Multiuser Confined Disposal Sites Program Study

INSTITUTIONAL OPTIONS ANALYSIS ISSUE PAPER

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CONTENTS PAGE

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MULTIUSER CONFINED DISPOSAL SITES PROGRAM STUDY

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INTRODUCTION

The 1989 Puget Sound Water Quality Management Plans contain several requirements for the contaminated Sediments and Dredging Program implemented by the Washington Department of Ecology (Ecology). One of these requirements, the Multiuser Confined Disposal Sites Program, is a study to evaluate the utility and viability of establishing a system of multiuser confined disposal sites for contaminated sediments dredged from Puget Sound. Results of the study will be used by Ecology as the basis for a recommendation to the Puget Sound Water Quality Authority for the establishment of a multiuser site program.

Over the past several years, various criteria have been established by regulatory agencies for determining the degree of contamination in sediments below which the sediments could be disposed of at designated open-water unconfined disposal sites. These interim criteria have now been replaced by disposal guidelines by the Puget Sound Dredged Disposal Analysis study (PSDDA 1988). Disposal requirements are currently being addressed for contaminated sediments not allowed for open-water unconfined disposal.

Confined disposal involves the containment of dredged material so that migration of contaminants and effects on the environment and human health are minimized. Confined disposal standards are now under development to address the level of contamination above which the standards will apply; the required testing for determining application; and the design, operation and closure/post-closure requirements of confined disposal sites.

Confined disposal will occur either in the upland environment similar to municipal landfills, in the nearshore environment, which generally involves the filling of intertidal and/or subtidal areas for the creation of usable land or intertidal habitat, or in the aquatic environment where confinement will occur in deeper waters.

Upland, nearshore, and aquatic confined disposal of dredged material generally occurs at sites established specifically for the project, especially for larger dredging projects. Although some current sites in the Puget Sound basin receive dredged material for disposal from more than one dredging project, these sites are limited to municipal landfills and a small number of other upland sites.

The concept of multiuser sites involves the establishment of one or more sites that would be available for use by all dredgers on a long-term basis for the disposal of material requiring confinement.

The objectives of the Multiuser Confined Disposal Sites Program Study being conducted by Ecology are to identify the issues; make recommendations regarding the utility and viability of multiuser sites for the confined disposal of contaminated sediments in upland, nearshore, and aquatic areas; and to develop an action plan for implementing the recommendations. Contractor support for the study consists of developing issue papers addressing the following components:

- Assessment of needs
- Identification of potential environmental and public health concerns associated with establishing such sites, and possible methods of eliminating or minimizing those concerns through application of technology and/or site location selection
- Development of order-of-magnitude costs for siting, operation, and closure/post-closure; and development of funding options
- Assessment of institutional options for siting, operation, and closure/post-closure of sites
- Development of alternative public involvement and public education plans

A draft report will be prepared that summarizes the issues, incorporates responses to comments on the issue papers, makes recommendations for Ecology's consideration and suggests an action plan for implementing the recommendations.

The objective of the Institutional Options Issue Paper is to develop and analyze a representative set of general institutional options that will serve as a basis for

consensus building or public review and comment before Ecology makes a recommendation to the Puget Sound Water Quality Authority.

APPROACH AND METHODS

The approach used in defining institutional options for analysis was to conduct an overview of the existing system for disposing of dredged material and identify the major problems and the major stakeholders. The functions to be implemented in a multiuser site program were then developed and various combinations of responsibilities for the major stakeholders in implementing these functions were created. Each combination of responsibilities for the major stakeholders represents an institutional option. Since the number of possible institutional options is large, a manageable number of clearly identifiable options are developed with the goal of covering an adequate range.

Institutional options are defined at a general level. For example, the federal government is a major stakeholder having lead responsibility, and the most likely federal agency to have the responsibility is identified.

Telephone interviews were conducted at both the local and national level to get stakeholder input on the problems with the existing system, ideas on solutions at the local level and to see if similar problems existed in other areas of the country and how they were being addressed.

The advantages and disadvantages of the institutional options selected for analysis are compared using evaluation criteria. The evaluation criteria are based on the identified problems to be solved and the implementability of the option.

The major problems identified, the list of major stakeholders, functions, institutional options to be analyzed and the evaluation criteria were reviewed with Ecology and the Agency Forum on Sediment Issues (AFSI).

A possible scoring system and an example application are also presented.

EXISTING SYSTEM AND CONCEPT OF MULTIUSER SITES

EXISTING SYSTEM

Need for Dredging

The Puget Sound waterway provides a major transportation corridor and a necessary part of the infrastructure for the development of this region and the State's economic base that depends on water transport.

Water transport requires that navigation channels be of sufficient depth to allow free and safe movement. Siltation, water erosion and other deposits into water bodies combine to accumulate on the bottom requiring dredging in order to maintain necessary depths for shipping.

The economic base of the State and region that depends on water transport relies primarily on port activities. In addition, this region's active recreational small boat activities form a major impetus for keeping navigation channels and moorage facilities dredged.

Areas that need dredging include over 50 miles of navigation channels. In addition, the 34 port districts in the region with approximately 50 miles of port terminal ship berths and over 200 small boat harbors require regular maintenance dredging.

In the next twenty years it is estimated that 35 million cubic yards of material will be dredged from Puget Sound waterways. Of this amount, approximately 8 million cubic yards may require confined disposal. This study focuses on the confined disposal of contaminated dredged material only.

Existing Regulatory Framework

The existing regulatory framework is fragmented and includes several overlapping responsibilities.

The degree to which agency responsibilities will overlap depends on the level of contamination and the disposal environments: upland, nearshore or aquatic.

Nearshore and aquatic disposal is regulated by the Federal Corps of Engineers (Corps), State Department of Natural Resources, Ecology, Department of Fisheries and Wildlife and local governments.

Disposal of dredged material classified as dangerous waste is regulated by Ecology.

Upland disposal is regulated by local health departments, Ecology, local governments and other government agencies, such as tribes and out-of-state agencies depending on the location of the sites.

Upland disposal may also be regulated by the Corps Section 404 permit, Ecology's Section 401 and CZMA certifications. When located within the shoreline zone, local governments will regulate sites through shoreline development permits consistent with state guidelines and requirements.

Cleanup of contaminated material is regulated by Ecology and EPA under federal and state superfund laws.

The standards for confined disposal of contaminated dredged material are currently being developed by Ecology. Until those standards are completed, there are few directly applicable standards in place. Regulatory agencies therefore review each proposal on a case-by-case basis. They rely on their general authority and the best professional judgement of staff for analysis and recommendations on environmental impacts.

Regulations adopted and used under different agency programs can conflict. Confined disposal near shorelines may be in conflict with local shoreline master programs. Local health regulations imposed on municipal solid waste disposal sites may conflict with upland disposal of contaminated dredged material in sanitary landfill sites.

Ecology provided an analysis on current legal authority regarding implementation of a multi-user site program.

According to that analysis, port districts may operate multi-user sites for contaminated dredged material, but they do not have taxing authority to fund the siting or construction of one. The State Department of Natural Resources, using land under its jursidiction, has the authority to site a facility.

The State Department of Ecology has substantial restrictions in owning or operating a multi-user site, but could possibly site or permit these facilities under certain circumstances. Ecology cannot establish regional authorities but could establish regional siting criteria under established state laws.

Local governments have the authority to regulate the location of sites and own and operate sites. Ownership,

siting or operation of multi-user confined sites is not limited by 70.95 RCW, the state solid waste regulations.

Historical Practice

The process of attending to navigation channels has been conducted as needed, primarily by entities charged with specific phases of the process by law or economic necessity. Dredging has been conducted by private developers and marina owners, ports and public agencies of the federal, state and local government. The majority of the activity has been conducted by public agencies and the ports.

Dredging undertaken by private parties has been independently conducted. There has been little coordination with regard to the timing of dredging or communication among adjacent property owners on disposal sites. Consequently, effiencies that might otherwise be gained through coordinated activities are foregone.

Individual property owners such as marina owners have typically disposed of dredged material on their own property if they had available space. Other dredgers used local sanitary landfills or nearshore and aquatic sites as space was available. Most significantly, the disposal site selection was done on a case-by-case basis, depending on each dredging project's needs and site availability at the time.

The pattern of case-by-case disposal has evolved with time and in response to individual dredging needs. However, with growing environmental awareness, particularly of the impacts on water quality in the region, the Puget Sound Water Quality Plan has included a requirement for the study of a more comprehensive and coordinated confined disposal system for contaminated dredged material.

CONCEPT OF MULTI-USER SITES

"Multi-user sites" is used to refer to a system of one or more sites that could be made available to all dredgers for disposal of contaminated dredged material in need of confinement. The system would be designed for long-term use and meet the standards set for confined disposal of contaminated dredged material. Disposal sites could be located in upland, nearshore or aquatic environments.

