

Memorandum

**Subject: Contra Costa County Routine Maintenance Program
Initial Study/Mitigated Negative Declaration (SCH No. 2020060286)
Consideration of Comments Received during the Public Review Period**

Date: October 26, 2020

To: Ave Brown, Principal Analyst, Contra Costa County Department of Public Works

From: Ken Schwarz, Horizon Water & Environment (Horizon)
Bridget Lillis, Horizon

INTRODUCTION

This memorandum has been prepared to summarize the comments received by the Contra Costa County Department of Conservation and Development (DCD) on the Initial Study/Mitigated Negative Declaration (IS/MND) for the Contra Costa County Routine Maintenance Program (proposed program or program). An IS/MND is an informational document prepared by a Lead Agency, in this case, the Costa County DCD, that provides environmental analysis for public review. The IS/MND analyzed the impacts resulting from the proposed program and, where applicable, identified mitigation measures to minimize the impacts to less-than-significant levels.

This memorandum first summarizes the public review process undertaken for the IS/MND and identifies the next steps in the California Environmental Quality Act (CEQA) process, and then summarizes the comments received and provides responses to those comments.

CEQA PROCESS

In accordance with Section 15073 of the State CEQA Guidelines, the IS/MND was submitted to the State Clearinghouse for a 30-day public review period starting June 17, 2020 and ending July 17, 2020. In addition, Contra Costa County DCD circulated a Notice of Intent to Adopt the IS/MND to interested agencies and individuals, including the Contra Costa County Clerk. During the public review period, five comment letters were received, as listed in Table 1.

In accordance with State CEQA Guidelines Section 15074(b), Contra Costa County Board of Supervisors must consider the IS/MND together with comments received during the public review process prior to decision making and potentially adopting the IS/MND. Although the State CEQA Guidelines do not require the preparation of responses to comments for negative declarations; this memorandum has been prepared to document that the comments received were reviewed and considered in light of the IS/MND's findings. The issues raised in the comments received do not result in a change to the IS/MND's conclusions that the proposed program would not have any significant effects on the environment. The County will send letters to those who commented providing responses to the topics they commented on.

Table 1. Comment Letters Received on the IS/MND

Comment Letter	Commenter	Affiliation	Date Sent
A	Gregg Erickson, Regional Manager, Bay Delta Region	California Department of Fish and Wildlife	July 15, 2020
B	Jackie Van Der Hout, CUSP Outreach Director	California Urban Streams Partnership	July 10, 2020
C	Allison Cloney, Project Permitting	East Contra Costa County Habitat Conservancy	July 8, 2020
D	David J. Rehnstrom	East Bay Municipal Utility District	July 10, 2020
E	Heidi Perryman, Ph.D., President and Founder	Worth A Dam	July 15, 2020

At the time of consideration of approval of the project, the Contra Costa County Board of Supervisors will make CEQA findings and potentially adopt the IS/MND and Mitigation Monitoring and Reporting Program (MMRP) for those mitigation measures identified in the IS/MND. The MMRP was included in the IS/MND as Appendix D. Within five days following the potential IS/MND approval, Contra Costa County DCD must file a Notice of Determination (NOD) with the State Clearinghouse and the Contra Costa County Clerk-Recorder. If the IS/MND is approved, the findings will confirm that the Contra Costa County Board of Supervisors has received and reviewed the IS/MND pursuant to the provisions of CEQA and makes the following findings:

1. Prior to taking action on the IS/MND and MMRP for the proposed program, the Contra Costa County Board of Supervisors will consider the IS/MND findings and public comments received.
2. The IS/MND and MMRP are based on independent judgment exercised by Contra Costa County.
3. The IS/MND and MMRP were prepared and considered in accordance with the requirements of CEQA.
4. Considering the record as whole, and with incorporation of the mitigation measures, there is no substantial evidence that the proposed program will have a significant effect on the environment.
5. Contra Costa County Public Works Director is the custodian of the records of the proceedings on which this decision is based. Records are located at the Public Works offices located at 255 Glacier Drive, Martinez, CA 94553.

COMMENTS RECEIVED ON THE IS/MND

During the public review period, Contra Costa County DCD received five comment letters on the IS/MND (Table 1). These letters are included with this memorandum as Attachment A.

Comment Letter A – California Department of Fish and Wildlife

Comment A-1: The California Department of Fish and Wildlife (CDFW) describes their role as a Trustee and Responsible Agency under CEQA.

Response to Comment A-1: Comment noted.

Comment A-2: CDFW describes the regulatory requirements of the California Endangered Species Act (CESA) and Lake and Streambed Alteration Agreement.

Response to Comment A-2: Comment noted.

Comment A-3: CDFW identifies that beaver dam management activities are not discussed in the IS/MND and recommends a beaver dam assessment and modification measure be incorporated into the IS/MND.

Response to Comment A-3: The County appreciates CDFW's input on this topic. However, after careful consideration beaver dam management activities have been removed from the County's Routine Maintenance Program as they are infrequent and uncommon and thus, are not considered routine. Beaver dam management activities will be handled on a case-by-case basis and permitted outside of the RMP, in close consultation with CDFW, Ecosystem Conservation Division. The County looks forward to continuing to work collaboratively with CDFW on this topic.

Comment A-4: CDFW recommends that the County provide additional detail on aquatic herbicide use, including (1) the types and relative quantities of herbicides to be used; (2) frequency of herbicide use; (3) anticipated area of impact of application; and (4) use of terrestrial herbicides in habitats that may affect aquatic wildlife.

Response to Comment A-4: The County has updated the herbicide application discussion in the project description of the IS/MND to provide additional detail, as requested. Additionally, herbicide application information, including the type of herbicides, proposed quantities, frequency, and location are summarized in Table 2 included below (also included in Chapter 6 of the Manual).

