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## State Water Resources Control Board

**TO:** Interested Parties

**FROM:** State Water Board Staff

This is a cover page for the following Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions (MOU). The revised MOU was received by the State Water Board from external parties in November of 2022, however it does not meet the State Water Boards' webpage accessibility standards. This version of the MOU was reformatted to meet the State Water Boards' standards for webpage accessibility. State Water Board staff attempted to maintain the accuracy and substance of the MOU during the process of making this accessible version. Please report any concerns or identified errors that may have occurred during the conversion process to State Water Board staff at [LSJR-SD-Comments@waterboards.ca.gov](mailto:LSJR-SD-Comments@waterboards.ca.gov).

The following list broadly summarizes the changes that were made to make this version of the MOU consistent with webpage accessibility standards<sup>1</sup>.

1. The PDF document tag structure was adjusted.
2. Alternative text was added in the background to images and figures in the PDF document.
3. One table in the document was reformatted.
4. Several line separators in the document were reformatted and marked as decorative lines.

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<sup>1</sup> Last updated April 17, 2023

**MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR  
THE VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE  
BAY-DELTA WATER QUALITY CONTROL PLAN, AND OTHER RELATED  
ACTIONS**

**March 29, 2022**

This “Memorandum of Understanding” (MOU) is signed by the Parties, through their executive leadership, to advance the attached Term Sheet for Voluntary Agreements.

**RECITALS**

A. The State Water Resources Control Board (State Water Board) and the nine regional water quality control boards administer the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 *et seq.*) (Porter-Cologne Act) to achieve an effective water quality control program for the state and are responsible for the regulation of activities and factors that may affect the quality of the waters of the state.

B. The State Water Board is authorized to adopt a water quality control plan in accordance with the provisions of Water Code sections 13240 through 13244, insofar as they are applicable (Wat. Code, § 13170).

C. The State Water Board has adopted a Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan). It first adopted the plan in 1978, amending it in 1995, 2006, and 2018. In 2008, it initiated its periodic review and began proceedings to update the current Bay-Delta Plan.

D. The Bay-Delta Plan designates beneficial uses of the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta watershed), establishes water quality objectives for the protection of those beneficial uses, and establishes a program of implementation to implement those objectives.

E. In May 2017 then-Governor Edmund G. Brown, Jr. issued “Principles for Voluntary Agreements” stating in relevant part: “The goal is to negotiate durable and enforceable Voluntary Agreements that will be approved by applicable regulatory agencies, will represent the program of implementation for the water quality objectives for the lower San Joaquin and Sacramento Rivers and Delta, will forego an adjudicatory proceeding related to water rights, and will resolve disputes among the parties regarding water management in the Sacramento-San Joaquin-Bay-Delta Watershed.”

F. Interested parties, including state and federal agencies, municipal and agricultural water suppliers, and others undertook extensive efforts beginning in 2017 to

negotiate Voluntary Agreements. On December 12, 2018, the Directors of California Department of Fish and Wildlife (CDFW) and California Department of Water Resources (CDWR) appeared before the State Water Board and presented the results of the negotiation process to date. Specifically, the Directors presented a “Framework Proposal for Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan” (Framework Proposal).

G. On December 12, 2018, the State Water Board adopted Resolution No. 2018-0059 to update the 2006 Bay-Delta Plan. First, it amended the water quality objectives for the protection of fish and wildlife beneficial uses in the Lower San Joaquin River (LSJR) and its three eastside tributaries, the Stanislaus, Tuolumne, and Merced Rivers, and agricultural beneficial uses in the southern Delta. It also amended the program of implementation for those objectives. It approved and adopted the Substitute Environmental Document (SED) for the Lower San Joaquin River. Ordering paragraph 7 of Resolution No. 2018-0059 states:

“The State Water Board directs staff to provide appropriate technical and regulatory information to assist the California Natural Resources Agency in completing a Delta watershed-wide agreement, including potential flow and non-flow measures for the Tuolumne River, and associated analyses no later than March 1, 2019. State Water Board staff shall incorporate the Delta watershed-wide agreement, including potential amendments to implement agreements related to the Tuolumne River, as an alternative for a future, comprehensive Bay-Delta Plan update that addresses the reasonable protection of beneficial uses across the Delta watershed, with the goal that comprehensive amendments to the Bay-Delta Plan across the Delta watershed may be presented to the State Water Board for consideration as early as possible after December 1, 2019.”

H. In January 2019, Governor Gavin Newsom confirmed his intention to complete the efforts to reach Voluntary Agreements. On March 1, 2019, the Directors of CDFW and CDWR entered into a “Planning Agreement Proposing Project Description and Procedures for the Finalization of the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan” (Planning Agreement).

I. After evaluation of the Planning Agreement, the Parties developed the “Term Sheet for the Voluntary Agreements Program to Update and Implement the Bay-Delta Water Quality Control Plan” (Term Sheet, as attached).

## UNDERSTANDINGS

### **1. Intent of the Signatories**

1.1. In the Bay-Delta watershed, a comprehensive approach to managing habitat, flow, and other factors is required to protect native fish and wildlife species, while concurrently protecting water supply reliability, consistent with the legal requirement of providing reasonable protection for all beneficial uses.

- A. The Bay-Delta Plan requires flow measures, and while creating opportunities for other actions, it does not require measures to directly address other limiting factors, including invasive species, ocean and tidal conditions, physical modifications of channels and wetlands, and loss of floodplain habitat.
- B. The Parties seek to take a comprehensive approach to integrate flow and non-flow measures, including habitat restoration, subject to ongoing adaptive management based on a science program. The attached Term Sheet describes a Voluntary Agreements Program to effect this comprehensive approach.

1.2. The Parties intend to cooperate to submit the Term Sheet to the State Water Board, so that it may consider including the Voluntary Agreements Program, consistent with Resolution 2018-0059, as the pathway to implement the Narrative Salmon Objective and a proposed Narrative Viability Objective for the VA Parties. The Parties further intend to undertake a process to assist the State Water Board in its independent analysis of that pathway.

1.3. The Parties intend to continue work on these further related actions:

- A. Plan for implementation of flow and non-flow measures in advance of the State Water Board's action on the alternative described in the Term Sheet, subject to any applicable requirements for project-specific environmental review or regulatory approval;
- B. Continue to work toward resolution of litigation related to the 2018 Bay-Delta Plan, the 2019 Biological Opinions for the State Water Project and Central Valley Project, the 2020 Incidental Take Permit for the State Water Project, including Interim Operations, Clean Water Act section 401 certifications, and other regulatory

authorizations and proceedings that relate to the actions described in the Term Sheet;

- C. Develop the Voluntary Agreements in a proposed complete and legally appropriate and binding form.

1.4. The Parties recognize that State Water Board will be the lead agency under the California Environmental Quality Act (CEQA) in preparation of the Substitute Environmental Document (SED) to update the Bay-Delta Plan. The Parties intend to propose that CDFW, CDWR, and other public agency Parties will participate in the environmental review as responsible and/or trustee agencies, with respect to the Voluntary Agreements Program. The Parties expect that the SED will include at least programmatic environmental review of all elements of the Voluntary Agreements as reflected in the Term Sheet, and that the Parties responsible to implement measures will undertake project-specific environmental review as needed. The Parties recognize that execution of Voluntary Agreements will not occur until required environmental review has been completed and that the ultimate terms in those agreements will reflect the results of that review.

## **2. General Provisions.**

2.1. This MOU is signed by executive leadership for the Parties. For each party, implementation is conditioned upon and subject to review and approval by the decisional body of the Party, if required. By signing this MOU, the Parties agree to advance the VA Program as reflected in the Term Sheet to the decisional body, if any, for consideration as outlined in the Term Sheet.

2.2. The Parties reserve judgment whether they each will sign or otherwise support the Voluntary Agreements and do not at this time, commit to any actions described in the Term Sheet. They will decide whether or not to commit to take these actions after the State Water Board adopts a SED and resolution to update the Bay-Delta Plan consistent with Resolution 2018-0059.

2.3. Nothing in this MOU is intended to modify or supersede the independent authority or discretion of any Party. Nothing in this MOU is intended to exercise, modify, or supersede the regulatory authority of any Party that is a regulatory agency or any subordinate agency of such a Party.

2.4. Nothing in this MOU is intended to be a pre-decisional commitment of resources. The Parties recognize that while this Memorandum of Understanding is the

product of significant effort and collaboration to identify a proposed approach that the Parties believe will prove to be successful and consistent with all applicable regulatory and other obligations, any commitment to implement the flow and non-flow measures described in the Term Sheet is dependent on all necessary environmental review and regulatory approvals. Accordingly, the Parties acknowledge that nothing in this MOU or the attached Term Sheet can meaningfully foreclose any public agency's consideration of alternatives including not proceeding with any aspect of the flow and non-flow measures described herein. This MOU is not subject to CEQA consistent with CEQA Guidelines section 15004.

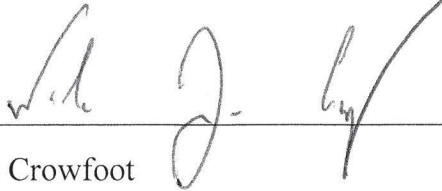
2.5. It is the intent of the Parties to encourage the possibility that additional entities, at a later date, will sign this MOU to offer contributions that would enhance the effectiveness of the VA Program described in the Term Sheet. A tributary or other water user group not party to the MOU should notify the Parties if it proposes to make contributions of flow, habitat and/or funding that are additive to the VA Program and commensurate with contributions by the original Parties. If appropriate, the entity shall sign this MOU as a separate counterpart, and the additive contributions shall be incorporated into the Term Sheet.