The characteristics of the existing system are described below under the headings: Stakeholders, Roles and Functions.

STAKEHOLDERS

The list of current stakeholders includes the following entities:

- Federal
  - Corps of Engineers
  - Environmental Protection Agency
  - National Marine Fisheries Service
  - National Oceanic And Atmospheric Agency
  - United States Fish and Wildlife Service
  - Navy
- State
  - Department Of Ecology
  - Department Of Fisheries
  - Department Of Wildlife
  - Department of Natural Resources
  - Puget Sound Water Quality Authority
  - Shoreline Hearing Board
- Local
  - City & County Governments
    - Health
    - Planning
    - Public Works
- Ports
  - Washington Public Ports Association (WPPA)
  - Local Ports
- Tribal Governments
- Other Users
  - Marinas
  - Boat Repair
  - Industrial/Commercial Transportation
- Private Enterprise
- General Public
- Environmental Organizations

In addition to the current stakeholders listed above two new institutions representing stakeholders are added for the purpose of the institutional options analysis: a Coordinating Council and a New Authority.

"New Institution" refers to a newly created entity that could have different levels of authority, two examples of which are described below.

"Coordinating Council" describes an entity that coordinates, delegates and oversees the implementing of functions listed under its direction. It may take the lead role in coordinating tasks, do so jointly with other entities, or delegate responsibilities. It has a planning and coordinating role but does not undertake implementing actions.

The "New Authority" is an entity that can undertake all planning and implementing functions, including developing a coordinated management plan, siting, regulation, permitting, construction, ownership, operation and funding of facilities. As a state-sponsored entity, it could be designed to have pre-emption authority over local laws.

ROLES

The roles that stakeholders might have in an institutional option have, for presentation purposes, been simplified into three broad categories:

- o Lead Responsibility
- o Joint Responsibility
- o Mixed Responsibility

Lead responsibility refers to the prime responsibility and authority for implementation of a function. The lead agency may delegate the execution of functions to other entities or may carry them out itself.

Joint responsibility refers to two or more agencies with responsibility for particular functions, with one agency designated as lead. It differs from the "lead" responsibility described above in that the relationship among those entities in a joint role is a formally recognized organizational unit formed for this specific function. This concept applies specifically to the Puget Sound Dredged Disposal Analysis (PSDDA)-type of arrangement, a cooperative effort by the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency and the State Departments of Ecology and Natural Resources, with the Corps designated as lead. The use of the term "joint" in this report refers to other similar arrangements that might be considered for specific activities, or as a permanent institutional arrangement handling many activities in the dredged material disposal process.

Mixed responsibility refers to the ports, local governments and private enterprise with ownership, monitoring, construction, closure plan and rate setting responsibilities for different sites.

In addition, the general analysis of instituitional options carried out in this report used the assumption that only one stakeholder has the lead responsibility except where joint responsibility is indicated.

In reality, the roles are and would be more complex when implementing the functions described in the following section. For example, several permits at the federal,

state and local levels are required to implement a dredging and disposal project, resulting in several entities with lead responsibility for permitting. There are also different levels of oversight regulation responsibilities among federal, state, local, and tribal governments. In addition, although some stakeholders have no direct permitting authority, they may have to concur with a permit before it can be issued and most stakeholders can take legal action aimed at preventing the issuance of a permit or changing its conditions.

FUNCTIONS

Contaminated dredged material management and disposal functions are categorized into the following five broad headings: 1) Planning/Regulation 2) Siting 3) Operation 4) Closure/Post Closure and 5) Advisory. The functions included under each of the headings are listed below.

1) Planning/Regulation
- o Coordinated Management Plan
- o Standards
- o Oversight Regulation
- o Liability Management

2) Siting
- o Site selection
- o Construction
- o Permitting

3) Operation
- o Ownership/Operation
- o Monitoring
- o Rate Setting

4) Closure/Post Closure
- o Closure Plan
- o Liability

5) Advisory

1. Planning/Regulation

Coordinated Management Plan

A coordinated management plan function refers to the development of a comprehensive program of strategies for handling contaminated dredged material from the time it is dredged and disposed of, to the closure and post-closure of disposal facilities. It would identify and develop projections for volumes, users, contamination levels, siting needs and coordination of disposal activities.

Standards

Standards refer to the setting of confined disposal standards, including the definition of dredged materials that require confined disposal, the setting of testing and monitoring requirements, the setting of siting guidelines and site closure and post-closure requirements.

This study recognizes that the disposal standards for contaminated dredged material are currently being developed by Ecology. While the assumption is that the state may continue to have the lead responsibility for developing the standards, other options are included.

Oversight Regulation

This term refers to overseeing compliance with regulatory requirements of users, owners and operators. There may be varying levels of oversight regulation at each governmental level. For example, Ecology has an oversight responsibility for solid waste disposal, but counties and cities have the actual day-to-day responsibility and authority.

Liability Management

Liability management refers to that process of designing disposal management so as to mitigate problems and minimize liability, identify specific liability responsibility and determine how liability should be financed, including the apportionment of shares among those involved.

Current legal opinion indicates that all those involved in dredging, transportation or disposal of contaminated sediments could be held liable. The process of determining proportionate shares of liability is therefore left up to a future negotiating or decision-making process.

2. Siting

Site Selection

The site selection function refers to all tasks, including determining the need for sites and the required capacities, developing alternative site options, environmental and cost analyses, final site recommendations. The criteria for site selection are handled under the siting "standards" function.

"Siting" includes the process of obtaining community acceptance for the location of particular facilities in or near a community and applying for and obtaining all necessary permits. It is the most challenging of the functions facing any institutional arrangement.

Construction

Multi-user disposal facility construction refers to the design and construction of specific facilities.

Permitting

Permitting refers to the activities of those who have the responsibility for the final permit for a site.

3. Operation

Ownership/Operation

Ownership/operation refers to the daily operation of a facility; permit renewals; and responsibility for costs and revenues.

Each facility must be owned and operated by a responsible entity. Although it is possible that one entity might own a facility and contract out for its operation, this analysis combines the two in order to keep the number of options down to a minimum.

Ownership and operation may be privately or publicly undertaken. It is assumed that the operation of any facility will be conducted with adherence to the standards developed for the State as well as those particular to the specific site.

Monitoring

Monitoring refers to the day-to-day operational activities required for the facility to meet permit stipulations. The operation of any disposal facility must be monitored for compliance with all regulatory requirements.

Rate Setting

Rate setting is the establishment of user fees. One of the tasks in operating a disposal facility is determining and establishing the rates for users. This is not a one-time task, but one that has to be re-assessed on a periodic basis to ensure that all costs for operation, as well as maintenance, closure and post-closure, are taken into consideration.

4. Closure/Post Closure

Closure Plan

Closure plan refers to the plan for any disposal facility following its closure, and is now a requirement. Such a plan must cover closure construction, monitoring and contingency plans in case of failure, as well as plans for financing closure and post-closure requirements.

Liability

The liability function refers to the actual assumption of liability responsibility which would be undertaken through cash payments, insurance, etc. Assuming liability for disposal sites has become a major consideration in contaminated waste disposal planning. This function would follow from the liability management plan established as part of liability management which would identify the stakeholders and their proportionate shares.

5. Advisory

Advisory function refers to a broad range of review and advice offered on all functions to those agencies in lead or joint roles. It could refer to participating in advisory committees or more active involvement in plan development and other activities by stakeholders with larger interests in particular issues. It is assumed that in addition to agency participation, the review and comment process will also include the general public and environmental interest groups.

PROBLEMS WITH EXISTING SYSTEM

The institutional options analysis identified the major problems with the existing dredged material management and disposal system. In order of priority, they are as follows:

1) Lack of capacity and increasing difficulty in siting facilities for solid waste and contaminated dredged material;
2) Lack of a coordinated management plan for dealing with contaminated dredged material;
3) Lack of assurance regarding the consistency and standards for disposing of dredged material in an environmentally sound manner (until standards are adopted);
4) Lack of assurance that the current method of disposal results in the most cost-effective means of disposal; and
5) Inadequate involvement by some stakeholders in disposal planning and decision-making.

SITING

The most significant of these problems is siting. Despite the need for waste disposal sites and the availability of land, communities oppose the location of sites in their "backyards". The major concerns are environmental and public health impacts even if assurances are provided that the best available safeguards will be provided.

One concern is a lack of trust in the public or private entities responsible for siting and managing sites. Communities are concerned that cost-cutting considerations may override promises made to communities regarding environmental controls. Historically established credibility of the institutions can therefore make a difference in community acceptance.

