

CMC accordingly requests that the Draft EIS/EIR be revised to include a detailed workplan for achieving the beneficial reuse capacity for each proposed alternative. These workplans should include, where necessary, a description of the additional authorities needed and a plan for obtaining those authorities. Unless a plan of action is prepared and integrated into agency policy and procedures, implementation of the approved alternative will be continually subject to shifting agency priorities.

C. The Capacity of the SF-DODS Should Be Limited to Ensure the Final Mix of In-Bay, Ocean and Beneficial Reuse Activities Are Achieved.

The Draft EIS/EIR notes that one method to help achieve the adopted disposal capacities is to set volume limits on the amount of dredged material that may be disposed of in the SF-DODS. Draft EIS/EIR at 7-5. CMC agrees that this measure is necessary to ensure that agencies take the actions needed to obtain adequate beneficial reuse capacity. CMC requests that the Draft EIS/EIR state clearly that the maximum capacity of the SF-DODS will be no more than the amount of dredge material designated for ocean disposal under the alternative adopted in the final EIS/EIR.

II. THE LTMS AGENCIES SHOULD PREPARE AND CIRCULATE AN OCEAN SITE MANAGEMENT AND MONITORING IMPLEMENTATION MANUAL BEFORE FINALIZING THE EIS/EIR.

A. The SF-DODS Is Located in an Environmentally Sensitive Area.

As noted in the Draft EIS/EIR, the areas adjacent to the SF-DODS and the barge route to the SF-DODS "contain a wide diversity of sensitive habitats" as well as endangered and threatened species. Draft EIS/EIR at 4-143, 4-157. The nearby Farallon Islands contain "the most important marine bird breeding sites on the west coast of the continental United States." *Id.* at 4-156. Particularly in years when food sources near the Islands are less abundant, "the SF-DODS would . . . receive relatively high use" by these marine birds. *Id.*

The SF-DODS region "is also an important one for marine mammal populations." Ainley and Allen, "Abundance and Distribution of Seabirds and Marine Mammals in the Gulf of the Farallones: Final Report to the EPA LTMS Study Group," p. 17 (July 30, 1992). Indeed, "[c]ompared to some alternative sites studied, the SF-DODS area receives somewhat higher use by marine mammals and seabirds." Draft EIS/EIR at 4-160. Pollution of the animals' habitat is of great concern to CMC. For example, elevated levels of pollutants have been detected in the fetal tissue of endangered northern sea lions on the Farallon Islands; consequently, "any further degradation of habitat would be of concern for this species." Ainley and Allen at 21.

It is clear that both the SF-DODS and the surrounding areas are important for many species of fish and marine birds and mammals. Accordingly, the final EIS/EIR should carefully evaluate the potential impacts to this important area and ensure that stringent and

9 clear monitoring provisions are in place.

10 **B. The Potential Impacts of Dredge Disposal at the SF-DODS Are Unclear and Should Be More Fully Explored.**

The potential impacts of disposal at the SF-DODS are unclear, primarily due to the fact that it is the nation's first deep-ocean site. This fact, combined with the unprecedented magnitude of the SF-DOD's current permitted capacity, makes a comprehensive evaluation of potential environmental risks to the site essential.

11 CMC requests that the final EIS/EIR include a more thorough discussion of certain potential impacts not completely addressed in the draft. For example, the sea-surface microlayer (SMIC), the first layer of water to be affected by dumping, serves as a breeding ground for the pelagic eggs of many fish species and contains plankton and other microorganisms critical as food for all types of marine life. Research has shown that negative impacts to the SMIC can occur quickly, and so damage to marine life can occur well before toxicity is detected through monitoring activities. CMC requests that the final EIS/EIR explore more fully the potential impacts of SMIC contamination and the monitoring activities that will be undertaken to track potential damage.

12 Another potential impact only briefly mentioned in the Draft EIS/EIR is the introduction of non-native species through concentrated dumping in the ocean environment. CMC requests that additional information be provided on the types of species that could be introduced and their potential impacts in the ocean environment.

13 Finally, CMC is concerned about the relatively short discussion of the impacts of the disposal operations on marine mammals, particularly threatened and endangered species (humpback, blue, finback and sperm whales and northern sea lions). Research long-available to EPA has shown that northern sea lions are particularly susceptible to increases in pollution in their habitat; further discussion should be provided of potential impacts on this species, particularly during spills and accidents such as the recent spill in the Monterey Bay National Marine Sanctuary.

14 In addition, no mention appears to be made in the Draft EIR/EIS of applicable requirements of the Marine Mammal Protection Act (MMPA), which prohibits harassment of marine mammals. CMC requests that the final EIS/EIR evaluate whether the transport and disposal of dredge materials to the SF-DODS comply with all provisions of the MMPA.

C. **The Draft EIS/EIR Ignores the Critical Role of Ocean Site Monitoring and Management and the Associated Need to Prepare an SMMP Implementation Manual.**

15

1. The Nature of the Site and the Lack of Knowledge about Potential Impacts Underscores the Importance of Comprehensive Monitoring.

The lack of background information from another deep-ocean site, the magnitude of the current permitted capacity of the SF-DODS, the environmental sensitivity of the SF-DODS and surrounding regions, and the presence of endangered and threatened species all underscore the importance of comprehensive monitoring of the site, both to track impacts and to establish baseline conditions. Monitoring should include the parameters identified in the Site Management and Monitoring Plan (SMMP) in the SF-DODS Final Rule. It also should include parameters that will be identified in the SMMP Implementation Manual, which EPA Region IX is to prepare.

Monitoring also should investigate SMIC and other potential, unaddressed impacts. The Draft EIS/EIR cannot conclude that impacts are "expected to be insignificant" without more complete knowledge of what the potential impacts could be.

2. The Potential for Accidents and Spills During Transport to the SF-DODS Makes Monitoring Even More Critical.

16

The need for monitoring specifics in the EIR/EIS is especially critical in light of the fact that not all of the dredged material sent to the SF-DODS will make it there. As the LTMS agencies know, a tug hauling a barge heavily loaded with material dredged from Oakland Harbor recently sank, causing all of the dredge spoils on the barge to be dumped directly into the sensitive waters of the Monterey Bay National Marine Sanctuary.

This accident was compounded by additional spills occurring immediately thereafter. Sanctuary officials taking aerial photos of the plume of spoils from the sunken tug observed another tug and barge making their way to the SF-DODS in seas that appeared heavier than allowable under the SMMP. Sanctuary officials saw that waves were crashing over the top of this barge and washing dredged material directly into Sanctuary waters.

These types of incidents, unfortunately, are not isolated occurrences. The likelihood that they will continue makes it especially important that the LTMS agencies promptly draft a clear and thorough SMMP Implementation Manual and ensure that it is carried out.

In addition, CMC requests that the agencies revisit the conclusion that "transportation-related impacts of ocean disposal at SF-DODS are expected to be negligible." Draft EIS/EIR at 6-21. In light of the recent spills, agencies should evaluate not only transportation-related impacts on the SF-DODS (which now appears more vulnerable than the Draft EIS/EIR predicted), but also the entire barge route, which traverses two National Marine Sanctuaries.

17

3. EPA Has Not Yet Produced the SMMP Implementation Manual Promised in the Final Rule for the SF-DODS.

Though monitoring of the SF-DODS and barge route clearly is important, the Draft EIS/EIR attempts to move forward without a detailed plan for managing and monitoring the ocean site. The Draft EIS/EIR claims that "[e]xtensive site management and monitoring plans have been established" for the SF-DODS. Draft EIS/EIR at 5-6. The Final Rule for the SF-DODS does contain a Site Management and Monitoring Plan. However, the Final Rule also admitted that it did not contain the operational details needed to implement SMMP. 59 Fed.Reg. 41243, 41252 (Aug. 11, 1994). In other words, the SMMP in the Final Rule is too vague to ensure that adverse impacts to the marine environment will be averted or detected.

The public was assured that Region IX was preparing an Implementation Manual that would provide "detailed guidance on . . . implementing the SMMP provisions in the Final Rule" and would "document EPA's interpretation of the specific measures that are appropriate for implementing" the SMMP. 59 Fed.Reg. at 41245, 41252. Two years later, the public still has not seen the monitoring and management manual that EPA admitted was necessary and promised to provide. This failure to act makes obvious the reasons for CMC's concern about the LTMS agencies' ability to iron out the details for moving toward Alternative 3 in yet another promised implementation plan.

CMC was informed by EPA Region IX that the monitoring plan used for the most recent Oakland Harbor dredging project was being tested for possible use as the SMMP Implementation Manual. CMC would like to point out that the Oakland Harbor plan is primarily limited to monitoring activities, and contains little if any discussion of site management. It thus would be inadequate by itself to serve as the SMMP Implementation Manual. In any event, if the Oakland Harbor monitoring plan is to be a part of the SMMP Implementation Manual, then that information should be made available to the public, and the public should be allowed to comment on the provisions of the monitoring plan as an integral part of the EIS/EIR review process. This information would be particularly relevant to cost estimates for SF-DODS management and monitoring, as the costs of complying with management and monitoring requirements cannot be accurately assessed until it is known what those requirements will be.

