

[SUMMARY OF FINAL SUBMITTED VERSION]**PROGRESS REPORT BY PERMITTEE FOR 2016**

Primary Owner: CALIF DEPT OF WATER RESOURCES
 Primary Contact:

Date Submitted: 03/30/2017

Application Number: A014443
 Permit Number: 016479

Source(s) of Water	POD Parcel Number	County
SACRAMENTO SAN JOAQUIN DELTA CHANNELS		Contra Costa
FEATHER RIVER		Butte
FEATHER RIVER		Butte
FEATHER RIVER		Butte

MAX Direct Diversion Rate: 7545 CFS
 MAX Collection to Storage: 3542100 AC-FT
 Face Value: 9004510.2 AC-FT

Permitted Use(s)	Acres	Direct Diversion Season	Storage Season
Domestic	0	01/01 to 12/31	09/01 to 07/31
Irrigation	999999.9	01/01 to 12/31	09/01 to 07/31
Municipal	0	01/01 to 12/31	09/01 to 07/31
Recreational	0	01/01 to 12/31	09/01 to 07/31
Incidental Power	0	01/01 to 12/31	09/01 to 07/31
Industrial	0	01/01 to 12/31	09/01 to 07/31
Fish and Wildlife Protection and/or Enhancement	0	01/01 to 12/31	09/01 to 07/31

1. Permit Review

I have reviewed my water right permit	Yes
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2. Compliance with Permit Terms and Conditions

I am complying with all terms and conditions	Yes
Description of noncompliance with terms and conditions	

3. Changes to the Project

Intake location has been changed	
Description of intake location changes	
Type of use has changed	
Description of type of use changes	
Place of use has changed	
Description of place of use changes	
Other changes	
Description of other changes	

4-6. Permitted Project Status

Project Status	Not Complete
6a. Construction work has commenced	Yes
6b. Construction is completed	Yes
6c. Beneficial uses of water has commenced	Yes
6d. Project will be completed within the time period specified in the permit	No
6e. Explanation of work remaining to be done	<p>Additional time is required to maximize the total annual diversion and beneficial use authorized under the permits governing SWP operations on the Feather River and in the Delta. Annual diversions to storage are dependent on numerous factors including end of season storage, annual hydrology, SWP demands and regulatory constraints. Maximum diversion rate, total annual diversion to storage and maximum annual use are expected to increase as demands within the SWP service area increase. DWR filed a Petition for Time Extension with the SWRCB on December 31, 2009. There are a number of factors creating uncertainty as to the ultimate demands for project water and the quantities available and timing of diversions including the Bay-Delta Conservation Plan (BDCCP) process, currently California WaterFix (CWF) and EcoRestore. Following completion of the CWF process DWR should be better able to estimate future demands for Project water. DWR filed a joint Petition for Change with the Bureau of Reclamation to add three new points of diversion in the north Delta to allow the construction of the CWF facilities. In addition to the proposed CWF facilities, construction of the East Branch Extension of the California Aqueduct is not yet complete. The facilities link the SWP at the Devil Canyon power plant to the eastern part of San Bernardino Valley Municipal Water District and San Geronio Pass Water Agency. Phase 1 of the East Branch Extension project is complete. DWR certified the Final Environmental Impact Report for Phase 2 of the East Branch Extension and approved the project on March 2, 2009. Work has begun on Phase 2 with completion of major construction activities currently projected for mid-2017. Other facilities may be required depending on the outcome of current efforts to address issues in the Sacramento/San Joaquin Delta.</p>
6f. Estimated date of completion	12/31/2035

7. Purpose of Use

Irrigation	750000 Acres Mixed Crop Types
Incidental Power	1876 MW
Municipal	25000000
Recreational	boating, fishing, water contact sports
Fish and Wildlife Protection and/or Enhancement	Streamflow Enhancement, Fish & Wildlife Protection
Other	Salinity Control

Special Use Categories

C1. Are you using any water diverted under this right for the cultivation of cannabis?	No
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8. Maximum Rate of Diversion for each Month

Month	Maximum Rate of Diversion (CFS)
January	2496
February	2510
March	3039
April	1551
May	1543
June	0
July	0
August	0
September	0
October	3064
November	3097
December	3536

