



Our water.
Our future.

Paradise Irrigation District

Camp Fire Update

Paradise Irrigation District



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- Established in 1916
- 10,500+ Active Meters
- 9.5 Million Gallons Storage
- 173 miles of main pipe
- 90% Gravity 10% pumped
- Serve about 11,250 acres
- Paradise Lake – 11,500 acre feet
- Magalia Reservoir – 2,560 acre feet (Restricted to 800 acre feet)

Distribution System Facts

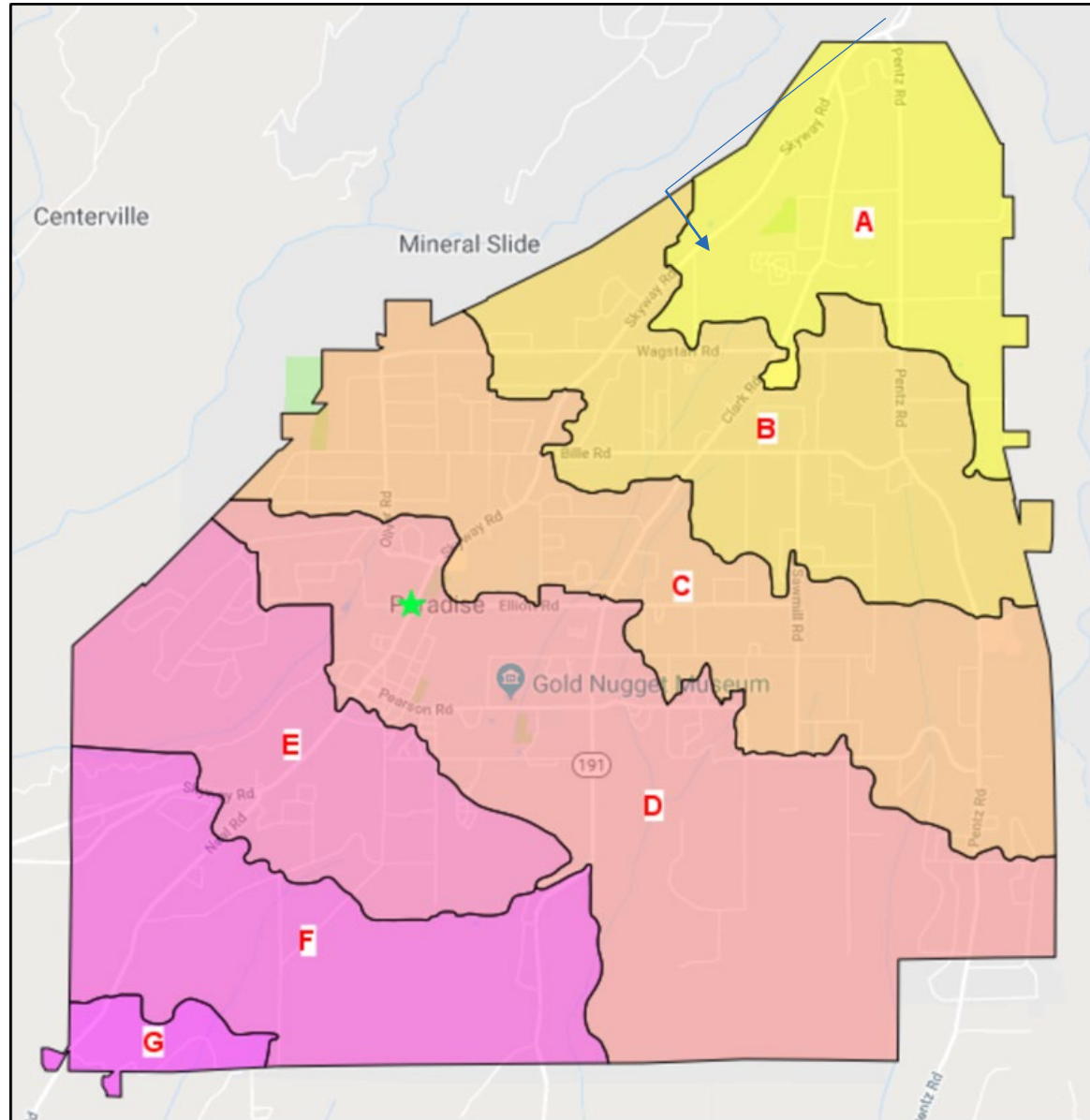
- 172 miles of water main
 - C-900 – 52 miles
 - C-905 – 1.25 miles
 - Steel – 58 miles
 - CML – 33 miles
 - ACP – 17.25 miles
 - Galv. – 2.5 miles
 - PVC – 7.3 miles (schedule 40 and 80)
 - Other – 1 mile
- 7 pressure zones A – G
- 5 storage tanks
 - 1 in ground bladder reservoir (B-Res) - **DESTROYED**
 - 4 aboveground steel storage tank (A, C, D, and E)