4. The Draft EIS/EIR and the SMMP Implementation Manual Should Contain Restrictions on Ocean Dumping During Sensitive Periods.

Currently, "there are no established seasonal site use restrictions at the SF-DODS" other than restrictions on transport during high seas. Draft EIR/EIS at 6-3. CMC requests that the final EIS/EIR discuss restrictions on ocean dumping during particularly sensitive periods. These could include breeding and/or spawning periods. Restrictions also could be placed on dumping during certain critical upwelling periods, when dumping could interfere with the influx of nutrients onto the continental shelf and so impact the production of food for many marine organisms.

Moreover, further analysis should be made of the current prohibition on dredge material transport in seas over 18 feet. In light of the recent accidents and spills in the Monterey Bay National Marine Sanctuary, CMC requests that these restrictions be tightened and procedures for enforcement be identified.

19

III. THE EIS/EIR SHOULD ESTABLISH TESTING REQUIREMENTS FOR THE SF-DODS THAT REJECT WEAKENING OF THE FEDERAL OCEAN DUMPING CRITERIA.

20

CMC is concerned about the impacts of EPA's recently-proposed changes to its ocean dumping regulations, which CMC believes would make it more likely that the material put into the ocean will be contaminated. Among other things, the proposed changes could eliminate current requirements that all dredge materials pass actual lab tests with live organisms, eliminate current requirements to test the actual material being dredged (rather than some other sediment sample), and excuse testing for harmful contaminants where there is no approved agency procedure. If such changes go through and if the LTMS agencies fail to commit to a definite strategy for implementing beneficial reuse alternatives, then there is a good probability that the SF-DODS and the Sanctuaries could become the dumping grounds for much of the Bay Area's contaminated sediments. CMC requests that the final EIS/EIR address this issue and commit to either continuing or strengthening the current sediment testing procedures.

IV. SUMMARY

CMC would like to see several changes to the final EIR/EIS. First, CMC requests that the EIR/EIS recommend only one alternative as the sole "preferred alternative." For example, rather than being a "co-preferred alternative," Alternative 1 should instead be an integral first part of the agencies' plan to implement Alternative 3 over time.

21

Second, CMC requests that the EIR/EIS include a plan detailing how the LTMS agencies intend to implement the proposed alternatives in general, and their beneficial reuse goals in particular. It is not enough to list a few ideas and claim a lack of authority to do anything more. The LTMS agencies and associated organizations must work together to develop ways to obtain and use the needed authorities and funding so that Alternative 3's balance of aquatic disposal and beneficial reuse will be achieved in a timely manner. At very least, the agencies should commit to the suggestion on page 7-12 of the EIR/EIS to obtain funding for a staff person to organize potential beneficial reuse opportunities early in each project. Without a person dedicated to this critical task, it is unlikely that the beneficial reuse balances proposed will be achieved any time soon.

Third, CMC requests that the EIS/EIR more carefully evaluate potential impacts to the SF-DODS under the proposed alternatives, and commit to stringent sediment testing to ensure that the sensitive environment within and surrounding the SF-DODS is protected.

Finally, CMC requests that EPA draft and circulate for review the promised SMMP Implementation Manual as soon as possible, preferably as part of the EIR/EIS. The SF-DODS lies near three sensitive National Marine Sanctuaries and is home to numerous endangered and threatened fish and marine mammals and birds. The Final EIR/EIS for the SF-DODS itself admits that the "[e]ffects from dredged material disposal at deep-water sites are not well-known." In light of the sensitivity of the ocean's resources, our lack of understanding of the full impacts of the dredged material, and the recent spills of material directly into Sanctuary waters, we must be especially vigilant in testing the material to be sent to the site, ensuring that it actually reaches the site, and monitoring its impacts once it is dumped. Developing and using the SMMP Implementation Manual is essential to protecting this valuable environment.

* * *

Thank you for the opportunity to present these comments. If you have any questions, please do not hesitate to call. I look forward to working with you to address the above issues in the final draft.

Sincerely,



Linda M. Sheehan
Pollution Programs Manager

cc: Ed Ueber, Gulf of the Farallones NMS
Terry Jackson, Monterey Bay NMS

Responses to the CMC — Center for Marine Conservation, letter dated July 18, 1996

1. Statement noted.
2. The LTMS agencies have not developed separate Management Plans for each alternative in the Final EIS/EIR. We do not believe this is necessary, nor would it be a cost-effective effort when our intent is to implement Alternative 3. However, we will involve the public in the review of the Management Plan through public workshops and a public comment period before the Management Plan is finalized. Revisions to the Management Plan will be made, as needed, every 3 years. Every 6 years a major programmatic review of and revisions to the Management Plan will be undertaken. In addition, on a 6-year cycle, any necessary amendments to the San Francisco Bay and Basin Plans will be initiated.
3. The LTMS agencies have selected Alternative 3, alone, as the preferred alternative. However it is recognized that changes need to occur before the goals of Alternative 3 can be fully achieved. Discussion of the transition to Alternative 3 has been added to the Final EIS/EIR (Chapter 6).
4. *The Final Environmental Impact Statement for Designation of a Deep Water Ocean Dredged Material Disposal Site off San Francisco, California*, dated August 1993 (SF-DODS EIS), includes a thorough analysis of potential impacts of disposal at the site. It describes sampling protocols and analysis techniques. The response to comments in the SF-DODS Final Rule for designation of the ocean site, dated August 11, 1994, includes additional discussion. In addition, periodic reports will be released which describe results of disposal operations and regional monitoring surveys at SF-DODS. The first report, *Monitoring Report for 1995 and 1996 San Francisco Deep Ocean Disposal Site (SF-DODS)*, dated February 6, 1998 has been released (USEPA 1998b). The *SF-DODS Site Management and Monitoring Plan Implementation Manual Public Review Draft*, dated February 6, 1998, has also been released (USEPA 1998a). Lessons learned through the disposal operations and monitoring efforts were incorporated in this Site Management and Monitoring Plan (SMMP) Implementation Manual.

The SMMP indicates that appropriate national testing guidelines will be followed to ensure that dredged material proposed for ocean disposal meets ocean disposal criteria (described in Chapter 3 of the EIS/EIR).

5. Please see the response to CMC comments 2 and 3. The LTMS agencies have selected Alternative 3, and will prepare a draft Management Plan based on this preferred alternative. A discussion describing the initial implementation of Alternative 3 has been added to the Final EIS/EIR. The LTMS Management Plan to implement the preferred alternative will be circulated for public review before it is finalized.
6. Alternative 3 has been selected as the preferred alternative. Its long-term goal is an increase in beneficial reuse so that ~40% of the dredged material goes to upland or wetland reuse sites, ~40% of the dredged material is disposed in the ocean, and a decrease in unconfined in-Bay disposal so that only ~20% of dredged material is managed this way on average each year (i.e., a 40/40/20 ratio). We believe these ratios reflect the best overall dredged material balance, and therefore best meet the goal to maximize upland/wetland reuse (UWR) and minimize in-Bay disposal in an environmentally sound manner. The response to comments on the SF-DODS designation rule indicates, "Alternatives such as beneficial reuse will be encouraged wherever practicable. This process of evaluating disposal options already occurs and will continue during permit review." The LTMS agencies will continue to work on developing UWR sites, but cannot guarantee at this time how quickly they will become available and practicable.

Until additional UWR sites become available and practicable, aquatic disposal (including both in-Bay and ocean disposal) will continue to occur at relatively higher levels than LTMS's long-term goals. When UWR sites are not available for specific projects, ocean disposal is preferred (where practicable) over in-Bay disposal. Exceptions to this approach (e.g., a "small dredger" policy) are discussed in the

Management Plan. See also the new discussion of the transition to the preferred alternative in the Final EIS/EIR (section 6.5).

The LTMS agencies have not developed separate Management Plans for implementing each alternative in the EIS/EIR. We do not believe this is necessary, nor would it be a cost-effective effort when our intent is to implement Alternative 3. However, the quantities of material that may be practicable for placement in the three environments will be evaluated through periodic review of the Management Plan. In addition, careful monitoring of the ocean disposal site will continue in accordance with the SMMP and SMMP Implementation Manual.

Please see the response to CDFG comments 2 and 5, CMC comment 5, and the new discussion of the transition to Alternative 3 (section 6.5) in the Final EIS/EIR.

Agency actions at any time are necessarily limited by their authorities at that time. However, it is recognized that those authorities can change over time. For example, the Final EIS/EIR has been updated to include a description of new authorities under WRDA 1996 that have come about since the Draft EIS/EIR was prepared. These changes came about, in part, from the efforts of LTMS interested parties who pushed for change based on knowledge about the existing constraints on the agencies. It is anticipated that interested party support to address remaining legal and funding constraints will continue in the future, and the LTMS agencies look forward to such support.

Section 7.4 of the Draft EIS/EIR discussed some of the constraints, including those related to existing authorities, to fully implementing the beneficial use goals of the action alternatives. Section 4.8 of the Final EIS/EIR (Regulatory Environment) has now been expanded to include a description of new federal authorities established by WRDA 1996, and section 7.4 has been revised to reflect this.