Historically, the most commonly used herbicides in the County have been Round PROMAX, Roundup Custom, Garlon 3A, and Esplanade 200 SC. These herbicides are typically mixed with the other herbicides listed in Table 2, approved adjuvants (listed below), and surfactants. The County typically treats approximately 170 acres along access roads, 126 acres along channel banks (dry areas) and 76 acres of in-channel (aquatic) areas in an average year.

Table 2. Summary of Herbicides Used on Vegetation Type

Typical Application Location	Herbicide Active Ingredient ^{1,2}	Application Timing	Application Frequency	Example Product	Annual Application/ Concentration
<i>Terrestrial Vegetation</i>					
Access roads, channel banks, fence lines	Glyphosate	Winter, spring, summer	0-3 times/year	Roundup PROMAX	1% (1 gallon/acre)
	Imazapyr		0-1 times/year	Habitat	1% (1 gallon/ acre)
	Triclopyr TEA ³		0-3 times/year	Renovate 3, Garlon 3A	Renovate 3: 0.5%- 0.75% (0.5- 0.75 gallon/acre) Garlon 3A: 0.5% (0.5 gallon/ acre)
	Aminopyralid	Fall, winter, spring	0-3 times/year	Milestone	5 ounces/acre
	Indaziflam	Fall, winter	0-1 times/year	Esplanade 200 SC	7 ounces/acre
	Prodiamine	Fall, winter	0-1 times/year	Resolute 65WG	1 pound/acre
	<i>Aquatic Vegetation</i>				
Channel banks, within channels, sensitive species habitat, basins	Glyphosate	Summer, fall	0-2 times/year	Roundup Custom	1% (1 gallon/ acre)
	Triclopyr TEA	Summer, fall	0-2 times/year	Renovate 3, Garlon 3A	Renovate 3: 0.5%- 0.75% (0.5- 0.75 gallon/acre) Garlon 3A: 0.5% (0.5 gallon/ acre)
	Imazamox	Spring, summer, fall	0-2 times/year	Clearcast	1% (1 gallon/ acre)
	Imazapyr	Summer	0-2 times/year	Habitat	1% (1 gallon/ acre)

Table Notes:

¹ Applications may be made using a truck-mounted boom, handgun sprayer, or backpack sprayer. Site conditions including access, presence of special status species/habitat, application type, target pest, etc. may influence equipment choice.

² Other herbicide active ingredients may be added to the revised permit.

³ Triclopyr TEA refers to the triethylamine salt of triclopyr.

Comment A-5: CDFW requests a discussion of rodenticide use to be included in the IS/MND.

Response to Comment A-5: A description of rodenticide use was added to page 9 of the IS/MND and BMP BIO-15 (Use of Rodenticide) was added to Appendix C, Best Management Practices. Impacts associated with rodenticide use are similar to herbicide use; nonetheless, a discussion was added to page 76 of the IS/MND. No new significant impacts would occur.

The County will provide CDFW with specific rodenticide use information during development of the annual work plan.

Comment A-6: CDFW recommends incorporating four measures related to large woody material retention in the IS/MND.

Response to Comment A-6: The County thanks CDFW for the input on large woody material and understand the importance of retaining such material, where possible, to provide habitat for fish and other wildlife. Additional information on this topic from the RMP Manual was added to the project description and BMP GEN-25 (Large Woody Material Retention) was added to Appendix C, Best Management Practices.

Comment A-7: CDFW recommends that the County require compensatory mitigation at a minimum ratio of 3:1 (conserved habitat to impacted habitat) for permanent impacts and 1:1 (conserved habitat to impacted habitat) for temporary impacts to stream channels subject to CDFW permitting authority.

Response to Comment A-7: The County thanks CDFW for their input on compensatory mitigation ratios for temporary and permanent impacts to stream channels. As part of the annual work plan, the County will coordinate closely with CDFW to develop appropriate mitigation ratios for temporary and permanent impacts to stream habitat. No revisions were made to the IS/MND.

Comment A-8: CDFW requests the County to submit any special-status species and natural communities detected during project surveys to be submitted to the California Natural Diversity Database (CNDDDB).

Response to Comment A-8: County staff routinely submit special-status species occurrence reports to CDFW's CNDDDB and will continue to do so for surveys conducted for the proposed program. No revisions were made to the IS/MND.

Comment Letter B – California Urban Streams Partnership

Comment B-1: The California Urban Streams Partnership (CUSP) requests that the County develop a more formal process for assessing hazards related to beaver dams. CUSP also requests that the County notify watershed and environmental organizations and consult with CDFW prior to submitting a depredation permit application.

Response to Comment B-1: The County appreciates CUSPs input on managing beaver dams in the County. After careful consideration, beaver dam management has been removed from the County's Routine Maintenance Program as this activity is infrequent and uncommon and thus, is not considered routine. Beaver dam management activities will be handled on a case-by-case basis and permitted outside of the RMP, in close consultation with CDFW. No revisions were made to the IS/MND.

Comment Letter C – East Contra Costa County Habitat Conservancy

Comment C-1: East Contra Costa County Habitat Conservancy (Conservancy) requests that the Conservancy be listed as a public agency whose approval is required for implementation of the program on page 11 of the IS/MND.

Response to Comment C-1: Comment noted. The County understands that maintenance activities located within East County are within the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECC HCP/NCCP) which is implemented by the Conservancy. Thus, the proposed program would be required to comply with the permits and authorizations associated with the ECC HCP/NCCP. The Conservancy was added as public agency to page 11 of the IS/MND.

Comment C-2: The Conservancy requests that the following sentence on page 26 of the IS/MND be deleted:

“The ECC HCP/NCCP covers 174,018 acres and authorizes up to 11,853 acres of development impacts in areas managed by the Contra Costa Water District.”

Response to Comment C-2: Comment noted. The County deleted the sentence from page 26 of the IS/MND.

Comment 3-3: The Conservancy suggests that the word “regulatory” be deleted on page 38 of the IS/MND.

Response to Comment C-3: Comment noted. “Regulatory” was deleted from page 38 of the IS/MND.