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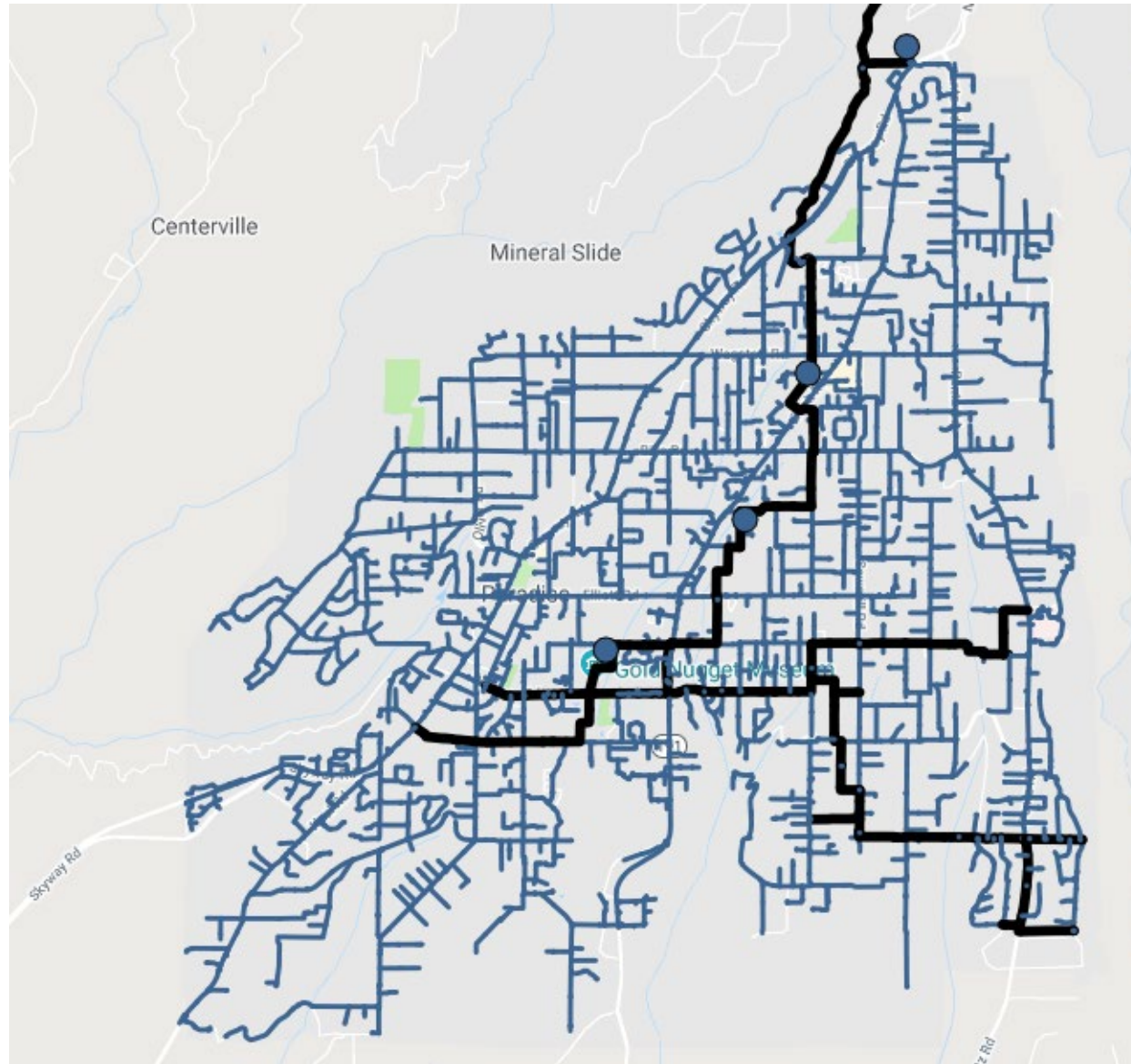
Pressure Zone Map



