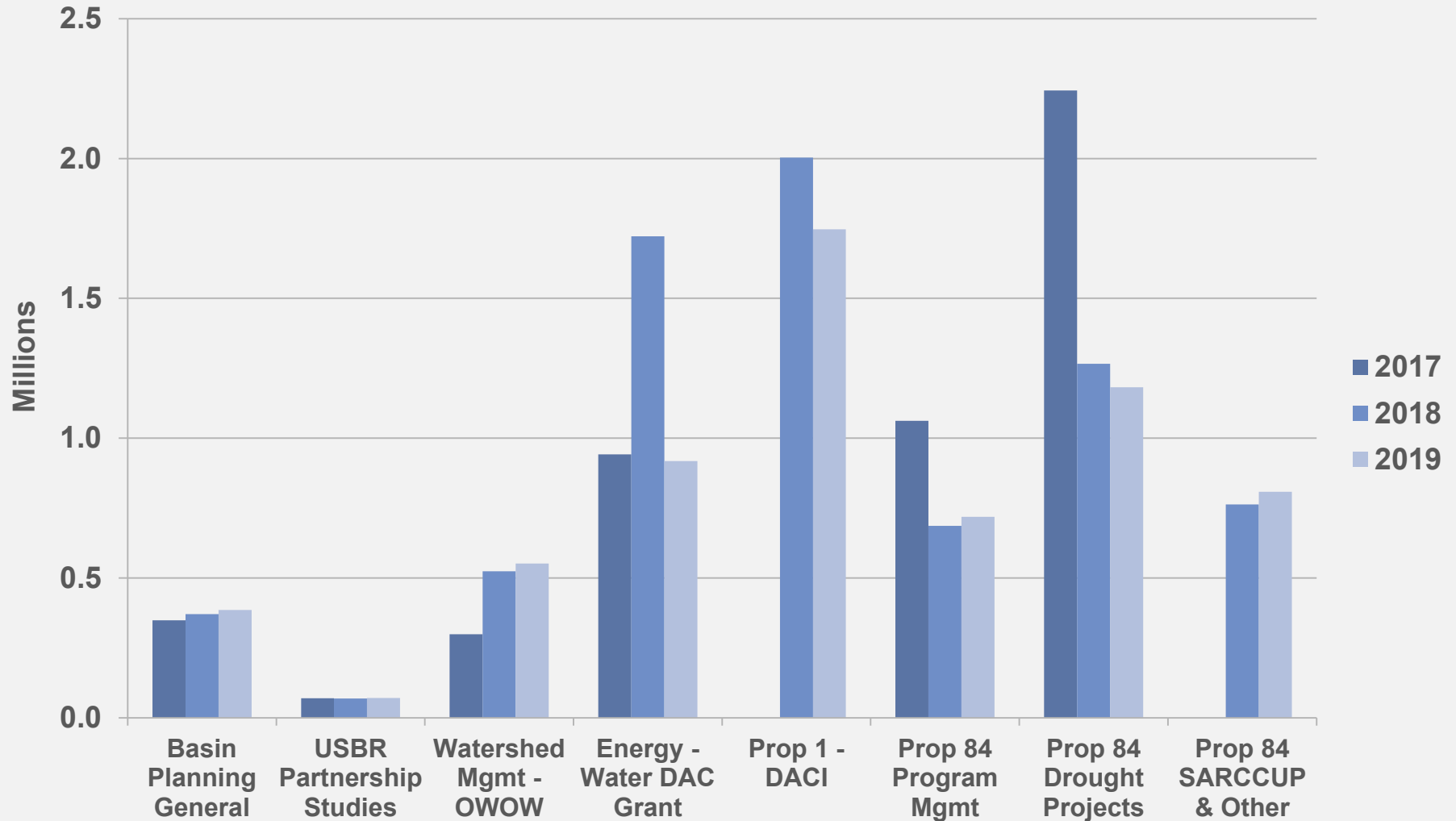


**FYE 2019**

**Revenues \$6.02 M**



# OWOW Fund - Expenses





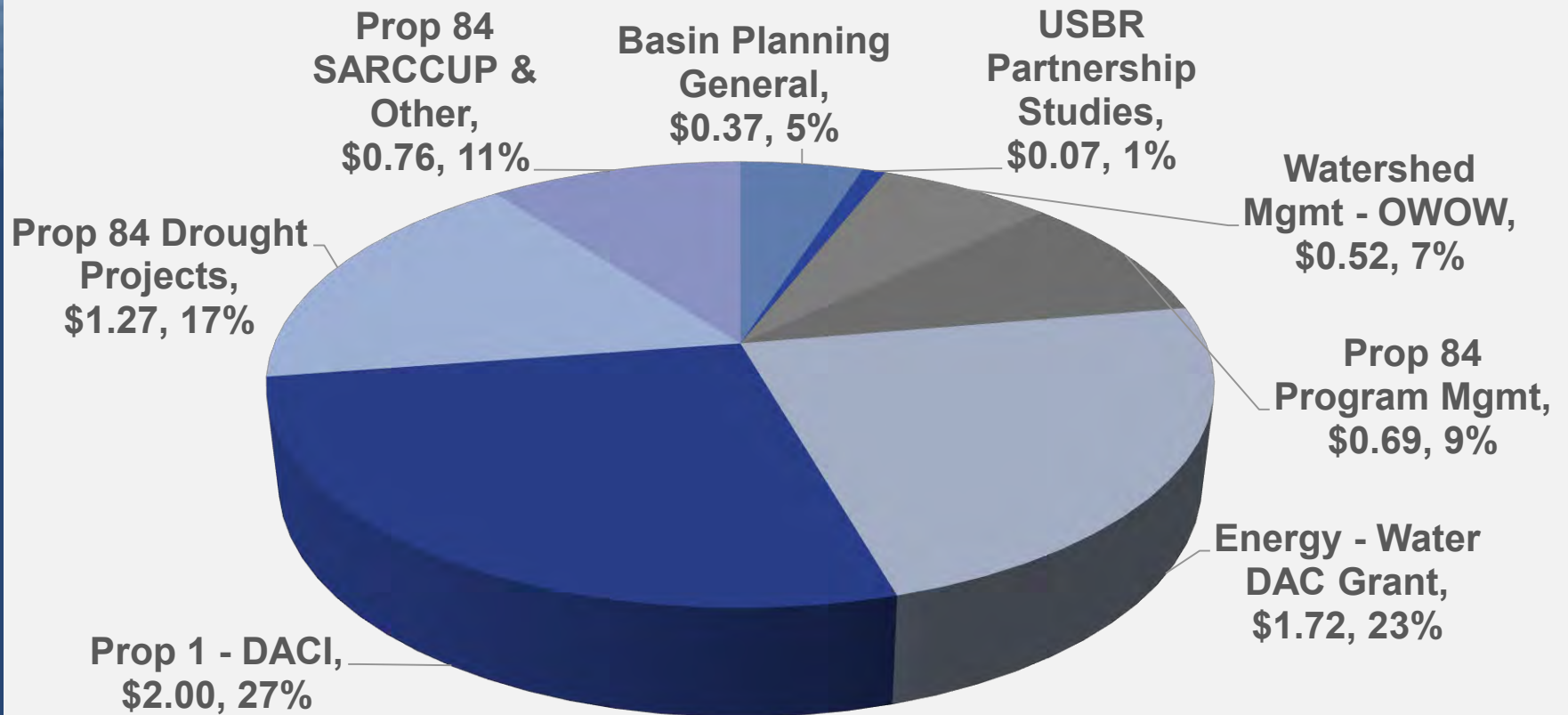
# Expenses

<b>Fund</b>	<b>FYE 2017</b>	<b>FYE 2018</b>	<b>FYE 2019</b>
<b>Basin Planning General</b>	<b>\$348,350</b>	<b>\$371,009</b>	<b>\$385,131</b>
<b>USBR Partnership Studies</b>	<b>69,853</b>	<b>69,178</b>	<b>70,365</b>
<b>Watershed Management – OWOW</b>	<b>298,725</b>	<b>523,362</b>	<b>551,346</b>
<b>Prop 84 Program Management (all rounds)</b>	<b>1,062,225</b>	<b>686,522</b>	<b>718,154</b>
<b>Energy – Water DAC Grant Project</b>	<b>941,539</b>	<b>1,721,860</b>	<b>918,104</b>
<b>Proposition 1 – DACI</b>	<b>0</b>	<b>2,003,206</b>	<b>1,747,121</b>
<b>Prop 84 Drought Capital Projects</b>	<b>2,243,172</b>	<b>1,265,683</b>	<b>1,182,042</b>
<b>Prop 84 SARCCUP &amp; Other Projects</b>	<b>0</b>	<b>762,496</b>	<b>807,844</b>
<b>Total</b>	<b>\$4,963,864</b>	<b>\$7,403,317</b>	<b>\$6,380,106</b>