Comment Letter D – East Bay Municipal Utility District

Comment D-1: East Bay Municipal Utility District (EBMUD) requests that the County reference the County Integrated Pest Management Plan, or other established plan to minimize the use of herbicides to the extent possible and to identify alternatives to herbicide use in channels on page 8 of the IS/MND.

Response to Comment D-1: As of 2002, the Contra Costa County Public Works Department along with the Agriculture Department operate within the framework of the Integrated Pest Management (IPM) Policy which promotes the combined use of physical, cultural, biological and chemical control methods to effectively manage pests with minimal risk to humans and the environment. Consistent with the County’s IPM policy, the RMP uses an integrated approach of chemical and control methods including mechanical and biological (livestock) methods to manage vegetation in and around County facilities, including channels. The text was added to page 8 of the IS/MND.

Comment D-2: EBMUD notes that steelhead are present in Pinole Creek and recommends changing the statement to “steelhead are present” on page B-3 of Appendix B, number 6 under the Tiered Category column of the table.

Response to Comment D-2: The County thanks EBMUD for the updated information regarding the presence of steelhead in Pinole Creek and made the suggested revision to Table B-1 in Appendix B.

Comment D-3: EBMUD recommends including timing constraints for herbicide use in Pinole Creek to protect listed fish.

Response to Comment D-3: Maintenance activities occurring in areas with a potential for special-status species, including fish, will be conducted between June 15 and October 15 as stated in BMP GEN-1: Work Windows in Appendix C, Best Management Practices of the IS/MND. No revisions were made to the IS/MND.

Comment Letter E – Worth A Dam

Comment E-1: Worth A Dam notes the environmental benefits of having beavers in the County as they create habitat for a variety of wildlife species and requests that the County consider the benefits of beavers as part of the decision-making process. Worth A Dam notes the success of installing a flow device to minimize flooding in the City of Martinez and recommends that the Manual contain recommendations regarding the preservation of beaver habitat wherever possible.

Response to Comment E-1: The County appreciates Worth A Dam’s input on managing beaver dams in the County. After careful consideration, beaver dam management has been removed from the County’s Routine Maintenance Program as this activity is infrequent and uncommon and thus, is not considered routine. Beaver dam management activities will be handled on a case-by-case basis and permitted outside of the RMP, in close consultation with CDFW. The County looks forward to working collaboratively with Worth A Dam on this topic in the future. No revisions were made to the IS/MND.

ERRATA

The following revisions are hereby made to the IS/MND at the specified locations in response to comments discussed above. Underlined text is new text; ~~strikeout~~ text is deleted.

Environmental Checklist

8. Description of Project

On page 6, the following revisions were made:

Rodent control involves filling in burrows occurring within the County’s earthen levees and dams with earthen material and the use of rodenticides. Rodenticides are only used at dam and reservoir sites when necessary to protect the structural integrity of the dam and when other less toxic alternatives are not available. Rodenticides are applied through bait stations to prevent non-target species from ingesting the rodenticide directly. Bait stations will be monitored regularly and modified as needed to ensure non-target wildlife are not accessing the bait.

On page 8, the following revisions were made under “Herbicide Application:”

As of 2002, the Contra Costa County Public Works Department along with the Agriculture Department operate within the framework of the Integrated Pest Management (IPM) Policy which promotes the combined use of physical, cultural, biological and chemical control methods to effectively manage pests with minimal risk to humans and the environment. According to the County’s IPM Policy, pesticides are used only after monitoring indicates that they are needed in

accordance with established guidelines. Treatments are then made with the goal of removing only target species. Consistent with the County's IPM policy, the Maintenance Program uses an integrated approach of chemical and control methods including mechanical and biological (livestock) methods to manage vegetation in and around County facilities.

On page 8, the following revisions were made:

Targeted spot spraying (i.e., by handgun or truck sprayer) is the primary method of herbicide application along roads, parcels and County-maintained access roads adjacent to flood control channels, along channel banks (above ~~water top of bank along the dry side of the levee [i.e., where contact with water is not anticipated]~~), and along fence lines. Application of herbicides to control terrestrial vegetation are applied at various times of the year (e.g., winter, spring, summer, or fall) depending on the active ingredient of the herbicide. Some herbicides are only applied 1 time a year and others may be applied up to 3 times per year. Herbicide active ingredients approved for upland use along access roads, channels banks (above top of bank), and fence lines include glyphosate, imazapyr, triclopyr TEA, aminopyralid, indaziflam, and prodiamine. Terrestrial herbicides are typically applied 2 to 3 times during the springtime to control broadleaf vegetation and post-emergent vegetation, and once during the fall or winter for pre-emergent vegetation.

Typically, aquatic herbicide is used when vegetation impedes flow, decreases capacity, or creates a nuisance. Similar to other vegetation management activities, this activity is conducted to control non-native or invasive aquatic species (e.g., cattails and Parrotfeather [*Myriophyllum aquaticum*]) to ensure sufficient flow conveyance capacity. Aquatic herbicide application activities are typically performed between the months of April and October with limited aquatic herbicide use between the months of December and February. The County will only use herbicide active ingredients approved for aquatic use including glyphosate, triclopyr TEA, imazamox, and imazapyr. In addition, the County will only use adjuvants that are registered and approved for aquatic use in California and Washington, including Agri-Dex, Brandt Magnify, Break-Thru SP 133, Bronc Max, Competitor, Cygnet Plus, Dyne-Amic, LI 700, Liberate, MSO Concentrate, Pro AMS Plus and Spreader 90, which are considered non-toxic to salmonids. The County will coordinate with NMFS to include new herbicides/adjuvants as they are released under the Maintenance Program as necessary. The County will not apply any herbicide that is not labeled for aquatic use directly to water.

Aquatic herbicide application is conducted in compliance with the Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Aquatic Pesticide Discharges from Algae and Aquatic Weed Control Applications (State Water Resources Control Board [SWRCB] Water Quality Order 2013-0002-DWQ; General NPDES Permit CAG990005). As required by the General NPDES Permit, the County conducts aquatic herbicide applications according to a state-approved Aquatic Pesticide Application Plan (APAP). Aquatic herbicide application activities are typically performed between the months of April and October with limited aquatic herbicide use between the months of December and February.

