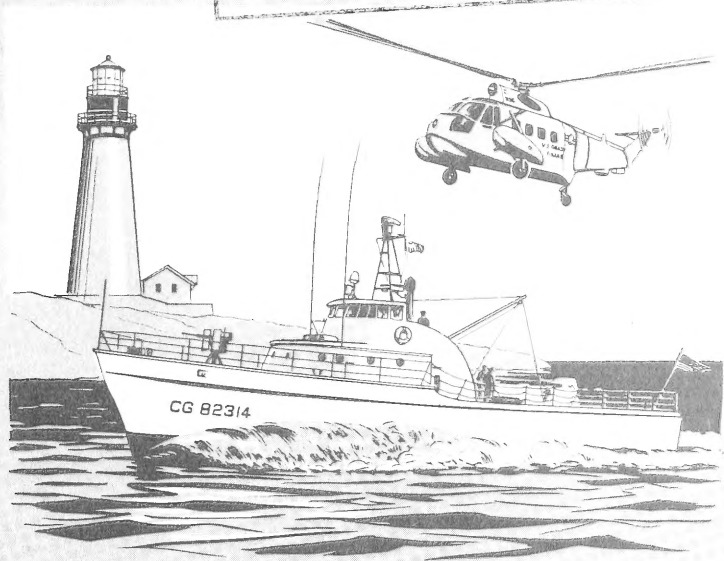


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U.S. COAST GUARD

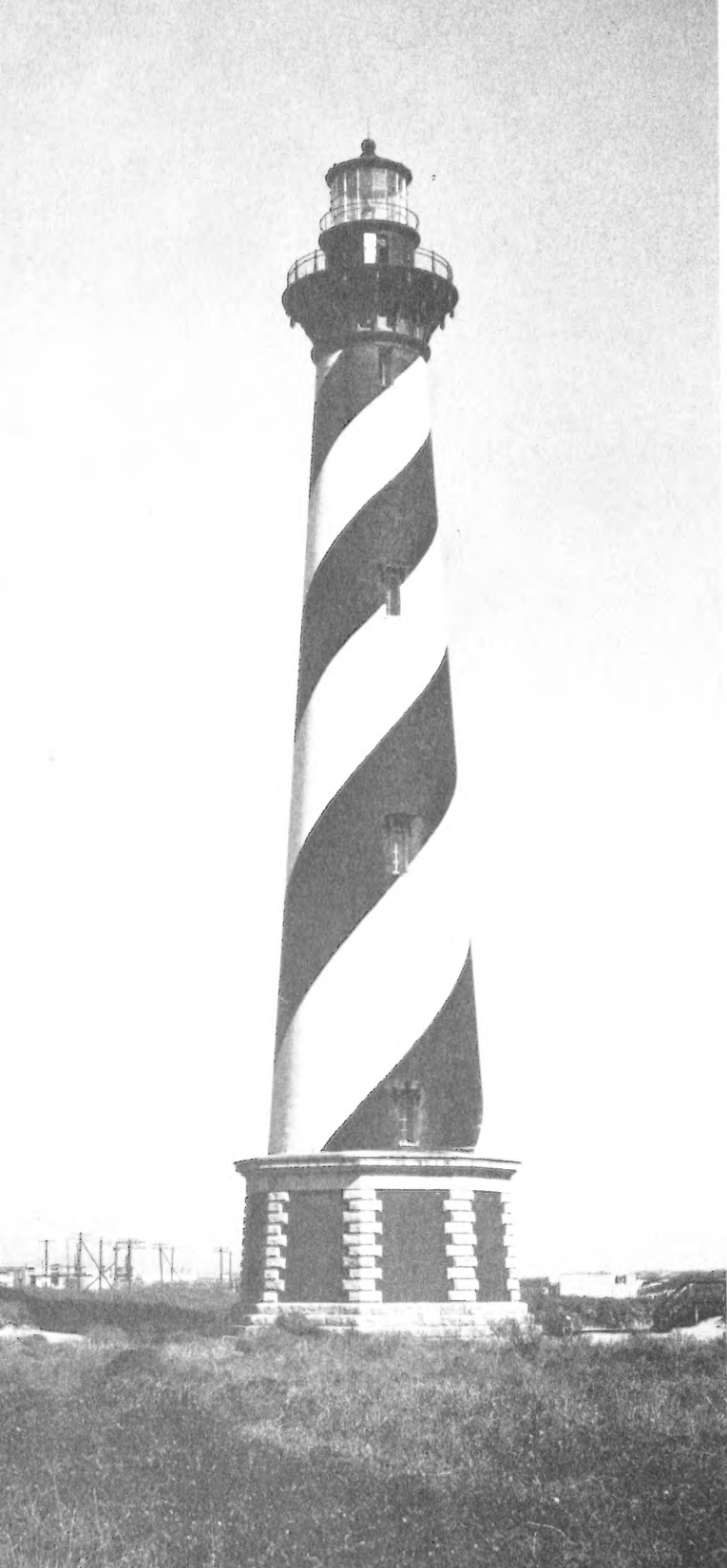
a study of its origin,
responsibilities, relationships,
and direction

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Foreword

Ever since assuming my duties as Secretary of the Treasury in January 1961, I have been concerned about the critical problem facing the United States Coast Guard because of the obsolescence of much of its equipment and facilities. A review of long-range requirements for vessels, shore stations, and aircraft indicated a need for a phased program of capital expenditures totaling more than \$1 billion in order to provide adequate operating tools for the men of the Coast Guard.

I concluded that a comprehensive study of the Coast Guard's roles and missions, together with a review of existing policy and operational guidelines, would be helpful in deciding our course of action. Accordingly, a study of the Coast Guard's 10 major missions was begun by an inter-agency group composed of experts from the Bureau of the Budget, the Department of Defense and the Treasury Department. This study, lasting 8 months, was concluded in June 1962, and resulted in 80 recommendations. I have now directed that action be taken on 76 of them.

This pamphlet summarizes the reports submitted to me by the study group and the most significant implementing actions I have approved. Some of these actions will be taken immediately; others will take effect only in phases extending over a number of years. The results of the study should prove to be extremely beneficial to the United States Coast Guard and to the people it serves.



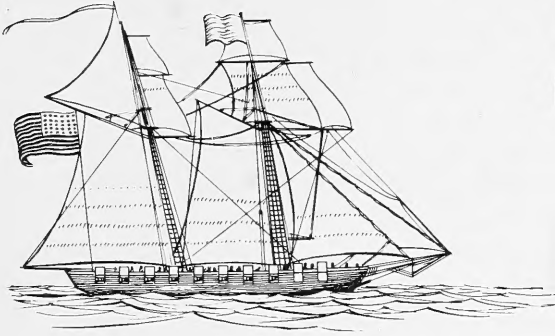
Douglas Dillon



Table of Contents

	Page
Historical Highlights	1
Port Security	8
Military Readiness	10
Aids to Navigation	12
Oceanography	14
Law Enforcement	19
Search and Rescue	26
Ocean Stations	29
Merchant Marine Safety	30
Reserve Training	35
Icebreaking	39

Historical Highlights



That versatile triphibious (sea, air, and land) service that became the Coast Guard was created in 1790, soon after the American nation was born. Its development paralleled that of the new nation, and it grew in much the same fashion—sporadically, swinging pendulum-like between progress and doldrums, meeting each new situation by improvising, learning by experience what could threaten a nation's safety and maritime interests, and by trial and error how to deal with the dangers.

In war and peace the service has had many varied duties, and has had to produce results under handicaps of overlapping authority, obsolete and sometimes conflicting laws, and complex interagency relationships.

Many of the Coast Guard's multiple functions were transferred to it during national emergencies, under the hard logic of expediency; there was nobody else who could do the job right then. With imagination and flexibility, the Coast Guard fitted each new task into its pattern of operation.

The first U.S. Congress accepted 12 lighthouses built by the colonies along the Atlantic seaboard, and authorized 10 light, fast, 50-foot two-masted schooners to enforce customs and revenues laws. Though both the Revenue Cutter Service and the Lighthouse Establishment were placed under the Secretary of the Treasury, they operated independently of each other for more than a century, becoming part of the Coast Guard in 1915 and 1939, respectively.

The expenses of the Lighthouse Establishment were borne by the Federal treasury, while the Cutter Service was financed from tariffs collected on imported goods, and was controlled by the Collectors of Customs of U.S. ports.

Most Cutter Service men had fought the British during the Revolution and they were sea-wise and battle-worthy. They played a grim and effective game of hide-and-seek with smugglers. With Marines aboard, they raided French shipping along the coast and in the West Indies. During these hostilities, the *Eagle* seized 5 armed vessels and helped capture 4 others, out of a total of 90 French vessels taken.

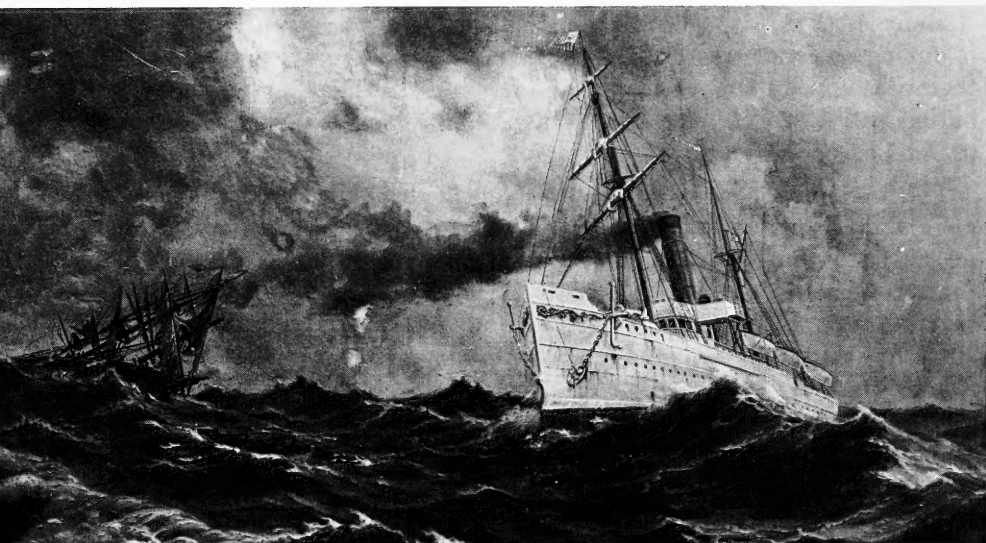
After a decade of peace, the Revenue Cutters helped fight the British in the War of 1812, taking a number of prizes. They also had stirring set-tos with slavers and pirates, finally making these enterprises unprofitable.