2.6. This MOU may be executed in separate counterparts, each of which when so executed and delivered will be an original. All such counterparts will together constitute but one and the same instrument.

2.7 The MOU expresses the mutual agreement of the Parties to advance the VA Program as reflected in the attached Term Sheet for consideration by their respective decisional bodies, if required.

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA  
WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

CALIFORNIA NATURAL RESOURCES AGENCY

  
\_\_\_\_\_

By: Wade Crowfoot  
Secretary of the Natural Resources Agency

3/29/22  
Date


CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

  
\_\_\_\_\_

By: Jared Blumenfeld  
Secretary for Environmental Protection

March 29, 2022  
Date

CALIFORNIA DEPARTMENT OF WATER RESOURCES

  
\_\_\_\_\_

By: Karla Nemeth  
Director

3-29-22  
Date

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

  
\_\_\_\_\_

By: Charlton Bonham  
Director

March 29, 2022  
Date



SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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YUBA WATER AGENCY

  
\_\_\_\_\_

By: Willie Whittlesey  
Its: General Manager

3/29/22  
Date



SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

GARDEN HIGHWAY MUTUAL WATER COMPANY

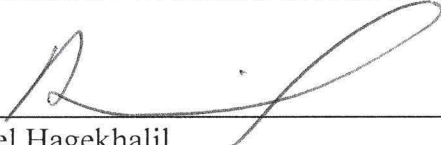
  
\_\_\_\_\_

By: Nicole Van Vleck  
Its: Vice President

3/29/22  
Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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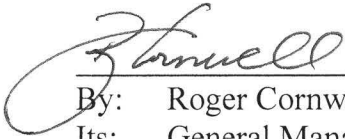
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

  
\_\_\_\_\_  
By: Adel Hagekhalil  
Its: General Manager and Chief Executive Officer

3-29-2022  
Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA  
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RIVER GARDEN FARMS



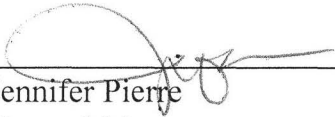
By: Roger Cornwell  
Its: General Manager

3 - 29 - 2022

Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA  
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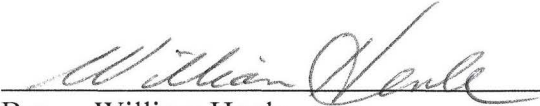
STATE WATER CONTRACTORS

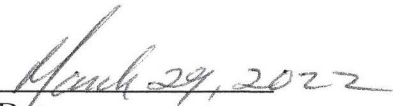
By:  \_\_\_\_\_  
Its: General Manager

3/29/22  
Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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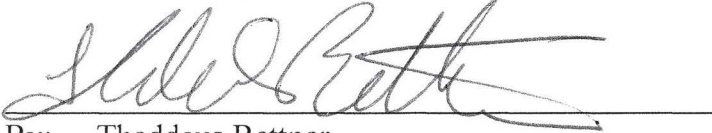
SUTTER MUTUAL WATER COMPANY

  
\_\_\_\_\_  
By: William Henle  
Its: Board President

  
\_\_\_\_\_  
Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

GLENN-COLUSA IRRIGATION DISTRICT




By: Thaddeus Bettner  
Its: General Manager

MARCH 29, 2022  
Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA  
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WESTLANDS WATER DISTRICT

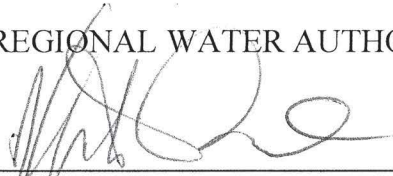
  
\_\_\_\_\_  
By: Thomas Birmingham  
Its: General Manager

3/29/2022  
Date



SIGNATORY PARTIES TO THE  
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REGIONAL WATER AUTHORITY




\_\_\_\_\_  
By: Michelle Banonis  
Its: Manager of Strategic Affairs

3/29/22  
\_\_\_\_\_  
Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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KERN COUNTY WATER AGENCY




By: Thomas McCarthy  
Its: General Manager



Date

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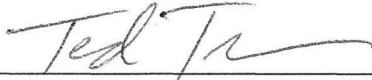
U.S. BUREAU OF RECLAMATION – CALIFORNIA-GREAT BASIN REGION

  
\_\_\_\_\_  
By: Ernest Conant  
Its: Regional Director

3/29/2022  
Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA  
WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

WESTERN CANAL WATER DISTRICT



By: Ted Trimble  
Its: General Manager

3/29/2022  
Date

SIGNATORY PARTIES TO THE  
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WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

SAN LUIS & DELTA-MENDOTA WATER AUTHORITY

  
By: Federico Barajas  
Its: Executive Director

6/16/2022  
Date

SIGNATORY PARTIES TO THE  
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FRIANT WATER AUTHORITY

  
\_\_\_\_\_  
By: Jason Phillips  
Its: Chief Executive Officer

6-17-2022  
Date

SIGNATORY PARTIES TO THE  
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TEHAMA-COLUSA CANAL AUTHORITY


  
\_\_\_\_\_  
By: Jeffrey Sutton  
Its: General Manager

6-20-22  
Date



SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

SOLANO COUNTY WATER AGENCY

  
\_\_\_\_\_  
By: Roland Sanford  
Its: General Manager

June 21, 2022  
Date

ADDITION OF SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA  
WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

East Bay Municipal Utility District agrees to the Recitals and Understandings set forth in the MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS (March 29, 2022) (MOU), subject to the following amendments pursuant to MOU section 2.5:

1. The addition of new footnotes to, and revision of, the “Mokelumne” and “PWA Water Purchase Program, Market Price” Appendix 1 Flow Tables, Table 1a: New Contributions to Tributary Flow and Delta Outflows in Thousand Acre Feet, to read:

	<b>C (15%)</b>	<b>D (22%)</b>	<b>BN (17%)</b>	<b>AN (14%)</b>	<b>W (32%)</b>
Mokelumne <sup>i</sup>	0	<del>10</del> 5	<del>20</del> 5	<del>45</del> 7	0
PWA Water Purchase Program, Market Price <sup>ii</sup>	0	45 (+5)	45 (+15)	45 (+38)	0

<sup>i</sup> EBMUD will operate to the tributary flows proposed in Appendix A5 of the Memorandum of Understanding dated March 1, 2019 (“Mokelumne River Proposal” or “2019 MRP”). Modeled flows in the 2019 MRP were above the existing requirements in EBMUD’s D-1641/Joint Settlement Agreement (JSA) year types. EBMUD will present modeling, consistent with the VA flow accounting procedures, to demonstrate average long-term contribution of new flows from the Mokelumne, and if a shortfall is determined relative to the flows stated in modified Table 1a above for a given Sacramento River index year type EBMUD will commit to funding the purchase of any remaining volume difference when that Sacramento year type occurs during the 8-year term of the agreement. The VA Parties will endeavor to achieve fair and equitable pricing for all VA water purchases.

<sup>ii</sup> EBMUD commits to coordinating and prioritizing possible water purchases from the Mokelumne River system to the extent feasible and practical and acceptable to EBMUD. And, consistent with footnote 11 of Appendix 1 Flow Tables, Table 1a: *The VA’s governance program will be used to determine the use of available funding to provide additional outflow in AN, BN, or W years. If DWR is called upon to provide the water by foregoing SWP exports, such call will be handled through a separate agreement between DWR and its contractors.*

2. The deletion of an entry and associated footnote “Refill (Mokelumne)” in Appendix 1 Flow Tables, Table 1b: Supporting Details for New Flow Contributions (Table 1a) and Year 8 Water Storage:

	C (15%)	D (22%)	BN (17%)	AN (14%)	W (32%)
Refill (Mokelumne) <sup>14</sup>	0	9	18	13.5	0

~~<sup>14</sup>Requires refill commitments or mutually agreeable operational agreement. Refill commitments are not included in tabulation of additive flows since they serve to ensure tributary flow contributions are protected as outflow without injury to other users.~~

3. The modification of the following entries in Appendix 3, Costs of Implement VAs:

Total Estimated Cost Refill	\$25	Estimated cost on Mokelumne (Potential to Operate around and avoid this cost)
Mokelumne AN Water Purchase (30 taf) Additional PWA Water Purchases	\$13 \$20	

4. The addition of a new entry and associated footnote to, and modification to the Habitat on Mokelumne line item in Appendix 3, Table 4 Funding for VAs’ Framework:


Water Agencies	Habitat on Mokelumne	\$17 \$1.5	Water agency contribution to habitat on Mokelumne per Planning Agreement
Water Agencies	Water Revolving Fund	\$20 <sup>1</sup>	Generated by \$10/AF diversion charge. Hydrology dependent.

<sup>1</sup>Dollars made available by \$10/af charge on diversions over the 8-year agreement term, plus immediate collection of self-assessment for up to 2 years as part of early implementation, consistent with commitments from other similarly situated PWAs. Totals in this and the subsequent row are based on historical deliveries on a long-term average. Actual dollars may vary.