The County typically treats approximately 170 acres along access roads, 126 acres along channel banks (dry areas) and 76 acres of in-channel (aquatic) areas in an average year.

On page 8, the following revisions were made:

Where feasible, the County will retain large woody material in open natural and earthen engineered creeks, particularly in Wildcat, Pinole, and San Pablo creeks to provide fish habitat as long as flood conditions are not exacerbated and public safety is not at risk. The County also considers the feasibility of repositioning or modifying the fallen tree in the channel in a manner that public safety is not at risk, necessary conveyance capacity is maintained, the potential for bank erosion is not increased, and the potential for pinning of the tree against a facility is not likely. In the event that a fallen tree cannot be retained on-site as large woody debris material due to limits in channel capacity, hydraulic flow risks, potential flow diversion and bank erosion, or other hazards, then fallen trees may be removed.

In order to effectively manage large woody material in channels, the County will use a three-tiered, multi-disciplined approach. The three tiers, listed in order of decreasing priority are:

- 1) retain large woody material in the channel if feasible,
- 2) modify large woody material (e.g., cut fallen tree into 6-foot-long segments and/or reorient) instead of removing it,
- 3) remove large woody material from the channel.

10. Other public agencies whose approval is required (e.g., permits, financing, approval, or participation agreement

On page 11, the following revisions were made under “Minor Maintenance Activities:”

U.S. Army Corps of Engineers, San Francisco Bay and Central Valley Regional Water Quality Control Boards, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, East Contra Costa County Habitat Conservancy, and National Marine Fisheries Service

Section 3.4, Biological Resources

On page 26, the following revisions were made:

The extent of the ECCC HCP/NCCP with respect to the program area is shown in Figure 8 in Appendix A. ~~The ECCC HCP/NCCP covers 174,018 acres and authorizes up to 11,853 acres of development impacts in areas managed by Contra Costa Water District, among others.~~

On page 38, the following revisions were made:

“Regulatory” was deleted from page 38 of the IS/MND.

Where proposed maintenance could affect an ECCC HCP/NCCP-covered resource, the County will complete and submit a PSR and provide mitigation in the form of fees or deeded land in lieu of fees to obtain ~~regulatory~~ coverage through the HCP/NCCP permits where deemed necessary by the Conservancy.

Section 3.10, Hydrology and Water Quality

On page 71, the following revisions were made:

Use of Herbicides/Rodenticides

While herbicides would be applied in accordance with all applicable requirements and regulations, accidental release of herbicides or transport of applied herbicides, in stormwater runoff, to local surface waters could result in water quality impacts. Implementation of the following BMPs would require herbicides to be labeled, stored, and applied properly in accordance with manufacturer's requirements; protect against potential impacts on water quality from the accidental spill of herbicides; and require compliance with all USEPA-mandated herbicide requirements pertaining to California red-legged frogs including minimizing the area and timing of use and requiring specific herbicide application techniques. Additionally, the use of rodenticides may have the potential to affect water quality. However, adherence to BMPs would limit rodenticide use to bait stations at reservoir/dam sites.

- BMP GEN-6: On-Site Hazardous Materials Management
- BMP GEN-8: Spill Prevention
- BMP GEN-9: Spill Response
- BMP GEN-17: Standard Herbicide Use and Application Requirements
- BMP GEN-18: Herbicide Applicator Training
- BMP BIO-15: Use of Rodenticides
- BMP BIO-3: Protection of California Red-Legged Frog

Appendix B, Anticipated Routine Maintenance Locations

On page B-3, the following revision was made under the Tiered Category column for Pinole Creek of Table B-1:

Steelhead are ~~potentially~~ present in this stream.

Appendix C, Best Management Practices

On page C-8, the following BMP was incorporated into the RMP:

BMP GEN-25: Large Woody Material Retention. The following measures will be implemented to retain large woody material where feasible:

- The County will only modify or remove large woody material (LWM) from streams when the accumulation of LWM poses a threat to: (1) road stability, bridges, culverts, or other in-stream structures; (2) structures such as homes; (3) project sites with a significant decrease in conveyance capacity which would increase the flood risk to previously described structures; and (4) project sites with an increase in erosion risk to property and increase sediment load. The County will only cut, notch or otherwise modify the minimum amount of stream wood to reduce the hazard with guidance from a consulting hydrologist or fluvial geomorphologist or certified civil engineer who has relevant experience evaluating and assessing LWM and County Environmental staff who understands the importance of balancing habitat protection and flood control needs. LWM will only be removed when such threats cannot be addressed by modifications.

- To preserve channel stability and prevent erosion, the County will avoid removing LWM that is embedded in the bank or channel.
- When modifying log jams, the County will leave trees, logs and/or stumps in the longest lengths and diameters practicable. If logs must be cut from fallen trees, the County will leave as much as possible of the main trunk attached to the root ball and only cut branches that are obstructing flow.
- All proposed LWM removal activities conducted by the County will be reviewed by a Qualified Biologist or consulting hydrologist or fluvial geomorphologist or certified civil engineer in coordination with County Environmental staff. Written concurrence from the Qualified Biologist or consulting hydrologist or fluvial geomorphologist or certified civil engineer and County Environmental staff will be provided with the notification of proposed activities.

On page C-17, the following BMP was incorporated into the RMP:

BMP BIO-15: Use of Rodenticides. Rodenticides will be used only at County dam/reservoir site and be subject to the following conditions:

- The County will only use rodenticides when necessary to protect the structural stability of a dam and when other, less toxic alternatives are not available.
- Rodenticide application will only be conducted after reconnaissance-level surveys have been completed for listed species with potential to occur in the area. If listed species that use rodents as prey and/or that could be attracted by baited traps are expected to occur, the County will coordinate with CDFW prior to application.
- The County will apply rodenticides through bait stations to prevent non-target species from ingesting the rodenticide directly. Bait stations will be monitored regularly and modified as needed to ensure non-target wildlife are not accessing the bait.

