

SHIPPING INDUSTRY MARINE DEBRIS EDUCATION PLAN

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ABSTRACT

The Shipping Industry Marine Debris Education Plan is an education and awareness program on MARPOL Annex V and its consequences for foreign and domestic commercial shippers and cruise lines operating in U.S. waters and for port and terminal operators. The plan is based on the premise that education may be a key factor in gaining voluntary compliance with MARPOL Annex V provisions and, therefore, in reducing the problems caused by marine debris and entanglement. The plan identifies five core and three ancillary activities to increase the shipping industry's awareness of MARPOL Annex V and the consequences of marine debris and entanglement. It was developed in late 1988 and early 1989 under contract to the Marine Entanglement Research Program, U.S. National Marine Fisheries Service. The recommended activities will be implemented over a 9-month period beginning in the spring of 1989. The core activities are: 1) development of case studies of MARPOL Annex V compliance activities, 2) development of a model plastics refuse control and minimization plan, 3) preparation of a MARPOL Annex V kit--a one-source document on MARPOL Annex V implementation in the United States including crew awareness training on the consequences of marine debris, 4) liaison activities with international shipping industry trade associations, and 5) seminars for cruise line owners/operators. The ancillary activities are: 1) placement of public service advertisements on marine debris in trade journals, 2) placement of posters on MARPOL Annex V and marine debris in port areas and on board vessels, and 3) presentations on the plan and its activities at seminars and workshops.

INTRODUCTION

On 31 December 1988, in response to at-sea garbage disposal limitations that went into effect worldwide, the way mariners handle disposal of ship-generated garbage changed. On that date, Annex V of the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL 73/78) went into effect. Formally, MARPOL Annex V is entitled,

In R. S. Shomura and M. L. Godfrey (editors), Proceedings of the Second International Conference on Marine Debris, 2-7 April 1989, Honolulu, Hawaii. U.S. Dep. Commer., NOAA Tech. Memo. NMFS, NOAA-TM-NMFS-SWFSC-154. 1990.

"Regulations for the Prevention of Pollution by Garbage from Ships." Simply, Annex V prohibits at-sea disposal of plastic materials and specifies the distance from shore that all other materials may be dumped.

The MARPOL Annex V will be difficult to enforce. Among other things, it changes the traditional way of handling ship-generated garbage. Education may be a key factor in gaining compliance with MARPOL Annex V. In the last several years, marine debris education programs have been developed and implemented for several major marine industry groups (for example, offshore oil and gas workers and commercial fishermen). The current project focuses on marine debris education for the shipping industry.

The amount of garbage generated by the shipping industry varies. It is estimated that large commercial vessels generate between 18 and 40 garbage bags of plastic during a typical voyage. This includes both domestic wastes and plastics included in dunnage. Tow and tugboats are estimated to generate one to three bags of plastic per voyage. Cruise ships are estimated to generate over 70 bags of plastic per day (Eastern Research Group 1988). Until MARPOL Annex V, much of this garbage was disposed of at sea.

The Shipping Industry Marine Debris Education Plan was developed under contract to the Marine Entanglement Research Program, U.S. National Marine Fisheries Service (NMFS) to: 1) ensure that foreign and domestic commercial shippers and cruise lines operating in U.S. waters, and port and terminal operators are aware of the provisions of MARPOL Annex V as it is being implemented in the United States; and 2) encourage voluntary compliance with those provisions. It was developed to help avoid disruption of shipping schedules, which could occur if U.S. prosecution of at-sea garbage disposal violators is necessary. The plan was also designed to be part of the solution to the problems of marine debris by furthering awareness of its consequences.

METHODOLOGY

The Shipping Industry Marine Debris Education Plan was developed using four concurrent tasks (Fig. 1) involving data collection and review of existing information, a synthesis task, and an industry advisory panel. The concurrent tasks were completed using secondary sources and key informant contacts. The major points which emerged from the tasks helped to structure the recommended plan activities.

