

PUBLIC MEETING ANNOUNCEMENT

LAVACA BAY NATURAL RESOURCE RESTORATION PROCESS

**November 5, 1998
6:00 PM**

**BAUER EXHIBIT BUILDING
CALHOUN COUNTY FAIRGROUNDS**

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As part of the continuing process to involve the public in the natural resource restoration process for Lavaca Bay, the natural resource trustees working on this site- the Texas General Land Office, the Texas Natural Resource Conservation Commission, the Texas Parks and Wildlife Department, the Department of the Interior's U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration- invite you to participate in the second public meeting. This meeting was originally scheduled for October 22, 1998, but was postponed due to the flooding in the area.

Topics to be presented at this meeting include:

- Superfund remediation vs. restoration of resources and services by trustees- detailed explanation
- Description of screening process for restoration alternatives- including regulatory criteria
- Summary of the previous meeting
- List of original projects and sites
- Revised list with suggestions from the public
- Initial screening process and results
- Status of quantification of ecological injuries- focusing on benthic injuries
- Status of quantification of recreational lost use
- Where do we go from here- an outline of future activities

MAILING LIST
Lavaca Bay Restoration

Don and Jane McCarn
206 S. Commerce St.
Port Lavaca, TX 77979

George H. Crain
1011 N. Ann St.
Port Lavaca, TX 77979

Elaine Giessel
353 Live Oak Dr.
Inez, TX 77968-3636

Fong-Ping Hwang
125 Timberline
Port Lavaca, TX 77979

Leroy Belk
Calhoun County Precinct
201 West Austin St.
Port Lavaca, TX 77979
512/552-9242

Jack Traylor
P.O. Box 91
Port Lavaca, TX 77979

J.C. Melcher, Jr.
Calhoun County Navigation District
P.O. Box Drawer 397
Point Comfort, TX 77978

Gary V. Cunningham
Broadway Shrimp & Oysters, Inc.
912 Broadway St.
P.O. Box 41
Port Lavaca, TX 77979

Thomas J. Blazek
City Manager
P.O. Box 105
202 N. Virginia
Port Lavaca, TX 77979

Chester Smith
Box 373
Port O'Conner, TX 77598

William S. Lawton
Route 3, Box I I 5A
Port Lavaca, TX 77979

Kathleen M. Woodring
744 CR 3091
Edna, TX 77957

Myrna I Guidry
No. I Las Brisas Brookhollow Est.
Port Lavaca, TX 77979

Van A. Boone
115 Matson St.
Port Lavaca, TX 77979

Tom Flores
207 Willowbend Dr.
Port Lavaca, TX 77979

Michael G. Lankford
2716 Blueberry Lane
Pasadena, TX 77502

**SUMMARY OF FEBRUARY 17, 1998
PUBLIC MEETING**

Thank you for your interest in the Natural Resource Damage Assessment (NRDA) process underway for the portion of Lavaca Bay near Alcoa's Point Comfort facility. Natural resource trustee agencies who are participating in the clean up and restoration of Lavaca Bay include the Texas Natural Resource Conservation Commission, the General Land Office, the Texas Parks and Wildlife Department, the U.S. Department of the Interior, represented by the US Fish and Wildlife Service, and the U.S. Department of Commerce, represented by the National Oceanic and Atmospheric Administration. We are sending out this summary of the meeting and a further description of the NRDA process. This summary is being sent to all attendees of the public meeting, held on February 17, 1998 to discuss NRDA and restoration, who indicated a desire to be put on the mailing list as well as anyone who later sent in comments.

There are currently two processes underway in the affected portion of Lavaca Bay: the Superfund process that will result in a clean up in the affected area and the NRDA process that will result in restoration of lost resources and services. A brief description of these processes follows:

How Clean Up and NRDA Differ

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) provides for the clean up of hazardous waste sites, including ones designated as Superfund sites. The goals of the clean up are to eliminate future risks to human health and the environment. The U.S. Environmental Protection Agency (EPA) and the Texas Natural Resource Conservation Commission (TNRCC) are the federal and state agencies that are overseeing the Superfund clean up process (also called "remediation") near Alcoa's Point Comfort facility. Clean up projects, also termed "remedies" or "remedial actions", will focus on where and how much clean up is necessary to protect human health and eliminate future risks to the environment. There are a number of criteria in CERCLA that EPA and TNRCC will use to evaluate the different remedial alternatives, and which will guide them in selecting the final remedy. The natural resource trustee agencies are providing technical assistance to EPA and TNRCC in the Superfund process.

