LONG TERM MANAGEMENT STRATEGY

For Dredged Material Disposal

DISCUSSION PAPER

Potential In-Bay Allocation Strategies

July 3, 1998

The *Draft Environmental Impact Statement/Programmatic Environmental Impact Report (EIS/R) for the Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region* presented potential mechanisms for implementing Alternative Three, which will be identified as the preferred alternative in the Final EIS/R currently scheduled to be issued in August, 1998. Alternative Three will involve distributing dredged material amongst the in-Bay, Upland/Wetland Reuse (UWR), and ocean environments under a 20/40/40 percent formula, respectively, with a goal of ultimately disposing a maximum of 1.0 million cubic yards (mcy) of dredged material per year in the Bay. A preliminary discussion regarding potential mechanisms for implementing Alternative Three was presented in the Draft EIS/R for the LTMS.

The transition from present disposal practices to the 20/40/40 distribution will be implemented over a multi-year period in order to reduce economic dislocations to dredgers by allowing time for new UWR sites to come on-line, new equipment and practices to be implemented, and funding mechanisms and arrangements to be established. In addition, this alternative will be implemented using a regulatory cap on in-Bay disposal to incrementally decrease in-Bay disposal volumes over time and by allocating in-Bay disposal site capacity between three dredger types: small, medium, and COE. [1, 2] This discussion paper expands upon five potential strategies for implementing Alternative Three.

Strategy One: Total Allotments Over a Multi-Year Period With Trading

Small dredger exemption. Small dredgers would be exempt from any in-Bay disposal allocations, and thus would be allowed to dispose in the Bay as long as there are no UWR or ocean alternatives. Each small dredger would therefore be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the Dredged Material Management Office (DMMO). Between 1991 and 1997, an annual average of approximately 250,000 cubic yard (cy) were dredged by the small dredgers (Attachment 1). Therefore, it is anticipated that 250,000 cy per year capacity at in-Bay sites would be needed to accommodate the small dredgers (Figure 1). [3, 4]

---

1 For planning purposes: small dredging projects have been defined by a dredging depth of less than -12 MLLW and generating less than 50,000 cy per year as a long-term average; medium dredging projects by a depth greater than -12 MLLW and/or average annual volumes greater than 50,000; and COE projects as those maintained by the COE. It should be noted that dredging project definitions will be further clarified and/or refined in the Draft LTMS Management Plan.

2 The regulatory cap would be less ambitious than the goal to facilitate the transition.

3 Data provided by BCDC, RWQCB, COE, Bay Planning Coalition, and Moffatt & Nichol Engineers.

4 Small dredger exemption would be common to all five strategies.

U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105

San Francisco Bay Conservation and Development Commission
30 Van Ness Avenue, Suite 2011
San Francisco, CA 94102

U.S. Army Corps of Engineers
South Pacific Division
&
San Francisco District
333 Market Street
San Francisco, CA 94105

San Francisco Bay Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

California State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Medium and COE dredgers. At the beginning of the transition to Alternative Three, each medium and COE dredging project sponsor would receive an in-Bay disposal volume allocation *mid-way between their seven-year average and seven-year maximum volumes* (Attachment 1) derived from their 1991-1997 disposal volumes. In order to implement the goals of Alternative Three, each dredger's volume allotment for in-Bay disposal would be reduced over time in proportion to the periodic reductions in the total regulatory cap on in-Bay disposal (Figure 1). [5]

The total volume allotted per dredging project sponsor could be used for a single episode or a series of episodes over a multi-year period. [6] Dredging project sponsors could dispose their allotted volume at any time during the multi-year period as long as the regulatory cap of 2.8 mcy is not be exceeded. Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed. Once a project sponsor had used their total in-Bay disposal volume allocation, no dredged material from subsequent dredging episodes could be disposed in the Bay, and instead alternative disposal options would need to be used.

In-Bay allocation exchange. Any unused portion of a particular volume allotment could be exchanged between medium and COE dredging project sponsors. It would be up to the discretion of medium and COE project sponsors to make these exchanges. In the case where an "exchange" had occurred, DMMO permit applicants would be required to provide evidence and verification from another dredger that all or a portion of their allotted in-Bay disposal volume had been granted to the applicant. Because of their exemption, small dredgers would not be a part of this exchange system.

