SECTION 4.0

DEVELOPMENTAL ANALYSIS

This section analyzes the economic power benefits of the Projects, and estimates the annual cost of the Project, including costs for any construction, operation, maintenance, and environmental conditions. This section also discussed other development benefits.

Under the Commission's approach to evaluating the economics of hydropower projects as articulated in the Commission's Order Issuing a New License to the Mead Corporation (FERC 1995), the Commission employs a "current cost approach" in that all costs are presented in current dollars (e.g., no consideration for potential future power costs, inflation, escalation, or deflation beyond the license issuance date; and costs to be expended over the license term are summed and normalized as current dollars). The Commission's current cost economic analysis provides a general estimate of the potential developmental benefits and costs[1] and non-developmental benefits and costs of a project.[2] This section uses the Commission's current cost method.

4.1 Alternatives Considered in This Section

This section analyzes two alternatives. The No Action Alternative is the current operation of the Project under its existing license and the current waterway environment.

- No Action Alternative.[3] This is the current operation of the Project under its existing license and the current waterway environment. Under the No Action Alternative, the inflow to the Project is the same as it has been historically (i.e., with the existing licenses for the upstream water projects), and downstream water demands are the same as they have been historically. In addition, under the No Action Alternative, there are no changes to existing Project facilities, and no changes to existing Project operations.

  - Costs under the No Action Alternative are YCWA's best estimate of the costs to operate the Project in the future. While YCWA has relied somewhat on historic costs, it has not used those costs without adjustment for future considerations.
  - Power benefits under the No Action Alternative are based on modeled generation using Yuba Accord flow requirements, historic agricultural demand, and hydrologic records from WY 1970 through WY 2010 and on current market prices. YCWA has not used historic generation or its recently expired power purchase contract with PG&E to estimate power benefits because these would be misleading for this analysis. YCWA currently sells all of the electrical output from the Project into the CAISO daily and real-time energy markets, and receives payment from the CAISO

[1] Developmental benefits of the Project include power generation, water supply, flood control, irrigation and river navigation.
[2] Non-developmental benefits of a waterway include fish and wildlife resources, recreational opportunities and other aspects of environmental quality.
[3] No Action Alternative is synonymous with the "baseline" (FERC 1991). YCWA's relicensing Water Balance/Operations Model considers the No Action Alternative to be the "Base Case Scenario" or "Base Case Model Run."

pursuant to the CAISO daily and real-time energy market payment rules. YCWA engages outside firms to act as scheduling coordinator for the CAISO, and to provide assistance on bidding and settlements for the CAISO markets. All electrical generation scheduling is driven by water throughput requirements to meet regulatory flow requirements, consumptive demands, and flood control objectives.

- YCWA's Proposed Project. This is YCWA's proposed Project, including YCWA's proposed conditions, which are described in YCWA's Amended FLA. YCWA's proposed Project scenario in this Amended FLA assumes water would be dispatched between Narrows 2 and Narrows 1 powerhouses as it is dispatched today.[4]

  - Costs under YCWA's proposed Project are similar to the costs under the No Action Alternative, with the exception of YCWA's proposed additions to the Project and proposed PM&E conditions.
  - For ease of comparison, power benefits under YCWA's proposed Project were estimated in the same manner that power benefits were estimated for the No Action Alternative – using published information in the current California electricity market for the unit value of the power (i.e., same unit values used in the No Action Alternative), and estimated generation under YCWA's proposed Project conditions.

4.2 Power and Developmental Benefits

Table 4.2-1 summarizes the assumptions and economic information used in this analysis. This information is provided in Exhibit D of YCWA's Amended FLA, and only summarized here. Cost items common to all alternatives include: taxes and insurance costs; net investment (the total investment in power plant facilities remaining to be depreciated); estimated future capital investment required to maintain and extend the life of plant equipment and facilities; relicensing costs; normal O&M cost; and Commission fees.

Table 4.2-1. Assumptions and cost items common to the No Action Alternative and YCWA's Proposed Project Alternative.

Assumption / Cost Item	Value
Period of Analysis[1, 2]	30 Years
Term of Financing[2]	30 Years
Federal and State Tax Rate[2]	7.5%
Insurance Rate[2]	0%
Base Year for Costs and Benefits[2]	2016
Interest Rate[2]	2%
Discount Rate[2]	5%
Total Original Net Investment ($1966)[3]	$185,000,000
Depreciated Plant In-Service Costs ($2016/yr)[4]	$4,000,000
Power Purchase Contract Management Costs ($2016/yr)[4]	$3,300,000
Local, State and Federal Fees ($2016/yr)[4]	$1,500,000

[4] YCWA and PG&E have negotiated a new agreement for the coordinated operations of the Narrows 1 and Narrows 2 powerhouses for the period beginning on May 1, 2016 (after expiration of YCWA's current power purchase agreement with PG&E on June 30, 2016). However, no substantial changes in operations between the Narrows 1 and Narrows 2 powerhouses are expected, and modeling assumed the same general operations of the two facilities for the No Action and Proposed Project.

Table 4.2-1. (continued)

Assumption / Cost Item	Value
Capital Addition Costs ($2016/yr)[4]	$5,000,000
Recovery of FERC Licensing Application Costs ($2016/yr)[4]	$1,266,667
Operating Reserve ($2016/yr)[4]	$1,953,333
Transmission Costs ($2016/yr)[4]	$7,848
Authorized Installed Nameplate Capacity	361,900 kW

[1] While FERC's current cost approach requires an applicant to base costs in Exhibit D on a 30-year license term, as described in the Initial Statement of YCWA's Amended FLA, YCWA requests, with good cause, from the Commission a new license with a term of 50 years.

[2] As described in Table 2.1-1 in Exhibit D of this Amended FLA.

[3] As described in Section 5.1.1 in Exhibit D of this Amended FLA.

[4] As described in Table 5.1-1 in Exhibit D of this Amended FLA.

[5] As described in Section 5.2.3.1 in Exhibit D of this Amended FLA.

Table 4.2-2. Assumptions and cost items not common to the No Action Alternative and YCWA's Proposed Project Alternative.

