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COAST GUARD

Better Process Needed to Justify Closing Search and Rescue Stations





United States
General Accounting Office
Washington, D.C. 20548

**Resources, Community, and
Economic Development Division**

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March 6, 1990

The Honorable Frank Lautenberg
Chairman, Subcommittee on Transportation
and Related Agencies
Committee on Appropriations
United States Senate

The Honorable William Lehman
Chairman, Subcommittee on Transportation
Committee on Appropriations
House of Representatives

The Honorable John B. Breaux
Chairman, Subcommittee on Merchant Marine
Committee on Commerce, Science,
and Transportation
United States Senate

The Honorable W. J. Tauzin
Chairman, Subcommittee on Coast Guard
and Navigation
Committee on Merchant Marine and Fisheries
House of Representatives

This report, required by the Department of Transportation and Related Agencies Appropriations Act for Fiscal Year 1989 (P.L. 100-457, Sept. 30, 1988) discusses the Coast Guard's process and criteria used to justify closing search and rescue stations.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. We will then send copies to the Secretary of Transportation; Commandant of the Coast Guard; Director, Office of Management and Budget; and other interested parties.

This work was performed under the direction of Kenneth M. Mead, Director, Transportation Issues, who can be reached at (202) 275-1000. Other major contributors are listed in appendix III.



J. Dexter Peach
Assistant Comptroller General

Further, poor documentation raised uncertainties as to whether the criteria were applied consistently. Finally, the data which the Coast Guard based its closure decisions on were inaccurate or incomplete.

Coast Guard officials told GAO that the quality of the 1988 decision process was strongly influenced by the need to make decisions quickly because of budgetary constraints. GAO noted that the Coast Guard has experienced funding shortages before and has attempted to make reductions to its SAR activities without success in recent years. Such decisions, including the 1988 decisions, are politically sensitive, thereby making it more imperative that congressional decision makers are convinced that the Coast Guard's decisions are based on a sound process that includes criteria that adequately address its SAR, as well as other missions. The Coast Guard should apply the criteria consistently to all stations nationwide; ensure that the data are complete and accurate; and document the decision process.

Principal Findings

Decisions Based on Prior Studies

As the Congress debated the fiscal year 1988 Department of Transportation and Related Agencies appropriation bill, Coast Guard officials recognized that the appropriation amount being considered would create a funding shortfall. Since the bill was not passed until almost 3 months into the fiscal year (1988), they needed to move quickly to save as much money as possible during the remainder of the fiscal year. As a result, the Coast Guard headquarters staff developed a list of 34 candidate stations for closure or reduction based primarily on 2 studies. One, a 1985 Great Lakes consolidation study, recommended closing or reducing operations at certain stations in the Great Lakes area. The other, a 1986 Gramm-Rudman-Hollings budget reduction study for fiscal years 1986 and 1987, recommended closing or reducing operations at 25 boat stations, including 7 that were in the Great Lakes study.

By primarily using the studies as the basis for its 1988 decisions, the Coast Guard did not review the need for all stations and did not factor in conditions that changed since the studies were completed. Updated information may have affected the need for continued Coast Guard SAR presence. For example, the 1985 Great Lakes consolidation study proposed that Air Station Chicago be closed. The study stated that the City

Data Incomplete and Inaccurate

GAO also found that the data which the agency based its closure decisions on were incomplete and inaccurate. Specifically, the decision makers (1) did not have complete information on alternative sources of SAR assistance because this information was not maintained at headquarters; (2) considered data in the determination of the need for services that were, in some cases, inflated because stations were credited with saving lives when they did not; and (3) used incorrect information on the ability to maintain a 2-hour response standard because normal delay periods for getting underway and searching, and delays caused by inclement weather were not included in its calculations.

Applying evaluation criteria to data containing errors and omissions could result in the selection of the wrong stations for closure or reduction. For example, fiscal year 1986 SAR data credited 1 station on Lake Michigan, which was not considered for closure in 1988, with saving 25 lives. However, 16 of the 25 lives had actually been saved by Air Station Chicago or nonfederal SAR units in the area.

Recommendations

GAO recommends that the Secretary of Transportation

- improve the process used in deciding on SAR station closure and reductions by establishing formal instructions which identify the criteria to be applied in making closure decisions, direct decision makers to apply selection criteria consistently to all stations under consideration for closure, and require complete documentation of the reasons for the selections;
- improve the criteria used in the selection process by adding, at a minimum, to the criteria a measurement of the impact that closures and reductions have on saving lives and carrying out other Coast Guard missions; and
- require that complete, current, and accurate data be made available and used in the application of the criteria.

Agency Comments

GAO discussed the contents of this report with Coast Guard officials. The officials were in general agreement with the report, and GAO incorporated their clarifying comments as appropriate. However, as requested, GAO did not obtain official agency comments on a draft of this report.

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Abbreviations

DOT	Department of Transportation
GAO	General Accounting Office
OMB	Office of Management and Budget
SAR	Search and rescue

According to a former Commandant of the Coast Guard, recreational boating was a limited concern of the Congress prior to World War II even though Coast Guard SAR activities did respond to recreational boater mishaps. Recreational boating mushroomed after World War II. For example, 131,000 motorized recreational boats were sold in 1950, but 22 years later, sales totaled 438,000. Recreational boating and the construction of marinas have continued to escalate through the 1970s and 1980s, according to Coast Guard officials. Retailers enjoyed their best year in 1988, selling about 749,000 recreational craft. The National Marine Manufacturer Association estimated that owned recreational boats had grown from about 9 million in 1970 to about 15 million in 1988. Construction of new Coast Guard SAR stations has been primarily responsive to this phenomenal growth, with some located at small boat harbors.

Since 1844, the Coast Guard and its predecessor agencies have established over 400 SAR stations. About 200 of these stations have been closed, destroyed by storms, or transferred to other government agencies. Coast Guard officials offer a number of reasons as to why the larger boating population does not require commensurate growth in SAR stations, such as stricter construction standards for boats, a better educated and trained boating public, and better SAR facilities and technology.

Current Coast Guard SAR Program

Safety of life and property at sea has traditionally been the primary objective of the Coast Guard. The agency has three major strategies directed toward the accomplishment of this objective:

- Developing, in cooperation with other domestic and foreign agencies and organizations, distress prevention measures such as vessel construction standards, maritime regulations, and techniques for alerting others.
- Executing SAR missions through a communication network that controls Coast Guard vessels and aircraft as well as other available non-Coast Guard assets.
- Pursuing an active liaison, both at the national and international level, to develop an effective global SAR system.

The Coast Guard currently maintains a SAR system on the coasts, Great Lakes, and other inland lakes and waterways subject to the jurisdiction of the United States. The system consists of more than 170 shore facilities that operate over 1,800 small boats (hereinafter referred to as “boat stations”) and 26 air stations with over 200 aircraft. These facilities are

lives (85.1 percent) of those at risk of death in fiscal year 1986, and 7,002 lives (86 percent) of those at risk of death in fiscal year 1987.