During the Seminole War, Cutter crews often stormed ashore and chased marauding bands of Seminoles all the way to the Everglades. They helped the Navy in Civil War actions.

However, not all the Cutter Service duties involved fighting. From the very first, Cutter men had gone to the aid of ships in distress, in the age-old tradition of the sea.

In 1831 the Secretary of the Treasury made search and rescue a formal part of Revenue Cutter duty with orders to the *Gallatin* to cruise coastal waters in search of "persons in distress." Five years later the *Jackson* was authorized to patrol off-shore waters to aid distressed mariners. The following year, 1837, Congress gave the President authority to detail public vessels to winter coastal patrol for the same purpose. "Winter Cruising" off the Atlantic coast became standard practice, along with law enforcement work.

To this was soon added authority to police the loading of explosives and other dangerous cargo in U.S. ports, and enforcement of regulations in anchorage grounds and harbors.

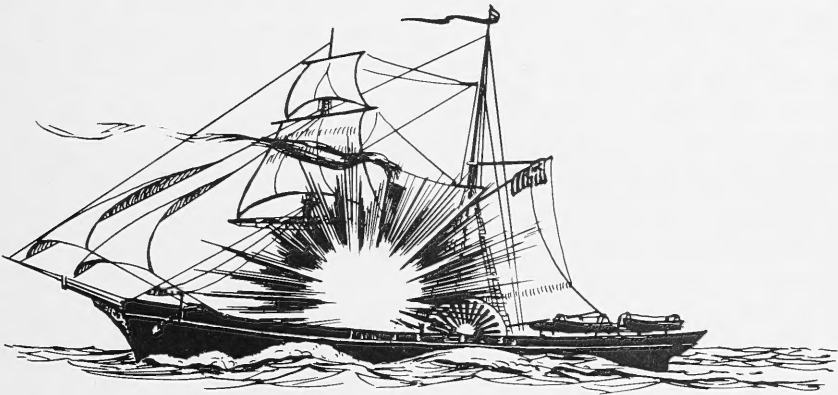


Beginning in 1848, the Revenue Cutter Service (by then the U.S. Marine Bureau) established Houses of Refuge for distressed seamen along the New Jersey shore. In 1878 this effort was separated from the parent Service and became the independent U.S. Lifesaving Service. By 1900 the Lifesaving Service operated 269 stations in 12 districts along the eastern seaboard.

In the meantime America had acquired a new frontier, the Territory of Alaska, purchased from Russia in 1867. Revenue Cutters were sent to patrol these waters, and in isolated areas the Cutter captain was the only representative of lawful government. The Service became very active, first in law enforcement and aid to mariners, then charting, exploring, sounding and locating fishing areas, ice-breaking, and finally in administration of the Territory.

Since Robert Fulton invented the steamboat in 1807, units of this glamorous new means of transportation had been blowing up with terrifying regularity, killing passengers and destroying cargo. In 1852 the Marine Inspection Service was established in the Treasury Department (separately from the Revenue Cutter Service), with authority to license engineers and pilots, and to inspect hulls, boilers, lifeboats, signal lights, and firefighting equipment.

This was followed some years later by creation of the Bureau of Navigation, also in Treasury, to administer the Nation's marine laws.



This, like the Marine Inspection Service, was also a separate Bureau. Both were to be transferred later to Commerce, where they would be merged as the Bureau of Marine Inspection and Navigation, and eventually transferred to the Coast Guard.

Technologies changed. The Revenue Cutter Service converted from sail to steam-powered iron hulls. The Lifesaving Service established an efficient telephone network for relaying weather information to the

Army Signal Corps, and added powered lifeboats. Lighthouses began to burn acetylene and electricity, and some were made automatic.

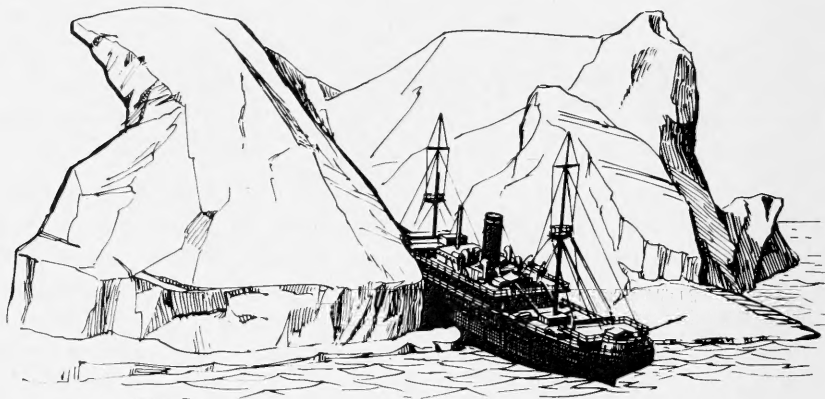
All these bureaus, services, establishments, and miscellaneous maritime programs boomed into the 20th century, proliferating, overlapping, and growing as turbulently as America's economic and industrial might.

The Motorboat Act of 1910 set up required safety standards for vessels 65 feet or less in length, which covered virtually all the pleasure boats being built in increasing numbers, as well as commercial craft too small to come under the steamboat inspection laws. The Cutter Service had the job of enforcement, and boating accidents dropped to a fraction of what they had been.

The world beyond the oceans moved in upon us with international responsibilities. There was an international conference on maritime safety; 32 nations signed the convention for protection of submarine cables. Wireless was made standard equipment aboard ship.

The United States, Russia, Great Britain, and Japan signed an agreement to protect the vanishing fur seals and sea otters in 1911, and the Bering Sea Patrol was created.

The *Titanic* rammed an iceberg and sank in 1912 and the International Ice Patrol was formed 2 years later, with the Revenue Cutters playing an important part. Operational airplanes and the First World War were just over the horizon. As the seagoing Revenue Cutter Service grew, so did the shore-based U.S. Lifesaving Service. Recognizing their similarities and complementary aspects, Congress in 1915 amalgamated them under the name of the United States Coast Guard. The new service had a total of 255 officers and 3,900 warrant officers and enlisted men. It manned a Washington headquarters, 17 regional commands, 4 depots, an academy, 25 cruising cutters, 20





harbor cutters, and 280 lifeboat stations. The law placed it under the Secretary of the Treasury during peacetime and under the Navy in time of war.

In 1917 the Coast Guard was given part of the responsibility of enforcing the Espionage Act and the Neutrality Laws. Our neutrality was at an end. During World War I the Coast Guard maintained a port security force of more than 41,000 officers and men, and performed sea patrol and vessel escort duty.

After the war the Coast Guard returned to peacetime duties ever more complex and extensive. Prohibition plunged the service into perhaps as dramatic and frustrating a large-scale law enforcement effort as any major nation ever attempted. New functions such as icebreaking, new scientific developments for the study of ocean currents, new responsibilities in conservation, new techniques such as search and rescue patrol by aircraft demanded more trained personnel, more equipment, and more liaison with other Government and non-Government agencies. In 1939 the Bureau of Lighthouses with its 5,200 officers and men, 30,000 aids to navigation, and other facilities was transferred to the Coast Guard. Two years later the Navy transferred its radio-direction-finding stations to the Coast Guard.

Pearl Harbor put the Service back into the Navy for the duration, and Coast Guard cutters and planes hunted the Nazi submarine "wolf-packs," patrolled the icy coasts of Greenland and Newfoundland, rescued thousands of survivors from torpedoed ships, and participated in invasions from Salerno to the Philippines. Victory won, the Coast Guard once more returned to Treasury jurisdiction.

Postwar developments dealt with materials and techniques un-



known 10 years before: nuclear power, LORAN, International Geophysical Year research in the Antarctic, to name only a few.

During all the years from 1790 Coast Guard authority and policy had been a piecemeal affair as one and another and then another function was added to its activities. (For example, the vital Ocean Station Vessel program is operated by the Coast Guard, but financed by the Defense Department; this splits administration and authority.) In the field of Merchant Marine Safety alone, multiple responsibilities and overlapping jurisdictions currently force the Coast Guard to maintain active liaison with 23 agencies in 8 U.S. Government departments, and with 46 non-Government agencies and advisory bodies.

This loosely-knit fabric of responsibility and authority had never been codified as a cohesive body of law, which made long-range planning and programing difficult, to say the least.

In 1949, Congress enacted Title 14 of the U.S. Code, which for the first time in history specified the Coast Guard's ". . . responsibilities, functions, and spheres of activity." This welcome document, however, simply spelled out Coast Guard responsibility and authority. It told the Service what it had to do but left all details of operation, programing, and funding to be worked out by the Coast Guard and its multitude of cooperating agencies.

Meantime, Coast Guard facilities have been deteriorating rapidly. Most of its major cutters are approaching obsolescence. Replacement has become critical. It is estimated that the replacement cost of facilities could reach more than a billion dollars over the next 10 years.

The lack of properly documented overall policy guidelines left the Secretary of Treasury and the Director of the Bureau of the Budget in no position to make the major policy decisions demanded by the growing breadth and complexity of Coast Guard operations, as well as by obsolescence of equipment. To correct this situation, and to have the scope and extent of its responsibilities in all areas clearly defined for the first time in its history, an exhaustive inter-departmental study of Coast Guard Roles and Missions was carried out in 1962.

The following chapters on the 10 major missions of the Coast Guard have been condensed from this study. In addition to describing each mission briefly, each chapter contains minimum specific recommendations that can bring the Coast Guard up to par in personnel and facilities with the other branches of the Armed Forces.



Port Security



To a nation at war, no domestic consideration is more vital than the security of its ports. Sabotage or accident that destroys a port reduces the flow of troops, material, and supplies to reinforce our forces and our allies overseas.

Traditionally, port security has been a wartime function of the Coast Guard. In World War I and again in World War II the Coast Guard built up its port security forces.

