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Physical and Economic Benefits Summary

August 2017

| Part 1. Physical and Economic Benefits. Repeat this block for each category of public or non-public benefit quantified | | | | | | | |
|--|------------------------------------|--------------|-----------------|------------|--------------|-----------------|------------|
| Ecosystem | | | | | | | |
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Anadromous Fish & Other Aquatic | | | | | Notes: | | |
| 2. Physical Benefit Measurement Units: Habitat Units/Yr | | | | | Notes: | | |
| | Enter Page Number from Application | 2030 | | | 2070 | | |
| | | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-5 | 45,484 | 44,945 | 539 | 41,253 | 39,431 | 1822 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-6 | na | na | \$25.6 | na | na | \$86.6 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | A3-3 | na | na | \$62.35 | na | na | \$145.5 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| Part 1. Physical and Economic Benefits. Repeat this block for each category of public or non-public benefit quantified | | | | | | | |
|--|------------------------------------|--------------|-----------------|------------|--------------|-----------------|------------|
| Ecosystem | | | | | | | |
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Incremental Level 4 Refuge | | | | | Notes: | | |
| 2. Physical Benefit Measurement Units: TAF/Yr | | | | | Notes: | | |
| | Enter Page Number from Application | 2030 | | | 2070 | | |
| | | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-7 | 35 | 0 | 35 | 31 | 0 | 31 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-7 | \$16.1 | \$0 | \$16.1 | \$24.6 | \$0 | \$24.6 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | A3-3 | na | na | \$62.4 | na | na | \$145.5 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| | | | | | | | |
|--|------------------------------------|--------------|-----------------|------------|--------------|-----------------|------------|
| Enter Benefit Category here ¹ | | | | | | | |
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Oroville Coldwater Pool | | | | | | Notes: | |
| 2. Physical Benefit Measurement Units: TAF/Yr | | | | | | Notes: | |
| | | 2030 | | | 2070 | | |
| | Enter Page Number from Application | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-8 | 2,786 | 2,760 | 26 | 2,651 | 2,620 | 31 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-9 | na | na | \$11.8 | na | na | \$25.0 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | | | | | | | |
| | A3-3 | na | na | \$62.4 | na | na | \$145.5 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| | | | | | | | |
|---|------------------------------------|--------------|-----------------|------------|--------------|-----------------|------------|
| Part 1. Physical and Economic Benefits. Repeat this block for each category of public or non-public benefit quantified | | | | | | | |
| Ecosystem | | | | Ecosystem | | | |
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Yolo Bypass | | | | | | Notes: | |
| 2. Physical Benefit Measurement Units: TAF/Yr | | | | | | Notes: | |
| | | 2030 | | | 2070 | | |
| | Enter Page Number from Application | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-10 | 56 | 17 | 39 | 57 | 18 | 39 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-10 | na | na | \$8.9 | na | na | \$9.2 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | | | | | | | |
| | A3-3 | na | na | \$62.4 | na | na | \$145.5 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| Recreation | | | | | | | |
|--|------------------------------------|--------------|-----------------|------------|--------------|-----------------|------------|
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Recreation | | | | | Notes: | | |
| 2. Physical Benefit Measurement Units: Increased Visitor Days | | | | | Notes: | | |
| | | 2030 | | | 2070 | | |
| | Enter Page Number from Application | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-11 | 186,829 | 46,707 | 140,122 | 186,829 | 46,707 | 140,122 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-12 | \$9.3 | \$2.3 | \$7.0 | \$9.3 | \$2.3 | \$7.0 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | A3-3 | \$9.3 | \$2.3 | \$7.0 | \$9.3 | \$2.3 | \$7.0 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| Flood Control | | | | | | | |
|--|------------------------------------|--------------|-----------------|------------|--|-----------------|------------|
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Flood Control | | | | | Notes: | | |
| 2. Physical Benefit Measurement Units: Acres | | | | | Notes: Area of reduced flood risk - 100 Year Flood Event | | |
| | | 2030 | | | 2070 | | |
| | Enter Page Number from Application | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-12 | 9,570 | 0 | 9,570 | 9,570 | 0 | 9,570 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-13 | \$4.4 | \$0 | \$4.4 | \$4.4 | \$0 | \$4.4 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | A3-3 | \$4.4 | \$0 | \$4.4 | \$4.4 | \$0 | \$4.4 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| Part 1. Physical and Economic Benefits. Repeat this block for each category of public or non-public benefit quantified | | | | | | | |
|--|------------------------------------|--------------|-----------------|------------|---|-----------------|------------|
| Non-public benefit | | | | | | | |
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Water Supply | | | | | Notes: Includes M&I, Agricultural and Recaptured Supplies | | |
| 2. Physical Benefit Measurement Units: TAF/Yr | | | | | Notes: | | |
| | | 2030 | | | 2070 | | |
| | Enter Page Number from Application | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-13 | 7,113 | 6,859 | 254 | 6,607 | 6,312 | 295 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-14 | na | na | \$89.0 | na | na | \$251.5 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | A3-3 | na | na | \$108.5 | na | na | \$271.0 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| | | | | | | | |
|---|------------------------------------|--------------------|-----------------|------------|---|-----------------|------------|
| Non-public benefit | | Non-public benefit | | | | | |
| Repeat Rows 1 through 4 for every quantified physical benefit in this benefit category | | | | | | | |
| 1. Physical Benefit Name: Hydropower (System) | | | | | Notes: | | |
| 2. Physical Benefit Measurement Units: MWh/Yr | | | | | Notes: Average Annual Hydropower Generation | | |
| | | 2030 | | | 2070 | | |
| | Enter Page Number from Application | With Project | Without Project | Difference | With Project | Without Project | Difference |
| 3. Net Physical Benefit Measurement ² | A3-14 | 215,542 | 0 | 215,542 | 215,542 | 0 | 215,542 |
| 4. Annual Economic Benefit, 2015 \$ Million/Yr | A3-15 | \$19.5 | \$0 | \$19.5 | \$19.5 | \$0 | \$19.5 |
| 5. Total Annual Monetized Benefit for the Category (sum of all row 4s.) | A3-3 | na | na | \$108.5 | na | na | \$271.0 |