Coast Guard SAR Stations Have Additional Missions

In line with the Coast Guard's multi-mission responsibilities, SAR stations could be involved in a number of programs beyond the traditional safety at sea mission. These other programs include military readiness, drug interdiction, aids to navigation, bridge administration, boating safety, port safety and security, marine environmental response, and enforcement of laws and treaties. Depending on the geographical area, some stations are tasked with only a few missions, while others are responsible for a greater number of missions. For example, some stations, such as St. Clair Flats, Michigan, have little or no drug interdiction activities and only participate in the recreational boating safety program in addition to SAR missions. Others, such as Fort Lauderdale, Florida, are heavily involved in drug interdiction and participate in the enforcement of laws and treaties, marine environmental response, port safety and security, and recreational boating safety programs in addition to SAR missions.

History of Coast Guard Closure Attempts

Over time, the need for SAR stations at particular locations can change as changes occur in boating activity, in boating equipment, and in the capabilities of other SAR service providers such as local police and fire departments. The Coast Guard's decisions to retain or to cease SAR operations, particularly those with low SAR activity, have also been influenced by efforts to save money or by funding shortages which prevented the agency from maintaining operations at previous levels. The Coast Guard, Department of Transportation (DOT) Inspector General, and the Office of Management and Budget (OMB) have all recommended additional station closures and reductions over the past decade. However, in the past 16 years, the Coast Guard's decisions to close or reduce operations at SAR stations based on changing conditions, saving money, or meeting funding shortfalls have been politically sensitive because they raised perceptions of potential adverse impacts on the agency's ability to save lives and property.

On at least six occasions since 1973, SAR stations were closed or considered for closure. In 1973, 1982, and 1985, the Coast Guard proposed closing or reducing SAR stations, but did not carry out their plans because of political pressure. On the other three occasions, the Coast Guard proceeded with closure and reduction actions without congressional intervention. The following summarizes the six occasions when

under Gramm-Rudman-Hollings were not required and, therefore, the selected stations were never closed or reduced.

Objectives, Scope, and Methodology

The Congress required, in the Department of Transportation and Related Agencies Appropriations Act for fiscal year 1989 (P.L. No. 100-457, 102 Stat. 2125 (1988)), that the Comptroller General report to the Congress the results of his evaluation of the criteria the Coast Guard used to close SAR operations, and his recommendations with respect thereto. We discussed the objectives, scope, and methodology of our work with staff from both the Senate and House Appropriation Committees. Accordingly, we

- assessed the process and criteria the Coast Guard told us it used to select SAR stations for closure and determined whether the criteria were applied consistently to all stations and
- determined whether other criteria could or should have been used to determine which stations to close.

We interviewed Coast Guard officials to determine the criteria and process used in selecting SAR stations for closure. In addition, we traced the closure process through applicable documents and interviews to determine if the criteria were applied consistently to all SAR stations. We also identified and analyzed additional closure criteria which could have been used in the decision-making process by interviewing Coast Guard, state, and local SAR officials. Furthermore, we compared the Coast Guard's rationale for closing or curtailing operations at a given station with how that rationale might apply to other stations. In addition, we obtained the legislative history of the Coast Guard's SAR program to determine its authority to open, close, and operate SAR stations.

To gain a perspective on how well the closure criteria measured SAR needs in different locations, we visited Coast Guard districts, group headquarters, and boat and air stations in the West and Gulf coasts as well as the Great Lakes to collect information concerning the fiscal year 1988 closures and SAR case data. During our work, we interviewed a number of Coast Guard officials at headquarters and various field locations concerning the fiscal year 1988 closure process, the criteria used to make the closure decisions, and the validity of the criteria and supporting data. (We visited 4 of the 15 stations selected for closure or reduction. See app. I for a listing of all field locations visited.) During our visits, we also interviewed SAR officials to discuss alternative criteria.

Coast Guard's Closure and Reduction Decisions Did Not Consider All SAR Stations

Coast Guard officials had very little time to make the fiscal year 1988 SAR station closure and reduction decisions. They recognized, almost 3 months into the fiscal year, that the appropriation amount being considered would create a funding shortfall and therefore they needed to move quickly to save as much money as possible during the remainder of the fiscal year. As a result, the Coast Guard's decision process was based on outdated information and/or did not consider all stations, which made it difficult for the Coast Guard to convince the Congress that such politically sensitive actions were justified.

Decision Process Used in 1988 Closures Greatly Influenced by Time

In December 1987, almost 3 months into the fiscal year, the Coast Guard recognized that a serious funding shortfall might occur in fiscal year 1988. Headquarters staff members were asked by the Commandant to recommend actions that would reduce expenditures. Realizing that only cutting day-to-day operating costs, such as fuel and maintenance, would not be enough to make up the funding shortfall, the Commandant directed the Coast Guard staff to consider reducing costs by closing or reducing shore activities, such as SAR and marine safety operations, and by decommissioning ships and Vessel Traffic Service systems. In order to maximize the savings that could be achieved during the remaining months of fiscal year 1988, closure and reduction decisions and actions had to be made rapidly. On December 22, 1987, one week after the expenditure reduction process was started, the Congress passed the Department of Transportation and Related Agencies Appropriations Act of 1988, which contained \$72 million less for operating expenditures than the President's request of \$1.964 billion. Unanticipated increased costs of \$17 million for overseas purchases and \$14 million to absorb the fiscal year 1988 pay raise brought the shortfall to \$103 million.

In order to reduce costs for SAR activities, headquarters staff developed a list of 34 candidate stations for closing or reduced operations based primarily on two studies. One, a 1985 Great Lakes consolidation study recommended closing the Chicago, Illinois, Air Station and seven boat stations in the Great Lakes area; reducing operations at three other boat stations to summer operations; lowering the level of readiness at one other station; and replacing regular active duty personnel with reservists at another. The second study, a 1986 Gramm-Rudman-Hollings budget reduction study for fiscal years 1986 and 1987, recommended closing or reducing operations at 25 boat stations, including 7 that were in the Great Lakes study. Coast Guard officials told us that staff relied on the studies and ongoing program knowledge because of the limited time available to make decisions. Only 3 of the 34 candidate stations

Studies the Coast Guard Used Did Not Consider All Stations, and Some Station Characteristics Had Changed

The studies that the Coast Guard used in reaching its 1988 closure decisions did not evaluate all stations providing SAR services nationwide. Furthermore, after they were published—one in 1985 and one in 1986—some conditions at the stations had changed. The 1985 Great Lakes consolidation study was undertaken because of OMB's direction in 1984 to save \$5 million annually by eliminating 150 Coast Guard positions in the Great Lakes area. The study considered the number of SAR responses, severity of the situations involved in the responses, and the cost of each response in evaluating closures and reductions at the 49 stations on the Great Lakes only, or about 25 percent of the Coast Guard's SAR stations.

According to Coast Guard officials, the June 1986 nationwide Gramm-Rudman-Hollings study instructed Coast Guard program directors to identify critical and noncritical Coast Guard activities and to propose ways to consolidate, centralize, regionalize, or contract out critical activities or to reduce, transfer, or eliminate non- or less-critical activities. No standard methodology was suggested for this task, and proposed actions were to be supported by the specific assumptions and criteria applied. The Coast Guard could not locate documentation on the number of stations considered during the Gramm-Rudman-Hollings study or on the criteria used to make the closure and reduction recommendations contained therein.