Acting under delegation of authority from the Secretary of Navy, the Commandant on April 15, 1942, ordered district officers and captains of the ports to “. . . deny entrance to and remove from all vessels, harbors, ports, piers, and waterfront facilities . . . all persons whose presence thereon is found . . . to be inimical to the national war effort by reason of, but not limited to, drunkenness, violations of safety orders, or subversive inclinations as demonstrated by utterances or acts.”

The period from mid-1942 to mid-1943 saw the greatest expansion of port security forces. These ultimately amounted to 22 percent of the Coast Guard's wartime manpower. The high point was reached in July of 1943 when a total of 28,482 officers and men were assigned to port security duties. These were assisted by 20,000 temporary reserve personnel serving without pay in volunteer port security forces.

The port security program ended with the war's end, but the United States was headed for decades of tensions, international emergencies, and near-wars. In 1950, the so-called Magnuson Act enabled the President to institute a security program whenever he should decide that the United States was in danger. The President implemented the bill with Executive Order 10173, and the Coast Guard was once again charged with carrying out an active port security program for the country.

Security measures similar to those of World War II, but on a reduced scale, were put into effect. Specifically, the Coast Guard was responsible for:

- a. The control of anchorage and movement of merchant vessels within the territorial waters of the United States;
- b. The supervision of loading and discharge of explosives and other dangerous cargo;
- c. The provision of fire-fighting facilities supplementing those already available;
- d. The development and enforcement of suitable and adequate fire-prevention measures;
- e. The issuance of identification credentials and the control of access to vessels and waterfront facilities; and
- f. The operation of shore and harbor patrols in connection with the foregoing activities.

Personnel strength did not approach that of World War II. The period 1950-52 saw a maximum of about 4,800 officers and men engaged in port security activities. De-emphasis of certain functions of the program reduced personnel to something under 4,000 men and officers by the close of 1953.

After the Korean emergency the port security forces declined by another 2,000 officers and men. But since Executive Order 10173 remained in effect, there was no proportionate decrease either in the Coast Guard's port security responsibility or in its operational workload.

Penalties for violation include prison sentences up to 10 years, and fines up to \$10,000. If a vessel is involved, it may be confiscated.

The port security program is designed to safeguard vessels, harbors, ports, and waterfront facilities in the United States and all territory and water subject to the jurisdiction of the United States, exclusive of the Panama Canal Zone, from destruction, loss, or injury from sabotage or other subversive acts, accidents or other causes of similar nature. A necessary part of the program is to prevent introduction into the United States, through ports, of persons, articles, or other things, including weapons of mass destruction, inimical to national security. While the objectives of the program are clearly stated, the character of enforcement effort is subject to change depending on national policy and assignment of responsibilities.

The changing requirements of the port security program are a basic concern of the Coast Guard. The program, while based on law, is activated in circumstances other than a state of war by a determination of the President, and implemented by directives of the Secretary of the Treasury as approved by the National Security Council. The result has been a changing program level with shifting emphasis on various facets of the program. Responsibilities within Treasury have been divided between the Bureau of Customs and Coast Guard.

In peacetime, port security is the responsibility of the Secretary of the Treasury, with the program being carried out by both Coast Guard and Bureau of Customs. The scope of the program varies according to policy determination reflecting security needs at any given time. The statutory authority is permissive rather than mandatory.

In wartime, the program is greatly expanded, becoming the responsibility of the Secretary of the Navy, who in turn delegates this responsibility to the Coast Guard. The statutory authority in the Magnuson Act places a mandate on port security functions.

AGREEMENTS

There are no formal agreements with other agencies regarding the current port security program. There is an agreement with the Office of Emergency Planning concerning the control of small craft in wartime port security. The agreement pertains primarily to use of tugs and harbor craft, with Coast Guard having initial control over the tugs so that merchant vessels may be moved to safe anchorages.

Recommendations

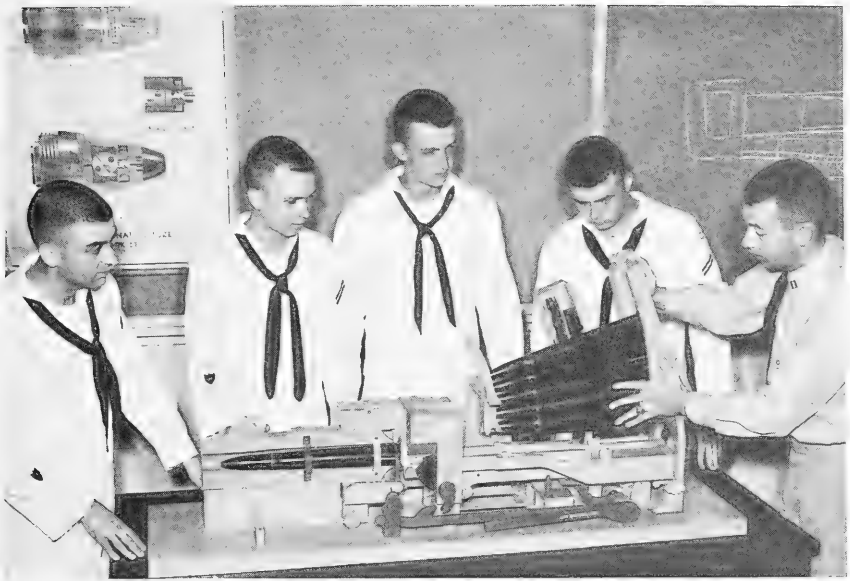
Considering the sensitivity of port areas in peace as well as war, the personnel screening program should be continued. The port security program should also be extended, and in some places personnel increased, in the Great Lakes area and Alaska.

Military Readiness



While designed and operating as an agency to keep the peace, the Coast Guard, as any police force must be, is organized and equipped to fight when and if war comes.

Title 14 U.S. Code states that the Coast Guard shall be a military service and a branch of the armed forces of the United States at all times, operating in the Treasury Department in peacetime. Title 14 also directs the Coast Guard always to be ready to function as a



specialized service in the Navy in time of war. Closely allied to peacetime readiness is the training and planning of a reserve strength adequate to perform early mobilization duties.

Many agreements exist between Navy and Coast Guard providing for exchange of information, training at Naval facilities, and procurement by the Navy of specialized equipment related to military readiness. Installation and maintenance of equipment provided by the Navy is a responsibility of the Coast Guard.

With the prospect that international tensions will continue, Coast Guard's military readiness has become an increasingly important factor. Therefore, greater emphasis is indicated in training, modernization of equipment, and the detailed planning incident to fulfilling mobilization tasks and manpower requirements. Close coordination between Coast Guard and Navy is essential to implementation of an appropriate state of military readiness.

Recommendations

That the Commandant implement measures to improve the military readiness of Coast Guard vessels, with special attention to an orderly program of acquiring and installing equipment needed now in active vessels.

The Secretaries of Treasury and Navy should provide periodic review of the Coast Guard's military readiness program to see that it can always be easily and quickly integrated with the Navy's war plans. War plans covering all contingencies should be closely coordinated between Navy and Coast Guard at the field level.

Aids to Navigation



Without 20th century aids to navigation, sea travel would be far more hazardous than it is, and transoceanic air transport would be seriously impeded. In the United States, aids to navigation began as they did in most lands, with lighthouses built in the earliest days of the country's settlement.

In 1789, the first Congress of the newly-independent United States accepted title to 12 lighthouses and other navigational aids along the Atlantic coast. From that beginning, aids to navigation has developed into one of the most important of the Coast Guard's 10 major missions. Of the 31,000 total personnel, aids to navigation is the primary duty of 6,350 officers and men, and another 9,388 officers and men spend a substantial part of their time in carrying out this mission.

Today, the Coast Guard operates seven types of aids to navigation. They are: lighthouses, lightships, buoys, daybeacons, long-range electronic aids (LORAN), short-range electronic aids (radio-beacons, RATAN), and fog signals. Their cost and complexity vary from an inexpensive river buoy costing less than \$100 to a multimillion-dollar LORAN station. The 41,101 aids of all types includes one experimental radar-television (RATAN) installation.

The Coast Guard also provides meteorological data to the Weather Bureau and helps the mariner with storm warnings and weather broadcasts. A Coast Guard aircraft photographs uncharted areas for Coast and Geodetic Survey, helping that agency's mapping and charting program while adding to their own data on aids to navigation.

In cooperation with the Council of State Governments and State boating officials Coast Guard has developed a Uniform State Waterway Marking System, chiefly for pleasure craft.

Another function is operation of the International Ice Patrol during the ice season, which it has done since 1914, except during war

years. The Ice Patrol provides ice information on North Atlantic shipping routes, helps vessels in distress, and makes studies of ice and ocean currents.

Coast Guard participates in many international organizations. Among these is the International Association of Lighthouse Authorities (IALA), which keeps the Coast Guard abreast of new foreign developments in navigation aids.

Electronic and nonelectronic aids extend Coast Guard operations to the Western Pacific, the Arctic, Europe, and the Middle East. Research and development is constantly extending the range and reliability of navigational aids, while reducing maintenance costs and personnel requirements. In response to latest developments, the Coast Guard has worked out a 1960 LORAN Planning Study that provides for a gradual transition from LORAN-A to LORAN-C, which will give broader coverage and greater accuracy.

Present U.S. policy to International Civil Aviation Organization (ICAO) calls for a single system of long-distance aid to sub-surface, surface, and air navigation. No such proven system exists yet, but LORAN-A and LORAN-C have been internationally accepted as interim systems. Despite the Coast Guard's major role in long-distance aids to navigation, including air, the Secretary of Treasury is not a member of Interagency Group on International Aviation (IGIA), which develops U.S. international air policy.

Since the operations of a number of agencies are involved with aids to navigation of one sort or another, the Coast Guard has inevitably run into certain conflicts of jurisdiction over who is responsible for operating what, and how costs are budgeted.

Three areas of overlapping responsibility involve the Federal Aviation Agency (operation of LORAN); the Corps of Engineers (responsibility for marking wrecks); and the St. Lawrence Seaway Corporation (operation of aids in the Seaway).