East Bay Municipal Utility District intends to work with the Mokelumne River Parties, (including North San Joaquin Water Conservation District, Amador Water Agency, Calaveras County Water District, Calaveras County Public Utility District, Jackson

Valley Irrigation District, Woodbridge Irrigation District, and San Joaquin County) as potentially covered parties who may ultimately become signatories to the Mokelumne Implementing Agreement.

East Bay Municipal Utility District

  
\_\_\_\_\_  
By: Clifford Chan  
Its: General Manager

August 11, 2022  
Date

With the concurrence of:

CALIFORNIA NATURAL RESOURCES AGENCY

\_\_\_\_\_  
By: Wade Crowfoot  
Secretary of the Natural Resources

\_\_\_\_\_  
Date

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

\_\_\_\_\_  
By: Jared Blumenfeld  
Secretary for Environmental Protection

\_\_\_\_\_  
Date

Valley Irrigation District, Woodbridge Irrigation District, and San Joaquin County) as potentially covered parties who may ultimately become signatories to the Mokelumne Implementing Agreement.

East Bay Municipal Utility District

\_\_\_\_\_  
By: Clifford Chan  
Its: General Manager

\_\_\_\_\_  
Date

With the concurrence of:

CALIFORNIA NATURAL RESOURCES AGENCY

  
\_\_\_\_\_  
By: Wade Crowfoot

\_\_\_\_\_  
8/11/2022  
Date

Secretary of the Natural Resources

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

\_\_\_\_\_  
By: Jared Blumenfeld  
Secretary for Environmental Protection

\_\_\_\_\_  
Date

Valley Irrigation District, Woodbridge Irrigation District, and San Joaquin County) as potentially covered parties who may ultimately become signatories to the Mokelumne Implementing Agreement.

East Bay Municipal Utility District

\_\_\_\_\_  
By: Clifford Chan  
Its: General Manager

\_\_\_\_\_  
Date

With the concurrence of:

CALIFORNIA NATURAL RESOURCES AGENCY

\_\_\_\_\_  
By: Wade Crowfoot  
Secretary of the Natural Resources

\_\_\_\_\_  
Date

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

  
\_\_\_\_\_  
By: Jared Blumenfeld  
Secretary for Environmental Protection

\_\_\_\_\_  
8/11/22

\_\_\_\_\_  
Date

CALIFORNIA DEPARTMENT OF WATER RESOURCES



8/11/2022

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By: Karla Nemeth  
Director

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Date

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

---

By: Charlton Bonham  
Director

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Date



CALIFORNIA DEPARTMENT OF WATER RESOURCES

By: Karla Nemeth  
Director

Date

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

DocuSigned by:  
  
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By: Charlton Bonham  
Director

8/11/2022

Date

SIGNATORY PARTIES TO THE  
MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE  
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WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

CONTRA COSTA WATER DISTRICT



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By: Marguerite Patil  
Its: Assistant General Manager –  
Policy and External Affairs

September 15, 2022

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Date

ADDITION OF SIGNATORY PARTIES TO

MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS

Tuolumne Parties San Francisco Public Utilities Commission, Modesto Irrigation District and Turlock Irrigation District agree to all Recitals and Understandings set forth in the MEMORANDUM OF UNDERSTANDING ADVANCING A TERM SHEET FOR THE VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA WATER QUALITY CONTROL PLAN, AND OTHER RELATED ACTIONS (March 29, 2022) (MOU), subject to the following amendments pursuant to MOU section 2.5:

1. The addition of a new entry and footnotes to Appendix 1 Flow Tables, Table 1a: New Contributions to Tributary Flow and Delta Outflows in Thousand Acre Feet, to read:

	C (15%)	D (22%)	BN (17%)	AN (14%)	W (32%)
Tuolumne River downstream of the La Grange Dam <sup>1, 2, 3, 4</sup>	<b>86(17)</b>	<b>140(40)</b>	<b>127(98)</b>	<b>138</b>	<b>138</b>
Additional Maximum Tuolumne Flows <sup>5, 6</sup>	<b>16</b>	<b>19</b>	<b>30</b>	<b>8</b>	<b>0</b>

<sup>1</sup>Tuolumne Parties flow contributions, additive to average January-June minimum instream flow requirements on the Lower Tuolumne River, as set-forth in the current FERC license for the Don Pedro Project and measured at the USGS gage downstream of La Grange Dam. Values in parenthesis apply in critical, dry, and below normal year following a critical, dry or below normal year.

<sup>2</sup>Tuolumne Parties are releasing or bypassing flow contributions at their lowest point of control, which is La Grange Dam. This is the point at which the State Water Board will have authority to enforce the flow measures as contemplated by Term Sheet section 7.2.

<sup>3</sup>Modeling done by the State predicts that with implementation of the Tuolumne VA that Tuolumne River flows as measured at the Modesto gage, on average by water year type, will exceed the average January-June flows in the base case (flow resulting under current conditions with the 1995 FERC Settlement Agreement in effect). The modeling projects the following resultant flows at Modesto Gage that will be protected as Delta outflows.

	C (15%)	D (22%)	BN (17%)	AN (14%)	W (32%)
<i>Resultant Tuolumne River flows at the Modesto Gage</i>	<b>37</b>	<b>62</b>	<b>78</b>	<b>27</b>	<b>0</b>

Consistent with Term Sheet Section 8.3 these flows will be protected in the Tuolumne River as VA flows that implement the native fishes water quality objective and will be protected as Delta outflow. Term Sheet Section 8.1 anticipates that the State Water Board will use its legal authorities to protect VA flows and obligates VA parties to support the State Water Board in its proceedings to protect VA flows. The Tuolumne Parties will assist and partner in this endeavor consistent with section 8.1 of term sheet. The

resultant flows at Modesto gage are not flow commitments that will be enforceable against the Tuolumne Parties pursuant to Term Sheet Section 2.2(C).

<sup>4</sup> The State and Tuolumne Parties understand these flows will be included in the systemwide assessment as specified in Footnote 3 in Appendix 1 Flow Tables, Table 1a: *“An assessment based on the accounting procedures to be developed pursuant to Term Sheet section 8.4 will be conducted prior to year 8 of VA to determine if the flows in this table have materialized on average above baseline by water year type. The VA parties acknowledge that, if this analysis does not demonstrate that flows have materialized as shown in this table, then the VAs will be subject to Term Sheet provisions of Section 7.4(B)(ii) or (iii).”*

<sup>5</sup> Tuolumne Parties will work collaboratively with DWR, Reclamation, and other VA parties to set the terms and conditions (e.g., additional flows will only occur when the Delta is in balanced conditions, etc.) of providing additional flow contributions consistent with Sections 8.1 and 8.3 of the Term Sheet.

<sup>6</sup> Real-time hydrology dependent. The Tuolumne Parties will work collaboratively with DWR, Reclamation, and other VA Parties in each year where Tuolumne VA Flows are provided to determine the total volumetric need for these additional flows. The Tuolumne’s additional flow contribution shall equal 1/3 of this agreed upon volume, or the Additional Maximum flow contribution, whichever is less. These volumes, when provided will provide instream flow benefits, but will not be subject to flow protection below La Grange Dam.

2. The addition of a new entry and footnotes to Appendix 2 Minimum Additive Contributions to Habitat Restoration:

Area	Total Acres
Tuolumne <sup>1</sup>	<ol style="list-style-type: none"> <li>1. 75,000 tons of new gravel between river mile (RM) 52 and RM 39 and approximately 25,000 tons of new gravel between RM 39 and RM 24.5 to create additional spawning/rearing habitat.</li> <li>2. 77 acres of newly-constructed rearing/floodplain habitat which will be inundated at the proposed Tuolumne VA flows.</li> </ol>

<sup>1</sup> Tuolumne Parties will work to define the habitat projects below in collaboration with the California Department of Fish and Wildlife – that were drawn from the prior 15-year VA habitat list – that will be funded by the Tuolumne Parties and implemented, subject to and depending on obtaining applicable requirements for project-specific environmental review or regulatory approval, within the 8-year term of the agreement:

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REF	PROJECT NAME	CAPITAL COST	O&M COST
1	Riffle A2 Rehabilitation	\$0.6 M	\$0.13 M
2	Riffle A3 Rehabilitation	\$0.8 M	\$0.13 M
3	Riffles 3A and 3B	\$3.2 M	\$0.13 M
4	Gravel Cleaning	\$1.2 M	\$2.85 M
5	Lower Tuolumne River Habitat Improvement Program	\$19 M	\$7.5 M
6	Riffle A5	\$1.5 M	\$0.13 M
7	Riffle A6	\$1.8 M	\$0.13 M
8	Basso Pool	\$2.2 M	\$0.13 M
9	Large Woody Debris	\$3.7 M	\$0.3 M
10	Infiltration Galleries	\$13 M	\$0.6 M
11	Riffle A3/A4 Gravel Augmentation	\$0.6 M	\$0.13 M
12	Fish Counting and Barrier Weir	\$12 M	\$1.2 M
13	Predator Control	\$0.2 M	\$1.0 M
14	Reduce Redd Superimposition (seasonal weir)	\$4.2 M	\$0.2 M
15	Tuolumne Partnership Advisory Committee	\$0.1 M	\$2.9 M
	<b>TOTAL</b>	<b>\$64.10</b>	<b>\$17.46</b>

3. The addition of the following entries in Appendix 3, Costs of Implement VAs:

Costs to Implement VAs	\$ Million (M)	Notes
Habitat Restoration on the Tuolumne	\$ Self Funded	

4. The addition of the following entries to Appendix 3, Table 4 Funding for VAs' Framework:

Funding Source	Use of Funds	\$ million (M)	Notes
Tuolumne Parties	Habitat restoration	\$ Self Funded	

Tuolumne parties recognize a need to avoid temperature degradation from implementation of the VA water commitments and will continue work on a suitable temperature term to include in the Tuolumne VA Implementing Agreement, and which will not be enforceable against the Tuolumne Parties pursuant to Term Sheet Section 2.2(C), and which will be included as a metric to be measured in Term Sheet Appendix 4.