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Distribution System



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Camp Fire Statistics



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- Structures Destroyed: 13,972 Residences, 528 Commercial and 4,293 other buildings
- Acres Burned: 153,336
 - 10,000 acres in 90 minutes
 - 1 football field every second
- Deaths: 85 civilian fatalities
- Damage: 16.5 Billion

Start of the Fire



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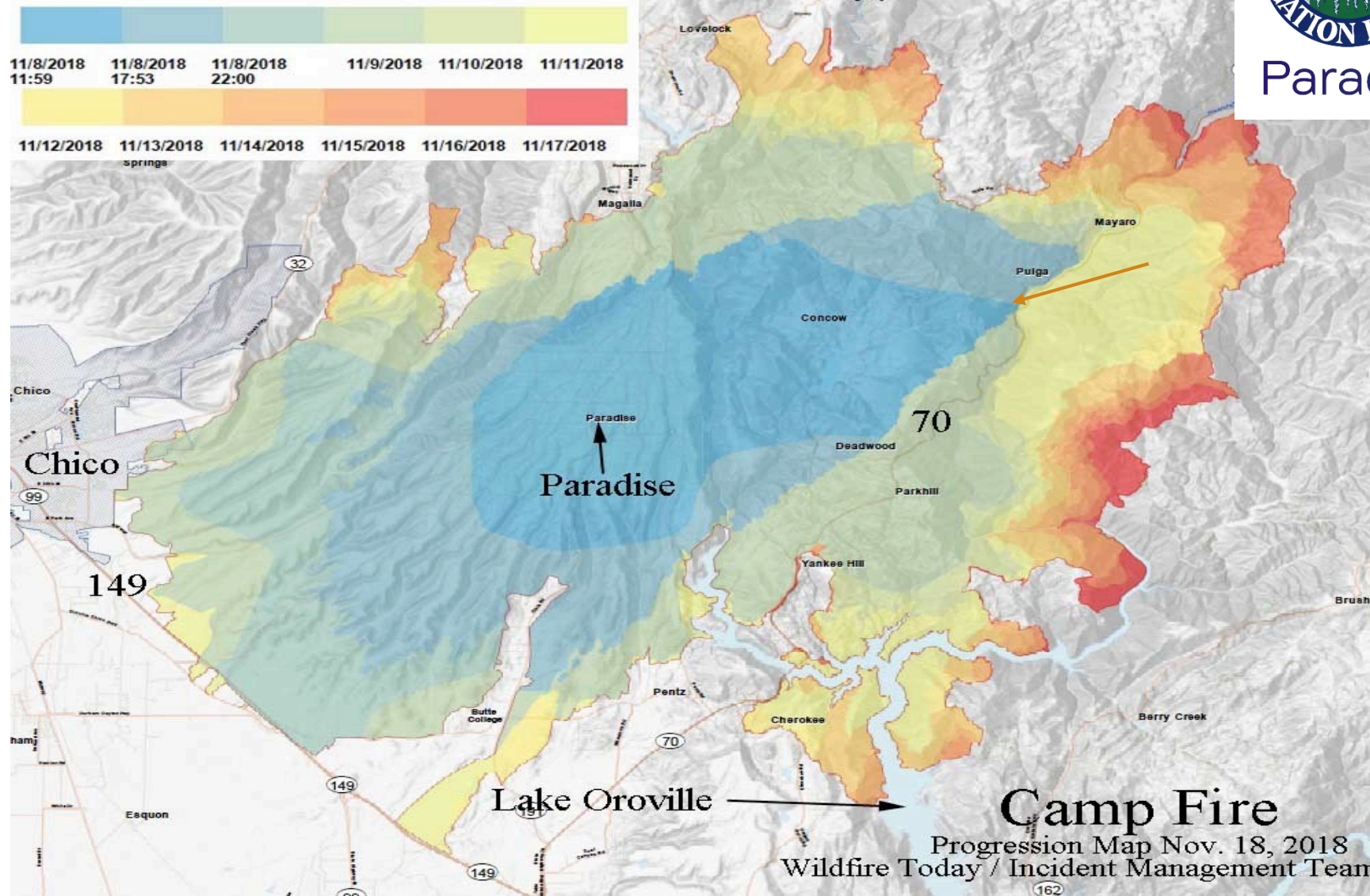