By using the studies as a baseline for 1988 closure and reduction decisions, the Coast Guard overlooked changing conditions which affected the need for continued Coast Guard SAR presence. For example, the 1985 Great Lakes consolidation study proposed that Air Station Chicago be closed. The study stated that the City of Chicago's helicopters could respond to SAR incidents. However, city police said that in 1988, the city was planning to phase out its helicopters. Likewise, we were told that an additional 2,600 small boat slips were being constructed on Lake Michigan in Lake County, Illinois, greatly increasing boat traffic in an area just north of the air station. Consideration of this more recent information might have negated the selection of Air Station Chicago for closure—a selection that had been based on the dated 1985 study.

- The need for Coast Guard services based on trends in SAR emergency responses, severity of those responses, and the lives saved.
- Changing technology, including improvements in Coast Guard and boating equipment, such as communications and navigation equipment.
- The availability of alternative SAR resources, like the Coast Guard reserves and other federal, state, and local organizations, capable of carrying out SAR missions.

Coast Guard officials told us that cost savings to be achieved from the closures and reductions, including the cancellation of future acquisition, construction, and improvement costs, were not used as criteria. But according to the officials, the amount of potential or future facility and equipment purchase and repair cost savings would have been considered if they had needed “to break ties.” (For a description of criteria that the Coast Guard reported to the Congress for closing and reducing SAR operations in fiscal year 1988, see Department of Transportation and Related Agencies Appropriations for Fiscal Year 1989: Hearings on H.R. 4794 before the Subcommittee on Transportation of the Senate Committee on Appropriations, 100th Cong. 2nd Ses., S. HRG 100-853 pt. 2, pp. 611-612 (1988).

Documentation Does Not Demonstrate That Closure Criteria Were Applied Consistently

The documentation the Coast Guard provided the Congress to support its 1988 SAR station closure and reduction decisions only addressed the rationale supporting the 15 stations the Coast Guard ultimately selected for action. No rationale was given to support decisions to maintain operations at the other 19 stations considered but not selected for closure or reduction. Our review of available documentation raises uncertainties as to whether the evaluation criteria were applied consistently to all 34 stations considered for closure or reduction.

Table 3.1 was prepared from documentation the Coast Guard provided the Congress to justify its fiscal year 1988 selections for closure or reduction. The table shows that the available documentation raises uncertainties as to whether the Coast Guard applied all of the criteria to every station selected for closure or reduction. For example, while the Coast Guard reported to the Congress that five criteria were used in making its decisions, its documented rationale only addresses four—changing technology was not addressed for any of the selected stations. The Coast Guard applied from two to four of its criteria to justify its decisions—the criterion of who will meet future needs was applied 16 times, the need for service 14 times, the 2-hour response 14 times, and

were available to perform SAR missions. But 1 of the 19 stations retained—New Canal, Louisiana—was also located on an inland waterway near facilities with resources that could respond to SAR emergencies.

Coast Guard officials told us that the absence of documentation showing the basis of its decisions on the consistent application of criteria was possibly due to two internal management philosophies. First, they said the Coast Guard's senior managers had substantial operations experience and, on the basis of this experience, were expected to make periodic judgments about the needs for SAR activities as well as for any other operational activities. Second, they said that the lack of documentation could partially have resulted from the Coast Guard's decision to keep management discussions and closure considerations private because of their sensitive nature.

Better Indicators for Lifesaving Effectiveness Being Developed

While the 2-hour response criterion used in the fiscal year 1988 closure and reduction decision process relates to a SAR stations' ability to save lives, it does not include factors which would provide good measures of lifesaving effectiveness. Such factors include trends in the locations of routine and emergency SAR responses, reasons for lives lost, and the effect of environmental conditions on needed response time.

The need for the Coast Guard to consider such factors was pointed out in a DOT Safety Review Task Force report issued in July 1988.¹ That report recommended that the Coast Guard allocate personnel and resources on the basis of a nationwide analysis of the nature and location of SAR incidents. However, the Task Force noted that the Coast Guard lacked the data needed to do a nationwide trend analysis of SAR data to determine where responses took place, the underlying reason for distress calls, and why people died or were injured. Therefore, the Task Force believed the Coast Guard was unable to allocate its personnel and resources in the most effective manner. The Task Force also recommended that the Coast Guard develop performance indicators that better measured its effectiveness in saving lives because its 2-hour response standard only measured readiness and did not tell anything

¹The Secretary of Transportation established a Safety Review Task Force to review and analyze the safety programs at each operating administration within DOT. The Task Force reports to the Deputy Assistant Secretary for Safety. That report addressed five Coast Guard program areas: Commercial Vessel Safety, Port Safety, Recreational Boating Safety, SAR, and Aids to Navigation. The report recommended a number of management and program improvements that the Task Force believed would help the Coast Guard discharge its responsibilities more effectively.

Chapter 3
Closure Selection Criteria Need to Be
Improved, Documented, and
Applied Consistently

- Recreational Boating Safety—Promoting safe boating by conducting courtesy inspections and boating education.
- Port Safety and Security—Inspecting ports and waterways for hazardous conditions and providing escort services to ships with hazardous cargos.
- Marine Environmental Response—Minimizing damage caused by the discharge of pollutants, such as oil, into the water.
- Ice Operations—Assisting ships in ice to minimize loss of life and property.
- Enforcement of Laws and Treaties—Enforcing U.S. laws and treaties on navigable waters.

Most SAR stations participate in one or more important activities in addition to SAR. For example, a Coast Guard boat station having been assigned the mission of responding to boaters in life-threatening situations could also be called upon to enforce fishing laws, search vessels for illegal narcotics, or respond to an oil spill.

The criteria that Coast Guard SAR officials said they used for making 1988 decisions did not include the impact a closure or reduction would have on a station's program responsibilities, other than SAR. Because these other missions were not a criterion, the Coast Guard did not document the impact the closures would have on them. We found that decisions may have been different if these other program responsibilities had been considered. For example, Coast Guard officials told us that the Mare Island and Rio Vista, California, stations were both identified as candidates for closure. Coast Guard headquarters officials first considered Rio Vista for closure, but the local district commander later requested that Mare Island be substituted because the Rio Vista station would provide better geographic coverage. However, Mare Island had additional program responsibilities of marine environmental response, port safety and security, and recreational boating safety while Rio Vista had only recreational boating safety as an additional responsibility. According to one petty officer in charge of the station at Mare Island, potential adverse impacts of its closure could include increased response times to oil spills because a unit would have to come from a more distant location such as San Francisco.

it from the field activities when needed. However, they did not solicit this information from their SAR stations during the fiscal year 1988 closure process because they did not want to alarm the stations' staffs about pending closures.

The relationships between Coast Guard stations and other providers were only known in any detail at the station level, and the relationships exist, with few exceptions, only through informal agreements. Since a list of other providers of SAR services, their SAR resources, and their readiness condition does not exist at the headquarters level where decision makers chose stations for closure or reduction, stations with significant services available from other providers could remain open, while stations which lacked services from others could be closed. The impacts of making a closure decision without adequate data on alternate resources can be illustrated by the decision to close Air Station Chicago and the decision to retain operations at New Canal, Louisiana.

