Alameda Creek Alliance

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San Francisco Bay Conservation and Development Commission
375 Beale Street
San Francisco, CA 94105

Re: Cargill Maintenance and Operations Project EA

These are supplemental comments of the Alameda Creek Alliance on the Cargill Operation and Maintenance permit Environmental Assessment (EA). The Alameda Creek Alliance is a community watershed group with over 2,000 members, dedicated to protecting and restoring the Alameda Creek watershed. We have been working to restore steelhead trout, Chinook salmon, and other native fish species in Alameda Creek since 1997.

The ACA has concerns about deferral of key avoidance and mitigation measures for potential impacts to special status fish.

During the EA process, you received comments from agencies and organizations raising concerns about potential impacts to special status fish species from Cargill intake of Bay water, specifically entrainment concerns at water intakes. The special status fish species that may be present in the vicinity of Cargill's intakes include the Central California Coast DPS of steelhead trout, fall-run Chinook salmon, longfin smelt, green sturgeon, white sturgeon, Pacific lamprey, and Western river lamprey.

The EA discloses that the Cargill project operates 10 fixed intakes that are either tide gates or direct mechanical pumps, and occasionally deploys portable pumps, and that 8 of the 10 pumps currently do not have screening adequate to prevent diversion or entrainment of special status fish species.

The EA proposes an interim pumping window for the Coyote and Mowry Intakes, with seasonal pumping restrictions, for pumps not equipped with suitable fish screens. The interim pumping window will last until a Monitoring and Adaptive Management Plan (MAMP) is approved or other criteria are met (the proposed fish screens are installed at the Coyote intake; Biological Opinions (BOs) are issued by NMFS and USFWS; or an Incidental Take Permit (ITP) is issued by CDFW that specifies otherwise). Cargill is proposing to screen one or more of the pumps at the Coyote intake to prevent entrainment of salmonids when pumping outside of the standard June 15 to October 31 salmonid pumping window. The EA proposes adjusting the interim pumping window to reflect the potential presence of longfin smelt or other special status fish species.

The EA appears to propose that Cargill will be permitted to intake Bay water at its smaller intakes without fish screens. Cargill has installed and is currently monitoring portable fish screens on its portable pumps and also on Intakes 1 and 9. The data collected pursuant to the MAMP is supposed to be used to prioritize implementation of fish protection measures that may be required at the other intakes. Data collected pursuant to the MAMP will be used to update take calculations in the ITP and BOs, if the data indicates that such an update is required. The EA allows that if Cargill determines that continued use of the fish screens is determined to be

infeasible, for example due to interference with pumping needed to maintain ongoing salt making operations, use of the fish screens can be discontinued.

Thus, the EA defers effective and guaranteed avoidance measures (fish screens) until after a MAMP is approved or federal and state agency actions such as BOs and ITP are prepared. The EA also appears to allow discontinuation of fish screens on smaller and portable intakes if they interfere with pumping needed to maintain ongoing salt making operations.

Compensatory mitigation for potential impacts to special status fish species is also deferred. The EA states that compensatory mitigation will be defined in the BOs and ITP (which have not been issued), and data collected pursuant to the MAMP will be used to confirm whether the compensatory mitigation included in the BOs and ITP would ensure that impacts to special status species remain less than significant. A compensatory mitigation implementation plan will be prepared to define how required mitigation specified in the BOs and ITP will be implemented. Development of that compensatory mitigation implementation plan could be initiated once the USACE permit is issued, and would then be updated, if needed, as part of the MAMP implementation process. Alternatively, the compensatory mitigation implementation plan may be developed following implementation of the primary phase of monitoring under the MAMP.

It is unknown how effective the MAMP will be at limiting the amount of the project's take of special status fish species that occurs due to the lack of fish screens. Effective avoidance and mitigation measures for fish hinge on future monitoring, a not yet developed Monitoring and Adaptive Management Plan, final biological opinions and state permits. There is currently no adequate assessment of how the project may affect special status fish species.

The ACA proposes an additional mitigation measure that could enhance understanding of the timing and success of specific life stages of special status fish species and could support providing guidelines for the project operations. The Alameda Creek watershed has an existing steelhead trout PIT tagging program run by the San Francisco Public Utilities Commission (SFPUC). Any new or suggested alteration of facilities should include a solid range of monitoring that takes advantage of the monitoring programs already happening in the Alameda Creek watershed and the South Bay.

The Cargill project could install PIT tag arrays (antennas that are compatible with the SFPUC PIT tag monitoring for steelhead and the existing PIT tag arrays that are located upstream in Alameda County Water District fish passage facilities on Alameda Creek) in the Alameda Creek estuary as a relatively inexpensive and beneficial method to determine how steelhead trout use the South Bay and the mouth of Alameda Creek, and how Cargill project facilities and operations might impact and alter fish use. PIT tag arrays would be most useful at the mouth of Alameda Creek near the Cargill project intakes and at entrances to salt ponds.