Assumption / Cost Item	No Action Alternative	YCWA's Proposed Project
Dependable Capacity[1]	230,259 kW	230.310 kW
Energy ($2016/yr)[2]	$46,228,930	$44,791,832
Ancillary Services ($2016/yr)[2]	$5,159,385	$5,287,806
Non-Environmental/Recreational Operating Costs ($2016/yr)[3]	$28,527,848	$28,527,848
Environmental/Recreational Operating Costs ($2016/yr)[4]	$3,346,000	$4,666,739
New Colgate Powerhouse Tailwater Depression System ($2016/yr) [5]	--	$481,767
New Bullards Bar Reservoir Auxiliary Flood Control Outlet ($2016/yr)[6]	--	$5,297,447

[1] As described in Tables 5.2-8 and 6.3-3, respectively, in Exhibit D of this Amended FLA.

[2] As described in Tables 5.2-13 and 6.3-5, respectively, in Exhibit D of this Amended FLA.

[3] As described in Tables 5.1-1 and 6.2-1, respectively, in Exhibit D of this Amended FLA.

[4] As described in Tables 5.1-1 and 6.2-2, respectively, in Exhibit D of this Amended FLA.

[5] As described in Table 6.1-1 in Exhibit D of this Amended FLA.

[6] As described in Table 6.1-2 in Exhibit D of this Amended FLA.

4.3 Comparison of Alternatives

Table 4.3-1[5] compares the benefits (i.e., capacity, energy and ancillary services), costs (i.e., non-environmental/recreation and environmental/recreation) and net benefits of the No Action Alternative and YCWA's Proposed Project Alternative.

Table 4.3-1. Comparison of annual power benefits, costs net benefits between No Action Alternative and YCWA' proposed Project.

Value	No Action Alternative	YCWA's Proposed Project	Change[1, 2]
AVERAGE ANNUAL GROSS POWER BENEFITS			
Capacity	--	--	--
Installed	361,900 kW	361,900 kW	None
Dependable	230,259 kW	230,310 kW	51 kW (<0.1%)
Subtotal - Value in 2016 Dollars	*$0*	*$0*	*None*
Energy	--	--	--
Peak Energy	171,358 MWh	166,434 MWh	-4,924 MWh (-2.9%)
Partial Peak Energy	501,783 MWh	490,875 MWh	-10,908 MWh (-2.2%)
Off-Peak Energy	616,495 MWh	596,150 MWh	-20,345 MWh (-3.3%)

[5] Table 4.3-1 is essentially the same as Table 7.0-1 in Exhibit D of this Amended FLA.

Table 4.3-1. (continued)

Value	No Action Alternative[1]	YCWA's Proposed Project[2]	Change[3]
AVERAGE ANNUAL GROSS POWER BENEFITS (cont'd)			
Super Off-Peak	128,408 MWh	120,544 MWh	-7,864 MWh (-6.1%)
Subtotal Energy	1,418,044 MWh	1,374,003 MWh	-44,041 MWh (-3.1%)
Subtotal - Value in 2016 Dollars	*$46,228,930*	*$44,791,832*	*-$1,437,098 (-3.1%)*
Ancillary Services Opportunities	--	--	--
Regulation Up	298,993 MWh	307,526 MWh	8,533 MWh (2.9%)
Regulation Down	232,309 MWh	224,270 MWh	-8,039 MWh (-3.5%)
Spinning Reserve	1,175,158 MWh	1,211,686 MWh	36,529 MWh (3.1%)
Subtotal - Value in 2016 Dollars	*$5,159,385*	*$5,287,806*	*$128,421(2.5%)*
Total – Value in 2016 Dollars	**$51,388,315**	**$50,079,638**	**-$1,308,677 (-2.5%)**
AVERAGE ANNUAL COSTS			
Non-Environmental/Recreational	$28,527,848	$28,527,848	None
Addition of New Colgate Powerhouse Tailwater Depression System	--	$481,767	-$481,767
Addition of New Bullards Bar Reservoir Auxiliary Flood Control Outlet	--	$5,297,447	-$5,297,447
Environmental/Recreational	$3,546,000	$4,666,739	-$1,120,739
Total - Costs in 2016 Dollars	**$32,073,848**	**$38,973,801**	**-$6,899,953 (-21.5%)**
AVERAGE ANNUAL NET BENEFIT			
Total – Net Benefit in 2016 U.S. Dollars	**$19,314,467**	**$11,105,837**	**-$8,208,630 (-42.5%)**

[1] Calculate by subtracting YCWA's proposed Project value from the No Action Alternative value.
[2] Percent change expressed as change as compared to the No Action Alternative value.

Under YCWA's proposed Project as compared to the No Action Alternative, no change in installed capacity would occur and dependable capacity would be increased by less than 0.1 percent from 230,259 kW to 230,310 kW. Average annual energy generation would be reduced by 3.1 percent from 1,418,044 MWh to 1,374,003 MWh, with the greatest loss to super off-peak energy (6.1%). Average annual ancillary services opportunities would increase by $128,421 (2.5%). Average annual energy benefits would be reduced by $1,308,677, or by 2.5 percent. (Table 4.3-1.)

Under YCWA's proposed Project as compared to the No Action Alternative, average annual Project costs would increase by $6,899,953 or by 21.5 percent (Table 4.3-1), with 76.8 percent (i.e., $5,297,447 divided by $6,899,953) of the increased cost related to the new Auxiliary Flood Control Outlet, 16.2 percent related to the new environmental and recreation conditions, and 7.0 percent of the increased cost related to the new TDS.

The overall average annual Project net benefit would decrease by $8,208,630 from $19,314,467 to $11,105,837, or by 42.5 percent (Table 4.3-1).