- The Coast Guard initially selected Air Station Chicago for closure because it was identified for closure in an earlier study and because it had low SAR activity. The Coast Guard's intent was to provide SAR services through its neighboring boat stations at Wilmette and Calumet Harbor, Illinois. Chicago fire department helicopters provided a SAR capability in addition to that of the Coast Guard. When headquarters personnel made the Air Station Chicago closure decision, however, they did not know that the City of Chicago was planning to phase out the fire department helicopters. If the Coast Guard would have closed Air Station Chicago, it might have left a major metropolitan area without SAR helicopter services. According to Coast Guard officials, helicopters are preferred for searching because of their ability to arrive on the scene quickly and search vast amounts of territory in a short period of time. Also, since Lake Michigan is frozen over during the winter months, making boat operations impossible, helicopters become the only SAR vehicle which can respond quickly to emergencies on the lake during these months. In addition, a Coast Guard group commander said that SAR depends on the fast response of helicopters at night when some boat stations go to a reduced readiness condition.
- In contrast to Air Station Chicago, Boat Station New Canal, located on Lake Ponchartrain, Louisiana, was supported by a sizable number of other Coast Guard and non-Coast Guard SAR resources. These resources included Coast Guard helicopters from Air Station New Orleans, Coast Guard auxiliary boats on the lake, over 60 boats and helicopters from a number of sheriffs' departments in the area, helicopters from the U.S. Customs Service, and more than 200 boats from the Louisiana Wildlife

Of the 15 stations selected for closure or reduction in fiscal year 1988, 9 were to be closed and operations reduced at the other 6. On the basis of its calculations of response times, the Coast Guard reported to the Congress that a 2-hour response could still be maintained at six of seven stations it closed. The Coast Guard reported that the two other stations it closed, Lake Tahoe, California, and Kennewich, Washington, were on closed, inland waters and average response times after closure were not applicable.

We calculated the approximate times for other Coast Guard stations to respond to cases in the areas of the seven seaward boat stations selected for closure in 1988. Our calculations, including the underway, transit, and search times and the effects of realistic weather conditions on response capabilities, showed that the Coast Guard would have been able to respond within 2 hours for only two of the stations it decided to close—four less than reported by the Coast Guard. Therefore, the Coast Guard would not have been able to maintain 2-hour response capabilities at most of the stations it closed.¹ For example, Coast Guard officials stated that the boat station at Fairport Harbor, Ohio, and the air station at Detroit, Michigan, could respond to emergencies in the area of Ashtabula, Ohio, in 75 and 90 minutes, respectively. Our calculations showed that the response times would be 188 and 153 minutes, respectively.

Statistics on Lives Saved Not Accurate

Since the primary mission of Coast Guard SAR stations is to save lives, the number of lives that a station saves is one of the indicators that Coast Guard officials use to determine the need for services, and therefore, the need for a station. However, we found that the information that the Coast Guard uses on lives saved is not accurate because it is judgmental and contains some erroneous data.

The determination of whether a life is saved is often based on the judgment of the Coast Guard aircraft pilot or small boat operator at the scene of the incident. Coast Guard guidance for developing and reporting SAR data states that whether a life was saved depends on the severity of the situation. The guidance states that a life saved means an

¹To calculate response times after station closure, we obtained the distance to the nearest boat and air stations. We then determined the number of minutes that boats and aircraft at those stations would require to transit the distance at maximum speed. To this transit time, we added a 30-minute readiness time and a 45-minute search time. This sum represented a response time under ideal conditions. Response times under realistic conditions were calculated in the same manner, with the exception that boat transit speeds were reduced to what Coast Guard policy considered safe in 4- to 6-foot seas and aircraft speeds were reduced to normal cruising speeds stated in a Coast Guard operations manual.

because in most SAR cases to which the station responded and claimed lives saved, it only assisted the endangered passengers by refloating or towing a recreational boat after another unit had saved the passengers. The other 16 lives credited to Station Wilmette Harbor were actually saved by helicopters from Air Station Chicago or by boats provided by non-Coast Guard participants involved in the multi-unit cases.

Cost Savings Were Based on Inaccurate Estimates

Although the Coast Guard did not use potential cost savings arising from SAR station closure and reduction actions as a criterion for selecting the stations, the primary reason it closed or reduced operations at the 15 stations was to reduce fiscal year 1988 and future fiscal year expenditures. We found, however, that at the time the Coast Guard selected the 15 stations, it had overstated the savings that were to be achieved.

The Coast Guard estimated in January 1988 that the 15 SAR station closures and reductions would satisfy about \$5.1 million of the Coast Guard's \$43 million fiscal year 1988 budget shortfall—a reduction of \$4.5 million in personnel costs and a reduction of \$577,000 in operations and maintenance costs. It made its closure decisions in an effort to save this \$5.1 million. However, in April 1988, the Coast Guard found that it had overstated the \$5.1 million cost savings by about \$3 million for three reasons: (1) personnel costs were overstated by about \$10,000 per position, (2) the SAR station closure and reductions occurred later than estimated, and (3) costs to close the SAR stations were higher than anticipated.

- In calculating an annual personnel cost savings of \$4.5 million to be achieved through personnel reductions, the Coast Guard, for convenience, used a standard cost figure of \$30,000 per position which, according to Coast Guard officials, was a “ballpark” figure of the average cost of a Coast Guard position for fiscal year 1988. Officials in the Chief of Staff's office used the \$30,000 to represent position costs in developing cost information for all facility closings announced in 1988 because it was the amount they historically used. The \$30,000 per billet cost used is based on the Coast Guard's mix of officers, and enlisted and civilian staff. However, no officers or civilians were assigned to the 15 stations; therefore, the Coast Guard should have used a lower enlisted billet standard cost of \$20,800, reducing the Coast Guard's estimated savings by \$1.2 million. Information was readily available that would have provided a more precise estimate of personnel savings for specific facilities.
- Estimated annual savings from personnel reductions should have been reduced for the portion of fiscal year 1988 that the stations remained

Conclusions and Recommendations

Conclusions

Coast Guard SAR stations have played and continue to play an important role in protecting the lives of commercial fishermen, recreational boaters, and others involved in accidents on the nation's inland and coastal waterways. Budget constraints, and the addition and reprioritization of mission responsibilities have and likely will continue to require the Coast Guard to evaluate and adjust SAR activities in order to achieve economies and efficiencies in its operations. However, while the Coast Guard has had numerous opportunities and reasons for improving the efficiency of its SAR services it has been unsuccessful, since 1973, in its attempts to close SAR stations because it has not been able to convince the Congress that such actions were justified and to dispel perceptions that its effectiveness in saving lives might be reduced.

The Coast Guard's attempt to close and reduce operations of SAR stations in fiscal year 1988 was unsuccessful as it had been in the past because the rationale it provided to the Congress—which was developed after the closure and reduction decisions had been made—was not convincing for a number of reasons. First, the Coast Guard's evaluation of SAR stations was limited in scope, mainly considering stations recommended for closure or reduced operations in studies that were 2 and 3 years old. Second, the documentation for the Coast Guard's actions did not demonstrate that it applied its evaluation criteria consistently to all stations considered. Third, the Coast Guard's criteria did not measure the effect of closures or reductions on its effectiveness in saving lives or performing other missions. And fourth, the data the Coast Guard used in applying its criteria were not complete or accurate.

The Coast Guard attributes the nature of the decision process it used for the 1988 planned actions on the fact that it had limited time to make its decisions. Although the Coast Guard has experienced difficulty in executing SAR station closure and reduction decisions since 1973 largely because its planned actions have not been convincing, it has not acted to formalize how its decision-making process will be executed and the results of its decisions documented. Without applying appropriate evaluation criteria to all SAR stations using complete and accurate data, and thoroughly documenting the results of its decision-making process, the Coast Guard will likely continue to have difficulty convincing the Congress that such actions are justified and will not adversely affect its ability to perform its SAR responsibilities.