Contingency Allotment. In each dredging and disposal period, a specific volume of in-Bay disposal site capacity would be reserved to account for emergency dredging and in-Bay disposal needs (Figure 1). This reservation of in-Bay disposal site capacity would be in addition to that designated for individual dredger allocations and the small dredger exemption. The types of emergency conditions approved under the contingency allotment will be defined in the Draft LTMS Management Plan. [7]

Site monitoring disposal fees. Disposal fees would be administered to monitor and manage in-Bay disposal sites. [8] The fee would vary according to the volume with those generating smaller volumes paying lower fees per cy and those dredging larger volumes paying higher fees per cy. As such the fee would be proportionate to the level of use and potential for impacts. Fees would be used for in-Bay disposal site monitoring. [9]

Strategy One Pros and Cons. Potential advantages and disadvantages associated with Strategy One are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

---

5 Specific volume reductions to be provided in the Draft LTMS Management Plan.

6 The number of years in which dredging project sponsors could dispose of their allotments to be defined in the Draft LTMS Management Plan.

7 The contingency allotment would be common to all five strategies.

8 A fee would require state legislation prior to implementation.

9 The impact disposal fee would be common to all five strategies.

Pro. *During the period when the regulatory cap is 2.8 mcy, there would be adequate in-Bay disposal capacity in the event all medium and COE dredgers intended to dredge their combined total average annual in-Bay disposal volume allocation (i.e. equal to their proportion of the 2.8 mcy starting volume derived from their total average 1991-1997 disposal volumes), approximately 2.4 mcy.*

Con. Without the ability to bank individual volume allotments it could make projects involving in-Bay disposal more difficult to plan for and ultimately implement.

Con. Every year, each dredger would be limited to dispose in the Bay that year's average allotment unless trading had occurred so if allotments from other dredgers were not available for trade, dredgers would not be able to dispose total project volume in the Bay.

Con. *The combined total average annual volume for both medium and COE dredgers equal to their proportion of the 2.8 mcy starting volume derived from their annual average 1991-1997 disposal volumes would be 2.4 mcy. Therefore, at the starting point of Strategy Two, the total in-Bay disposal capacity for medium and COE dredgers would be set at 2.4 mcy per year. If all medium project sponsors dredged at their highest historical volume (i.e. not average), approximately 1.0 mcy, in the first year, then this volume could be disposed in the Bay. However, in-Bay disposal of material from any large COE maintenance projects during that time would reduce significantly potential in-Bay disposal capacity for medium dredgers.*

Strategy Three: Average Annual Allotments With Trading and Banking

Small dredger exemption. (See above.)

Medium and COE dredgers. At the beginning of the transition to Alternative Three, each medium and COE dredging project sponsor would receive an annual in-Bay disposal volume allocation equal to their proportion of the 2.8 mcy starting volume derived from their total average 1991-1997 disposal volumes (Attachment 1). [3] To implement the goals of Alternative Three, each dredger's annual volume allotment for in-Bay disposal would be reduced periodically in proportion to the periodic reductions in the total regulatory cap on in-Bay disposal (Figure 1). [5] Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed.

Allocation Exchange and Banking. Volume allotment exchanges would be allowed under this option. In addition, annual volume allotments could also be "banked" or transferred from one year to the next. Banked volumes would be reduced over time as the regulatory cap and total annual volume allotments for dredgers are reduced. In the case where an "exchange" had occurred, DMMO permit applicants would be required to provide evidence and verification from another dredger that all or a portion of their allotted in-Bay disposal volume had been granted to the applicant.

Dredging project sponsors might choose to bank their annual dredging allotments so as to reserve sufficient volume for future in-Bay disposal events. Dredging project sponsors whose volume allotment would not allow all of the volume generated from a project to go in the Bay, and who might be unable to obtain additional in-Bay volume allotments from other dredgers, would need to find alternative disposal sites. Because of their exemption, small dredgers would not be a part of this exchange system.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Five: Reduced In-Bay Disposal of COE Maintenance Material To Achieve Volume Targets

Small dredger exemption. (See above.)

Medium and COE dredgers. Under this strategy, the volumes of COE maintenance material needed in any one year to meet transition targets would be disposed outside of the Bay at either UWR or ocean sites. Based on data from 1991-1997, during that time, the highest annual volume (i.e., not average) dredged by the COE was approximately 2.0 mcy in 1993. Similarly, between 1991 and 1997, the highest annual volume dredged by the medium dredgers was 970,000 cy in 1995. [3] The highest annual volume dredged by small dredgers between 1991-1997 was approximately 300,000 cy in 1991 (Attachment 1).