CONCLUSIONS

The comments received on the IS/MND do not affect the IS/MND's conclusions that the proposed program would not have any significant effects on the environment. With the clarifications provided above, no changes to the IS/MND are necessary, and no recirculation of the IS/MND is required.

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Attachment A
Comments Received on the IS/MND

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State of California – Natural Resources Agency **GAVIN NEWSOM, Governor**
DEPARTMENT OF FISH AND WILDLIFE **CHARLTON H. BONHAM, Director** Bay
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Fairfield, CA 94534
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July 15, 2020

Ms. Ave' Brown
Contra Costa County Public Works Department
255 Glacier Drive
Martinez, CA 94553
abrow@pw.cccounty.us

Subject: Contra Costa County Routine Maintenance Program, Mitigated
Negative Declaration, SCH No. 2020060286, Contra Costa County

Dear Ms. Brown:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt a Mitigated Negative Declaration (MND) from Contra Costa County Flood Control and Water Conservation District and the Contra Costa County Public Works Department (collectively referred to as the County) for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is a Trustee Agency with responsibility under CEQA §15386 for commenting on projects that could impact fish, plant or wildlife resources. CDFW is also considered a Responsible Agency if a project requires discretionary approval, such permits issued under the California Endangered Species Act (CESA) and the Native Plant Protection Act, the Lake and Streambed Alteration (LSA) Program, and other provisions of the Fish and Game Code that afford protection to the State’s fish and wildlife trust resources.

A-1

REGULATORY REQUIREMENTS

California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in “take” of plants or animals listed under CESA, either

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¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The “CEQA Guidelines” are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code section 2080.

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Cont.

Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et. seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement (or ITP) until it has complied with CEQA as a Responsible Agency.

PROJECT DESCRIPTION SUMMARY

Proponent: Contra Costa County Flood Control and Water Conservation District and the Contra Costa County Public Works Department

Objective: The County is responsible for conducting routine maintenance activities throughout Contra Costa County to ensure that facilities are properly functioning and operational. The County developed the Routine Maintenance Program Manual to describe the various routine maintenance activities conducted by the County. Primary maintenance activities include culvert repair and replacement; sediment removal from channels, basins, and culverts; trash and debris removal; and vegetation trimming and removal along and within channels.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations below to assist the County in adequately identifying and/or mitigating the Project's significant, or potentially

significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

Impacts from Beaver Dam Modification or Removal

In recent conversations with CDFW, the County has expressed interest in removing or modifying beaver dams as a part of their Routine Maintenance Program; however, these activities are not identified in the MND. Unlike debris, which is defined in the MND as non-sedimentary materials that are deposited as a result of high flows or through human activity, beaver dams are wildlife habitat with significant environmental value. Beavers and their dams are an important resource for restoring and maintaining anadromy (Bouwes et al. 2016) and provide in-channel habitat for a variety of wildlife, including native fish, amphibians, birds, and mammals. Routine, county-wide modification or removal of these habitat features may result in significant impacts to biological resources. In addition, beavers are ecosystem engineers and negatively impacting this species throughout the county will result in a synergistic level of environmental impacts which should be analyzed and fully mitigated to a level of less than-significant in the MND. CDFW recommends addressing these impacts in mitigation measures that clearly indicate triggers necessitating dam removal, methods for deconstruction, and measures to minimize impacts to beavers, native fish, and other native wildlife species.

To reduce this significant impact to a level of less-than-significant, CDFW recommends the following mitigation measure be incorporated in the IS/MND:

Recommended Mitigation Measure 1: Beaver Dam Assessment and Modification

Beaver dams within natural or engineered earthen channels shall be evaluated by a hydrologist or fluvial geomorphologist. If the hydrologist/fluvial geomorphologist determine that the beaver dam will: (1) substantially obstruct water flow, (2) reduce channel capacity, (3) increase the risk of flooding, (4) accelerate erosion, or (5) damage existing County-maintained facilities (e.g., culverts, bridges, etc.), the hydrologist/fluvial geomorphologist shall prepare a Beaver Dam Assessment and Modification Plan with a focus to maintain the ecological functionality of the dam and beavers to the maximum extent feasible. The Beaver Dam Assessment and Modification Plan shall summarize and quantify the threat of the beaver dam, and prescribe a detailed methodology for modifying the dam to reduce or eliminate the risk of flooding, erosion, and/or damage to County facilities. For the purposes of a Routine Maintenance Program, beaver dam modifications should be limited to installation and maintenance of "pond leveling" devices only.

Timing and Use of Aquatic Herbicides

The MND identifies the use of aquatic herbicides as a Routine Maintenance activity but limits the description of use to the timing of application (April through October) and compliance with existing laws and regulations. An MND should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences (CEQA Guidelines §15151). To allow full contemplation of potentially significant impacts and the efficacy of associated mitigation measures, CDFW recommends that the County revise the aquatic herbicide impact analysis to include the following information within the MND: (1) the types and relative quantities of aquatic herbicides to be used on an annual basis; (2) frequency of herbicide use at each site; (3) anticipated area of impact for each application; and (4) any use of terrestrial herbicides in habitat adjacent to the project sites that may compound the impacts of herbicides on aquatic wildlife. If after revising the analysis the County identifies significant impacts, then the County should revise the MND to include mitigation measures to offset these impacts to a less-than-significant.