An industry advisory panel for the project was created to involve the industries affected by the plan in its development. By doing so, the intent was to avoid identifying marine debris education activities which would not work. It was also a mechanism to encourage industry's further involvement with the plan, its implementation, and the issue of marine debris and entanglement. Four trade associations, the U.S. Department of Agriculture, the U.S. Coast Guard, and a maritime professional association participated on the panel.

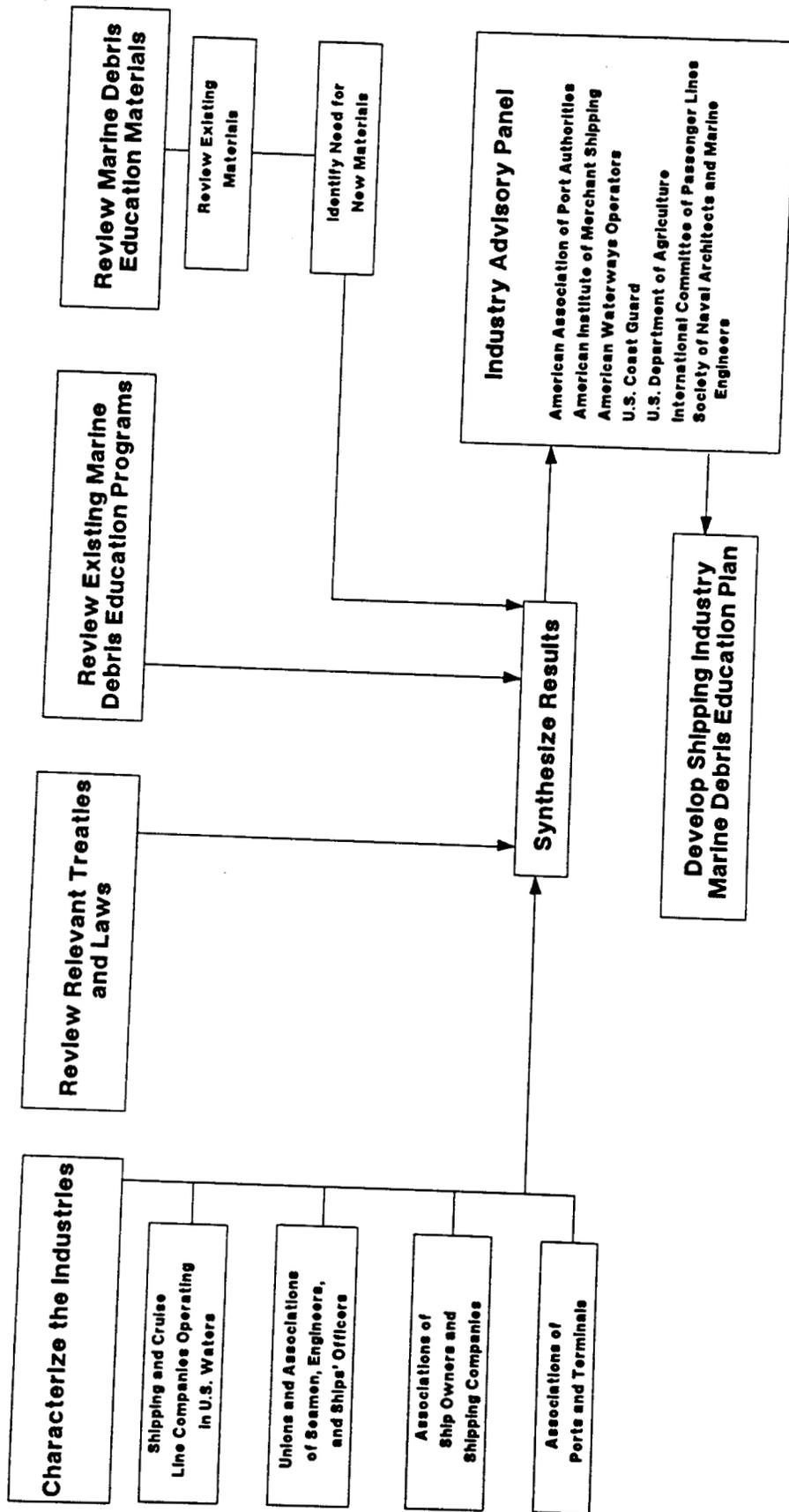


Figure 1.--Plan development methodology.