Communities are also concerned that state-of-the-art knowledge regarding environmental impacts may not accurately reflect long-term damage and may not yet be sophisticated enough to detect all potential hazards. There is also an acknowledgement of the lack of solid waste expertise and concerns about inability to carry out actions stipulated by the permitting agencies.

In the past, siting a waste disposal facility would entail an identification of possible sites based on technically-based criteria and the determination of sites based on availability. This is merely a starting point, with a major site determination being dealt with through the community negotiation process.

Another problem related to the ability to site facilities is the availability of land. Some institutions have land they can make available for waste disposal facilities which could put them in a more favorable position than those that do not.

Some institutions may have access to funding sources for sites that others do not have.

Finally, liability management is a major concern in siting facilities because of the uncertainty of the amount and the share of that liability. Those entities considering owning and operating facilities must now consider what the long-term risks might be and how they might equitably distribute the responsibilities.

LACK OF A COORDINATED MANAGEMENT PLAN

The existing system of disposing of dredged material is handled on a project-by-project basis. There is little coordination among entities in need of dredging, dredgers, transporters, permitting agencies and disposal site owners/operators. Consequently, the system does not lend itself to efficiencies in operation that might otherwise be realized.

There is no entity currently authorized to coordinate the management and disposal of contaminated dredged

material, resulting in frequent overlaps or gaps in service delivery.

ENVIRONMENTAL CONSIDERATIONS

Until the confined disposal standards for dredged material are developed and adopted, and institutional roles for their implementation are defined, there is no assurance that contaminated dredged material is being handled in a consistent, environmentally sound manner.

COST CONSIDERATIONS

Meeting environmental control standards, management and disposal of dredged material with the existing dispersed system is less cost-effective than it might be with a centralized multi-user site system with established standards and a comprehensive management program.

INVOLVEMENT

Contaminated dredged material management and disposal has included the advice of major stakeholders, but not all other users and interested groups. There is no assurance that the interests of all stakeholders are taken into consideration even in an advisory capacity.

INTERVIEW FINDINGS

In attempting to develop a range of possible institutional options for analysis for the Puget Sound contaminated dredged material disposal project, information on institutional arrangements was gathered from related waste disposal examples around the country. The contacts included mineral waste, solid waste, hazardous waste and dredged material waste representatives.

The focus of the interviews was to obtain institutional arrangements information for waste disposal. A literature review and telephone interviews were conducted to obtain information in the following areas:

- type of waste handled
- major activities
- institutional arrangements in place
- users of facilities
- siting process used/recommended
- liability management
- problems encountered
- funding

A structured format in the form of a questionnaire was used to obtain information for the areas outlined above and is included as Appendix A. Information on all the above areas was not always available from all of the sources.

Summaries of the information gathered are presented as Appendix B. The entities researched and/or interviewed included the Delaware Solid Waste Authority, Maryland Port Authority, Great Lakes Detroit District of the Corps of Engineers, Connecticut Resource Recovery Authority, Connecticut Hazardous Waste Management Service and Siting Council, Rhode Island Waste Management Board and New York State's Siting Entities/Activities.

Of these entities, those listed below handled contaminated dredged material: the Maryland Port Authority and the Detroit District of the Great Lakes Detroit District of the Corps of Engineers. The Rhode Island Waste Management Board accepts uncontaminated dredged material.

The types of institutional arrangements identified include the following:

- Specially created authority with full planning and implementation authority
- State lead with regional district support institutions
- Federal lead with local state sponsorship
- State lead for planning and regulation, with a non-profit, quasi-public authority as the implementing agency
- State lead for waste management service with a siting council for siting facilities
- Quasi-governmental state-level board
- Local government prime responsibility with state regulation

The findings contained above have several implications for this project.

Most significantly, the type of institutional arrangement in place appeared to have less of a bearing on the success in siting facilities than the planning and siting process that was used. Collaborative, negotiated planning and siting processes appeared to have the best chances for success. A variety of incentives were also used as part of the negotiation strategies, with varying degrees of success.

Another significant finding was that the authority bestowed on the entity in charge was a major contributor to its being able to site facilities.

The specially-created Delaware Solid Waste Authority had the authority it needed to determine the location of potential sites and to site facilities; to float its own tax exempt bonds; construct, own, and operate facilities; obtain public records; sell or lease portions of projects; acquire and condemn property; control collection, transportation, storage and disposal of solid waste and let contracts. However, without the proper authority and appropriate siting process, it is doubtful that it would have been successful.

The implications of these findings are that the authority and the siting process are two key ingredients that could be a part of any institutional option. While the addition of a new, specially focused Authority would add to effectiveness in implementation, a New Authority has other drawbacks, as discussed in the analysis section of this report.

SELECTION OF INSTITUTIONAL OPTIONS FOR EVALUATION

PROCESS FOR SELECTION

The functions to be performed and the stakeholders that could be involved in an institutional arrangement for implementing a multi-user site program have been previously described. In addition, different institutional arrangements may be appropriate for the different disposal environments (aquatic, nearshore and upland). Developing regionally-based institutional options based on geographic areas might also be appropriate. The different institutional arrangements for each geographic area might serve all of Puget Sound, Northern, Central or Southern Puget Sound. Other location-specific institutional arrangements could include Commencement Bay or Elliot Bay.

Since it is possible to arrive at a large number of institutional arrangements using such combinations, it was necessary to make some judgements in order to arrive at a manageable number of clearly presentable institutional options for analysis.

With the goal of arriving at six to ten options that covered an adequate range of options, the analysis of which would illustrate the key issues involved, the following decisions were made:

- Postpone consideration of institutional arrangement variation by disposal environment and geographic coverage until a later stage of the study.

- Create a set of institutional options for analysis based on best judgement of the most likely and

appropriate stakeholders to perform the needed functions and obtain AFSI input and Ecology concurrence.

o Keep the options and the analysis at a general level in order to focus on the key "big picture" issues until a later stage of the process.

DESCRIPTION OF SELECTED INSTITUTIONAL OPTIONS

This analysis covers seven institutional options, including the status quo. The range of options covers lead roles for each of the major stakeholders: State, Local Government, Federal government, Ports, Private and New Institution (Coordinating Council and New Authority). The seven options analyzed include the following:

o Status Quo
1) State/Local government/Port lead
2) State/Local government/Private lead
3) Federal/State/Port/Local Government lead
4) Coordinating Council lead
5) New Authority lead
6) Federal lead

In addition to the seven options analyzed, two options that would entail the establishment of new institutions with authorities and responsibilities for all waste including contaminated dredged material are described but not analyzed. The two options are a Coordinating Council and a New Authority for all waste.

Figure 1 on the next page summarizes the list of institutional options and the assigned stakeholder functions. It is followed by descriptions of each option.

STAKEHOLDERS

CC - Coordinating council
F - Federal government
L - Local government
P - Ports
PE - Private enterprise
N - New authority
S - State government
OU - Owners, operators, users
A - All who do not have a designated lead responsibility
J - Joint responsibility federal, state, local
M - Mixed responsibility ports, local, private

	Planning/Regulation				Siting			Operation			Closure/ Post Closure		Advisory
	Coordinated Management Plan	Standards	Oversight Regulation	Liability Management	Site Selection	Construction	Permitting	Ownership/Operation	Monitoring	Rate Setting	Closure Plan	Liability	Involved in Advisory Role
Status Quo	*	*	*	*	*	*	*	*	*	*	*	*	*
Option 1 - State/Local/Ports	S	S	S	S	L	P	L	P	P	P	P	OU	A
Option 2 - State/Local/Private	L	S	S	S	L	PE	L	PE	PE	PE	PE	OU	A
Option 3 - Federal/State/Local	J	J	J	J	J	P	L	P	P	P	P	OU	A
Option 4 - Coordinating Council	CC	CC	CC	CC	CC	L	S	L	L	CC	CC	OU	A
Option 5 - New Authority	N	N	N	N	N	N	N	N	N	N	N	OU	A
Option 6 - Federal Lead	F	F	F	F	S	M	S	M	M	M	M	OU	A
Option 7 - Coordinating Council (All Wastes)	CC	CC	CC	CC	S	L	S	L	L	L	CC	OU	A
Option 8 - New Authority (All Wastes)	N	N	N	N	N	N	N	N	N	N	N	OU	A

* Function varies with disposal environment (See description in text)

Figure 1. Institutional options

STATUS QUO

Responsibilities in the existing system vary depending on the disposal environment (aquatic, nearshore or upland).

A **State agency**, the **Puget Sound Water Quality Authority** is responsible for contaminated sediments and dredging planning, although there currently is no requirement for a Coordinated Management Plan. Many elements of such a plan are required in the Puget Sound Water Quality Management Plan, but not all are funded.

A **State agency, the Department of Ecology** is responsible for the development of Confined Disposal Standards and will develop siting guidelines. Neither exist at this time but development is proceeding.