A-4

Use of Rodenticides

In recent conversations with CDFW, the County identified that it currently uses rodenticides at reservoir and dam sites as a part of its Routine Maintenance Program and requested that this use of rodenticide be included in the County's Routine Maintenance Agreement. However, the use of rodenticides at reservoir and dam sites is not contemplated within this MND. The use of rodenticides may result in a potentially significant impacts to non-target wildlife. Anticoagulant rodenticides, including diphacinone, have been detected in the majority of predators and scavengers tested in California (Hosea 2000), including bobcats (*Lynx rufus*; Serieys et al. 2015) and raptors (Kelly et al. 2015). CDFW recommends the County revises the MND to identify: (1) alternative or concurrent methods for long-term rodent control, including the landscape management techniques identified in the MND; (2) triggers for deploying the use of rodenticides; (3) how, when, where, and in what quantities rodenticides will be used; (4) mitigation measures to reduce the risk of non-target impacts to wildlife. Acute rodenticides, such as zinc phosphide, and fumigants carry much less risk of secondary exposure in wildlife and should be prioritized over anticoagulant rodenticides. To reduce this significant impact to a level of less-than-significant, CDFW recommends that rodenticides—anticoagulant or non-anticoagulant—be applied through bait stations and not broadcast in the environment in order to prevent non-target species from ingesting it directly. Bait stations should be monitored regularly and modified as needed to ensure that non-target wildlife are not accessing the bait.

A-5

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Large Woody Material

The County identified that large woody material (LWM) will be retained where feasible in open natural or earthen engineered channels in Wildcat, Pinole, and San Pablo creeks. LWM provides natural in-stream habitat and shelter for native fish and amphibians and

A-6

would provide ecosystem benefits to Contra Costa streams in general, not just those listed within the MND. Removal of LWM in streams throughout the County is a significant impact. CDFW recommends the following mitigation measures be incorporated in the MND for all perennial and fish-bearing streams within the Routine Maintenance Program to reduce this significant impact to a level of less-than-significant:

Recommended Measure 2: Threat to In-Stream Structures

The County shall only modify large woody material (LWM) from streams when the accumulation of LWM poses a threat to: (1) road stability, bridges, culverts, or other in stream structures; (2) structures such as homes; (3) project sites with a significant increase in flooding risk that would impact previously described structures; and (4) project sites with an increase in erosion risk to property and increase sediment load. The County shall only cut, notch or otherwise modify the minimum amount of stream wood to reduce the hazard as directed by a hydrologist or fluvial geomorphologist. LWM shall only be removed when such threats cannot be addressed by modifications.

Recommended Measure 3: LWM Height Limit

The County shall limit modifications and/or removal of LWM that extends higher than two feet above the existing streambed grade, unless the LWM is immediately upstream and threatening a culvert, bridge, house or other public structure (see Measure 2.12). To preserve channel stability and prevent erosion, the County shall avoid removing LWM that is embedded in the bank or channel.

Recommended Measure 4: Length of LWM

When modifying log jams, the County shall leave trees, logs and/or stumps in the longest lengths and diameters practicable. If logs must be cut from fallen trees, the County shall leave as much as possible of the main trunk attached to the root ball and only cut branches that are obstructing flow.

Recommended Measure 5: Review of LWM Removal Activities

All proposed LWM removal activities shall be reviewed and approved by a Qualified Biologist and hydrologist or fluvial geomorphologist. Written concurrence from the Qualified Biologist hydrologist or fluvial geomorphologist shall be provided with the notification of proposed activities (Measure 4.1).

Compensatory Mitigation for In-Channel Impacts

The MND indicates that compensatory mitigation for permanent and temporary impacts to wetlands and other waters in eastern Contra Costa County will be achieved through payment of wetland mitigation fees to the East Contra Costa County Habitat Conservancy (Conservancy). However, the Conservancy does not provide coverage for fish habitat, including in-channel impacts to perennial streams. To reduce impacts to fish habitat to a level of less-than-significant, CDFW recommends that the County require compensatory mitigation at a minimum ratio of 3:1 (conserved habitat to

impacted habitat) for permanent impacts and 1:1 (conserved habitat to impacted habitat) for temporary impacts to stream channels subject to CDFW permitting authority under Fish and Game Code 1602. Mitigation lands should be protected in perpetuity under a conservation easement and be managed in perpetuity through an endowment with an appointed land manager. The easement should be held by a governmental entity, special district, non-profit organization, for-profit entity, person, or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended. As the state's trustee for fish and wildlife resources, CDFW should be named as a third-party beneficiary under the conservation easement. Otherwise, CDFW is available to coordinate with the County on a comprehensive compensatory mitigation program to provide a greater level of flexibility if needed.

A-7
Cont.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data#44524420-pdf-field-survey-form>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

A-8

CONCLUSION

CDFW appreciates the opportunity to comment on the IS/MND to assist the County in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ms. Jennifer Rippert, Environmental Scientist, at (707) 428-2069 or

Jennifer.Rippert@wildlife.ca.gov; or Ms. Melissa Farinha, Senior Environmental Scientist (Supervisory), at (707) 944-5579 or Melissa.Farinha@wildlife.ca.gov.

Sincerely,

Gregg Erickson
Regional Manager
Bay Delta Region

cc: State Clearinghouse

REFERENCES

- Bouwes, N., N. Weber, C.E. Jordan, W.C. Saunders, I.A. Tattam, C. Volk, J.M. Wheaton, and M.M. Pollock. 2016. Ecosystem experiment reveals benefits of natural and simulated beaver dams to a threatened population of steelhead (*Oncorhynchus mykiss*). *Scientific Reports* 6:28581.
- Hosea, R.C. 2000. Exposure of non-target wildlife to anticoagulant rodenticides in California. Proceedings of the 19th Vertebrate Pest Conference. Published at UC Davis.
- Kelly, T.R., R.H. Poppenga, L.A. Woods, Y.Z. Hernandez, W.M. Boyce, F.J. Samaniego, S.G. Torres, C.K. Johnson. 2015. Causes of mortality and unintentional poisoning in predatory and scavenging birds in California. *Vet Record Open*.
- Serieys, L.E., T.C. Armenta, J.G. Moriarty, E.E. Boydston, L.M. Lyren, R.H. Poppenga, K.R. Crooks, R.K. Wayne, and S.P.D. Riley. 2015. Anticoagulant rodenticides in urban bobcats: exposure, risk factors and potential side effects based on a 16-year study. *Ecotoxicology* 24:844-862.