A preliminary list of marine debris education activities was developed based on the results of the data collection and synthesis tasks. A packet of materials, including a one-page summary of eight marine debris education activities, was sent to each panel member for review. The industry advisory panel attended a 1-day meeting in Alexandria, Virginia, to discuss MARPOL Annex V implementation and the Shipping Industry Marine Debris Education Plan. The marine debris education activities recommended in the plan reflect the input of the industry advisory panel.

RECOMMENDED MARINE DEBRIS EDUCATION ACTIVITIES FOR THE SHIPPING INDUSTRY

Eight marine debris education activities are recommended for the shipping industry. An overview of these activities is presented in Figure 2. Activities 1 through 5 are the core activities in terms of time and budget. Activities 6 through 8 will have a secondary emphasis, but some time and funds will be allocated to them.

Core Activities

Activity 1: Case Studies of MARPOL Annex V Compliance Activities

No one method of compliance with MARPOL Annex V will work for all vessels because of differences in such things as size, routes, cargo, and owners. The case studies will document policies and activities (including crew awareness training) that operators of different types of vessels as well as port and terminal operators are using to comply with MARPOL Annex V. The approaches different companies are using for MARPOL Annex V compliance are expected to reflect these differences. For example, seagoing vessels, which include commercial shippers and cruise lines, must comply with regulations on food waste coming from foreign waters, as set forth by the Department of Agriculture Animal and Plant Health Inspection Service (APHIS), as well as the provisions of MARPOL Annex V. Some of these vessels may also travel to special areas as defined by MARPOL Annex V, where dumping limitations are further restricted. Some coastal waterway vessels travel far enough from shore to be able to dump some types of garbage at sea legally. These vessels do not leave U.S. waters and, therefore, do not need to comply with APHIS regulations or the dumping restrictions in MARPOL Annex V special areas. Vessels in inland waterways and harbor areas have been prohibited from dumping garbage overboard for almost 100 years. Flexibility in the method used is seen by many in the industry as a key to voluntary compliance. The case studies will document how and to what extent flexibility is used for MARPOL Annex V compliance.

Until recently, much effort in marine debris education was spent identifying the sources of debris and convincing those industries or marine user groups that their practices were causing problems. This had a negative tone. The case studies will be examples of positive actions companies have taken to change the way they handle plastics and garbage disposal. They will demonstrate the range of techniques that companies have used to comply with MARPOL Annex V. They will also identify some of the problems encountered and how these were overcome. The case studies will be developed through key contact interviews and documents provided by these contacts.