In summary, YCWA's proposed Project represents a financial commitment of $352,638,870 over 30 years: $158,923,400 for the New Bullards Bar Dam Auxiliary Flood Control Outlet, $14,453,000 for the New Colgate Powerhouse TDS, $140,002,160 for environmental and recreation conditions, and $39,260,310 for lost generation. The proposed Project would maintain the installed capacity of the Project, enhance flood control and continue to provide a source of high-quality consumptive water to the region. The proposed Project would provide numerous environmental benefits, some of which include: enhancing fish habitat, which already supports robust and healthy anadromous fish populations; and providing the optimum development of recreational opportunity in the Project area consistent with the purpose of the Project.

Table 4.3-2. Yuba County Water Agency's estimated costs in 2016 dollars related to implementation of YCWA's proposed conditions as part of continued operation of the Yuba River Development Project.

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
GEN1	Organize Ecological Group and Host Meetings	$0	$525,000	$17,500	Assumes preparation, participation and follow-up on (i.e., file letter summary with FERC) one 1-day-long meeting each year at YCWA's office (no cost for meeting room). Assumes greater effort ($35,000) in first 5 years of license, which includes consultant costs and more than one meeting; routine effort ($15,000) in middle years; and reduced effort ($10,000) in last 5 years. Assumes material for meetings provided to Ecological Group when material filed with FERC, as required by that condition (not included in this cost).
GEN2	Annual Review of Special-Status Species Lists and Assessment of New Species on NFS Lands	$0	$540,000	$18,000	Assumes gathering/ reviewing special-status species lists each year at cost of $3,000 per year, and assume six studies over 30 years at cost of $75,000 per study, which includes consultation and reporting. Assumes reporting occurs in Ecological Group's April meeting at no cost to this condition.
GEN3	Provide Environmental Training to Employees	$0	$215,000	$7,167	Assumes preparation and participation in 1 environmental (including cultural) training meeting (~4 hrs long) each year with 20 YCWA O&M staff at a cost of $6,000 per meeting (assumes training for newly hired staff occurs as part of overall employment indoctrination). Also, assumes preparation of training material in License Year 1 at added cost of $15,000, and updating training material in License Years 10 and 20 at additional cost of $10,000 each year.
GEN4	Develop and Implement a Coordinated Operations Plan to Assure Licensee's Compliance with the Yuba River Development Project New License	$0	$330,000	$11,000	Assumes existing Yuba River Development Project/ Narrows Project Coordinated Operations Plan updated in License Year 1 at a cost of $15,000, and average cost of coordinating of $10,000 per year. Assumes update of plan at additional cost of $15,000 when new Narrows Project license is issued (assumed to be in License Year 15). Assumes no new equipment (capital cost) needed.
GEN5	Special-Status Species on NFS Lands	$0	$500,000	$16,667	Assumes on average one new project every three years on NFS lands that triggers preparation of a biological evaluation, and each evaluation, including consultation with FS, costs $50,000.

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
GEN6	Review of Improvements on NFS Lands	$0	$240,000	$8,000	Assumes six Project-specific special use permits (SUP) required for Project-specific work outside of FERC Project Boundary over 30 years at a cost of $40,000 per SUP. Assumes these permit activities occur in first part of new license when recreation construction work more common.
GS1	Implement Erosion and Sediment Control Plan	$0	$0	$0	Assumes this condition implemented for a specific project, and the cost for implementation, which may include the development of site-specific plan for the work based on this condition, included at the time in the cost of the specific work.
GS2	Implement Our House and Log Cabin Diversion Dams Sediment Management Plan	$750,000	$8,050,100	$293,337	Assumes for each sediment-pass-through on average one O&M staff at Our House Diversion Dam for three half days three times once every other year ($2,700 per event) starting in License Year 1, and two O&M staff at Log Cabin Diversion Dam for two half days twice every 4th year ($1,200 per event) starting in License Year 1. Also, assumes $250,000 in capital costs in License Years 10, 20 and 30 for repair of each low-level outlet due to sediment passing though the outlet. Assumes sediment removal would occur at Log Cabin Diversion Dam twice over a 30-year period at a cost of $1,000,000 per event, and at Our House Diversion Dam twice over a 30-year period at a cost of $3,000,000 per event. Assumes existing permits are extended each time, so no additional permitting/environmental study cost.

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
GS3	Implement Our House and Log Cabin Diversion Dams and New Bullards Bar Reservoir Woody Material Management Plan	$1,100,000	$3,716,400	$160,547	Assumes each year, two O&M staff at Our House Diversion Dam for four days four times each year ($19,200 per event), and two O&M staff at Log Cabin Diversion Dam for two days four times each year ($9,600 per event). Assumes $500,000 capital cost for improvements to roads for placing LWM downstream of the dams. Assumes no new equipment (capital cost) or permits needed. Assumes at New Bullards Bar Reservoir, eight O&M staff each year for 15 days in the spring to collect floating material and place it in coves for burning ($72,000/yr); four O&M staff each year for five days in the fall to burn the material ($12,000/yr); two O&M staff each year for five days to open and close the skid roads to the burn areas and stabilize the burn areas ($6,000/yr); and $300,000 to replace boats/tugs/booms used to collect material twice over the term of the new license (License Years 12 and 24). Cost for burn permits included in costs. Assumes surveys for nesting birds will need to be conducted at both sites when New Bullards Bar LWM work occurs ($5,000/yr).
WR1	Implement Hazardous Materials Management Plan	$0	$0	$0	Assumes this condition implemented for a specific project, and the cost for implementation, which may include the development of site-specific plan for the work based on this condition, included at the time in the cost of the specific work.
WR2	Determine Water Year Types for Conditions Pertaining to Our House Diversion Dam, Log Cabin Diversion Dam and New Bullards Bar Dam	$0	$30,000	$1,000	Assumes gathering appropriate information and determining Water Year type each year at cost of $1,000 per year. Assumes information filed with FERC only at end of calendar year.
WR3	Determine Water Year Types for Conditions Pertaining to Narrows 2 Powerhouse and Narrows 2 Full Bypass	$0	$30,000	$1,000	Assumes gathering appropriate information and determining Water Year type each year at cost of $1,000 per year. Assumes information filed with FERC only at end of calendar year.
WR4	Implement Streamflow and Reservoir Level Compliance Monitoring Plan	$1,650,000	$300,000	$65,000	Assumes maintaining and operate all gages at a cost of $10,000 per year, and replacing all gages twice at a cost of $300,000 over 30 years. Assumes increasing the compliance-level measurement capacity of the weirs below New Bullards Bar Dam, Our House Diversion Dam, and Log Cabin Diversion Dam at a capital cost of $350,000 each, which includes permitting costs.