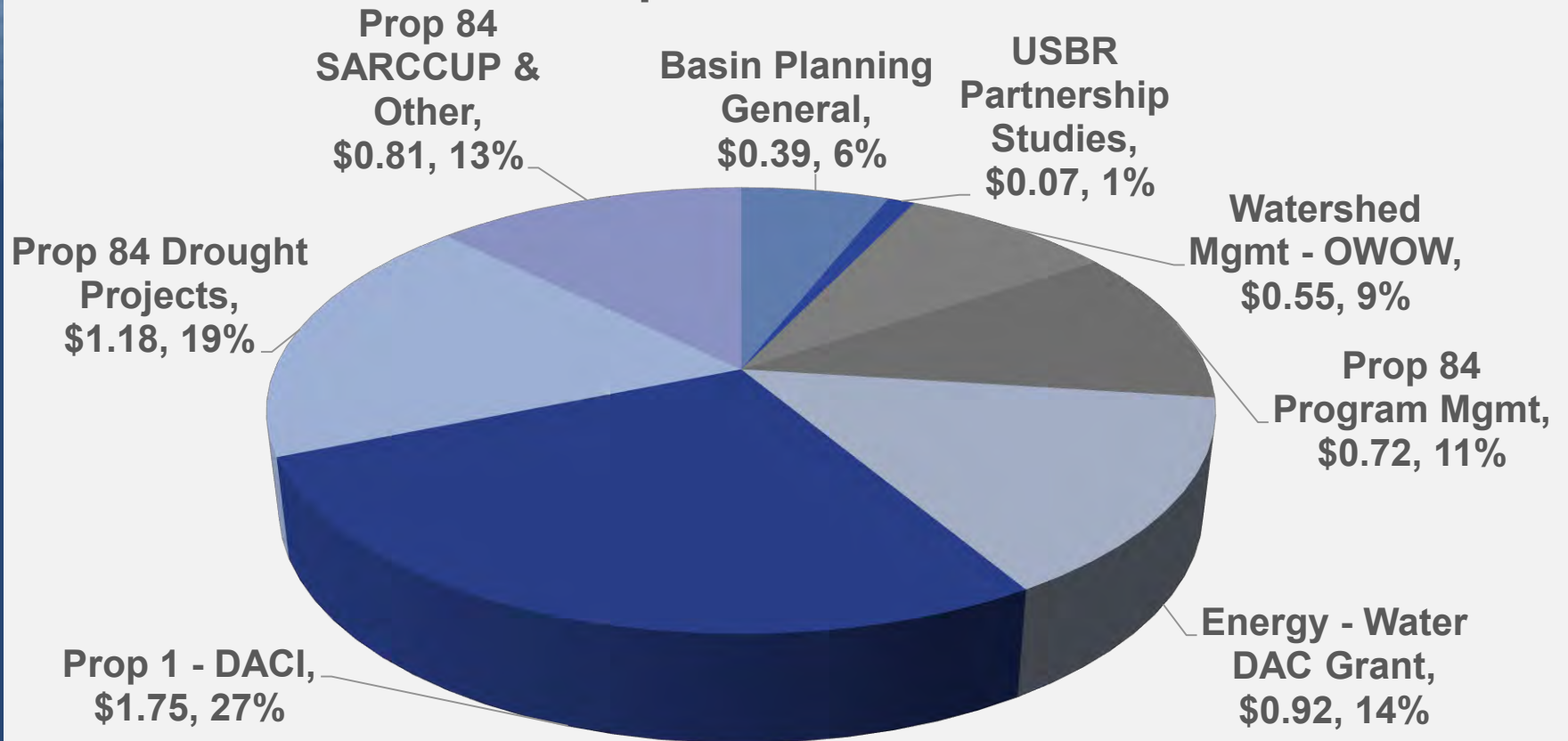
**FYE 2018**

**Expenses \$7.40 M**



**FYE 2019**

**Expenses \$6.38 M**

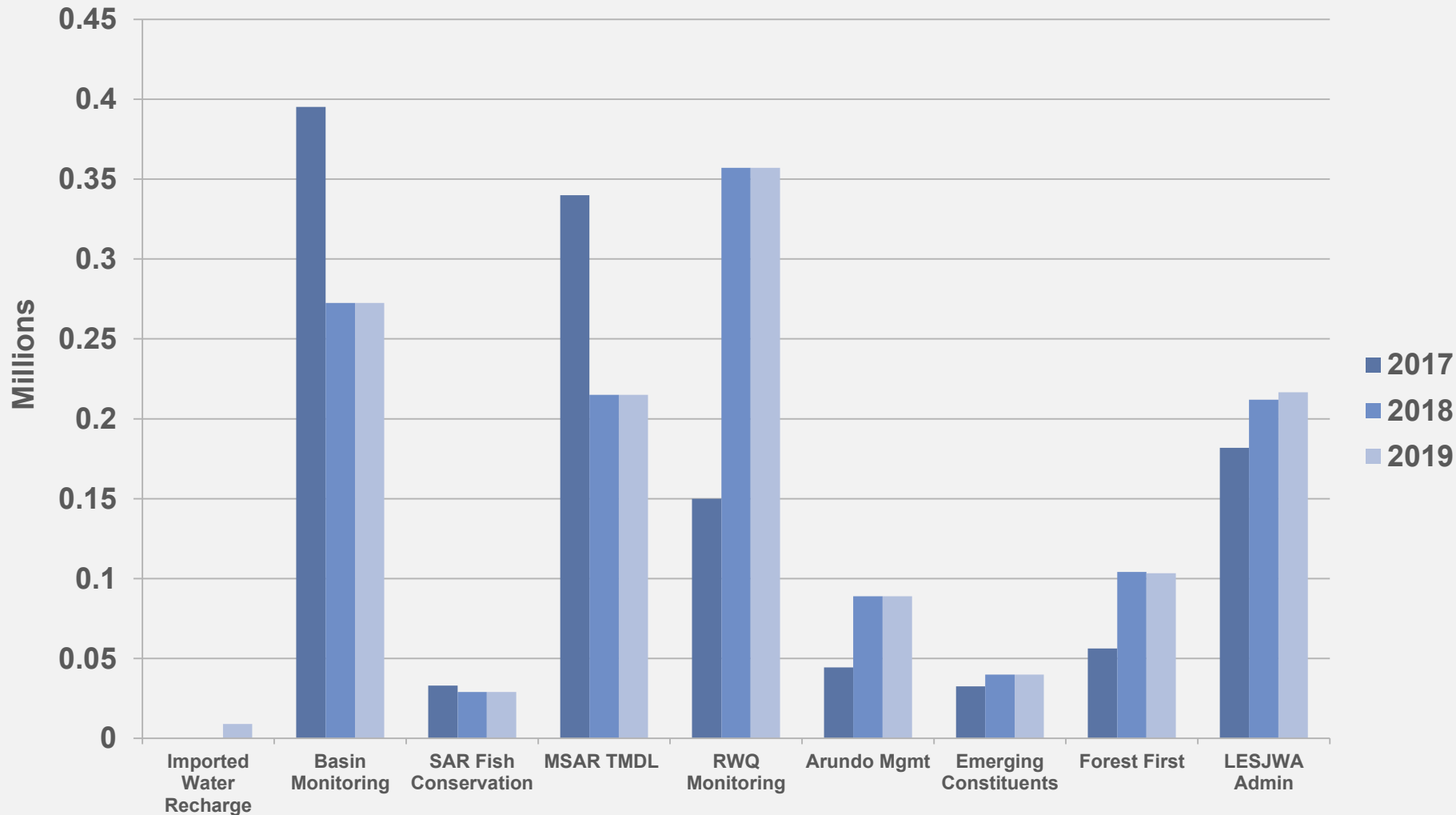




# Prop 84 Projects (passthrough)

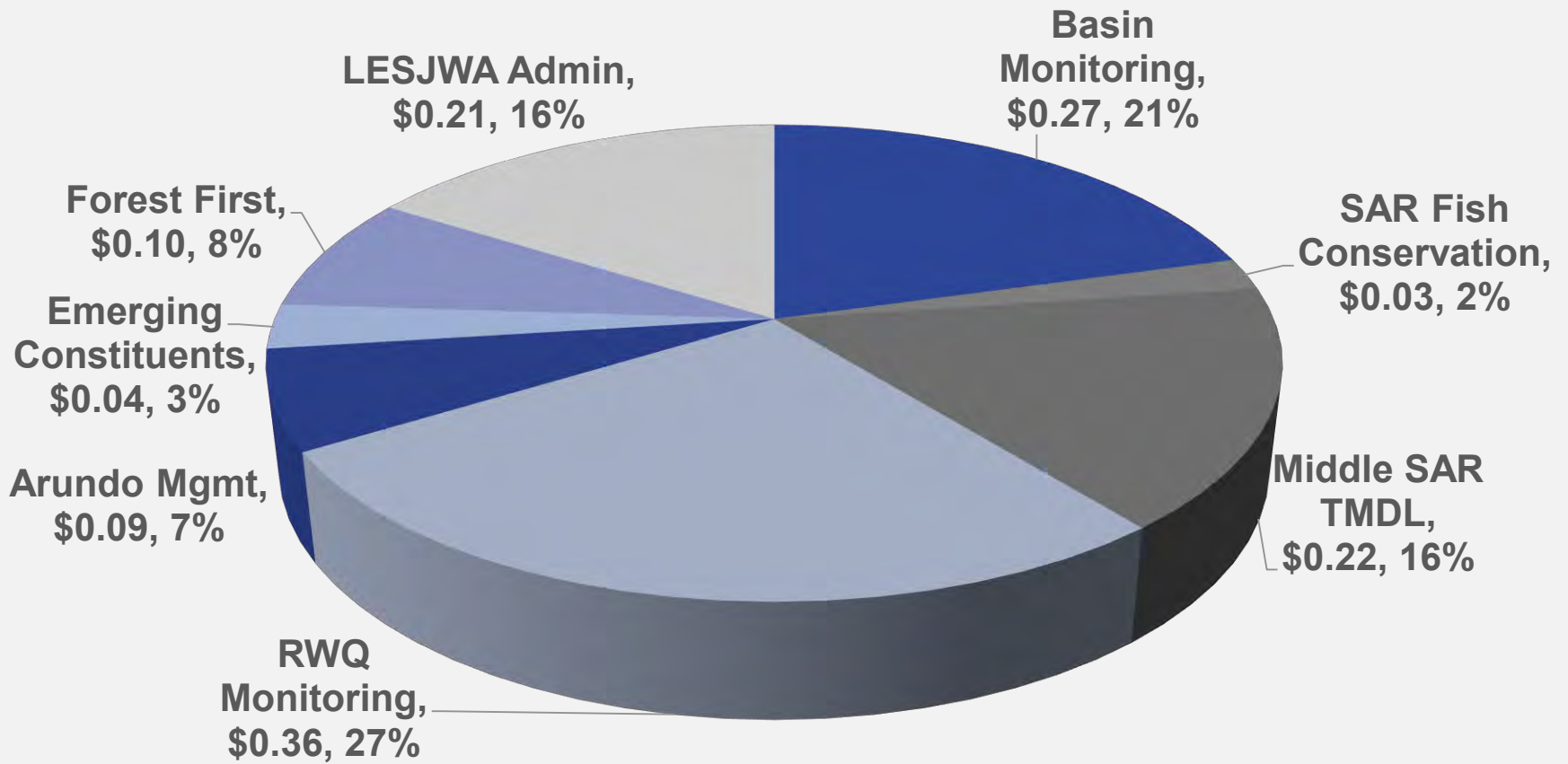
Fund	FYE 2017	FYE 2018	FYE 2019
Prop 84 Projects – Round I	\$750,000	\$750,000	\$0
Prop 84 Projects – Round II	4,008,806	6,780,247	2,075,000
Prop 84 Project – Drought Round	1,622,500	4,133,341	100,000
Prop 84 – Final Round (SARCCUP)	0	9,416,637	10,612,335
<b>Total</b>	<b>\$6,381,306</b>	<b>\$21,080,225</b>	<b>\$12,787,335</b>