Coast Guard's Recommended SAR Changes in Operational Status, 1985-88

	Proposed Great Lakes Consolidation FY 1986 Mar. 5, 1985	Gramm- Rudman- Hollings Proposed Reductions, May 2, 1986	\$100 Million Reduction List, Dec. 24, 1987	Actual Actions Planned or Taken, Jan. 26, 1988
Lake Tahoe, Calif.		X	X	X
Klamath River Patrol, Calif.		X	X	
Kauai, Hawaii			X	X
Eastport, Maine		X	X	X
North Superior, Minn.	X	X	X	X
Alexandria Bay, N.Y.	X	X	X	X
Ashtabula, Ohio	X	X	X	X
Coquille River Patrol, Oreg.		X	X	X
Rogue River Patrol, Oreg.		X	X	X
Block Island, N.J.		X	X	X
Kennewick, Wash.		X	X	X
Bayfield, Wis.	X	X	X	X
Shark River, N.J.		X	X	X
Frankfort, Mich.	X		X	X
Mare Island, Calif.			X	X
Air Station Chicago, Ill.	X		X	X ^a
Air Station Humboldt Bay, Calif.			X	
Fishers Island, N.Y.		X		
Harbor Beach, Mich.	X	X		
Juneau, Alaska		X		
Moriches, N.Y.		X		
New Canal, La.		X		
Rio Vista, Calif.		X	X	
Quillayute, Wash.		X		
St. Clair Flats, Mich.	X	X		
St. Clair Shores, Mich.	X	X		

(continued)

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Appendix I
Coast Guard's Recommended SAR Changes in
Operational Status, 1985-88

	Proposed Great Lakes Consolidation FY 1986 Mar. 5, 1985	Gramm- Rudman- Hollings Proposed Reductions, May 2, 1986	\$100 Million Reduction List, Dec. 24, 1987	Actual Actions Planned or Taken, Jan. 26, 1988
Taylor's Island, Md.		X		
Burlington, Vt.		X		
San Juan, P.R.		X		
Pascagoula, Miss.		X		
Marquette, Mich.	X		X	
Sheboygan, Wis.	X		X	
Marblehead, Ohio	X		X	
Holland, Mich.	X			

^aAir Station Chicago was removed from the final directed list of 15 stations that were to be closed or reduced starting on March 1, 1988.

GAO Performed Work at the Following Coast Guard Locations

Districts	Long Beach, Calif. Cleveland, Ohio New Orleans, La.
Groups	Milwaukee, Wis. San Francisco, Calif. Humboldt Bay, Calif. Mobile, Ala. New Orleans, La.
Air Stations	Chicago, Ill. Humboldt Bay, Calif. San Francisco, Calif. New Orleans, La.
Boat Stations	Sheboygan, Wis. Wilmette Harbor, Ill. Calumet Harbor, Ill. Ashtabula, Ohio Marblehead, Ohio Milwaukee, Wis. New Canal, La. Mobile, Ala. Pascagoula, Miss. Destin, Fla. Pensacola, Fla. Gulfport, Miss. San Francisco, Calif. Mare Island, Calif. Rio Vista, Calif. Lake Tahoe, Calif. Humboldt Bay, Calif.
Aviation Training Centers	Mobile, Ala.

Recommendations

We recommend that the Secretary of Transportation

- improve the process used in deciding on SAR station closure and reductions by establishing formal instructions which identify the criteria to be applied in making closure decisions, direct decisionmakers to apply selection criteria consistently to all stations under consideration for closure, and require complete documentation on the basis of the selections;
- improve the criteria used in the selection process by adding, at a minimum, to the criteria a measurement of the impact that closures and reductions have on saving lives and carrying out other Coast Guard missions; and
- require that complete, current, and accurate data be made available and used in the application of the criteria.

Chapter 4
Data Used in Making Closure Decisions Were
Incomplete and Inaccurate

open. The stations did not close until after March 1, 1988, or about 5 months after October 1, 1987—the beginning of fiscal year 1988. In light of when the closures actually began, estimated personnel cost savings should have been reduced 5/12, or an additional \$1.3 million.

- The Coast Guard estimated that the closure of the stations would have saved \$577,000 in operations and maintenance costs, but Coast Guard accounting records show that only \$273,000 of the estimated savings were realized. We were told that the difference could be attributed to costs incurred in closing the stations, and to the stations that were closed later than anticipated.

Because the Coast Guard overestimated the costs of the 15 SAR station operations, it also overestimated the savings to be achieved by closing or reducing the operations at these stations. As a result, the Coast Guard would not have achieved the fiscal year 1988 savings it expected to achieve at the time it made the decision to close or reduce the 15 stations in January 1988.

individual was actually rescued from an incident involving either a moderately severe or severe situation. An incident is moderate if a threat to life existed and serious personal injury or loss of life would have occurred if action had not been taken, while an incident is severe if individuals were either physically rescued from imminent danger or were lost.

Coast Guard officers and senior petty officers that we talked with at headquarters, air stations, and boat stations expressed a wide range of views as to what constituted a life saved. For example:

- An officer at an air station told us that he would record a life saved for any SAR response if he hoisted a person into a helicopter.
- The petty officer in charge of a boat station said a life is saved if the victim is pulled out of the water.
- The petty officer in charge of another boat station said the victim would have to be rescued from the water or from the hull of a capsized boat. However, a person is merely assisted (not considered a life saved) if taken from an upright boat.
- The petty officer in charge of another boat station said a life is saved if they bring a person who could have perished to shore alive.
- The petty officer in charge of another boat station told us that a life is saved when a person is removed from a threatening situation such as a boat collision, fire, or a boat taking on water.

The program branch chief in the SAR Division at headquarters told us that data currently reported on the number of lives saved are inaccurate. He stated that the data were biased because people have different views on the severity of a situation. A program director with DOT's Office of Inspector General expressed similar concerns over the quality of Coast Guard data. He said that some routine cases are classified as severe and that the Coast Guard sometimes takes credit for lives saved when searches are for bodies. He cited a case in which a Coast Guard aircraft flew over a capsized catamaran and claimed several lives saved even though a privately owned canoe actually rescued the victims.

We reviewed fiscal year 1986 SAR data for one air station and two boat stations to determine if the number of lives saved that was credited to these activities was correct. We found errors in the data that resulted in overstating the number of lives saved. For example, Station Wilmette Harbor, Illinois, was credited with saving 25 lives, which ranked it in the upper one-half on this criterion. However, our examination of SAR data for the station showed that it physically saved only nine people

and Fisheries and other local agencies in the New Orleans area. Station New Canal was one of the 34 stations the Coast Guard considered but did not select for closure in 1988. However, Coast Guard officials who made the closure decisions did not have specific information on the capabilities of other non-Coast Guard SAR providers in the area of the station at New Canal. Therefore, these officials could not assess the potential capabilities of these other providers or make valid comparisons of the impact of closing the station at New Canal to other stations under consideration.