In the event that similar volumes were dredged in any one year once the in-Bay disposal target of 1.0 mcy (excluding contingency volume) was reached and the COE was required to dispose its maintenance material outside the Bay, as much as 1.0 mcy of in-Bay disposal capacity would remain for both the small and medium dredgers. Taking into account historical (1991-1997) total annual volumes, almost one-third of the remaining 1.0 mcy of in-Bay disposal capacity would be accounted for by small dredgers because of the proposed exemption. Consequently, about two-thirds capacity would remain for the medium dredgers.

Although under this strategy access to in-Bay disposal capacity would likely be less restricted in comparison to several of the other strategies discussed previously, dredgers would still be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO, and, in the event either alternative could be used, in-Bay disposal would not be allowed.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Five Pros and Cons. Potential advantages and disadvantages associated with Strategy Five are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. The burden associated with using and/or developing UWR and ocean disposal options would be primarily assumed by the COE and not the medium dredgers. The ability of medium dredgers to dispose more often in-Bay would likely result in a less significant impact on private industry.

Con. In the event the COE is unable to obtain adequate funding for using and/or developing UWR and ocean disposal options, the federal channels might not be maintained adequately.

Con. Since the burden associated with using and/or developing alternative UWR and ocean disposal options would be primarily assumed by the COE, the emphasis of alternative site development by the COE could have a significant impact on taxpayers.

Pro. The starting point for medium and COE dredgers is high enough (i.e., it reflects a multi-year volume as opposed to an annual average volume, as discussed below in Strategies Two and Three) to facilitate dredging without the need for trading or waiting over a multi-year period to commence projects.

Con. If all medium and COE dredgers opt for using their combined total volume allotments in a single year, the initial regulatory cap of 2.8 mcy would be exceeded. Thus, there would be insufficient capacity at in-Bay sites for the combined medium and COE total volume allotments during that time.

Strategy Two: Average Annual Allotments With Trading and Without Banking

Small dredger exemption. (See above.)

Medium and COE dredgers. At the beginning of the transition to Alternative Three, each medium and COE dredging project sponsor would receive an annual in-Bay disposal volume allocation equal to their proportion of the 2.8 mcy starting volume derived from their average 1991-1997 disposal volumes (Attachment 1). [3] To implement the goals of Alternative Three, each dredger's annual volume allotment for in-Bay disposal would be reduced periodically in proportion to the periodic reductions in the total regulatory cap on in-Bay disposal (Figure 1). [5] Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of the permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed.

Allocation Exchange. Annual volume allotments could not be "banked" or transferred from one year to the next. However, any unused portion of an annual in-Bay volume allotment could be exchanged between medium and COE dredgers if they needed additional allotments to dispose in the Bay. In the case where an "exchange" had occurred, DMMO permit applicants would be required to provide evidence and verification from another dredger that all or a portion of their allotted in-Bay disposal volume had been granted to the applicant. Project sponsors would be encouraged to determine their dredging needs for each year in accordance with their volume allotment and transfer any portion not needed to other dredgers. If additional in-Bay volume allotments could not be obtained from other sponsors, alternative disposal sites for the remaining material would need to be used. [10] Because of their exemption, small dredgers would not be a part of this exchange system.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Two Pros and Cons. Potential advantages and disadvantages associated with Strategy Two are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. The inability to bank would prevent dredgers from using large reserved allotments all at one time when, to do so, might exceed the regulatory ceiling.

---

10 Dredgers would be required—e.g. via permit conditions—to keep records of dredging and disposal activities including volumes exchanged and banked (as discussed under Strategy Three), and submit data to the DMMO, which would store and track it.

Strategy Three Pros and Cons. Potential advantages and disadvantages associated with Strategy Three are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. *During the period when the regulatory cap is 2.8 mcy, there would be adequate in-Bay disposal capacity in the event all medium and COE dredgers intended to dredge their combined total average annual in-Bay disposal volume allocation (i.e. equal to their proportion of the 2.8 mcy starting volume derived from their total average 1991-1997 disposal volumes), approximately 2.4 mcy.*

Con. With the banking option, if the preferred disposal option were in the Bay, then there would be greater incentive to bank than to trade. As a result, dredgers might not be able to obtain credits via the exchange system.

Con. Banked volumes would decrease overtime in proportion to decreases in the regulatory cap and allowable in-Bay disposal volumes. Therefore dredgers risk losing their banked volumes over time, and thus their total allotment for in-Bay disposal.

Strategy Four: First-come, First-served

Small dredger exemption. (See above.)