# Roundtables Funds - Revenue



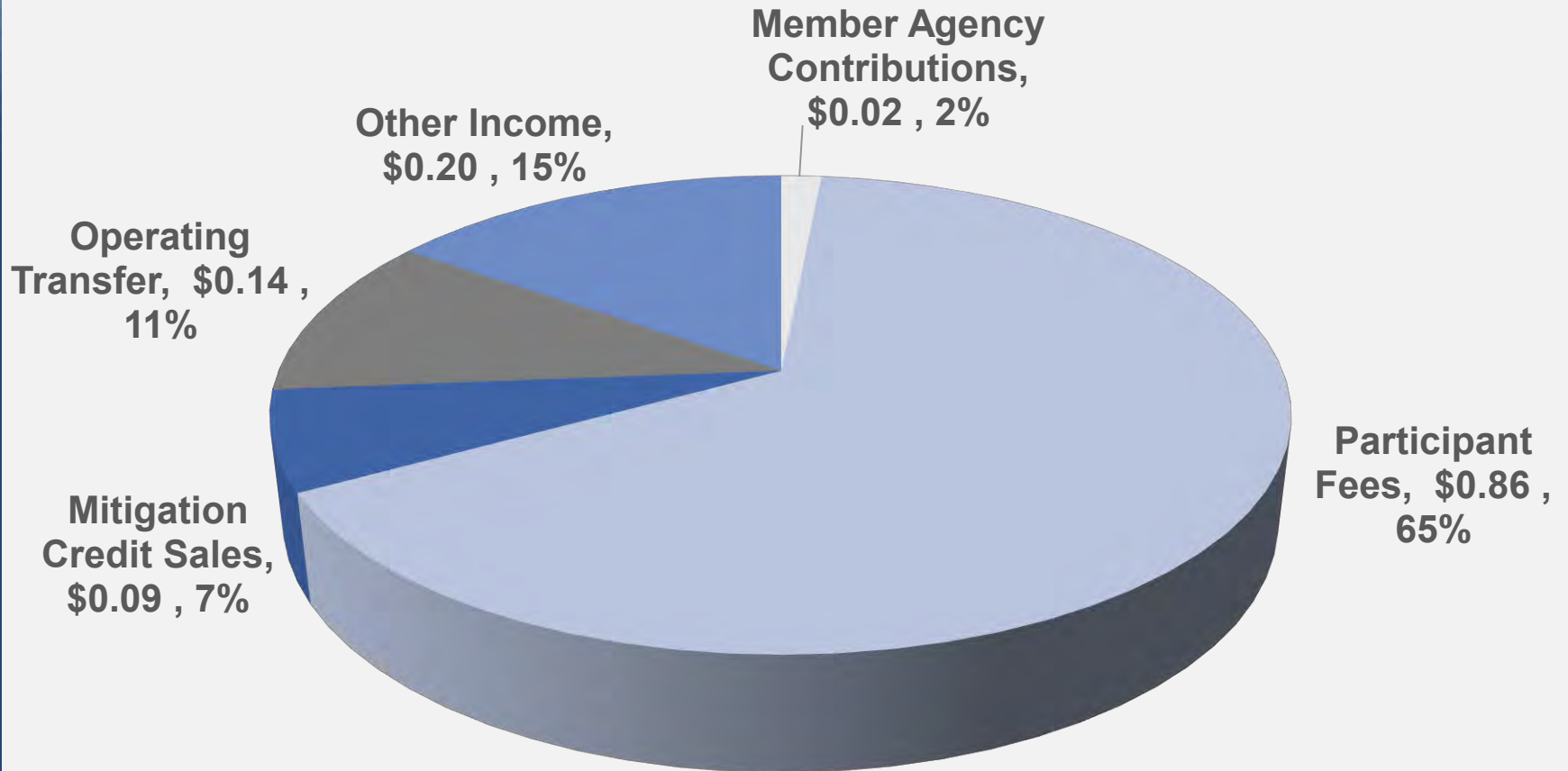
**FYE 2018**

**Revenues \$1.32 M**



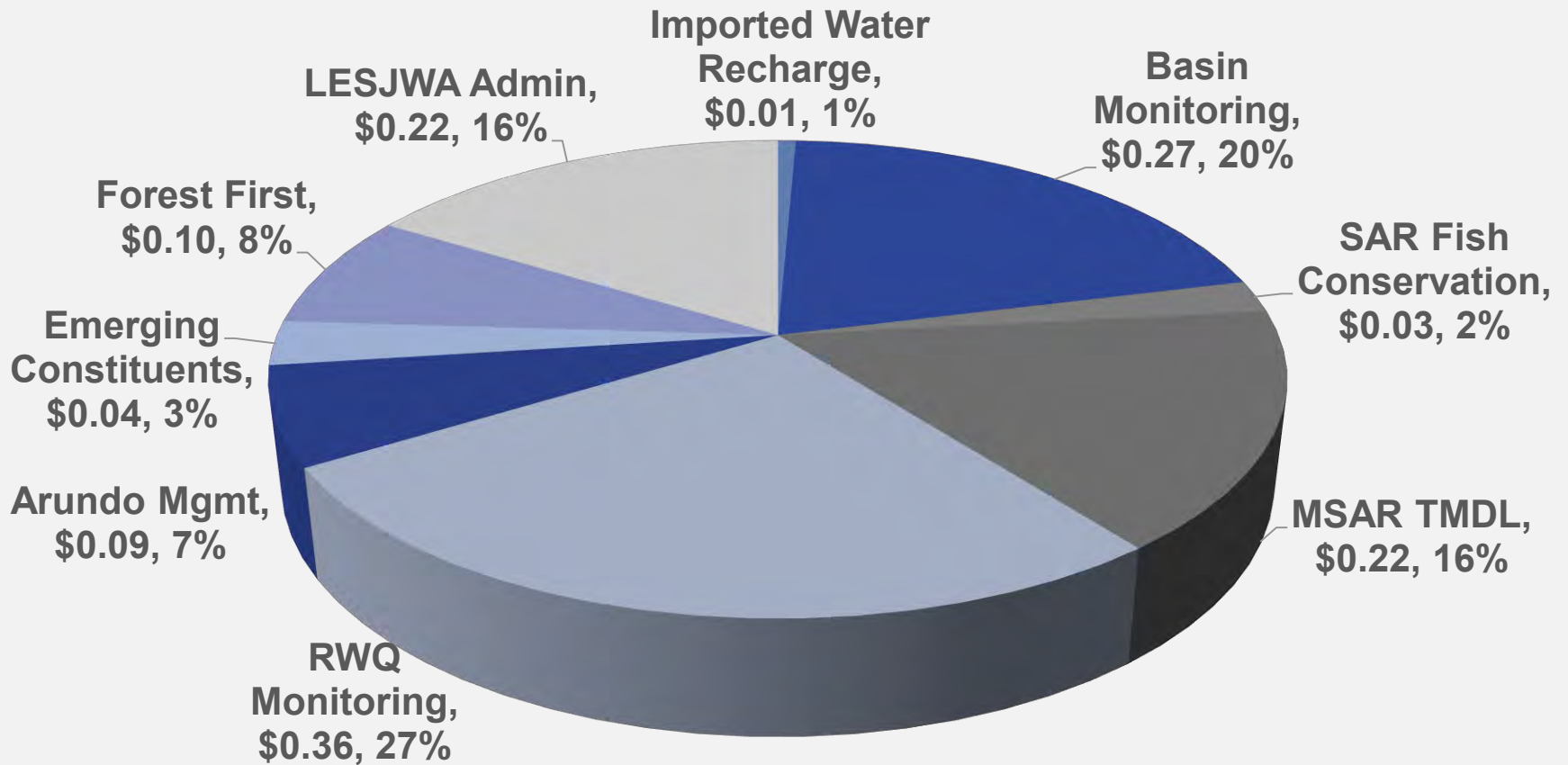
**FYE 2018**

**Revenues \$1.32 M**



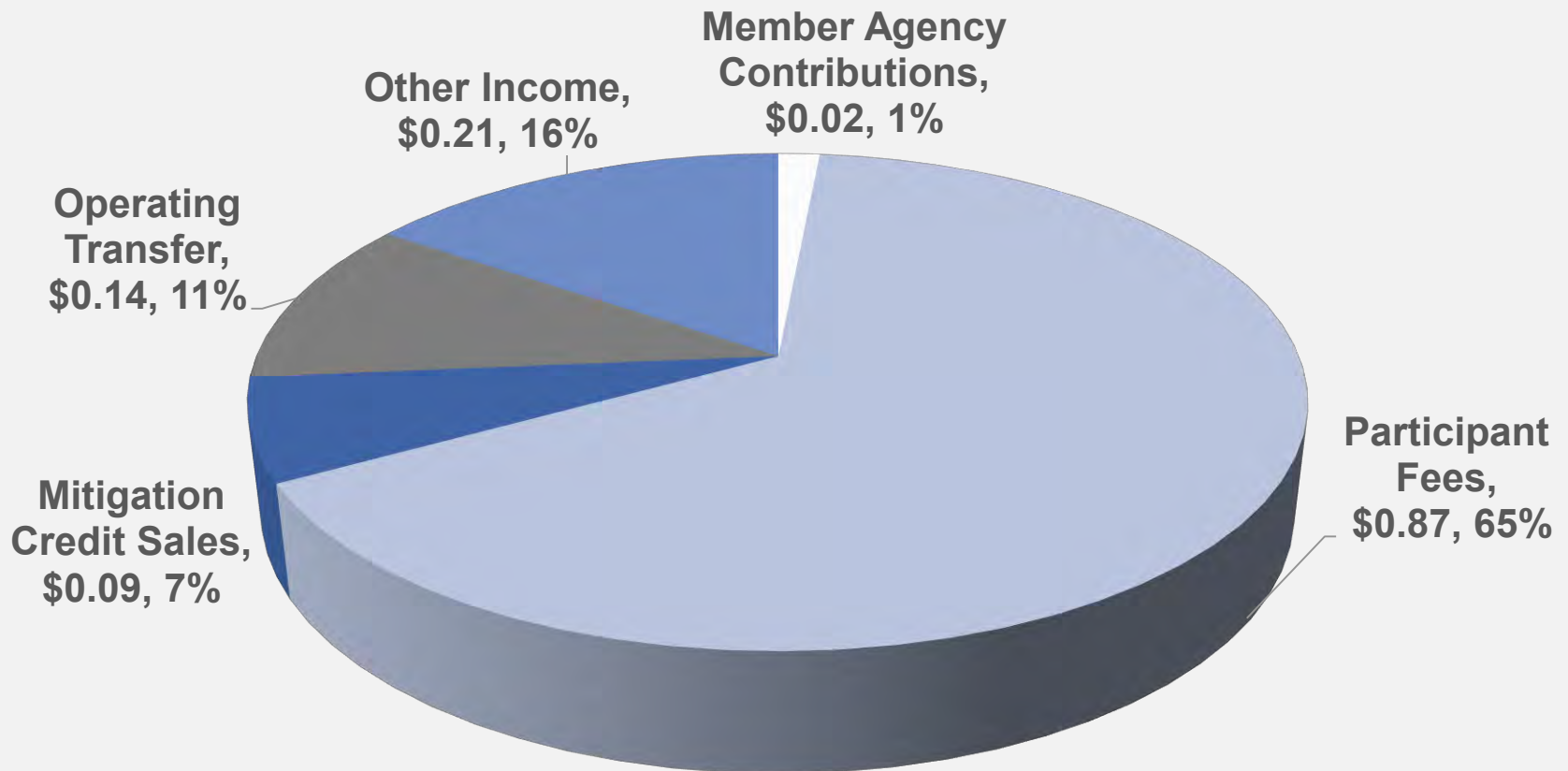
**FYE 2019**

**Revenues \$1.33 M**



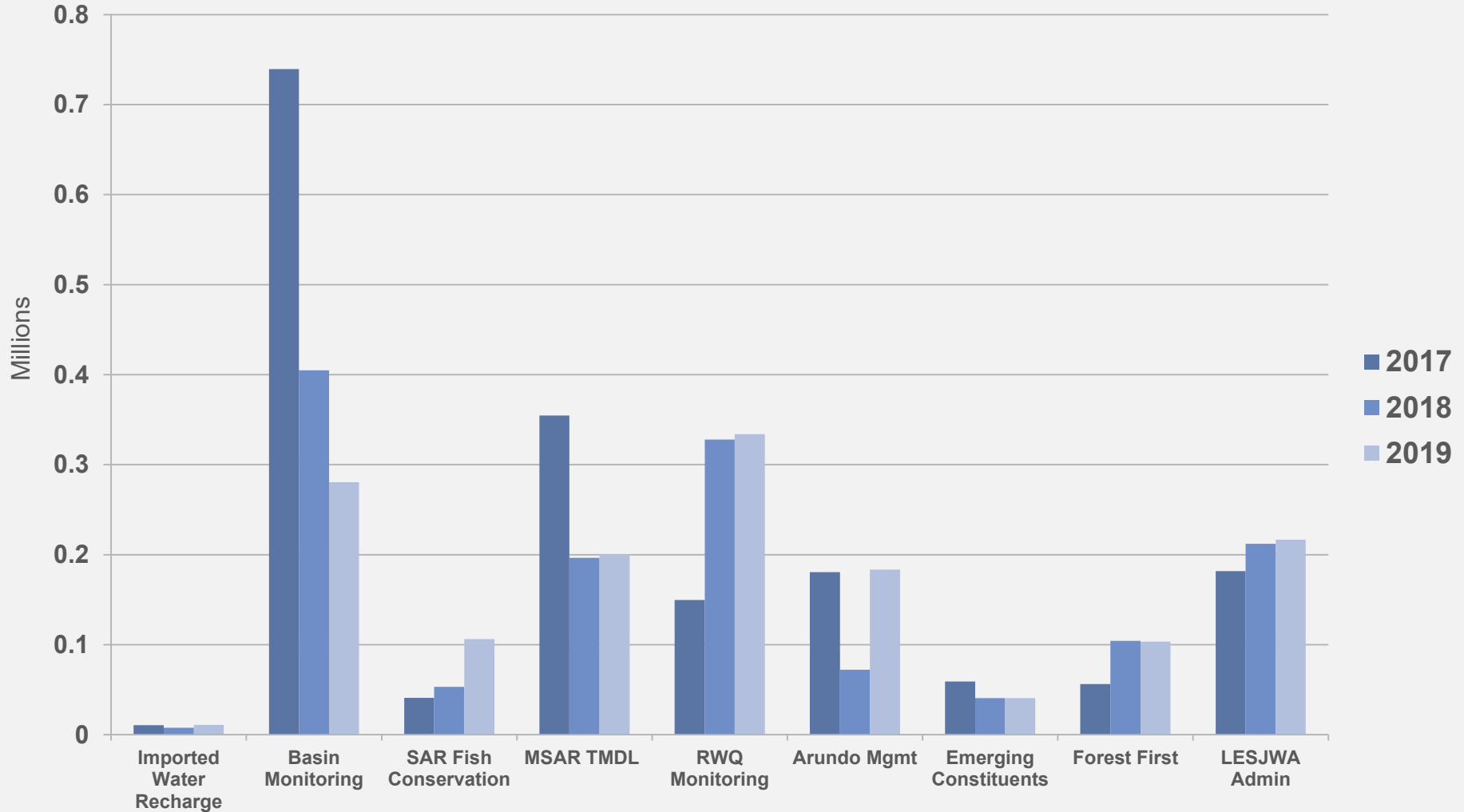
**FYE 2019**

**Revenues \$1.33 M**





# Roundtables Funds – Expenses





# Expenses

Fund	FYE 2017	FYE 2018	FYE 2019
Imported Water Recharge	\$10,523	\$7,698	\$10,804
Basin Monitoring Program TF	739,511	404,772	280,534
SAR Fish Conservation	41,030	53,156	106,303
Middle SAR TMDL TF	354,456	196,554	200,470
RWQ Monitoring TF	149,546	327,988	333,802
Arundo Management & Habitat	180,687	72,281	183,367
Emerging Constituents TF	59,166	40,528	40,719
Forest First	56,227	104,202	103,308
LESJWA Administration	181,782	212,027	216,674
<b>Total</b>	<b>\$1,772,928</b>	<b>\$1,419,206</b>	<b>\$1,475,981</b>

**FYE 2018**

**Expenses \$1.42 M**

**Imported Water  
Recharge,  
\$0.01, 1%**

**Basin  
Monitoring,  
\$0.40, 28%**

**LESJWA Admin,  
\$0.21, 15%**

**Forest First,  
\$0.10, 7%**

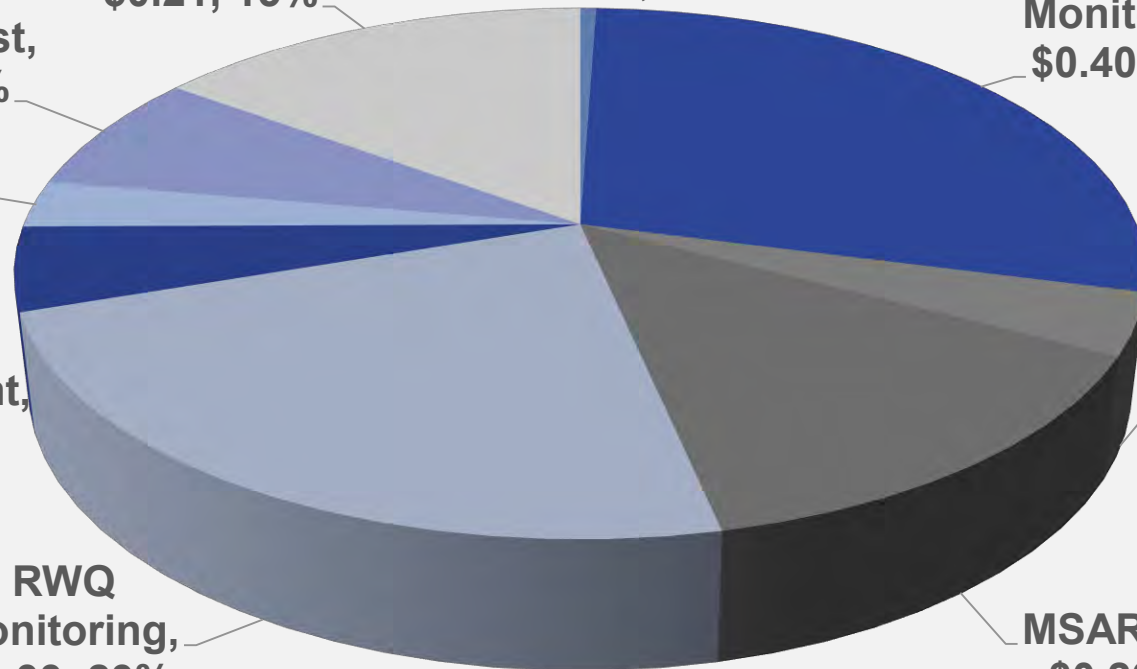
**Emerging  
Constituents,  
\$0.04, 3%**