Ave Brown
Contra Costa County Public Works
255 Glacier Road
Martinez, Ca. 94553

Date: July 10, 2020
Re; Contra Costa County Routine Maintenance Program and Manual
State Clearing House # 2020060286
ave.brown@pw.cccounty.us
state.clearinghouse@opr.ca.gov
diane.burgis@bos.cccounty.us

Dear Ms. Brown,

We are writing to comment on the Contra Costa County Routine Maintenance Program and manual. The California Urban Streams Partnership is an organization active in assisting property owners in the county with managing the creeks on their properties. CUSP is very concerned that the county applied for a depredation permit to eliminate beaver on Marsh Creek and followed through with shooting some beaver a few weeks ago. CUSP, American Rivers and Worth A Dam met with County Supervisor Diane Bergis to seek a more formal process of assessing whether beaver are an actual hazard and involve knowledgeable biologists before beaver are killed on Contra Costa County creeks. The Supervisor let us know that she opposes killing beaver and favors a more thoughtful process moving forward that better involves public and expert input.

The CUSP recommends that a section be added to the Contra Costa County Routine Maintenance Manual that requires noticing watershed and environmental organizations active in the county before a depredation permit application occurs. The county should use a team of experts which include environmental specialists from the California \ Department of Fish and Wildlife Habitat Conservation Program before making a decision to submit depredation permits. The management of beaver on Alhambra Creek in Martinez involves a model to apply county wide in which non-lethal alternative solutions were used to assure that the wildlife does not cause flood damages while protecting wildlife.

Sincerely,
Jackie Van Der Hout
CUSP Outreach Director

As proposed by this Routine Management Program, the BMPs identified in Table C-1 in Appendix C of this IS/MND are incorporated into the project. The BMPs apply to both non-ground and ground-disturbing activities.

At the conclusion of each maintenance season (generally after October 31 and before January 31), the County would prepare and submit to the relevant regulatory agencies an annual summary report describing maintenance activities completed that year and track mitigation needs for the proposed program.

9. Surrounding Land Uses and Setting: Various.

10. Other public agencies whose approval is required (e.g., permits, financing, approval, or participation agreement: U.S. Army Corps of Engineers, San Francisco Bay and Central Valley Regional Water Quality Control Boards, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and National Marine Fisheries Service.

C-1

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Wilton Rancheria submitted a general request letter to be notified of projects within Contra Costa County under Assembly Bill (AB) 52. The County officially notified Wilton Rancheria about the proposed program in a letter dated April 24, 2019. No request for consultation or information about potential resources was received from the tribe. See Section 18.0, Tribal Cultural Resources, for additional information regarding this topic.

Environmental Factors Potentially Affected		
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.		
<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Public Services
<input type="checkbox"/> Agriculture and Forestry Resources	<input checked="" type="checkbox"/> Hazards & Hazardous Materials	<input type="checkbox"/> Recreation
<input type="checkbox"/> Air Quality	<input type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Transportation
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Land Use/Planning	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Utilities/Services Systems
<input type="checkbox"/> Energy	<input checked="" type="checkbox"/> Noise	<input type="checkbox"/> Wildfire
<input type="checkbox"/> Geology/Soils	<input type="checkbox"/> Population/Housing	<input checked="" type="checkbox"/> Mandatory Findings of Significance

As described in the project description above, the program area includes three regions: (1) West Contra Costa County (West County); (2) Central Contra Costa County (Central County); and (3) East Contra Costa County (East County). Proposed maintenance activities located in East County are within the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/ NCCP) inventory area and are covered activities under section 2.3.1, Activities within the Urban Development Area and Section 2.3.3, Rural Infrastructure Operation and Maintenance Activities. The ECCC HCP/NCCP is intended to provide an effective framework to protect natural resources and special-status species recovery in East County while improving and streamlining the environmental permitting process for impacts on these species and associated habitats. The ECCC HCP/NCCP has been implemented by the East Contra Costa County Habitat Conservancy (Conservancy), the joint powers of authority formed by the participating agencies since 2008 (East Contra Costa County Habitat Conservancy 2007). The Conservancy oversees assembly and operation of the ECCC HCP/NCCP and ensures compliance with all terms of the HCP/NCCP and permit authorizations. The extent of the ECCC HCP/NCCP with respect to the program area is shown in **Figure 8** in Appendix A. ~~The ECCC HCP/NCCP covers 174,018 acres and authorizes up to 11,953 acres of development impacts in areas managed by Contra Costa Water District, among others.~~ The ECCC HCP/NCCP provides take authorization for 28 special-status species, including 9 federally protected species (listed in **Table 4** below). Contra Costa County is a signatory of the ECCC HCP/NCCP and its activities are eligible for coverage by the associated regulatory permits, which include a U.S. Fish and Wildlife Service (USFWS) Biological Opinion and Endangered Species Act Section 10(a)(1)(b) Permit, California Department of Fish and Game (now CDFW) NCCP Permit, and U.S. Army Corp of Engineers Regional General Permit (RGP 1). The ECCC HCP/NCCP covers several terrestrial and aquatic land cover types, including riparian woodland/scrub, emergent wetlands, and aquatic (or open water), and streams, as well as the special-status species included in Table 4.