Medium and COE dredgers. Under this strategy, medium and COE dredgers would not receive annual or multi-year volume allotments. Instead, dredgers would have the opportunity to dispose of dredged material in-Bay until the regulatory cap and target volumes for each in-Bay site have been met. Disposal would occur on a first-come, first-served basis. Consequently, dredgers intending to dispose in-Bay after the regulatory cap and/or target volumes had been reached would need to find alternative disposal options. The goals of Alternative Three could be reached under this strategy by periodically reducing the regulatory cap and the targets for individual disposal sites in the Bay. Medium and COE dredgers would be required to determine whether UWR and ocean disposal alternatives could be used as a part of their permit application process to the DMMO; in the event either alternative could be used, in-Bay disposal would not be allowed. Because of their exemption, small dredgers would not be a part of this first-come, first-serve system.

Contingency Allotment. (See above.)

Site monitoring disposal fees. (See above.)

Strategy Four Pros and Cons. Potential advantages and disadvantages associated with Strategy Four are listed below.

Pro. A reduction in in-Bay disposal volumes would reduce the potential for adverse impacts to the Bay and may significantly increase the number of beneficial reuse projects, such as wetland restoration and other environmentally beneficial projects.

Pro. Those who are first "in-line" would have ample room for in-Bay disposal.

Con. Those who are last "in-line" would likely have little to no room for in-Bay disposal.

Attachment One: Total and Average Annual Maintenance Dredging Volumes (1991-1997)

Category *	Disposal	Project **	Project Depth (MLLW)	Year ***	Reference ****	Year	Reference	Year	Reference	Year	Reference	Year	Reference	Year	Reference	Year	Reference	Total Volume dredged: 91-97	Annual Average 91-97 (BCDC)
				1991		1992		1993		1994		1995		1996		1997			
S	SF-11	Paradise Cay	<-8	40,691	2	0		0		0		16,175	2	800	4	11,700	7	69,366	9,909
S	SF-10	Pt. San Pablo Yacht Harbor	-8	15,155	1	0		0		0		0		0		0		15,155	2,165
S	SF-11	Pullman Building	-10	41,518	1,2	14,312	1	0		0		0		0		0		55,830	7,976
S	SF-11	Redrock Marina	?	0		14,950	1	0		0		0		0		0		14,950	2,136
S	SF-11	Redwood City YC	?	0		0		54,000	2	15,000	2	0		0		0		69,000	9,857
S	SF-11	San Leandro Marina	-7	0		0		0		0		0		0		60,150	7	60,150	8,593
S	SF-10	San Rafael Canal	-8	0		0		0		0		122,507	2,3,4	35,700	4	28,750	7	186,957	26,708
S	SF-11	San Rafael Canal	-6	0		0		0		0		0		0		750	7	750	107
S	SF-9	San Rafael Yacht Club	?	2445	1	12,310	1	920	2	0		1,900	2,3	0		0		17,575	2,511
S	SF-11	Sausalito Marine Corp	-8	0		1,400	1	0		0		0		0		0		1,400	200
S	SF-11	Sausalito Yacht Club	-13	160	1,2	0		0		0		0		0		0		160	23
S	SF-11	SF Marina	-12	0		0		0		11,544	3	0		22,863	4	0		34,407	4,915
S	SF-11	St. Francis YC (Belvedere)	-11	0		16,299	1	0		1,544	coe	4,775	2,3	0	4	0		22,618	3,231
S	SF-11	Strawberry Rec Dist	-6	0		137,000	1,2	81,136	2	0		0		45,675	4	0		263,811	37,687
S	SF-10	Vallejo Yacht Club	-9	0		0		0		0		0		0		1,500	7	1,500	214
S	SF-11	W.B. Clausen	?	0		820	1	0		0		0		0		0		820	117
S	SF-11	Wickland Oil	?	0		0		0		0		0		3,604	4	0		3,604	515
TOTAL				*311,590*		*257,707*		*266,991*		*254,987*		*208,936*		*265,300*		*185,340*		*1,750,851*	*250,122*
M	SF-11	ARCO	-35	35,000	1,2	0		0		0		0		0		0		35,000	5,000
M	SF-9	Benecia Port Terminal	-39	27,600	1,2	45,000	2	28,000	2	25,771	2,6	0		72,335	4	2,149	7	200,855	28,694
M	SF-11	Chevron (Richmond Long Wharf)	-45	284,800	1,2	0		261,110	2	0		141,634	2,4	156,802	4	283,030	7	1,127,376	161,054
M	SF-10	City of Larkspur	?	20,285	3	0		0		0		13,920	3	0		0		34,205	4,886
M	SF-9	Exxon (Benecia)	-35	19,500	1,2	40,000	1,2	11,700	2	7,597	2,6	12,200	2,3	61,086	4	19,000	7	171,083	24,440

