Chesapeake Executive Council

Federal Facilities Strategy

Chesapeake Bay Program

Agreement Commitment Report

July 1988

Federal Facilities Strategy

An Agreement Commitment Report from the Chesapeake Executive Council

Annapolis, Maryland
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TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

STRATEGY

FOR FEDERAL FACILITIES UNDER THE

1987 CHESAPEAKE BAY AGREEMENT COMMITMENTS

CHAPTER 1

INTRODUCTION

FPS-1

The 1987 Chesapeake Bay Federal Facilities Commitment states that "by July 1988, the Environmental Protection Agency, acting for the federal government, will develop, adopt, and begin implementation of a strategy for the control and reduction of point and nonpoint sources of nutrient, toxic, and conventional pollution from all federal facilities."

Following the signing of the Agreement, the Environmental Protection Agency (EPA) convened a meeting of the Federal Agencies Committee (FAC) to begin discussing and drafting a strategy to meet the Commitment. The Committee is composed of representatives from the Department of Defense, the Soil Conservation Service, Fish and Wildlife Service, Corps of Engineers, Baltimore District, EPA, Federal Highway Administration, and Geological Survey. While not all federal agencies are (or should) belong to the FAC, it was assessed by EPA as a good starting place to develop the strategy.

The FAC was chosen as the initial starting place because:

- o The FAC's purpose in part is to foster interagency coordination and communication;
- o It is the part of the Chesapeake Bay Program infrastructure which formally enables communication and interaction between the federal departments and agencies and the states; and,
- o The principal federal landholders are represented.

The strategy will show how the departments and agencies represented on the FAC will screen their facilities to determine if, or at what point, they should develop individual implementation plans. It will also show how the remaining department/agencies and their facilities will be identified and brought into the process.

Before defining the strategy, four points need to be made.

1) The document is a strategy, not a plan, and includes an approach and timetable to implement the strategy.

2) The Commitment Agreement asks that the strategy be adopted with implementation beginning by July 1988. Portions of the strategy have been adopted, and portions are presently being implemented. It may

be possible to state that all agencies will adopt the concept of the strategy, but it is not realistic to state that all aspects of the strategy will be agreed to by all agencies by July, 1988.

3) The timetable for implementation of the strategy represents a "worst case" scenario. It will be a timetable that all departments and agencies will be able to use, even though the Fish and Wildlife Service, and the Department of Defense, for example, have components of their plans already prepared. In practice, there will be multiple, parallel strategies and implementation plans, much like those of the states, for the federal departments and agencies.

4) The term "federal facilities" in the context of this strategy deals only with real estate owned and/or operated by a federal department or agency and not a program or activity. Some departments and agencies of the federal government have limited real estate which impacts the Bay, but have significant programs which affect the water quality or the living resources of the Bay. Those programs will be addressed in the response to the Commitment for a coordinated federal work plan in the Governance section of the Agreement.

CHAPTER 2

BACKGROUND

Federal Facilities are as diverse as a two person office in rented space which uses all municipal services to the equivalent of a city with >1.0 MGD treatment facilities and toxic waste sites. A first step in the strategy is to propose a methodology for identifying the universe of federal real estate in the Bay watershed. A second step is to identify which of the facilities has a significant potential to adversely impact the Chesapeake Bay, and which has limited potential to impact the Bay.

For purposes of this report, a preliminary listing of federal facilities was prepared by members of the FAC using the criterion of land area only. No appropriate data base was available or used. The selection was based only on the collective knowledge of the FAC members of the probable federal facilities in the Bay watershed. Two departments fell out of this "manual sort:" the Department of Defense and the Department of Interior.

When the inventory is complete all departments and agencies will be asked to evaluate their facilities with three initial selection criteria. The first two criteria are designed to identify facilities which will need to be further evaluated and have site specific plans. The third criterion is designed to eliminate the facility from further consideration at this time.

A federal facility will be considered if:

- o It is on the Bay or its tidal tributaries with point and/or nonpoint sources of pollution that have a significant potential for affecting water quality. This facility will have a high priority for needing a site-specific abatement plan; and/or,

- o It is in the watershed with potential for nonpoint sources of pollution that could affect water quality. This facility will also have a high priority for needing a site-specific abatement plan.

A federal facility will not be considered at this time if:

- o It has no significant potential to impact the water quality of the Bay. This facility will be listed in the inventory, but no site-specific plan will be developed.

A federal facility inventory will be developed with the initial selection criteria. After the inventory is developed, each facility which has a significant potential to impact the Bay will be evaluated and ranked using screening criteria.

After a review of approaches for development and use of screening criteria, the FAC decided to use the same approach used by Tetra Tech, Inc. in their November, 1987 report to the Department of Defense, titled "Water Quality Assessment of DoD Installations/Facilities in the Chesapeake Bay Region." An

explanation of the screening criteria, and an example of how they were applied to DoD Installations/Facilities is Table 2-1.

FAC members considered developing screening criteria which were quantifiable rather than subjective, but quickly determined that major costs and time would be involved. After discussions with the authors of the Tetra Tech, Inc. report, and the contract managers in the Corps of Engineers, Baltimore District, FAC determined that the Tetra Tech, Inc. screening criteria were generally applicable to all federal facilities (with some modifications). These conclusions, combined with the fact that the Department of Defense screening criteria were already in place, made it logical to adopt the Tetra Tech, Inc. approach for all federal facilities.

The "Federal Facilities Docket"[1] of federal facilities which manages hazardous wastes or have potential hazardous waste problems will also be used in screening facilities for possible inclusion in the strategy. This docket lists approximately 30 facilities which are not currently addressed, including Health and Human Services (11 facilities), GSA (4), Transportation (4), NASA (3), Commerce (2), Interior (2), Treasury (1), Agriculture (1), CIA (1) and EPA (1).

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1 EPA FEDERAL FACILITIES HAZARDOUS WASTE COMPLIANCE DOCKET LISTS INSTALLATIONS SLATED FOR INVESTIGATION UNDER CERCLA, SARA (53 FR 4280; Feb, 12, 1988)

SUMMARY: Section 120(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1988 (SARA), requires the Environmental Protection Agency (EPA) to establish a Federal Agency Hazardous Waste Compliance Docket that contains certain information regarding Federal facilities which manage hazardous waste or have potential hazardous waste problems. The following list identifies the Federal facilities to be included in the initial docket. This list of facilities will be updated every six months as new facilities are reported to EPA by federal agencies. For each federal facility that appears on the docket, the responsible federal agency must complete a Preliminary Assessment to determine if response actions are necessary

DATE: This list is current as of January 12, 1988.

FOR FURTHER INFORMATION CONTACT:
RCRA/Superfund Hotline Telephone: (800)424-9346 toll-free, or 382-3000 Washington, DC and FTS.

CHAPTER 3

DEPARTMENT OF DEFENSE

Introduction

Helping to restore and protect the Chesapeake Bay has been a long-standing Department of Defense (DoD) goal. Since 1974, the Department has spent more than $235 million on pollution abatement projects and natural resource programs in the Bay region. For example, many wastewater treatment plants have been upgraded with such advanced treatment techniques as nitrification, phosphorus removal, and ultraviolet disinfection.

Defense was the first federal agency to enter into a formal agreement with EPA, pledging to study all DoD installations in the Bay area, and to implement land management and point source controls when needed. DoD also agreed to work with EPA to insure that all permits are up-to-date and to define appropriate discharge levels. Even when not required by existing permits, DoD strives to minimize discharges of nutrients, toxics, and sediments.

DoD recently completed a two-year, three-phase study to determine the relative impact of its activities on the water quality and living resources of the Bay and its tributaries. Sixty-six DoD installations were evaluated to determine which have the potential to impact the Bay's water quality by virtue of their size, their proximity to the Bay, or the types of activities which they perform.

The study found that the region of influence of military activities in the Bay area generally appears to be limited to the immediate vicinity of each facility. Military installations contribute relatively insignificant loadings of both point and nonpoint conventional pollutants to the Bay.

Three major program recommendations are identified: additional monitoring of conventional pollutants and toxics; a systematic evaluation of nonpoint source runoff control measures; and further emphasis on the management of hazardous and toxic materials.

DoD is using this water quality assessment study to develop a comprehensive management strategy for future actions in the Bay region. The study is also being used as the basis for DoD's input to the Federal Facilities Plan and to the Coordinated Work Plan.

Organization

Overall policy direction for DoD's Chesapeake Bay Program is provided by the Office of the Deputy Assistant Secretary of Defense for Environment. Program management is provided by the Military Services, through the environmental offices of their Headquarters and major commands. Day-to-day operation of DoD's environmental programs is normally carried out by the engineering and housing division at each installation.

DoD Environmental Programs Important to the Bay

The water quality assessment of DoD installations in the Chesapeake Bay drainage basin identified these programs as being "particularly beneficial to water quality conditions" in the Bay area:

Defense Environmental Restoration Program
A systematic program to identify and clean up abandoned toxic and hazardous waste sites has been established for all Military Services. Preliminary site investigations have been conducted at installations in the Bay region, and follow-up actions are being performed as required.

Advanced Wastewater Treatment (AWT) Upgrades
A number of installations have upgraded their sewage treatment plants by incorporating AWT practices such as denitrification, phosphorus removal, ultraviolet disinfection, and multimedia sand filters. Another active program has involved the tie-in of sewage lines directly to local municipal systems for treatment.

Operation Maintenance and Training Assistance Program (OMTAP)
This is DoD's pilot program designed to enhance sewage treatment plant operations at selected facilities through site-specific evaluation, analysis and assistance. OMTAP uses a detailed on-site evaluation of each management, support, and operating function of a STP to identify both short-term and long-term problems, and to recommend changes to improve the operations and effectiveness of the plant.

Environmental Assistance Programs
The Military Services provide additional environmental engineering assistance to installations as needed through a number of programs designed to deal with specific health-related problems, ranging from laboratory analyses of suspected toxic materials to full-scale environmental audits and preparation of environmental impact statements.

DoD Environmental Audit Program
Environmental audits help assess an installation's water quality needs and can also help to prioritize the needs of an installation.

Defense Environmental Status Reports (DESR)
Through this tracking mechanism, the Military Services report on progress they are making to achieve goals of their environmental programs. DESR can prioritize areas needing attention and can aid in the funding of necessary projects.

Hazardous Waste Storage and Handling
DoD is making great progress in upgrading hazardous storage and handling facilities and in reducing the incidence of spills.

Natural Resource Programs, Soil Conservation Plans, Wetlands Management Programs and Forestry Management Plans
These programs provide mechanisms to insure best management practices (BMPs) are implemented. They also enhance the living resources on DoD's installations.