Camp Fire



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Structures Burning



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Structures Burning



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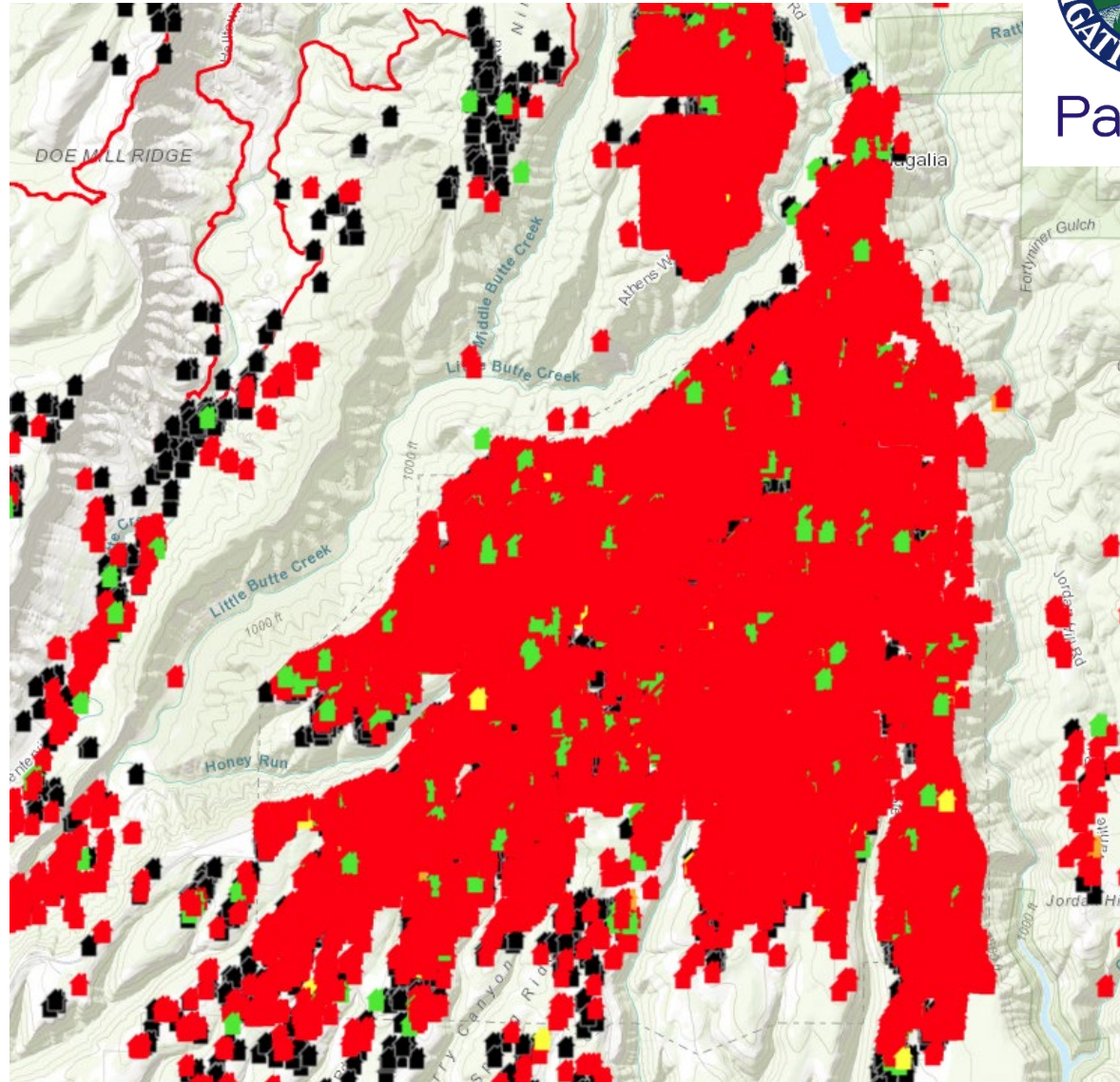


Burned Structure Map



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Structure Map Close-up



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Residential Customers



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Business Customers



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Storage Tank



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Surviving Structures



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Burnt Meters And Contamination



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Depressurization of the System

- About 90% of the system depressurized
- District was required:
 - To turn off all 10,500 services
 - Repressurization of system – 150 miles of pipe
 - Fix and rebuild every Pressure Reducing Value in the system
 - Inspect all storage tanks
 - Bypass B-Reservoir due to damage
 - Customer Service
 - Relocation of the District office
 - Issue water quality advisory
 - Employment issues
 - Mutual Aid