2-Hour Response Standard Incorrectly Calculated

Coast Guard officials told us that maintaining the 2-hour response standard was a critical criterion in deciding whether a station should be closed or not. However, the Coast Guard did not calculate response times correctly because it did not include the time needed to get underway or to search for endangered persons and property. In addition, it did not factor into the response time the calculation of the effects of adverse weather on the ability of the SAR resource to reach the scene of the emergency. Therefore, the Coast Guard overstated the ability of remaining stations to aid persons in need of assistance after station closures.

The Coast Guard's 2-hour response standard is broken down into three phases: (1) equipment and personnel are to be capable of getting underway within 30 minutes of notification (underway time), (2) the personnel and equipment are to arrive on the scene or in the search area within 45 minutes after getting underway (transit time), and (3) units are to be able to locate the persons in distress within 45 minutes after arrival in the search area (search time). We found that in determining if other boat or air stations could meet the response standard after a station closure, the Coast Guard allocated the entire 2 hours for transit, rather than the 45 minutes. An official told us that a series of charts was prepared to show the territorial coverage of each station using a 2-hour response standard. He was unable to locate a copy of the charts; however, he said they were probably based on transit times with no allowances made for the time to get underway or to search for the victim in distress.

Coast Guard officials also assumed near maximum transit speeds in their calculations even though adverse weather conditions frequently reduce transit speeds and would, therefore, reduce possible territorial coverage in the 45 minutes allotted to transit. According to Eighth District Standard Operating Procedures, 5-foot seas can reduce the maximum safe speed of the rescue boat by almost one-half.

Data Used in Making Closure Decisions Were Incomplete and Inaccurate

Coast Guard decisions to close or reduce SAR operations need to be based on complete and accurate data in addition to reasonable criteria. However, we found that the Coast Guard decision makers (1) did not have adequate information on alternative sources of SAR assistance; (2) considered data in the determination of actual need for services that were in some cases inflated because stations were credited with saving lives when they only rendered assistance; and (3) used incorrect information on the ability to maintain a 2-hour response standard. Because of such errors and omissions, the wrong stations could be selected for closure or reduction. In addition, while cost was not a criterion, the Coast Guard overestimated the savings that would have been realized from closing or reducing SAR station operations.

Complete Data on Other Providers Not Available

In many geographic locations, other federal, state, and local SAR providers assist the Coast Guard in saving lives and property. These other providers permit the Coast Guard to make a more efficient allocation of Coast Guard personnel, aircraft, and boats. Although availability of SAR services from other providers was a criterion in the decision to close or reduce SAR operations, the Coast Guard decision makers did not have complete data on (1) the locations and resources of such providers and (2) the reliability of their services.

The Coast Guard's National Search and Rescue Manual requires districts to coordinate with all providers of SAR services in their geographic areas of responsibility. These other SAR providers include the Coast Guard's selected reserves and auxiliaries; other federal agencies, such as the Air Force and Navy; state agencies, such as state patrols and departments of natural resources; and local agencies, such as city police and sheriffs' departments. Coordination with other providers of SAR services is necessary because maritime emergencies can require resources that exceed Coast Guard capabilities in the area and could help offset the loss of Coast Guard resources if stations were to be closed.

When senior Coast Guard officials made the 1988 closure and reduction decisions, they did not have data on the location of other providers of SAR services, the type and number of SAR resources they would provide, and their reliability in responding to life or property-threatening situations. Headquarters officials told us that local commanders are required to know the availability of other SAR resources within their area, and district commanders are responsible for obtaining written agreements with the agencies which have resources. They said that there is no need to maintain this information at headquarters because they could obtain

about effectiveness, nor distinguish between emergency and more routine distress calls.

In an April 1987 report to the Congress, we also pointed out the need for DOT, including the Coast Guard, to improve its operational measures of effectiveness by better defining objectives, monitoring performance, and allocating resources (GAO/RCED-87-3, Apr. 13, 1987). The Coast Guard generally agreed with both our findings and the Task Force's and, at the time of our review, was beginning to implement the Task Force's recommendations. Coast Guard officials told us that implementation of all of the Task Force's recommendations would probably not be completed until 1991. However, the SAR data base is being expanded to provide additional SAR information based on new information collected during fiscal year 1989. Further expansion of this data base will form the framework on which fulfillment of the other recommendations will follow.

SAR Closure and Reduction Decisions Did Not Consider Other Missions

The Coast Guard, in responding to DOT Inspector General recommendations for closing SAR stations in 1985, noted that (1) SAR units perform under the multi-mission concept and (2) all of the missions needed to be examined before reducing SAR resources. However, while the Coast Guard considered its three priority missions—SAR, military readiness, and law enforcement—during the first stage of its process to decide how to allocate expected budget shortfalls across its various missions, it only considered the SAR mission when deciding which SAR stations should be closed.

The Coast Guard has developed various programs to respond to a wide variety of maritime responsibilities, most of which are assigned by statute. SAR program officials point out that having a boat or air station responsible for more than one of these programs enables their relatively small organization to meet its many responsibilities. The Coast Guard terms this assignment of more than one program to units its "multi-mission concept." Programs other than SAR include:

- Short-range Aids to Navigation—Maintaining buoys and other markers that indicate channel boundaries and hazards.
- Radio-Navigation Aids—Maintaining Coast Guard radio systems which transmit signals so that mariners can establish their position at sea.
- Bridge Administration—Inspecting bridges over navigable waters to ensure their safe operation.

Chapter 3
Closure Selection Criteria Need to Be
Improved, Documented, and
Applied Consistently

the operating environment concerns 5 times. Members of Congress questioned the recommended actions for the Chicago, Illinois Air Station; and the Shark River, New Jersey; Eastport, Maine; and Coquille River and Rogue River, Oregon, boat stations because the Coast Guard's rationales did not adequately address all criteria or the safety impact of the closures and reductions.

Table 3.1: Application of the Criteria the Coast Guard Used to Justify Station Selection for Closure or Reduction

Station	Coast Guard criteria				
	2-hour standard	Operating environment concerns	Need for service	Changing technology	Will future needs be met?
Lake Tahoe, Calif.	No	Yes	No	No	Yes
Klamath River, Calif.	Yes	No	Yes	No	Yes
Mare Island, Calif.	Yes	Yes	Yes	No	Yes
Kauai, Hawaii	Yes	No	Yes	No	Yes
Eastport, Maine	Yes	No	Yes	No	Yes
Frankfort, Mich.	Yes	No	Yes	No	Yes
North Superior, Minn.	Yes	No	Yes	No	Yes
Alexandria Bay, N.Y.	Yes	Yes	Yes	No	Yes
Ashtabula, Ohio	Yes	No	Yes	No	Yes
Coquille River, Oreg.	Yes	No	Yes	No	Yes
Rogue River, Oreg.	Yes	No	Yes	No	Yes
Block Island, R.I.	Yes	No	No	No	Yes
Kennewich, Wash.	No	Yes	Yes	No	Yes
Bayfield, Wis.	Yes	Yes	Yes	No	Yes
Shark River, N.J.	Yes	No	Yes	No	Yes
Air Station Chicago, Ill.	Yes	No	Yes	No	Yes

Note: Klamath River, Calif.; Coquille River, Oreg.; and Rogue River, Oreg., are detachments of stations not selected for closure.