Oversight regulation is a complex mixture of **federal, state, and local government** responsibilities involving several different laws and regulations.

Liability management has not yet been addressed.

Site selection and construction are generally the responsibility of the **project proponent**, and site permitting is the responsibility of **local, state and/or federal governments.**

Ownership, operation and monitoring of disposal sites is generally the responsibility of the **project proponent** or, in the case of Corps dredging, the **local sponsor.** In the case of municipal landfills currently used for dredged material disposal, **local governments** and/or **private** enterprise are responsible.

Rate setting is currently applicable to municipal landfills only and **local governments** have that responsibility.

Closure is the responsibility of the **project proponent**, but closure plans are not consistently required.

Liability responsibilities have not been clearly defined. **All stakeholders** involved in the dredging, transport, and disposal of contaminated sediments have some liability responsibility.

OPTIONS 1 THROUGH 6: COMMON CHARACTERISTICS

In Options 1 through 6, **all** those involved in dredging, transport and disposal are responsible for liability as determined by the liability management plan.

Also, **all other stakeholders** not specifically identified for the tasks described for each option are involved in an advisory capacity.

Options 1, 2 and 3 do not require new legislative authority. Option 4, Coordinating Council, Option 5, New Authority and Option 6, Federal Lead will require new legislative authority.

OPTION 1 - STATE/LOCAL/PORTS

The **State** has the lead responsibility for developing the coordinated management plan, standards, oversight regulation and liability management.

Local government has the lead responsibility for site selection and permitting.

The **ports** have the lead responsibility for site construction; the operation of the facilities, including ownership/operation, monitoring and rate setting; and the closure plan for these facilities.

The most likely state and local agencies for lead responsibility are:

- **Puget Sound Water Quality Authority** - Coordinated Management Plan
- **Department of Ecology** - Standards, Oversight Regulation, Liability Management
- **Local Planning and Health Departments** - Site Selection and Permitting

OPTION 2 - STATE/LOCAL/PRIVATE

The **State** has the lead responsibility for standards, oversight regulation and liability management. Local government has the lead for the coordinated management plan, site selection and permitting.

The **private** sector has the lead for construction, ownership/operation, monitoring, rate setting and the closure plan for each facility.

The most likely state and local agencies for lead responsibility are:

- o A **regional planning agency** such as the PSCOG - Coordinated Management Plan
- o **Department of Ecology** - Standards, Oversight Regulation, Liability Management
- o **Local Planning and Health Departments** - Site Selection and Permitting

OPTION 3 - FEDERAL/STATE/PORT/LOCAL

A **federal/state/port/local entity** such as PSDDA shares joint responsibility for the coordinated management plan, standards, oversight regulation, liability management and site selection.

The **ports** have the lead responsibility for construction of sites; ownership/operation, monitoring and rate setting of particular sites; and the closure plan.

Local governments have the lead responsibility for permitting.

The most likely federal, state and local agencies for lead responsibility are:

- o **Corps, EPA, PSWQA, Ecology, DNR, PSCOG** - Coordinated Management Plan, Standards, Oversight Regulation, Liability Management, Site Selection

OPTION 4 - COORDINATING COUNCIL

A **Coordinating Council** is appointed by the State and would have representatives from each of the major categories of stakeholders. It has the lead responsibility for the coordinated management plan, standards, oversight regulation and liability management; site selection; rate setting, and the closure plan.

The **State and local governments** have lead responsibility for identifying and obtaining a network of multi-user sites with tasks as follows: the State is responsible for permitting, local government is responsible for construction, ownership/operation and monitoring for the sites.

The most likely state and local agencies to hold lead responsibilities are:

- o **Ecology** - Permitting
- o **Local Public Works/Health** - Ownership, Operation,

Monitoring and Construction

The Coordinating Council would have broad representation, including federal, state, and local government, tribes, users, environmental and other special interest groups, and the general public.

OPTION 5 - NEW AUTHORITY

A **New Authority** is created that has extensive powers to undertake almost all phases of contaminated dredged material disposal, from planning to ownership and operation of sites. A professional staff could provide the technical support necessary to conduct its activities. The New Authority could be an entirely new entity, or it could be an entity such as a new Port Authority.

The **Authority** has the lead responsibility for the coordinated mangement plan, standards, oversight regulation and liability management.

It is responsible for site selection, construction, permitting, ownership/operation, monitoring, rate setting and closure plan.

OPTION 6 - FEDERAL LEAD

A **federal agency** has lead responsibility for developing a coordinated management plan, establishing standards, oversight regulation and liability management.

The **State** has lead responsibility for site selection and permitting.

The **ports, local governments, and private enterprise** have responsibility for site ownership, operation and monitoring, site construction, rate setting and closure plans.

OPTION 7 - COORDINATING COUNCIL - ALL WASTE

This is an all-waste option that handles all types of waste, (e.g. solid waste, hazardous waste). A **Coordinating Council** would be formed with representatives from the stakeholders list for contaminated dredged material, as well as for the other types of waste.

The **Coordinating Council** would have lead responsibility for the coordinated management plan, standards, oversight regulation, liability management and the closure plan.

The **State and local government** have lead responsibility for implementing the siting portions of the plan. The State has responsibility for site selection and permitting for all contaminated waste. Local governments have responsibility for construction, ownership/operation, monitoring and rate setting.

OPTION 8 - NEW AUTHORITY - ALL WASTE

This is an all-waste option with a **New Authority** in charge of all functions for all types of contaminated waste.

A New Authority is created that has extensive powers to undertake almost all phases of contaminated waste disposal, from planning to ownership and operation of sites. A professional staff could provide the technical support necessary to conduct its activities.

The Authority would have the lead responsibility for the coordinated mangement plan, standards, oversight regulation and liability management.

It would be responsible for site selection, construction and permitting; ownership/operation, monitoring and rate setting; and the closure plan.

EVALUATION OF INSTITUTIONAL OPTIONS

APPROACH

The following institutional options are evaluated based on their ability to resolve the problems identified with the existing system:

- improve the capacity and possibilities for siting facilities for disposal of contaminated dredged material
- develop a coordinated management plan for dealing with contaminated dredged material disposal
- provide an environmentally sound means of disposing of contaminated dredged material
- dispose of material in the most cost-effective manner consistent with environmental and public health considerations
- involve more stakeholders in an active advisory capacity

Evaluation criteria reflect each of the problems and the overall implementation potential of the option.

The criteria and the factors considered in applying the criteria are described below.

CRITERIA FOR EVALUATING OPTIONS

The criteria used in the evaluation include the following:

Siting
- Authority
- Process
- Availability of Land
- Liability Management

Coordinated Management Plan
- Authority
- Coordination
- Staffing

Environmental Considerations
- Consistency

Cost Considerations
- Cost-Effectiveness
- Funding

Representation
- Involvement
- Equity

Implementation
- o Compatibility
- o Legal Authority
- o Political/Public Acceptability

Each of the evaluation criteria are described below.

Siting

The major problem has been identified as the inability to site confined disposal facilities. A major objective is therefore for the institutional option to have maximum potential for siting facilities. The potential to site facilities is extremely difficult in any part of the country today, but the potential for doing so may be enhanced by the inclusion of particular features described below.

The authority of an institution to site facilities is considered by some to be one of the most significant criteria in the ability of an institution to site facilities. The types of authority considered crucial range from state pre-emption of local land use, zoning ordinances and codes to authority to develop and establish siting criteria.

In some parts of the country, pre-emption of local land use and zoning codes is considered to be a necessity in order to site facilities. Widespread community opposition to the location of facilities for contaminated wastes has encouraged many communities to "zone out" these types of facilities. The issue of whether this is an effective tool or whether such pre-emption could even be implemented in this region is debatable. Recognizing that while it has been used elsewhere in the country, its feasibility and desirability in this region would have to be closely scrutinized.

An institution may also enhance its siting capability through the authority to develop and establish siting criteria and standards. If these criteria are adopted by local communities, this could enhance the possibility of site locations in at least some suitable sites. It must be emphasized, however, that this is only a part of the necessary requirement. The other necessary part for siting is community acceptance which, as discussed below, may be the more important aspect of siting capability.

The community involvement process used in siting facilities is widely recognized locally and around the country as being the foremost factor in successfully siting waste facilities. The process considered to have the greatest chance of success is the negotiated siting process in which the number and size of mitigation measures are

negotiated with communities and reasonable compensations are agreed upon.

In order to overcome opposition and recognize the cost to the community, many agencies are now looking at innovative ways of making the facility location less detrimental by providing incentives to the community as mitigation measures. By involving host communities in the planning process from the beginning, they negotiate compensations of varying types. Compensations may take the form of parks, environmental improvements, desirable facilities or monetary disbursements.