However, working agreements are in effect on these points, and permanent solutions are under study. Agreements in other areas regarding navigation aids are in effect with the above agencies and with the Navy and Air Force. Agreements on administrative, communication, and logistics support are in effect with the other armed services.

Cooperation is plainly a key to efficient performance of this supremely important mission, and should govern all proposals designed to make the program more effective.

Recommendations

In cooperation with the Federal Aviation Agency, the Department of Defense, and other interested agencies, the Treasury Department should develop legislation giving the Coast Guard the necessary flexibility in the use of electronic aids to navigation; evaluate long-distance

navigation aids, especially LORAN-A and LORAN-C, to provide information that will support the U.S. position to ICAO in 1964. The Department should also continue review of new developments in long-distance navigation aids.

The Secretary of Treasury should become a member of IGIA.

Suitable criteria should be developed that will enable the Coast Guard to measure performance of its multiple functions against program costs.

The Treasury Department should continue to support the Coast Guard's research and development program, its conversion from LORAN-A to LORAN-C, cooperation with the Weather Bureau and the Coast and Geodetic Survey, and operation of the International Ice Patrol.



The sea, where life began, is our last unexplored frontier this side of outer space. Across the slow centuries while men climbed the mountains, probed the jungles and mapped the deserts, the sea retained the ancient mysteries of its currents and tides, and of the myriad life in its depths.

Oceanography, the scientific study of the sea, is a natural interest of the Coast Guard, which has participated regularly in oceanographic current research since 1914, particularly in the Eastern American Arctic regions.

The Coast Guard has also contributed to this research through cooperation with other Government and scientific agencies.

Legislation passed in 1961 with the President's support gave the Coast Guard greater authority and responsibility in oceanographic research. Also the Coast Guard was made a member of the inter-agency Committee on Oceanography (ICO), created in 1960 to coordinate the oceanographic activities of various Government agencies involved in developing a national program.

The other members of the Committee are the Departments of: Defense (Navy); Commerce (Coast and Geodetic Survey); Interior (Bureau of Commercial Fisheries); Health, Education, and Welfare (Office of Education); the National Science Foundation; and the Atomic Energy Commission. The Committee also includes observers from the National Academy of Science's Committee on Oceanography and the Bureau of the Budget.

In fiscal 1963, the Coast Guard expects to become a participating member in the National Oceanographic Data Center Interagency Agreement.

The Commandant has been given authority to use the Coast Guard's unique abilities, experience, and facilities to support the National Oceanographic program.

The program, which covers several agencies, is based on: the report of the National Academy of Science's Committee on Oceanography; program planning by the ICO of the Federal Council of Science and Technology; and review by a Special Panel of the President's Science Advisory Committee.

The program's objectives are: to increase our knowledge of the physical, chemical, and biological properties of the ocean; to determine its mineral and nutrient resources; and to understand its interaction with atmosphere and shore boundaries.

The Coast Guard will participate in the following seven activities of the program. Other agencies, such as the Corps of Engineers, Coast and Geodetic Survey, and the Navy, also have operating programs in these areas.

Ocean-wide Surveys. Collection of data designed to yield information about the world's oceans.

In-shore Surveys. Observations along the continental shelves and marine estuaries, as well as along large inland bodies of water such as the Great Lakes.

Ocean Waves and Swell. The design and construction of ships and other marine structures require systematic observation and study of waves and swell. This is also required in order to forecast sea conditions for ship routing, military operations, search and rescue, etc.

Ice in the Sea. More information on sea and berg ice formation, drift, and deterioration is needed by increasing polar operations, by high-latitude and military research, and for the development of waterways in traditionally ice-bound areas.

Radioactivity in the Ocean. Studies are necessary to determine the effects of radioactive contamination upon the ocean and marine life.

Oil Pollution of Navigable Waters. Long-range plans to cope with this problem requires investigation into coastal circulation and estuarine flushing. Enforcement of the Oil Pollution Acts requires oceanographic studies to determine the causes of problem areas, and solution of the problems.

Military Oceanography. Military oceanography requirements are discussed in Navy plans. These include Coast Guard contributions in the area of antisubmarine warfare.

COAST GUARD PROGRAM.

In addition to the above, the Coast Guard has developed its own provisional Long-Range Plan for Oceanography, 1962-70, dated March 5, 1962. Its essentials follow.

Coast Guard Role and Objective. To establish guidelines for an increasing role in oceanography within the provisions of Title 14, U.S. Code, and in the national interest. The program covers four basic projects:

1. *Ocean Station Project.* Includes underway observations between port and station, and time-series observations while on station.

2. *Special Patrols Project.* Collecting and reporting standard oceanographic data during such operations of the Coast Guard as International Ice Patrol, Bering Sea Patrol, Fisheries Patrols, Polar Operations, and Ocean Survey Patrols.

3. *Coastal Oceanography Project.* Data collection on the continental shelf and coastal regions, in which Coast Guard lightships, off-shore structures, coastal stations and buoy networks can be useful.

4. *Cooperative Projects.* This permits the extension of Coast Guard facilities to other participating and cooperating agencies.

Coordination. The Coast Guard Oceanographic Unit will coordinate the Coast Guard Program, including technical supervision, administration, scientific liaison, etc.

Facilities. The Coast Guard has numerous facilities adaptable to oceanographic research, particularly data collection. These include high-endurance cutters, icebreakers, medium patrol cutters, and lightship stations.

Personnel and Training. Requirements will be met by increasing personnel at units, and training (including post-graduate studies for officers) regular assigned personnel.

Instrumentation. Given the research potential of Coast Guard facilities, oceanographic instrumentation becomes the principal program requirement. Special instrumentation must be installed to carry out the program.

NATIONAL OCEANOGRAPHIC DATA CENTER (NODC)

The Data Center, established 2 years ago in Washington, D.C., is a centralized national repository where oceanographic data is available to everyone. It acts as a clearing house for acquiring, compiling, processing, and preserving data, including that of the Coast Guard sur-

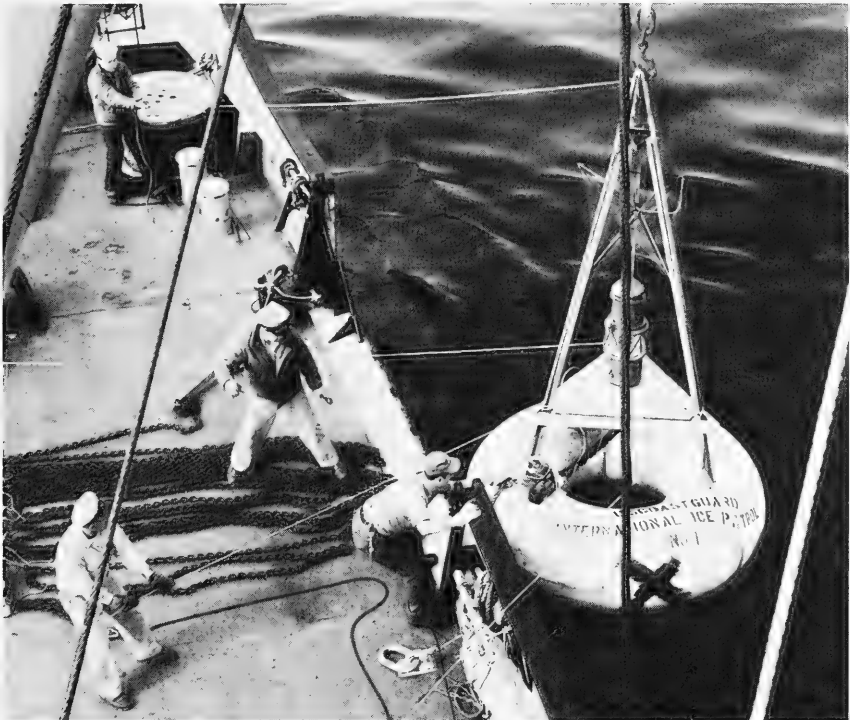
veys. The Coast Guard supports NODC, both in operational procedures and funding. The Coast Guard Oceanographic Unit will work with NODC.

THE COAST GUARD'S EXTERNAL ROLE IN OCEANOGRAPHY

This includes all Coast Guard activities that support the national program through cooperation with other agencies involved in oceanographic research. The Coast Guard's many sea-going vessels, as well as officers and enlisted men trained in sea-lore, can make a valuable and economical contribution once the ships and stations are equipped with the necessary instruments, laboratories and storage space, and additional personnel are trained. The versatile medium and large vessels can be equipped at moderate cost, and the 13 graduate oceanographers already serving as Coast Guard officers can handle the initial phase of the expanded program.

Internal Role. This includes "in-house" research pertinent to other Coast Guard missions, such as analysis and study of data supporting the International Ice Patrol, law enforcement, merchant marine safety and research on wave and swell action relative to search and rescue.

For example, at sea a distressed aircraft must be given a ditch heading which is the best compromise between wind, swell, and surface wave



action. The effect of wave and swell on a ship's structure is an important area in which more basic research is needed. The Coast Guard is in good position to contribute to this type of research, but any expansion of its research efforts would require more personnel and laboratory facilities at the Oceanographic Unit.

Future Role. The multi-agency control of coordination of the National Oceanography Program is primarily through the Interagency Committee. However, the program's operation is complicated by the justification that each agency must make before the respective appropriations committees of the Congress. This is likely to lead to an unbalanced program, depending on the importance that each appropriations committee attaches to oceanography.

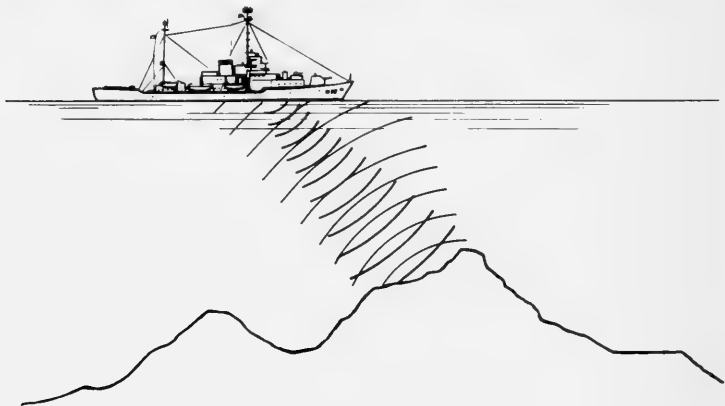
This difficult budgeting problem could be solved best by a detailed, composite national program which allocates priorities for manpower, goals, and investment in vessels and facilities.