A related but wholly separate part of CERCLA, is the NRDA process, which can also occur at Superfund sites and is conducted by the natural resource trustees. The NRDA process is separate and distinct from the clean up process, except that the remedy will affect the amount of restoration that is required to compensate for impacts from the releases of hazardous substances. In contrast to the primary goals of clean up (i.e., to eliminate ongoing risks and protect human health and the environment), the primary objective of NRDA is to address residual injury to natural resources (i.e., any injury that might be remaining after clean up has been accomplished- including past injuries). Restoring, replacing, or acquiring the equivalent (broadly termed "restoration") of the

natural resources that are injured achieves this objective.

The NRDA process has two specific objectives that are different from the remediation goals. The first NRDA objective is to restore natural resources and their services to the same level of function they would have had if the hazardous substance had not been released- this level is called "baseline". Baseline is not the same as pristine. It includes all influences except the release of the hazardous substance, including weather conditions, salinity variation, and human factors such as development and non-point pollution. The projects that restore resources and resource services to the baseline level are called **Primary Restoration** projects. The types and extent of primary restoration projects required are dependent on the remediation projects selected for the site. In some cases, the remediation projects may be sufficient such that no additional primary restoration projects are needed and natural recovery may be the best way to achieve baseline.

The second goal of the NRDA process is to compensate the public for the losses of natural resources and services until return to baseline. Trustees identify projects that will provide the same types and quality of services that were lost as a result of the hazardous substance release. For example, if recreational fishing services were affected, then projects that enhance fishing are appropriate. Restoration of losses of natural resources and services until return to baseline is called **Compensatory Restoration**. Compensatory restoration projects should be designed to be complementary to the clean up and any primary restoration projects also undertaken at a site. At the end of this document is a hypothetical example for one natural resource that demonstrates the process of developing and selecting restoration alternatives.

Restoration Planning Meeting Summary

The meeting at the Bauer Community Center held on February 17, 1998 was intended to provide a general introduction to the NRDA process, provide some initial insights on the NRDA process as it relates to Lavaca Bay, and to begin seeking public input on compensatory restoration alternatives. One of the key points that was made is that the trustees, in cooperation with Alcoa, have decided to take a different approach from that found in the regulations for NRDA under CERCLA. It is our intention to try to begin the process of restoration much earlier than is commonly achieved on other sites. Given this intention, the trustees felt that it was important to begin soliciting public input much earlier than is typically done at other sites.

The NRDA process underway in Lavaca Bay is focusing on natural resource services and how to restore them. The roles that the natural resource plays in the ecosystem and the opportunities that resources provide are natural resource services. For example, a marsh area provides food and habitat to fish and migratory waterfowl. In the NRDA process, trustees investigate how the release of a hazardous substance may affect food and habitat services provided by the marsh. The NRDA would also investigate how the hazardous substance may have affected human uses of the marsh resources.

The presentation focused on compensatory restoration for lost services provided by benthic, marsh, and oyster reef habitats, as well as for impairment in recreational fishing as a result of Alcoa's releases. Although final quantification of the amount of injury, and therefore the amount of needed restoration, is not possible prior to the selection of the remedial actions, it is possible to begin restoration of some of the lost services prior to final injury quantification. Examples of types of compensatory restoration projects for these service losses that meet the regulatory criteria for selection of restoration projects were presented at the meeting.

Summary of Question and Answers at Public Meeting

Several of the questions were related to the clean up of the affected portion of Lavaca Bay. It was unclear to some questioners why trustees were talking about restoration projects that could be located away from the Point Comfort facility, instead of clean up at the site. The answer is that there will be clean up at the site and that clean up actions will be selected according to the Superfund criteria, and that oversight of the clean up process is being done by EPA and TNRCC as the remedial agencies. However, in addition to a clean up of the contaminated portion of the bay, the public is owed restoration for service losses due to the releases of hazardous substances, and it is the trustees' responsibility to achieve the goal of compensating the public through restoration. The trustees are working with EPA and TNRCC so that the clean up and restoration processes do not conflict.

Another question was why trustees are thinking about doing restoration when the clean up of the contaminated portion of the bay has not been done. It was explained that compensatory restoration projects would not have to be located at the affected area. Restoration projects may be implemented in Lavaca Bay away from contaminated areas ahead of the final clean up so that the public receives the benefits of restoration as soon as possible.