Proposed In-Bay Disposal Volume Limits Over Time
Alternative Three
(Start Volume - 2.8 mcy)

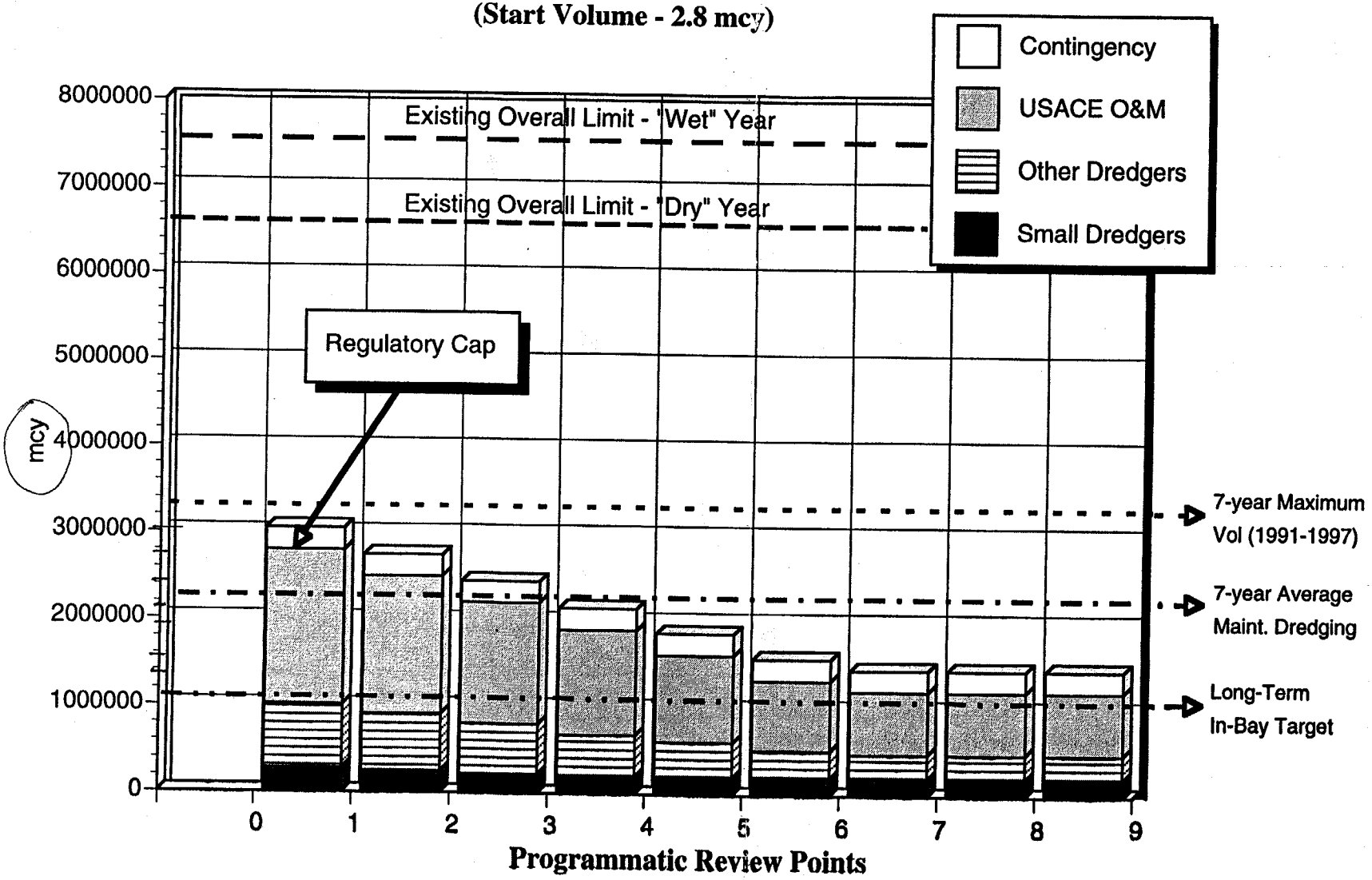

Figure 1