The national program will be administered by the Office of Science and Technology, established in June 1962.

Although Treasury's (Coast Guard) role in the national program is minor in terms of dollars needed, it is a major participant in terms of the facilities and manpower it can provide. Further, its traditions, training, and professional interest have given the Coast Guard administrative abilities not fully recognized under existing plans for the future. The Study Group believes the Coast Guard is able to contribute substantially to the national program, not only in research, but also in planning and annual programing.

Recommendations

The Coast Guard should assume an increasingly active role on the Interagency Committee on Oceanography. It should be a major participant in the national program, taking part in all stages of determining policy, planning, programing, and allocating resources.



Law Enforcement



Law enforcement agencies afloat or ashore share the built-in frustration of police work in every land and every period of history: there are always more violators than can be prevented from breaking a law out of ignorance or carelessness, and also more with criminal intent than can be caught. There are never enough men, equipment, or money to do the job they are charged with, and the regulations they must enforce are often obsolete or conflicting.

The Coast Guard is no exception, especially since law enforcement is only 1 of its 10 major missions. Its responsibility is broad: enforcement of all Federal laws upon the navigable waters of the United States and its possessions, and on the high seas. In the latter instance, jurisdiction applies generally to U.S. merchant vessels, and to vessels of other nations in conservation enforcement.

These laws were described in the report under four main categories relating to:

1. Safety and law enforcement at sea or on navigable waters.
2. Harbor safety and regulation.
3. Conservation.
4. Enforcement activities in cooperation with other Federal agencies.

Since most of the enforcement work is preventive and educational rather than pursuit of criminals, the Coast Guard more nearly resembles a national Department of Public Safety than an ordinary police force.

The growth of this important Coast Guard function has been on the same basis as many of its other missions: broad general authority without any policy statements by the Secretary or formal departmental guidance.

Of the many agencies queried by the study group, not one provided a suitable yardstick by which adequacy of enforcement could be

measured. Incomplete data on workload and enforcement standards make it difficult to evaluate the level of enforcement, and to do long-range planning and budget programing.

General Recommendations

The Study of Coast Guard Roles and Missions shows that the Coast Guard's long-standing practice of cooperating with other Federal and State agencies in many law enforcement activities has produced a high level of performance and an excellent working relationship. This practice should be continued and expanded wherever necessary.

The Study also shows a need for all laws now enforced, and that added enforcement is needed in virtually all areas, especially in conservation, motorboat safety, oil pollution, and dangerous cargo loading.

Coast Guard can better carry out its enforcement responsibilities with increased departmental and headquarters direction, and greater training effort.

Cooperative efforts between the Coast Guard and other agencies should also be extended and improved, and standards should be developed from which program requirements can be determined.

Safety and Law Enforcement at Sea and on Navigable Waters

This is by far the largest and most complex category. It governs vessel movements, specifies lights and markers for artificial islands and fixed structures, regulates the use of motorboats, and provides authority to arrest suspected criminals and prevent oil pollution.

THE RULES OF THE ROAD

The Rules of the Road, which deal with lights, fog signals, speed, steering, right of way, operations in narrow channels, and distress signals, are really four sets of rules: International (high seas), Inland (rivers and harbors), Western Rivers, and Great Lakes. These differ considerably, making uniform enforcement difficult if not impossible. Moreover, while there are penalties for violation of the latter three, the International Rules are not backed up by penalties.

The Rules and Missions study *recommended* that legislation be proposed to make the various Rules of the Road conform as nearly as possible to International Rules in order to improve safety of navigation.

ARTIFICIAL ISLANDS AND FIXED STRUCTURES

There are 3,700 offshore structure (mostly oil rigs) in U.S. territorial waters. Without proper lights, warning devices, and safety equipment these would endanger navigation as well as the lives of



those working abroad the structures. The Coast Guard is authorized to issue and enforce regulations covering these matters (43 USC 1333).

It was *recommended* that legislation be proposed giving authority to regulate aids to navigation and safety equipment on all such structures, and that the Coast Guard exercise broad control over these and safety of boats supporting the offshore structures.

MOTORBOAT SAFETY

The Motorboat Act of 1940 (amended in 1950, 46 USC 526), and the Federal Boating Act of 1958 (46 USC 527) are designed primarily to keep the inexperienced or careless pleasure boaters from killing or maiming themselves and others. The phenomenal postwar increase of small boats in U.S. waters (estimated at 6 million in 1961) make these laws as necessary and as hard to enforce as traffic laws ashore.

The law specifies for each of three classes of boats up to 65 feet long, lights, sound-signal equipment, lifesaving equipment, fire extinguishers, ventilation, and the like. Registration is required for power boats of more than 10 horsepower, boarding for inspection is authorized, and any boat operator may be required to show identification.

The Coast Guard Auxiliary was formed in 1941 (14 USC 821). This is an organization of owners of boats, aircraft, or radio stations, which helps the Coast Guard with safety, education, and rescue measures. They do not take part in enforcement duties. As of 1961 they totaled 21,000. Spearheaded by the Coast Guard and the Auxiliary Flotillas, State boating authorities, safety officials, U.S. Power Squadrons, Red Cross, and the YMCA are carrying out an extensive program of education in boating safety.

There are still areas of conflict between Federal and State boating laws, and between Federal and National Park Service regulations covering navigable waters in national parks.

It was *recommended* that the Coast Guard establish a broad and continuing campaign to promote uniform State boating safety laws with minimum requirements equal to those of the Federal Motorboat Act of 1940, as amended (46 USC 526). Also, where minimum requirements have been established by enactment, Coast Guard should seek to enter into agreements for enforcement by local authorities.

It was *recommended* that uniform boating safety regulations also be established with the Department of Interior (National Park Service). The Coast Guard should retain its responsibility and the right to occasional review of enforcement in national parks.

It was *recommended* that motorboat safety education be intensified through strong support of the Coast Guard Auxiliary.

It was *recommended* that Coast Guard ask for legislation to establish a self-inspection plan for owners of recreational boats and a formal program to promote self-inspection in the States. In this regard, the Secretary of the Treasury asked the Commandant to examine the possibility of including such proposed legislation in the Department's legislative program for 1965.

CRIMINAL LAW

Most major crimes afloat are the same as those ashore: treason, murder, manslaughter, assault and maiming, rape, robbery, arson, kidnapping, etc. Marine crime also includes piracy and barratry, the destruction of a ship in order to collect insurance. Enforcement of criminal law represents a minor part of the Coast Guard effort. However, enforcement is felt to be below standard. This is especially true of barratry, where the lack of trained Coast Guard investigators makes it difficult or impossible to get evidence that will justify prosecution.

OIL POLLUTION

Pollution of coastal or tidal waters by discharging oil is a serious offense, dangerous to human, marine, and wildlife. The Oil Pollution Act of 1924 (33 USC 431-437) and a subsequent one stemming from an international agreement, the Oil Pollution Act of 1961 (PL 87-167), provide heavy fines and possible loss of license for violations. The Corps of Engineers and Bureau of Customs also investigate and make arrests for oil pollution. However, industrial operations in and around port areas and the impossibility of keeping an eye on every wandering tramp steamer make this difficult to enforce.

The machinery of enforcement also hampers Coast Guard efforts. Both acts are administered by the Corps of Engineers, which acts as intermediary between the Coast Guard and the U.S. Attorney in build-

ing a case for prosecution. This delays enforcement action, and since the offending vessel is generally available for very short periods, it is frequently beyond reach before the law can be enforced.

It was *recommended* that administration be transferred from the Corps of Engineers to the Coast Guard, but with the Corps of Engineers to continue enforcement; that Coast Guard be given authority to make agreements with other agencies in order to enforce the law; that jurisdiction of the Oil Pollution Act of 1924 be extended to all U.S. navigable waters; and that penalties for convicted violators be increased.

Harbor Safety and Regulation

CONTROL OF VESSEL MOVEMENT AND ANCHORAGE TO PROTECT U.S. NAVY VESSELS

The Coast Guard has authority to control the anchorage and movement of any vessel in U.S. waters to protect the security of U.S. Navy ships. However, there are no penalties for violation, and the law gives no control over surface or underwater swimmers.

It was *recommended* that the basic statute be amended to provide control over swimmers in restricted areas, and to establish penalties for violations.

ANCHORAGE GROUNDS AND HARBOR REGULATIONS—REFUSE ACT

The Coast Guard and Army Engineers cooperate to enforce regulations in harbors and anchorage grounds and to protect navigable waters as well as river and harbor improvements. Included in these are laws forbidding the dumping of refuse, floating logs or timbers, damaging U.S. marine facilities, obstructing navigation by anchoring or sinking a vessel in channels. Fines are provided for violations. Enforcement of most of these requires expanding efforts.

CARRIAGE OF EXPLOSIVES OR DANGEROUS SUBSTANCES

Regulations covering the handling of explosives (46 USC 170) and dangerous substances have been adequately enforced. But the continuing development of hazardous new chemicals, radioactive materials, and new types of containers presage a need for increased efforts in order to maintain the present safety record. Broader enforcement will also be required because more foreign ships, generally unaware of U.S. safety requirements, are calling at U.S. ports.

A high degree of compliance is essential, since a mishap from careless handling can endanger an entire port.

It was *recommended* that minimum standards be established for supervising the handling, storage, and loading and unloading of dangerous cargo.

Conservation Laws

The Coast Guard enforces a number of fish and game conservation laws, generally codifying provisions of conventions, treaties, or agreements between the United States and other nations. Most of these deal with deep-sea fishing, while others protect the fur seal and regulate whaling and sponge-fishing.

The Interior Department (Fish and Wildlife Service), State Department, and the Coast Guard all consider the conservation laws adequate, but all agree that proper enforcement is not possible with the men and equipment available. Coast Guard supplies all marine enforcement except in the North Pacific, where the Interior Department makes an unsatisfactory effort with a small vessel of its own and three launches under contract.