There is also an urgent need for fish monitoring in the nearby Eden Landing Complex Salt Pond Restoration Site, with the South Bay Salt Pond Restoration Project seeking funding for monitoring. Eden Landing monitoring using PIT tag arrays or Adaptive Resolution Imaging Sonar (ARIS) technology could be a component of the mitigation for the adjacent Cargill project. See the attached McBain Associates memo on potential fish monitoring in the Eden Landing Complex Salt Pond Restoration Site.

Sincerely,

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Potential Fish Monitoring in the Eden Landing Complex Salt Pond Restoration Site

Prepared for: Alameda Creek Alliance

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INTRODUCTION

A large purchase of solar salt production ponds in the Southern San Francisco Bay by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife was done to restore the salt ponds to tidal marshes. This has become known as the South Bay Salt Pond Restoration Project. The goals of this project are to restore the salt ponds to ecologically functional tidal marshes and wetlands that provide habitat for wildlife, birds, and aquatic organisms, provide public access for wildlife viewing and recreation, and flood management in the Southern San Francisco Bay. There are three pond complexes that are undergoing restoration, Alviso, Ravenwood, and Eden Landing. Here, we focus on fish monitoring in the Eden Landing complex, which is currently in phase 2 of restoration planning. Phase 2 of the Eden Landing Complex is steered at restoring and enhancing ponds south of Old Alameda Creek.

In 2017 McBain Associates and Trout Unlimited collaborated to prepare a comment on the Phase 2 restoration alternatives on behalf of the Alameda Creek Alliance. During the development of this comment, through literature and expert interviews, we identified that estuaries are growth "hot spots" for juvenile rearing anadromous fish, which results in increased size at outmigration and higher probability of ocean survival (Bond et al. 2008). In addition, we made recommendations to monitor fish (specifically steelhead) use of the phase 1 restoration sites to help inform restoration design in phase 2 to best support steelhead. Unfortunately, significant limitations to monitoring were identified by reviewing previous work by Dr. James Hobbs (University of California, Davis) in the Alviso Complex. The limitations of the best monitoring program available at the time, which we concluded was PIT tagging, included difficulty permitting, capturing, tagging and re-capturing (at PIT antennae) steelhead that might utilize the project area. Given that few steelhead currently return to Alameda Creek, such a monitoring program this would be extremely difficult in the Eden Complex and decided a successful monitoring plan was not feasible at that time.

Recent advances in Adaptive Resolution Imaging Sonar (ARIS) is based on Dual-Frequency Identification Sonar (DIDSON) technology. ARIS uses soundwaves to create detailed underwater imagery and can perform in no light or highly turbid aquatic environments-like that of Eden Landing. The technology also has software that can be used to estimate size and identify fish species up to 40 meters away. The ARIS technology was

recently utilized by FISHBIO to quantify fish populations in other (Sears Point) estuary restoration sites in the San Francisco Bay (https://fishbio.com/projects/sears-point-restoration-monitoring) and we believe that this technology could be the basis of a successful fish monitoring program in the South Bay Salt Pond Restoration Project.

OBJECTIVE

Propose a monitoring strategy using the most recent advances in technology and the best available science to evaluate the use of the Eden Landing Complex by juvenile salmonids using the ARIS camera.

MONITORING STRATEGY

Below we present a bulleted outline of the methods and priorities we recommend for Eden Landing monitoring. We suggest fish and water quality monitoring to evaluate the use and quality of the restoration site, respectively, by salmonids. Information gathered by a monitoring program will help inform the latter phases of a phased restoration approach at the site and will also inform future restoration actions in similar habitats. This strategy will support an adaptive management plan to help inform future restoration in Eden Landing and other Salt Pond Restoration areas in the Southern San Francisco Bay.

Phase 1: Project Scoping and Development

- Identify funding resources
- Develop a specific monitoring plan for fish use using ARIS
- Refine monitoring plan for water quality, including temperature, salinity and dissolved oxygen

Phase 2: Monitoring Implementation

- Perform seasonal monitoring snapshots for fisheries using the ARIS sonar technology
- Install dissolved oxygen, temperature and salinity loggers spatially to determine habitat suitability for salmonids

Phase 3: Incorporate Monitoring into Restoration Design

- Write up technical document detailing results of monitoring, and application to restoration design
- Engage with restoration design team to incorporate fish restoration and information gathered from the monitoring program into project design and implementation

Estuary environments can be critical areas for juvenile rearing anadromous fish. Given the significant effort in the last 20 years to restore steelhead to Alameda Creek through fish passage and habitat improvements in the stream portion of the ecosystem, providing the best opportunity for juvenile fish to grow in the estuary will increase the probability of restoring a healthy and self-sustaining steelhead population.

REFERENCES

Bond, M.H., et. al., (2008). Marine survival of steelhead (*Oncorhynchus mykiss*) enhanced by a seasonally closed estuary. Canadian Journal of Fish and Aquatic Sciences. 65: 2242–2252.