An important objective of the LTMS is to coordinate the state and federal agencies' policies and priorities on dredged material management as much as possible. Measures are described in Chapter 7 that will be taken under present agency authorities to integrate the goals of Alternative 3 into the appropriate state and federal policies and plans. However, it is true that full realization of the goals of Alternative 3 will be difficult to achieve by the agencies alone, under current authorities. Please also see the responses to BPC comment 18, Oakland comment 10, and Redwood comment 4.

The maximum volume of dredged material that can be disposed at SF-DODS is currently set at 4.8 million cubic yards (mcy) each year. This is a reduction of 1.2 mcy from the original annual limit of 6 mcy per year. As described in the SF-DODS Final Rule, dated December 30, 1996, it is set at this maximum capacity by taking into consideration regional dredging disposal needs, including the need to reduce in-Bay disposal and the need to increase upland/wetland reuse. A permanent disposal volume limit will be set by December 31, 1998, based on the alternative selected in this Final EIS/EIR.

As indicated above in the response to CMC comment 6, the long-term goal under Alternative 3 is placement of 20 percent of material in-Bay, 40 percent in the ocean, and 40 percent at UWR sites, *on average*. However, while the alternative is being phased in, it is unlikely that these ratios will be exactly met in any given year. The LTMS has determined that, in general, ocean disposal is less potentially damaging than in-Bay disposal, and is therefore preferred over in-Bay disposal to the extent that it is practicable, and other beneficial reuse options are not available. To ensure that less damaging ocean disposal remains an alternative to in-Bay disposal when beneficial reuse options are not available, the permanent ocean disposal volume limit will be set at a level above the long-term average ocean disposal goal of 40%.

The SF-DODS EIS carefully evaluated potential impacts to the ocean environment. The SMMP is in place by rule. In addition, the SMMP Implementation Manual is now available and includes specific monitoring requirements. Please see the response above to CMC comment 4.

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7. Please see the response to CDFG comments 2 and 5, CMC comment 5, and the new discussion of the transition to Alternative 3 (section 6.5) in the Final EIS/EIR.

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9. The SF-DODS EIS carefully evaluated potential impacts to the ocean environment. The SMMP is in place by rule. In addition, the SMMP Implementation Manual is now available and includes specific monitoring requirements. Please see the response above to CMC comment 4.
10. Please see the response above to CMC comment 4.

11. Please see the response above to CMC comment 4. The SF-DODS Final Rule formally designating the disposal site (USEPA 1994d) addresses the issue of potential contamination to the sea-surface microlayer. EPA determined that significant contamination of, or impacts to, the sea-surface microlayer is not a significant concern at SF-DODS. In addition, the findings of a technical review panel including five experts (four from major universities) were consistent with EPA's determination (EPA 1994d, 1996). Although this phenomenon may be ecologically important and significant in relatively quiescent bodies of water, it is not expected to be significant in the relatively turbulent open ocean environment of the SF-DODS and off the continental shelf of the Gulf of the Farallones region.
12. Please see the response to CMC comment 4 above and the response to NHI comment 17d below. The SF-DODS EIS and SF-DODS Final Rule response to comments includes discussion about potential impacts due to introduced species. We expect that no recruitment of species capable of harming human health or the marine ecosystem will occur.
13. A discussion of the impacts to marine mammals is included in the SF-DODS EIS. Further information about any impacts identified through extensive monitoring of the SF-DODS will be included in the SF-DODS Monitoring Reports (for example, the dredged material spill referenced in the comment is discussed in the Monitoring Report released by EPA in 1997). The potential for impacts from occasional dredged material spills is limited, since only clean (SUAD) material may be disposed of at SF-DODS. The SF-DODS EIS also notes that vessel traffic is already present in the area, and that the worst-case scenario for increased traffic associated with dredged material disposal is 2%. Accidents from the existing vessel traffic in the vicinity of SF-DODS could result in far more potentially significant impacts (e.g., oil spills from tankers) than would occur from accidents of vessels transporting dredged material to the site (e.g., the spill of SUAD dredged material).
14. A discussion of the Marine Mammal Protection Act (MMPA) has been added to the EIS/EIR in section 4.8.1.2 under Federal Laws. Both the SF-DODS EIS and this LTMS EIS/EIR consider impacts to marine mammals. The SF-DODS EIS discusses marine mammals and their protection under the MMPA and Endangered Species Act for designated species. The SF-DODS EIS states (p. 3-160), "Because marine mammals are protected, evaluation of the study areas for this EIS includes consideration of the extent to which the areas are used by marine mammals for breeding, weaning, feeding, or migration." The LTMS EIS/EIR provides a summary of the discussion in the SF-DODS EIS (see section 4.5.3) and evaluation of impacts in section 6.1.2.1.
15. Please see the responses above to DOC comment 6 and CMC comment 4.
16. Please see the responses above to DOC comment 6 and CMC comments 4 and 13.
17. Transportation-related impacts along the entire barge route to SF-DODS are discussed in the SF-DODS EIS. The LTMS agencies have determined that the conditions required in the SMMP to minimize the potential for accidents along the barge route are appropriate. These requirements allow disposal only when weather and sea state conditions are not expected to interfere with safe transportation, and require a load level that is not expected to cause spillage in transit. The LTMS agencies are committed to taking enforcement actions against any party that violates permit conditions. Please see also the response to CMC comment 13, and the responses to NHI comments 17d, 17e, and 18a.
18. Please see the response above to CMC comment 4.
19. Restrictions on ocean disposal exist to minimize risk from increased vessel traffic (see the responses to CMC comment 13 and NHI comment 18a). The LTMS agencies do not believe that additional restrictions on *disposal* at the SF-DODS are needed. EPA's determination of insignificant impacts to fisheries used conservative modeling of the worst case (highly dispersive) disposal scenarios. Also, see the response to CMC comment 4.

20. The LTMS process is not intended to, and will not, set national testing guidelines. All disposal activities will be done in accordance with federal testing guidelines. However, more specific regional guidelines may be set and would appear in the Regional Implementation Manual (RIM). Also, please see the response to CMC comment 4.
21. We agree that the EIS/EIR should recommend only one preferred alternative. Alternative 3 was selected as the preferred alternative after the conclusion of the public comment period on the Draft EIS/EIR.
- Section 6.5 of the Final EIS/EIR discusses the transition toward full implementation of Alternative 3.
- The LTMS agencies are actively supporting potential beneficial reuse sites and recognize the need for these types of sites to meet the goals of Alternative 3.
- The SMMP includes stringent monitoring, testing, and reporting guidelines. Site monitoring is performed annually and is designed to provide data for an assessment of the potential for adverse impacts. Also, please see the responses to DOC comment 6 and CMC comments 4 and 20.
22. Please see the response above to CMC comment 4.



CITIZENS COMMITTEE TO COMPLETE THE REFUGE

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July 16, 1996

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Ms. Karen Mason
LTMS EIS/EIR Coordinator
c/o U. S. Environmental Protection Agency
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Subj: Comments on LTMS DEIS/DEIR of April, 1996

This document does not fulfill the basic requirement of providing agencies and the public a clear means of evaluating the impacts on the environment that would be generated by its proposals. A major revision is required.

The revision should also stress minimizing dredging requirements equally with disposal methods.

It is recommended in the strongest terms that the emphasis placed in the document on wetland restoration during the first five years be rewritten to instead positively **exclude** any further use of the Sonoma marsh restoration method for five years or until such time as progress in restoration theory and practice has been demonstrated. While the other disposal alternatives are viable, still it is recommended that new, large dredging projects be carefully evaluated for economic importance.

Dear Ms. Mason,

LTMS apparently expects the public to take it on faith that an average of 6 mcy must be dredged every year for 50 years. This is tantamount to a carte blanche approval of what would most likely be a self-fulfilling prophecy. Fifty years is an unrealistic planning figure. A much more realistic approach would be, say, a 10-year plan, subject to continual review and amendment as experience warrants.

- Where is the economic justification for this proposed massive effort? | 2
- When was the Baldwin Ship Channel planned, and what is its | 3
- relevance to today's economy?
- Why is it that something that started out to enable the Port of | 4
- Oakland to thrive now extends as far inland as Collinsville, and beyond?
- If all of this dredging were done immediately, would that be sufficient to | 5
- overcome the advantages of the Ports of Seattle (closer to the Orient) and

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5 | Los Angeles (larger, superior land transportation)?

6 | As a simple demonstration of LTMS expectations, the map of shipping lanes in the Bay (Fig. 4.2-3), for example, could be "labeled" with today's usage, what kind of ships, destinations, cargo, tonnage, draft, yearly economic value, etc, vs. the **changes** in these parameters assumed with channel deepening.

8 | 7 Where, for instance, are the impacts on the environment from dredging itself? Why do the authors write in Section 1.1 that the basic purpose of this EIR/EIS is to select a long-term management strategy, and then fail to do so?

9 | Why also is evaluating the need for individual dredging projects left for some unspecified future date? The public needs to know NOW what the needs are or, at least, how they are going to be determined, by whom, and under what authority. How will the myriad plans and agencies on the Bay be met?

Shouldn't the additional LTMS phases yet to be worked on be considered piece-mealing?

Dried Mud for Sale

11 | LTMS seeks to convince the public that dredged spoil (artfully renamed "material" in its literature) is a valuable commodity. The fact remains that there is little demand for such material, not only because of its highly variable physical and chemical characteristics, but because the "rehandling", land, transport, labor and facilities required to make it useful prices it out of the market.