Source: U.S. Senate Hearings, Committee on Appropriations, Department of Transportation and Related Agencies Fiscal Year 1989 Appropriations. H.R. 4794, pp. 611-619.

The Coast Guard did not provide the Congress with its rationale for retaining the other 19 stations that were under consideration for closure or reduction in fiscal year 1988, and it could not locate documentation explaining what characteristics led to its retaining these stations. We found that the Coast Guard's rationale provided to the Congress could have been used to justify closure or reduction of some of the 19 SAR stations that were not selected for such actions. For example, the Coast Guard reported that it closed the Lake Tahoe, California, station because it was on an inland, closed body of water and other resources

Closure Selection Criteria Need to Be Improved, Documented, and Applied Consistently

Decisions to close or reduce operations at SAR stations have been politically sensitive and difficult to defend. The rationale the Coast Guard provided to the Congress to support its fiscal year 1988 SAR station closure and reduction decisions did not demonstrate that it applied its decision-making criteria consistently to all stations under consideration for such actions. This condition exists largely because the Coast Guard does not have formal policies or procedures on what criteria should be used during the decision-making process, how the criteria should be applied, or how recommendations should be developed or documented. In addition, the Coast Guard's criteria did not include good measures of the agency's effectiveness in saving lives nor an assessment of the impact the closures and reductions would have on the agency's ability to perform its other missions. As a result, the Coast Guard's decision process does not include the methodical application of selection criteria that addresses the agency's effectiveness in carrying out its SAR responsibilities as well as its ability to perform other assigned missions.

Closure and Reduction Decision Criteria Documented After Decisions Were Made

According to the Coast Guard, no documentation describing the 1988 SAR station closure and reduction decision-making process or criteria existed at the time the decisions were made in late 1987 and early 1988. Instead, Coast Guard officials provided us with the rationale for its decisions which it provided to the Congress, at Congress' request, after the decisions had been made. In that documentation, the Coast Guard described the two-stage decision process it used to address expected funding shortfalls. In the first stage, the Coast Guard attempted to minimize the impact of the expected shortfall on the agency as a whole by apportioning the shortfall on the basis of such considerations as a desire to maintain geographic and funding balances in all programs. The Coast Guard reported that, in the second stage, it applied criteria that considered characteristics more specifically related to the individual programs.

For the SAR program, the Coast Guard stated that stations were selected for closure or reduction largely on the basis of whether assistance could continue to be provided within 2 hours of notification of a SAR emergency and on its general knowledge of the SAR system, which it described as professional judgment. Along with the 2-hour response and professional judgment criteria, Coast Guard officials said they considered the following additional criteria:

- A station's operating environment, such as open ocean versus more restrictive inland lakes and rivers, the geography of shorelines, and the severity of weather and water conditions.

were not included in the Great Lakes consolidation study and/or the Gramm-Rudman-Hollings study. Two of the three stations were added to the list as a result of knowledge of their SAR productivity, and the other was added on the basis of a district commander's recommendation.

Documents provided by Coast Guard officials showed that the list of 34 candidate stations was reduced to 21 on December 22, 1987. Headquarters SAR management and program review personnel reduced the list on the basis of their professional judgment and general knowledge of such SAR system characteristics as the geography of the area around the stations, trends in boating activities, improvements in navigation and communications equipment, and other organizations (e.g., local police or fire departments and volunteer groups) that could provide SAR services. These criteria were not documented or formally communicated in writing to decision makers.

On December 23, 1987, one day after the Congress passed the fiscal year 1988 appropriation bill, the Coast Guard's 27 headquarters and field admirals assembled and were informed of the staff's proposal for reducing the cost of operations by \$103 million. Of this amount, recommendations to close or reduce operations at 21 stations providing SAR services—19 SAR boat stations and 2 air stations—were estimated to save about \$11.8 million annually. After the admirals met, 4 boat stations and 1 air station were removed from the December list of 21 stations on the basis of input from the field commanders and headquarters staff. The criteria used to make these decisions were not documented. On January 26, 1988, a cost reduction package was announced that included estimated annual savings for the remaining group of 16 SAR closures and reductions totaling about \$7.4 million. In February 1988, a final change removed the second air station from the list because the estimated annual savings of about \$2.3 million from its closure were not needed. (See app. II for the makeup of candidate lists).

In March 1988, the Coast Guard began implementing its decisions to close or reduce operations at the 15 SAR boat stations. However, the Department of Transportation and Related Agencies Appropriations Act of 1989, required the Coast Guard to reopen closed stations. The act also prohibited the Coast Guard from using any funds appropriated by the act to close any SAR operations until 90 days after the issuance of this report.

We also collected and analyzed information on the Coast Guard's projected cost savings from closing or reducing operations at its stations.

Our work was performed during the period December 1988 to December 1989 in accordance with generally accepted government auditing standards. We discussed factual information in this report with Coast Guard officials, who were in general agreement with the report, and we incorporated their clarifying comments as appropriate. However, as requested, we did not obtain official agency comments on a draft of this report.

the Coast Guard closed SAR stations, proposed their closure, or considered their closure:

- In 1973, the Coast Guard closed 13 stations on the Great Lakes because of their low workloads and the need to reduce federal expenditures. The Congress included in the 1973 appropriations bill \$600,000, which was used to reopen and operate 10 of the 13 stations.
- In 1982, funding shortages led the agency to decide to close or reduce 16 stations on the Great Lakes. The agency selected the stations because of their low workloads and issued orders to carry out closure and reduction actions. However, local and congressional interests believed that increased boating activity on the Great Lakes and the absence of adequate SAR capabilities in areas where stations were to be closed justified the continuation of SAR services. After receiving pressure from local interests and congressional offices, the Coast Guard cancelled the orders affecting the 16 stations.
- In mid-1984, OMB directed the Coast Guard to save \$5 million annually by eliminating 150 billets (personnel positions) in the Great Lakes area. In 1985, during fiscal year 1986 appropriations hearings, the Coast Guard proposed the closure of eight SAR stations, and the reduction of another five stations on the Great Lakes. These proposed closures were never carried out, however.
- On June 24, 1985, DOT's Inspector General issued a report on the Coast Guard's SAR stations summarizing operations in six districts from October 1, 1980, to September 30, 1983. The report recommended that the Coast Guard improve SAR program efficiency by closing 21 SAR stations. The Coast Guard noted that before the Inspector General report was issued, the agency had attempted to close several of the 21 sites identified by the Inspector General. However, congressional interest in keeping the stations open prevented their closures. The agency did, however, reduce staffing at some of the stations the Inspector General recommended closing.
- In October 1985, the Coast Guard developed a \$230 million reduction list in response to a proposed Senate reduction to its fiscal year 1986 appropriations. Over \$40 million related to SAR activities. However, the Senate reduction was not enacted and the Coast Guard did not close any SAR stations.
- In January 1986, the Coast Guard began to select SAR stations for closure and reduction in order to comply with the Gramm-Rudman-Hollings budget reduction legislation. The Coast Guard planned to reduce its total expenditures to between \$125 million to \$150 million for all programs, and the SAR program was assigned a target of about \$21 million. Ultimately, according to the Coast Guard, funding reductions called for

staffed 24 hours a day, and most of them are required by the Coast Guard to dispatch at least one boat or aircraft within 30 minutes after notification. SAR units are directed and coordinated by rescue coordination centers usually located at the Coast Guard's 10 district headquarters or at the 45 Group Commands. According to the Coast Guard's fiscal year 1988 SAR data, the agency responded to over 52,000 cases, saved 5,351 lives, and helped owners save or retrieve property valued at over \$2 billion, in addition to performing its other missions.