9. Amount of Water Diverted and Used

Month	Amount directly diverted (Acre-Feet)	Amount diverted or collected to storage (Acre-Feet)	Amount used (Acre-Feet)
January	35415	287183	35415
February	58669	330506	58669
March	82884	1195310	82884
April	43509	340254	85609
May	24862	9227	24862
June	0	0	0
July	0	0	198775
August	0	0	312190
September	0	0	186607
October	50431	0	126404
November	130469	0	130469
December	99537	139919	99537
Total	525776	2302399	1341421
Type of Diversion	Both Direct Diversion and Diversion to Storage		
Comments			

Water Transfers

9d. Water transfered	No
9e. Quantity transfered (Acre-Feet)	
9f. Dates which transfer occurred	/ to /
9g. Transfer approved by	

Water Supply Contracts

8h. Water supply contract	No
9i. Contract with	
9j. Other provider	
9k. Contract number	
9l. Source from which contract water was diverted	
9m. Point of diversion same as identified water right	
9n. Amount (Acre-Feet) authorized to divert under this contract	
9o. Amount (Acre-Feet) authorized to be diverted in 2016	

9p. Amount (Acre-Feet) projected for 2017	
9q. Exchange or settlement of prior rights	
9r. All monthly reported diversion claimed under the prior rights	
9s. Amount (Acre-Feet) of reported diversion solely under contract	

10. Water Diversion Measurement

a. Required to measure as of the date this report is submitted	Yes
b. Is diversion measured?	Yes
c. An alternative compliance plan was submitted to the division of water rights on	
d. A request for additional time was submitted to the division of water rights on	

Measurement ID number	M000258
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Constant Flow Bubbler System with Balance Beam Manometer.
M2. Nickname	Lake Oroville Storage
M3. Type of device / method	Bubbler
M4. Device make	Fluid Data
M5. Serial number	880301
M6. Model number	Water Gage HY300FTH20G1
M7. Approximate date of installation	01/01/2013
M8. Additional info	Lake level is measured by a constant flow bubbler system. Resulting Data is then transferred using three systems. One system transmits lake elevation and precipitation data hourly to NOAA via GOES radio. NOAA's data in turn is transferred to the California Data Exchange Center (CDEC). A second system uses a Campbell Scientific data logger to transfer lake elevation data to a web-based address. A third system transfers lake elevation via PLC and fiber optic network for use in the Wonderware and Alstrom SCADA systems. Real-time SCADA system data is monitored by Senior Hydro Electric Plant Operators 24-hours a day in the Area Control Center at Hyatt Power Plant. Elevation stage data is converted to a volume of acre feet using a storage capacity table.
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	98%
M11. Description of calibration method	per manufacturers recommendations

M12. Describe the maintenance schedule for the device/method	Weekly by Hydroelectric Plant Technician (HEPT)
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	HEPT
M14. Phone number	
M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License number and type for the qualified individual above and/or any other relevant explanation	Hydroelectric Plant Technician under the supervision of an HEP Operations Superintendent
M18. Type of data recorder device / method	Other: Waterlog
M19. Data recorder device make	
M20. Data recorder serial number	
M21. Data recorder model number	
M22. Data recorder units of measurement	
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	Instantaneous 15 Minutes Computed at 2400, Hydstra
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage data by telemetry to the following website	
M27. I have attached additional information on the method I	Yes

used to calculate the volume of water	
M28. Describe any documents related to this measurement device or method that are attached to this water use report	Lake Oroville Area-Capacity Table used to determine storage from elevation measurements.