Preservation of Undeveloped Land
The large amount of undisturbed land on DoD's installations stabilizes the soil, reduces surface runoff of pollutants, and slows erosion rates.

Background

DoD's primary involvement in the restoration and protection of the Chesapeake Bay is with pollution abatement projects which mitigate the adverse impacts of activities on its military installations, or through ongoing enhancement efforts of its natural resource programs. Since 1974, DoD has spent more than $235 million to support these efforts in the Chesapeake Bay drainage basin.

Nutrients

Federal facilities have already done a great deal to improve their discharges. DoD has spent tens of millions of dollars upgrading its point source discharges in the past ten years. For example, a new state-of-the-art wastewater treatment plant was completed at Fort Meade in 1984 at a cost of $23 million. Recent sewage system improvements at Indian Head NOS cost $6.1 million. Upgrades have also been made to facilities at Fort Detrick, Fort Ritchie, Fort Eustis, Naval Air Rework Facility, Quantico, and NSWC Dahlgren. Municipal waste connections have been made at Fort Lee, Fort Belvoir, and Naval Shipyard Portsmouth, at a total cost in excess of $15 million.

DoD completed and distributed a guidance manual for conducting operator training assistance at DoD wastewater treatment plants in 1987. As a part of an ongoing program, the Army conducted in-depth operator assistance training at five Bay installations last year.

Federal facilities will meet Bay Agreement commitments for nutrient and conventional pollutant control in two phases. Phase I will address all federal dischargers to the Bay in Maryland and Virginia with discharge rates greater than 1 MGD. Phase I facilities, all of which are owned by DoD, are listed in Table 3-1. The table also includes existing and projected flow and effluent concentrations. Phase II will evaluate whether additional controls are needed at smaller federal dischargers.

In Phase I, DoD will evaluate the feasibility of upgrading those specific discharges identified in state nutrient pollutant reduction strategies, with particular emphasis given to projects required to meet existing NPDES permit levels. In addition, DoD will work to obtain funding for necessary projects identified in Phase I. This will be done through the A-106 process for identifying and funding required pollution abatement projects.

In Phase II, federal facilities will work with state and federal regulators to identify any additional discharges which may need upgrading.

It is important to note that the criteria for including dischargers in nutrient and conventional pollutant reduction strategies vary among the states. In Virginia, municipal dischargers with flows greater than 1.0 MGD are included in the state's nutrient reduction strategy. In Maryland, the flow cut off is

- Construction of oil spill prevention facility, Quantico - $6.5 million.
- Alterations to sanitary sewer, NWS Yorktown - $35,000.
- Sewage system improvements, NSWC Dahlgren - $264,000.
- Modifications to sewage treatment plant, Naval Station, Annapolis- $42,000.
- Revegetation and terracing of 60 acre demolition site, Letterkenny Army Depot.
- Renovation and seeding of 400 acres of bare ground, Fort A.P. Hill.

ctions Completed in FY84-85:

- Municipal sewage connection, Naval Shipyard Portsmouth - $8 million.
- Construction and improvements to industrial waste pretreatment plant, Naval Air Rework Facility, Norfolk - $7 million.
- Construction of an advanced wastewater treatment plant, Fort Meade- $23 million.
- Municipal sewage connections, Fort Lee and Fort Belvoir - $7 million.
- Upgrade of every unit process in NRL Chesapeake Bay Detachment wastewater treatment plant, including installation of ultraviolet radiation disinfection unit.

ngoing Actions:

- Navy spill response equipment located at Chesapeake Bay activities is valued at $15 million. Another $15 million has been spent maintaining and replacing this equipment.
- The Navy also has a $65 million investment of ship salvage and oil spill response equipment located in Williamsburg, VA.
- SAV planting has been conducted at Aberdeen Proving Grounds since 1980.

stablishing Priorities

oD is working with the Services and EPA Region III to identify which potential rojects identified by the water quality assessment have received funding, which ave been programmed for funding consideration, and which have not as yet been ubmitted for consideration. Once the evaluation has been completed, recommended projects not currently identified by the Services will be submitted for uture funding consideration.

Funding decisions for pollution abatement projects and hazardous waste cleanup projects are made on the basis of relative need. Projects at DoD installations in the Chesapeake Bay area compete with others nationwide for available funding. Projects not funded in a given year are deferred for future consideration when a continuing need exists. The FY90 budget is currently being developed.

Future Programs

DoD will continue the environmental enhancement programs described above. In addition, the water quality assessment identified both generic and specific recommendations for improvements. The former address water quality related-program areas common to many of DoD's Bay-area installations, and cover such topics as long-term monitoring needs, nonpoint source runoff control, hazardous and toxic materials management, and sewage treatment system improvements. The latter focus on specific installation needs. Estimated costs and potential benefits are also described. The Military Services are reviewing these recommendations, and will identify those which will be programmed for future action. Recommendations currently being evaluated for future implementation by DoD's Bay-area installations are presented in the Federal Facilities Strategy.

A comprehensive assessment of DoD facilities in the Bay watershed was recently completed and is available to guide DoD input into the Federal facility strategy for toxicants. The report, "Water Quality Assessment of DoD Installations/Facilities in the Chesapeake Bay Region" was prepared by Tetra Tech Inc., and provides site-specific and programmatic recommendations to mitigate the impact of federal installations on Bay water quality and living resources. The report also provides planning level cost estimates to implement the recommendations.

The report identified 37 installations (out of 66 installations screened) as having a significant potential for water quality impact. For each of these installations a summary of specific areas of concern, recommended actions and estimated costs has been prepared as illustrated in Table 3-3 for Aberdeen Proving Ground. At each site, DoD will prioritize toxic (and conventional) pollutant control actions, determine funding and develop an implementation schedule.

One of the most important issues related to the development of a toxics control strategy for DoD installations is the control of the toxic discharge from poorly defined point and nonpoint sources such as abandoned hazardous waste disposal sites, stormwater runoff and discharges of industrial (toxic) pollutants to sewage treatment systems and/or storm drains. Abandoned hazardous waste sites are a major problem and merit separate discussion.

Abandoned Hazardous Waste Sites

DoD mission support operations generate toxic or hazardous wastes in varying quantities. In the past, these wastes may have been disposed of in landfills, unlined pits or spread on the ground. Fortunately, these practices have ended but the abandoned disposal sites remain and represent a major toxic threat from military installations.

In 1980 Congress enacted the comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to deal with the careless disposal of hazardous wastes in the past. Better known as Superfund, the law provided the needed authority and trust fund so the EPA and state governments can respond to hazardous substance emergencies and uncontrolled hazardous waste sites where longer term remedies are needed. DoD has developed its own version of the Superfund program to deal with hazardous waste sites on military installations. Known as the Defense Environmental Restoration Program (DERP) it follows Superfund investigation and mediation procedures for cleaning up hazardous waste sites but funding is separate, provided by the Defense Environmental Restoration Account. It should be noted that funding for abandoned hazardous waste sites does not compete directly with other pollution abatement projects.

The status of the DERP at DoD installations in the Bay watershed is presented in Table 3-4. Four of these sites have been recommended or included in EPA's National Priority List and are assigned the highest priority for clean-up. However, DoD sets clean-up priorities on a "worst-first" basis nationwide. In order to insure they are fairly evaluated with other DoD sites, the location of DoD's Bay sites and their potential impact on environmentally sensitive or ecologically important areas will be defined and documented.

CHAPTER 4

FISH AND WILDLIFE SERVICE

The Fish and Wildlife Service recognizes its responsibilities in the restoration of Chesapeake Bay and its tributaries by supporting the development of the Federal Facilities Plan. It is the intent of this strategy to describe the schedule that would lead to the adoption and implementation of the Fish and Wildlife portion of the facilities plan. However, it must be recognized that following the development of the strategy document commitment of funds to accomplish whatever corrective actions, as may be necessary, will need to be cleared through the agency and most likely submitted through the normal budget process.

A review of the facilities within the Chesapeake Bay basin, showed that the Service manages 19 facilities of approximately 37,320 acres. The facilities include 13 National Wildlife Refuges, two National Fish Hatcheries, one National Fishery Center, and three Field Offices as follows:

National Wildlife Refuges

VIRGINIA

Mason Neck NWR, (2,277 acres)
Mason Neck NWR is located on Mason Neck, a boot-shaped peninsula jutting out into the Potomac River, in Fairfax County, approximately 18 miles south of Washington, D.C..

Marumsco NWR, (63 acres)
Marumsco NWR is located three miles west of Mason Neck NWR on the last quarter mile of Marumsco Creek which empties into Occoquan Bay and the Potomac River.

Featherstone NWR, (164 acres)
Featherstone NWR is located about four miles southwest of Mason Neck NWR at the mouth of Neabsco Creek where the Creek joins the Potomac River.

Eastern Shore NWR, (653 acres)
Eastern Shore NWR is located on the southern most tip of the Delmarva Peninsula in Northhampton County at the mouth of the Chesapeake Bay.

Fisherman Island NWR, (1,000 acres)
Fisherman Island NWR is located off the southern tip of the Delmarva Peninsula. It is the last barrier island before the mouth of the Chesapeake Bay.

Plum Tree Island NWR, (3,276 acres)
Plum Tree Island NWR is located in York County, near the mouth of the York River in the lower shore area of the Chesapeake Bay, approximately three miles east of the town of Poquoson.

Presquile NWR, (1,329 acres)
Presquile NWR is an island in the James River, five miles north of Hopewell, Virginia in the northeast corner of Chesterfield County.

Nansemond NWR, (208 acres)
Nansemond NWR is located at the junction of the Nansemond and James Rivers in Suffolk County.

MARYLAND

Blackwater NWR, (15,924 acres)
Blackwater NWR is located in Dorchester County, about 12 miles south of Cambridge, Maryland.

Glenn L. Martin NWR, (4,424 acres)
Glenn L. Martin NWR encompasses the northern half of Smith Island, which lies 11 miles west of Crisfield, Maryland in the lower Chesapeake Bay.

Susquehanna NWR, (4 acres)
Susquehanna NWR is located at the northern end of the Chesapeake Bay.

Eastern Neck NWR, (2,286 acres)
Eastern Neck NWR is located at the mouth of the Chester River on the eastern side of the Chesapeake Bay in southern Kent County.

Patuxent NWR and Research Center, (4,700 acres)
Patuxent NWR and Research Center is located midway on the Patuxent River between Baltimore and Washington, D.C. in Prince George's County.

National Fish Hatcheries

VIRGINIA

Harrison Lake NFH, (445 acres)
Harrison Lake NFH is located 25 miles southeast of Richmond in Charles County.

PENNSYLVANIA

Lamar NFH, (177 acres)
Lamar NFH is located in central Pennsylvania.