In Palo Alto several years ago, it was proposed to dry yacht harbor spoil on the ITT property and use it for dump cover. The three sites were virtually abutting, largely eliminating transportation expenses, but even so, the City found it cheaper to buy imported fill, ready to go. It is inescapable that it would take a rare combination of source, user site and accessibility to make any economic sense out of drying and rehandling. And how many sites are there on the Bay that would enable barges drawing some 15 feet of water to even approach within discharging range without more dredging to get there?

13 | A measure of the reliability of one LTMS analysis may be found in a report of June 23, 1993 (Conceptual Design of Cargill and Leonard Ranch Sites, etc), wherein it was concluded that both sites were feasible and practical for dredged material rehandling facilities. A more realistic Corps, however, disagreed, stating in an August 1995 report that no alternative in the Leonard Ranch study was economically justified. Simply stated, there was no market for the material.

14 | With this example of LTMS work, the public ponders the validity of claims coming out of the Montezuma Project, a pure profit-driven enterprise on private land at Collinsville. While its links to LTMS are unclear to us, it seems likely that it is a vital part of the LTMS plan, since Montezuma is designed to accept large volumes of contaminated spoil and contain it permanently under a cover of clean material. Nice plane-parallel horizontal layers will not be achieved in practice; and even if they could be at the outset, erosion from currents, wind and rain would eventually develop channels cutting through the cover. Then what?

The Port Sonoma-Marin yacht harbor, next door to the Sonoma Baylands restoration experiment, silts up at the rate of 1 to 3 feet per year. As a consequence, the harbor is dredged almost continuously and has its own drying and rehandling facility. Some of the product goes to landfill cover, but the excess amount is great enough that it was offered free

to the Sonoma project (declined, in favor of dredging the "across-the-flats" channel, vital to the passage of small boats up the river to Petaluma).

For the above reasons, we agree with analyses made by others that more weight should be given to such uses of dredgings as industrial and landfill reuse, levee maintenance, and other upland uses. 15

The Sonoma Baylands Restoration Project

Emplaced dredged spoil is advertised as an option, not a necessity, to hasten the recovery of subsided former wetlands. With the Sonoma Baylands restoration project, "hasten" means to bring the site to some state of completion in the time frame of 10 to 20 years, rather than estimates running up to 60 years for recovery without the use of spoil. Project Manager Scott Miner (COE) urged 10 years of patience while awaiting the outcome of the Sonoma effort at tidal marsh restoration.

We doubt that LTMS proponents are going to hold off voluntarily hold for 10 years. The "mud rush" has been fueled by agency claims of success that started before a shovel was turned.

Every piece of written material on Sonoma exudes utter confidence that a wetland will be restored. The Corps Environmental Assessment does admit the (unlikely) possibility of trouble, but the scant coverage given to remediation is little more than a pro forma legal cover.

House organs such as the Conservancy's *COAST AND OCEAN*, and the CCMP clearinghouse publication, *ESTUARY*, continue to describe the Sonoma experiment as successful. The latter even proclaims it a completed restoration in its current issue! Second and third tier writers pick up this stuff, and further disseminate these erroneous claims in ignorance.

This has created an atmosphere of misplaced confidence in the responsible agencies that wetland restoration using the method under test at the Sonoma Baylands is a sure thing. It is not. A survey of many kinds of compensatory mitigation projects in the U. S., very often involving the creation of new wetlands, clearly shows that functional success cannot be guaranteed (Fixing Compensatory Mitigation: What will it take? Race and Fonseca, U. C. Berkeley. Accepted for publication in *Ecological Applications*, 1995).

Now, the subject DEIS/DEIR lists under the "high volume" alternative some 18 wetland restoration projects covering as many as 12,500 acres. The medium option would involve over 7,000 acres, while the low option would restore 2,800 acres. All of these are predicated on a successful demonstration at Sonoma, and are presented in terms of benefits to be accrued, with only a mild aside to the effect that some risk would be involved relative to loss of seasonal wetlands. **Actually, the important risk is that of failure of the basic method to produce a tidal wetland**, in which case both seasonal and tidal wetland values would be lost. It is irresponsible for LTMS to consider burying thousands of acres of land under emplaced dredged spoil until something tangible and positive is demonstrated at Sonoma. 16

WHAT IS THE RECORD AT SONOMA?

As the Citizens Committee has published in several reports and semi-annual newsletters from 1994 onward, this experiment, designed by a battery of engineers and a top-rated hydrologist in the Bay Area, is suffering from inadequate planning, faulty execution, lack of 17

17 hands-on surveillance, absence of a final monitoring plan, and an institutional reluctance to recognize failure in the making. Here are some specifics:

The Hydrological Analysis

1. The original Corps Environmental Assessment (EA) carried warnings on the threat of inadequate tidal exchange because of the designated small, vegetated channel over the high outboard marsh. A subsequent EA whitewashed all previous objections and buried any comments that might conceivably delay the project.

2. The hydrological analysis failed to include even the most basic elements normally accorded less pretentious projects, such as a look at the waterway and a stab at predicting the expected tidal range on site, elevations, drainage rates, etc. This project was accorded an artist's conception of the appearance of the main unit at the end of 10 years. A sedimentation analysis appearing in the Technical Studies is an enigma, since the results describe neither the project conditions nor the Port Sonoma-Marin calibration model.

3. There was no peer review of the hydrological analysis by the Corps, the Conservancy or any other unit in San Francisco or Washington, D.C. The general tenor of the remarks we have heard were, "We have to go with the consultant". To which we add, "No matter what?"

4. Somewhere along the line, the pilot unit "official" waterway was abandoned and quietly replaced with "another" system that consisted of a westward run from the breach of about 1,000 feet in the near-level borrow ditch from which the existing bayward levee was constructed, followed by another 1,000 feet or so southward to tidal water via an off-site drainage ditch. No mention, hence no analysis of any kind, is on record concerning this system, which we have learned from aerial surveillance is the actual waterway, while the flows in the official ditch are insignificant.

Spoil Emplacement

5. The volume of mud emplaced in both the pilot and main units fell short of promise by 21%, amounting to some half-million yards for the latter. Either the dredging volumes were in error (unlikely), or the engineers' estimate of compaction factors were poor. It is also possible the units were deliberately underfilled to avoid the embarrassment of gross overfilling, visible to all the world, although the resistivity gauges were supposed to give the project a continuous record of water and mud elevations during placement.

An interesting admission was the vertical migration of these gauges in the saturated mud. One likes to trust that such gauges "are anchored in rock" and immutable. Thus one of the simplest and important set of measurements has been compromised to some extent by this turn of events.

Constructing and filling the pilot unit and the main unit simultaneously completely distorts the meaning of "pilot". As practiced by this project, the main unit, and the project itself, have been jeopardized by failure to proceed logically from the "bench", to a pilot scale, and thence to full-scale, hopefully learning something important from each step.

What kind of Tidal Exchange has Developed in the Pilot Unit?

6. The mud surface in the pilot unit lay under a protective cover mixture of rain- and salt water for many months during and after consolidation. It was not to be exposed to the atmosphere until shortly before breaching. As it turned out, on breaching day, January 24,

1996, it was evident that an unsuccessful attempt had been made to drain down the unit. The mud interface was still hidden underwater at a minus tide on February 24, although it could be observed from the air that the outflow rate down the drainage ditch was sufficient to produce white water in the Petaluma River. Still, it was insufficient to drain the unit down to the mud surface in the time available between tides.

7. Another minus tide aerial survey on June 18 disclosed some ominous changes. The pilot unit was still a lake, still undraining. This time however, the drainage rate into tidal water was very weak, with only a trace plume of brownish sediment visible in the river, lazing off slowly with the ebb tide.

The biggest surprise, unanticipated by us, was the appearance of a black-green algal growth out in the center of the pilot unit, visible under the surface of the water. **This is clear evidence that the tidal exchange is so inadequate that near-stagnant conditions are now prevailing.** This observation, coupled with the absence of a good discharge stream into the river as observed in February, means that rather than scouring, the channel system is becoming clogged, either with vegetation or sedimentation.

It appears that water levels have declined in the unit to the point that the available dynamic head is proving insufficient to overcome the resistance in the hydraulic system. **It is difficult to imagine a clearer physical picture telling us that remediation is a must if any degree of success is to be achieved.** Little can be learned from the air about tidal elevations and other conditions in the unit, so the public must await publication this July of the first monitoring report.

Problems in the Main Unit and Monitoring

8. The main unit has lost much of its protective cover of water. Most if not all of the perimeter is now an exposed beach, dried out bone-white, defeating another project provision considered to be important. Additionally, the discharge points at which the spoil was turned into the unit are all visible, mounded up well above water level. Hence another design specification that has gone by the wayside in both units is the "critical" tolerance, 2.0 to 2.9 feet NGVD, on the elevation of the consolidated mud.

9. Monitoring. No final monitoring plan has been released, only one entitled "Draft Interim", unsigned. As weakened by the Conservancy, this plan is not very demanding, still, it calls for photogrammetry of the the emplaced mud surface at about 30 days after breaching. Since the mud surface in the pilot unit has yet to be exposed, that requirement is also unmet. It was also required that the breach would not precede the issuance of a final monitoring report, but it did. The main unit levee is scheduled to be breached in September.