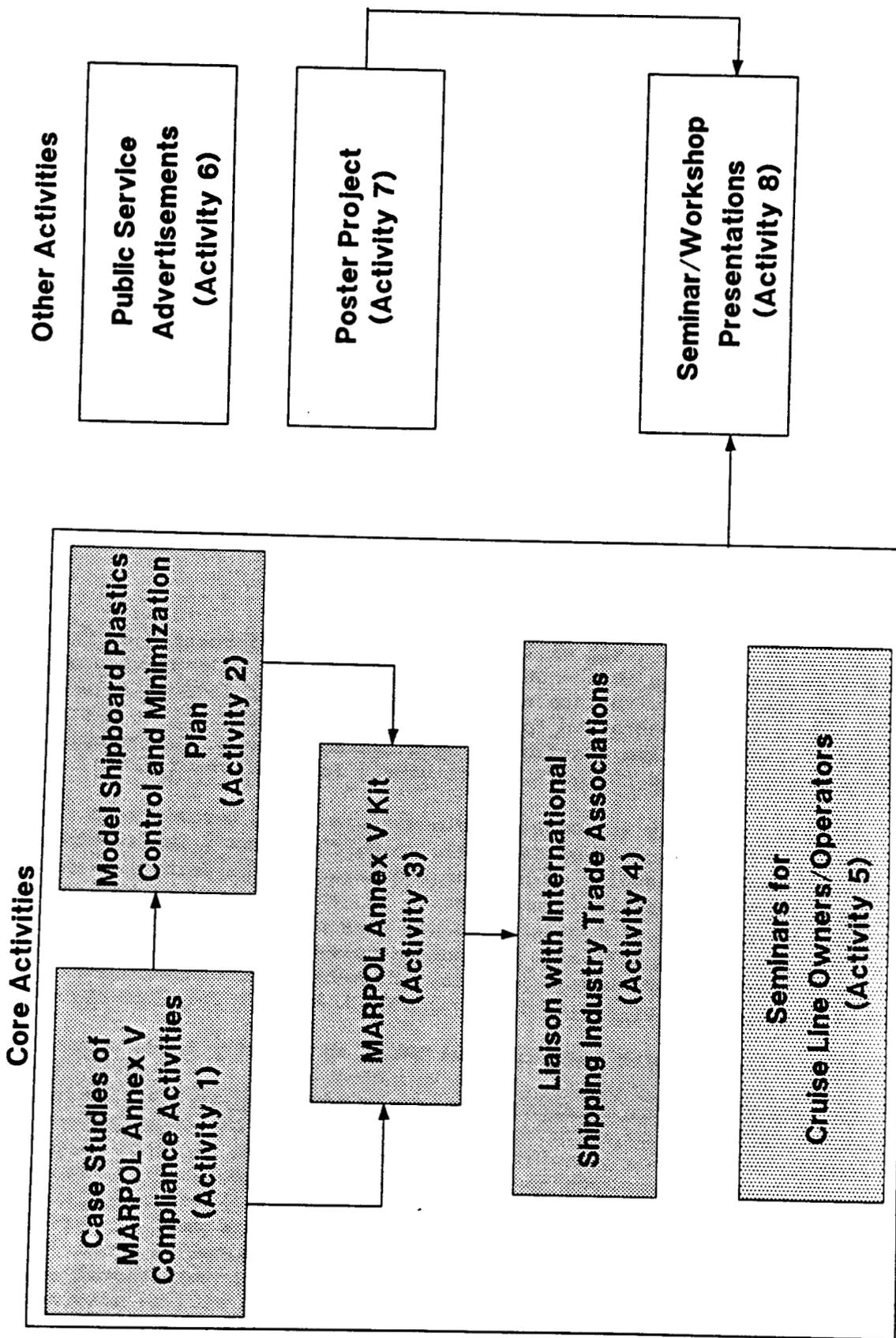


Figure 2.--Shipping industry marine debris education plan overview.

Activity 2: Model Shipboard Plastics Refuse Control and Minimization Plan

Each company will need to determine how to handle garbage under MARPOL Annex V. To facilitate that process, some documentation is needed on what to consider in developing strategies for plastic garbage disposal. A formal plastics refuse control and minimization plan can be an important component of a company's policy on garbage handling.

The model plan will outline the development of waste management procedures and the content and possible formats of a plastics refuse control and minimization plan. It will include techniques for increasing crew awareness of the consequences of marine debris and entanglement, and will use existing marine debris education materials. The model plan will be based on experiences profiled in the case studies and in existing waste management plans. Key contact interviews also will be used.

It should be noted that the Coast Guard will require certain vessels to have a waste management plan. Coast Guard guidance will be sought during the preparation of the model plan. However, the model plan may not be fully in keeping with Coast Guard requirements because it is likely to be completed before the Coast Guard issues instructions on the requirements for waste management plans.

Activity 3: MARPOL Annex V Kit

The MARPOL Annex V kit will assemble existing information on MARPOL Annex V implementation in the United States. The kit will provide a focal point for discussion with international groups on what is available on MARPOL Annex V implementation in the United States, and will be a product which can be printed and distributed by different groups (for example, trade associations and the NMFS Marine Debris Information Offices).