The Tuolumne Parties and State Parties recognize that the State Water Board has previously adopted 2018 Amendments to the Bay-Delta Plan, including a water quality objective and program of implementation applicable to the Tuolumne River, and the intent of the parties is to present for State Water Board consideration revisions to the 2018 Bay-Delta Plan that would authorize a Voluntary Agreement implementation pathway for the Tuolumne Parties consistent with this Memorandum of Understanding and the Term Sheet it advances. The resolution of

pending litigation concerning the 2018 Bay-Delta Plan and 401 water quality certifications that implement the 2018 Bay-Delta Plan will be the subject of future negotiations consistent with MOU section 1.3(B), as explained in the "401 WQC & Litigation" bullets of the Tuolumne VA Principals' Deal Points (Aug. 31, 2022).

With the concurrence of:

CALIFORNIA NATURAL RESOURCES AGENCY



By: Wade Crowfoot  
Secretary of the Natural Resources

November 9, 2022

Date

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY



By: Yana Garcia  
Secretary for Environmental Protection

November 9, 2022

Date

CALIFORNIA DEPARTMENT OF WATER RESOURCES



By: Karla Nemeth  
Director

November 9, 2022

Date

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE




By: Charlton Bonham  
Director

November 9, 2022

Date

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SAN FRANCISCO PUBLIC UTILITIES COMMISSION

  
\_\_\_\_\_  
By: Dennis Herrera  
General Manager

11/9/22  
\_\_\_\_\_  
Date

MODESTO IRRIGATION DISTRICT

\_\_\_\_\_  
By: Ed Franciosa  
General Manager

\_\_\_\_\_  
Date

TURLOCK IRRIGATION DISTRICT

\_\_\_\_\_  
By: Michelle Reimers  
General Manager

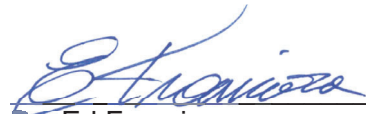
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By: Michelle Reimers  
General Manager

\_\_\_\_\_  
11/09/2022  
Date



**TERM SHEET FOR VOLUNTARY AGREEMENTS TO UPDATE AND IMPLEMENT THE BAY-DELTA WATER QUALITY CONTROL PLAN**

**March 29, 2022**

Parties signatory to the attached “Memorandum of Understanding” (MOU) propose this “Term Sheet (Term Sheet) for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan” (Bay-Delta Plan).

**1. Purpose.**

**1.1.** Subject to Section 13, this Term Sheet states the essential terms that the Parties will use to finalize the Voluntary Agreements (VAs). The VAs will consist of three types of agreements described in Section 2.2 below.

**1.2.** The VAs will state actions, together with other measures in the Bay-Delta Plan, necessary to implement two water quality objectives in the plan related to protection of native fishes.

A. These objectives are: (1) the existing narrative objective that provides for water quality conditions, together with other measures in the watershed, to achieve doubling of the reference salmon population (1967-1991) (Narrative Salmon Objective); and (2) a new narrative objective to achieve the viability of native fish populations (Narrative Viability Objective).

B. The Parties propose that the State Water Resources Control Board (State Water Board) adopt the following Narrative Viability Objective:

“Maintain water quality conditions, including flow conditions in and from tributaries and into the Delta, together with other measures in the watershed, sufficient to support and maintain the natural production of viable native fish populations. Conditions and measures that reasonably contribute toward maintaining viable native fish populations include, but may not be limited to, (1) flows that support native fish species, including the relative magnitude, duration, timing, temperature, and spatial extent of flows, and (2) conditions within water bodies that enhance spawning, rearing, growth, and migration in order to contribute to improved viability. Indicators of viability include population abundance, spatial extent,

distribution, structure, genetic and life history diversity, and productivity.\* Flows provided to meet this objective shall be managed in a manner to avoid causing significant adverse impacts to fish and wildlife beneficial uses at other times of the year.

\* The actions the State Water Board and other agencies expect to take to implement this objective are described in section [insert number] of this Plan’s Program of Implementation.”

C. The commitments in the VAs will provide the participating parties’ share, during implementation of the VAs, to contribute to achieving the Narrative Salmon Objective by 2050.

1.3. The VAs will include new flow and other measures, including habitat restoration, subject to adaptive management pursuant to the Governance and Science Programs stated in Sections 9 and 10 below.

1.4. The Parties will request that the State Water Board consider and approve an updated Bay-Delta Plan that includes the VAs as a pathway within the Program of Implementation that, along with other measures required in the plan, implements the Narrative Salmon Objective and Narrative Viability Objective.

A. This Term Sheet will be submitted to the State Water Board pursuant to Resolution 2018-0059 (Ordering Paragraph 7), which states:

“The State Water Board directs staff to provide appropriate technical and regulatory information to assist the California Natural Resources Agency in completing a Delta watershed-wide agreement, including potential flow and non-flow measures for the Tuolumne River, and associated analyses no later than March 1, 2019. State Water Board staff will incorporate the Delta watershed-wide agreement, including potential amendments to implement agreements related to the Tuolumne River, as an alternative for a future, comprehensive Bay-Delta Plan update that addresses the reasonable protection of beneficial uses across the Delta watershed, with the goal that comprehensive amendments to the Bay-Delta Plan across the Delta watershed may be presented to the State Water Board for consideration as early as possible after December 1, 2019.”

- B. The Parties request that the Program of Implementation in the updated Bay-Delta Plan include the VAs as a pathway to implement the Narrative Salmon Objective and Narrative Viability Objective, on a finding that the VA pathway in conjunction with the regulatory pathway described in section 1.4(C) will provide reasonable protection of the associated beneficial uses as documented in the SED. The Parties further request that the State Water Board consider the VAs as an alternative to be analyzed in the Substitute Environmental Document (SED) as described in Resolution 2018-0059.
- C. The Parties understand that the State Water Board will include in the Program of Implementation an additional pathway to implement the Narrative Salmon Objective and Narrative Viability Objective. This pathway will apply to tributaries, or persons or entities, not covered by a VA. In this pathway, the State Water Board will use its legal authorities and public processes to establish conditions to require flows and other measures by persons or entities not covered by a VA to provide reasonable protection of beneficial uses associated with the Narrative Salmon Objective and Narrative Viability Objective. The Parties request that the Program of Implementation provide an opportunity for water right holders not covered by a VA to, at a later date, commit to contributions to implement the Narrative Salmon Objective and Narrative Viability Objective under the VAs, as approved by the State Water Board.
- D. The Parties further request that the Program of Implementation include:
- (i). A summary of the VAs as reflected by this Term Sheet, including a summary of any early implementation before the Effective Date of the VAs (defined in Section 7.1);
  - (ii). A Strategic Plan for implementation of the VAs, including adaptive management of flow and habitat restoration measures, pursuant to Section 9.3;
  - (iii). Obligations of the State Water Board, the Parties and others to implement their commitments, pursuant to Section 2.2 and Water Code section 13247;

- (iv). A Governance Program including Annual and Triennial Reports pursuant to Section 9;
- (v). A Science Program pursuant to Section 10; and
- (vi). Procedures for renewal, modification, and extension of the VAs pursuant to Sections 7.4 through 7.5.

## **2. Structure.**

- 2.1.** The parties that sign the attached MOU are “VA Parties” for the purpose of this Term Sheet.
- 2.2.** The VAs will consist of three types of agreements. These are:
  - A. Global Agreement that will describe the VAs’ structure, funding, Science Program, and Governance Program, to be signed by all VA Parties;
  - B. Implementing Agreements, each of which will state in detail the measures for a participating tributary, the Sacramento River mainstem, or the Delta, as applicable, each to be signed by those VA Parties with responsibility for implementation of that agreement, including the California Department of Fish and Wildlife (CDFW) and the California Department of Water Resources (CDWR); and
  - C. Government Code Section 11415.60 Agreements, each of which will state the specific obligations of those VA Parties responsible for implementation of an Implementing Agreement, along with related regulatory enforcement mechanisms related to flows, habitat restoration and other assurances, each to be signed by such VA Parties and the State Water Board. Each agreement will specify any contingencies outside the reasonable control of the responsible VA Party related to performance of a measure.
- 2.3.** The VAs will incorporate flow measures (including any refill criteria and other accounting provisions) as stated in Appendix 1, habitat restoration measures as stated in Appendix 2, funding as stated in Appendix 3, and expected outcomes and metrics as stated in Appendix 4.