In sum, this self-styled National Model is in trouble, and will probably remain so until a bold remediation plan is carried out.

In view of this experience with the Sonoma Baylands project, is it any wonder that the public is extremely leery of even the most modest of the LTMS wetland restoration proposals, i.e., four wetlands averaging 700 acres each, roughly double the size of the Sonoma units? It is clear that rehandling facilities destroy existing wildlife values permanently, but it is not generally acknowledged that the literature shows that most marsh creation projects fail, be they for mitigation or whatever.

The Sonoma Baylands fiasco has made it clear that LTMS must rethink its plans for tidal marsh restoration using the Sonoma method, and accept the fact that it will probably be

- 19 several years before the success or failure of remediation measures will be known. We therefore recommend that the existing LTMS plan emphasizing marsh restoration using dredged spoil during the first five years be rewritten to exclude this alternative for at least five years.

It should also be apparent that the Montezuma project restoration plans are on shaky ground, and the potential for extensive habitat destruction too great to risk another Sonoma-style assault on the environment.

* * * *

Some Site-Specific Points

- 20 p. 3.9. Of the three sites mentioned in the context of success, Muzzi Marsh has required remediation many times over the years; a thin lamina of mud was turned into the Faber tract in Palo Alto, in comparison to the many feet proposed as feasible presently; and Salt Pond #3 is notorious for overfilling.
- 20a ____ Levee restoration at Jersey Island. How much did this demonstration cost per yard?
- 20b p. 4-29. Suspended solids discussion. Phil Williams & Assocs (PWA) recently used 740 mg/l for Palo Alto-Mountain View as a yearly average for sedimentation modeling, a value far above anything measured by USGS, even for shallow sloughs under windy conditions. A more typical value for the South Bay might be around 200 mg/l.
- There are large unexplained differences between such concentrations and calculated deposition rates for Sonoma and Cullinan, both based on Krone. Krone's equation is generally not followed up with sedimentation rates. All of these factors are important in restoration calculations, but are poorly understood and reported (incidentally, the turbidity units in Fig. 4.3.3 should be corrected to read mg l^{-1} or, more simply, mg/l).
- 20c p. 4-38. What is the meaning of "new channels through mudflats will permanently convert this to subtidal or deep water habitat." This is what will have to be done on many candidate restoration sites if tidal exchange is to be obtained.

And Finally

- 21 The Concept of Compensatory Mitigation cannot be ignored by LTMS, being a standard requirement in both CEQA and NEPA law.
- 22 Attainment of a "proper mix" of wetland types cannot depend solely on the Regional Wetlands Goals Plan. That plan is being developed on an ad hoc basis; may not require review through the NEPA/CEQA process; may be deficient in some vital shorebird data; and may not ever be fully implemented.
- 23 The LTMS/Goals Project is having difficulty in ranking candidate sites for restoration potential with dredged sediments. After 79 pages of effort, the authors conclude, "This report is most useful to indicate what additional information must be compiled to improve the methodology and site assessments". (Gahagan and Bryant and the San Francisco Estuary Institute: Tidal Wetlands Restoration Potential using Dredged Sediments: a methodology for assessment with examples from the North Bay Area. LTMS Final Report, February 1996).

* * *

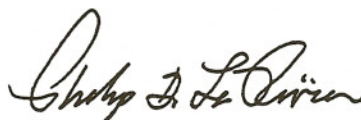
- More work should go into identifying capacious holes in the ground, like abandoned mines and the like. Too expensive? All alternatives to in-Bay dumping will be expensive, and that includes such mundane uses as levee repair, since the spoil will have to come out of a ship channel somewhere, rather than from a slough right alongside the levee. | 24
 - Mitigation for failure should be enforced, and NOT at public expense. | 25
 - No more watered-down monitoring plans, as dictated by the Coastal Conservancy on the Sonoma Baylands. Monitoring should be thorough, demanding and factual, regardless of whether it's labeled as restoration, mitigation, or anything else. | 26
 - Similarly, do not promulgate a distinction between fill for projects and fill for restoration. | 27
 - Separate uplands from wetlands. | 28
 - Mitigation banking is unacceptable with respect to San Francisco Bay wetlands. | 29
 - The need for objective science and less politics in the LTMS process is becoming critical. | 30
- LTMS proposals, studies and reports should all be subjected to peer review by qualified scientists with no monetary or political involvement.

Thank you for this opportunity to comment.

Yours sincerely,



Florence M. LaRiviere
Chairperson



Philip D. LaRiviere
Swamp Physicist

Responses to the CCCR — Citizens Committee to Complete the Refuge, letter dated July 16, 1996

1. Statement noted. Please see the response to BayKeeper comment 2a.
2. The historical perspective leading to the LTMS effort is discussed in section 2.2. Part of the context for the LTMS includes the substantial effort organized under the SFEP, going on at the same time, to restore environmental quality to the Estuary. Thus, LTMS was primarily a response to public and agency concerns about potential environmental impacts of dredged material disposal in the San Francisco Bay and Estuary. This concern was coupled with a realization that publicly and environmentally acceptable dredged material management was necessary so that the navigational dredging needed to support the Bay Area's significant maritime-related economy could continue. The most basic goals of the LTMS include the twin concepts of environmentally suitable and economically prudent dredging.
3. Improvements to (i.e., deepening of) the John F. Baldwin (JFB) ship channel have occurred in four phases since 1974. Phases I, II, and IV have been completed; an EIR/S is currently being prepared for Phase III. Phase I of the JFB project, known as the San Francisco Bar Channel, was constructed in 1974. That phase created the Pacific Ocean offshore approach channel to the San Francisco Bar Entrance. That shipping channel (55 feet deep and 2,000 feet wide) serves as the exclusive deep-water ocean entrance to the San Francisco Bay. Phase II of the JFB project, completed in 1986, consisted of deepening the Southampton Shoal Channel and the Richmond Long Wharf Maneuvering Area in the Central Bay to 45 feet. Phase IV, constructed in 1988, consisted of deepening the Stockton Deep Water channel from Pittsburg to Stockton to 35 feet. Phase III of the JFB project is currently undergoing environmental review. The proposed Phase III improvements would result in linking the completed improvements from Phases I and II with the improvements in Phase IV. Phase III would involve deepening three reaches of the channel (about 16 miles of navigation channels) to 45 feet, from north of Angel Island in the Central Bay to the vicinity of Pacheco Creek in Suisun Bay.

In order to justify the federal participation, the Corps of Engineers must perform an economic analysis of each phase of the JFB Ship Channel project. This analysis is based on the standard "with-project" versus "without-project" analysis and establishes the most economical method to transport crude and product between sources and destinations. Existing channel depth constraints of the San Francisco Bar Channel (-55 feet MLLW) and JFB Phase III Ship Channel (-35 feet MLLW), as well as tidal delays based on a 5-foot MLLW tide, are taken into consideration for the without-project condition. Incorporated into the analysis is the operating costs for the oil tanker fleet, based on the existing tanker fleet given the current channel depth constraints and other associated parameters. The with-project conditions use an optimal fleet that projects the tanker size class and design drafts to increase with each incremental project depth. The analysis also considers an annual growth rate projection for the oil industry. Transportation savings are then calculated by taking the difference between with-project and without-project transportation costs for the different tanker operations at each incremental project depth.

The Phase III channel deepening alternative has been recently evaluated at 1-foot intervals from the without-project condition of -35 feet MLLW up to -45 feet MLLW. This analysis indicates that channel deepening continues to provide substantial benefits for both inbound and outbound oil tankers through reductions in lightering, light loading, and tidal delays, as well as from opportunities for economies of scale. These benefits increase with each incremental project depth and continue increasing past the maximum authorized depth of -45 feet MLLW.

4. The LTMS does not just focus on the Port of Oakland, but seeks to develop the best balance of reducing impacts and increasing benefits of dredging and disposal, in an economically achievable manner, for the entire region.
5. Ports in Puget Sound and southern California will continue to be major shipping centers, independent of the alternative selected in this EIS/EIR. However, the Long-Term Management Strategy selected in

this EIS/EIR and implemented through subsequent Management Plans will help to minimize impacts and increase regulatory certainty when competitive pressures inevitably result in proposals for new or expanded facilities in the Bay Area. In addition, continued dredging is needed to maintain the existing infrastructure and maritime economy in the Bay Area, not just to expand for competition with other west coast ports.