National Fishery Center

WEST VIRGINIA

Leetown NFC, (390 acres)
Leetown NFC is located in the eastern panhandle of West Virginia west of Charlestown.

Field Offices

Annapolis, Maryland

Gloucester, Virginia

State College, Pennsylvania

Initial Screening

The Fish and Wildlife Service conducted a preliminary review of its facilities in the Chesapeake Bay Basin according to the developed screening criteria listed below.

1) A facility is on the Bay or its tidal tributaries with point and/or nonpoint sources of pollution that have a significant potential for effecting the water quality. (High priority for a site-specific plan.)

2) A facility is in the water shed with potential for nonpoint sources of pollution that could effect the water quality. (Also a high priority for site-specific plan.)

3) A facility has no significant potential to impact the water inventory initial criteria screening of the facilities, the following facilities were deleted from further consideration:

   The three Field Offices, (Annapolis, Maryland; Gloucester, Virginia; and State College, Pennsylvania) are deleted because these three Offices are located in an urban area with no point or nonpoint discharges.

   Plum Tree Island NWR is deleted because the area is undeveloped and contains unexploded ordinances. The public is not permitted on the island.

   There are five other refuges (Featherstone, Fisherman Island, Nansemond, Glenn L. Martin and Susquehanna) that may be deleted because they are undeveloped and serve basically as habitat for wildlife and migratory birds.

   The three National Fish Hatcheries (Harrison Lake, Northeast Fishery Center, and Leetown NFC) my be deleted because the effluent discharges from the hatcheries are monitored on a monthly basis and the values are within Federal and State NPDES limits.

In general, the most common problem that occurs on the refuges is shoreline erosion as a result of natural causes such as tides or heavy wave action. With these possible deletions, the Service's facilities plan may be reduced to seven National Wildlife Refuges with a total acreage of approximately 27,232 acres.

Accomplishments to Date

Although there are problems still to be resolved to further reduce the point and nonpoint source discharge from Service land, the Service has accomplished some corrective measures and continues to make improvements in its facilities to reduce discharges into the Bay.

Filter strips at the Blackwater National Wildlife Refuge have been established on either side of refuge farm field drainage ditches and along refuge roadside ditches. These strips help prevent solid nutrients and farm chemicals from washing off the fields into the ditches and eventually into refuge rivers and marshes. Pesticide use is very restricted and closely monitored to protect both wildlife and their habitat. As a result, refuge farmlands pose far less of a threat as a source of toxic substances than off-refuge farmlands. In addition, earthen dikes impound two pools that trap sediments from refuge agriculture lands keeping the sediments from entering the adjacent tidal marshes along the Blackwater River.

At the Eastern Neck National Wildlife Refuge, the presence of 996 acres of predominantly high quality marsh filters the water going into the Bay. The existence of hedge-rows, forest or grass filter strips along all field borders and winter cover crop in croplands help to prevent soil erosion into the Bay.

To control land erosion along the James River at the Presquile National Wildlife Refuge the Service is currently having a metal bulkhead installed to replace the collapsed wooden bulkhead.

At the Patuxent National Wildlife Refuge and Research Center, a large grass covered swale was constructed below the largest employee parking lot to divert contaminated runoff before it enters Snowden Pond and the Patuxent River to provide maximum ground recharge. Undisturbed woodlands around the Patuxent River and its tributaries provide an ideal land use for watershed protection. No till farming is practiced in strip fields adjacent to the woodlands. The 33 man-made impoundments designed for migrating birds serve to trap sediments, absorb excess nutrients, and provide stormwater management.

At the Eastern Shore of Virginia National Wildlife Refuge, filter strips and hedge rows have been planted to reduce runoff into the Bay. Drainage ditches have been cleaned and structures installed to control excessive runoff. On the agricultural fields, pesticides are not permitted and herbicide uses are restricted and monitored.

At the Mason Neck National Wildlife Refuge, shoreline erosion is occurring along the bluffs bordering the Potomac River and Occoquan Bay. Deposition of sediment, from the bluffs and from upstream in waters adjacent to the refuge, is causing a loss of habitat. The Service has provided funds to stabilize part of the bluffs along Occoquan Bay and for an engineering study of the problem.

At the Northeast Fishery Center (Lamar NFH), when the hatchery raceways are cleaned, waste water flows through a buried cleaning waste line and out into a series of raceway waste retention ponds.

These accomplishments demonstrate the intent of the Service to correct those situations that occur on Service facilities within budget constraints. The Service is aware of the problems on the refuges and will continue to work to reduce the point and nonpoint source discharges into the Chesapeake Bay and its tributaries. The plan developed for the facilities will outline the approach the Service will take in meeting the commitment to reduce discharges into the Bay.

CHAPTER 5

U.S. ARMY CORPS OF ENGINEERS

A preliminary review of Corps of Engineers major Civil Works projects and facilities in their Baltimore, Norfolk and Philadelphia Districts was undertaken to determine the magnitude and nature of Corps properties in the Chesapeake Bay watershed. The following table summarizes these projects. These facilities were compared to EPA "Selection and Screening Criteria for Federal Facilities in the Chesapeake Bay Watershed" to determine their potential impact on the Bay.

Approximately 70,000 acres are owned by the Corps in the Bay watershed. Approximately 92% of these acres are associated with multi-purpose reservoir projects located in the upper reaches of the Susquehanna and Potomac River basins. These areas are generally used for passive recreation activities and have considerable wooded areas. Approximately 2% (1300 acres) of the areas associated with the reservoirs have agricultural and grazing leases. All leases are required to use their lands in accordance with local Soil and Water Conservation Plans and must comply with any regulations, conditions, or instructions by EPA and/or state and local agency having jurisdiction to abate or prevent water pollution.

There are 3 wastewater treatment plants at Raystown Lake, Tioga-Hammond Lakes, and Cowanesque Lake, Pennsylvania. The total treatment capacity of the combined plants is less than 2.2 MGD.

Based on the above, all the Corps facilities are considered to have no significant potential to impact the surface water quality of the Bay and will not require development of site specific plans.

PROJECT NAME	OWNED ACREAGE
Almond Lake, NY	726
Alvin R. Bush Reservoir, PA	1,273
Arkport Dam, NY	318
Aylesworth Creek Lake, PA	252
Jennings Randolph Lake, MD, WVA.	4,270
Cowanesque Lake, PA	2,658
Curwensville Lake, PA	2,648
East Sidney Lake, NY	591
Foster Joseph Sayers Dam, PA	7,745
Indian Rock Dam, PA	1,664
Raystown Lake, PA	28,439
Stillwater Lake, PA	498
Tioga-Hammond Lakes, PA	8,062
Whitney Point Lake, NY	4,578
Washington Aqueduct Reservoirs	743
Craney Island Disposal Area, VA	3,423
Gathright Dam, VA	203
C & D Canal	2,205
TOTAL	70,227

CHAPTER 6

SOIL CONSERVATION SERVICE (USDA)

In response to the 1987 Chesapeake Bay Agreement: Federal Facilities Commitment, the Soil Conservation Service, USDA owns and operates the following facilities within the Chesapeake Bay drainage area:

National Plant Materials Center, Beltsville, Maryland
(Prince George's County)
The area consists of 600 acres which includes two residences, offices, green houses, machine shop on approximately 4 acres. The cultivated acres are used for developing selected plants for erosion control, etc, which are released for public use.

Big Flats Plant Materials Center, Big Flats, New York
(Chemung County)
This area, located along the Chemung River near Corning, New York, consists of 203 acres which includes an office, machine shop, and greenhouse on approximately 4 acres. The cultivated acres are used for developing selected plants for erosion control which are released for public use.

The SCS PMC Managers at both locations are developing Resource Management Plans to address toxics, nutrients, and sediments in accordance with the Bay Agreement. The plans will specifically address storage and use of toxics and nutrients and management of the soil and water resources.

CHAPTER 7

NONPOINT SOURCE

Since signing of the Bay Agreement, substantial progress has been made by the four Chesapeake Bay jurisdictions and by cooperating federal agencies to strengthen existing nonpoint source (NPS) pollution control programs and establish new ones. However, additional efforts are required to meet goals of the 1987 Chesapeake Bay Agreement especially for control of toxicants and the 40% reduction of nitrogen and phosphorus entering the mainstem of the Chesapeake Bay. The NPS initiatives on federal facilities will play a significant role in the overall Bay restoration effort.

Federal departments and agencies will rely on guidance offered in the January, 1988 Chesapeake Bay Program report "Chesapeake Bay Nonpoint Source Programs". This report provides guidelines for participating federal agencies in developing the NPS component of Federal Facilities Plans. In addition, the federal agencies will utilize the NPS component of the Tetra Tech, Inc. report referred to in the section of this report on Selection Criteria.

The NPS component of Federal Facilities Plans will include, as appropriate, planning needs for:

A. Agricultural, silvicultural, and urban lands,

B. Operation and maintenance of specific best management practices (BMP's),

C. Implementation schedules, and,

D. Cost estimates for following concerns:

1. Toxicants (including storage and disposal of containers)

    a. Pesticides

    b. Household chemicals, including chemicals used for lawns

    c. Waste disposal

        (1) Sewage sludge
        (2) Landfills

2. Nutrients

    a. Fertilizers (including storage and disposal of containers)

    b. Animal waste

3. Sediment (including erosion control and stormwater management)

   a. Agricultural sources

   b. Silvicultural sources

   c. Construction sources

   d. Shoreline erosion control

   e. Roadside erosion control

The Chesapeake Bay states rely primarily on voluntary programs to carry out their NPS objectives for agricultural and silvicultural activities. State and federal cost share programs help farmers throughout the region to reduce soil loss and associated nutrient loads to the Bay. Where federal lands are leased to farmers or foresters, the federal agency will review existing leases with the land user and include provision for implementation and maintenance of the NPS pollution control program.

Several USDA agencies, including the Agricultural Stabilization and Conservation Service (ASCS), the Cooperative Extension Service (CES), the Forest Service (FS), and the Soil Conservation Service (SCS) provide substantial support to the states and individual conservation districts in carrying out the objectives of the NPS programs. Federal agencies are encouraged to coordinate their NPS pollution control program, as appropriate, with the USDA agencies, state soil conservation committee or commission, and local conservation district for technical assistance and guidelines for program implementation. Field Office Technical Guides located in each conservation district office include standards and specifications for appropriate BMP's.

DoD issued a nationwide nonpoint source management strategy on March 14, 1985. The strategy includes:

- Technical information exchange,
- Increased attention to nonpoint pollution sources in landing, operations and construction activities,
- Inclusion of nonpoint pollution abatement in training and education,
- Coordination with local water quality planning authorities, and
- Compliance review at all DoD management levels.