**Arundo Mgmt,  
\$0.07, 5%**

**SAR Fish  
Conservation,  
\$0.05, 4%**

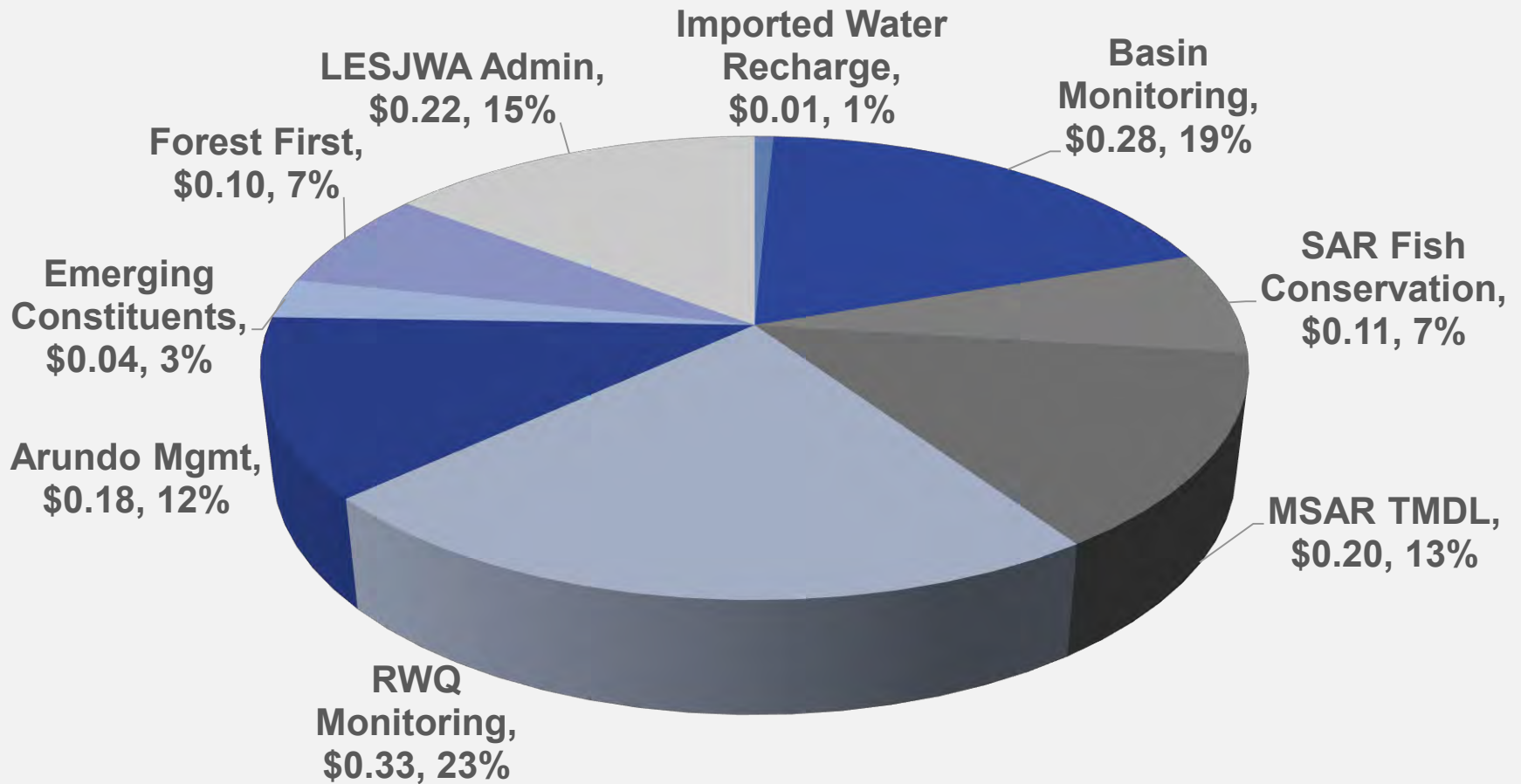
**RWQ  
Monitoring,  
\$0.33, 23%**

**MSAR TMDL,  
\$0.20, 14%**

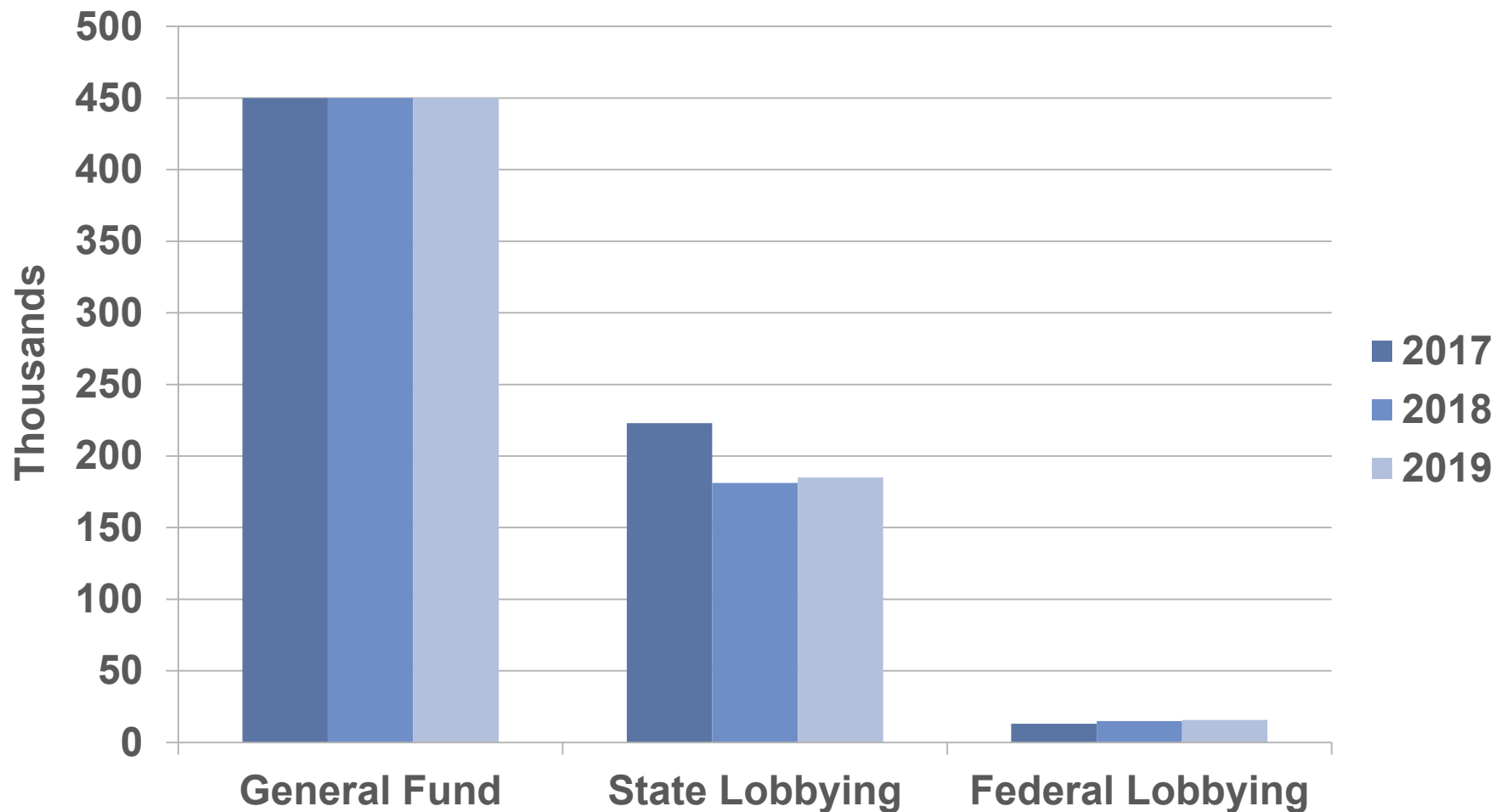


**FYE 2019**

**Expenses \$1.48 M**



# General Fund Costs





# General Fund Costs

Fund	FYE 2017	FYE 2018	FYE 2019
General Fund	\$450,000	\$450,000	\$450,000
State Lobbying	223,005	181,154	184,980
Federal Lobbying	26,302	14,962	15,715
<b>Total</b>	<b>\$699,307</b>	<b>\$646,118</b>	<b>\$650,695</b>



# General Fund Costs

<b>Fund</b>	<b>FYE 2017</b>	<b>FYE 2018</b>	<b>FYE 2019</b>
Labor and Benefits	\$2,109,540	\$2,095,924	\$2,300,239
Education & Training	56,300	57,300	57,300
Consulting & Professional Services	95,000	146,000	134,400
Operating Costs	7,500	5,820	6,090
Repair & Maintenance	131,085	103,270	105,540
Phone & Utilities	71,000	68,200	73,620
Equipment & Computers	212,710	274,800	232,900
Meeting & Travel	54,200	57,500	57,500
Other Administrative Expenses	186,970	220,956	226,277
Insurance & Fixed Assets	105,000	157,956	164,703
Retiree Medical & Building Reserves	230,580	213,000	213,000
<b>Total Before Indirect Cost Allocations</b>	<b>\$3,259,885</b>	<b>\$3,400,725</b>	<b>\$3,571,569</b>
<b>Less Indirect Cost Allocations</b>	<b>(2,809,885)</b>	<b>(2,950,725)</b>	<b>(3,121,569)</b>
<b>Total General Fund Costs</b>	<b>\$450,000</b>	<b>\$450,000</b>	<b>\$450,000</b>



# Cash Flow Projections – FYE 2018

<b>Fund</b>	<b>Balance 06/30/17</b>	<b>Revenues/ Reserve Contributions</b>	<b>Expenses/ Use of Reserves</b>	<b>Balance 06/30/18</b>
<b>General Fund</b>	<b>\$2,267,163</b>	<b>\$646,118</b>	<b>\$646,118</b>	<b>\$2,267,163</b>
<b>OWOW Fund</b>	<b>457,257</b>	<b>7,335,908</b>	<b>7,403,317</b>	<b>389,848</b>
<b>Roundtables Fund</b>	<b>1,782,561</b>	<b>1,318,704</b>	<b>1,419,206</b>	<b>1,682,059</b>
<b>Brine Line Enterprise</b>	<b>43,955,872</b>	<b>17,158,561</b>	<b>23,768,814</b>	<b>37,345,619</b>
<b>Total</b>	<b>\$48,462,853</b>	<b>\$26,459,291</b>	<b>\$33,237,455</b>	<b>\$41,684,689</b>





# Cash Flow Projections – FYE 2019

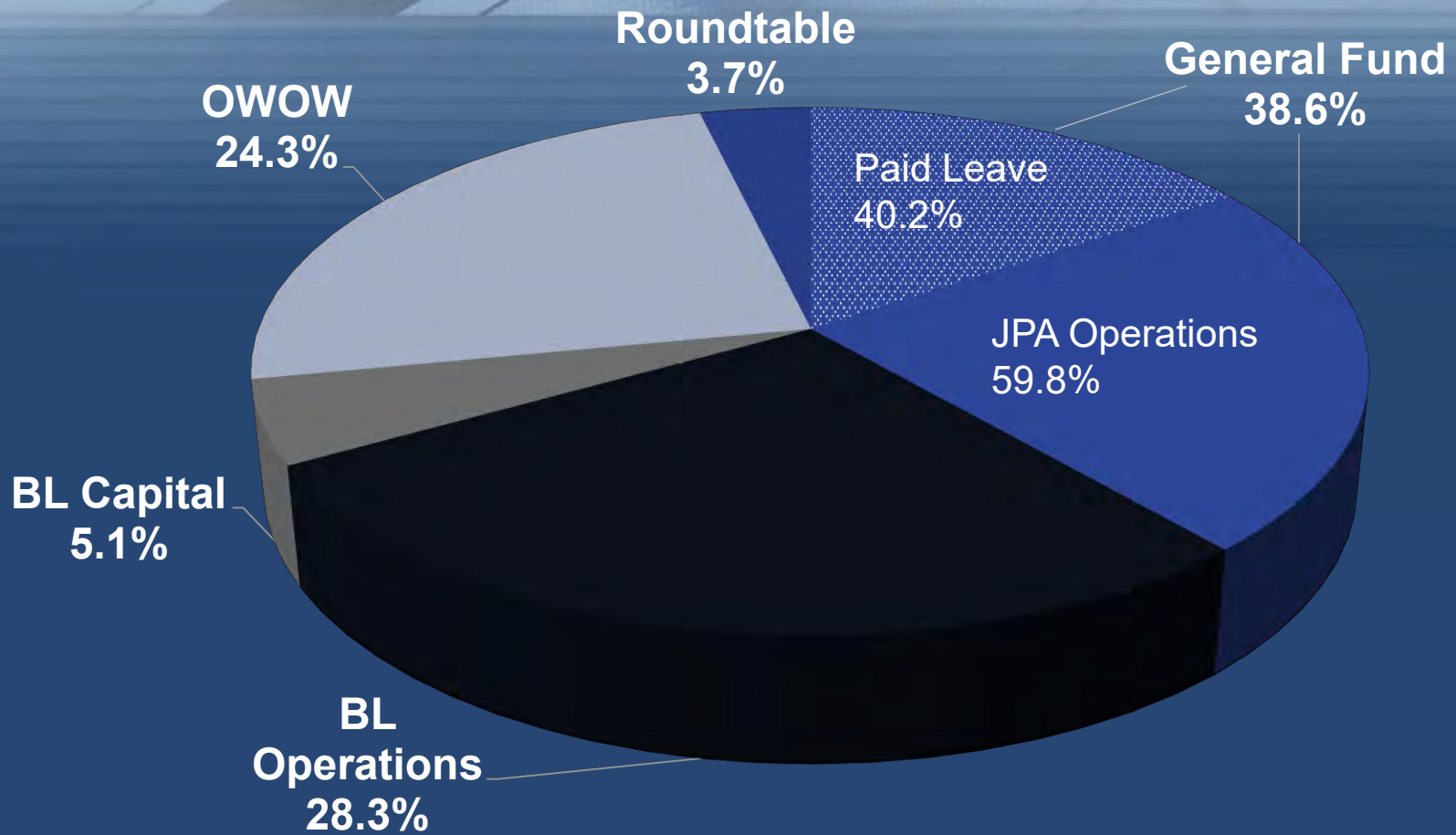
Fund	Balance 06/30/17	Revenues/ Reserve Contributions	Expenses/ Use of Reserves	Balance 06/30/18
General Fund	\$2,267,163	\$650,695	\$650,695	\$2,267,163
OWOW Fund	389,848	6,015,977	6,380,106	25,718
Roundtables Fund	1,682,059	1,331,457	1,475,981	1,537,534
Brine Line Enterprise	37,345,619	15,743,313	21,147,207	31,941,726
<b>Total</b>	<b>\$41,684,689</b>	<b>\$23,741,442</b>	<b>\$29,653,989</b>	<b>\$35,772,140</b>

A close-up photograph of a silver fountain pen nib resting on a document. The document features a line graph with a blue line showing an upward trend. The x-axis of the graph is labeled with months: 'Feb.', 'Apr.', 'Jun.', and 'Aug.'. To the right of the pen, there is handwritten text in blue ink that appears to say 'NEW'. The overall scene is lit with a cool, blue light, creating a professional and analytical atmosphere.

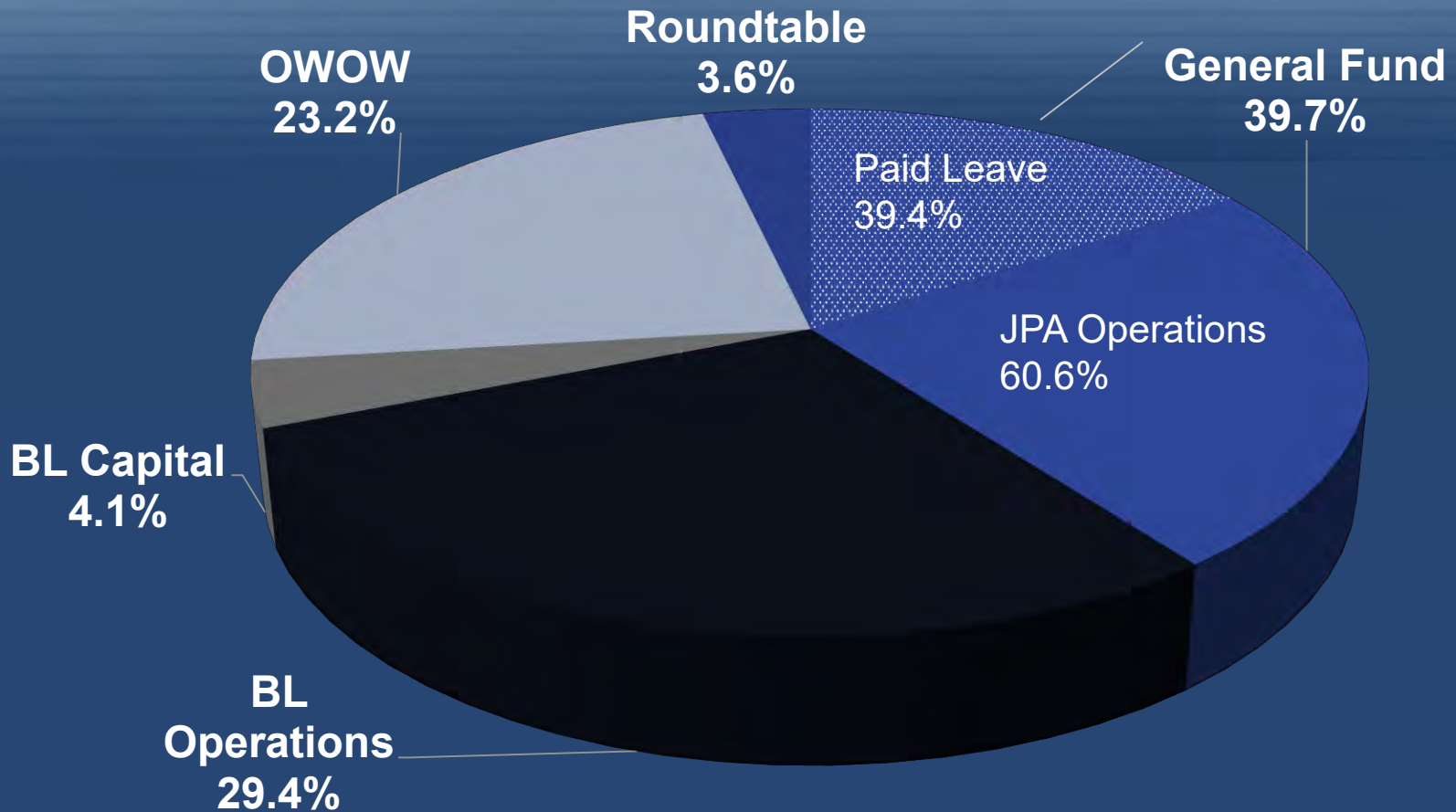
# Labor Assumptions Used

- 28 FTE
  - 26 filled and approved FTE
  - 2 unfilled budgeted positions
- 4 Interns
- Approved 4% Merit Pool (both years)
- Approved 1.25% or annual indexed COLA using the LA-Riverside-Orange County CPI index (whichever is greater)

# Labor Hours Distribution – FYE 2018



# Labor Hours Distribution – FYE 2019





# Total Labor Hours Distribution

Fund	FYE 2018	% of Total	FYE 2019	% of Total
General Fund	23,953	38.6%	24,625	39.7%
Brine Line Operating Fund	17,550	28.3%	18,250	29.4%
Brine Line Capital Fund	3,176	5.1%	2,515	4.1%
OWOW Funds	15,075	24.3%	14,429	23.2%
Roundtable Funds	2,326	3.7%	2,261	3.6%
<b>Total</b>	<b>62,080</b>	<b>100.0%</b>	<b>62,080</b>	<b>100.0%</b>

A fountain pen is positioned diagonally across the top of the slide, resting on a document. The document features a line graph with a blue line showing an upward trend. A magnifying glass is visible in the upper right corner, focusing on the document. The background is a dark blue gradient.