There were suggestions that the trustees acquire existing wetlands rather than create new wetlands or enhance the function of existing wetlands. While acquisition of existing wetlands is one potential option, there are potential advantages in the NRDA process in creating or enhancing existing habitats over acquiring existing habitat. Existing wetland habitat, such as salt marsh, may be protected under existing laws from development. Purchase of this habitat would not necessarily provide to the public any additional services to offset those lost. Even if existing wetlands were purchased, destruction of marsh through development elsewhere could result in the public not receiving compensation for the losses incurred. Therefore, for these and other reasons, creation or enhancement of wetlands may be preferred, based on a more certain provision of additional resource services, over acquisition of wetlands. See the hypothetical injury example for a further discussion of acquisition vs. creation as restoration alternatives.

There were also questions concerning the NRDA process, and why injury quantification is

not completed. It was explained that the final quantification of injury, and determining the final restoration needs could not be done ahead of the clean up. It was also explained that much of the information that the trustees will use to develop injury estimates are coming from remedial investigations that are still underway. Additionally, final quantification is not possible ahead of the selection of the remedy. However, since the trustees now know the types of resources and services that were affected, it is possible to begin selecting the types of restoration projects that will compensate for injuries to those resources that have been affected.

There were questions related to possible restoration projects like fishing piers and why are these types of projects being considered by the trustees in addition to ecological projects. It was explained that the presence of the "closed" area in Lavaca Bay where people cannot catch and eat fish has resulted in some degree of lost service to the public. In order to compensate the public for this loss of service, the trustees are considering projects such as building fishing piers and boat ramps. However, ecological projects, such as marsh or* oyster reef creation could also provide benefits to the fishing public by supporting increased fish populations and providing new fishing spots. What types of projects will be selected will depend, to a large extent, on the input received from the public.

Summary of Written Comments

As of 15 May 1998, 19 individuals returned completed feedback forms and/or submitted letters following the meeting. Tables 1 and 2 summarize these comments, including those provided in letter form, regarding the both the types of and specific locations for different kinds of restoration projects. The comments received indicate that the most popular types of ecological restoration projects are the creation/enhancement of estuarine marsh habitat and the creation/enhancement of bird sanctuaries. In terms of locations for ecological projects, the wetlands adjacent to Alcoa and oyster/artificial reefs in Lavaca Bay were the most numerous choices in these comments.

Artificial reefs also dominate the types of preferred recreational projects. Improved parking lots received the second highest number of "votes" for projects to compensate for lost recreational services. The two "new sites" (i.e., the Port Lavaca Pavilion and the Bean Property) were most often selected as preferred locales for recreational projects,

Table 1
Public Feedback on Ecological Restoration Projects
(Based on 19 responses received as of 5/15/98)

Types of Ecological Restoration Projects	Frequency of Selection	Locations of Ecological Restoration Projects	Frequency of Selection
Creation/enhancement of estuarine marsh habitat	11	Wetlands adjacent to Alcoa	14
Creation/enhancement of bird sanctuaries	10	Oyster reefs and artificial reefs in Lavaca Bay	7
Creation/enhancement of freshwater marsh habitat	7	Cox Marsh	4
Creation/enhancement of oyster reefs	8	Sundown/Bird Island	3
Acquisition/protection of existing estuarine habitats	3	Swan Lake Marsh	2
Creation/enhancement of upland habitat	2	Whitmire Division of ANWR	2

Restoration of existing wetlands (near Alcoa)	I	Whitmire Property	2
Drag Lavaca Bay and remove toxic barrels/trash	I	Bean Property	3
		Menifee Flats	2
		Lavaca Bay (unspecified)	I
		West side of Lavaca Bay	I
		Port Bay Marsh	I
		Matagorda Island	I
		Big Chocolate Bayou	I
		Mouth of Lavaca/Navidad Rivers	I
		Redfish Lake	I
		Vanado Lakes	I
		Keller Bay	I
		Existing wetlands	I

Table 2
Public Feedback on Recreational Restoration Projects
(Based on 19 responses received as of 5/15/98)

Types of Recreational Restoration Projects	Frequency of Selection	Locations of Recreational Restoration Projects	Frequency of Selection
Artificial reefs	9	Port Lavaca Pavilion (new site)	8
Improved parking lots	5	Bean Property (new site)	5
Fishing piers	4	Six-Mile Boat Ramp	3
Boat launches	4	Harbor of Refuge	3
Improved fighting	2	Port O'Connor	3
Biking/jogging/walking path adjacent to Bay	2	Powderhorn Lake / Colomo Creek	3
Increased fishing releases	I	Indianola	4*
Wand fishing farm	I	Olivia	2
Fishing park	I	Fulghrum Lake	
More public access to wetland/birds (enhance existing Alcoa/Formosa walkway)	I	Keller's Creek	
Jetty extension (at Lighthouse Beach)	I	Lavaca Bay (unspecified)	
Nature trails around the Bay	I		

*Additionally, Commissioner Leroy Belk sponsored a signature effort regarding the opening of an existing private boat ramp at Indianola to the public. His submission contains more than 350 names identified as supporters of this proposal.