CHAPTER 8

STRATEGY MILESTONES

The Federal Facilities Strategy includes a series of steps leading to full implementation of all plans by April 30, 1989. Major milestones are:

- o Initial draft of the Federal Facilities Plan prepared and circulated . . . . . Completed
- o An inventory of federal departments and agencies in the Bay watershed will be established . . . . . Completed
- o Preliminary list of all federal facilities prepare . . . . Completed
- o Responses to public comment on the Federal Facilities Plan incorporated in the final draft . . . . . Completed
- o Adjustments are made to the documents based on feed back from Departments and Agencies . . . . . Completed
- o All agencies will complete internal directives . . . September 1, 1988
- o All agencies will develop internal implementation strategies by . . . . . January 30, 1989
- o Internal comment and review complete . . . . . April 30, 1989
- o All plans approved and full implementation begins. . . . April 30, 1989

ON-SITE SCREENING CRITERIA	IMPACT CATEGORY 1 SIGNIFICANT EXISITING OF POTENTIAL IMPACTS		IMPACT CATEGORY 2 IMPACTS POORLY DEFINED OR UNKNOWN		IMPACT CATEGORY 3 INSIGNIFICANT IMPACTS
	⊖ Significant Impact Potential (Adverse)	⊕ Significant Impact Potential (Beneficial)	- Unknown/Poorly Defined Impacts (Adverse)	+ Unknown/Poorly Defined Impacts (Beneficial)	· Insignificant Impact Potential (adv. or bene.)
6. Location and Type of Major Industrial Waste Treatment Processers and Discharges.	Poor Dilution or discharge to small tributary; Chronic NPDES violations or permit not current; or observed water quality problems; or pretreatment needed.	Good Dilution or discharge to large tributary; no NPDES violations and current permit; good water quality, pretreatment performed; recovery processes implemented.	Unknown Dilution; effluent poorly characterized; need for pretreatment unknown; water quality impacts unknown.	Unknown Dilution; effectiveness of pretreatment unknown; water quality impacts unknown.	No Major Industrial waste produced.
7. Treatment of Remote Sanitary Sewage (Not requiring NPDES permits).	Not treated; or inadequate treatment and observed water quality problems.	Remote sites tied into main treatment system; water quality improvements observed.	Unknown or questionable treatment methods; water quality unknown.	Treatment methods appear effective; water quality unknown.	None or sewage treated off base.
C. Hazardous/Toxic Materials					
8. Refueling Operations.	Major Operations and Current/recent spills; or adverse impacts observed.	Past Operations substantially upgraded or decommissioned; no major spills; and water quality improvements observed.	Major Operations; past chronic spill history; unknown effects.	Operations upgraded or decommissioned; water quality effects unknown.	None or Minor.
9. Munitions Production/ Use/Testing/Storage.	Inadequate Waste Treatment (Pink Water) or testing procedures; impacts observed.	Past operations substantially upgraded or decommissioned; water quality improvements observed.	Effects of Munitions Activities unknown.	Special treatment facilities but effects unknown.	None or Minor.
10. Chemicals Production/ Testing/Use/Storage.	Major Activities; Inadequate Procedures; observed impacts or recent spills.	Past operations substantially upgraded or decommissioned; water quality improvements observed.	Effects of Activities are unknown; past spill history.	Have special treatment or controls on use but effectiveness unknown.	None or Minor.

TABLE 2-1 SCREENING CRITERIA GUIDELINES FOR INSTALLATION EVALUATION (cont)

ON-SITE SCREENING CRITERIA	IMPACT CATEGORY 1 SIGNIFICANT EXISITING OR POTENTIAL IMPACTS		IMPACT CATEGORY 2 IMPACTS POORLY DEFINED OR UNKNOWN		IMPACT CATEGORY 3 INSIGNIFICANT IMPACTS
	Θ Significant Impact Potential (Adverse)	⊕ Significant Impact Potential (Beneficial)	- Unknown/Poorly Defined Impacts (Adverse)	+ Unknown/Poorly Defined Impacts (Beneficial)	· Insignificant Impact Potential (adv. or bene.)
11. Pesticide Use/ Storage.	Major Activities; Inadequate Procedures; observed impacts of recent spills or use; routine use of persistent or highly toxic pesticides; especially direct application to marshes.	Past operations substantially upgraded or decommissioned; water quality improvements observed; started Integrated Pest Mgmt. or biological pest controls.	Effects of Activities are unknown; past spills or improper use history; no clean up performed.	Have special controls on use but effectiveness unknown.	None or Minor.
12. Vehicle Maintenance.	Major Activities; Inadequate Procedures; observed impacts.	Past operations substantially improved or decommissioned; water quality improvements observed.	Effects of Activities are unknown; procedures are possibly inadequate.	Have special procedures but effectiveness unknown.	None or Minor.
13. Ship Maintenance.	Major Activities; Inadequate Procedures; observed impacts.	Past Operations substantially upgraded or decommissioned; no major spills; and water quality improvements observed.	Effects of Activities are unknown; procedures are possibly inadequate.	Have special procedures but effectiveness unknown.	None or Minor.
14. Solid Waste Disposal (Current).	Landfill(s) contain toxics; Leachate migration observed; or no permit exists.	Modern Landfill; Leachate control and treatment.	Landfill Management questionable; no monitoring program.	Modern Landfill; Leachate controls but no treatment or monitoring.	Offsite Disposal
15. Hazardous Waste Handling/Storage including tenant activities).	Chronic history of recent spills/accidents; inadequate storage facilities; outside storage; standard handling procedures not followed; RCRA Part B not approved or fully implemented.	Past operations decommissioned; water quality improvements observed; RCRA Part B fully implemented.	Volume generation >100kg/month; handling/storage procedures questionable; incidental or minor spill history; water quality impacts unknown.	Volume generation >100kg/month; No problems reported; no impacts observed; good handling/storage records; facilities in compliance.	No generation of hazardous waste. <100kg/month

TABLE 2-1 SCREENING CRITERIA GUIDELINES FOR INSTALLATION EVALUATION (cont)

ON-SITE SCREENING CRITERIA	IMPACT CATEGORY 1 SIGNIFICANT EXISITING OF POTENTIAL IMPACTS		IMPACT CATEGORY 2 IMPACTS POORLY DEFINED OR UNKNOWN		IMPACT CATEGORY 3 INSIGNIFICANT IMPACTS
	Θ Significant Impact Potential (Adverse)	Θ Significant Impact Potential (Beneficial)	- Unknown/Poorly Defined Impacts (Adverse)	+ Unknown/Poorly Defined Impacts (Beneficial)	· Insignificant Impact Potential (adv. or bene.)
16. On-site Spill Contingency Plans/ Equipment.	Have haz. waste generation but no SPCC plan and/or no on-site equipment.	Implementation of SPCC plans has resulted in elimination of spill problems and water quality improvements observed.	Status of SPCC not known or not implemented; Status of equipment not known; chronic spills occuring.	SPCC current and in compliance; have adequate on site equipment and cleanup capability	No hazardous waste generation and no or minor POL activity.
17. Old/Abandoned Haz. Waste Sites/(landfills, fire training pits, dumpsites, spill sites, etc).	Have one or more confirmation sites; and Leachate migrating near and towards surface waters; and/or detected in surface waters.	Sites(s) cleaned up; and water quality improvements observed.	Have one or more confirmation sites; Leachate is not moving towards surface waters or detected; or other sites exist but detection of problems unknown.	Site(s) cleaned up; effects unknown.	No hazardous waste sites on base.
18. LUST/UST.	Have one or more LUST's; leachate migrating near or towards surface waters; and/or detected in surface waters.	LUST sites cleaned up; water quality improvements observed.	UST program not completed; have one or more LUST's but leachate migration not documented.	LUST sites cleaned up; effects unknown.	No LUST sites.
D. Environmental Programs					
19. Forestry Management Plan.	Extensive clearcutting; or clearing with inadequate erosion controls; observed significant erosion.	Past clearcutting/clearing practices stopped or under strict controls; erosion problems halted.	Have plan but implementation unknown; possible adverse impacts may outweigh benefits.	Have plan but implementation unknown; possible benefits may outweight adverse impacts.	Not Applicable
20. Wildlife Management/ Habitat Management Plans.	No plan or plan not adequately implemented; habitats significantly altered or destroyed.	Plan promotes protection and enhancement of habitats, effective management of wildlife population.	No plan, or have plan but implementation unknown; possible adverse impacts may outweigh benefits.	Have plan but information unknown; possible benefits may outweigh adverse impacts.	Not Applicable

TABLE 2-1 SCREENING CRITERIA GUIDELINES FOR INSTALLATION EVALUATION (cont)

ON-SITE SCREENING CRITERIA	IMPACT CATEGORY 1 SIGNIFICANT EXISITING OF POTENTIAL IMPACTS		IMPACT CATEGORY 2 IMPACTS POORLY DEFINED OR UNKNOWN		IMPACT CATEGORY 3 INSIGNIFICANT IMPACTS
	Θ Significant Impact Potential (Adverse)	⊕ Significant Impact Potential (Beneficial)	- Unknown/Poorly Defined Impacts (Adverse)	+ Unknown/Poorly Defined Impacts (Beneficial)	Insignificant Impact Potential (adv. or bene.)
21. Soil Conservation Program.	No plan or plan not adequately implemented (i.e., no erosion controls, disturbance of steep slopes, ect.); or allow agric. Outleasing; observed significant erosion.	Plan is effectively implemented; erosion controls in place; eroded areas/silted in water-ways rehabilitated; environmental benefits observed.	Have plan but implementation/ effectiveness unknown; possible adverse impacts may outweigh benefits.	Have plan but implementation/ effectiveness unknown; possible benefits may outweigh adverse impacts.	Not Applicable.
22. Stormwater Management Plan.	None, but needed; or exists, but poorly implemented; water quality impacts observed.	Plan is effectively implemented; environmental benefits are observed.	No plan and water quality impacts unknown.	Have plan but effectiveness/ implementation unknown.	Not Applicable or minor activity/need.
23. Wetlands Management Plan	None, but needed; or exists, but poorly implemented; wetlands impacts observed.	Plan is effectively implemented; wetlands restored or improved.	No plan and wetland impacts unknown.	Have plan but effectiveness/ implementation unknown.	Not Applicable or minor activity/need.
24. Shoreline Erosion Plan.	None, but needed; or exists, but poorly implemented; or shoreline extensively modified, little natural shoreline remaining; or severe shoreline erosion observed.	Plan is effectively implemented; shoreline restoration or erosion controls in place; low impact/innovative erosion controls used.	No plan and erosion levels unknown.	Have plan but effectiveness/ implementation unknown.	Not Applicable or low erosion levels.