6. Rather than changing Figure 4.2-3 as suggested, we have changed Figure 4.2-1 (a simpler figure that shows the navigation projects) to indicate the depth of each navigation channel or project. Tables 4.2-1 and 4.2-2, in conjunction with Figure 4.2-4, show vessel transits in the Bay Area by both vessel traffic zone and vessel type/size. Individual deepening project EISs (and in part DMMPs) would address future trends.
7. The discussion of the impacts of dredging has been expanded in the Final EIS/EIR; see new section 3.1.1.3. In addition, site-specific impacts of dredging are addressed through NEPA/CEQA on a project-by-project basis.
8. The Draft EIS/EIR did not select a preferred alternative in order to gather and consider all public comments. The LTMS agencies have now selected Alternative 3 as the preferred long-term strategy.
9. The future need for individual dredging projects and the amount of dredged material associated with the completion of these projects is uncertain for a number of reasons. First, the number of dredging projects conducted depends on each project proponent's navigational needs (depth). A project proponent may require only routine maintenance dredging or may determine that more depth is required and propose a new work project. Second, the amount of sedimentation that occurs at a site varies in different areas of the Bay, as well as seasonally and throughout the years. Due to different rates of sedimentation, even the amount of dredged material that is the result of routine maintenance dredging varies and can be difficult to predict. Therefore, the need for dredging is determined on a project-by-project basis based on navigational needs and the rate of sedimentation at a specific site. The LTMS agencies review, through the DMMO, each dredging project that proposes in-Bay disposal.
10. Following publication of this programmatic EIS/EIR, the LTMS agencies will distribute a draft Management Plan that describes the detailed steps the agencies will take to implement the preferred alternative. The Management Plan will be finalized after a public comment period and after execution of the Record of Decision for the EIS/EIR. Portions of the Management Plan will be implemented by the applicable agency, as outlined in sections 2.8 and 7.1.
11. Statement noted. Table 6.2-2 provides cost estimates for each placement environment according to testing, mobilization, dredging, transportation, placement, and rehandling activities. In most of these categories, cost estimates for the different placement environments are comparable. Although cost estimates for upland/wetland reuse in some of the categories (i.e., testing, dredging, transport) are less, ocean and in-Bay disposal does not require placement or rehandling costs. This difference may result in a total cost for ocean and in-Bay placement that is less than that for upland/wetland reuse. However, cost comparison on a case-by-case basis would be required to truly determine which disposal site is less costly for a specific project depending on mobilization, transportation, and rehandling needs.

It must also be acknowledged that although development of an upland/wetland reuse site may be costly, it can also result in environmental benefits not obtained through use of the in-Bay and ocean disposal sites. Also see the responses to San Leandro comment 1 and Lathrop comment 3.

12. Many of the sites considered suitable for upland/wetland reuse would not be located in areas where large barges could be used to off-load the dredged material. Instead, the dredged material would be piped onto the site. Section 3.1.1.4 explains how dredged material is transported through pipelines. The Sonoma Baylands wetland restoration project transported dredged material in this fashion. Discussion of the Sonoma Baylands in the Final EIS/EIR (Appendix K.2) highlights any benefits and/or

problems with piping dredged material to potential reuse sites. See also the response to NHI comment 14c.

13. The conclusion provided in the U.S. Army Corps of Engineers feasibility study addressing the need for a rehandling facility at Leonard Ranch was based on the study parameters which provided for an analysis of using the site only to rehandle material determined, through sediment quality testing, to be suitable for unconfined aquatic disposal. No analysis of the cost-benefits derived from the use of such a site to process and beneficially reuse material which failed unconfined aquatic disposal suitability criteria was conducted. Therefore the conclusion, stated in the comment, that there is no upland market for dredged material cannot accurately be made. In August of 1995, the San Francisco Bay Conservation and Development Commission completed the *Analysis of the Potential for Use of Dredged Material at Landfills* report which concluded that up to 5 million cubic yards per year of dredged material could be beneficially reused at regional landfills for daily cover, lining, and capping purposes. As the report points out, a high degree of environmental benefits can be derived from such reuse of dredged material. However, rehandling facilities will be needed in order to off-load, dry, and re-transport the dredged material to landfill locations. To help defray the cost of constructing and operating rehandling facilities, the LTMS proposes that landfills first be utilized for the throughput of material determined to be unsuitable for unconfined aquatic disposal. Much of this material is still acceptable for landfill uses and is presently quite costly to dispose of. Any additional throughput capacity at the rehandling facilities could be utilized for the processing of clean material for such purposes as levee repair and stabilization, and construction fill.
14. As noted, the Montezuma Wetlands Restoration Project is a private entity and is not associated with the LTMS. The Montezuma Wetlands Restoration Project proponents are presently in the process of finalizing an EIS/EIR for the project and are seeking federal, state, and local permits to construct the project. Although this project is being closely scrutinized by the permitting and resource agencies, as well as the public, its implementation and success would be considered beneficial to the LTMS program.
15. Statement noted. Please see the response to DOI comment 2.
16. The LTMS program is progressive, in that it considers the results of ongoing studies in future actions and ongoing adaptive management techniques. The Final EIS/EIR contains an update on the Sonoma Baylands project (see the response to NHI comment 14c). Any future proposed projects would correct any unsatisfactory methods used at the Sonoma Baylands to ensure the success of the project. Also please see the responses to DOI comments 2, 8, 9, 11 and 25a.
17. As the response to NHI comment 14c states, information on the Sonoma Baylands project is provided in the Final EIS/EIR.
18. Statement noted. Please see the response to Krone comment 3.
19. Statement noted. Please see the responses to DOI comments 2 and 11.
20. The LTMS agencies recognize that the reuse of dredged material for wetland restoration has been problematic in the past. However, these past restoration efforts have lead to a much greater understanding of the hydrologic functions and sediment dynamic aspects at restoration sites. The information gained from these past projects, as well as the new data obtained from projects such as the Sonoma Baylands Wetland Restoration Project, will continue to be utilized during future restoration project efforts. It should be noted that although overfilling of sediment occurred at the sites mentioned in the comment, and subsequently some tidal wetland functions may have been lost, the habitat values gained through the restoration efforts at these sites are tremendous.

- 20a. Please see Appendix K.1 of the EIS/EIR, which provides information on the Jersey Island project. Tables A and B of the report in Appendix K.1 provide cost information. The 1994 cost per cubic yard was \$14.80.
- 20b. Statement noted. Also please see the response to DOI comment 25i. The EIS/EIR does not evaluate individual projects. Rather, the document is a programmatic approach to the management of dredged material over the 50-year planning period. However, as discussed in the responses to other comments, the LTMS is not a finite program. It is ongoing and designed to allow for management updates based on the availability of information. This would include data derived from any ongoing or future wetland restoration efforts and sediment concentration and transport studies.
- 20c. Statement noted. Extensive design and engineering review of wetland restoration projects would be required as mandated by both CEQA and NEPA. The LTMS agencies continue to learn of the importance of channel formation and development during the tidal wetland restoration process. Design plans for the Montezuma Wetlands restoration project and redesign plans for the Sonoma Baylands restoration project both include consideration of channel development as needed for tidal exchange.
21. Statement noted. Please see the response to OAS comment 7.
22. Statement noted. As Section 5.1.2.1 states, several different regional wetland plans are in the process of development and any LTMS projects would be consistent with their results. Examples include the USFWS' Endangered Species Recovery Plan, BCDC's North Bay Management Program, and the Regional Wetlands Monitoring Program (coordinated by the San Francisco Estuary Institute). Thus, the Regional Wetlands Goals effort is not the only regional habitat plan that would be consulted regarding a "proper mix" of habitat types. In addition, any proposed restoration project would require review under the CEQA/NEPA process.
23. The Wetlands Ecosystems Goals Project is an interagency effort that is not directly related to the LTMS. That program is designed to determine the types and quantity of wetland habitat needed in this region. Any examination of dredged material use in restoration projects would be a secondary consideration for that program. Please see the responses to BPC comment 18 and SC-LPC comment 3g for more information on the Wetlands Ecosystems Goals Project.
24. The BCDC completed a report in 1995 (BCDC 1995d) that examined the reclamation of mines and quarries with the use of dredged material. Although potential sites were located in feasible locations based on proximity to dredging activities and available transportation, the report found that the use of dredged material at these sites is not often an option for several reasons. These reasons include the heightened potential for groundwater contamination, no need for an off-site source of fill (i.e., they fill up holes with the same material taken out), and incompatible reclamation plans (e.g., one quarry operator planned to fill the quarry with water and build a housing development around it).
25. Statement noted. Tables 5.1-3 through 5.1-6 provide guidance for reuse projects and identify the need to meet mitigation requirements. Mitigation would be determined on a case-by-case basis through the CEQA/NEPA process.
26. Statement noted. Sections 5.1.1.2 and 7.1.2 discuss the site management and monitoring procedures that would be implemented with any LTMS project and how they would be improved. More detail on how these plans would be implemented will be contained in the LTMS Management Plan.
27. Statement noted. Different types of dredged material may be suitable for different projects based upon grain size, the level of contamination (or lack thereof), and the engineering needs of a project. The only distinctions that can be made between the dredged material used for different projects are based on the characteristics listed above.
28. Statement noted. Please see the response to DOI comment 13.

29. Statement noted. Please see the response to DOI comment 251.
30. A technical advisory committee consisting of scientists with various areas of expertise has been consulted on a variety of issues regarding specific LTMS studies. However, background scientific studies alone cannot select an overall strategy or determine all the details of a Management Plan. For development of the Management Plan, the LTMS agencies need to consider public interests that sometimes compete, policy or legal requirements that sometimes conflict, and technical and scientific evaluations that are often inconclusive. The LTMS agencies' objective for the overall Management Plan is that it should balance the overall public interest based on the best available scientific information at the time. In addition, the Management Plan should be able to be revised as conditions change or scientific findings advance.