More enforcement will be required in the future. Treaty regulations need to be expanded to protect additional species of fish and shell fish, the Northwest Atlantic Fisheries Convention should be changed to permit international policing of the fishermen of signatory nations, and the large Russian and Japanese fishing fleets in both Atlantic and Pacific concern State, Interior, and the Coast Guard.

It was *recommended* that, in order to assure survival of many of our vanishing species of wildlife and so that the vast natural resources of our fishing grounds not be diminished, sufficient Coast Guard personnel and facilities be allocated to carry out a more adequate enforcement program.

It was *recommended* that the Coast Guard and Departments of State and Interior continue to study and coordinate marine conservation law enforcement, with the Coast Guard assuming enforcement responsibilities in areas of marine conservation under Interior's administrative supervision.

It was *recommended* that Treasury, Interior, and State develop jointly standards and requirements for conservation law enforcement.

CAMPECHE PATROL

In 1951, the Coast Guard began a continuous patrol in the Gulf of Campeche (part of the Gulf of Mexico) to provide SAR assistance and to prevent incidents with Mexico over claims that U.S. shrimp boats were violating Mexican waters. Since the patrol began, the incidents have decreased.

Recently a part-time patrol was begun in the Western Gulf of Mexico, at the request of the State Department.

There is potential need for a full-time patrol, which cannot be carried out with existing facilities and men.

It was *recommended* that these patrols be continued and the program be reviewed periodically.

Enforcement in Cooperation With Other Agencies

The Coast Guard furnishes water and air transportation, and occasionally manpower in emergencies, to help the *Bureau of Customs* enforce the customs laws.

The Immigration and Naturalization Service gets Coast Guard help, such as coastal surveillance in the Florida area, with ship searches for stowaways, and with transportation for immigration inspection boarding parties.

The Coast Guard cooperates with the Department of Health, Education, and Welfare, usually by furnishing transportation to Public Health Service personnel who must board incoming vessels for health inspection.

The Neutrality Laws are enforced by the Coast Guard, operating under authority delegated to the Secretary by Executive Order 10637, of September 1955.

Cooperation of the Coast Guard is also extended to: the Alcohol Tax Unit of the Internal Revenue Service, usually as air transportation to help locate illicit stills; and the Office of Territories of the Interior Department, in the form of periodic visits to a few U.S.-owned islands in the Pacific. Sometimes also the Coast Guard will carry mail in emergency conditions or at isolated locations such as between Puerto Rico and the Virgin Islands.

It was recommended that these cooperative working arrangements be continued.





Search and Rescue

Disasters on land and sea can happen anywhere, any time, and seldom happen twice in just the same way. Perhaps the only effective way to deal with them is to get good men, train and equip them well, establish general criteria, and let them use their own judgment in saving lives and property when disaster strikes or threatens.

This is the essence of the Coast Guard's Search and Rescue mandate. They are instructed to: "perform any and all acts necessary to rescue and aid persons and protect and save property." A Senate report says further that ". . . Congress expects the Coast Guard to save lives and property whenever it can . . ."

Search and Rescue is the Coast Guard's primary mission. Any Coast Guard vessel or aircraft on any other mission can be diverted to help a ship or aircraft in distress.

In 1961 Coast Guard SAR efforts saved the lives of 3,499 people, helped 84,397 people out of trouble, and saved or gave aid to nearly \$2 billion worth of property that was in danger. These activities accounted for 47 percent of Coast Guard's total activities in all fields of operation.

Search and Rescue activities are divided into categories of long, medium, and short range. Long-range missions extend as far as 1,000 miles at sea. These usually occur in lanes of high-density trans-oceanic air or surface traffic. A long-range Coast Guard aircraft is sent to escort the crippled plane to the nearest airport. When aircraft or vessels are missing or unreported and overdue, the plane begins the long search covering thousands of square miles of open sea. Also, one or more of the Coast Guard's 36 large, high-endurance ships races to the scene to give whatever help may be needed.

Most air and surface traffic is concentrated within the medium range, 500 or 600 miles off the coast. In this belt are found not only the large

trans-oceanic ships and aircraft, but also the smaller and often less fully equipped coastal vessels, pleasure boats, small aircraft, and fishing fleets. Medium-range amphibian aircraft and smaller ships can carry out long searches at this distance. Under favorable conditions, the amphibians can land at sea to rescue survivors of ditched aircraft or sunken vessels, or to pick up people needing emergency medical care.

Search and Rescue's busiest area is short range, within 100 miles of shore. Everything that can happen to an aircraft or ship in mid-ocean can also happen here. In addition, people are stranded by incoming tides, small craft are overturned, disabled boats are caught in surf, swimmers become exhausted, and fishermen get lost in early darkness. The vast increase in pleasure boating during recent years has multiplied the frequency of this type of emergency. The classic seaside Lifeboat Station is of particular value along the coasts. They have communications equipment, boats, and vehicles. Their traditional function of taking surviving seamen off wrecked vessels has been replaced largely by helping the pleasure cruiser or the shallow-draft commercial fisherman in distress.

Within the 100-mile area the patrol craft can usually reach the scene within 6 hours after the first call for help goes out, the helicopter much sooner. In evacuating people from areas of floods, fires, storms, etc., and in towing boats for limited distances, the helicopter is the workhorse of the Coast Guard.

Search and Rescue duties also include holding until the owners claim it property saved from disasters, supplying food, clothing, shelter, and medicine to those rescued, and destroying or towing to port sunken or floating dangers to navigation.

On a somewhat reduced scale, these services are also extended to the waters of the Gulf of Alaska and the Aleutian-Bering Sea, and the Hawaiian Islands.

Since other agencies of the U.S. Government also engage in SAR, the National Search and Rescue Manual, approved in July 1959, defines geographic jurisdictions and responsibilities among the Air Force, Coast Guard, and the Overseas Unified Commands duties of SAR coordinators.

The basic agreement affecting Coast Guard's SAR function is the National Search and Rescue Plan, designed to integrate into a cooperative network available U.S. search and rescue facilities, to be coordinated in any one area by a single Federal agency.

The United States has Search and Rescue treaties with Canada and Mexico and other agreements providing for entry of one into the other's national waters, respective responsibilities, and cooperative efforts.

Agreements providing for SAR cooperation also exist with ICAO and North Atlantic Ocean Station vessels.

The Atlantic Merchant Vessel Report System (AMVER), administered by the Coast Guard, is a voluntary merchant vessel position report system using movement reports from vessels of all nationalities plying the Atlantic Maritime Region. This system is used to provide the Rescue Coordination Center with positions of merchant vessels near a vessel in need of assistance.

As of January 1, 1962, 6,400 vessels, representing 56 flags, participated in the AMVER program. This represents approximately 65 percent of foreign flag and 90 percent of American flag merchant ships plying international waters of the Atlantic.

Coast Guard maintains 9 air stations, 14 air detachments, 107 operational aircraft of varying types, and 1 aircraft repair supply base. Nine of the 14 detachments have been activated since 1946, and plans call for 15 more by fiscal 1967.

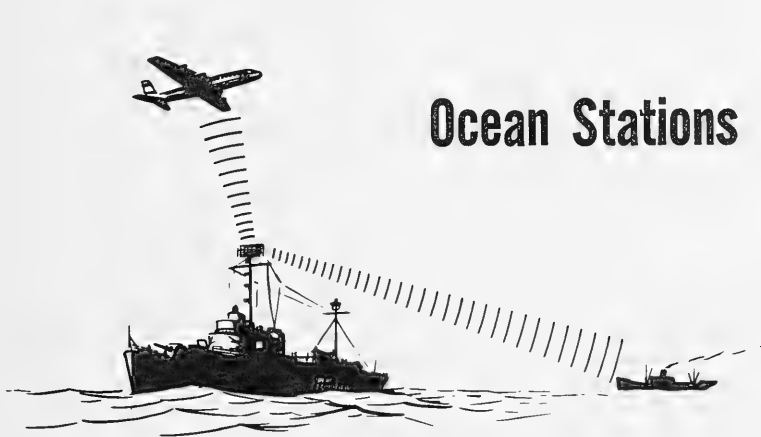
Coast Guard has 147 surface vessels of all types, exclusive of special purpose vessels such as bouy tenders, and needs a total of 162, including 2 more large high-endurance ships and 27 more large patrol craft. Lifeboat Stations total 140. The program for the next 3 years is aimed at broadening and modernizing their operations.



Recommendations

In order to meet the complex SAR requirements on an orderly and logical basis, there should be an operations research study that will enable the Coast Guard to develop a coordinated long-range plan for total mission accomplishment. An essential requirement, both for immediate and long-range SAR purposes, is a program of progressive replacement of obsolescent vessels, particularly those handling the bulk of the SAR workload.

The Coast Guard should encourage State and local authorities to develop SAR facilities in inland navigable waters in accordance with the National SAR Plan.



The ocean station program had its inception in a pre-World War II need for meteorological and navigational aid services for transoceanic aircraft flights. Since then the program has increased and diminished according to wartime versus peacetime requirements and the austerity of budget policy.

The Coast Guard now provides the equivalent of 18 vessels operating full time to support 6 ocean stations—4 in the North Atlantic and 2 in the Pacific. These vessels, while on station, perform the following functions:

- a. Collect and transmit meteorological information to the Weather Bureau, enroute aircraft, and vessels.
- b. Maintain readiness to perform search and rescue missions.
- c. Provide aircraft and vessels with aids to navigation information.
- d. Relay aircraft and vessel communications.
- e. Collect, collate, and transmit time-series oceanographic information.
- f. Provide a supplementary national defense capability.

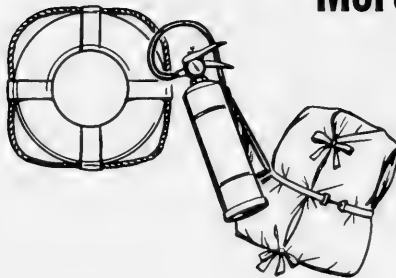
A continuing requirement for these services is evident from the many agency and user responses. Thus, the program should be acknowledged nationally and internationally. Obsolescent equipment on the ocean station vessels should be replaced with efficient, modern equipment.

Recommendations

Because the ocean station vessel program is such an obviously essential component of the overall national and international effort in communications, safety of air and sea travel, scientific data, and national Defense, it should be continued.