The ability to site a facility may also be affected by the availability of land as determined by ownership or the ability to make land available by particular institutions. For example, a state or federal agency that owns land may be in a more advantageous position than one that has to first acquire property.

A factor that has become significant in undertaking siting responsibilities is liability management. The short and long-term hazards involved in managing and disposing of contaminated dredged material are not fully known. Recognizing that most of those entities involved in dredged material management are liable to some extent, there is concern about the extent and duration of that liability. It is therefore becoming important to manage liability so that the responsibility can be equitably distributed among those considered liable and plans for assuming that liability can be prepared.

Coordinated Management Plan

In order to develop a coordinated management program, an institutional arrangement should include the potential to develop and implement or oversee the implementation of a management plan. Factors related to developing such a plan would include the elements described below.

A new institutional arrangement should be in a position to not only develop but also implement the plan. It will need the authority and appropriate relationships with implementing agencies in order to carry out the intent of the plan. Implementation authority may vary among institutions, with some having limited or indirect authority, while others might have full and direct authority over implementation actions. For example, the New Authority has full and direct authority while the other options do not.

Another factor influencing the effectiveness of the development and implementation of the coordinated management plan is the relationship with agencies. Institutions may

have a track record of either good or poor relationships with implementing agencies and this record can affect their ability to obtain the necessary cooperation to effectively develop and implement a plan.

Coordination is a key factor in successfully developing and implementing a coordinated management plan. An institution charged with the responsibility to develop a coordinated management plan should be able to adequately coordinate the activities of the agencies within its service area. Stakeholders and the community being served want to be assured that the institutional arrangement provides maximum understanding of and interest in the entire geographic area to be served. For this reason, institutions accountable to or historically representing only portions of the population smaller than the area to be served by the institution could be perceived to be at a disadvantage.

Some institutional arrangements may have more credibility with stakeholders in getting a plan accepted and implemented. Some agencies have already set credibility track records of working with communities, and these can influence their future effectiveness.

Any institutional arrangement should be structured so that it is able to develop a coordinated management plan through proper staffing. This would include having the ability to hire and retain qualified staff. Some institutions have historically attracted competent staff and been able to retain them, while others have not been able to do so.

Environmental Considerations

The term "environmental considerations" is used here to refer to consistency in implementation of environmental standards across the area to be served in order to achieve environmental and public health protection.

This criterion refers to the consistent establishment and enforcement of environmental standards across the State or region and in all three disposal environments.

Some institutional arrangements are better suited to local implementation than to regional or statewide implementation. For example, a local government is not typically the best suited agency for implementing a statewide program.

The institutional arrangements are also evaluated in light of their ability to handle disposal in the three different environments: upland, nearshore and aquatic. Some

institutional options have definite advantages through experience, location or authority in one or another environment.

Cost Considerations

The cost of setting up the institutional arrangements will vary. Cost-effectiveness is a major factor, and it can be affected by centralization of services. A decentralized institutional arrangement could result in the duplication of services and subsequent increases in cost for functions such as oversight regulation, standards, coordinated management planning and liability management.

Other factors affecting cost-effectiveness include the fact that newly created insititutions are likely to cost more to start up than pre-existing institutions. Some institutions have a historical record of being cost-conscious while others may not be perceived as being so. Some institutions have an inherently built-in high overhead cost that is automatically transferred to all programs while others may not have high overhead costs. The private sector is often perceived to operate and manage these types of services more cost-effectively than the public sector.

Another important consideration is the ability of an institutional arrangement to obtain funding for its own planning, operation and capital facililities. Bonding authority may be required for capital investments; authority to charge user fees may be important; and access to grants to fund some of the activiites could play a significant role.

Representation

Another factor in assessing the potential of institutional options to meet the objectives is its actual or perceived representation through the involvement of stakeholders and the public in major decisions. The institutional arrangement should have, and the public should perceive the institutional arrangement as representing or having the potential for representing the entire region and diverse stakeholder interests. Institutions that have a historical record of either good or poor representation capability. That record could influence their credibility and ability to effectively manage the disposal of dredged material.

Equity is another important factor to be considered in deciding among institutions. Stakeholders want to be assured that costs and services are equitably distributed and that their needs are being adequately met. Due to the

varying distances between users and disposal sites, transportation costs could be significantly more for some than for others. Services among various facilities may not be the same, and users will want to be assured that the institution in charge is aware of and responsive to those variations.

Implementation

Implementation refers to the ease with which particular institutional options may be implemented. Some institutional arrangements could be more easily implemented than others which might require legislative or other changes and greater amounts of funding and staffing. Some of them may require so many and/or difficult changes that implemention would not only be delayed, but might be questionable.

A factor influencing the ability of institutions to meet objectives is compatibility with the existing administrative framework and programs. When responsibilities are shifted from one agency to another, the changes often involve a period of disruptive functioning making implementation more difficult, at least initially.

A new institutional arrangement for handling dredged material would have fewer problems becoming established if it was compatible with the existing administrative framework and programs than if it resulted in a complete change from the existing arrangement. An incompatible system could result in inefficiencies, power struggles and significant down time in sorting out roles with agencies previously responsible for particular tasks.

Another factor affecting the ease of implementation is the legal authority and ability to effect necessary legal changes. Some institutional arrangements will require legal changes in order to take on new responsibilities, while others currently operate under legal authority to perform some of the functions and provide additional services. If they already have the legal authority, it is assumed that it will be easier to implement the particular institutional option.

Political/public acceptability is another factor that could enhance the ability of an institutional option to become a reality. While some institutional arrangements may have greater potential for performing the functions expected, they may be politically or publicly unpopular, and therefore difficult, if not impossible, to put into effect.

For example, the creation of a new institution may have several advantages in accomplishing the tasks necessary for proper dredged material disposal, but creating new

institutions instead of working within already existing administrative departments and programs is not usually looked upon favorably.

ANALYSIS OF INSTITUTIONAL OPTIONS

The analysis of institutional options is conducted considering the advantages and disadvantages of each institutional option with respect to meeting the criteria.

In addition, an example numerical scoring system is presented.

The evaluation of institutional options includes a significant amount of judgment and it should be recognized that the opinions presented in this report are only that. An important aspect of implementation of any institutional option will be arrival at a consensus by the stakeholders. The evaluation presented in this report is intended as a starting point for arriving at such a consensus.

In evaluating the options, some general assumptions were as follows:

- The status quo is evaluated on the basis of the current situation rather than its potential. For example, the siting process could be enhanced, a coordinated management plan could be required by the Puget Sound Water Quality Authority and/or developed by Ecology and siting guidelines could and probably will be developed.

- A coordinated management plan could be developed in all options so evaluation is based on the likelihood of successful development and implementation.

- A mechanism for ensuring a consistent and predictable flow of waste to each established disposal site is necessary in order to ensure a steady stream of revenue to pay for capital investments. Such legal authority would be useful for all institutional options and there is not a significant difference in the ability among options to get State authorization for flow control instituted.

The evaluation is conducted only for Options 1 through 6. Full evaluation of Options 7 and 8, the all-waste options was beyond the scope of this project.

ADVANTAGES AND DISADVANTAGES OF OPTIONS

The evaluation of options was conducted for the status quo and Options 1 through 6.

STATUS QUO

ADVANTAGES

Siting

- The system is in place and has the potential for improvement without the potential disruption posed by a new arrangement.

- The PSWQA has an existing coordinating responsibility.

DISADVANTAGES

Siting

- Siting of solid waste facilities is difficult mostly due to public and environmental group concerns. Siting guidelines will be developed but do not currently exist, and confined disposal standards are presently being developed.

Coordinated Management Plan

- A coordinated dredging management plan does not exist and there currently is no designated entity to develop one. The Puget Sound Water Quality Management Plan contains many of the elements of such a proposed plan, but falls short of some required elements and is not fully funded.

- A liability management plan does not exist.

Cost Considerations

- Although dredged material is defined as a solid waste, sites are not consistently permitted, there is inconsistent regulatory oversight of disposal, and little centralized support.

- Currently planned functions are not adequately funded.

Representation

- Major stakeholders are highly involved but intermediate and small stakeholders are not involved.

OPTIONS 1-6

Certain advantages and disadvantages apply to all of the options. These are listed below.

ADVANTAGES

Siting
- o Development of siting guidelines and a liability management plan would improve the siting process.

Coordinated Management Plan
- o A Coordinated Management Plan would be developed and have a reasonable chance for successful implementation.

Cost Considerations
- o Funding of the program is more likely because of the coordinated effort among the various agencies.

DISADVANTAGES

Siting
- o Although there are some improvements in siting, an effective siting process that involves the concerned public is not ensured.

Representation
- o Adequate representation of all stakeholders is not ensured.