3. **Relationship to Prior Proposed Agreements.** This Term Sheet supersedes all previously proposed VA agreements, VA frameworks and/or VA planning documents.<sup>1</sup>
  
4. **Additional Delta Outflows, Tributary Flows, and Habitat.**
  - 4.1. The VA flows described in Appendix 1 will be additive to the Delta outflows required by Revised Water Rights Decision 1641 (Revised D-1641) and resulting from the 2019 Biological Opinions, although the 2019 Biological Opinions may be modified, including to resolve litigation concerning those opinions.
  
  - 4.2. The habitat restoration measures described in Appendix 2 will be additive to physical conditions and regulatory requirements existing as of December 2018, when the State Water Board adopted Resolution 2018-0059. Implementation of such measures by Parties after that date, but prior to execution of the VAs, will be considered as contributing towards implementation of the Narrative Salmon Objective and Narrative Viability Objective.
  
5. **Contributions of Tributary Flows, Delta Outflows, and Habitat Restoration.** The VAs will result in flow and non-flow measures as shown in Appendices 1 and 2 respectively.
  - 5.1. With respect to tributary flows and Delta outflows shown in Appendix 1:
    - A. These flows may be shaped in timing and seasonality, to test biological hypotheses and respond to hydrologic conditions while reasonably protecting beneficial uses. Such shaping will occur through the Governance Program stated in Section 9 below, and subject to the Implementing Agreements and applicable regulatory requirements. The Parties agree a portion of the volumes of water in Appendix 1 will be managed with a priority of providing increased flows in the months of April and May in D, BN, and AN water years to replicate average outflow resulting from the I/E ratio in the 2009 salmonid BiOp as modeled.

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<sup>1</sup> The State signatories stand by the funding commitments contained in the March 2019 Proposed Action as scaled to reflect an 8-year VA term, see Appendix 3.

- B. Such shaping will occur through the Governance Program stated in Section 9 below, and subject to the Implementing Agreements and applicable regulatory requirements.
  - C. Flow measures described in Appendix 1 as “Water Purchase Program” or other water purchases will be obtained through a free-market program for single-year transfers, subject to applicable law. The Parties acknowledge that, if the water purchases do not occur, then the VAs will be subject to the provisions of Section 7.4(B)(ii) or (iii).
- 5.2.** The Global Agreement and Implementing Agreements will include appropriate provisions that VA Parties (including regulatory agencies) will expedite and coordinate permitting of flow and non-flow measures, consistent with applicable laws.
- A. Each Party acknowledges that a metric for success in the voluntary agreements would be the completion of identified restoration projects.
  - B. CDFW will apply innovative uses of its Lake and Streambed Alteration and California Endangered Species Act authorities to expedite permitting of these restoration projects.
  - C. The Parties anticipate that the State Water Board will complete and employ its proposed general order for Clean Water Action section 401 Water Quality Certification and waste discharge requirements for restoration projects to expedite permitting of these restoration projects.
  - D. The United States Fish and Wildlife Service and National Marine Fisheries Service will use regulatory tools for restoration to expedite permitting of these restoration projects.
  - E. California will establish a multi-disciplinary restoration unit of 8 full-time specialists to track, permit and implement these restoration projects. This team will regularly report to Secretaries for Environmental Protection and Natural Resources.

- F. The relevant state and federal agencies involved in implementation of these restoration projects will convene with other VA Parties as part of the governance to update on project delivery.
  - G. The relevant state and federal agencies involved in implementation of the VAs' restoration projects will update the California Governor's Office regularly on status of permitting these projects.
- 6. Funding.** The VAs will include the funding commitments shown in Appendix 3. Those commitments will include appropriate assurances of performance, as provided in the Global Agreement. Any Global Agreement executed by the U.S. Fish and Wildlife Service, the U.S Bureau of Reclamation or National Marine Fisheries Service will be subject to appropriations.
- 7. Effectiveness, Enforcement, Assurances, and Termination or Renewal.**
- 7.1.** The VAs will become effective on the date the Government Code section 11415.60 Agreements are executed. The VAs will remain in effect for a term of 8 years after the Effective Date. For purpose of this Term Sheet, a numbered "Year" refers to the year after the Effective Date.
- A. The Parties with permitting authority recognize their affirmative obligation to move as expeditiously as possible to complete permitting processes prior to Year 1.
  - B. The Parties will request and expect the State Water Board include in the Program of Implementation a process for the Executive Director to recognize unanticipated permitting delays prior to Year 1 and to defer review and performance milestones within the Program of Implementation accordingly to better align the VA implementation with State Water Board's processes. In considering any adjustments under this paragraph, the delay must result from actions or inactions that were beyond the control of the Parties.
- 7.2.** The State Water Board will have authority to enforce the flow and non-flow measures relying on Water Code authorities, as provided in the Government Code Section 11415.60 Agreements. The agreements will specify responsible parties and conditions precedent for implementation and related liability for enforcement. The Parties will be accountable to secure their individual funding commitments specified in Appendix 3, as provided in the Global Agreement. It is anticipated that neither the U.S.



Fish and Wildlife Service, nor the U.S. Bureau of Reclamation, nor National Marine Fisheries Service will be participating through a Government Code 11415.60 Agreement.

- 7.3. Through the Government Code Section 11415.60 Agreements, the State Water Board will provide assurances that the VAs state the total obligations of the VA Parties to implement the Narrative Salmon Objective and Narrative Viability Objective for the term of the VAs, subject to Section 7.4.
- 7.4. The Parties propose that, in Year 6, the State Water Board will initiate the process to evaluate and determine the implementation pathway for VA parties after Year 8. The Parties also propose that the Program of Implementation include a process to incorporate consideration of the following information:
- The VA science program’s synthesis of the most current science and analyses of the effects of the VAs’ implementation, consistent with Appendix 4;
  - Past, present, and probable future beneficial uses of water;
  - Environmental characteristics of the Bay-Delta watershed, including the quality of water available thereto;
  - Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the Bay-Delta watershed; and
  - Economic considerations.

At Year 8, the State Water Board will consider potential amendments to the Program of Implementation under the “green”-“yellow”-“red” structure described in Section 7.4.B, which will be informed by the consideration of the scientific analysis and information submitted pursuant to section 7.D. If under the “red” option in Section 7.4B(iii), the VA Parties may present new agreements to fulfill the purpose stated in Section 1.4(B), or the State Water Board will begin implementing the Bay Delta Plan through the additional pathway described in Section 1.4(C).

- A. In Year 6, the State Water Board will issue a notice to initiate the process. It will hold a public informational workshop, at which time the VA Parties will present on their second Triennial Reports and Strategic Plan for Years 6-9. Based on these reports and the



information gathered by the VA Science Committee (as described in Appendix 4), the VA Parties, through the Systemwide Governance Committee, will recommend to the State Water Board whether the VAs should continue for another term with limited modification or if more significant changes to the VA terms are needed. The State Water Board will consider the Systemwide Governance Committee's recommendation and all public comments on the progress of VA implementation, technical information, and the implementation pathway in Year 8.

- B. Following the workshop and after consideration of all comments, the State Water Board will distribute a draft proposed pathway to be implemented for VA Parties after Year 8. In summary form, it will select from three options:
- (i). **Green** – The VAs are substantially achieving the required metrics as described in Appendix 4; and the ecological outcomes analysis described there supports the conclusion that continuing the VA, together with other actions in the Bay-Delta Plan, will result in attainment of the narrative objectives. If so, the VA Parties will continue implementation of VAs without any substantial modification in terms, except for necessary changes to provide for funding and other measures necessary to continue the VAs. Necessary updates to the VA terms (if any) will be determined and the process to renew the VAs will be initiated so that renewed VAs are in place at Year 9.
  - (ii). **Yellow** – The VAs are meeting a significant number of metrics as described in Appendix 4; and the ecological outcomes analysis as described there supports the conclusion that continuing the VAs, together with other actions in the Bay-Delta Plan, will result in attainment of the narrative objectives, but some modifications are needed. If so, the VA Parties will continue implementation with substantive modification in terms. The process to modify the VA terms to address deficiencies will be initiated. Concurrently, the State Water Board will consider alternative means to address deficiencies in achieving the metrics as described in Appendix 4.

(iii). **Red** – A new pathway is required because VAs are not achieving required metrics as described in Appendix 4; and the ecological outcomes analysis as described there does not support the conclusion that continuing the VAs, together with other actions in the Bay-Delta Plan, will result in attainment of the narrative objectives. New agreements will be negotiated, or the Bay-Delta Plan’s Program of Implementation will be implemented through the State Water Board’s regulatory authorities and the VA Parties reserve all rights to fully participate in the related regulatory processes, and potential remedies related thereto.

C. Factors the State Water Board will consider in selecting one of the three options from subsection (B), will include, but not necessarily be limited to:

(i). Whether permits required for implementation were pursued and available within a reasonable timeframe.

(ii). Whether VA Parties timely and fully performed VA flow asset commitments.

(iii). Whether the Triennial Reports analyze progress across the Delta watershed, provide considerations for updating the Strategic Plan, include considerations for updating the VA flow and non-flow measures, and are timely submitted to the State Water Board to inform its triennial review process.

(iv). Whether the guidance as set forth in the Strategic Plan for the initiation and construction of habitat projects has been achieved.