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
WR5	Maintain New Bullards Bar Reservoir Minimum Pool	$0	$0	$0	Assumes cost include in normal Project O&M and no new equipment (capital cost) or permits needed.
WR6	Operate New Bullards Bar Reservoir for Flood Control	$0	$300,000	$10,000	Assumes cost include in normal Project O&M and no new equipment (capital cost) or permits needed.
WR7	Implement Water Temperature Monitoring Plan	$60,000	$1,314,000	$43,867	Assumes total labor cost for monitoring over 30 years of $1,314,000; equipment cost (i.e., loggers or similar device) of $2,000 per year; and reporting covered in Condition 2.13 above. Assumes no cost for boats (use YCWA O&M boats).
WR8	Implement Water Quality Monitoring Plan	$15,000	$925,020	$31,334	Assumes total labor cost for monitoring over 30 years of $935,000; equipment cost (i.e., Hydrolab or similar device) of $500 per year; and reporting covered in Condition 2.13 above. Assumes no cost for boats (use YCWA O&M boats).
WR9	Implement Drought Management Plan	$0	$45,000	$1,500	Assumes drought plan implemented 3 times over 30 years at $15,000 per event.
AR1	Maintain Minimum Streamflows below Our House Diversion Dam and Log Cabin Diversion Dam	$2,587,500	$475,200	$102,090	Assumes one O&M staff person visit to Our House and Log Cabin diversion dams once each month for a day to adjust valves for minimum flows, for a total of $7,200 per year. Assumes capital costs to modify valves for increased flow requirements of $962,000 at Our House, $825,500 at Log Cabin, and $500,000 at New Bullards Bar; and $300,000 for permitting to be spent over the first four years of the new license.
AR2	Control Project Spills at Our House Diversion Dam	$0	$45,000	$1,500	Assumes a spill cessation event will occur every other year, and on average twice each year when they occur, and one staff will be on site a half day for five days for each event ($3,000 every other year). Assumes no new equipment (capital cost) is needed for low-level outlet other than that already included in Condition 2.4 above, and no permits are required.
AR3	Maintain Minimum Streamflows at Narrows 2 Powerhouse and Narrows 2 Full Bypass	$0	$360,000	$12,000	Assumes one-staff-person visit to Narrows 2 Powerhouse once each month to make adjustments for minimum flows, for a total of $12,000 per year. Assumes no new equipment needed to implement condition.
AR4	Control Project Spills at New Bullards Bar Dam	$0	$0	$0	Assumes adjustments made automatically, cost included in normal Project O&M, and no new equipment (capital cost) or permits needed.

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
AR5	Implement Aquatic Invasive Species Management Plan	$50,000	$407,000	$15,523	Assumes annual artificial substrate sampling at New Bullards Bar Reservoir and at Our House and Log Cabin two diversion dams and veliger sampling at New Bullards Bar Reservoir each year and reporting at $6,500/yr. Assumes fabrication, installation and maintenance of informational signs at New Bullards Bar Reservoir and the two diversion dams at a total of $20,000 in License Year 1 and then replaced three times at a cost of $10,000 each time. Assumes annual Asian clam monitoring for License Years 1 through 10 at 7 locations and additional monitoring every 5 years thereafter for a total of 14 years at $10,000 for each event. Bullfrog suppression for License Years 1 through 5 at $12,000 for each event, with reporting. Assumes three changes to the Vulnerability Assessment over the course of the license at $3,000 each. Assumes inspection of houseboats done by Emerald Cove Marina under its lease (no cost in this condition). Assumes BMPs for specific projects would be developed for the specific project, and the cost for development and implementation included at the time in the cost of the specific project.
AR6	Implement New Bullards Bar Reservoir Fish Stocking Plan	$0	$591,500	$19,717	Assumes two plantings per year in New Bullards Bar Reservoir by a private hatchery contracted to YCWA, one planting for each fish species. Total of 1,500 pounds of rainbow trout (2 fish per pound) at $5.00 per pound and 325 pounds of kokanee (200 fish per pound) at $30 per pound. One delivery of each per year to the Cottage Creek Boat Ramp (delivery costs included above). Assumes no fish stocking in the diversion dam pools, and reporting to occur at annual meeting.

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
AR7	Implement Upper Yuba River Aquatic Monitoring Plan	$0	$5,765,400	$192,180	Assumes total labor cost and expenses, including monitoring equipment, over 30-year license term as follows: fish - $2,010,00; benthic macroinvertebrates - $180,000; FYLF – $921,600; WPT - $748,800; channel morphology in Our House and Log Cabin diversion dams - $230,000; and channel morphology, riparian and large woody material - $1,225,000, for a total of $5,315,400. Assumes one report prepared each year for all of the resource areas at a cost of $15,000 per year (report will include the resources in this condition as well as water temperature and quality (Conditions 2.14 and 2.15 below). Assumes no cost for boats (use YCWA O&M boats).
AR8	Implement Lower Yuba River Aquatic Monitoring Plan	$0	$9,434,000	$314,467	Assumes total labor cost and expenses, including monitoring equipment, vehicles and boats over 30-year license term as follows. In each year that substrate, LWM, riparian/cottonwood and BMI is performed, the cost is $42,000, $19,000, $30,000 and $15,000, respectively. Therefore, since substrate, LWM, riparian/cottonwood would occur in 4 years over a 30-year term, the respective total cost over 30 years is $168,000 for substrate, $76,000 for LWM and $120,000 for riparian/cottonwood. Costs for BMI over 30 years would be $90,000 (4 years monitoring and assumed 2 years of conditional monitoring for dry year conditions). Assumes one report prepared each year for all of the resource monitoring in that year with costs included in above estimates. In each year that mark-recapture and biometric surveys of Chinook salmon carcasses downstream of Daguerre Point Dam occurs, the cost would be $50,000. Mark-recapture and biometric surveys would occur during the first 10 years after license issuance, and subsequently during 3 years of each 10-year block through the term of the license. Therefore, over a 30-year license term, the total cost would be $800,000. In each year that biometric surveys of Chinook salmon carcasses upstream of Daguerre Point Dam occurs, the cost would be $10,000. Biometric surveys would occur during the first 10 years after license issuance, and subsequently during 3 years of each 10-year block