Measurement ID number	M000264
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Ultrasonic Transducers and Processor
M2. Nickname	Thermalito Diversion Dam Powerplant
M3. Type of device / method	Flow meter (ultrasonic)
M4. Device make	Rittmeyer Risonic
M5. Serial number	01-10-2009-001
M6. Model number	Risonic 2000,MFP10.002
M7. Approximate date of installation	01/01/2013
M8. Additional info	Equipment installed in 2013 Thermalito Diversion Dam Powerplant flow is measured continually using Rittmeyer Risonic 2000 Ultrasonic Transit Time flowmeters. A factor coefficient is periodically used during power generation when flowmeters are unavailable. elevation. The factor coefficient table provides a number value that equates how many acre-feet of water are used to produce a Mega Watt Hour value based on head.
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	+98%
M11. Description of calibration method	per manufacturers recommendations
M12. Describe the maintenance schedule for the device/method	Weekly by Hydroelectric Plant Technician (HEPT)
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	HEPT
M14. Phone number	
M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License	Hydroelectric Plant Technician II under Supervision of a HEP Operations

number and type for the qualified individual above and/or any other relevant explanation	Superintendent
M18. Type of data recorder device / method	Other: Wonderware
M19. Data recorder device make	
M20. Data recorder serial number	
M21. Data recorder model number	
M22. Data recorder units of measurement	Acre-Feet
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	every 15 minutes
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage data by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	
M28. Describe any documents related to this measurement device or method that are attached to this water use report	

Measurement ID number	M000266
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Electronic Data Collection Platform
M2. Nickname	Feather River Hatchery
M3. Type of device / method	Other: Venturi Flowmeter
M4. Device make	Campbell Scientific CR10

M5. Serial number	2728-01501WG
M6. Model number	BC24215130
M7. Approximate date of installation	01/01/2013
M8. Additional info	Water flow from the Diversion Pool to the hatchery is measured using a Venturi flowmeter located in the supply pipe just upstream of the hatchery's aerator tank. The flowmeter's pressure transmitter output is mathematically converted to flow by a PLC. The calculated flow is recorded by a Campbell Scientific CR10 data logger and transmitted to a web-based address. Data is logged in 15-min intervals directly as cubic feet per second. Calculated flow is also transmitted via fiber optic cable for use in the Wonderware and Alstrom SCADA networks.
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	98%
M11. Description of calibration method	Per manufacturers recommendations
M12. Describe the maintenance schedule for the device/method	Weekly by Hydroelectric Plant Technician (HEPT)
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	HEPT
M14. Phone number	
M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License number and type for the qualified individual above and/or any other relevant explanation	Hydroelectric Plant Technician under supervision of HEP Operations Superintendent
M18. Type of data recorder device / method	Data logger (digital)
M19. Data recorder device make	Campbell Scientific CR10
M20. Data recorder serial number	

M21. Data recorder model number	
M22. Data recorder units of measurement	Cubic Feet
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	every 15 minutes
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage data by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	
M28. Describe any documents related to this measurement device or method that are attached to this water use report	

Measurement ID number	M000267
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Electronic Data Collection Platform
M2. Nickname	Thermalito Afterbay River Outlet
M3. Type of device / method	Other: Electronic Data Collection Platform
M4. Device make	Fischer & Porter
M5. Serial number	6706A1052M35
M6. Model number	B4

M7. Approximate date of installation	
M8. Additional info	Equipment was installed prior to 2013. Thermalito Afterbay Outlet releases are recorded using a concrete weir as control. A gaging station records stage level data. Stage level data is converted into cubic feet per second using a rating table that has been developed through a mathematical weir equation and historical flow measurements. A Fischer-Porter water stage indicator float and tape operate in conjunction with an encoder that transmits real time data through a SCADA system. Stage and flow are monitored by Senior Hydro Electric Plant Operators 24-hours a day in the Area Control Center at Hyatt Power Plant.
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	97%
M11. Description of calibration method	per manufacturers recommendation
M12. Describe the maintenance schedule for the device/method	Weekly by Hydroelectric Plant Technician (HEPT)
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	HEPT
M14. Phone number	
M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License number and type for the qualified individual above and/or any other relevant explanation	Hydroelectric Plant Technician under supervision of HEP Operations Superintendent
M18. Type of data recorder device / method	Other: Wonderware
M19. Data recorder device make	
M20. Data recorder serial number	
M21. Data recorder model number	

M22. Data recorder units of measurement	Cubic Feet
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	every 15 minutes
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage data by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	
M28. Describe any documents related to this measurement device or method that are attached to this water use report	