At present the Department of Defense provides funds for the program. This splits management and control of operations. Transfer of funding to the Treasury Department logically should follow affirmation of the requirement for the services being rendered.

Beginning with fiscal 1964, Treasury should budget for acquiring and installing the necessary equipment, including radar, aids to navigation, and communications equipment. The Department of Commerce should assume budgetary responsibility for weather personnel and equipment, because the Weather Bureau is a Commerce agency.



Merchant Marine Safety

The U.S. Merchant Marine Safety Program got its start in 1824, when Congress directed the Secretary of Treasury to investigate the appalling number of boiler explosions aboard steamboats. From this beginning evolved today's broad concern over the safety of life and property at sea, which has given the United States the world's highest safety standards.

The Coast Guard has had its present authority to enforce laws dealing with Merchant Marine Safety only since 1950. As with many of its other functions, the Coast Guard inherited a fabric



of modern and obsolete laws, regulations, and overlapping authority. If it were not for the good will and cooperation of the other agencies involved, as well as the shipping industry, enforcing the safety provisions would be much more difficult.

The Coast Guard's Merchant Marine Safety function can be divided into the following categories:

1. Inspection and regulation of vessels and equipment for physical protection of crew, passengers, and cargo.
2. Regulation of marine personnel and protection of their rights.
3. Engineering and technical supervision over safety standards.
4. Investigation and review of marine casualties and acts of incompetency or misconduct.
5. Liaison with the maritime industry and international bodies.

To carry out these broad and varied responsibilities is the duty of 510 commissioned officers, 160 warrant officers, 150 enlisted men, and 400 civilian personnel.

The officers are general duty officers who have been given specialized training in merchant marine safety. This specialized training, supplemented by approximately 3 years of apprenticeship, provides the background for a marine inspector newly entering the field. Provision of competent officers for the marine safety function is a continuing and difficult problem for the Coast Guard.

Meanwhile, the workload becomes not only heavier but more complex. Rapidly developing marine technology (nuclear ships, super tankers, semi-automated vessels, etc.) demands a higher degree of technical competence for safety inspection.

A few figures illustrate the magnitude of the tasks of this group: during 1958 the subsidized segment of the American Merchant Marine transported between United States and foreign ports more than 6,000 million tons of goods valued at \$16 billion; 2,400 subsidized voyages on essential trade routes authorized for 1961 were expected to equal or better these totals.

In wartime when all American merchant vessels are requisitioned and operated by the Government, the Maritime Administration depends heavily on Coast Guard functions as an arm of the Navy. Close cooperation is necessary to coordinate merchant marine safety in war effort.

No function of the Coast Guard involves as much conflict of jurisdiction and overlapping authority as merchant marine safety. In addition to the Coast Guard, statutory authority in this field also belongs to: the Bureau of Customs, the Maritime Administration, the Department of Labor, the Atomic Energy Commission, and the Public Health Service. Active liaison must be carried on with no less than 23 agencies in 8 U.S. Government departments. Beyond this, the Coast Guard has agreements and arrangements with: the Great Lakes Pilotage Administration, the American Pilots Association, and the Underwriters Laboratories, Inc.

Not surprisingly, conflicts of jurisdiction and overlapping authority have created problems of administration and execution of the safety function.

1. *Inspection and Regulation of Vessels and Equipment for Physical Protection of Crew, Passengers, and Cargo.*

Requirements: Inspection of merchant vessels and enforcement of safety regulations pertaining to hulls and machinery, lifesaving, fire-fighting, and other equipment, to determine seaworthiness as a prerequisite for issuing certificates of inspection and international documents; performing similar functions on public vessels on request; making factory inspections of certain equipment and materials for use in merchant vessels; and administering penalty procedures for violations of the navigation and inspection laws.

Problem Areas: There are problems in regard to inspecting nuclear vessels (involving the Atomic Energy Commission); and inspecting cargo gear and safe working practices (involving the Department of Labor). The maritime industry reports the need for uniform regulations, for joint inspection by Coast Guard and American Bureau of Shipping, and for a single agency administering maritime safety laws.

2. Regulation of Merchant Marine Personnel and Protection of Their Rights.

Requirements: Examining, licensing, and certifying merchant marine personnel, and licensing motorboat operators; prescribing manning necessary for safe navigation; supervising shipment and discharge of merchant seamen; controlling logbooks; maintaining merchant marine personnel records; regulating pilotage, including licensing of pilots under the Great Lakes Pilotage Act of 1960; and administering the security program relating to merchant seamen.

Problem Areas: Problems exist regarding the licensing of personnel on nuclear vessels (involving Atomic Energy Commission); manning requirements for diesel towboats and fishing vessels; and automation of merchant vessels and other technological developments. The maritime industry reports the need for more uniform manning standards and physical fitness tests for merchant seamen.

3. Engineering and Technical Supervision over Safety Standards.

Requirements: Approving plans and specifications for construction or alteration of merchant vessels; classification of vessels; conducting stability tests on merchant vessels and preparing stability letters; examining and testing equipment and devices submitted for Coast Guard approval or for determination of suitability; developing regulations for naval architecture; for marine, chemical and electrical engineering; for firefighting and safety equipment and other merchant marine safety functions; and reviewing vessel load line certificates and enforcing load line regulations.

Problem Areas: Problems exist in regard to technological developments in new types of vessels requiring increasing technical competence in plan approval and regulation and in regard to duplication of plan approval and work backlog. The maritime industry reports a lack of uniformity in some regulations, unnecessary repetition in others, and delays in approval of ship construction plans. The industry recommends that a single Federal agency be responsible for the entire field of merchant marine safety.

4. Investigation and Review of Marine Casualties and Acts of Incompetency or Misconduct.

Requirements: Investigating accidents and complaints; revoking or suspending licenses or certificates as appropriate; and presenting cases brought before hearing examiners.

Problem Areas: No significant problems other than possible duplication between Department of Labor hearings and those of the Coast Guard.

5. Liaison with Maritime Industry and International Bodies.

Requirements: Two Coast Guard organizational units, the Merchant Marine Council and the International Maritime Safety Coordinating Staff.

The Council (a) maintains liaison with industry, States, and other groups or individuals, including participation and staff work on international marine safety bodies; (b) holds public hearings according to the Administrative Procedures Act; and (c) prepares and edits "Proceedings of the Merchant Marine Council."

The International Maritime Safety Coordinating Staff helps prepare U.S. positions and also furnishes delegates to international conferences concerned with safety of life at sea and other international maritime problems. Under authority of 46 USC 150, it details Coast Guard officers as attachés to diplomatic missions.

FUNDING

Coast Guard receives direct appropriations from general tax revenues, except in certain minor instances. Until 1886, when they were discontinued, fees for inspecting American vessels and licensing officers were the rule. In 1954 a schedule of proposed fees for "user charges" in marine safety was published. Legislation is required to permit certain of these charges, but Congress has not taken favorable action. Industry representatives have in the past opposed such charges to the shipping industry and its personnel. Imposition of such fees would result in duplicate charges to vessel owners in those areas where Coast Guard and American Bureau of Shipping make similar inspections.

Recommendations

Information developed by the study group shows clearly that the Department, through legislative proposal and comment on other departments' proposals, should support the Coast Guard as the single Federal agency with responsibility and authority for merchant marine safety. In cooperation with the Congress, other Federal departments and agencies, and the maritime industry, the Department should also develop a legislative plan to revise and modernize shipping laws.

The Coast Guard should study additional areas in which it could accept American Bureau of Shipping plan approvals and inspection certifications without relinquishing statutory responsibility.

The Treasury Department should support legislation to extend merchant marine safety regulation to fishing vessels. It should also decide whether to assess user fees for inspections and other merchant marine safety services.



Reserve Training

The Coast Guard Reserve, by its very nature, waxes and wanes with international crises. For its purpose is to provide a trained military force of officer and enlisted personnel to supplement the regular Coast Guard in time of war or national emergency. The program has always been focused on mobilization. It is administered by the Commandant under "such regulations as the Secretary of the Treasury, with the concurrence of the Secretary of the Navy, may provide (14 USC 751)."

The Coast Guard Reserve is made up of the Ready Reserve, Standby Reserve, and Retired Reserve. This study is concerned mainly with the Ready Reserve since (1) almost all costs of the Reserve Program are for the Ready Reserve; and (2) the Ready Reserve can be mobilized on short notice to meet initial military manpower requirements. The Ready Reserve at this time totals about 29,000 members.

The Coast Guard's principal reserve programs are its Organized Reserve Port Security Training Program (ORTUPS), and its Organized Reserve Vessel Augmentation Program (ORTUAG). Approximately 11,000 reservists are now participating in the port security program which is aimed at preventing the entrance into this country of persons or objects inimical to national security and at reducing fire hazards and other dangers inherent in waterfront areas. Since port security will probably be a key activity during the start of hostilities, these reservists are being trained to go into action immediately upon the declaration of a national emergency.

In the Vessel Augmentation Program, reservists are being readied to carry out smoothly and efficiently any naval tasks which may be demanded of them in the event of war.

HISTORY

The predecessor to the present Coast Guard Reserve was a nonmilitary organization, established by law in June 1939. Its name was

changed to Auxiliary in February 1941, and a military Reserve set up on the pattern of the Naval Reserve. The Women's Reserve (SPARS) was established during World War II, terminated after the war, and re-established November 1949 (14 USC 762).

On VJ-Day, there were about 144,000 Coast Guard reservists out of a total Coast Guard membership of some 172,000. During the next fiscal year the Coast Guard was cut back to 22,000 military personnel, and almost all the reserves were discharged or placed on inactive status. The organization remained static for several years. In 1949, the Reserve had 4,875 officers and 125 enlisted men, all veterans of World War II.

Then world conditions became precarious again. In 1950, the Coast Guard began to train a nucleus reserve of officers and enlisted men, primarily for port security and vessel augmentation (more personnel aboard ship). Their long-range mission was to be ready for immediate action in time of emergency.

The Reserve Forces Act of 1955 established the National Ready Reserve Manpower Pool, with a Coast Guard quota subsequently set at 39,600 officers and men needed for early mobilization. The act authorized two training programs: The 2 x 6 program called for 6 years of service, 2 on active duty. The 6 x 8 program specified 8 years of service, with 6 months of active duty. The balance of obligated service included drills and short periods of active duty for training.