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
AR8 (cont'd)	Implement Lower Yuba River Aquatic Monitoring Plan (cont'd)				through the term of the license. Therefore, over a 30-year license term, the total cost would be $160,000. In each year that the VAKI Riverwatcher™ monitoring occurs, the cost would be $120,000. VAKI Riverwatcher™ monitoring would occur each year over a 30-year license term. The total cost would be $3,600,000. In each year that steelhead redd surveys occur, the cost would be $55,000. Steelhead redd surveys would occur during the first 5 years after license issuance, and subsequently during 3 years of each 10-year block through the term of the license. For cost estimation purposes, 14 annual surveys are assumed. Therefore, over a 30-year license term, the total cost would be $770,000. In each year that rotary screw trapping occurs, the cost would be $250,000. Rotary screw trapping would occur during the first 5 years after license issuance, and subsequently during 3 years of each 10-year block through the term of the license. For cost estimation purposes, 14 annual surveys are assumed. Therefore, over a 30-year license term, the total cost would be $3,500,000. Assumes cost of monitoring for stranded fish is $5,000 per event and one event per year over a 30-year term. Report preparation for each year of monitoring is included in the above cost estimates for each monitoring component.
AR9	Control Project Ramping and Flow Fluctuations Downstream of Englebright Dam	$0	$2,340,000	$78,000	For ramping, coordination requires four senior staff for 2 hours each week year round ($52,000/yr). For flow fluctuation, coordination requires four senior staff 2 hours a week from September 1 through March 31 each year ($26,000/yr). O&M staff time not included and assumes no new equipment needed.
AR10	Maintain Minimum Streamflow Below New Bullards Bar Dam	$0	$0	$0	Assumes all adjustments for minimum flows are made remotely (no cost), and no new equipment needed to implement condition.

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
AR11	Periodically Close Lohman Ridge Diversion Tunnel	$5,500,000	$198,000	$189,933	Assumes two O&M staff visit Our House Dam one day when tunnel closed and two staff for two days when tunnel opened (related to preparing to close and open tunnel gate), at a cost of about $3,600 per event, and events occur every year. Assumes one time capital costs to modify Lohman Ridge Tunnel intake of $4,500,000, with additional $500,000 for related environmental studies, permitting and intertie connections over License Years 1 through 5. Assumes $500,000 for equipment replacement costs in License Year 15. Also assumes $3,000 per year in reporting costs.
AR12	Control Project Spills at Log Cabin Diversion Dam	$0	$13,500	$450	Assumes a spill cessation event will occur every other year, and on average once each year when they occur, and one staff will be on site a half day for three days for each event ($900 every other year). Assumes no new equipment (capital cost) is needed for low-level outlet other than that already included in Condition 2.4 above, and no permits are required.
TR1	Implement Integrated Vegetation Management Plan	$0	$1,400,040	$46,668	Assumes three surveys of all areas at $150,000 at License Years 1, 11 and 21, and three surveys of just high use areas at $100,000 every five years on NFS lands for NNIPs and special-status plants. Treatment of NNIP on NFS lands (currently known weeds at $10,000 a year for each occurrence for five years and an assumed additional 10 occurrences at $10,000 a year for each occurrence for five years). Re-vegetation of areas of Project-related ground-disturbing activities at $100,000 (non-routine) (assume four projects at $50,000 each for revegetation needs). Implementation of LOPs and other protection measures for sensitive areas (assume assorted costs of $50,000 for this implementation and other general support).
TR2	Implement Bald Eagle and American Peregrine Falcon Management Plan	$0	$750,000	$25,000	Assumes Peregrine falcon surveys in License Year 1 and every 5th year thereafter ($5,000 per survey). Bald eagle surveys to be conducted annually include a single day winter survey (one visit at a cost of $3,500 annually) and nesting surveys (three visits at a cost of $15,000 annually). A winter roosting survey conducted once (one time cost of $10,000) and consultation will determine need for additional (assumes four additional surveys over license term for a cost of $40,000 over 30 years). Maintenance of special-status raptor map and LOPs, including installation of buoys for one nest buffer is assumed at $3,000 annually or $90,000 over 30 years.