(v). Whether VAs were fully funded through Year 8;

(vi). Whether the Triennial Reports or other sources of reliable information indicate that factors outside of the VAs are impairing the relevant fish species;

(vii). Whether flows have been adequately protected pursuant to Section 8; and

- (viii). Whether additional funds are available to continue the VA program.
- D. Prior to selecting one of the three options from subsection (B), the State Water Board will:
  - (i). Hold appropriate hearings to review and receive input on the scientific reports, analysis, information, and data generated by the VA Science Program and other sources and receive recommendations on the anticipated effectiveness of continuing or modifying VAs or implementing the regulatory pathway described in Section 1.4(C); and
  - (ii). Conduct a Delta Independent Science Board review to receive input and recommendations on the scientific rationale for continuing or modifying the VAs.
- E. In Year 8, the VA Parties will submit their final Annual Report. The State Water Board will distribute any proposed amendments to the Bay-Delta Plan's Program of Implementation, which will be informed by the consideration of factors in Section 7.4(C), to be implemented after Year 8.
- F. If, by the end of Year 8, no new agreements have been adopted or State Water Board has not yet assigned responsibility for implementing the Bay-Delta Plan through a regulatory pathway described in amendments to that Bay-Delta Plan's Program of Implementation, the original VAs (and their terms concerning water-user funding for flow contributions) will continue, but unless otherwise negotiated, those obligations will not extend beyond 15 years.
- G. In the Government Code section 11415.60 Agreements, the VA Parties and the State Water Board will establish a procedure for timely and effective referral of disputes that arise during any update to the Bay-Delta Plan's Program of Implementation described in Section 7.4. The procedure will promptly involve executive leadership (across the VA Parties) in resolution of disputes that, if unresolved, would involve significant risk of delay in final action.

7.5. The Government Code section 11415.60 Agreements will authorize an extension of the VAs beyond Year 8 to continue until new VAs are adopted or the State Water Board adopts a pathway as described in Section 7.4(B). VA Parties that are water agencies will reserve remedies specified in these agreements.

## **8. Protection of Flows.**

8.1. The Parties propose to, and anticipate that, the State Water Board will use its legal authorities to protect all flows generated by actions identified in Appendix 1 against diversions for other purposes for the term of the VAs. The VA Parties will support the State Water Board in its proceedings by assisting with developing technically and legally defensible methods to provide these protections. During administrative proceedings, the VA Parties will support the developed protections, provided the VA Parties agree with the authority cited by the State Water Board for the proceedings, the scope of proceedings, and the technical methodology. Prior to the potential adoption of VAs by the State Water Board, the Parties agree to collaboratively identify and resolve any redirected adverse impacts resulting from the implementation of flow contributions identified in Appendix 1.

8.2. The Parties anticipate that State Water Board will report annually on what actions the State Water Board has taken to protect these flows from unauthorized uses.

8.3. All San Joaquin River watershed flows required as a result of implementing the 2018 Bay Delta Plan Update or VAs will be protected as Delta outflows to the maximum extent feasible, and prior to the State Water Board's adoption of an action to protect the new Delta outflows, the Parties agree to discuss the protection of these flows and collaboratively identify and resolve any redirected adverse impacts to water supply in excess of Appendix 1 contributions resulting from the protection of these flows as Delta outflow.

8.4. In coordination with the State Water Board and other Parties, the Department of Water Resources, and the U.S. Bureau of Reclamation will develop accounting procedures to assure that flows and habitat restoration provided under the VAs are additional contributions as stated in Section 4. These procedures will be incorporated into the Implementation

Agreements, as appropriate, and will be subject to approval by the State Water Board.

- 9. Governance Program.** The VAs will establish a Governance Program to direct flows and habitat restoration, conduct assessments, develop strategic plans and annual reports, implement a science program, and hire staff and contractors.

**9.1. Governance Entities.** VA Parties will formally establish the following entities to govern implementation of the VAs unless a comparable governance entity already exists. Each governance entity will adopt a charter that is consistent with the Global Agreement and applicable Implementing Agreement.

- A. The Systemwide Governance Committee will make recommendations related to deployment of flow and non-flow measures as provided in its charter, oversee Triennial Reports in Years 3 and 6 (and potentially Years 9 and 12, if the VAs are renewed), regarding implementation and effects, any revision to the Strategic Plan in Year 6 (and potentially 12, if the VAs are renewed), and overall coordination of the VA Program. Through the Strategic Plan and otherwise, this committee will assure that implementation is consistent with the terms of applicable Implementing Agreements. This committee may include members from appropriate stakeholders who are not VA Parties.
- B. The Tributary/Delta Governance Entities will be responsible for implementation of Implementing Agreements for which that entity is responsible, including deployment of flow and nonflow measures as specified in those Implementing Agreements, and preparation and submittal of associated Annual Reports to the Systemwide Governance Committee. Each such entity will include VA Parties subject to the applicable agreement.

**9.2. Governance Procedures for Flow Measures.**

- A. Tributary flow measures will be subject to implementation in accordance with the recommendation or request of the Systemwide Governance Committee, consistent with rules set forth in the Implementing Agreements. A Tributary Governing Entity may consent but is not required to agree to a recommendation for

implementing a measure in a manner that would be inconsistent with its Implementing Agreement.

- B. Delta flow measures will be subject to implementation in accordance with the recommendation or request of the Delta Governance Entity consistent with rules that will define the scope that the measure is available to be adaptively managed. Such implementation will be coordinated with the Systemwide Governance Committee.

### **9.3. Strategic Plans.**

- A. The VA Parties will propose an initial Strategic Plan for approval in the update to the Bay-Delta Plan, along with other elements of the VAs. The plan will provide multi-year guidance for the implementation of flow and other measures, set priorities to guide the Science Program, and establish reporting procedures related to implementation and effects. The Strategic Plan will be consistent with applicable terms of Implementing Agreements.
- B. The Parties will request that the State Water Board approve the initial Strategic Plan as an element of the Program of Implementation.
- C. The Systemwide Governance Committee may revise the initial Strategic Plan for the purpose of Years 3 and 6, and subsequently as applicable, subject to the State Water Board's review and approval of any adaptive management outside of the limits established in the initial Strategic Plan.

### **9.4. Annual and Triennial Reports.**

- A. The Tributary/Delta Governance Entities will prepare Annual Reports of their implementation of the VAs in the preceding year. The Systemwide Governance Committee will compile and integrate these reports for annual submittal to the State Water Board.
  - (i). Reports will inform adaptive management.
  - (ii). Reports will be technical in nature, identify actions taken, monitoring results, and milestones achieved.

- (iii). Reports will document status and trends of native fish.
  - (iv). Reports will document whether commitments for VA asset deployments are being met. Commitments will be documented using a State approved accounting methodology and validated to be true and correct by a third party independent registered professional engineer.
  - (v). Reports will document progress toward completion of VA habitat restoration projects. Each report will document permit success in terms of applications submitted, processing timelines, and permits obtained.
  - (vi). Reports will document efforts to seek new funding to support program.
- B. In Years 3 and 6, and subsequently as applicable, the Systemwide Governance Committee will prepare a Triennial Report to analyze progress across the Delta watershed and, in coordination with the Tributary/Delta Governance Entities, will submit these reports to the State Water Board.
- C. The State Water Board will hold a public informational workshop on the VAs following receipt of each Triennial Report.

**10. Science Program.** The VAs will include a comprehensive Science Program.

- 10.1.** The Science Program will serve the following purposes: (A) inform decision-making by the Systemwide Governance Committee, Tributary/Delta Governance Entities, and VA Parties; (B) track and report progress relative to the metrics and outcomes stated in Appendix 4; (C) reduce management-relevant uncertainty; and (D) provide recommendations on adjusting management actions to the Systemwide Governance Committee, Tributary/Delta Governance Entities and VA Parties.
- 10.2.** The Science Program will be guided by the principles of best available science, efficiency, forward-looking perspective, shared risk in addressing uncertainty in data and analyses, transparency, collaboration, and timeliness.



**10.3.** The Science Program will include the following elements.

- A. Implement specific experiments. The science program will adopt a “safe to fail” experimental approach to maximize learning.
- B. Test hypotheses. The program will identify and test key hypotheses/assertions, especially/even if conflicting, about how the ecosystem functions and what measures will be most effective at achieving desired outcomes.
- C. Learn from the experiments. Ensure that each measure is designed and implemented in a manner that maximizes learning.
- D. Design the experiments to test specific outcomes.
- E. Facilitate a collaborative process. All parties will be engaged in the development and implementation of the science program.
- F. Facilitate a transparent process. All parties will facilitate a transparent process through collaboration, reporting, and open data.
- G. Monitoring. The Science Program will ensure one or more monitoring regimes are developed that will allow the parties to collect data on target species and their habitats necessary to assess the efficacy of flow and non-flow measures

**10.4.** For purposes of adaptive management, the Science Program will include structured decision-making processes to determine or adjust flow and non-flow measures, direct science efforts, and incorporate outcomes of the testable hypotheses to continue to inform decision-making, consistent with applicable provisions of the Governance Program.

**11. Resolution of Litigation and Other Related Regulatory Proceedings.** The Parties understand the VA contributions, to the maximum extent allowable under law, will be recognized in the resolution of other related regulatory proceedings, including during the pending consultation on ongoing CVP and SWP operations and/or application for a new or amended incidental take permit for operations. As provided in Section 1.3.B of the MOU, the VA Parties will address appropriate resolution of litigation pertaining to other regulatory actions, interim operations in 2023 and 2024, and other regulatory proceedings that relate to the actions described in the Term Sheet.