¹ Enter one of these benefits: Ecosystem, Water Quality, Flood Control, Emergency Response, Recreation, or Non-public benefit

² Net of any non-mitigated physical effects

| Part 2. Total Economic Net Benefits and Allocated Cost by Benefit Category in 2015 \$ Million | | | | | | | | | |
|---|------------------------------------|-----------|---------------|---------------|--------------------|------------|-----------------------|---------------------|---|
| Sum of annual economic net benefits by type | Enter Page Number from Application | Ecosystem | Water Quality | Flood Control | Emergency Response | Recreation | Total Public Benefits | Non-Public Benefits | Total public and non-public benefits ¹ |
| Sum of 2030 benefits from Part 1, Row 5 | A3-3 | \$62.35 | \$0 | \$4.4 | \$0 | \$7.0 | \$73.73 | \$108.52 | |
| Sum of 2070 benefits from Part 1, Row 5 | A3-3 | \$145.5 | \$0 | \$4.4 | \$0 | \$7.0 | \$156.83 | \$271.0 | |
| Present Value of Benefits over Planning Horizon using 3.5% Discount Rate | A6-2 | \$3,176 | \$0 | \$138 | \$0 | \$192 | \$3,506 | \$5,528 | \$9,035 |
| Present Value of Total Project Costs Allocated to each Benefit Category | A10-5 | \$2,510 | \$0 | \$109 | \$0 | \$153 | \$2,773 | \$3,158 | \$5,931 |
| Capital Costs Allocated to Each Benefit Category | A10-6 | \$2,169 | \$0 | \$94 | \$0 | \$129 | \$2,392 | \$2,785 | \$5,176 |
| Total Requested Program Cost Share | A10-5 | \$1,480 | \$0 | \$53 | \$0 | \$129 | \$1,662 | | |

¹ Present value of total public and non-public benefits, total project costs, and total Program funding request must match numbers in Part 3

Part 3. Present Value of Project Costs, Cost-Effectiveness Measure, and Public Benefit Ratio, Million 2015 \$ Present Value

| | Enter Page Number of Application | 2015 \$ Million Present Value |
|---|----------------------------------|-------------------------------|
| Project Costs | | |
| Capital costs as defined in Program regulations | A10-2 | \$4,397 |
| Interest during construction | A10-2 | \$429 |
| Replacement costs | A10-3 | \$44 |
| Future environmental mitigation or compliance obligation costs | A10-2 | \$350 |
| Operations, maintenance and repair (OM&R) costs | A10-3 | \$711 |
| Other costs (describe) | na | \$0 |
| Present Value of Total Project Costs ¹ | A10-5 | \$5,931 |
| Present Value of Cost of Least-Cost Alternative that Provides the Same Total Physical Benefits | A2-2 | \$6,926 |
| Present Value of All Public and Non-public Benefits ¹ | A6-2 | \$9,035 |
| Ratio of Present Value of Total Monetized Net Benefits to the Total Project Costs | A9-3 | 1.52 |
| Present Value of Public Benefits ¹ | A9-4 | \$3,506 |
| Total Requested Program Cost Share ¹ | A9-4 | \$1,662 |
| Public Benefit Ratio: Ratio of Present Value of Monetized Net Public Benefits to the Total Requested Program Cost Share | A9-4 | 2.11 |

¹ Must match numbers in Part 2