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	Description				
TR3	Implement Ringtail Management Plan	$0	$65,000	$2,167	Assumes initial cost for purchasing and installing protective device is $30,000 in License Year 1, and bi-annual inspection of exclusion measures and replacements assumed at $2,500 every other year.
TR4	Implement Bat Management Plan	$15,000	$65,000	$2,667	Assumes installation and annual inspection of exclusion devices at $2,000 per year, with an equipment cost of $10,000 in License Year 1 and replacement once.
RR1	Implement Recreation Facilities Plan				The cost breakdown is provided by major facility, as requested by FERC in previous relicensings. Assumes the recreation road, parking area and camping spur costs are included in the Transportation System Management Plan and not the Recreation Plan. The O&M costs: 1) include YCWA staff time to operate facilities on YCWA land; 2) assumes the facilities on NFS land would be operated by the Forest Service. In addition, O&M costs include annualized monitoring costs of $44,000/year, which includes annual campground occupancy, boat ramp parking and reservoir boating reports, 6-year observation and reservoir capacity surveys and reports, West Shoreline Trail, and 12-year visitor surveys and reports. Note: About 54% of the total Condition RR1 cost is for the rehabilitation and operation of existing recreation facilities (no upgrades) over the term of the new license. The remaining 46% is for new facilities and improvements to the existing facilities, including rehabilitation, operation and monitoring.
	Schoolhouse Campground	$3,459,000	$2,526,040	$199,501	
	Dark Day Campground	$498,000	$778,820	$42,561	
	Hornswoggle Campground	$3,071,000	$2,041,840	$170,428	
	Kelly Ridge Campground (new)	$4,930,000	$2,169,455	$236,649	
	Cottage Creek Campground	$887,000	$899,870	$59,562	
	Shadow Ridge Campground (new)	$2,370,000	$952,390	$110,746	
	Garden Point Boat-in Campground	$689,000	$1,007,790	$56,560	
	Madrone Cove Boat-in Campground	$534,000	$523,590	$35,253	
	Frenchy Point Boat-in Campground	$25,000	$0	$833	
	Dark Day Picnic Site	$608,000	$657,770	$42,192	
	Sunset Vista Observation Site	$406,000	$536,720	$31,424	
	Dam Overlook Observation Site	$24,000	$160,440	$6,148	
	Moran Road Boating Site	$217,000	$415,670	$21,089	
	Cottage Creek Picnic Site (new)	$495,000	$899,870	$46,496	
	Dark Day Boat Launch	$5,958,000	$2,617,950	$285,865	
	Cottage Creek Boat Launch	$1,714,000	$2,617,950	$144,398	
	Dark Day RV Dump Station (new)	$357,000	$968,400	$44,180	
	Recreational Trails	$71,000	$739,430	$27,014	
	Recreational Trails (new)	$1,031,000	$739,430	$59,014	
	Water Supply System	$5,536,000	$1,815,750	$245,058	
	Electrical System (new)	$2,620,000	$726,300	$111,543	
	Floating Restrooms	$948,000	$363,150	$43,705	
	Our House Diversion Dam	$506,000	$1,109,145	$53,838	
	Colgate Powerhouse (new)	$110,000	$255,230	$12,174	
RR2	Provide Recreation Flow Information	$0	$150,000	$5,000	Assumes no new equipment needed to implement condition, and information provided on CDEC with some QA/QC at $5,000/year.
RR3	Provide Whitewater Boating Below Our House Diversion Dam	$0	$54,000	$1,800	Assumes providing flows every other License Year for three weekends on average, each of those years (45 events). Assume two YCWA staff trips to dam for each event ($1,200 per event). Assumes YCWA will use Lohman Ridge Diversion Tunnel gate covered under Condition #2.9 above (no cost in this condition).

Table 4.3-2. (continued)

YCWA's Proposed Condition		Total Capital Cost Over 30 Years[1] (2016 U.S. Dollars)	Total O&M Cost Over 30 Years (2016 U.S. Dollars)	Annualized Cost Over 30 Years[2] Excluding Energy (2016 U.S. Dollars)	Assumptions Over 30 Years[3]
Designation in This Amended FLA	**Description**				
LU1	Implement Transportation System Management Plan	$0	$24,464,500	$815,483	Assumes cost/yr of $200,000 for annual O&M (includes annual roads O&M at Project recreation facilities on NFS lands). Other costs in a given year include a range of projects, such as periodic maintenance (e.g., culvert replacements, landslide and gulley repairs), long-term maintenance (repaving Project roads every 20 yrs), and road development/upgrades at seven post-FLA recreation facility improvement sites.
LU2	Implement Fire Prevention and Response Plan	$0	$30,000	$1,000	Assumes $5,000/fire and six fires over term of license (years selected randomly for cash flow purposes).
CR1	Implement Historic Properties Management Plan	$0	$1,956,000	$65,200	Assumes NRHP evaluation of 22 archeological sites at $25,000/site; NRHP of ten built resources at $7,500/resource; and data recovery at six sites at $100,000/site. Assumes annual costs of $5,000/yr for compliance report and $4,000/yr for meetings with tribes and agencies; and once every 10 years meeting with tribes and agencies to review HPMP at a cost of $10,000/meeting. Assumes $2,000/yr for employee training. Assumes public education signage (one time cost of $18,000). Also, assumes if New Bullards Bar Reservoir drawn down so that inundated sites are exposed, NRHP evaluation of the 11 inundated archeological sites and survey for cultural resources in areas not surveyed during relicensing study (below El. 1,805 ft) ($325,000), with an additional $50,000 for analysis of collections at University of California, Sacramento from two of the submerged sites.
VR1	Implement Visual Resource Management Plan	$0	$63,000	$2,100	Assumes initial implementation (e.g., vegetation planting and clearing and painting) is $35,000 in License Years 1 and 2. Follow up maintenance and or replacement is estimated at $28,000 over the course of 30 years. Assumes visual resource plans and work associated with any specific project are included in the cost of the specific project.
	Total	**$48,791,500**	**$91,210,660**	**$4,666,739**	**41 Conditions**
	Total Over 30 Years	**$140,002,160**			
	Annualized Over 30 Years	**$1,626,383**	**$3,040,355**		

[1] Capital cost include new facilities or equipment or replacement of existing facilities or equipment with facilities or equipment that extend the life expectancy of the existing facilities or equipment.

[2] Total annualized costs are calculated by summing Capital Cost and Total O&M Cost, and dividing the sum by 30.

[3] Assumes cost of O&M staff is $600 per day.

4.4 Other Developmental and Non-Developmental Benefits

This section describes other developmental and non-development benefits.

4.4.1 Flood Management

The need for flood control on the Yuba River was the principle reason for the creation of the YCWA and the construction of New Bullards Bar Dam. Historically, the Marysville-Yuba City area experienced the ravages of a major flood about once every 10 years. The historic discharge of debris from placer mines in Nevada County compounded the flooding problems because it raised the river beds by many feet (ft). Levees began providing flood control protection for Yuba City and Marysville as early as 1875, and are still heavily relied on for flood protection. This is primarily because there is no significant flood protection from the South Yuba and Middle Yuba rivers.

New Bullards Bar Dam and Reservoir are used to control about one half of the flood flows of the Yuba River, with the remainder of the runoff essentially un-controlled. The Project provides essential flood management by reducing the peak flood flow on the lower Yuba River and the Feather River in the Marysville-Yuba City area downstream to the Sacramento River.