TABLE 2-1 SCREENING CRITERIA GUIDELINES FOR INSTALLATION EVALUATION (cont)

Vicinity Screening Criteria	IMPACT CATEGORY 1 SIGNIFICANT EXISITING OR POTENTIAL IMPACTS		IMPACT CATEGORY 2 IMPACTS POORLY DEFINED OR UNKNOWN		IMPACT CATEGORY 3 INSIGNIFICANT IMPACTS
	⊖ Significant Impact Potential (Adverse)	⊕ Significant Impact Potential (Beneficial)	- Unknown/Poorly Defined Impacts (Adverse)	+ Unknown/Poorly Defined Impacts (Beneficial)	· Insignificant Impact Potential (adv. or bene.)
25. Shellfish Areas.	Adjacent/on-site and closed or beds significantly impacted due to on site activities.	Open/undisturbed and adjacent/on-site.	Closed or impacted within one tidal excursion; causes of observed impacts poorly documented.	Open or no observed impacts but within one tidal excursion.	None documented within last 10 years within one tidal.
26. SAV Areas.	Areas adjacent/on-site recently disappeared and high probability of impact from site activities.	Areas adjacent/on-site are re-establishing. Have SAV replanting programs.	Areas within one tidal excursion; effects unknown/poorly defined.	---	None documented within last 10 years within one tidal.
27. Fish Spawning/ Nursery Areas.	Areas adjacent/on-site are contaminated or habitate has been physically disurbed/modified (i.e., dams, dredging, ect).	Areas adjacent/on-site are productive/ undisturbed	Areas within one tidal excursion; effects unknown/poorly defined	---	None documented within last 10 years within one tidal.
28. Wetlands Areas.	Areas adjacent/on site have been impacted, contaminated, or destoryed.	Areas adjacent/on-site are productive/ undisturbed, or wetlands areas rehabilitated ore re-established.	Areas within one tidal excursion; effect unknown/poorly defined.	---	None documented within last 10 years within one tidal.
29. Waterfoul Nesting/ Wintering Areas.	Areas adjacent/on-site being disturbed or destroyed.	Areas adjacent/on-site are undisturbed; and have habitat enhancement program.	Areas adjacent/on site effects unknown/poorly defined.	---	None.
30. Endangered Species (ES).	ES habitat adjancent/on site disturbed or destoryed; ES pop. descreasing.	ES habitat adjacent/on-site enhanced; ES pop. increasing.	ES habitat adjacent/on site exist; effects of base unknown/poorly defined.	---	None
31. Relative Impact on Tributary.	Site contributes significantly to local pollutant stress or has high probability impact; site identified as problem area.	Site controls or reduces pollutants in areas of pollutant stress; local environment has shown positive response to clean up efforts.	Site contributions are unknown but likely high in areas of pollutant stress; or water quality status of receiving waters not known.	Site attempts controls but effects unknown in stressed areas; environment has improved, but cause is unknown/ unclear.	Not Applicable; i.e. low level of pollutants , or site not on or near a tributary.

TABLE 3-1 FEDERAL DISHCARGERS IN STATE NUTRIENT STRATEGIES

STATE	BASINS	FALLINE	FACILITY NAME	NPDES	FLOW 1985	FLOW DESIGN	PHOSPHORUS 1985	PHOSPHORUS 2000	NITROGEN 1985	NITROGEN 2000	COST CAPITAL	COST O&M
MD	W CHESAP	BFL	ABERDEEN PROVING AREA-ABERDEEN	21237	1.00	3	2.4	0.2	18	8	1384	271
MD	W CHESAP	BFL	ABERDEEN PROVING GROUND-EDGEWO	21229	1.00	3	0.9	1.2	18	8	506	100
MD	PATUXENT	BFL	USA HQ, FORT MEADE STP	21717	1.90	2	0.4	0.3	18	8	0	0
VA	JAMES	BFL	FT. EUSTIS-US ARMY TRANSPORTATI	25216	1.65	3	6.4	2.0	18.7			
VA	POTOMAC	BFL	U.S. MARINE CORPS BASE-MAINSID	28363	1.58	2	0.2	0.18	14.9			

Flow in million gallons per day
Phosphorus and nitrogen concentrations are state estimates in mg per liter
Costs are state estimates in thousands of dollars

TABLE 3-2 CBLO LIST OF FEDERAL DISCHARGERS FLOW IN MGD, CONCENTRATIONS IN MG PER LITER

OBS	DISTYPE	SIC	BASIN	FALLINE	COUNTY	FACNAME	NPDES	FLOW85	DESIGN	LTP	TP85	TN85	BOD85	TSS85
1	IND	3483		AFL	HARFORD	ABERDEEN PROVING GROUND	3565	.	.	.	.	.	.	.
2	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-'PUSEY	21181	.	.	.	.	.	.	.
3	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-AIRFIE	21199	.	.	.	.	.	.	.
4	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-CHEM.	21253	.	.	.	.	.	.	.
5	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-DECONT	21245	.	.	.	.	.	.	.
6	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-NUCLEA	21202	.	.	.	.	.	.	.
7	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-NUCLEA	21261	.	.	.	.	.	.	.
8	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-STORAG	21211	.	.	.	.	.	.	.
9	IND	9711		AFL	HARFORD	ABERDEEN PROVING GROUND-VETERN	21172	.	.	.	.	.	.	.
10	IND	9621		AFL	NORTHAMPTON	CAPE CHARLES STATION-U.S.COAST	28550	.	.	.	.	.	.	.
11	IND	9621		AFL	BALTIMORE	DEFENSE CIVIL PREP AGENCY-DIDS	22519	.	.	.	.	.	.	.
12	IND	9711		AFL	CAROLINE	FT.HILL A. P.-RAPPAHANNOC	31097	.	.	.	.	.	.	.
13	IND	9711		AFL	CAROLINE	FT.HILL A. P.-U.S. ARCHER CAM	31071	.	.	.	.	.	.	.
14	IND	9711		AFL	CAROLINE	FT.HILL A. P.-U.S. ARMY GARRIS	31941	.	.	.	.	.	.	.
15	IND	9711		AFL	VIRGINIA BEACH CITY	U.S. NAVY-FLEET COMBAT DIRECTI	24261	.	.	.	.	.	.	.
16	IND	.		AFL		U.S.AIR FORCE	25658	.	.	.	.	.	.	.
17	IND	.		AFL		U.S.ARMY ABERDEEN PR GR	3563	.	.	.	.	.	.	.
18	IND	9711		AFL	CAROLINE	U.S.FORT A.P.HILL-RODES CAMP S	29904	.	.	.	.	.	.	.
19	IND	.		AFL		U.S.N. COMMUNICATIONS CTR	1571	.	.	.	.	.	.	.
20	IND	.		AFL		U.S.NAVY DAVID TAYLOR R AND D	3051	.	.	.	.	.	.	.
21	IND	9711		AFL	CAROLINE	US DEPT OF THE ARMY-CAMP A.P.	26654	.	.	.	.	.	.	.
22	IND	9199	JAMES	AFL	CHESTERFIELD	DEFENSE GENERAL SUPPLY CENTER	5754	.	.	.	.	.	.	.
23	IND	4521	JAMES	AFL	VIRGINIA BEACH CITY	NAVAL AIR STA-OCEANA	31801	.	.	.	.	.	.	.
24	IND	4521	JAMES	AFL	VIRGINIA BEACH CITY	NAVAL AIR STATION OCEANA	29131	.	.	.	.	.	.	.
25	IND	9711	JAMES	AFL	VIRGINIA BEACH CITY	NAVAL AMPHIBIOUS BASE	5461	.	.	.	.	.	.	.
26	IND	9711	JAMES	AFL	CHESAPEAKE CITY	NAVAL COMMUNICA STA-DEEP CREEK	31828	.	.	.	.	.	.	.
27	IND	9711	JAMES	AFL	CHESAPEAKE CITY	NAVAL SECURITY GROUP ACTIVITY	24244	.	.	.	.	.	.	.
28	IND	4582	JAMES	AFL	VIRGINIA BEACH CITY	NAVY OCEANA AIR STATION	5266	.	.	.	.	.	.	.
29	IND	7999	JAMES	AFL	PETERSBURG CITY	PETERSBURG NATIONAL BATTLEFIEL	27651	.	.	.	.	.	.	.
30	IND	9711	JAMES	AFL	CHESAPEAKE CITY	U. S. NAVAL STATION FONTRESS	31224	.	.	.	.	.	.	.
31	IND	9223	JAMES	AFL	PETERSBURG CITY	U.S. DEPT OF JUSTICE - FEDERAL	24317	.	.	.	.	.	.	.
32	IND	9711	JAMES	AFL	CHARLOTTESVILLE CTY	U.S.ARMY I-SGT F.D.PEREGORY US	31950	.	.	.	.	.	.	.
33	IND	9711	JAMES	AFL	COVINGTON CITY	U.S.ARMY PFC H. J. FRIDLEY USA	31968	.	.	.	.	.	.	.
34	IND	9711	JAMES	AFL	PRINCE GEORGE	US ARMY QUARTERMASTER CENTER &	25046	.	.	.	.	.	.	.
35	IND	9711	PATUXENT	AFL	ANNE ARUNDEL	FORT GEORGE G MEADE	3280	.	.	1	.	.	.	.
36	IND	.	PATUXENT	AFL	ST MARYS COUNTY	PATUXENT NAS NATC	20150	.	.	.	.	.	.	.
37	IND	4521	POTOMAC	AFL	WASHINGTON	BOLLING AIR FORCE BASE	78	.	.	.	.	.	.	.
38	IND	9711	POTOMAC	AFL	WASHINGTON	CMDT NAVAL DIST WASH DC	141	.	.	.	.	.	.	.
39	IND	9711	POTOMAC	AFL	MONTGOMERY	DAVID TAYLOR-NAVAL SHIP R&D CT	3051	.	.	.	.	.	.	.
40	IND	9711	POTOMAC	AFL	FREDERICK	DEPT OF ARMY-FT DETRICK	3018	.	.	.	.	.	.	.
41	IND	9711	POTOMAC	AFL	WASHINGTON	FORT LESLEY J. MCNAIR	20061	.	.	.	.	.	.	.
42	IND	9711	POTOMAC	AFL	ADAMS	FORT RITCHIE, FACILITIES ENGIN	36404	.	.	.	.	.	.	.
43	IND	9711	POTOMAC	AFL	WASHINGTON	FT. RITCHIE, FACILITIES ENG. D	24490	.	.	.	.	.	.	.
44	IND	9711	POTOMAC	AFL	FAIRFAX	FT.BELVOIR-REACTORS PLANT	2411	.	.	.	.	.	.	.
45	IND	9711	POTOMAC	AFL	FAIRFAX	FT.BELVOIR-US ARMY FACIL ENGR	32026	.	.	.	.	.	.	.