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COMMENTS OF THE ENVIRONMENTAL DEFENSE FUND

CONCERNING

THE EXECUTIVE SUMMARY OF THE DRAFT EIS/EIR FOR THE LONG-TERM MANAGEMENT STRATEGY FOR THE PLACEMENT OF DREDGED MATERIAL IN THE SAN FRANCISCO BAY REGION (FEBRUARY 1996)

Rodney M. Fujita, Ph.D.
Senior Scientist
Environmental Defense Fund

July 24, 1996

These comments apply only to the Executive Summary of the Draft Environmental Impact Statement/Environmental Impact Report for the Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region (February 1996).

p. 1-1; par. 1. The analysis reported in the Executive Summary appears to be premised on the idea that dredging will continue at a similar rate for the next 50 years, with the proportion of toxic dredge spoils (unsuitable for unconfined sites) remaining about the same. Before an alternative is chosen, it would seem prudent to see if this premise of unchanged dredging rate is reasonable. Greater emphasis is needed on reducing dredging and the toxicity of dredged materials because the risks associated with using dredged materials in ecosystem restoration projects (or with disposing of it, for that matter) are still quite uncertain. The proportion of toxic dredge spoils could be reduced through source reduction and/or remediation. The amount of dredging required could perhaps be reduced through upstream erosion reduction (e.g., restoration of riparian corridors, marshes, and floodplains) changes in port functions (e.g., transition to an offshore facility). These activities are consistent with ongoing and planned ecosystem restoration (e.g., CalFed, USFWS Anadromous Fish Restoration Program, aquatic nuisance species control, etc.).

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- 1c | p. 1-8. Reviewing the Need for Dredging. This section should be elevated in importance, and contain the specific goals of reducing dredging and toxic contamination. I strongly encourage BCDC's effort to identify means to reduce the need for dredging.
- 1d | p. 1-9. In-Bay Fish Habitat Protection. Disposal site closures and restrictions are limited to measures protecting winter run salmon, steelhead, and longfin smelt. Measures should also be designed to minimize impacts on spring run chinook salmon, in view of the precarious status of this run. Consideration should also be given to potential impacts of the ocean disposal site on offshore fish and fisheries; these impacts are given short shrift in the Executive Summary.
- 1e | p. 1-13. Clearly, the no-action alternative is undesirable. Continued disposal of a high proportion of dredge spoils at a few in-Bay sites, with only a small proportion going toward beneficial reuse, is not consistent with ongoing and planned regional ecosystem restoration efforts. I anticipate that these restoration efforts will result in a large demand for clean sediments for marsh restoration, infilling of subsided areas, etc.
- p. 1-14. Alternative 1 is undesirable because it does not provide enough opportunities for beneficial reuse, and also poses the highest level of potential risk to biota in the Bay
- 1f | among the action alternatives. It is difficult to understand how it can be concluded that Alternative 1 would not have "significant adverse environmental impacts" (p. 1-14, "Regulatory Certainty") after acknowledging that the risks of in-Bay disposal are uncertain (p. 1-14, "Risks and Benefits to Ecological Systems"). This seems inconsistent.
- 1g | p. 1-15. Alternative 2, Risks and Benefits to Ecological Systems. While it is claimed that this alternative would have the greatest environmental benefit of any of the action alternatives, this claim depends on the assumption that the dredged material is clean enough to pose little or no risk to biota when it is used for ecological restoration. The science/art of determining ecological risk from dredged material is still uncertain. Unless the dredged material contains virtually no contaminants, I don't think this claim can be made. Therefore, the benefits of using the material for restoration must be weighed against the uncertain risks associated with such use. If it doesn't already, the EIS/EIR should attempt to quantify these risks in some way (perhaps using several independent methodologies).
- 1h | p. 1-16. The same comment applies to Alternative 3, but this alternative may be preferable to Alternatives 1 or 2 because it would result in lower disposal volumes in the Bay. On the other hand, it is unclear what the real risks of substantially increasing ocean disposal would be.
- 1i | p. 1-17. Implementation. Given the forgoing comments, I suggest the following implementation approach:

1. Analyze options for reducing dredging
2. Analyze options for reducing the toxicity of dredged materials through source reduction and through remediation
3. Implement measures to reduce dredging and dredged material toxicity to the fullest extent practicable; at a minimum, project the degree to which dredging and toxicity can be reduced, and set targets for reductions
4. Compare risks associated with in-Bay disposal, upland/wetland restoration, and ocean disposal
5. Transition to an Alternative that minimizes overall risk

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Responses to the EDF — Environmental Defense Fund, letter dated July 24, 1996

1. Statement noted.
- 1a. Assumptions made for the amount of dredged material to be removed in-Bay over the next 50 years were based on the worst-case scenario for evaluation purposes. Issues related to the changing dredging rates would be addressed through the periodic reviews discussed in the response to BayKeeper comment 2a. The Management Plan will also periodically be reviewed and updated, as necessary. In addition, a programmatic review of LTMS, including a review of assumptions, will also be done periodically (every 6 years or as necessary).
- 1b. Statement noted. The EIS/EIR primarily addresses methods with which to manage dredged material disposal. However an LTMS goal, as described in section 2.6, is to find ways to reduce the overall volumes of material dredged from the Bay. As addressed throughout the document (see sections 3.2 and 4.4, among other locations), dredged material proposed for reuse in unconfined settings (upland, wetland, or in the Bay) would need to meet established standards or chemical and toxicity suitability. The use of toxic or chemically contaminated material is not proposed for reuse in an unconfined manner. Reducing the toxicity of Bay sediments through cleaning up "hot spots" are the focus of other agency programs, including the Regional Monitoring Program and the Bay Protection and Toxic Cleanup Program (both associated with the San Francisco Bay Estuary Project and the San Francisco Bay Regional Water Quality Control Board). Please see the response to DOI comment 10a regarding risks that may be associated with using dredged material in restoration projects.

New sediment loading from upstream is, on average, only a small percentage of the suspended solids load in the Bay. Resuspension from the Bay's extensive shallows and mudflats makes up the majority of sediment loading in the Bay. See also the response to CCCR comment 9. The San Francisco Estuary Project (SFEP) and Seaport Planning Process are the appropriate places for addressing these issues.
- 1c. Statement noted. The need for dredging is evaluated in Chapter 2 (see section 2.6.1) and Appendix E. In general, the amount of dredging is being reduced through the DMMO and through the COE's Composite EIS for maintenance dredging. The need for dredging is influenced by many factors, and this need will continue to be evaluated on a project-by-project basis. With respect to the need to reduce toxic contamination in dredged material, the LTMS acknowledges the need to accommodate any contamination found and to properly manage NUAD material. However, the estimate that 20 percent of the dredged material may be NUAD material may be high in the long run because NUAD material is encountered most often in new work and less new work dredging is anticipated in the future. (For maintenance projects, the DMMO Report on the first 6 months of the office's operation indicates a total of only about 6 percent NUAD material for the material the DMMO has evaluated.)

In response to the comment encouraging BCDC's efforts to identify means to reduce the need for dredging, the LTMS agencies support this goal.
- 1d. Statement noted. Please see the response to MAS comment 18c.

The impacts to offshore fish and fisheries were evaluated in the SF-DODS EIS and summarized in chapters 4 and 6 of the LTMS Draft EIS/EIR. The SF-DODS site was specifically selected to minimize impacts to fish and fish resources, among other factors; see the text box on page 4-162 of the Draft EIS/EIR. Also, please see the response above to CMC comment 19.
- 1e. The LTMS agencies agree that the no-action alternative is undesirable.
- 1f. The LTMS agencies believe all action alternatives (including Alternative 1) *can* be implemented without significant (unacceptable) adverse impacts. Remember that all the action alternatives represent significant departures from the no-action alternative. They are all much more balanced in terms of

dredged material placement in all three placement environments, and they are all much more able to achieve the overall LTMS goals in that they include significantly increased beneficial use, and significantly decreased in-Bay disposal over the long term.

- 1g. Statement noted. Please see the response to DOI comments 10a, 11, and 26a for discussions on the use of both NUAD and SUAD dredged material in restoration projects. A risk analysis of NUAD dredged material use in restoration projects would be conducted in a more quantifiable manner on a case-by-case basis for each proposed project.
- 1h. Please see the response to DOC comment 2. The SF-DODS EIS evaluated the potential impacts of ocean disposal, and determined that up to 6 million cubic yards (mcy)/year of dredged material would not result in significant adverse effects. The new SF-DODS Final Rule, dated December, 1996, set a lower temporary disposal volume limit of 4.8 mcy per year, which will reduce even further the potential impacts discussed in the SF-DODS EIS. A permanent disposal volume limit is scheduled to be set by December 1998, and is not expected to exceed the current limit. Also, please see the responses above to DOC comment 6 and CMC comment 4.
- 1i. Please see response to EDF comment 1c.

The San Francisco Bay Regional Water Quality Control Board (RWQCB) already conducts source reduction and remediation through both non-point and point source programs. For management of point sources, the RWQCB implements the Waste Discharge Permitting Program and various pretreatment and pollution prevention programs. For non-point source control, urban run-off is controlled through a variety of programs, including the Baseline Control Program, which focuses on pollution prevention and control at the city and county level. Agricultural wastewater management is also addressed through prevention and permitting programs. However, current programs that regulate point and non-point sources of contaminants entering the Bay do not affect the management of large amounts of contaminated dredged material that are present within the Bay. A percentage of sediment contains contaminants from many past years of point and non-point sources. This material must be managed appropriately once sediment testing indicates the material should not be disposed of in-Bay.