The kit, probably in looseleaf binder form, will include such things as the Coast Guard compendium of materials on MARPOL Annex V implementation in the United States, examples of how the requirements are being implemented by different types of vessels (from Activity 1), and guidance on how to set up shipboard waste management procedures and crew awareness training (from Activity 2). The kit will also include examples of existing marine debris education products (brochures, posters, stickers) that can be used on vessels for training or reminders about MARPOL Annex V requirements.

Activity 4: Liaison with International Shipping Industry Trade Associations

There are too many foreign flag vessels operating in U.S. waters to approach each owner and operator directly. However, the international shipping industry trade associations can be used as an indirect means of contact with foreign commercial shipping owners and operators. Personal contact, such as has been used with shipping industry trade associations in the United States, is more effective than telephone and mail contact in soliciting cooperation and exchange of information on MARPOL Annex V implementation. Meetings will be requested with the international shipping trade associations located in London. These meetings will be used to: 1)

make the associations aware of the marine debris education and MARPOL Annex V implementation materials available, 2) encourage them to publish announcements of marine debris education products in their trade publications, 3) encourage them to reproduce some of the materials, 4) increase awareness of the marine debris education activities taking place in the United States, and 5) identify specific needs where existing materials and programs may be of help.

Activity 5: Seminars for Cruise Line Owners and Operators

Experience in marine debris education activities has shown that involvement of the targeted group in development of an education program can be effective in making the program a success. This is the first time in a NMFS-sponsored marine debris education program that the cruise industry is the focus of marine debris education activities. Since the number of cruise lines operating in U.S. waters is small, it is possible to approach these companies directly.

Seminars with cruise line owners and operators will be conducted in Miami, San Francisco, and Washington, D.C. Offices of the majority of the cruise lines are located in or near these cities. These meetings will be used to: 1) solicit individual company support for marine debris education activities; 2) identify specific educational activities (e.g., working with the Centers for Disease Control to include marine debris information in procedures for shipboard inspections); 3) identify mechanisms to distribute information (e.g., include information with paychecks or stubs); and 4) develop educational materials or assemble existing materials in cooperation with company and industry representatives.

Other Activities

Activity 6: Public Service Advertisements

Art work and brochures that made up a previously used public service advertising campaign are available. Since there is new interest in marine debris as a result of MARPOL Annex V implementation, there may be new opportunities to place the ads in appropriate trade publications. The art work for the public service advertisements will be offered to editors of shipping, port, and cruise line trade journals.

Activity 7: Poster Project

There are several posters available which could be used on ships or in port areas as reminders of the consequences of plastics in the ocean. Some vessel owners and operators have expressed interest in having posters, and their use would probably increase if more people knew about them. Written announcement about the posters on marine debris will be sent to: 1) Federal agencies with offices in port districts (e.g., Coast Guard, U.S. Customs, U.S. Immigration and Naturalization Service, and Department of Agriculture); 2) port authorities; 3) terminal operators; and 4) shipping companies.

Activity 8: Seminar and Workshop Presentations

Seminar and workshop presentations are a means of reaching different types of audiences and increasing awareness of the problem of marine debris as well as the ongoing activities on MARPOL Annex V implementation in the United States. The Shipping Industry Marine Debris Education Plan and its implementation will be presented at appropriate forums, should the opportunity arise.

SHIPPING INDUSTRY MARINE DEBRIS EDUCATION PLAN IMPLEMENTATION

The Shipping Industry Marine Debris Education Plan will be implemented during a 9-month period beginning in the spring of 1989. The first half of the implementation phase for the core activities (Activities 1-5) will be used to prepare the new marine debris education products and establish a working relationship with the cruise line owners and operators. The second half of the implementation phase will be used to gain acceptance and distribution of the education products. The optional activities (Activities 6-8) will be undertaken throughout the implementation phase as the opportunity arises and time and budget permit.

REFERENCES

Eastern Research Group, Inc.

1988. An economic evaluation and environmental assessment of regulations implementing Annex V to MARPOL 73/78. Prepared for the U.S. Coast Guard in support of the regulations implementing the pollution prevention requirements of Annex V to MARPOL 73/78, October 1988.