Restoration Alternative Development Example

To assist you in understanding the process that trustees go through in trying to achieve compensation for an injury to natural resources, we offer the following hypothetical example:

Assume that a release of a hazardous substance has impacted 10 acres of salt marsh, resulting in an

impairment of function of the marsh. The loss of marsh function could therefore result in a reduction in various service flows from those 10 acres to other natural resources. Examples of service reductions could include: providing poorer nesting habitat for birds than if unimpaired, serving as poorer nursery habitat to shrimp postlarvae and juvenile blue crabs than if unimpaired, and producing less food for estuarine fish and shellfish than if unimpaired. Further assume that some degree of clean up will be done through a remedial process.

The trustees will first consider what the effect of the clean up will have on the recovery of the marsh and its services to baseline- the condition that would exist if the hazardous substance had not impacted the marsh. If recovery to baseline will occur within a reasonable period of time without any additional human intervention, the trustees may select "no action" as a primary restoration alternative. Alternatively, assume that there are bare patches in the marsh that could be planted with appropriate marsh vegetation to speed recovery to baseline. It might be appropriate to select planting of these bare areas as a primary restoration alternative.

After selecting a primary restoration alternative, the trustees will next need to consider what actions are needed to provide compensatory restoration for past losses through the anticipated recovery to baseline. If past ecological service losses are determined by the trustees to be insignificant, then no compensatory restoration actions would be necessary. If, however, significant losses of ecological services resulted from the release of the hazardous substances, then the trustees would need to develop and scale compensatory restoration alternatives to evaluate. Typically, trustees try to estimate the injury to marsh and loss of services in terms of "acre-years" of lost ecological service. Then, for each possible restoration alternative, the size of the restoration project will be determined so that it provides the same number of acre-years of ecological service as that lost. Both the losses for the injured marsh and the gains from each restoration alternative are adjusted through a process called discounting, so that the losses and gains are all in terms of the current year. The effect of discounting is that a restoration project that is implemented two years from now would have to be larger than the same restoration project if implemented one year from now.

Various criteria, provided in the NRDA regulations, are used to evaluate and choose among the various restoration alternatives that are developed. Where possible, trustees normally select projects that most closely provide the types of services that were lost due to the release. Therefore trustees would normally select a marsh restoration alternative of some sort rather than an oyster reef restoration alternative to compensate for lost services from the hypothetical injured marsh. But, if no marsh projects are possible, or other factors weigh heavily in favor of it, oyster reef creation could be used to compensate for injured marsh because reefs provide many similar services to marshes. Both creation of a new marsh or enhancement of a degraded marsh could be used to provide new ecological service flows to compensate for those lost due to the hazardous substance release. In some circumstances, existing marsh could be acquired and protected from development to provide additional ecological service flows. In order to justify acquisition of existing marsh, however, the trustees would normally need to determine that the acquired marsh is likely to be developed if not protected, and that some other area of marsh would not be developed instead of the acquired marsh. If acquiring marsh would not result in a net "saving" of marsh and therefore saving marsh services that would otherwise be lost, then acquisition would not normally be appropriate to compensate for lost ecological service flows from the injured marsh.

Future Opportunities for Public Participation

The public will have numerous chances to provide input on the NRDA process to the trustees. We anticipate holding additional public meetings, as well as putting out a draft restoration plan for public review and comment. The draft plan will present various compensatory restoration alternatives that are being considered by the trustees, as well as further describing the NRDA process. We anticipate that the draft restoration plan will be available later this calendar year. At any time, written suggestions can be submitted to the trustees by mailing them to Dr. Peter F. Sheridan at:

NOAA, National Marine Fisheries Service
4700 Avenue U -
Galveston TX 77551-5997

Additionally, there are monthly meetings in which the clean up and sometimes NRDA processes are discussed (Citizens Advisory Panel to Alcoa or CAPA). If you are interested in learning more about the CAPA meetings, please contact Ms. Diane Sheridan at 1-800-484-9212, ext. 4127.

Once again, thank you for your interest in the NRDA process underway for the Point

Comfort site. You will be receiving notice of upcoming meetings and will receive any additional mailings. If you are not interested in receiving future material about the NRDA process and wish to be removed from our mailing list, please send a letter to Dr. Peter F. Sheridan asking to be taken off the list of future mailings.