# Benefit Assumptions Used

- Health insurance cap based on the lowest cost plan (Kaiser family) - \$1,505.65/month
- Classic PERS 2% @ 55, PEPRA 2% @ 62
  - FYE 2018 employers rate (includes increase for lowered discount rate)
    - Classic = 10.0%
    - PEPRA = 7.5%
  - FYE 2019 employers rate (includes increase for lowered discount rate)
    - Classic = 10.9%
    - PEPRA = 8.0%
  - Employer Paid Member Contribution (EPMC)
    - FYE 2018 = 4.2%
    - FYE 2019 = 2.8%
  - GASB 45 Compliance – Annual Required Contribution (ARC)
    - FYE 2018 = \$113,000
    - FYE 2019 = \$113,000



# Total Payroll & Benefit Costs

FYE	Benefits	Payroll	Total	% Change
2015	\$1,107,707	\$2,642,113	\$3,749,820	3.7%
2016 *	1,228,101	2,912,184	4,140,285	10.4%
2017 **	1,441,728	3,323,389	4,765,117	15.1%
2018	1,569,289	3,592,414	5,161,703	8.3%
2019	1,686,262	3,859,112	5,545,374	7.4%

\* Hired Project Manager in February 2016

\*\* 2017 numbers are budgeted not actual, hired QC Manager in Sept 2016



# Benefit & Indirect Cost Allocation Rates

FYE	Benefits	Indirect Cost	Total
2015	0.419%	1.494%	1.913%
2016	0.422%	1.651%	2.073%
2017	0.434%	1.579%	2.013%
2018	0.437%	1.411%	1.848%
2019	0.437%	1.411%	1.848%





# Member Contributions

FYE	Per Member Agency	Inc/(Dcr) Over Prior Year	Total
2015	\$339,090	\$8,723	2.64%
2016	269,559	(69,531)	(20.51%)
2017	287,861	18,302	6.79%
2018	288,423	562	0.20%
2019	294,339	5,916	2.05%



# Member Contributions per Agency

Activity	FYE 2017	FYE 2018	FYE 2019
General Planning	\$70,000	\$71,200	\$71,200
USBR Partnership Studies	4,000	4,000	4,000
Watershed Management (OWOW)	60,000	80,000	85,000
SA River Fish Conservation	2,000	2,000	2,000
Stormwater Quality Standards TF	10,000	0	0
LESJWA Management	2,000	2,000	2,000
State/Federal Lobbying	49,861	39,223	40,139
General Fund	90,000	90,000	90,000
<b>Total Agency Contribution</b>	<b>\$287,861</b>	<b>\$288,423</b>	<b>\$294,339</b>



# Staff Recommendation

- Adopt the FYE 2018 and 2019 Budget as presented and direct each member agency to:
  - Notice the consideration of the FYE 2018 and 2019 SAWPA Budget on their next Board of Directors Meeting agenda;
  - Approve by Board Resolution (pursuant to the Joint Powers Authority Agreement) the FYE 2018 and 2019 SAWPA Budget; and
  - Provide SAWPA with a certified copy of the signed Board Resolution.
- Approve the Reserve Transfers presented
- Approve the Brine Line Pipeline Operator position and direct staff to fill the position



**Questions?**



# Proposition 84 Projects Status Update



May 16, 2017 Commission Meeting



Nicole D. Weideman, PE  
Quality Assurance Manager

# Proposition 84 Project Status



Round	No. of Proponents	Projects Complete	Grant Amount	Total Cost
Round 1	13	7	\$12M	\$260M
Round 2	18	0	\$14.5M	\$150M
Drought Round	9	0	\$12M	\$23M
2015 Round	7	0	\$61M	\$237M

# **Projected Watershed-Wide Benefits of All Four Rounds of OWOW Prop 84 IRWM Projects**

- Reduces water demand by 18,000 AFY representing 36,000 households
- Recharges 180,000 AF of additional imported water
- Produces 18,000 AFY of desalted groundwater
- Removes 29,000 tons of salt from groundwater per year
- Creates 11,000 AFY of additional recycled water
- Captures 44,000 AFY of stormwater for beneficial use
- Restores 3,800 acres of environmental habitat
- Reduces nonpoint source pollution by 29,000 pounds per year
- Reduces flood risk damage by \$91 million
- Creates about 11,000 construction related jobs

# Round 1 Projects

(August 2011 – December 2017)



# Proposition 84 Round 1

## Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Construct. Complete	% Project Complete
Grant Agreement Administration	SAWPA	\$ 660,004	\$ 0 0.00%	\$ 0	\$ 660,004	54%	N/A	54%
GWRS Flow Equalization	OCWD	\$ 1,000,000	\$ 1,180,760 7.67%	\$ 13,218,920 <sup>1</sup>	\$ 15,399,680	100%	100%	100%
Sludge, Dewatering, Odor Control & Primary Sludge Thickening	OCSD	\$ 1,000,000	\$ 36,638,218 26.00%	\$ 103,278,005	\$ 140,916,223	100%	94%	93.8%
Santa Ana Watershed Vireo Monitoring	SAWA	\$ 600,000	\$ 225,994 26.00%	\$ 43,213	\$ 869,207	100%	100%	100%
Mill Creek Wetlands	Ontario	\$ 1,000,000	\$ 1,615,000 8.85%	\$ 15,635,000	\$ 18,250,000 <sup>2</sup>	100%	100%	100%

<sup>1</sup> \$ 13,218,920 in Other State Funds

<sup>2</sup> \$ 15,420,000 in Other State Funds

Green – Project on schedule or ahead of schedule

Yellow/Green – Delay experienced, but will finish prior to Grant completion date.

Yellow – Project delay experienced, not on schedule per the Agreement, unsure if project will complete on time.

Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# Proposition 84 Round 1 Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Constr. Complete	% Project Complete
Cactus Basin	SBCFCD	\$ 1,000,000	\$ 4,427,155 29.96%	\$ 9,350,026	\$ 14,777,181	100%	77%	77%
Inland Empire Brine Line Rehabilitation / Enhancement	SAWPA	\$ 1,000,000	\$ 698,153 10.07%	\$ 5,234,576 <sup>3</sup>	\$ 6,932,729	100%	100%	100%
Arlington Desalter Interconnection Project	Corona	\$ 400,000	\$ 350,493 26.00%	\$ 597,556	\$ 1,348,049	100%	100%	100%
Perris II Desalination Facility*	EMWD	\$ 1,000,000	\$ 607,296 26.00%	\$ 728,456	\$ 2,335,752	100%	100%	100%
Perchlorate Wellhead Treatment System Pipelines	WVWD	\$ 1,000,000	\$ 368,940 26.00%	\$ 50,060	\$ 1,419,000	100%	100%	100%

<sup>3</sup> \$ 5,234,576 in Other State Funds

<sup>4</sup> \$ 9,956,000 in Other State Funds

\* Retention not paid yet

Green – Project on schedule or ahead of schedule

Yellow/Green – Delay experienced, but will finish prior to Grant completion date.

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Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# Proposition 84 Round 1 Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Constr. Complete	% Project Complete
Chino Creek Wellfield Development Project	WMWD	\$ 1,000,000	\$ 1,646,091 26.00%	\$ 3,685,027	\$ 6,331,118	100%	98%	98%
Impaired Groundwater Recovery	IRWD	\$ 1,000,000	\$ 20,148,848 53.99%	\$ 16,173,122	\$ 37,321,970	100%	100%	100%
Alamitos Barrier Improvement Project	OCWD	\$ 1,000,000	\$ 650,600 5.61%	\$ 9,956,000 <sup>4</sup>	\$ 11,606,600	100%	63%	63%
Arlington Basin Water Quality Improv Project	WMWD	\$ 1,000,000	\$ 900,000 33.21%	\$ 809,670	\$ 2,709,670	16.6%	0%	55%
<b>Total</b>		<b>\$ 12,660,004</b>	<b>\$ 69,457,548 26.62%</b>	<b>\$ 179,419,635</b>	<b>\$ 261,537,187</b>	<b>91%</b>		<b>89%</b>

<sup>3</sup> \$ 5,234,576 in Other State Funds

<sup>4</sup> \$ 9,956,000 in Other State Funds

Green – Project on schedule or ahead of schedule

Yellow/Green – Delay experienced, but will finish prior to Grant completion date.

Yellow – Project delay experienced, not on schedule per the Agreement, unsure if project will complete on time.

Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# Round 2 Projects

(February 2014 – June 2020)

# Proposition 84 Round 2

## Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Constr. Complete	% Project Complete
Grant Agreement Administration	SAWPA	\$ 625,310	\$ 0 0.00%	\$ 0	\$ 625,310	33%	N/A	39%
Perris Desalination Program Well 94	EMWD	\$ 1,000,000	\$ 0 0.00%	\$ 9,238,280	\$ 10,238,280	0%	0%	46%
Quail Valley Subarea 9 Phase I Sewer System	EMWD	\$ 1,930,000	\$ 2,960,000 37.00%	\$ 3,110,000	\$ 8,000,000	19%	0%	18%
Forest First	USFS	\$ 1,000,000	\$ 2,055,039 37.00%	\$ 2,499,121	\$ 5,554,160	0%	50%	49%
Wineville Regional Recycled Wtr Pipeline/GW Recharge System Upgrades	IEUA	\$ 1,000,000	\$ 0 0.00%	\$ 29,500,000 <sup>1</sup>	\$ 30,500,000	100%	75%	74%

<sup>1</sup> \$29,500,000 in Other State Funds

Green – Project on schedule or ahead of schedule

Yellow/Green – Delay experienced, but will finish prior to Grant completion date.

Yellow – Project delay experienced, not on schedule per the Agreement, unsure if project will complete on time.

Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# Proposition 84 Round 2 Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Constr. Complete	% Project Complete
Plunge Creek Water Recharge and Habitat Improvement	SBVWCD	\$ 500,000	\$ 184,731 26.00%	\$ 25,769	\$ 710,500	21%	0%	40%
Prado Basin Sediment Mgmt Demonstration Project	OCWD	\$ 750,000	\$ 2,910,050 37.00%	\$ 4,204,950	\$ 7,865,000	0%	0%	20%
San Sevaine GW Recharge Basin	IEUA	\$ 750,000	\$ 925,001 32.34%	\$ 1,184,999	\$ 2,860,000	43%	0%	64%
Corona/Home Gardens Multi-Jurisdictional Wtr Transmission Line	Corona	\$ 1,300,000	\$ 2,327,494 37.00%	\$ 2,663,031	\$ 6,290,525	1%	0%	40%
Enhanced SW Capture/Recharge Along the SAR	SBVMWD	\$ 1,000,000	\$ 11,581,000 37.00%	\$ 18,719,000	\$ 31,300,000	0%	0%	28%

Green – Project on schedule or ahead of schedule

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Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# Proposition 84 Round 2

## Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Constr. Complete	% Project Complete
Regional Residential Landscape Retrofit	IEUA	\$ 500,000	\$ 370,000 37.00%	\$ 130,000	\$ 1,000,000	66%	N/A	95%
Canyon Lake Hybrid Treatment Process	LESJWA	\$ 500,000	\$ 327,635 37.00%	\$ 57,865	\$ 885,500	62%	100%	98%
Customer Handbook to Using Water Efficiently	WMWD	\$ 120,000	\$ 42,000 25.93%	\$ 0	\$ 162,000	0%	N/A*	75%
Lower Day Basin	IEUA	\$ 750,000	\$ 917,599 37.00%	\$ 812,401	\$ 2,480,000	0%	0%	50%
CII Performance Based WUE Program	MWDOC	\$ 500,000	\$ 898,179 37.00%	\$ 1,029,333	\$ 2,427,512	100%	N/A*	42%

\*Project does not include construction, but rather implementation of a plan.

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Yellow – Project delay experienced, not on schedule per the Agreement, unsure if project will complete on time.

Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# Proposition 84 Round 2

## Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Constr. Complete	% Project Complete
Peters Canyon Channel Water Capture and Reuse Pipeline	Irvine	\$ 1,000,000	\$ 3,211,086 37.00%	\$ 4,467,523	\$ 8,678,609	100%	100%	88%
Soboba Band of Luiseno Indians Wastewater Project	Soboba	\$ 150,000	\$ 53,000 26.11%	\$ 0	\$ 203,000	0%	N/A*	95%
Recycled Water Project Phase I	Riverside	\$ 1,000,000	\$ 8,030,000 37.00%	\$ 12,670,000	\$ 21,700,000	0%	0%	10%
Wilson III Basins Project and Wilson Basins/ Spreading Grounds	Yucaipa	\$ 750,000	\$ 4,825,807 37.00%	\$ 7,466,914	\$ 13,042,721	0%	0%	30%
<b>Total</b>		<b>\$ 15,125,310</b>	<b>\$ 40,151,571 26.67%</b>	<b>\$ 95,279,236</b>	<b>\$ 151,178,427</b>	<b>29%</b>		<b>53%</b>

\*Project does not include construction, but rather implementation of a plan.

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Yellow – Project delay experienced, not on schedule per the Agreement, unsure if project will complete on time.

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# Drought Round Projects

(January 2014 – June 2018)

# Proposition 84 Drought Round

## Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Project Complete
Grant Agreement Administration	SAWPA	\$ 625,000	\$ 0 0.00%	\$ 0	\$ 625,000	47%	52%
Project Agreement 22 Committee Admin	SAWPA	\$ 300,000	\$ 0 0.00%	\$ 0	\$ 300,000	65%	71%
Conserv. Based Report Tools/Rate Structure	SAWPA	\$ 6,662,610	\$ 0 0.00%	\$ 0	\$ 6,662,610	40%	40%
High Visibility Turf Removal & Retrofit SARW	EMWD	\$ 906,800	\$ 1,212,770	\$ 600,830	\$ 2,720,400	2%	58%
	IEUA	\$ 807,564	\$ 1,080,050	\$ 535,077	\$ 2,422,691	100%	100%
	OCWD	\$ 880,894	\$ 1,178,123	\$ 583,666	\$ 2,642,683	0.27%	57%
	SBVMWD	\$ 828,499	\$ 1,108,049	\$ 548,949	\$ 2,485,497	0%	35%
	WMWD	\$ 851,243	\$ 1,138,467	\$ 564,019	\$ 2,553,729	52%	88%
High Visibility Turf Removal & Retrofit USMW	EMWD	\$ 420,000	\$ 561,715	\$ 278,285	\$ 1,260,000	2%	58%
	WMWD	\$ 52,500	\$ 70,214	\$ 34,786	\$ 157,500	47%	88%
	RCWD	\$ 525,000	\$ 702,145	\$ 447,855	\$ 1,675,000	99%	99%
<b>Total</b>		<b>\$ 12,860,110</b>	<b>\$ 7,051,533</b> 31.23%	<b>\$ 3,593,467</b>	<b>\$ 23,505,110</b>	<b>36%</b>	<b>68%</b>

Green – Project on schedule or ahead of schedule

Yellow/Green – Delay experienced, but will finish prior to Grant completion date.

Yellow – Project delay experienced, not on schedule per the Agreement, unsure if project will complete on time.

Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# 2015 Round Projects

(January 2014 – December 2021)

# Proposition 84 2015 Round

## Project Status Update

Project Name	Agency	Grant Amount	Required Funding Match	Add'l Cost Share	Total Project Cost	% Grant Billed	% Constr. Complete	% Project Complete
Grant Agreement Admin.	SAWPA	\$ 3,213,384	\$ 0 0.00%	\$ 0	\$ 3,213,384	0%	N/A	0%
Newhope – Placentia Trunk Sewer Replacement Project	OCS D	\$ 1,000,000	\$ 30,000,000 28.60%	\$ 73,890,000	\$ 104,890,000	0%	0%	0%
Integrated Watershed Protection Program	RCFCWCD	\$ 5,054,302	\$ 9,060,000 29.71%	\$ 16,379,698	\$ 30,494,000	0%	0%	0%
SARCCUP	Member Agencies	\$ 55,000,000	\$ 30,500,000 30.12%	\$ 15,772,899	\$ 101,272,899	0%	0%	0%
<b>Total</b>		<b>\$ 64,267,686</b>	<b>\$ 69,560,000</b> <b>29.00%</b>	<b>\$ 106,042,597</b>	<b>\$ 239,870,283</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

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Yellow/Green – Delay experienced, but will finish prior to Grant completion date.

Yellow – Project delay experienced, not on schedule per the Agreement, unsure if project will complete on time.

Orange/Red – Project behind schedule, unsure if project will complete on time, or not enough information known at this time to determine.

# A Closer Look

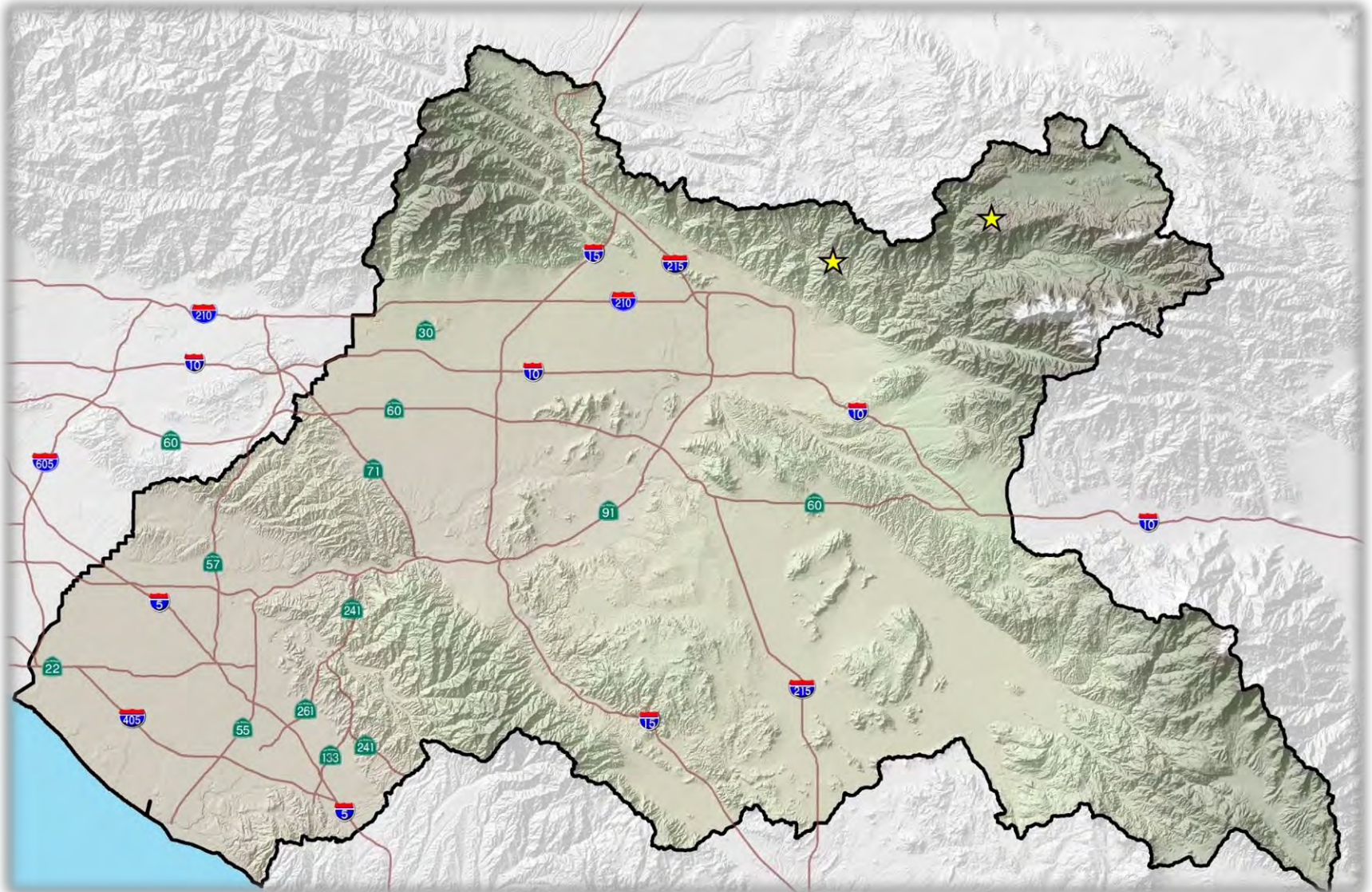
## Round 1

- Santa Ana Watershed Vireo Monitoring (SAWA)  
(To be presented on at June 6<sup>th</sup> Commission Mtg.)

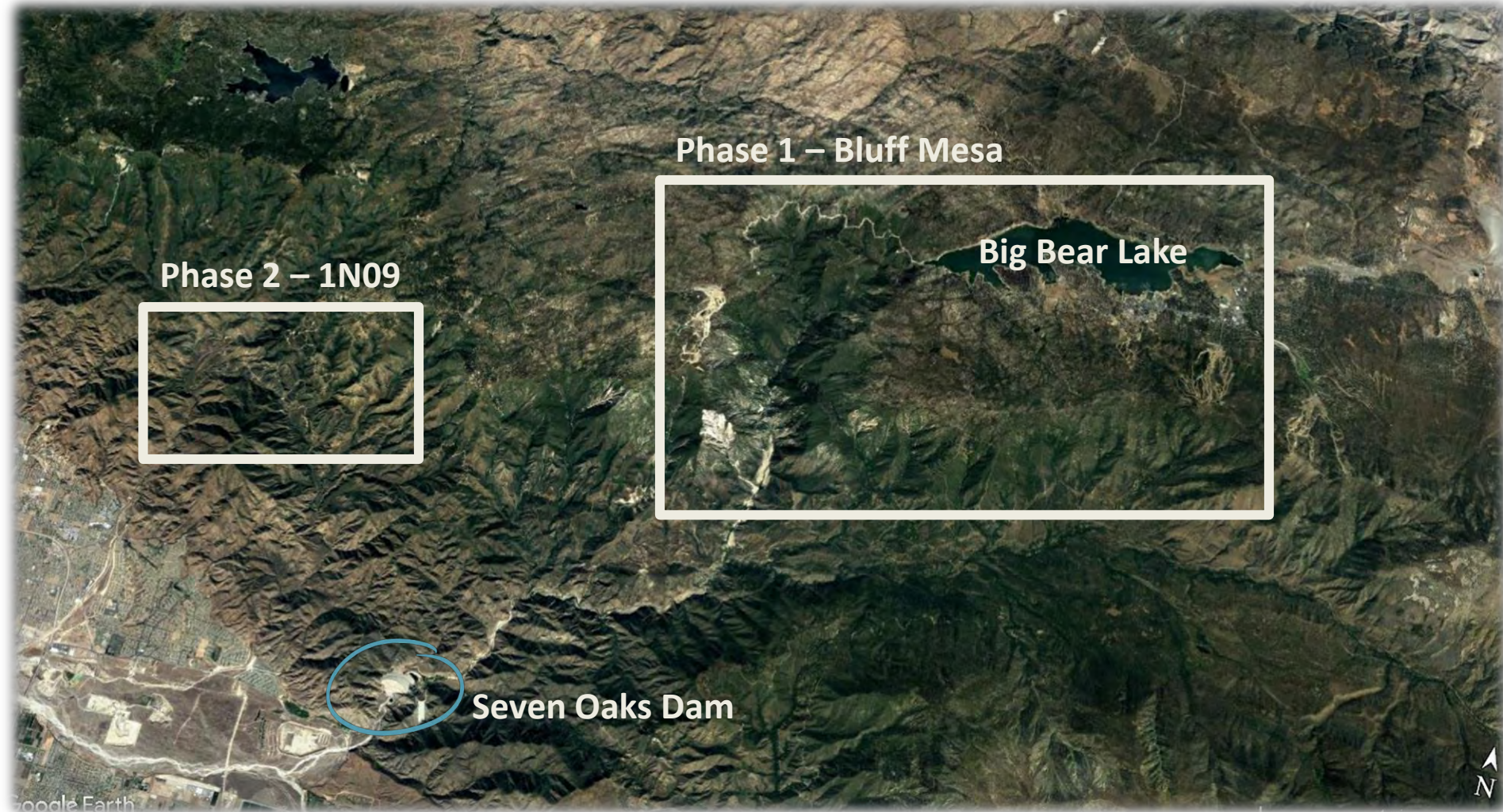
## Round 2

- Forest First: Increase Stormwater Capture and  
Decrease Sediment Loading (USFS)

# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)

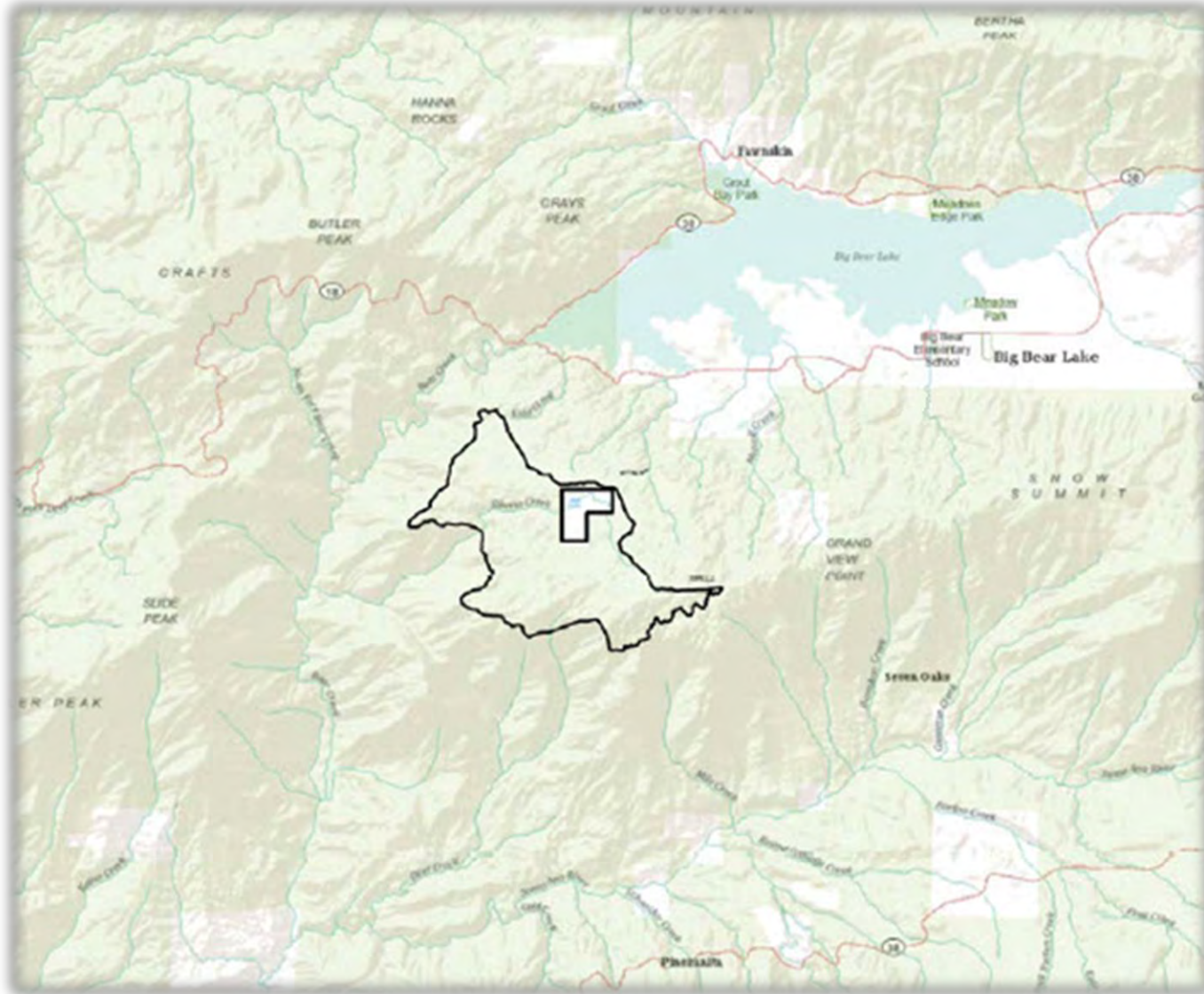


# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)