- 12. Early Implementation.** State agencies will work with the VA Parties to implement the following measures before the State Water Board’s approval of the VAs in the Program of Implementation, subject to applicable environmental review:
  - 12.1.** Dedication of water that can be made available without the establishment of revolving or water purchase funds;
  - 12.2.** Dedication of water that can be made available through an identified funding source; and
  - 12.3.** Advanced planning and/or implementation of habitat restoration projects that have funding and necessary regulatory approvals, including that available through the \$70M appropriated from Proposition 68.
  
- 13. Environmental Review.** The Parties request that the State Water Board consider this Term Sheet, including Appendices 1 through 4, as a proposal in the SED to support the update of the Bay-Delta Plan.
  - 13.1.** The Parties will develop a plan for all necessary environmental review for all VA-related implementation actions, including but not limited to use of the programmatic discussion in the State Water Board’s SED consistent with applicable law.
  - 13.2.** This Term Sheet is not a contract and does not represent a commitment by any Party to approve or implement any project or alternative or otherwise bind any Party to a definite course of action.

**Appendix 1.**  
**Flow Tables**

**Table 1a: New Contributions to Tributary Flow and Delta Outflows in Thousand Acre Feet<sup>1,2,3</sup>**

Source	C (15%) <sup>4</sup>	D (22%)	BN (17%)	AN (14%)	W (32%)
<b>San Joaquin River Basin</b>					
<i>Minimum Placeholder Contributions</i> <sup>5</sup>	48	145	179	112	0
<i>San Joaquin Basin Portion of Gap</i>		11	2	10	
<b>Friant</b>	0	50	50	50	0
<b>Sacramento River Basin<sup>6</sup></b>					
Sacramento <sup>7</sup>	2	102	100	100	0
Feather	0	60	60	60	0
Yuba	0	60	60	60	0
American <sup>8</sup>	30	40	10	10	0
Mokelumne	0	10	20	45	0
Putah <sup>9</sup>	7	6	6	6	0
<b>CVP/SWP Export Reduction<sup>10</sup></b>	0	125	125	175	0
<b>PWA Water Purchase Program</b>					
Fixed Price (see Table 1b)	3	63.5	84.5	99.5	27
Market Price <sup>11</sup>	0	45	45	45	0
<b>Permanent State Water Purchases<sup>12</sup></b>	65	108	9	52	123
<b><i>Year 1 New Outflow Above Baseline (Low Target)</i></b>	<b>155</b>	<b>825.5</b>	<b>750.5</b>	<b>824.5</b>	<b>150</b>

**Table 1b: Supporting Details for New Flow Contributions (Table 1a) and Year 8 Water Storage**

	C (15%)	D (22%)	BN (17%)	AN (14%)	W (32%)
<b>PWA Fixed Price Water Purchase Program</b>					
Sac Valley NOD		10	10	10	
CVP SOD		12.5	24.5	35	
WWD SOD <sup>13</sup>	3	6	15	19.5	27
Add CVP SOD <sup>13</sup>		5	5	5	
SWP SOD		30	30	30	
<b>Refill (Mokelumne)<sup>14</sup></b>	0	9	18	13.5	0

<b>New Water Projects (Before Year 8)<sup>15</sup></b>					
Chino Basin	0	50	50	0	0
Kern Fan	0	18	18	0	0
Willow Springs Conjunctive Use	0	19	29	0	0

<sup>1</sup> This table reflects status of negotiations as of the date of this Framework. Prior "global gap" to meet adequacy are now reflected as Permanent State Water Purchases.

<sup>2</sup> Outflows additive to baseline and will be provided January through June. A portion of the VAs' flows can be flexibly shaped to other times of year to test biological hypotheses while reasonably protecting beneficial uses. Such shaping will be subject to VAs' governance program. Flows made available through reservoir reoperations will be subject to accounting procedures described in term sheet and all flows will be verified as a contribution above baseline using these accounting procedures.

<sup>3</sup> An assessment based on the accounting procedures to be developed pursuant to Term Sheet section 8.4 will be conducted prior to year 8 of VA to determine if the flows in this table have materialized on average above baseline by water year type. The VA parties acknowledge that, if this analysis does not demonstrate that flows have materialized as shown in this table, then the VAs will be subject to Term Sheet provisions of Section 7.4(B)(ii) or (iii).

<sup>4</sup> C year off-ramps subject to negotiation, but flows in this table must reflect average C year contributions over the term of the VA.

<sup>5</sup> Minimum placeholder contribution for the SJR tributaries equivalent to what would have been provided under the VA. Additional flows above minimum placeholder values will be required in certain year types to satisfy current water quality objectives.

<sup>6</sup> The new flow contributions from the Sacramento River Basin identified in this Table 1a, plus new flow contributions resulting from the below-referenced PWA Water Purchase Program, Permanent State Water Purchases, and PWA Fixed Price Water Purchase Program line items in Tables 1a and 1b, are not intended to result in idling more than 35,000 acres of rice land in the Sacramento River Basin.

<sup>7</sup> VA parties agree that the Sacramento River flow contribution of 100 TAF will be provided during the January through June period, except when it is recommended through the VA governance process that shifting the timing of a portion of this contribution would be in the best interest of the fishery. Recommendations by the VA governance group require approval from the following agencies: National Marine Fisheries Service, California Department of Fish and Wildlife, and the State Water Board.

<sup>8</sup> Contingent on funding groundwater substitution infrastructure to be completed by a subsequent year. These flows are included in the Year 1 subtotal.

<sup>9</sup> Consistent with the safe yield of the Putah Creek Accord (2000).

<sup>10</sup> If, in any year, this level of Exporter contribution would reduce supplies that would otherwise be provided to Exporters to protect M&I Public Health and Safety, then the Exporter contribution will be reduced to avoid reduction of M&I Public Health and Safety water, consistent with operations contemplated in D-1641 and the biological opinions for the coordinated operations of the CVP and SWP to protect health and safety water supplies.

<sup>11</sup> The VA's governance program will be used to determine the use of available funding to provide additional outflow in AN, BN, or W years. If DWR is called upon to provide the water by foregoing SWP exports, such call will be handled through a separate agreement between DWR and its contractors.

<sup>12</sup> State to permanently acquire 65TAF of water in all water year types to contribute to meeting the flow targets specified in row 27 of this table. After applying this 65TAF in all water years a gap of 43TAF will persist in D years and a gap of 58TAF will persist in W years; however, there will be a surplus of 56TAF in BN years and a surplus of 13TAF in AN years. D and W year gaps to filled by redistributing a portion of the PWA water purchase contribution from BN and AN years, and through additional State water purchases in W years.

<sup>13</sup> If flows are not obtained through this source, the equivalent volume would be obtained at market price or otherwise obtained through other mechanisms.

<sup>14</sup> Requires refill commitments or mutually agreeable operational agreement. Refill commitments are not included in tabulation of additive flows since they serve to ensure tributary flow contributions are protected as outflow without injury to other users.

<sup>15</sup> State funding to be secured, and projects to be phased-in, by Year 8.

**Appendix 2.\***  
**Minimum Additive Contributions to Habitat Restoration**

Area	Total Acres <sup>i</sup>
<b>Sacramento Basin</b>	
Sacramento	137.5 (instream), 113.5 (spawning)
Sutter Bypass, Butte Sink, and Colusa Basin	20,000 (floodplain) <sup>ii</sup> , 20,000 (fish food production) <sup>iii</sup> <i>Initial Targets per funding and permitting</i>
Feather	15 (spawning), 5.25 (instream), 1,655 (floodplain) <sup>iv</sup>
Yuba <sup>v</sup>	50 (instream), 100 (floodplain)
American	25 (spawning), 75 (rearing)
Mokelumne	1 (instream), 25 (floodplain)
Putah	1.4 (spawning)
<b>North Delta Arc and Suisun Marsh</b>	5,227.5 <sup>vi</sup>

*\*To expedite the completion of these projects, the State will commit to establish a new, multi-disciplinary restoration unit, with authority to coordinate and work collaboratively to obtain all permits required to implement the restoration activities. The unit will track and permit these projects and seek to: (1) encourage coordination between and among state and federal agencies, (2) avoid repetitive steps in the permitting process, (3) avoid conflicting conditions of approval and permit terms, and (4) provide an expedited path to elevate and resolve permitting challenges.*

<sup>i</sup> This column represents the sum of habitat restoration commitments proposed in the Planning Agreement and habitat restoration acres identified in the State's VA Framework from February 2020 (modified to reflect the 8-yr VA term, State Team's discussion with participants, and modeling analysis).

<sup>ii</sup> Floodplain habitat will be generated via Tisdale Weir and other modifications. Subject to analysis showing that acreage meets suitability criteria.

<sup>iii</sup> Subject to analysis of effectiveness. Water will be pumped onto rice fields, held for a period of time to allow fish food production (e.g., zooplankton), and then discharged to the river for the benefit of native fishes downstream.

<sup>iv</sup> This consists of added instream habitat complexity and side-channel improvements.

<sup>v</sup> This constructed floodplain will be activated at 2,000 cfs.

<sup>vi</sup> This will be tidal wetland and associated floodplain habitats.