Measurement ID number	M000275
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Staff Gauge Pressure Transducer Elevation Storage Table
M2. Nickname	Clifton Court
M3. Type of device / method	Other: Staff Gauge Pressure Transducer Elevation Storage Table
M4. Device make	KPSI
M5. Serial number	
M6. Model number	342T14BOA-0020
M7. Approximate date of installation	09/01/2016
M8. Additional info	An elevation reading is taken at Clifton at 0001 and again at 2400 hours, The acre-foot change in storage is calculated using an elevation to storage table together with the calculated volume of water pumped at Bank Pumping plant and at Byron Bethany Irrigation District's turnout during the same period. Transducer readings are compared to staff gage reading.
M9. Approximate date	

the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	+95%
M11. Description of calibration method	Per manufacturers recommendations
M12. Describe the maintenance schedule for the device/method	
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	Hydroelectric Plant Technician
M14. Phone number	
M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License number and type for the qualified individual above and/or any other relevant explanation	HEPT under supervision of Supervising HEP Utility Engineer
M18. Type of data recorder device / method	
M19. Data recorder device make	
M20. Data recorder serial number	
M21. Data recorder model number	
M22. Data recorder units of measurement	
M23. Frequency of data recording	
M24. Additional data recorder info	
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage data by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	Yes
M28. Describe any documents related to this measurement device or method that are attached to this water use report	

Measurement ID	M000276
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number	
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Flow Meter
M2. Nickname	Banks Pumping Plant
M3. Type of device / method	Flow meter (ultrasonic)
M4. Device make	Accusonic
M5. Serial number	977
M6. Model number	750P0025O4G0010
M7. Approximate date of installation	01/01/2006
M8. Additional info	Accusonic totalizing Flow Meter is used to measure the flow on five different water conduits. The real-time Actual Flow is seen on the Alstom SCADA screen and the Banks HDR screen. The totalized value sent every hour to a Area Control Center printer for operation review and logging. Quantities are also confirmed using pump run times and pump rating tables. Equipment is scheduled for replacement within the next 6 months.
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	95%
M11. Description of calibration method	Per manufacturers instructions
M12. Describe the maintenance schedule for the device/method	
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	Hydroelectric Plant Technician
M14. Phone number	
M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License number and type for the qualified individual above and/or any other relevant explanation	HEPT under supervision of Supervising HEP Utility Engineer
M18. Type of data recorder device / method	
M19. Data recorder device make	Oki Micoline

M20. Data recorder serial number	
M21. Data recorder model number	AE87038789CO
M22. Data recorder units of measurement	Cubic Feet
M23. Frequency of data recording	Hourly
M24. Additional data recorder info	All data is uploaded to CDEC
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage data by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	
M28. Describe any documents related to this measurement device or method that are attached to this water use report	

Measurement ID number	M000282
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Remote Registering System
M2. Nickname	San Luis Reservoir Storage
M3. Type of device / method	Other: Remote Registering System
M4. Device make	Stevens
M5. Serial number	46650-67
M6. Model number	Type P
M7. Approximate date of installation	
M8. Additional info	A Stevens Recorder captures the lake elevation hourly, and storage is determined from an elevation-to-storage table
M9. Approximate date the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	+90%
M11. Description of calibration method	Per manufacturers recommendations
M12. Describe the maintenance schedule for the device/method	as needed
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	HEPT
M14. Phone number	

M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License number and type for the qualified individual above and/or any other relevant explanation	Hydroelectric Plant Technician II under supervision of a Supervising HEP Utility Engineer
M18. Type of data recorder device / method	
M19. Data recorder device make	
M20. Data recorder serial number	
M21. Data recorder model number	
M22. Data recorder units of measurement	
M23. Frequency of data recording	Hourly
M24. Additional data recorder info	Lake elevation data is transmitted via SCADA and displayed in the SLFD Area Control Center.
M25. I am required to report my diversion or storage data by telemetry as of the date this report is submitted	No
M26. I report my diversion or storage data by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	Yes
M28. Describe any documents related to this measurement device or method that are attached to this water use report	