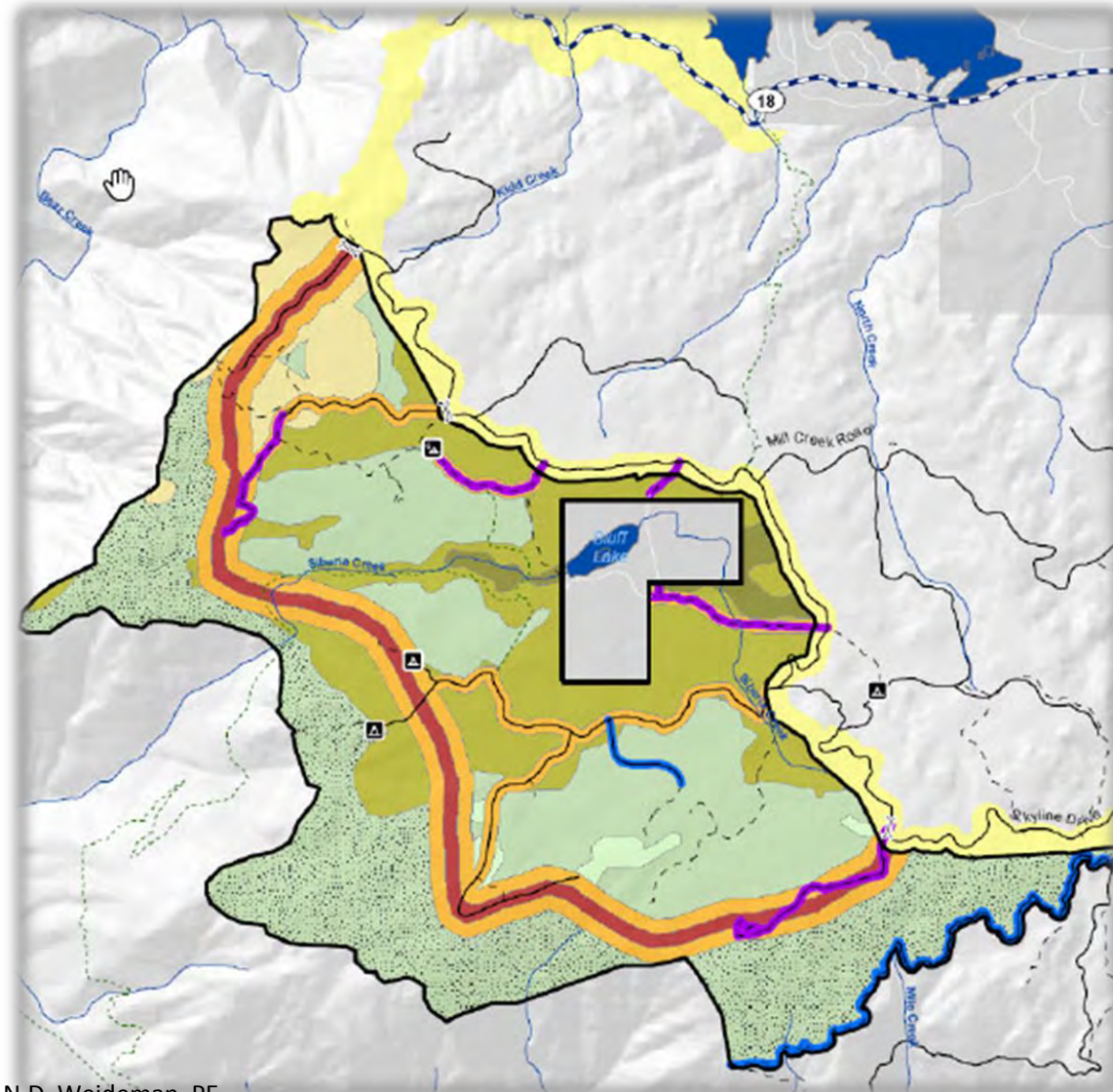




# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



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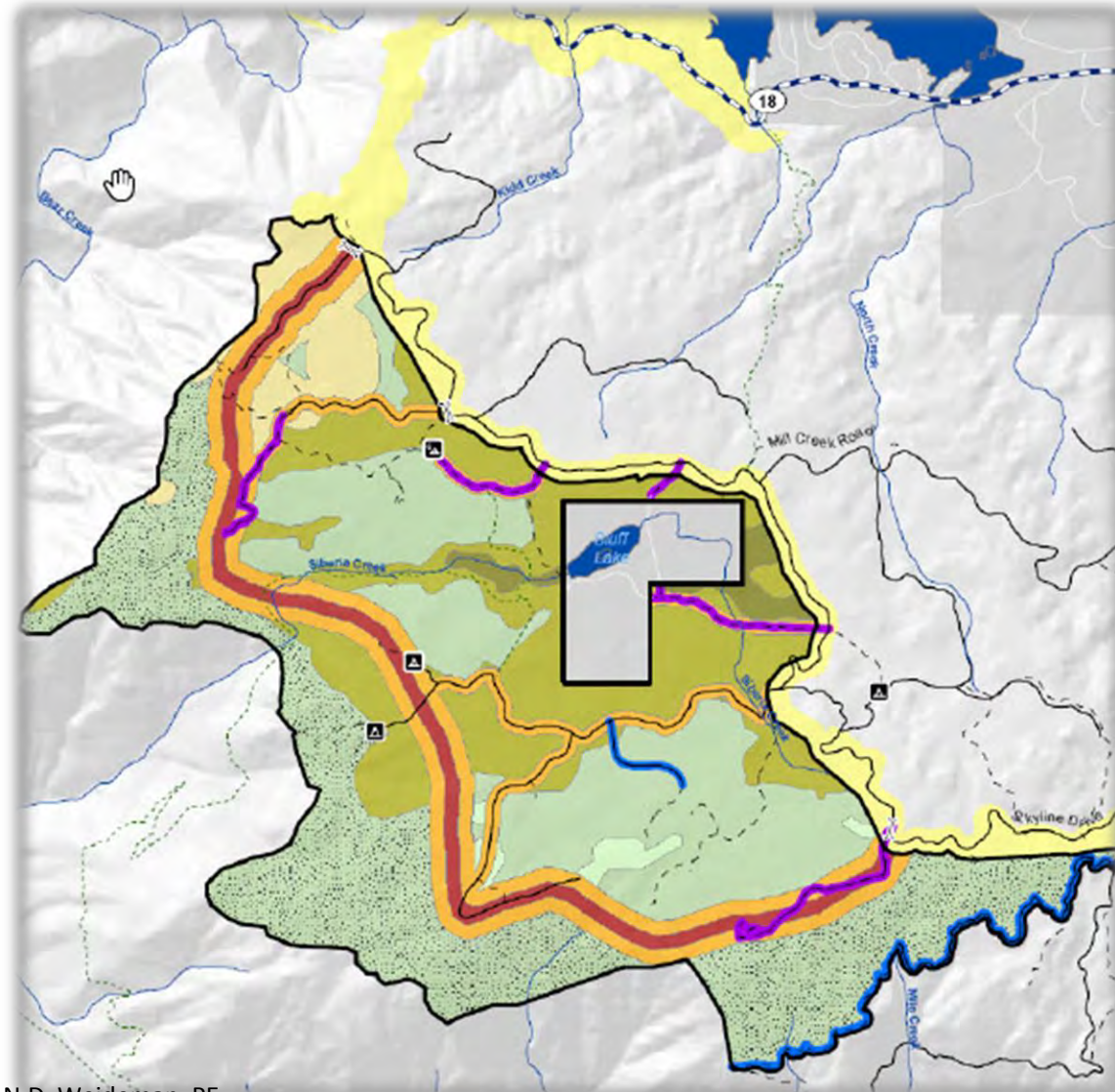
## Treatment Level 1 –

- Main fuel break
- Approximately 85 acres
- Located on top of the ridge and follows existing roads and trails

## Treatment Level 2 –

- Outer edges of main fuel break
- Along several internal roads as secondary fire-fighting zones,
- Escape routes for both firefighters and residents

# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



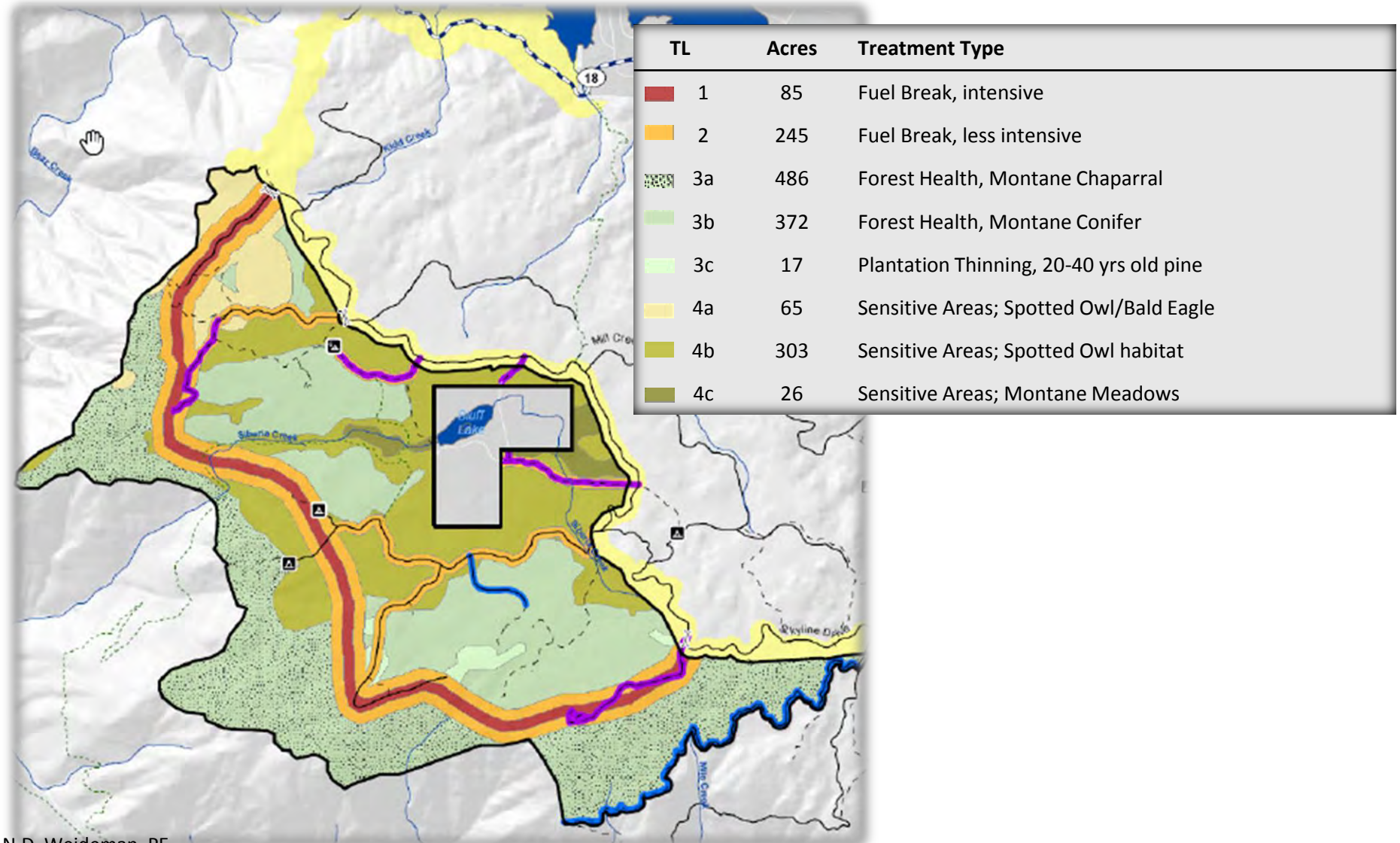
## Treatment Level 3 –

- Threat zones outside of fuel breaks
- No special concerns for sensitive biological or cultural resources
- Reduce potential for crown fires

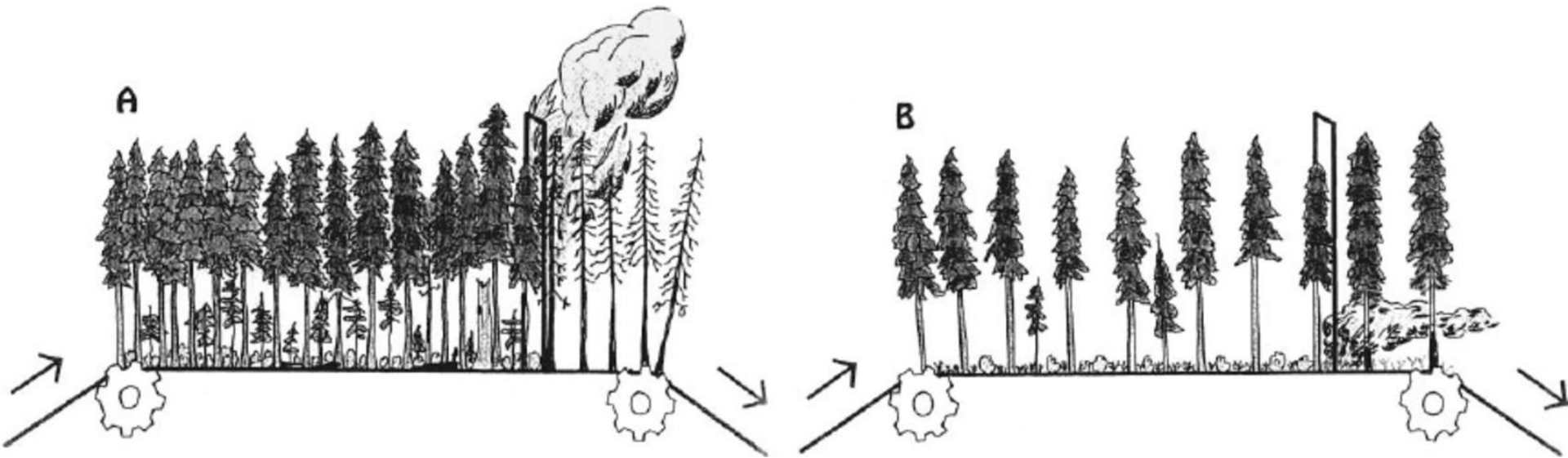
## Treatment Level 4 –

- Threatened, endangered, and sensitive plants
- California spotted owl, willow flycatcher, mountain yellow-legged frog, snakes, bats, and the Bald Eagle
- Limited treatment

# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



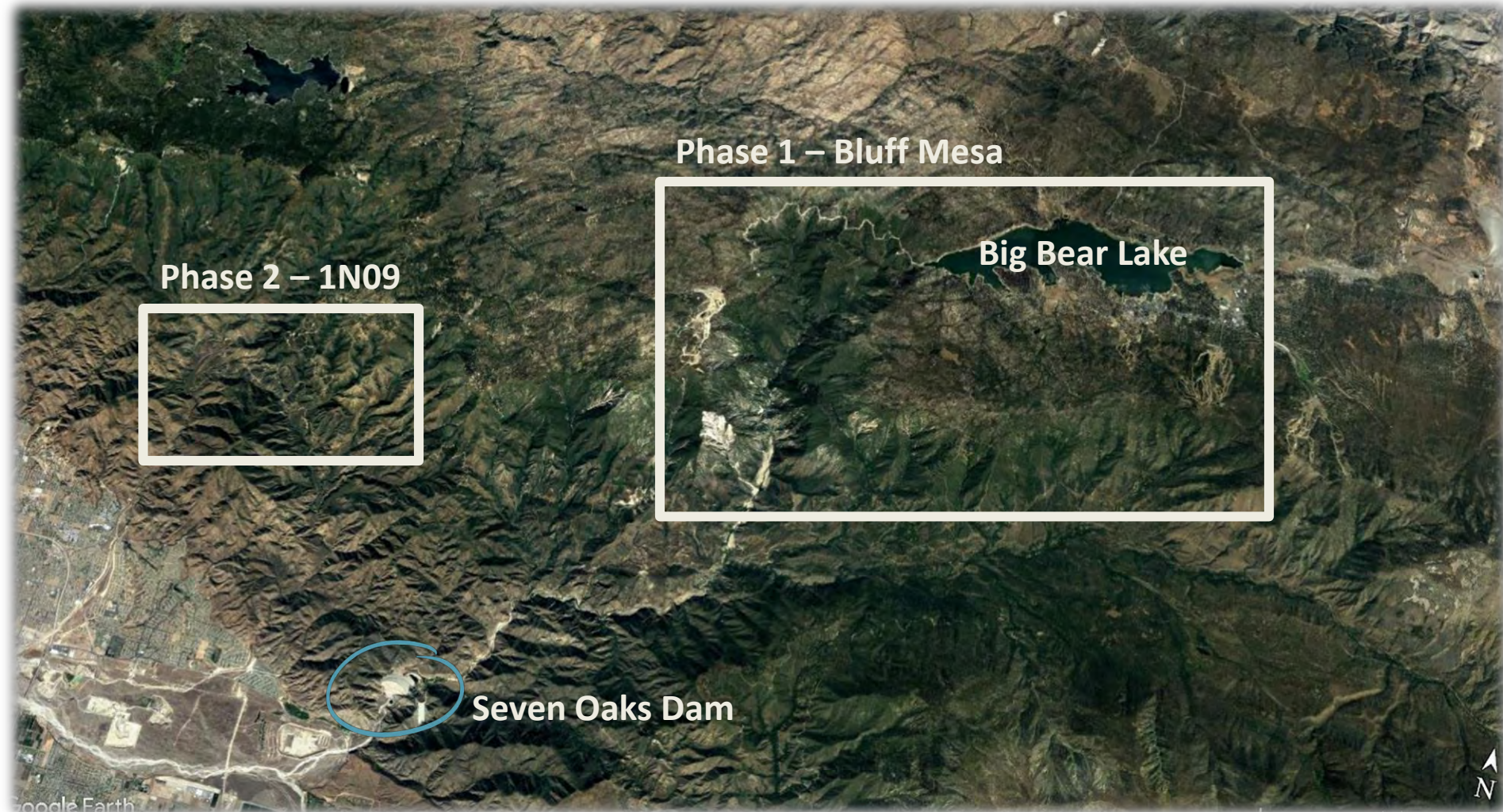
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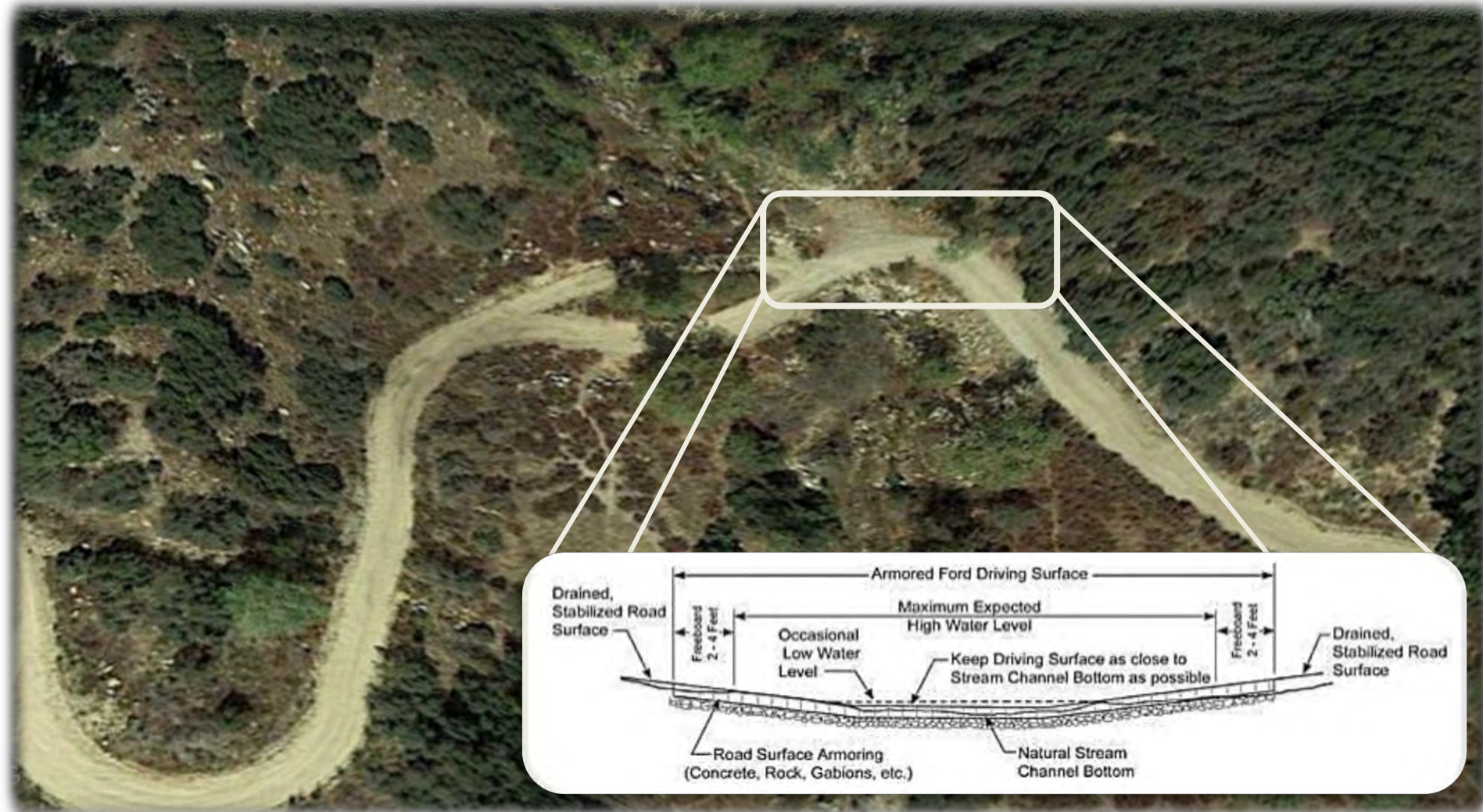
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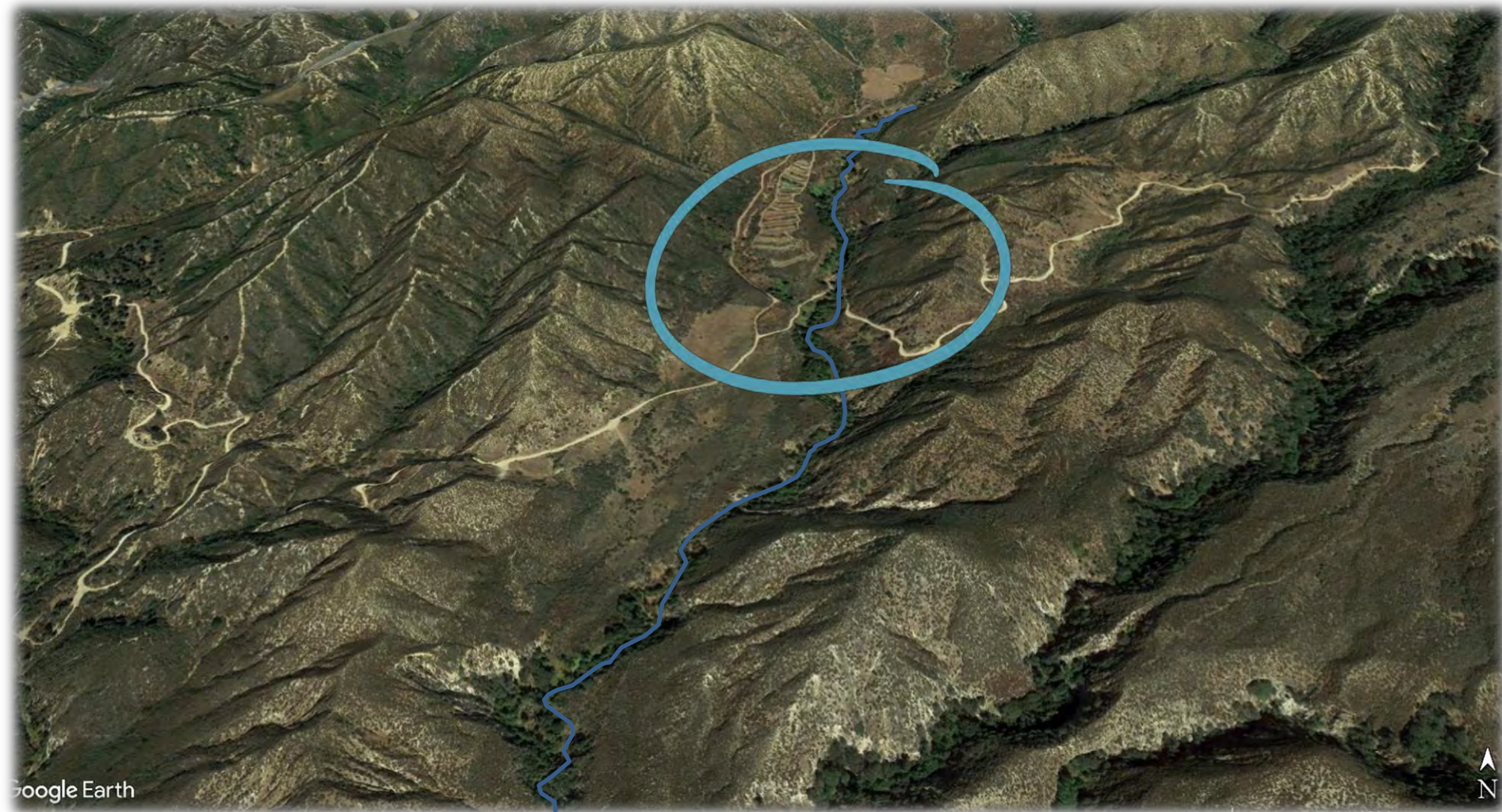
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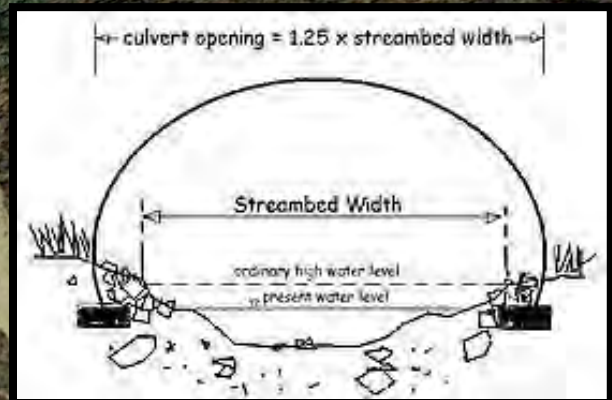
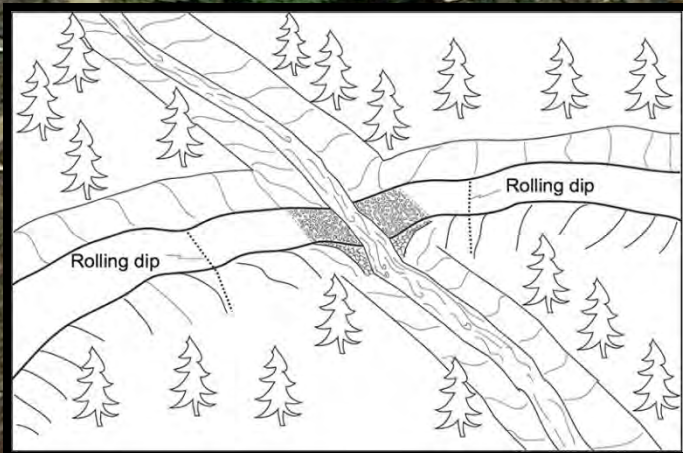
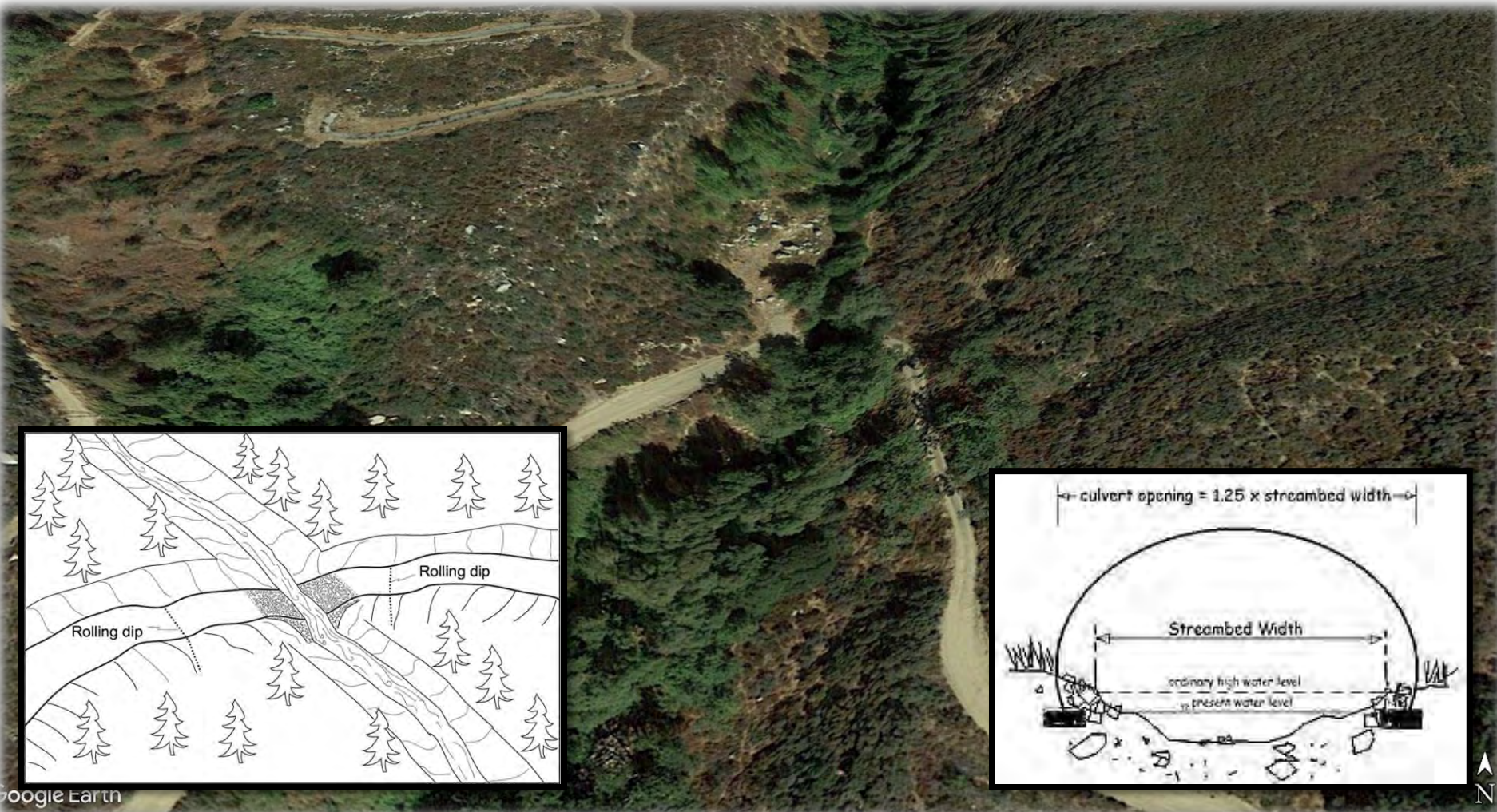
# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



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# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



Google Earth



# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



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Google Earth



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# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)



# Forest First: Increase Stormwater Capture & Decrease Sediment Loading (USFS)

- Description: Reduce the fire risk and improve forest health in the Bluff Mesa and Santa Ana Unit 3 areas.
- Overall Percent Complete : 49%
- Estimated Completion: December 2018
- Benefits: Sediment reduction, water quality, improved resiliency of the forest, and limit fuel loading.

Thank You