Ready Reservists can be drafted for active duty for not more than 24 months in national emergency proclaimed by the President. Congress may call them for the duration of a war or emergency and 6 months thereafter. All Ready Reservists are designated in "Active Status," and thus eligible for pay, promotion, and retirement credits.

PRESENT STATUS

Because the Coast Guard operates normally as an arm of the Navy in time of emergency, Coast Guard and Navy cooperate closely in the use of training schools, drill facilities, equipment, etc. Coast Guard Reserve pay, allowances, and other benefits are affected by Naval Reserve legislation, and most Coast Guard regulations, policies, and operating procedures conform to those prescribed by the Secretary of Defense.

The Reserve Training Program is funded by direct appropriation to the Coast Guard. Its costs have always been separated from those of the regular service so that results could be measured against expenditures. Reserve training is one of the few Coast Guard activities budgeted on a program basis.

Coast Guard reserve training involves 48 paid drills and 15 days of paid active duty per year. There are about 15,000 Ready Reservists

in the 232 organized reserve training units. Coast Guard considers these its available reserve manpower for the first 15 days of mobilization (M plus 15).

The reserve training program today does not satisfy mobilization requirements in terms of numbers. The Ready Reserve is sufficient for M plus 15 port security requirements, but can only partially fulfill other M plus 15 needs. The principal shortage will be in personnel for vessel augmentation and activation (more ships in commission).

FUTURE PLANS

The Coast Guard's long-range plan will build up unit strength by some 11,000 Ready Reservists to 26,000 (3,000 officers and 23,000 enlisted men). This will: (1) meet requirements for M to M plus 15; and (2) by 1968, have brought the Ready Reserve almost to the 39,600 ceiling.

The complex function of keeping proper balance of rates and ranks—matching personnel to billets—and maintaining pre-cut orders will soon be electrically automated.

Most reserve officer procurement is under the 3-year (3 x 6) active duty program. Upon release from active duty, these officers are well



trained for mobilization. Enough of them voluntarily join organized units to supply the program with competent officers.

MATERIEL

Materiel deficiencies were found chiefly in port security operational units. For example, there are not enough foul weather clothing and communications equipment.

Status of training aids and supplies in organized units is good, with materiel levels in other than port security units being fair to good. The Coast Guard 5-year plan includes procurement of the materiel needed for operational port security units.

TRAINING

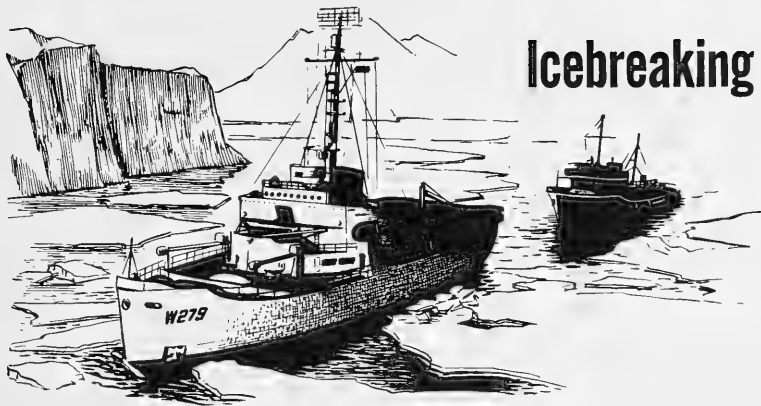
In the early days of reserve training, greater emphasis was put on recruiting veterans and 2 x 6 enlisted men. After 1956 the 2 x 6 program was replaced by the recruitment of 6 x 8 personnel. This program entails 6 months' training on active duty—roughly 4 months of boot and shipboard training and 2 months of advanced training. This is followed by 7½ years in reserve status, 5½ years of which the reservists must attend weekly drills and 15 days of active duty for training annually.

The 2 x 6 program was abandoned in June 1959; it lowered morale and efficiency of the regular Coast Guard personnel because reservists were replacing regulars. If the 2 x 6 personnel could have augmented regular Coast Guard units, rather than replacing personnel, the situation might have been different.

In 1961, operational unit training was established, stressing unit teamwork. At present 128 of the 232 reserve units are designated operational. The remaining units are still rate training for individual specialty.

Recommendations

The specialized demands of modern warfare led the study group to advise the Coast Guard to reevaluate its overall reserve wartime requirements in order to be sure of having adequate trained personnel and materiel to meet M plus 15 days mobilization task assignments. To this end, Coast Guard should restudy the 2 x 6 program to determine its effectiveness in training for vessel augmentation and activation, and for special skills requiring extensive training. This study should also determine the potential impact on the regular Coast Guard of a revived 2 x 6 program whereby reserve personnel could spend 2 years on operational units, in addition to, but not instead of regular personnel. Further, this program would be financed from the reserve appropriation.



Icebreaking

Though the Coast Guard's predecessors were breaking Arctic ice and helping ice-beset ships nearly 100 years ago, not until World War II did the Coast Guard get ships entirely designed for icebreaking. Four deep-draft icebreakers, the *Northwind*, *Eastwind*, *Southwind*, and *Westwind* were built for polar and sub-polar use. All but the *Eastwind* were lend-leased to Russia for the duration, so the combined Navy-Coast Guard wartime team got through the war with one sea-going icebreaker and a number of smaller vessels.

Today the United States has eight sea-going icebreakers—five operated by the Navy and three by the Coast Guard. The remaining Coast Guard icebreakers are: the *Mackinaw*, built in 1941 for Great Lakes duty; the *Storis*, built in 1942 for sub-polar duty; 26 buoy tenders and 32 harbor tugs with built-in icebreaking features, for use in the Great Lakes and northeastern rivers and harbors.

Icebreakers can do many jobs. They take part in search and rescue, law enforcement, aids to navigation, and many other missions, with their icebreaking ability latent until it is needed.

Title 14 of the U.S. Code gives the Coast Guard broad authority to break ice when and where it is required.

Basically three specific functions require icebreakers: domestic commerce; military operations; and oceanography and other scientific exploration in the polar areas. In the latter two instances, both Navy and Coast Guard have significant missions. Increase of icebreakers to fulfill expanding requirements in these areas should be jointly agreed upon by the Navy and Coast Guard.

The Coast Guard has in normal times undertaken to keep open only the principal harbors, bays, and rivers of the northeastern seaboard, Alaskan waters, and the Great Lakes. (U.S. West Coast harbors are ice-free.)



There are no interagency agreements covering icebreaking. Agreements are implicit in Navy-Coast Guard correspondence on Arctic and Antarctic operations.

There is a working agreement between the United States and Canadian Government department for operation of the Joint Arctic Weather Stations. This calls for the "usual icebreaker support." The U.S. Air Force is coordinator.

MISSION ASSIGNMENTS

Oceanography—Almost *all* polar oceanography has been done by the WIND class [Navy and Coast Guard] icebreakers. Recent additional sources have been from under-ice submarines and ice island stations, but this has been relatively minor compared to the icebreakers.

Logistics Support—Without the icebreakers and their Canadian counterparts, the North American Arctic bases could not have been built or maintained. The same is true of U.S. Antarctic bases.

Other Uses—In LORAN-C development the icebreakers have been vital for site surveys, construction, and system calibration (especially the latter). Coast Guard icebreakers maintain navigation on the Hudson River during heavy ice blockages. The *Northwind* is employed along the north Alaska coast for native health care, icebreaking, law enforcement, marine safety, mail delivery, fisheries, patrol, and other State and Federal cooperative missions.

The Navy-Coast Guard icebreaking partnership has evolved such a high degree of cooperation that both Services defend the dual authority and responsibility.

As with most other missions, the requirements for icebreaking are increasing. The opening of the St. Lawrence Seaway and Alaska statehood have stimulated maritime commerce in both areas, bringing the demand for more icebreaking to extend the navigation season.

This points up a problem that must be faced soon if it is to be solved in orderly fashion. Icebreaking is rough duty. By definition carried out only in the bitterest weather, it consists simply of patrolling navigation channels, ramming with brute force into ice sometimes several feet thick, backing off and battering it again and again until it shatters into chunks small enough to be brushed aside by any moving vessel. Use of major seagoing icebreakers compares favorably with that of general duty cutters. Considering the rigors of their duty, the record is exceptionally good.

However, of the eight seagoing icebreakers, three are 15 years old and four are 18. The Coast Guard reports increasingly severe hull damage and mechanical wear and contends that the vessels are approaching obsolescence. The Navy's "Program Packages and Elements—Shipbuilding and Conversion Plans for the Fiscal Years 1962-67," as approved by both the Secretary of the Navy and the Secretary of Defense, indicate that the Navy plans to construct one icebreaker each year beginning in 1964 through 1967—a total of four for replacement purposes. It is believed that *now* is the time to think about planning for replacement and possible additions. In order to plan properly, the existing operation of icebreakers and the future requirements must be considered together from the viewpoint of the national interest, as well as from the viewpoints of the operating agencies. However, a less than complete understanding, at top level, of each agency's role and responsibility in meeting national requirements, could result in an unnecessarily low priority for replacement vessels.

Some of the scientific endeavor of the National Science Foundation's new research vessel, the *Eltanin*, requires icebreaking assistance this year. Also, while oceanographic research is but one of many fields of science being pursued in the polar regions, no single effort is more dependent upon the icebreaker than oceanography. Icebreakers are utilized as the research platform or in company with other research vessels. In view of the increasing interest in the polar regions, it may become necessary to augment the number of major U.S. operated icebreakers. Because of dual responsibilities, it will be difficult to decide whether the increase should be Coast Guard's or Navy's.

Although domestic icebreaking needs are expanding, incorporating icebreaking features in new Coast Guard vessels should meet this need.

Recommendations

If the reasonable demands of commerce are to be met, the Treasury Department should give high priority to an adequate and timely schedule for modifying or replacing necessary vessels and equipment. Also the Secretaries of Treasury and Defense should determine the extent of dual Coast Guard-Navy polar operation of icebreakers, and how the two Services should plan for replacement and augmentation.