TABLE 3-2 CBLO LIST OF FEDERAL DISCHARGERS FLOW IN MGD, CONCENTRATIONS IN MG PER LITER (cont)

45	IND	9711	POTOMAC	AFL	FAIRFAX	FT.BELVOIR-US ARMY FACIL ENGR	32026	.	.	.	.	.	.	.	.
46	IND	4961	POTOMAC	AFL	WASHINGTON	G S A WEST HEATING PLANT	35	.	.	.	.	.	.	.	.
47	IND	7999	POTOMAC	AFL	ADAMS	GETTYSBURG NATL MILITARY PARK	43192	.	.	.	.	.	.	.	.
48	IND	4961	POTOMAC	AFL	WASHINGTON	GSA CENTRAL HEATING & REFRIGER	20036	.	.	.	.	.	.	.	.
49	IND	9199	POTOMAC	AFL	FRANKLIN	KETTERKENNY ARMY DEPOT/DENNIS	44521	.	.	.	.	.	.	.	.
50	IND	9199	POTOMAC	AFL	FRANKLIN	LETTERKENNY ARMY DEPOT/IW	10502	.	.	.	.	.	.	.	.
51	IND	9199	POTOMAC	AFL	FRANKLIN	LETTERKENNY ARMY DEPOT/MAIN ST	30597	.	.	.	.	.	.	.	.
52	IND	7999	POTOMAC	AFL	PRINCE WILLIAM	MANASSAS PARK #1, TOWN OF	28045	.	.	.	.	.	.	.	.
53	IND	7999	POTOMAC	AFL	PRINCE WILLIAM	MANASSAS PARK #2, TOWN OF	28053	.	.	.	.	.	.	.	.
54	IND	9621	POTOMAC	AFL	WASHINGTON	MARYLAND DEPT.OF TRANSPORTATIO	50083	.	.	.	.	.	.	.	.

TABLE 3-2 CBLO LIST OF FEDERAL DISCHARGERS FLOW IN MGD, CONCENTRATIONS IN MG PER LITER (cont)

OBS	DISTYPE	SIC	BASIN	FALLINE	COUNTY	FACNAME	NPDES	FLOW85	DESIGN	LTP	TP85	TN85	BOD85	TSS85
55	IND	9711	POTOMAC	AFL	MONTGOMERY	NATL NAVAL MED CENTER	21903	.	.	.	.	.	.	.
56	IND	9711	POTOMAC	AFL	PENDLETON	NAVAL RADIO STATION	20117	.	.	.	.	.	.	.
57	IND	9711	POTOMAC	AFL	LOUDOUN	OFFICE OF FACILITY MGMT FEMA	24759	.	.	.	.	.	.	.
58	IND	752	POTOMAC	AFL	WARREN	U S CUSTOMS SER-DETECTOR DOG T	31895	.	.	.	.	.	.	.
59	IND	8922	POTOMAC	AFL	PRINCE WILLIAM	U.S. ARMY HARRY DIAMOND LABOR	32158	.	.	.	.	.	.	.
60	IND	8062	POTOMAC	AFL	PRINCE WILLIAM	U.S. MARINE CORPS - QUANTICO	2151	.	.	.	.	.	.	.
61	IND	3483	POTOMAC	AFL	MONTGOMERY	U.S. NAVAL SURFACE WEAPONS CTR	24660	.	.	.	.	.	.	.
62	IND	8421	POTOMAC	AFL	WARREN	U.S.NATIONAL ZOOLOGICAL PK.SMI	25798	.	.	.	.	.	.	.
63	IND	9511	POTOMAC	AFL	PENDLETON	U.S.NAVAL RADIO STATION (R)	37818	.	.	.	.	.	.	.
64	IND	9199	POTOMAC	AFL	FREDERICK	U.S.NAVAL SUPPORT FACILITY	25119	.	.	.	.	.	.	.
65	IND	7542	POTOMAC	AFL	CARROLL	US ARMY CARROLL CNTY MEM USAR	25577	.	.	.	.	.	.	.
66	IND	9711	POTOMAC	AFL	FAIRFAX	US ARMY ENGINEER CTR&FORT BELV	25186	.	.	.	.	.	.	.
67	IND	9711	POTOMAC	AFL	BERKELEY	US ARMY MARTINSBURG MEM USAR C	43133	.	.	.	.	.	.	.
68	IND	7542	POTOMAC	AFL	MONTGOMERY	US ARMY MAUS-WARFIELD USAR CNT	25593	.	.	.	.	.	.	.
69	IND	9711	POTOMAC	AFL	WASHINGTON	US ARMY STUN MD MEMORIAL USAR	20079	.	.	.	.	.	.	.
70	IND	4961	POTOMAC	AFL	WASHINGTON	US CAPITOL POWER PLANT	116	.	.	.	.	.	.	.
71	IND	9711	POTOMAC	AFL	WASHINGTON	US NAVAL SECURITY GROUP COMMAN	20044	.	.	.	.	.	.	.
72	IND	3483	POTOMAC	AFL	MONTGOMERY	US NAVAL SURF WEAP-WHITE OAK	2283	.	.	.	.	.	.	.
73	IND	9711	POTOMAC	AFL	FAUQUIER	USASAFS VINT HILL FARMS STA WR	32140	.	.	.	.	.	.	.
74	IND	9711	POTOMAC	AFL	FAUQUIER	USASAFS, VINT HILL FARMS STP#1	2569	.	.	.	.	.	.	.
75	IND	8062	POTOMAC	AFL	WASHINGTON	WALTER REED ARMY MEDICAL CENTE	20095	.	.	.	.	.	.	.
76	IND	9711	POTOMAC	AFL	LOUDOUN	WESTERN VA AREA OFC BERRYVILLE	2593	.	.	.	.	.	.	.
77	IND	9711	SUSQUEHANNA	AFL	BROOME	AIR FORCE PLANT #59	4073	.	.	.	.	.	.	.
78	IND	.	SUSQUEHANNA	AFL	CUMBERLAND	CARLISLE	10251	.	.	.	.	.	.	.
79	IND	9199	SUSQUEHANNA	AFL	CUMBERLAND	DEPT OF THE ARMY-CARLISLE HQ	10251	.	.	.	.	.	.	.
80	IND	9199	SUSQUEHANNA	AFL	YORK	DEPT. OF ARMY, NEW CUMBERLAND	38385	.	.	.	.	.	.	.
81	IND	7999	SUSQUEHANNA	AFL	OTSEGO	GLIMMERGLASS STATE PARK	32492	.	.	.	.	.	.	.
82	IND	9711	SUSQUEHANNA	AFL	LEBANON	INDIANTOWN GAP MILLIARY RESERV	28142	.	.	.	.	.	.	.
83	IND	8221	SUSQUEHANNA	AFL	CECIL	NAVAL TRAINING CTR BRAINBRIDGE	2330	.	.	.	.	.	.	.
84	IND	9711	SUSQUEHANNA	AFL	YORK	NEW CUMBERLAND ARMY DEPOT	38962	.	.	.	.	.	.	.
85	IND	3483	SUSQUEHANNA	AFL	LACKAWANNA	SCRANTON ARMY AMMO PLANT	13650	.	.	.	.	.	.	.
86	IND	9711	SUSQUEHANNA	AFL	LEBANON	US ARMY RESERVE CTR-EDGMONT	36641	.	.	.	.	.	.	.
87	IND	8071	SUSQUEHANNA	AFL	TIOGA	US NATL FISHERIES RESEARCH & D	27677	.	.	.	.	.	.	.
88	IND	9711	SUSQUEHANNA	AFL	CECIL	US NAVAL TRAINING CENTER-BAINB	20869	.	.	.	.	.	.	.
89	IND	9621		BFL	ANNE ARUNDEL	ANNAPOLIS STATION-U.S. COAST G	24856	.	.	.	.	.	.	.
90	IND	9621		BFL	ANNE ARUNDEL	COAST GUARD STATION, ANNAPOLIS	20419	.	.	.	.	.	.	.
91	IND	9621		BFL	SOMERSET	CRISFIELD LIGHT ATTENDANT STAT	24902	.	.	.	.	.	.	.
92	IND	9711		BFL	BALTIMORE CITY	FORT HOLABIRD-BALTIMORE	2887	.	.	.	.	.	.	.
93	IND	7999		BFL	BALTIMORE CITY	FORT MCHENRY NATIONAL MONUMENT	24473	.	.	.	.	.	.	.
94	IND	9711		BFL	YORK	MARINE ENVIRONMENT PROTECTION,	25330	.	.	.	.	.	.	.
95	IND	9621		BFL	MATHEWS	MILFORD HAVEN STATION-U.S.COAS	28584	.	.	.	.	.	.	.
96	IND	8421		BFL	BALTIMORE CITY	NATIONAL AQUARIUM IN BALTIMORE	59676	.	.	.	.	.	.	.
97	IND	4521		BFL	SAINT MARYS	NAVAL AIR STATION PATUXENT RIV	20184	.	.	.	.	.	.	.
98	IND	4521		BFL	SAINT MARYS	NAVAL AIR STATION, PATUXENT RI	20141	.	.	.	.	.	.	.

TABLE 3-2 CBLO LIST OF FEDERAL DISCHARGERS FLOW IN MGD, CONCENTRATIONS IN MG PER LITER (cont)

99	IND	9711	BFL	CALVERT	NAVAL RESEARCH LAB/CHESAPEAKE	20168	.	.	.	.	.	.	.
100	IND	5171	BFL	YORK	NAVAL SUPPLY-YORKTOWN FUEL	31836	.	.	.	.	.	.	.
101	IND	3483	BFL	YORK	NAVY WEAPONS CENTER	5185	.	.	.	.	.	.	.
102	IND	9621	BFL	KENT	STILLPOND STATION-U.S.COAST GU	24872	.	.	.	.	.	.	.
103	IND	9621	BFL	DORCHESTER	TAYLORS ISLAND STATION-U.S. CO	24864	.	.	.	.	.	.	.
104	IND	9621	BFL	ANNE ARUNDEL	U.S. COAST GUARD LIGHT STATION	21318	.	.	.	.	.	.	.
105	IND	7999	BFL	YORK	U.S. COLONIAL NAT'L HIST. PARK	24180	.	.	.	.	.	.	.
106	IND	9621	BFL	YORK	U.S. CORPS ENGRS-UPPER TWIN FL	20001	.	.	.	.	.	.	.
107	IND	4521	BFL	SAINT MARYS	U.S. NAVAL AIR STATION- PATUXE	20150	.	.	.	.	.	.	.
108	IND	9711	BFL	NORFOLK CITY	U.S. NAVAL STATIOA (DEPERMIAG	24309	.	.	.	.	.	.	.