**Appendix 3.**  
**Costs to Implement VAs**

<b>Costs to Implement VAs</b>	<b>\$ Million (M)</b>	<b>Notes</b>
<b>Costs in Planning Agreement</b>		
Habitat Construction	\$477	Estimated project costs throughout tributaries.
Voluntary Fallowing	\$268	Upfront payments plus voluntary fallowing in Sacramento and Feather watersheds.
Water Purchases in Various Water Years	\$125	Funding to purchase water from Yuba and upfront water purchase from American.
American River Recharge Project	\$40	Project specified for funding in Planning Agreement.
Science and Adaptive Management Programs	\$104	Estimated costs of science program across all tributaries (\$1M/tributary/year) and Delta (\$3M/year), and adaptive management (\$5M/year).
<b>Subtotal</b>	<b>\$1,014</b>	
<b>Additional Costs to Achieve VAs as Described in this Framework</b>		
Water Development Costs	\$370	Projects that generate Delta outflow. Reflects State's share of awarded Prop 1 WSIP funding.
Additional Water Purchase on Market	\$64	Funding deployed to secure additional flows in certain water years allocated per VA's Governance Program.
Additional Water Purchase with Fixed Price	\$208	
Additional Habitat Restoration per this Framework	\$381	Estimated cost to construct additional habitat identified in this Framework.
Adjusted Science and Adaptive Management Program	\$24	Additional estimated science costs across all participating tributaries (+\$0.5M/tributary/year) and Delta (+\$0.5M/year).
Permanent State water purchases (no defined source)	\$490	Estimated cost of water in various WYT's

Total Estimated Cost Refill	\$25	Estimated cost on Mokelumne (Potential to Operate around and avoid this cost)
Mokelumne AN Water Purchase (30 taf)	\$13	
<b>Subtotal</b>	<b>\$1,575</b>	
<b>Total VA Costs</b>	<b>\$2,589</b>	Aggregated costs from Planning Agreement plus additional costs to achieve commitments per this Framework.

**Table 4.**  
**Funding for VAs' Framework**

<b>Funding Source</b>	<b>Use of Funds</b>	<b>\$ million (M)</b>	<b>Notes</b>
<b>Committed Funding in Proposed Framework (December 2018)</b>			
Water Agencies	CVPIA Funding for VAs' Term	\$80	Approximately \$10M/year for 8 years.
Water Agencies	Water Revolving Fund	\$217 <sup>1</sup>	Generated by \$5/AF charge on state and federal contractors and some other water agencies. Hydrology dependent. Portion required to stay within contributing tributaries.
Water Agencies	Habitat on Mokelumne	\$17	Water agency contribution to habitat on Mokelumne per Planning Agreement
Water Agencies	Structural Science and Habitat Fund (SSHF)	\$124	Generated by \$1-2/AF charge on state and federal contractors and some other water agencies. Portion required to stay within contributing tributaries (Yuba and American).
<b>Subtotal</b>		<b>\$438</b>	
State	Proposition 68	\$165	Explicitly provided in Proposition 68 for water purchases, land fallowing, and habitat projects
State	Proposition 1 Water Storage Investment	\$370	Funding generated by Proposition 1. Requires other funding match from

<sup>1</sup> Dollars in this and the subsequent row are based on historical deliveries on a long-term average. Actual dollars may vary.

	Program (WSIP) for Feather River		individual State Water Contractors (Chino, Kern, and Willow Springs).
Various	CVPIA and State funding allocated to VA habitat projects in March 2019 PD	\$87	Funding from CVPIA, Prop 1, and other grants already allocated to projects identified in the March 2019 PD. Does not include Prop 68 funds.
<b>Subtotal</b>		<b>\$622</b>	
<b>Total Committed Funding</b>		<b>\$1,060</b>	From PWAs, State and Federal combined
<b>Identified New Funding</b>			
Water Agencies	Immediate collection of self-assessment	\$100	Contribution to revolving fund two years prior to VAs' effective date. Any federal funding that is not available in these first two years due to appropriations constraints will be recouped through a surcharge over the 8-year term of the VAs. If federal funding is recouped through a surcharge, each PWA that pays a surcharge will receive credit in the amount of the surcharge paid. The credit shall be applied as soon as possible against a financial obligation the PWA assumes under the VAs.
Water Agencies	Additional funding for water purchases (Water Revolving Fund)	\$130	Funding generated by an additional \$3/AF self-assessment by PWAs.
<b>Subtotal of New Funding from Water Agencies</b>		<b>\$230</b>	
<b>New Funding from State (secured)</b>		<b>\$503</b>	\$200 M from DWR for habitat restoration and \$303 M from CNRA water resilience funds (which total \$445 M)
<b>New Funding from State (unsecured)</b>		<b>\$381</b>	
<b>New Federal Funding (unsecured)</b>		<b>\$740</b>	New federal funding to support habitat restoration throughout tributaries, multi-



			benefit projects, and Sacramento Valley habitat projects.
<b>Total of New Funding Commitments</b>		<b>\$1,854</b>	
<b>Total Funding for VAs</b>		<b>\$2,914</b>	This total exceeds VA costs above because it includes federal funding which is needed for habitat restoration.

## **Appendix 4: Metrics, Monitoring, and Outcomes Framework for Assessing VA Effectiveness**

This framework, including implementation criteria, habitat suitability and utilization criteria, and the final monitoring framework will be further developed collaboratively by the VA Parties (see Sections 2.1 and 5.2 of VA Term Sheet) in coordination with the State Water Board.

Implementation criteria: Quantitative metrics will be developed to ascertain whether VA commitments are met. Implementation criteria will be established to ensure actions are taken to provide (1) flow volumes by water year type above baseline as specified in Appendix 1, and (2) non-flow assets, including instream and floodplain habitat projects, that meet design criteria, acreage, and other targets. The implementation criteria answer the question: Did we implement the actions we committed to undertake? If not, why not? Consideration will be given for non-party caused implementation hurdles.

Habitat suitability and utilization criteria: Quantitative metrics will be developed for determining if constructed habitat meets predetermined: 1) project level suitability criteria (e.g. depth, velocity, duration); and 2) utilization criteria (e.g. fish presence, food production, juvenile fish movement, fish condition). The habitat suitability and utilization criteria answer the question: Are the constructed and restored habitats providing or likely to provide suitable habitat or food production for target species and life stages and are they being used as intended? Consideration will be given for non-party caused implementation issues and for the time it takes for restoration sites to “mature.”

Monitoring: Before VA year 0, the VA Governance and Science Program will develop a monitoring framework (e.g. species and habitat) to test the specific hypotheses for each of the VA commitments. The framework will include habitat design, suitability, and utilization criteria, which will be subject to approval by DFW, in consultation with USFWS and NMFS, and adopted by the SWB as part of the overall VA. Project specific monitoring plans will be developed through the VA Governance and Science Program. In coordination with the SWB and other VA Parties, CDWR and the U.S. Bureau of Reclamation will develop accounting procedures to assure that flows and habitat restoration provided under the VAs are additional contributions above baseline conditions as defined in Section 4 of this Term Sheet. These procedures will be incorporated into the Implementation Agreements and subject to approval by the State Water Board. Early implementation projects will follow monitoring protocols developed during permitting/granting process, and adjust, as appropriate, once VA governance has developed a framework. The framework will require SWB approval.

Sufficient monitoring of target species and flow and habitat assets deployed over the initial term of the VA will be key to informing the scientific basis and rationale for continuing the VA beyond year 8. Monitoring approaches will vary geographically and by habitat type but should be hypotheses driven and supported by recent data from the watershed or geographic region in question. The goal of this monitoring effort is to ensure species and habitats are monitored correctly and sufficiently to answer the

hypotheses as described in the habitat monitoring framework. An illustrative example is provided below:

Habitat Type	Objective	Hypothesis	Monitoring Metrics
<b>Tributary Spawning</b>	<ul style="list-style-type: none"> <li>• Increase abundance of fry</li> </ul>	Increase in suitable spawning habitat area increases number of redds and successfully hatched eggs.	<ul style="list-style-type: none"> <li>• Number of redds</li> <li>• Egg→Fry survival</li> <li>• Abiotic parameters</li> </ul>

Ecological outcomes analysis: Prior to year 7 of the VA, a report from the VA governance program will be submitted to the SWB synthesizing the scientific data and information generated by the VA science program, primarily based on the Years 3 and 6 Triennial Reports. The governance and science programs will include, but not be limited to, members of all represented parties in the development of reports and synthesis analysis. This report will document the hypotheses tested and the results, and will demonstrate the scientific basis and rationale for continuing the VA beyond year 8. This report will also synthesize available information and extrapolate from the VA hypothesis testing the expected ecological outcomes from continuing the VA, including quantifying how the continuation of the VA will improve species abundance, ecosystem conditions, and contribute to meeting the WQCP Objectives. The analysis will be informed by a variety of approaches, including monitoring data and models developed over the initial 8-year term of the VA. Sufficient monitoring of target species and flow and habitat assets deployed over the initial term of the VA will be key to informing the scientific basis and rationale for continuing the VA beyond year 8. The ecological outcomes analysis could answer the key questions: What have we learned from flow and non-flow actions implemented under the VA, what combination of flow and non-flow assets maximize ecological benefits, are changes needed to VA assets after Year 8, and how will continuation of the VA effect the overall ecosystem at the population level for target species? Consideration will be given for actions or circumstances outside the control of the VA parties.