These tasks took the District 2-3 months to complete



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Water Quality

- Depressurization – Created a Vacuum
- Contamination
- Burnt Plastics
 - Meters
 - Service Lines
 - Homes
 - Irrigation
- VOC's (Volatile Organic Compounds)
 - Benzene (DDW mcl 1 part per billion)
 - Other Contaminates
- Contamination is located in distribution infrastructure



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Water Sampling

- Contamination in the distribution system
 - Service lines
 - Main Lines
- Testing
 - Flushing
 - Stagnation of Water to create the proper environment for leaching of contaminate (72 hrs)
 - Pulling sample
 - Getting sample results from certified lab (5 days)



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Water Sampling

- Approx. 500 samples to date
- Mainline samples show some signs of contamination
- 36% of tested service lines show signs of contamination
- Benzene & Other VOC's
 - Benzene Average: 31 ppb
 - Benzene Low 0.5 ppb – high 923 ppb
 - No other VOC's have been detected over the state MCL

Challenges



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- Size of the problem
 - Santa Rosa - 350 service lines with potential contamination
 - PID – 10,500 service lines with potential contamination
- FEMA
- Unprecedented – we are writing the game plan
- Isolating contamination while serving standing homes
- Financial
 - 95% Rate Revenue
 - 95% Fixed Cost
 - 90% loss of Customer Base



Financial



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| Pre-Fire | | | | | |
|---------------------------------|-----------|----------------|----------------|----------------|---------------|
| Description | Customers | 2018/19 Budget | 2019/20 Budget | 2020/21 Budget | Total Revenue |
| Service Charge | 10,500 | 5,148,252 | 5,646,258 | 5,646,258 | 16,440,768 |
| Quantity Charge | 10,500 | 2,833,600 | 2,833,600 | 2,833,600 | 8,500,800 |
| Penalty Charges | 10,500 | 65,000 | 65,000 | 65,000 | 195,000 |
| Total Annual Water Rate Revenue | | 8,046,852 | 8,544,858 | 8,544,858 | 25,136,568 |



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| Post-Fire | | | | | |
|---------------------------------|-----------|----------------|----------------|----------------|---------------|
| Description | Customers | 2018/19 Budget | 2019/20 Budget | 2020/21 Budget | Total Revenue |
| Service Charge | 1,500 | 705,240 | 773,460 | 773,460 | 2,252,160 |
| Quantity Charge | 1,500 | 388,164 | 388,164 | 388,164 | 1,164,493 |
| Penalty Charges | 1,500 | 8,904 | 8,904 | 8,904 | 26,712 |
| Total Annual Water Rate Revenue | | 1,102,308 | 1,170,528 | 1,170,528 | 3,443,365 |



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| | | | | | |
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| | | | | | |
|--|--|------------------|------------------|------------------|------------------|
| Total Annual Water Rate Revenue | | 1,102,308 | 1,170,528 | 1,170,528 | 3,443,365 |
|--|--|------------------|------------------|------------------|------------------|

| Annual Loss due to CAMP fire | | | | | |
|------------------------------|-----------|----------------|----------------|----------------|---------------|
| Description | Customers | 2018/19 Budget | 2019/20 Budget | 2020/21 Budget | Total Revenue |
| Service Charge | 1,500 | 4,443,012 | 4,872,798 | 4,872,798 | 14,188,608 |
| Quantity Charge | 1,500 | 2,445,436 | 2,445,436 | 2,445,436 | 7,336,307 |
| Penalty Charges | 1,500 | 56,096 | 56,096 | 56,096 | 168,288 |

| | | | | | |
|---|--|------------------|------------------|------------------|-------------------|
| Total Annual Water Rate Revenue Loss | | 6,944,544 | 7,374,330 | 7,374,330 | 21,693,203 |
|---|--|------------------|------------------|------------------|-------------------|