Measurement ID number	M000382
This Device/Method was used to measure water during the current reporting period	Yes
M1. Briefly describe the measurement device or method	Electronic Data Collection Platform
M2. Nickname	Thermalito Diversion Dam (to River)
M3. Type of device / method	Other: Electronic Data Collection Platform
M4. Device make	Fischer & Porter
M5. Serial number	
M6. Model number	
M7. Approximate date of installation	
M8. Additional info	Releases are recorded using a concrete weir as control. A gaging station records stage level data. Stage level data is converted into cubic feet per second using a rating table that has been developed through a mathematical weir equation and historical flow measurements. A Fischer-Porter water stage indicator float and tape operate in conjunction with an encoder that transmits real time data through a SCADA system. Stage and flow are monitored by Senior Hydro Electric Plant Operators 24 hours a day in the Area Control Center at Hyatt Power Plant.
M9. Approximate	

date the measuring device was last calibrated or the measurement method was updated	
M10. Estimated accuracy of measurement	+95%
M11. Description of calibration method	Per manufacturers recommendations
M12. Describe the maintenance schedule for the device/method	Weekly by HEPT
Information for the person who last calibrated the device or designed the measurement method	
M13. Name	HEPT
M14. Phone number	
M15. Email	
M16. Qualifications of the individual	A person trained and experienced in water measurement and reporting (this may include the diverter or the diverter's agent)
M17. License number and type for the qualified individual above and/or any other relevant explanation	Hydroelectric Plant Technician under supervision of HEP Operations Superintendent
M18. Type of data recorder device / method	
M19. Data recorder device make	
M20. Data recorder serial number	
M21. Data recorder model number	
M22. Data recorder units of measurement	
M23. Frequency of data recording	More frequent than hourly
M24. Additional data recorder info	Every 15 minutes
M25. I am required to report my diversion or storage data by telemetry as of	No

the date this report is submitted	
M26. I report my diversion or storage date by telemetry to the following website	
M27. I have attached additional information on the method I used to calculate the volume of water	
M28. Describe any documents related to this measurement device or method that are attached to this water use report	

11. Storage					
Reservoir name	Spilled this year	Feet below spillway at maximum storage	Completely emptied	Feet below spillway at minimum storage	Method used to measure water level
Oroville	Yes		No	87.90	Nitrogen Bubbler
San Luis Reservoir	No	0	No	0	Analog Stevens Recorder-Indicating and Recording Water Level Gage
Pyramid	No	0	No	0	Prosonic Instrument
Castaic	No	0	No	0	Nitrogen Bubbler
Silverwood	No	0	No	0	Prosonic Instrument
Perris	No	0	No	0	Prosonic Instrument

Conservation of Water	
12. Are you now employing water conservation efforts?	Yes
Description of water conservation efforts	Since 1979 DWR has implemented a program to provide water conservation information and assistance to water users. The Department's Division of Statewide Integrated Water Management provides expertise to local agencies and individuals regarding agricultural and urban water and energy conservation, reclamation and reuse of water, land and water use, and drainage management. The office also manages the California Irrigation Management Information System (CIMIS), assists in establishing mobile laboratories that conduct irrigation system evaluations, carries out data analysis, demonstration projects, and research to achieve energy and water use efficiency, and provides loans and grants to make more efficient use of water and energy resources. In addition to DWR's efforts, the agencies receiving SWP water implement local water conservation programs.
13. Amount of water conserved	

Water Quality and Wastewater Reclamation

14. During the period covered by this Report, did you use reclaimed water from a wastewater treatment facility, water from a desalination facility, or water polluted by waste to a degree which unreasonably affects the water for other beneficial uses?	No
15. Amount of reclaimed, desalinated, or polluted water used	

Conjunctive Use of Groundwater and Surface Water	
16. During the period covered by this Report, were you using groundwater in lieu of available surface water authorized under your permit?	No
17. Amounts of groundwater used	

Additional Remarks

Attachments		
File Name	Description	Size
SAN_LUIS_Elev-Cap.pdf		837 KB
CLIFT_CT_Elev-Cap.pdf		81 KB
OROVILLE_Elev-Cap.pdf		1 MB
14443 Remarks-16.pdf		42 KB

Contact Information of the Person Submitting the Form	
First Name	Anna
Last Name	Fock
Relation to Water Right	Primary Owner of Record
Has read the form and agrees the information in the report is true to the best of his/her knowledge and belief	Yes