C-2

Table 4. Species Covered under the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan

Wildlife	
Longhorn fairy shrimp (<i>Branchinecta longiantenna</i>)	Giant garter snake (<i>Thamnophis gigas</i>)
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	Western pond turtle (<i>Emys [=Actinemys] marmorata</i>)
Midvalley fairy shrimp (<i>Branchinecta mesovallensis</i>)	Tricolored blackbird (<i>Agelaius tricolor</i>)
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	Golden eagle (<i>Aquila chrysaetos</i>)
California tiger salamander (<i>Ambystoma californiense</i>)	Western burrowing owl (<i>Athene cunicularia hypugea</i>)
California red-legged frog (<i>Rana draytonii</i>)	Swainson’s hawk (<i>Buteo swainsoni</i>)
Foothill yellow-legged frog (<i>Rana boylei</i>)	Townsend’s western big-eared bat (<i>Corynorhinus townsendii townsendii</i>)

- f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

As described in Sections 4.0(a) and (b), maintenance activities in East County would occur in areas covered under the ECCC HCP/NCCP. Thus, proposed maintenance activities located in East County would comply with the conditions and authorizations for the HCP/NCCP. Where proposed maintenance could affect an ECCC HCP/NCCP-covered resource, the County will complete and submit a PSR and provide mitigation in the form of fees or deeded land in lieu of fees to obtain ~~regulatory~~ coverage through the HCP/NCCP permits where deemed necessary by the Conservancy. Therefore, the proposed program would not conflict with the provisions of an adopted HCP/NCCP occur and a **less than significant impact** would occur. C-3

Sources of Information

East Contra Costa County Habitat Conservancy. 2007. Final East Contra Costa Habitat Conservation Plan and Natural Community Conservation Plan. Updated December. Available: https://www.contracosta.ca.gov/depart/cd/water/HCP/archive/final-hcp-rev/final_hcp_nccp.html. Accessed: January 24, 2020.



July 10, 2020

Ave Brown, Principal Analyst
Contra Costa County Public Works Department
255 Glacier Drive
Martinez, CA 94533

Re: Notice of Public Review and Intent to Adopt a Proposed Mitigated Negative Declaration – Contra Costa County Routine Maintenance Program (County File No. 19-26)

Dear Ms. Brown:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Mitigated Negative Declaration (MND) for the Contra Costa County Routine Maintenance Program located in Contra Costa County (County). EBMUD has the following comments.

On page 8, under Herbicide Application, the County should reference any available County policy, Integrated Pest Management Plan, or established protocol to minimize the use of herbicides to the extent possible, and identify alternatives to herbicide use in channels.

D-1

On page B-3 of Appendix B, Item No. 6 in the table, under the Tiered Category column, EBMUD recommends changing the statement that “steelhead are potentially present” to “steelhead are present”. EBMUD fisheries monitoring has determined the presence of a persistent steelhead population in Pinole Creek and documented the findings in the 2019 Contra Costa Resource Conservation District’s Pinole Creek I-80 Fish Passage Project Fisheries Monitoring Report.

D-2

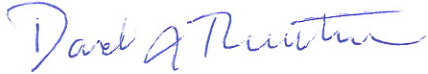
On page C-16 of Appendix C, BIO-13 states “to avoid potential impacts to fish associated with aquatic herbicide application in Wildcat Basin, herbicide application will be limited to occur from September 1 to October 31” but does not state herbicide limits to protect fish in Pinole Creek despite documented steelhead populations. If herbicide limits have not been set because herbicides will not be used in Pinole Creek, the text should clearly state so.

D-3

Ave Brown, Principal Analyst
July 10, 2020
Page 2

If you have any questions concerning this response, please contact Timothy R. McGowan,
Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

Sincerely,



David J. Rehnstrom
Manager of Water Distribution Planning

DJR:WTJ:btf
sb20_139.doc

Ave Brown
 Contra Costa County Public Works
 255 Glacier Road
 Martinez, Ca. 94553



Date: July 15, 2020

Re: Contra Costa County Routine Maintenance Program and Manual

Dear Ms. Brown,

We are writing to comment on the Contra Costa County Routine Maintenance Program and manual. Worth A Dam originally advocated for the beavers in Martinez, CA and now educates cities generally about how coexistence can benefit urban streams. In March we were consulted about the beaver issue in Marsh Creek. We later learned that the matter had drawn attention from the Conservation of habitat unit of CDFW. A site visit by environmental scientist Jennifer Rippert occurred who recommended preserving the habit through coexistence by connecting with friends of Marsh Creek to access tools and education. We were especially concerned to learn that despite these best efforts to resolve the issue non-lethally a depredation permit was pursued and 2 beavers were killed.

We wanted to draw your attention to the value of beaver as an “*Umbrella Species*” creating habitat for others that merit protection. This includes amphibians, fish, birds and mammals. In fact several of the species you outline for protection in “*Mandatory findings of significance*” are dramatically benefitted by beaver ponds and subsequently harmed by their removal. Take, for instance, the redlegged frog which has been documented in research conducted in nearby Vaqueros reservoir to benefit from lotic habitat created by¹ Another species of concern noted, the Tiger salamander, has been observed by USDA to benefit from beaver ponds². And perhaps most dramatically, and the subject of current legal action, are steelhead and salmon.³

We would argue that best practices dictate when concerns for beaver activity warrant intervention that the likely benefit of beaver ecosystem services be weighed against whatever concerns are noted. Damage to trees can be easily averted by wrapping with wire, and Martinez successfully showed that flooding can be averted by means of a successfully installed flow device. Better tools can make more vibrant and sustaining creeks and beaver can be a benefit to the greenbelt⁴.

The maintenance manual should contain recommendations that beaver habitat be preserved whenever possible.

Heidi Perryman, Ph.D.
 President & Founder
 Worth A Dam

¹ Alvarez, J. A., et al er. 2013. Comparative microhabitat characteristics as oviposition sites of the California red-legged frog. *Herpetological Conservation and Biology* 8:539–551.

² Smith, B. (2003) Conservation Assessment of the Tiger Salamander in the Black Hills National Forest, South Dakota and Wyoming. United States Department of Agriculture Forest Service Rocky Mountain Region Black Hills National Forest Custer, South Dakota May.

³ Pollock, M. (2013) Working with beaver to restore salmon habitat, Interim Report. NOAA Northwest Fisheries Science Center: Seattle, WA.

⁴ Bailey, D. R., et al (2018). Reintegrating the North American beaver (*Castor canadensis*) in the urban landscape. *Wiley Interdisciplinary Reviews: Water*:e1323..