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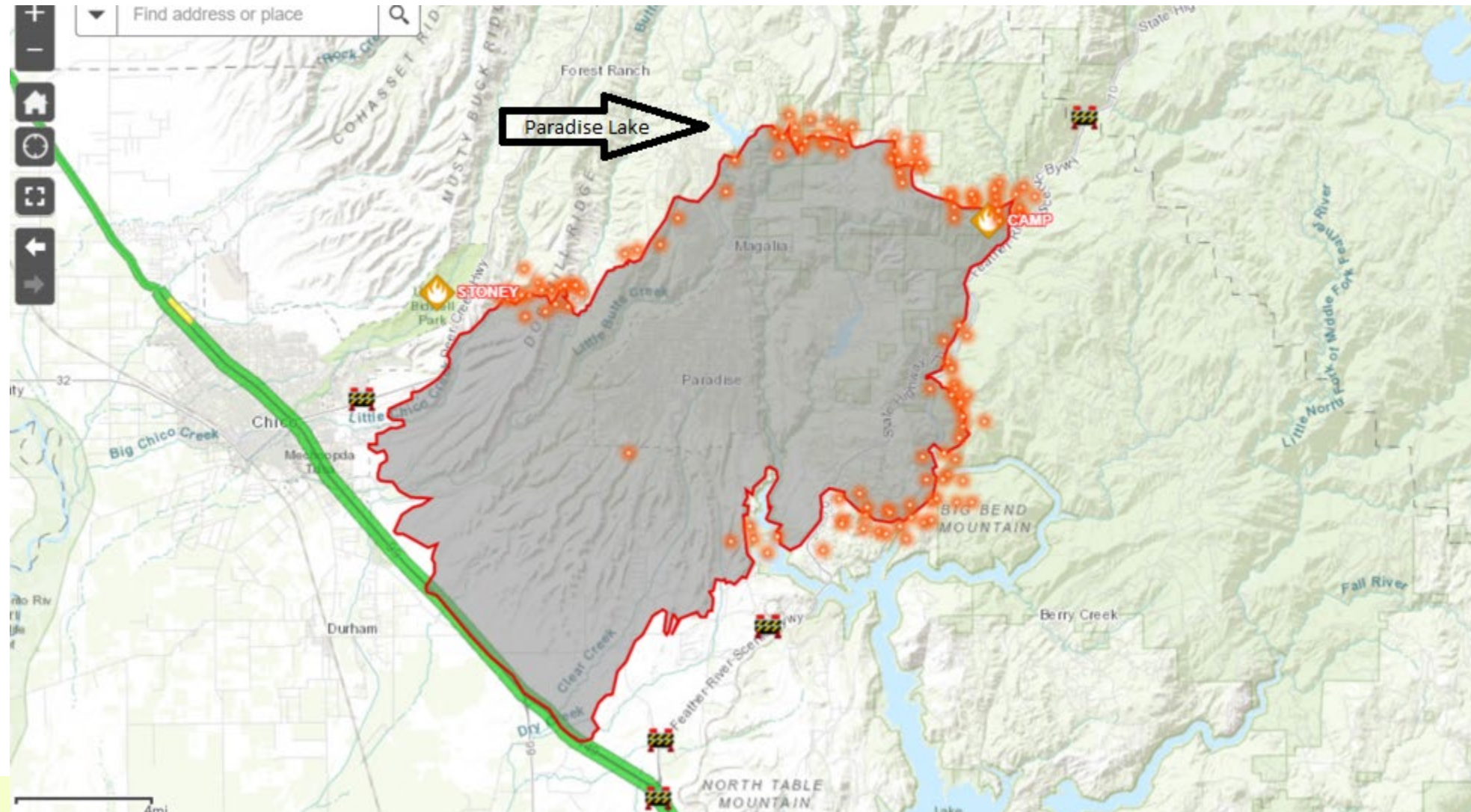
- We are asking that the state General Fund provide a \$21.69 million **one-time appropriation to PID**, allocated to PID's operations and maintenance costs over the next three years.
- The District is looking for support from the water industry.
- Visit www.pidwater/recovery to download a support letter template.



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Stranded Assets





Stranded Assets

- Paradise Lake Watershed
- Treatment Plant
- Main Distribution System
- 5 Steel Storage Tanks
- Water Rights



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Stranded Assets

- Paradise Lake Watershed
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- PROBLEM:
 - No Customers



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Year 4 Project



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- Regional Intertie Concept
 - Transferring Treated Water to assist with implementation of the Sustainable Groundwater Management Act in Butte County
- Transferring Untreated Water
 - Transferring untreated water to agricultural water users in Butte County or other areas.



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Regional Intertie Concept



Recovery Plan

- Test every service line and mainline in the District for contamination
- Replace contaminated Infrastructure
- Reconnect customers
- Long-term monitoring
- Secure funding for 3 years
- "Year 4 Plan"





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Comments & Questions