TABLE 3-2 CBLO LIST OF FEDERAL DISCHARGERS FLOW IN MGD, CONCENTRATIONS IN MG PER LITER (cont)

OBS	DISTYPE	SIC	BASIN	FALLINE	COUNTY	FACNAME	NPDES	FLOW85	DESIGN	LTP	TP85	TN85	BOD85	TSS85
109	IND	9711		BFL	ANNE ARUNDEL	U.S. NAVAL STATION	23523	.	.	.	.	.	.	.
110	IND	3483		BFL	CALVERT	U.S. NAVAL SURFACE WEAPONS CTR	24651	.	.	.	.	.	.	.
111	IND	9711		BFL	YORK	U.S. NAVAL WEAPONS STATION - S	24325	.	.	.	.	.	.	.
112	IND	9711		BFL	YORK	U.S. NAVAL WEAPONS STATION S	24333	.	.	.	.	.	.	.
113	IND	9711		BFL	NEWPORT NEWS CITY	U.S. NAVAL WEAPONS STATION - S	24341	.	.	.	.	.	.	.
114	IND	9711		BFL	YORK	U.S. NAVAL WEAPONS STATION - S	24350	.	.	.	.	.	.	.
115	IND	9711		BFL	YORK	U.S. NAVAL WEAPONS STATION-SEW	24210	.	.	.	.	.	.	.
116	IND	9711		BFL	YORK	U.S. NAVAL WEAPONS STATION-SEW	24228	.	.	.	.	.	.	.
117	IND	9711		BFL	YORK	U.S. NAVAL WEAPONS STATION-SEW	24236	.	.	.	.	.	.	.
118	IND	9621		BFL	ANNE ARUNDEL	U.S.COAST GUARD-CURTIS BAY YRD	3638	.	.	.	.	.	.	.
119	IND	9711		BFL	BALTIMORE CITY	U.S.NAVAL RESERVE CENTER - FOR	20036	.	.	.	.	.	.	.
120	IND	8221		BFL	ANNE ARUNDEL	U.S.NAVAL STATION-ANNAPOLIS	21920	.	.	.	.	.	.	.
121	IND	9711		BFL	ANNE ARUNDEL	US ARMY ANNAPOLIS USAR CENTER	25569	.	.	.	.	.	.	.
122	IND	7391		BFL	QUEEN ANNES	US ARMY CORPS OF ENGRS-HYDRALI	22501	.	.	.	.	.	.	.
123	IND	9621		BFL	BALTIMORE CITY	US COAST GUARD-BALTIMORE	25488	.	.	.	.	.	.	.
124	IND	8922		BFL	BALTIMORE CITY	US CORP OF ENGINEERS-FT MCHENR	21113	.	.	.	.	.	.	.
125	IND	7391		BFL	TALBOT	US DEPT OF COMM-NATL MARINE FI	21105	.	.	.	.	.	.	.
126	IND	9711		BFL	ANNE ARUNDEL	US NAVAL RADIO TRANSMITTER FAC	21911	.	.	.	.	.	.	.
127	IND	3483		BFL	CALVERT	US NAVAL SURF WEAP-SOLOMONS	2291	.	.	.	.	.	.	.
128	IND	9621	JAMES	BFL	NORFOLK CITY	LITTLE CREEK STATION-U.S.COAST	28576	.	.	.	.	.	.	.
129	IND	9199	JAMES	BFL	PORTSMOUTH CITY	NAVAL SUPPLY CENTER-CRANEY FAC	5487	.	.	.	.	.	.	.
130	IND	5171	JAMES	BFL	PORTSMOUTH CITY	NAVAL SUPPLY-CRANEY ISLAND FUE	31844	.	.	.	.	.	.	.
131	IND	3731	JAMES	BFL	PORTSMOUTH CITY	NAVY NORFOLK SHIPYARD	5215	.	.	.	.	.	.	.
132	IND	4582	JAMES	BFL	NORFOLK CITY	NAVY AIR REWORK	4413	.	.	.	.	.	.	.
133	IND	9711	JAMES	BFL	RICHMOND CITY	SFC ANGELO FRANCIS MICHETTI RE	31984	.	.	.	.	.	.	.
134	IND	7392	JAMES	BFL	HAMPTON	U.S. LANGLEY RESEARCH CENTER	24741	.	.	.	.	.	.	.
135	IND	9199	JAMES	BFL	PORTSMOUTH CITY	U.S. NAVAL SUPPLY CENTER - CRA	24279	.	.	.	.	.	.	.
136	IND	9199	JAMES	BFL	WILLIAMSBURG CITY	U.S. NAVAL SUPPLY CTR.-CHEATHA	32042	.	.	.	.	.	.	.
137	IND	3731	JAMES	BFL	NORFOLK CITY	U.S. NAVY NORFOLK NAVAL SHIPYA	25801	.	.	.	.	.	.	.
138	IND	9711	JAMES	BFL	WILLIAMSBURG CITY	U.S. NAVY, CHEATHAM ANNEY (NAV	24287	.	.	.	.	.	.	.
139	IND	4521	JAMES	BFL	HAMPTON	U.S.LANGLEY AFB	31861	.	.	.	.	.	.	.
140	IND	9621	JAMES	BFL	HAMPTON CITY	VA DEPT OF HGWYS HAMPRDS BR-TU	5657	.	.	.	.	.	.	.
141	IND	9621	POTOMAC	BFL	ALEXANDRIA CITY	ALEXANDRIA RESERVE TRAINING CE	28541	.	.	.	.	.	.	.
142	IND	9711	POTOMAC	BFL	PRINCE GEORGES	ANDREWS AFB, CAMP SPRINGS - ST	21296	.	.	.	.	.	.	.
143	IND	9711	POTOMAC	BFL	PRINCE GEORGES	ANDREWS AFB, CAMP SPRINGS - ST	21300	.	.	.	.	.	.	.
144	IND	9711	POTOMAC	BFL	ARLINGTON CITY	ARLINGTON HALL STATION-USAG	2615	.	.	.	.	.	.	.
145	IND	9711	POTOMAC	BFL	CHARLES	CHARLES COUNTY COMMISIONERS-GS	52566	.	.	.	.	.	.	.
146	IND	4961	POTOMAC	BFL	ARLINGTON CITY	GSA-VA HEATING & REFRIGERATION	32000	.	.	.	.	.	.	.
147	IND	9661	POTOMAC	BFL	PRINCE GEORGES	NASA-GODDARD SPACE FLIGHT CENT	25534	.	.	.	.	.	.	.
148	IND	9711	POTOMAC	BFL	PRINCE GEORGES	NAVAL COMMUNICATION STA WASH	1571	.	.	.	.	.	.	.
149	IND	9711	POTOMAC	BFL	SAINT MARYS	NAVAL ELEC SYS,ENGINEERING ACT	20095	.	.	.	.	.	.	.
150	IND	3483	POTOMAC	BFL	CHARLES	NAVAL ORDANCE STATION	3158	.	.	.	.	.	.	.
151	IND	3483	POTOMAC	BFL	CHARLES	NAVAL ORDINANCE STATION	25135	.	.	.	.	.	.	.
152	IND	9621	POTOMAC	BFL	SAINT MARYS	PINEY POINT STATION-U.S.COAST	24881	.	.	.	.	.	.	.

TABLE 3-2 CBLO LIST OF FEDERAL DISCHARGERS FLOW IN MGD, CONCENTRATIONS IN MG PER LITER (cont)

153	IND	4521	POTOMAC	BFL	PRINCE GEORGES	U.S. ANDREWS A.F.B.	2208	.	.	.	.	.	.	.
154	IND	9711	POTOMAC	BFL	PRINCE GEORGES	U.S. ANDREWS AFB STP #4	22420	.	.	.	.	.	.	.
155	IND	9711	POTOMAC	BFL	CHARLES	U.S.NAVAL ORDNANCE STATION NO.	20907	.	.	.	.	.	.	.
156	IND	9711	POTOMAC	BFL	CHARLES	U.S.NAVAL ORDNANCE STATION SIT	20915	.	.	.	.	.	.	.
157	IND	9711	POTOMAC	BFL	CHARLES	U.S.NAVAL ORDNANCE STATION-SIT	20885	.	.	.	.	.	.	.
158	IND	9711	POTOMAC	BFL	CHARLES	U.S.NAVAL ORDNANCE STATION-SIT	20893	.	.	.	.	.	.	.
159	IND	9199	POTOMAC	BFL	PRINCE GEORGES	US ARMY PRINCE GEORGES MEM USA	25607	.	.	.	.	.	.	.
160	IND	7391	POTOMAC	BFL	PRINCE GEORGES	US DEPT OF AGRICULTURE-AGRI RE	20842	.	.	.	.	.	.	.
161	IND	7 91	POTOMAC	BFL	PRINCE GEORGES	US DEPT OF AGRICULTURE-WEST ST	20851	.	.	.	.	.	.	.
162	IND	9711	POTOMAC	BFL	PRINCE GEORGES	US.NAVAL COMMUNICATIONS UNIT	25127	.	.	.	.	.	.	.

TABLE 3-2 CBLO LIST OF FEDERAL DISCHARGERS FLOW IN MGD, CONCENTRATIONS IN MG PER LITER (cont)