OPTION 1 - STATE/LOCAL/PORTS

ADVANTAGES

Siting
- o Siting may also be improved for aquatic and nearshore sites due to the role assigned the ports in site ownership. Site placement in the more industrialized areas owned by the ports may be more publicly acceptable.

Environmental Considerations
- o Environmental consistency would be improved due to the development and implementation of siting guidelines and disposal standards and the broad geographic coverage of the three major stakeholders.

Implementation
- o The option is fairly compatible with the existing system and therefore easily implemented.

DISADVANTAGES

Coordinated Management Plan, Environmental Considerations and Cost Considerations

- The major disadvantage is the lack of strong role for the federal government, specifically the Corps and EPA. This could have a negative impact on funding, cost effectiveness, environmental consistency and development of a Coordinated Management Plan.

Implementation

- The three major entities have other responsibilities that could divert the focus from contaminated dredged material management and disposal.

Representation

- A key stakeholder, the federal government and a potential stakeholder, the private sector, do not have significant roles.

OPTION 2 - STATE/LOCAL/PRIVATE

ADVANTAGES

Siting

- The private sector may own land that could be made available for disposal sites.

Environmental Considerations

- Environmental consistency would be improved due to the development and implementation of siting guidelines, disposal standards and the broad geographic coverage of the three major stakeholders.

Cost Considerations

- The private sector may be more cost effective in developing and operating sites.

Implementation

- The option is fairly compatible with the existing system and therefore easily implemented.

DISADVANTAGES

Siting

- Exclusion of a strong role for the ports will have a negative impact on the availability of sites, especially in nearshore areas.

Coordinated Management Plan

- o A major disadvantage is the lack of a strong role for the federal government, specifically the Corps and EPA, and the ports. This could have a negative impact on funding, cost-effectiveness, environmental consistency and development of a coordinated management plan.

Representation
- o Two key stakeholders the federal government and the ports do not have significant roles.

Implementation
- o The enitities involved have other responsibilities in addition to dredged material and may not maintain a focus on this issue.

OPTION 3 - FEDERAL/STATE/PORT/LOCAL

ADVANTAGES

Siting
- o Siting may be improved because of the coordinated role assigned the four entities in site selection.

Environmental Considerations
- o Environmental consistency would be improved due to the development and implementation of siting guidelines and disposal standards and the broad geographic coverage of the four major entities.

Cost Considerations
- o Funding is more likely beause of the more coordinated effort and the inclusion of the federal government.

- o Services would be centralized.

Representation
- o All major stakeholders have key roles which will improve coordination, funding, etc.

Implementation
- o The option is fairly compatible with the existing system and therefore easily implemented.

- o The PSDDA-type of arrangement has been successfully used in establishing open-water unconfined disposal sites.

DISADVANTAGES

Implementation
- o It may lack the focus and authority of an entity established specifically for dredged material management.

OPTION 4 - COORDINATING COUNCIL

ADVANTAGES

Siting
- o Siting may also be improved because of the role assigned the council in site selection which is improved by the centralized site selection function.

Coordinated Management Plan
- o Development of a Coordinated Management Plan is facilitated due to involvement of key stakeholders.

Environmental Considerations
- o Environmental consistency would be improved because of the development and implementation of siting guidelines and disposal standards and the broad geographic coverage of the major stakeholders.

Cost Considerations
- o Centralized rate setting should improve equity and flow control.

- o Centralized permitting by the state may be cost effective.

Representation
- o There would be maximum stakeholder involvement in all functions.

- o Stakeholder representation is increased, thereby ensuring greater equity.

Implementation
- o There would be an exclusive focus on dredge management and disposal.

DISADVANTAGES

Representation
- o Ports and the private sector do not have a role in site construction, ownership and operation.

Implementation
- o It is significantly different from the Status Quo, which could make implementation difficult.

- o Obtaining approval for a state level coordinating council may take legislative action to approve the structure and functions.

OPTION 5 - NEW AUTHORITY

ADVANTAGES

Siting
- o Siting may also be improved because of the role assigned the Authority in site selection.

- o Centralized siting authority may enhance the ability to establish sites.

Coordinated Management Plan
- o Development and implementation of a coordinated management plan is assured due to specific responsibility and authority.

Environmental Considerations
- o Environmental consistency would be improved because of the development and implementation of siting guidelines and disposal standards and the broad geographic coverage of the major stakeholders represented by the authority.

Representation
- o Representation is improved because the option is designed to include key stakeholders.

Implementation
- o There would be an exclusive focus and clear authority with respect to dredged material management.

DISADVANTAGES

Cost Considerations
- o Creating a new authority would cost more and funding would be problematic.

Implementation
- o Political and public acceptability would be difficult.

- o It would not be compatible with the existing system.

- Leglislative action would be required to establish a New Authority.

OPTION 6 - FEDERAL LEAD

ADVANTAGES

Siting
- Siting ability may be improved because of possible use of federal land for sites.

Cost Considerations
- Funding is more likely because of the federal role.

Implementation
- Some federal agencies (i.e. the Corps) have existing expertise and administrative structures for dealing with dredged material.

DISADVANTAGES

Cost Considerations
- Congressionally-approved funding may be required.

Environmental Considerations
- Federal oversight regulation may not ensure consistent implementation.

Representation
- The federal government may not be perceived as representing local stakeholder interests because of their actual or perceived remoteness from local issues.

Implementation
- It is not compatible with the existing system.
- There would be difficulty with political/public acceptance.
- The entities included in this option have other responsibilities, and maintaining a focus on dredged material management may be difficult.
- Special congressional authorization may be required for a federal agency to take over these functions.

NUMERICAL SCORING SYSTEM

The next step in arriving at a decision on institutional options is for Ecology to take the conclusions and recommendations contained in this report to the public for review. In addition to the evaluation of institutional options based on an analysis of advantages and disadvantages, a numerical scoring system could also be used. An example of such a scoring system is presented as the Option Evaluation Chart on the next page.

The chart presents the options on the vertical axis, the criteria on the horizontal axis and the score on a scale of 1-10. The score represents the potential of each option to address each criterion. The higher the score the better the institutional option.

The scoring system could be developed further by assigning weights to each of the criteria. The weights would then be multiplied by the scores to provide a total score for each option, thereby highlighting the numerical differences among options.

OPTION EVALUATION CHART*

	SITING . authority . process . land . liability management	COORDINATED PLAN . authority . coordination . staffing	ENVIRONMENT CONSIDERATIONS . consistency	COST CONSIDERATIONS . cost effectiveness . funding	REPRESENTATION . involvement . equity	IMPLEMENTATION . compatability . authority . political/public acceptance
STATUS QUO	1	3	2	2	2	8
#1 STATE/LOCAL/PORT	2	6	5	6	3	7
#2 STATE/LOCAL/PRIVATE	2	5	3	6	3	8
#3 FED/STATE/PORT/LOCAL	3	9	7	8	7	9
#4 COORDINATING COUNCIL/ STATE/LOCAL	4	7	8	6	8	5
#5 NEW AUTHORITY	5	8	9	7	9	4
#6 FEDERAL LEAD	2	4	5	4	2	2

* Scored on a scale of 1-10; the higher the score, the better the option.

CONCLUSION

The major conclusions from the study are as follows:

- The most significant problems identified with the existing institutional arrangement in order of priority are:

1) Lack of capacity and increasing difficulty in siting facilities for solid waste and contaminated dredged material;
2) Lack of a coordinated management plan for dealing with contaminated dredged material;
3) Lack of assurance regarding the consistency and standards for disposing of dredged material in an environmentally sound manner (until standards are adopted);
4) Lack of assurance that the current method of disposal results in the most cost-effective means of disposal; and
5) Inadequate involvement by some stakeholders in disposal planning and decision-making.

- The highest priority problem is the inability to site disposal facilities to ensure long term disposal capacity. This problem is due in large part to citizen opposition to sites in their neighborhoods and a distrust of government agencies in ensuring that citizen interests are adequately protected. A new institutional arrangement would not necessarily resolve this problem. A more effective siting process, public education on the issues, and trust building, and authority are required regardless of the institutional arrangement.

- A Coordinated Management Plan is also a need that could be met regardless of the institutional option. Many elements of such a plan already exist in the Puget Sound Water Quality Management Plan.

- Enhanced funding is necessary regardless of the option implemented. Effective involvement of all stakeholders is necessary for the successful implementation of any institutional option.

- Some mechanisms of ensuring a predictable revenue flow such as flow control, pre-purchase of disposal capacity or government subsidies may be necessary regardless of the institutional option selected.

- Although the Status Quo or existing system has many disadvantages some improvements are under way and more could be added. An enhanced Status Quo may be a viable alternative.