In the 1997 flood, the major levee break was on the Feather River on the Yuba County side in the Arboga area, resulting in the flooding of the local residences and the surrounding rural/agricultural areas. In this flood, 1,000 acres of residential land, 15,500 acres of agricultural land and 1,700 acres of industrial lands were flooded; 322 homes were destroyed; and 407 homes suffered major damage. The economic cost of this flood was estimated at $300,000,000. Only 11 years before, in 1986 a massive flood in Linda and Olivehurst, which resulted from a levee break on the Yuba River, flooded more than 3,000 homes and destroyed 895 homes, with an estimated cost of $450,000,000.

Without New Bullards Bar Dam, the estimated peak flow for the 1 in 100 year flood is 260,000 cfs on the Yuba River at Marysville, and would result in approaching the crest of the levee in this area. With New Bullards Bar Dam, the peak flow for this flood event would be 153,000 cfs, which is well below the levee crest. Without the Project, floods greater than the 1 in 100 unregulated conditions would overtop the levee, while the Project reduces the flood peak to below the levee top for floods even larger than the 1 in 200 year event.

The reduction in flood flows by the Project primarily protects the urban areas of Marysville, Yuba City and reclamation District 784 as well as surrounding rural areas. The value of structures and contents in the Yuba City and Reclamation District 784, which includes the communities of Linda and Olivehurst, total more than $8,500,000,000, and these areas have a combined population of about 110,000.

YCWA's proposed Project would not only continue this valuable flood protection, but enhance it with the addition of the new Auxiliary Flood Control Outlet at New Bullards Bar Dam and new TDS at New Colgate Powerhouse.

The Auxiliary Flood Control Outlet would increase operational flexibility during storm events, which would result in lower flood stages downstream and provide flood system resiliency. Specifically, these benefits would include:

- Provide up to an additional 100,000 ac-ft of flood reservation that is currently not available because of the existing spillway elevation.[6]
- Increase the outlet capacity to 45,000 cfs at elevation 1,918 ft, the elevation of the bottom of current flood reservation space, and to 66,000 cfs at elevation 1,956 ft, the elevation at the top of flood reservation space.
- The outlet would be an integral part of operating the New Bullards Bar Reservoir under the Forecast-Based Operation[7] during major flood events by creating additional storage space in the reservoir in advance of major floods.
- Provide greater flexibility in flood management operations in larger flood events along the Yuba, Feather and Sacramento river systems by allowing larger and earlier pre-storm releases at lower reservoir elevations from New Bullards Bar Reservoir, which will increase the ability of reservoir operators to maintain the objective flows in the Feather River for larger flood events (i.e., lower downstream flows).

Several outlet configurations have been studied and this option provides the greatest opportunity to provide system-wide benefits as identified in the California Department of Water Resources Central Valley Flood Protection Plan - State System-wide Investment Approach (SSIA).[8]
The new TDS would introduce compressed air into the sealed New Colgate Powerhouse turbine discharge chamber to lower the tailwater to a level that does not interfere with turbine operation, thereby allowing continued turbine operation during high flows. The TDS will thus enhance the ability to regulate flood releases from New Bullards Bar Reservoir and increase the production of energy. The TDS was planned for, but not included in initial Project construction.

4.4.2 Irrigation

One of YCWA's primary purposes is to provide a reliable water supply to farmers in Yuba County. Yuba River water is supplied through direct diversion of natural flow and by storage releases from New Bullards Bar Reservoir. Irrigation water is diverted under YCWA's water right permits and delivered to BWD, BVID, CID, DCMWC, HIC, RWD, SYWD, and WWD. In addition to YCWA water right permits, several of the Member Units have their own water rights. BVID receives water at the Pumpline Diversion Facility, located 1 mile upstream from Daguerre

[6] Additional flood space storage associated with a new flood control outlet would only result from pre-emptive releases as part Forecast-Based Operations in anticipation of very large storms. This magnitude of storm would be very infrequent, occurring less than once every 10 years.

[7] Forecast-Based Operations is a program of coordinated reservoir operations between YCWA, the California Department of Water Resources, National Weather Service and the USACE, utilizing weather forecasts to inform coordinated operations for flood management between New Bullards Bar and Oroville reservoirs.

[8] The State System-wide Investment Approach (SSIA) reflects the state of California's strategy for modernizing the State Plan of Flood Control to address current challenges and affordably meet the 2012 Central Valley Flood Protection Project goals. Preliminary approaches suggested a broad range of physical and institutional flood damage reduction actions to improve public safety and achieve economic, environmental, and social sustainability. The SSIA is an assembly of the most promising, affordable, and timely elements of the three preliminary approaches.

Point Dam. CID, HIC, and RWD receive water through the Hallwood-Cordua Canal (North Canal), located on the north abutment of Daguerre Point Dam. BWD, SYWD, DCMWC, and WWD receive water through the South Yuba Canal (South Canal), located on the south side of the Yuba River slightly upstream of the south abutment of Daguerre Point Dam. Contract allocations for each of the Member Units are summarized in Table 4.4-1.

Table 4.4-1. Yuba County Water Agency annual contract amounts.

Member Unit	Water Right Based Supply (ac-ft)	Project Based Supply (ac-ft)	Total Contract (ac-ft)
BROWNS VALLEY IRRIGATION DISTRICT PUMPLINE DIVERSION FACILITY			
Browns Valley Irrigation District	23,469	9,500	32,969
SOUTH YUBA CANAL			
Brophy Water District	--	86.870	86,870
South Yuba Water District	--	54,307	54,307
Dry Creek Mutual Water Company	--	17,751	17,751
Wheatland Water District	--	40,230	40,230
HALLWOOD-CORDUA CANAL			
Cordua Irrigation District	60,000	24,000	84,000
Hallwood Irrigation Company	78,000	11,208	89,208
Ramirez Water District	--	30,389	30,389
Total	**161,469**	**274,255**	**435,724**

BVID, CID, and HIC have water rights on the lower Yuba River. Under YCWA water right settlement contracts, BVID, CID and HIC receive surface water supplies as part of Project operations that are based on these Member Units water rights. All eight of the Member Units receive contracted Project supplies that are not water right based.