OBS	DISTYPE	BASIN	FALCOUNTY	FACNAME	NPDES	FLOW85	DESIGN	LTP	TP85	TN85	BOD85	TSS85
163	IND	POTOMAC	BFL DC	WASHINGTON NAVY YARD	141	.	.	.	.	.	.	.
164	IND	SEVERN	BFL ANNE ARUNDEL	U.S.NAVAL ACADEMY	2488	.	.	.	.	.	.	.
165	IND	YORK	BFL YORK	CAMP PEARY	24392	.	.	.	.	.	.	.
166	MUN 4952		AFL VIRGINIA BEACH CITY	U.S. NAVY-FLEET COMBAT DIRECTI	24252	.	.	.	6.4	20.90	.	.
167	MUN 4952	JAMES	AFL BOTETOURT	U.S. BLUERIDGE PARKWAY - PEAKS	24384	.	.	.	6.4	20.90	.	.
168	MUN 4952	POTOMAC	AFL PRINCE WILLIAM	RIFLE RANGE FBI SEWAGE TREATME	28355	.	.	.	6.4	20.90	.	.
169	MUN 4952	POTOMAC	AFL PRINCE WILLIAM	U.S. MARINE CORPS BASE, BROWNF	28339	.	.	.	6.4	20.90	.	.
170	MUN 4952	POTOMAC	AFL PRINCE WILLIAM	U.S. MARINE CORPS BASE, MIDWAY	28347	.	.	.	6.4	20.90	.	.
171	MUN 4952	POTOMAC	AFL MONTGOMERY	US NAVY NATL NAVAL MEDICAL CNT	25615	.	.	.	6.5	20.90	.	.
172	MUN 4952		BFL YORK	U.S. NAVAL WEAPONS STATION - S	24368	.	.	.	6.4	20.90	.	.
173	MUN 4952		BFL YORK	U.S. NAVAL WEAPONS STATION - S	24376	.	.	.	6.4	20.90	.	.
174	MUN 4952	POTOMAC	BFL CHARLES	NAVAL ORDNANCE STATION SITE S	25461	.	.	.	6.5	20.90	.	.
175	MUN 4952	POTOMAC	AFL WASHINGTON	US ARMY FORT RITCHIE STP	3221	0.45	.	.	.	.	.	.
176	MUN 4952	W CHESAP	BFL HARFORD	ABERDEEN PROVING AREA-ABERDEEN	21237	1.00	3	.	3.5	18.00	4.73750	4.1875
177	MUN 4952	W CHESAP	BFL HARFORD	ABERDEEN PROVING GROUND-EDGEWO	21229	1.00	3	2.00	1.0	16.60	4.28571	4.7143
178	MUN 4952	POTOMAC	AFL FREDERICK	US ARMY FORT DETRICK STP	20877	1.20	2	.	7.0	20.90	.	.
179	MUN 4952	POTOMAC	BFL PRINCE WILLIAM	U.S. MARINE CORPS BASE-MAINSID	28363	1.58	2	0.18	0.2	14.87	5.70000	10.0000
180	MUN 9711	JAMES	BFL NEWPORT NEWS CITY	FT.EUSTIS-US ARMY TRANSPORTATI	25216	1.65	3	.	6.4	18.70	9.80000	18.4000
181	MUN 4952	PATUXENT	AFL ANNE ARUNDEL	USA HQ, FORT MEADE STP	21717	1.90	2	.	0.5	18.00	.	.

TABLE 3-3 SUMMARY OF AREAS OF CONCERN AND RECOMMENDATIONS FOR APG

ACTIVITY/POLLUTANTS OF CONCERN	ONSITE	OFFSITE/VICINITY	RECOMMENDATIONS	EST. COST
Aberdeen Area STP phosphorus, pH, chlorine.	Tertiary STP is in frequent noncompliance with permit limits for phosphorus, pH, and residual chlorine. STP upgrades to correct deficientcies are in planning stages	APG water quality data show generally good water quality conditions to Spesutie Narrows for conventionals and metals. No sediment quality data available.	Review STP operations and determine and implement upgrades, including change in precipitator chemicals for phosphorus removal, and increase SO_2 application.	Study: $30,000 Upgrades: $60,000 to $150,000
Aberdeen and Edgewood STP's/ possible toxics in effluent.	Both STP's accept industrial waste, not all pretreated. A toxics monitoring program is planned for the Aberdeen Area STP. No data are yet available	No information available on levels of toxics in sediments or benthic biota in vicinity of STP outfalls.	Review effluent toxics monitoring program data to determine industrial pretreatment requirements, if any, for Aberdeen Area STP. Determine need for similar program at Edgewood STP.	Pretreatment study: $50,000 - $100,000
Stormwater runoff from uncontrolled munitions testing/ operations, and chemical burning areas, and vehicle test track operations.	Active detonation of chemicals and propellants on at least 3 areas - "J", "O" and "Old Bombing" Fields. Perryman vehicle test track adjacent to sod Run and Romney Creek.	Limited data collected in 1981 shows low levels of munitions chemicals in local receiving waters at active burn sites. Data is statistically inconclusive, however. Study performed in 1984 at Perryman Test Track shows high TSS levels in Sod Run, and low pH. No toxic levels were observed in receiving waters.	Develop a stormwater management plan for APG, including monitoring of munitions chemicals adjacent to active detonation/burn areas, and test track areas.	Develop SWM Plan: $40,000 Monitoring: $100,000/yr Feasibility Study for Controls: $50,000 - $100,000 each site

TABLE 3-3 SUMMARY OF AREAS OF CONCERN AND RECOMMENDATIONS FOR APG (cont)

ACTIVITY/POLLUTANTS OF CONCERN	ONSITE	OFFSITE/VICINITY	RECOMMENDATIONS	EST. COST
Wetland and Open Water Test Firing Ranges - metals, ordnance chemicals, shock waves.	Large wetlands and open water areas contaminated by millions of UXO's and duds.	Available APG biological species data from 1980 show no statistically significant trends in biota stress.	If possible, confine future firing to limited areas, of low habitat value.	Unknown
White Phosphorous (WP) deposit.	Large area of WP deposited in tidal flat near entrance to Spesutie Narrows, adjacent to channel dredging activities.	Studies (Sullivan, et al, 1979) show elemental P in water at I ug/l extremely toxic to aquatic life.	Conduct monitoring and feasibility study of WP deposit to determine extent of deposit, associated risks, and feasible mitigation measures.	Study: $150,000 Monitoring: $100,000
Inactive disposal sites, landfills, chemical and munition burnpits, and past industrial discharges to creeks.	AEHA and APG data in several creeks (King, Canal, Watson, Wright) show elevated levels of trace organics and metals above EPA threshold toxicity levels for aquatic life.	Available data confined to creeks on site.	Expand current stream monitoring program to include sediment quality, priority pollutants, ordnance and research chemical agents at selected locations.	Monitoring: $200,000/yr Develop Program: $40,000
Hazardous wast CERCLA Confirmation Sites/inactive landfills, trace organics, pesticides, metals.	Several inactive landfills believed to be leaching toxics into groundwater system, with possible offpost migration and/or to surface waters.	No data available for review at this time. Monitoring programs being planned by APG and USATHAMA.	Recommendations await findings of USATHAMA confirmation studies.	Confirmation Study: $500,000 - $1,000,000

TABLE 3-3 SUMMARY OF AREAS OF CONCERN AND RECOMMENDATIONS FOR APG (cont)

ACTIVITY/POLLUTANTS OF CONCERN	ONSITE	OFFSITE/VICINITY	RECOMMENDATIONS	EST. COST
Untreated NPDES industrial discharges - oil and grease ordnance chemicals, phenols pH.	Outfalls are used intermittently. Treatment facilities scheduled for installation at outfalls 003, 004, 010 and 006 by Oct. , 1986. Outfall 007 to be disconnected.	APG water quality data show moderatley stressed conditions for several streams.	Recommendations dependent on status of actions to be taken to upgrade or disconnect these discharges as planned.	--

TABLE 3-4 DEPARTMENT OF DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
State by State Installation Status Listing
(As of 30 September, 1987)
Number of Sites

	PA/SI		RI/FS			RD/RA		
	C	U	C	U	F	C	U	F
MARYLAND								
ARMY								
ABERDEEN PRVG GRND. EDGEWOOD	9			9	1			5
ABERDEEN PRVG GRND. MICHAELSVILLE	1			1				
BLOSSOM POINT FIELD TEST ACTIVITY	7		1		6			
FORT MEADE	1		1					
JACHMAN RESERVE CENTER	1		1					
LAUDERICK CREEK TRAINING AREA	1		1					
NIKE SITE 3	1		1					
NIKE SITE 79	1		1					
NIKE SITE, PHOENIX				1			1	
NIKE SITE, WAYLAND	1		1					
PHOENIX, MILITARY RES				1				1
NAVY								
NAS PATUXENT RIVER	15	2	11	4			3	1
NIROP CUMBERLAND	7		6	1				1
NOS INDIAL HEAD	3		3				2	
NSWC WHITE OAK	7		6	1				1
NTC BAINBRIDGE	3			3				
AIRFORCE								
ANDREWS AFB	14			15			2	13
MARTIN AIRPORT ANG	1	7	1					
MARYLAND TOTALS	**73**	**9**	**34**	**36**	**7**	**0**	**8**	**22**

TABLE 3-4 DEPARTMENT OF DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (cont)
State by State Installation Status Listing
(As of 30 September, 1987)
Number of Sites

	PA/SI		RI/FS			RD/RA		
	C	U	C	U	F	C	U	F
PENNSYLVANIA								
ARMY								
EAST JADWIN DAM	1		1					
FORT INDIANTOWN GAP	1				1			
FORT MIFFLAN	1		1					
LETTERKENNY ARMY DEPOT	4		1	3			2	1
LOCK HAVEN	1		1					
NEW CUMBERLAND AD	3		2	1		1	1	
NIKE SITE 93	1		1					
NIKE SITE, FINLEYVILLE	1		1					
NIKE SITE, GASTONVILLE	1		1					
TOBYHANNA AD	4		1	2	2	1	1	1
NAVY								
NADC WARMINSTER	9							9
NAS WILLOW GROVE	10		10					
NSY PHILADELPHIA	8		6	2			1	
SPCC MECHANICSBURG	4		4					
AIRFORCE								
GREATER PITTSBURG IAP	8			8				
OLMSTED FIELD		2	1	6			7	
WILLOW GROVE ARF	7		3	4			3	
PENNSYLVANIA TOTALS	**64**	**2**	**34**	**26**	**3**	**2**	**15**	**11**

TABLE 3-4 DEPARTMENT OF DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (cont)
State by State Installation Status Listing
(As of 30 September, 1987)
Number of Sites

	PA/SI		RI/FS			RD/RA		
	C	U	C	U	F	C	U	F
VIRGINIA								
ARMY								
BYRD FIELD	1		1					
CALLAGHAN	1		1					
FORT A.P. HILL	4		4	2		1		
FORT BELVOIR	1		1					1
FORT EUSTIS	2		1	1				
FORT STORY	1			1				
NG VA BEACH	1		1					
RADFORD AAP	2			2			1	
RICHLANDS	1		1					
WOODBRIDGE RESEARCH FACILITY	1		1			1		
NAVY								
FCTC DAM NECK	4		4					
MCDEC QUANTICO	7		1	6			6	
NADEP NORFOLK				1			1	
NAS NORFOLK				1			1	
NAS OCEANA	6		6	1			1	
NAVPHIBASE LITTLE CREEK	6		6					
NRS DRIVER VA	3		3	1				1
NSC CHEATHAM ANX WILLIAMSBURG	20		20					
NSC NORFOLK	5		5					
NSWC DAHLGREEN	6		6				3	
NSY (NORFOLK) PORTSMOUTH	10		4	6				5
NWS YORKTOWN	15			15				15
PWC NORFOLK	5		4	1			1	
AIRFORCE								
BYRD ANG (RICHMOND IAP)	1			1				
LANGLEY AFB	2	1	1	2			2	
DEFENSE LOGISTICS AGENCY								
DGSC RICHMOND	5		3	2				2
VIRGINIA TOTALS	**110**	**1**	**74**	**43**	**0**	**2**	**16**	**24**