- Of the options analyzed, an inter-agency combination has the most advantages. Option 3, a PSDDA-type of structure appears to be the most promising option for a new institutional arrangement. This option has the potential for a coordinated effort by the major stakeholders without the disruption and time delays inherent in the establishment of a totally new institution such as the New Authority option. In addition PSSDA is working on establishing an open-water unconfined disposal program. However, a PSDDA-like option would lack the advantages of a more focused, centrally-controlled option. It would require stakeholder buy-in and a strong regulatory oversight function for success.

- The Ports and DNR should be key stakeholders in any selected institutional option because sites in industrialized port areas and aquatic areas have the greatest chance for successful implementation.

- Institutional options that vary with the disposal environment and by geographic area of the Sound should be considered, but only in conjunction with a centralized support and oversight structure.

- Prior to implementing the Coordinating Council or New Authority options consideration should be given to expanding their roles to cover all wastes. An evaluation of the all-waste options is beyond the scope of this report.

- Identification of the problems with the existing system and selection and evaluation of institutional options is highly judgemental, and successful implementation of any institutional option will require the involvement of the stakeholders in selecting the option. This report should be used only as a basis for receiving broad input on institutional issues prior to Ecology's recommendation for implementation.

RECOMMENDATIONS

Based on the conclusions outlined above, the recommendations are as follows.

After Ecology's comments on this report have been integrated into the overall draft report, it is recommended that this report be used as the basis for a consensus building process to select an appropriate institutional arrangement for possible implementation of a multi-user site program. It is recommended that consensus building occur in two steps:

1) Consensus building with a group such as the Agency Forum for Sediment Issues but with broader stakeholder representation, and

2) Presentation to major stakeholder decision-makers e.g., local government councils, tribes, environmental groups and the general public.

It is recommended that consensus building on institutional options be part of an overall process of consensus building on the utility and viability of a muli-user site program.

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APPENDIX A

FERNANDES ASSOCIATES 4/5/89

SURVEY FORM FOR OBTAINING/ORGANIZING INSTITUTIONAL SYSTEMS INFORMATION

Contact Person:_____
Phone:_____
Title:_____
Agency:_____
Location:_____

1. PROJECT DESCRIPTION:

2. A. TYPE OF INSTITUTIONAL ARRANGEMENT IN PLACE

   B. REASONS ARRANGEMENT SELECTED

3. A. OTHER OPTIONS CONSIDERED

   B. REASONS OPTIONS REJECTED

4. A. EXISTING, RELEVANT LEGISLATIVE/REGULATORY FRAMEWORK

   B. CHANGES IF ANY TO ACCOMODATE THE INSTITUTIONAL ARRANGEMENT CURRENTLY IN PLACE

   C. REASONS CHANGES NECESSARY

5. HANDLING OF LIABILITY ISSUES

6. A. FUNDING MECHANISMS CONSIDERED

   B. REASONS FOR SELECTING OR REJECTING THEM?

7. SITING PLANNING PROCESS USED OR PROPOSED

8. USERS OF FACILITY/IES?

9. KEY ISSUES AND OBSTACLES ENCOUNTERED OR ANTICIPATED

10. ARE THERE ANY RECOMMENDATIONS FOR ENTITIES SUCH AS OURS IN MOVING THROUGH A PROCESS SUCH AS THIS ONE?

APPENDIX B

SUMMARIES OF NATIONAL EXAMPLES

1) DELAWARE SOLID WASTE AUTHORITY

The Delaware Solid Waste Authority (DSWA) was established in 1975 to handle municipal solid waste. They do not specifically handle dredged or other contaminated wastes although they are being asked to do so. There have been repeated requests for the DSWA to handle other wastes but they are reluctant to do so. DWSA is governed by a Board of Directors of seven members who are not paid any remuneration except for their travel expenses to attend meetings. The seven members are citizens appointed by the Governor with the advice and consent of the State Senate. Each of the three counties in the State and the City of Wilmington are represented on the Board, as are political parties.

The Board appoints the General Manager who also serves as the Chief Executive of the Authority. The staff are selected by the General Manager and are not state employees.

The DSWA is an independent Authority of the State with sufficient powers to float its own tax exempt bonds without the approval of the State's General Assembly.

The State provided seed money to get DSWA started and $200,000 each year for the first five years with the understanding that DSWA was to have a revenue producing project within five years.

The DSWA is charged with the responsibility for long range statewide planning for disposal of solid waste; maximizing resource recovery and minimizing landfilling; using private industry to the maximum extent practicable; implementing solid waste disposal and resource recovery systems and facilities and management services throughout the state.

They were given the authority to conduct the following activities:

- o design, construct, own and operate facilities
- o obtain access to public records and subpoena those if necessary
- o charge fees for services
- o determine the location and character of any project subject to the state solid waste management plan guidelines

- o sell or lease all or portion of any project
- o acquire, including by condemnation, manage and operate, hold and dispose of real property
- o make plans, surveys, studies and investigations to carry out its functions
- o make short and long range plans
- o control the collection, transportation, storage and disposal of solid waste
- o let contracts

Since 1980, three new facilities have been constructed. The State processes nearly 70% of is waste and sludge to recover materials for recycling and claims to have one of the highest recovery rates per capita of recyclables than any other state. Its costs have been kept to a minimum. The most urbanized area charges $23 per year in disposal fees to residents; collection and transportation costs vary depending on the distance from the disposal facility.

Delaware claims to be the only state where a "user fee" system pays for the disposal service without any subsidies.

The Board adopted several policies without which the operation of the Authority would be difficult if not impossible. These policies included:

- o There would be no export or import of waste to or from neighboring states.
- o Establishment of new landfills in each county before a resource recovery facility could be approved
- o Support for a free market for solid waste collection
- o Projection of fees one year in advance
- o Employment of private industry for all operation contracts and most services
- o Use of "most responsive" rather than "lowest bid" criterion in evaluating proposals
- o Utilization of appropriate technology

2) MARYLAND PORT AUTHORITY

The Maryland Port Authority is responsible for handling the disposal of contaminated and uncontaminated dredged material in the Central Chesapeake Bay region of Maryland.

The institutional arrangement in the State of Maryland includes the State with the lead for finding suitable sites and three different entities with operation and management responsibilities in different geographic areas of Chesapeake Bay.

In the northern part of the Bay, the Philadelphia District of the Corps of Engineers has responsibility for maintaining dredging and disposal of dredged material. The southern section is managed by the Virginia District of the Corps of Engineers. In the central part of the Bay, the Maryland Port Administration is responsible for designating sites, operation and management of sites.

In addition to these three institutional arrangements, the State Department of Natural Resources handles classified small projects such as creeks. They handle material that is not contaminated and does not require special disposal.

The primary user is the Federal government which dredges for maintaining channels. In addition, private users such as Bethlehem Steel use the facility.

The State designates sites for major shipping channel dredging and disposal. The Corps of Engineers pays for maintenance dredging while Federal Law requires local entities to engage in cost-sharing for new work.

The significant aspect of the Maryland Port Authority management system is the political process used for siting which is a collaborative siting process with active citizen participation. Liability is assumed by the state.

The major problem encountered is competition between neighboring states for material because there is no flow control. Dredge disposal can be provided at less expense and with lower labor costs in the neighboring states, taking away potential customers and revenue.

3) GREAT LAKES, DETROIT DISTRICT, CORPS OF ENGINEERS

The Corps of Engineers of the Great Lakes District handle contaminated and uncontaminated dredged material. The current institutional arrangement in place since 1970, sets up the Corps to act as the prime sponsor, and the State of Michigan Department of Natural Resources as the local sponsor.

In 1970 when Congress passed PL 91.611, it funded and authorized the Corps to construct disposal facilities for contained dredged material. Presently there are 18-19 sites under this authority managed by the Corps, of which 4-5 of the sites are full. The facilities were designed to handle ten years of dredged material with construction of the 18-19 sites staggered over a 15-18 year period.

The Corps operates the sites until they reach capacity at which point they take responsibility for site-specific closure measures and turn the sites over to the local sponsor for post-closure maintenance.

Between 1950 and 1970, the institutional arrangement was based on a "Project by Authority" system for individual sites when the first dredged material disposal site was established for containment of annual river dredging. This system entailed separate congressional authority for approval of projects by the Corps. The terms of agreement could vary by project and by harbor.

It is anticipated that when the existing facilities become full, the State will revert to the "Project by Authority" system for individual sites since funding is no longer available for the Corps to undertake the prime responsibility. It is assumed that local sponsors will take on the major responsibility.

The Michigan Corps anticipates that the State Department of Natural Resources to take over the prime responsibilty for disposal of dredged material. There are concerns about being able to site facilities and obtaining sufficient funding to meet necessary disposal requirements. It is anticipated howevever, that the lead for siting facilities, ownership and operation will be handled by local units of government or the port authority.

The State Department of Natural Resources is the local sponsor and handles liability.