The total irrigated farmland acreage served from operations of the Project is about 90,000 acres. Yuba Counties productive farmland has an annual economic output of $213,000,000 in 2011, with the top three crops being rice, walnuts and dried plums (prunes) accounting for 70 percent of the total farmland production value (Yuba County Agricultural Commission 2012). This production in turn provides over $866,000,000 to the local economy from processing, transportation, marketing and other farm related services directly or indirectly tied to agriculture.

YCWA's proposed Project would provide for the continued delivery of water to YCWA's Member Units. Under both the No Action and YCWA's proposed Project – Existing Water Deliveries alternatives Operation Model Runs, YCWA Member Units have very high reliability of water supplies; the only deficit under the model run occurred in 1977, when total delivery to the Member Units was 50 percent of demand (i.e., total demand under existing conditions is approximately 300,000 ac-ft/yr).

Under YCWA's proposed Project – 2062 Water Deliveries Operations Model Run - changes to Project inflows due to changes in upstream projects operations and water supply deliveries reflected a 2062-level of development, and YCWA Member Unit demand reached a full-build out - the Project was able to maintain the same level of water supply reliability that the Member Units experience under existing operations and demands (i.e., total demand under future conditions is approximately 320,000 ac-ft/yr).

4.5 Benefits of Yuba Accord

4.5.1 Anadromous Fish in the Yuba River Downstream of Englebright Dam

New Bullards Bar Reservoir stores a deep pool of cold water behind the 645-ft dam, and water from this pool ultimately is released to the Yuba River downstream of Englebright Dam. The New Bullards Bar Reservoir primary release point is through the New Colgate Powerhouse just upstream of Englebright Reservoir. Flow transit time through Englebright Reservoir is typically less than 1.5 days. Also, Englebright Dam is over 240 ft tall. As a result of the configuration of these Project and non-Project facilities, water released through the Narrows 2 Powerhouse typically has temperatures of 48 to 54 degrees Fahrenheit year-round. Spring-run Chinook salmon reportedly were extirpated from the Yuba River in 1959 and, as reported by California Department of Fish and Game (1991), a population of spring-run Chinook salmon became re-established in the 1970s due to improved habitat conditions that resulted from Project operations, fish stocking from the Feather River Fish Hatchery, and fish straying from the Feather River. Improved cold water conditions and higher and more-stable summer flows resulting from the Project contributed to, and possibly were fundamental to, this reestablishment.

YCWA has diligently pursued safeguarding flows in the Yuba River downstream of Englebright Dam. In 2002 through 2005, representatives of YCWA, Cal Fish and Wildlife, NMFS, USFWS, and several non-governmental organizations negotiated a set of minimum flow requirements (flow schedules) for the Yuba River downstream of Englebright Dam. These flow schedules were designed to provide the maximum possible benefit for the aquatic resources of the Yuba River, using available water supplies. The flow schedules settled a contested SWRCB water rights hearing and related litigation regarding lower Yuba River minimum flow requirements that had been pending for many years. The flow schedules developed by this group were included in the Yuba Accord Fisheries Agreement, which was one of three related agreements that together are known as the "Lower Yuba River Accord." The second agreement, the Water Purchase Agreement, provided a long-term pathway for continued water transfers to help support statewide water supply needs. The third agreement, the Conjunctive Use Agreements, put in place a conjunctive use program to help ensure the local water supply and sustainably manage the local groundwater basins.

During 2005-2007, YCWA conducted comprehensive CEQA and NEPA processes to analyze the environmental effects of the Yuba Accord, and, in late 2007, YCWA certified its final EIR for the Yuba Accord. On May 20, 2008 the SWRCB adopted its Corrected Order WR 2008-0014, which amended YCWA's water right permits to incorporate the Yuba Accord flow schedules. In total, YCWA expended more than $8,000,000 through the crafting of the Yuba Accord and completion of the CEQA/NEPA process.

As a requirement of the Fisheries Agreement, YCWA also has established the RMT, which is comprised of representatives of YCWA, Cal Fish and Wildlife, NMFS, USFWS, and NGO's. The primary purpose of the RMT is to evaluate the effects of implementation of the Yuba Accord on anadromous fish in the lower Yuba River. YCWA has funded a monitoring plan

since 2007. YCWA's direct expenditure on studies and science is over $5,000,000, and YCWA's expenditures including participation in the RMT and in-kind contributions total another $2,000,000. YCWA's commitment to direct and indirect funding of the RMT continues until the issuance of a new Project license.

YCWA's proposed Project will preserve the numerous benefits developed through the Yuba Accord.

4.5.2 Statewide Water Supply and Funding for Local Flood Control Projects

Since 1989, YCWA has completed stored-water transfers by operating New Bullards Bar Reservoir to make additional releases as a way to provide needed supplemental water supplies for water-short areas of the State, and to provide a revenue stream that is used to fund flood control projects in Yuba County. With the implementation of the Yuba Accord, YCWA has been able to continue that practice and to make water available for transfer while providing environmental benefits. A portion of the Yuba Accord instream flows that are above an accounting baseline is available for transfer if the water can be successfully diverted by a downstream buyer. The transfer water provides the multiple benefits of water supply to downstream entities, inflow to the Delta and fishery habitat improvements on the Yuba River. Revenues received by YCWA for transfer water are used to fund local flood control projects or provide the local cost share for projects funded by the State and Federal government. An example of this is the Feather River Setback Levee Project where YCWA is guaranteeing $78,000,000 in bond sales repayment.

Since 2006, the first pilot year for the Yuba Accord in which YCWA operated to meet the Accord instream flows through 2016, YCWA has transferred 825,000 ac-ft of surface water to other areas of the State under the Yuba Accord. About half of the transfer volume was supplied to the Environmental Water Account and successor programs to replaced water supplies that were reduced due to environmental programs and regulatory actions in the Delta. The current agreement between YCWA and the California Department of Water Resources for Yuba Accord transfer water supplies extends until 2025.

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