Please see section 4.3.2.1, which discusses existing monitoring programs for contaminants in the Bay. Also please see the response to EDF comment 1c.

Chapter 6 (Environmental Consequences) evaluates disposal and reuse in the ocean, in-Bay, and upland/wetland reuse environments in terms of impacts and benefits associated with high, medium, and low overall volumes of dredged material. Comparisons are made among the three disposal options in terms of impacts/benefits to water quality, fish and wildlife habitat, special status species, transportation systems, air quality, and archaeological and cultural resources.

The LTMS agencies suggest a transition period from current conditions to the preferred alternative (Alternative 3). Please see section 6.5 of the EIS/EIR for a discussion of the proposed transition period to Alternative 3, the alternative determined to minimize overall risk.



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A NON-PROFIT CITIZEN GROUP DEVOTED TO EDUCATION IN MARIN COUNTY ON ENVIRONMENTAL MATTERS.

July 18, 1996

LTMS EIS / EIR Coordinator
c/o U.S. Environmental Protection Agency
Region 9 (W-3-3)
75 Hawthorne Street
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Dear LTMS Coordinator :

The Environmental Forum of Marin appreciates the opportunity to comment on the Long Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region Draft Impact Statement / Report.

Although the DEIS / DEIR addresses the placement of dredged material, it ignores the issue of reducing the amount of material dredged or the possibility of reducing dredging itself. There must be a discussion of guidelines and the status of dredging projects. Guidelines must ensure a reduction of these projects and that every opportunity towards this goal is seized. Section 2.6.1 identifies reducing "unnecessary" dredging as a goal, however, it is not clear how "unnecessary" is defined and how this reduction will be implemented. Evaluations on dredging should be done on a case-by case basis but also there should be an overall policy.

The management plan needs to be reviewed on a regular basis to ensure that new information on biological resources, impacts and other relevant matters are addressed. A general statement that the "Management Plan would be updated in the future as environmental conditions or the agencies' authorities or regulations change", (page 7-1), is not adequate assurance such a review and evaluation will occur. A review schedule and guidelines for this process must be defined in the final EIS / EIR.

Basic components to be monitored in Site Monitoring and maintenance plans should be presented in the EIS / EIR. Such plans are an essential part of mitigation and are necessary to ensure that each project is implemented in a satisfactory manner. Also, points at which corrective actions must be taken should be addressed.

Aquatic Disposal Sites' concerns:

- Page 3-20 states that "deposition and erosions patterns throughout the Estuary are extremely complex and heterogeneous. The four existing disposal sites are all considered to be in erosional locations." The deleterious effects on water quality throughout the estuary need to be fully acknowledged and stated clearly in the EIS / EIR.
- On page 9 of appendix G, the DEIS / DEIR states that a declining level of monitoring effort can be considered for subsequent operations after the initial monitoring is completed. Because of the complexity of the estuary, the same level of monitoring will need to be given to each dredging project and each new or old site.
- A plan for testing of water quality must be implemented to decrease immediate and long term impacts which may occur from disposals in these environments. Testing of the following needs to be included:
- resuspension of sediments which would increase water turbidity
 - reliable determination of how dredged material will move once it is dumped. The EIS/R states in 3.2.2 "The aquatic disposal of dredged sediment...adds suspended material to a constantly changing environment, and determining the ultimate fate of disposed dredged material is a challenging task."
 - determination of background pollutants already present in bay water before any dredging occurs at a site; to assure that no adverse chemical reactions occur with any of the dredged materials
 - possible combinations of toxins and how they will affect aquatic and wildlife dependent upon the estuary and the ocean
 - increased possibility of barge collisions in the LTMS planning area, which is considered to be rough and inclement
- We are concerned about the supposedly "short term toxicity" on the life stages of marine invertebrates that contribute to the food chain and are necessary to the larger species dependent on a healthy marine environment. A plan for testing of effects on aquatic organisms and of water quality should be included in the EIR / EIS.
- The LTMS should consider migrating seasons for all anadromous fish of special concern (including all salmonoids) that use areas likely to be disturbed by deposition of dredged material. Dredge disposal should not be undertaken at times when they are migrating.
- Further study is needed on the impact on migrating and resident waterfowl dependent on a healthy aquatic ecosystem. The DEIR / DEIS states that fish may leave an area during the disposal time. The lack of fish, an important food resource for waterfowl, would have serious affects on these animals and others and needs to be fully addressed.
- We doubt that benthos and water column turbidity will be benign. Constant disruption of the environment will have long-term effects on benthic organisms and organisms throughout the water column. Turbidity hinders fishes' ability to forage for food and will

negatively affect plankton in the bay or ocean and on other wildlife depending on these waters for their food. More information on this should be included in the EIR.

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Although the effects on water quality related to salinity, oxygen, turbidity, pollutants, etc. are stated to have short duration, they will produce added stress to aquatic systems which are already struggling from the effects of other serious human caused polluting activities, from urban and non urban sources. How can these stresses to these aquatic systems be reduced?

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Wetland/upland disposal Sites' Concerns

Section 2.6.1 states that "Only habitat restoration/creation projects having overall new benefits will be supported as LTMS projects." We want to know how overall net benefits will be determined and evaluated in relation to impacts.

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The analysis and guidance in chapter 5 does not ensure that adequate information to identify impacts will be provided. It leaves the impression that in any project that has 'potential benefits', i.e. marsh restoration, only the benefits will be considered. This is because the Overall Guidance Tables do not indicate that any potential impacts or the information necessary to identify potential impacts--such as existing wetland conditions--will need to be provided. This information must be provided and part of the case-by-case review, and all mitigation measures in order to address any impacts.

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The environmental conditions at the San Pablo Bay disposal site should be addressed in section 4.3.2.2.. Material disposed at this site discharges throughout the north Bay and deposits in tidal marshes, small creeks and channels. Impacts of this deposition on habitat loss, increased need for dredging and increased resuspension and turbidity should be addressed. The adverse impacts occurring in these wetland habitats should also be included in section 6.1.1.2 , Environmental Consequences. We believe the damage is significant to this area even though the placement amount is limited to 55,000 cy.

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Potential impacts and limits on disposal placement at the San Pablo site should be addressed. We recommend that a gradual reduction as with other sites, and a limit on use to North Bay Projects be considered.

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We would like to know how many acres of diked historic bayland remain in the North Bay and how many acres would be used under each of the alternatives.

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Combining dredged material placement for wetland reuse and upland reuse is confusing and misleading. The nature of the impacts and potential benefits vary significantly with, we believe, greater adverse impacts when depositing material in existing diked baylands which contain seasonal wetlands.

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Some of the species listed in Table 4.4.1, namely the Salt Marsh Harvest Mouse and California Clapper Rail use adjacent uplands during times of high water. The Salt Marsh

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- 19 Harvest Mouse also uses seasonal wetlands. Their dependency on these different habitats needs to be acknowledged.
- 20 The discussion at 6.1.3.3 sounds as though under some circumstances more consideration may be given to the need to place dredging over the responsibility to protect endangered species' habitat. We object to this approach. Protection of special status species should be paramount. A substantial benefit cannot even be assumed until it can be predicted that the desired habitat restoration will successfully occur.
- 21 The placement of material over seasonal wetlands such as occur on many diked historic baylands in Marin County and across the North Bay, will result in the loss of their functions and values as habitat. There must be programmatic guidance to ensure that this loss is mitigated on a case by case basis. Simply stating that this loss will be addressed at a future time on a project by project basis will cause habitat losses to be minimized without any proper mitigation. There must be a policy that requires each project to mitigate wetland impacts it creates. Creation of tidal marsh alone will not compensate for losses of other wetlands. A system that assures all habitats necessary for all wildlife species that use the bay must be taken.
- 22 Why can't seasonal wetlands be created as part of the placement design adjacent to tidal marshes as a mitigation for seasonal wetland loss?
- 23 Page 4-123 contains a list of plans and processes that are suggested as providing a superior approach to addressing the seasonal wetlands issue. What do these plans say? We are aware that some of the plans are not completed. The LTMS Process that will last for 50 years, cannot depend on a policy guidance that does not yet exist and that is not presented as part of the review process. Goals and recommendations contained in the referenced planning efforts should be presented prior to adoption if they are to be relied on.
- The fact that there is no overall scientific guidance, yet in existence, makes it even more important that mitigation not simply be done on a case by case basis.
- 24 The 404 (b) (1) guidelines should not be considered for change in order to facilitate placement of dredged material. This could possibly have adverse consequences on wetland resources and the wetland regulatory program.
- 25 In the July 1995 Status Report, the Bel Marin Keys site was placed on the "Potential Disposal Site" list. We are concerned that in the effort to find places for dredged material, those in charge might find themselves drawn into controversial projects such as this one. This has the potential to have inordinate influence on and adverse consequences to local communities and land use decisions. This could result in adverse publicity for the LTMS effort and should be avoided.