The funding mechanism is Federal funding with local participation. The Federal Law required the Corps to obtain a local sponsor to provide certain items such as land and other contributions.

In addition, they were expected to make a 25% cash contribution to construction. The construciton fee was waived when there was a local plan for a pollution abatement program for waterways in the Detroit District of the Corps.

In attempting to site a facility, the host community is presented with environmental benefits to compensate for the perceived or actual loss due to the location of a facility in their vicinity.

They operate one site that was developed primarily for the Corps' maintenance dredging projects. Of the total amount of material dredged, 50-60% is considered contaminated and requires confined disposal.

Other users include local governments and the private sector who are charged to dispose of material in the facilities.

The local government and private sector produces approximately 5-10% of the total amount of material dredged per year.

Funding by the State is expected to be more difficult when the State takes over prime responsibility.

4) CONNECTICUT RESOURCE RECOVERY AUTHORITY - SOLID WASTE

The State of Connecticut Resource Recovery Authority (CRRA) and the State Department of Environmental Protection share responsibility for management and disposal of solid waste. The State is responsible for planning, reviewing local plans, regulation, enforcement and permits. The CRRA is the implementing agency.

The CRRA is not an agency of the State but a non-profit, quasi-public agency created in 1973. It does not receive any funds from the State's general fund. It is funded out of fees collected for services provided, operating on a "break-even" basis. It is responsible for providing solid waste management services to the State including reducing the volumes produced, collection, processing and disposal. It typically contracts with the private sector to operate facilities.

These services are provided at the request of the municipalities that contract with CRRA and operate under a "put-or-pay" agreement. Municipalities are responsible for providing safe disposal within their boundaries as long as the waste is not toxic or hazardous or send it outside their boundaries to a permitted facility.

There are very few municipally operated facilities today. Most are operated by the private sector and even these are difficult to find. The State is therefore in a crisis situation in finding suitable disposal sites.

The CRRA focuses on energy resource recovery facilities that generate electricity that is sold to local utilities. The CRRA is governed by a Board made up of 15-16 members representing various State agencies and specific projects.

Most generators have little choice as to where they will put their material and therefore flow control has not been considered necessary. The "put-or-pay" contracts have provided sufficient guarantee of the flow of material to particular facilities.

Liability is handled by CRRA through insurance coverage and tip fees although it was not a major concern when CRRA was created in 1973.

CRRA is able to sell bonds as representatives of the municipalities and obtain a low interest. They have been able to obtain double and triple "A" rated bonds and obtain certain tax-exempt priviledges. Capital projects are financed through bonds while tip fees pay off the bonds and cover operation and maintenance costs. If a facility is built, all the development costs are recovered in tip fees.

Almost every one of CRRA's projects have been contracted out to the private sector to design, build and operate facilities except for one plant at Hartford.

CRRA and the State see incentives to host communities as the best way to minimize opposition and site facilites. They suggest that benefits to host communities can minimize, but not eliminate the opposition.

The users are primarily the municipalities that have contracted for solid waste management and disposal service through CRRA. The private sector takes its waste to the municipalities which in turn take it to CRRA facilities. Most of the contracts are "put-or-pay" contracts that require the disposal of certain amounts of waste per year and are committed to paying CRRA for that amount regardless of whether the amount was delivered to the facility. This type of contract guarantees CRRA certain amounts of waste with which it can plan and invest in capital facilities.

Finding sites that meet environmental requirements, getting community support, and local planning and zoning restrictions are major problems encountered. No more than two sites have been established in the last 10-12 years.

5) CONNECTICUT HAZARDOUS WASTE MANAGEMENT SERVICE AND SITING COUNCIL

The Connectitcut Hazardous Waste Management Service (CHWMS) was created by the State to handle management of hazardous material, but not dredged material. The State Department of Environmental Protection is responsible for permits and regulation. The Connecticut Siting Council (CSC) is responsible for siting low level and hazardous waste management facilities. Approval of sites is obtained by application to the State Siting Council, a separate state agency with a chairperson appointed by the Governor. The Council has five members appointed by the Governor and Senate.

The CHWMS created the Connecticut Siting Council (CSC) in 1971 hoping it would be able to site hazardous waste facilities. The CHWMS surveyed the whole State and solicited bids for owning and operating facilities. The intention was for CHWMS to delegate the responsibility for ownership and operation to another entity and then to step aside. The statewide survey found that there was not enough hazardous material to make it economicallly feasible to establish landfills specifically for hazardous waste.

CSC is funded primarily by an annual assessment of electric utilities and a small appropriation from the State General Fund for hazardous waste. In addition, all applicants pay fees. Liability is handled by the owner/operator of facilities.

The Connecticut Siting Council (CSC) is a separate agency of the State that has the authority to pre-empt local zoning and render decisions that will override any appeal to local zoning.

The CSC is responsible for siting power plants, transmission lines, low level and hazardous waste management facilities. It makes a determination of need for sites and reviews the environmental impacts of the proposal.

In siting telecommunications towers, applicants are required to apply with joint applications for adjacent areas so that decisions can be made on a regional basis rather than on a case-by-case basis when the cumulative effects cannot be estimated.

The criteria used by the CSC are 1) public need and 2) environmental impacts.

The public views the CSC with hostility. The defense of sites has been extremely difficult because of particular demographic characteristics of the Connecticut population.

While CSC would consider compensation to host communities with suitable sites, they think the public view it negatively as a means of buying them off and are not convinced of its effectiveness.

They recommend early and extensive public involvement and active review of all proposals by local governments responsible for land use decisions affecting particular projects.

6) RHODE ISLAND WASTE MANAGEMENT BOARD

The Rhode Island Waste Management Board (RIWMB) was established in 1970 and is a quasi-state entity charged with handling solid waste but not hazardous waste. They accept special wastes such as sewage sludge or dredge material on occasion provided it is not contaminated.

The Board is made up of 9 representatives, 6 of whom are appointed by the Governor and 3 by the Legislature and who are public officials. It is regulated by the State Department of Environmental Management.

It currently owns and operates one 610-acre site of which 154 acres are licensed for disposal with the rest held as buffer area or for cover. This site was established in 1955 and purchased by RIWMB in 1980.

In 1974 environmentalists and legislators joined together to address the problems of rapid depletion of landfill space and developed options for dealing with the problem on a long-term basis.

As a result of those discussions, the Solid Waste Management Corporation was formed which was governed by the RIWMB. Other institutional options considered included a Corporation that would be a division or department of the regulatory agency.

Under federal law the Solid Waste Management Board assumes liability although generators also are liable. However, liability was not a major issue when the Board was established in 1974.

When the site was purchased in 1980, the RIWMB went through a private placement of bonds in the amount of $10 million. They have bonding authority that is separate and distinct from that of the State. Tip fees cover most of the operation and maintenance which amount to $30-40 million a year.

Their plan for obtaining local community acceptance is to use a "host community agreement" which would include incentives for the community for accepting a site in their vicinity.

The users are all generators of waste. Rhode Island has flow control legislation which specifies the disposal sites for waste. All waste generators are controlled by that legislation and are required to deposit their waste at desginated sites.

They see flow control as an essential component of being able to properly manage and dispose of waste.

7) NEW YORK STATE SITING OF SOLID WASTE MANAGEMENT FACILITIES

The State is the regulator of local government operations, issuing or denying permits for solid waste management facilities and enforcing environmental laws. It also provides technical assistance, proposes legislative initiatives and encourages private investment.

Traditionally, local government has had prime responsibility for solid waste management. Currently, municipalities operate about 75% of the facilities and the private sector 25%. State law empowers towns, counties, villages and cities but does not mandate that they construct and operate facilities or provide collection services.

The Municipal governments have the primary responsibility for planning and operation of facilities; source separation and recycling programs. The State provides guidance and technical assistance for the development and implementation of local government plans and programs.

The siting process for a new landfill in New York is lengthy. The critical issue has been communities that "zone-out" landfills regardless of need or technical and environmental suitability.

One of the most difficult problems to overcome is the presence of local zoning and/or dumping ordinances.

In spite of incentives, community opposition was strong enough to prevent the siting of three landfills proposed by BFI, Inc.

In each of these cases, the siting proposal included incentives included monetary compensation to the host community; free disposal; fixed payments to the town in lieu of taxes; no disposal of hazardous waste; reserve of airspace for municipalities; and professional site monitor paid for by the company.

A major obstacle to siting facilities is that the State of New York does not have pre-emption authority or overriding provision over local land use restrictions.

The New York experience has prompted several observers to recommend that the State take the lead in finding sites and offering incentives to local communities with suitable sites. The question of whether the State of New York should amend its law to establish solid waste management siting boards with the ability to override local zoning is being asked. Some observers claim that the only resolution to the siting problem will be a statutory change and early and active involvement of the public in the siting process.