Although most SAR assistance is in response to distress calls broadcast over marine radio, assistance can also be initiated by sources as diverse as aerial flares, telephone calls concerning overdue boaters, or electronically coded alerts transmitted by satellite. SAR coordinators, most often the group commands, evaluate the severity of a call for assistance and determine the type and number of units, if any, to be dispatched to the distress location or to the search area if the actual location is not known.

The Coast Guard has established SAR standards in its Operating Plan¹ which include

- ensuring that equipment and personnel are capable of being ready to proceed within 30 minutes after unit notification (this standard was met in 83.8 percent of SAR cases during fiscal years 1984 to 1986—according to the latest available Coast Guard data);
- locating SAR facilities so that Coast Guard assistance can arrive on the scene or in the search area within 45 minutes after getting underway (Coast Guard data show that this standard was met in 84.1 percent of SAR cases during fiscal years 1984 to 1986); and
- finding the person requiring assistance within 2 hours of Coast Guard notification (this standard was met in 81 percent of SAR cases during fiscal years 1984 to 1986, according to Coast Guard data).

The SAR operating program plan also sets an effectiveness goal for SAR activities. It states that after receiving a request for assistance, 90 percent of those people at risk of death on waters over which the Coast Guard has responsibility will be saved. According to the Coast Guard's SAR management information system, during fiscal year 1988, the Coast Guard was credited with saving 7,861 lives, or 85.2 percent of those people at risk of death. Comparable figures for other years were 5,788

¹The Coast Guard's Search and Rescue Operating Program Plan serves as the basis for planning, policy development, and subsequent programing actions.

Introduction

The United States Coast Guard administers laws and regulations for promoting the safety of life and property on and under the high seas and waters subject to the jurisdiction of the United States. It accomplishes these responsibilities mainly through its search and rescue (SAR) program, supplemented by its aids to navigation and law enforcement programs. The Coast Guard's fiscal year 1988 appropriation for operations of about \$1.8 billion was about \$103 million less than it estimated it needed to fund all of its activities. This shortfall was made up, in part, by \$60 million in supplemental and reprogrammed appropriations. The Coast Guard hoped to make up the remaining \$43 million shortfall by reducing various operations and maintenance functions. About \$5 million of the \$43 million was to be saved by closing or reducing operations at SAR boat stations.

Evolution of Search and Rescue Station Activities and Locations

The Coast Guard is required by 14 U.S.C. Section 2 to develop, establish, maintain, and operate rescue facilities for the promotion of safety. The Coast Guard may render aid to persons and protect property at any time and place where Coast Guard facilities are available and can effectively be used. Coast Guard officials noted that SAR activity may be considered a mandated function, but no specific level of performance has been cited under the legislative authority. The Coast Guard is authorized to assist federal and state agencies or other political subdivisions when requested, or to accept assistance from these entities.

Goals for the Coast Guard's SAR program are shown in the following order of priority in its operating program plan:

- Minimizing loss of life, personal injury, and property damage on, over, and under the high seas and waters subject to U.S. jurisdiction.
- Promoting international and domestic cooperation to provide and improve SAR activity.
- Performing assigned SAR responsibilities in support of military operations.

The federal government's role in safeguarding life and property at sea by providing SAR assistance predates the establishment of the Coast Guard. Early efforts related almost entirely to assisting commercial vessels in distress on the high seas and along our coasts; however, assistance to commercial vessels now accounts for less than 15 percent of the SAR caseload, with assistance to pleasure boats operating on lakes, rivers, and coastal waters accounting for most of the rest.

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of Chicago's helicopters could respond to SAR incidents. However, Chicago city police told GAO that in 1988, the city was planning to phase out its helicopters. Likewise, county police said that an additional 2,600 small boat slips were being constructed on Lake Michigan in Lake County, Illinois, greatly increasing boat traffic in an area just north of the air station. Consideration of this more recent information might have negated the selection of Air Station Chicago for closure.

Closure Selection Criteria

Over the years, decisions to close or reduce operations at SAR stations have been politically sensitive and difficult to defend. The 1988 decision was also questioned by members of Congress. Documentation that laid out the Coast Guard's decision process and criteria was developed after the decision process was over and was not complete. For example, the documentation only addressed the Coast Guard's decision rationale for the 15 stations it ultimately selected for action and said nothing about the nature or results of its evaluation of the other stations considered. Also, GAO's review of available documentation raised uncertainties as to whether the criteria were applied consistently to all 34 stations considered. For example, the Coast Guard reported that it closed the Lake Tahoe, California, station because it was on an inland, closed body of water and other resources were available to perform SAR missions. GAO observed, however, that the New Canal, Louisiana, station (1 of the 19 stations not selected for closure or reduction) was also located on an inland waterway near facilities with resources that could respond to SAR emergencies. However, the Coast Guard did not document the rationale for not selecting this station and, therefore, GAO could not determine why it was not chosen.

In addition, although the Coast Guard's criteria included the number of lives saved, it did not include an assessment of the stations' effectiveness in saving lives. Further, it did not assess the impact the closures and reductions would have on the agency's ability to perform its other missions. Coast Guard officials told GAO that they are developing a process to provide better performance indicators of a station's ability to save lives. However, GAO believes that criteria must also include an assessment of the impact that closures would have on its other missions. For example, in 1988, the Coast Guard selected Mare Island, California, for closure. Besides SAR, this station had marine environmental response, recreational boating safety, and port safety and security missions. However, in making their closure decision, Coast Guard officials did not document how remaining stations or other resources would meet these missions.

Executive Summary

Purpose

Coast Guard search and rescue (SAR) stations have played and continue to play an important role in protecting the lives of commercial fisherman, recreational boaters, and others involved in accidents on the nation's waterways. Reacting to an expected shortage of funds, in January 1988, the United States Coast Guard decided to close nine of its SAR stations and to curtail operations at six others. The Congress directed the Coast Guard to reopen closed stations and not close any SAR operations until GAO reviewed and reported on the January 1988 decision. Accordingly, GAO assessed the supportability of the Coast Guard's decisions, focusing on the process and criteria the Coast Guard used to select SAR stations for closure or curtailment of operations.

Background

Legislation requires the Coast Guard to develop, establish, maintain, and operate SAR facilities, but does not establish specific levels of performance goals for the SAR mission. The Coast Guard has established three broad goals for this mission: (1) minimize loss of life, injury, and property damage, on, over, and under the high seas and waters subject to U.S. control; (2) promote international and domestic cooperation to improve SAR activities; and (3) perform SAR activities for military operations.

At the time of GAO's review, the Coast Guard had more than 170 SAR operations with boats and 26 air stations that made up its SAR system. According to the Coast Guard's fiscal year 1988 SAR data, these stations responded to over 52,000 cases, saved 5,351 lives, and helped owners save or retrieve property valued at over \$2 billion in addition to performing their other missions.

Results in Brief

The Coast Guard's 1988 attempt to close or reduce operations at SAR stations was not successful because its reasons for doing so were not convincing. At the time the Coast Guard made its 1988 closure decisions, it did not have policies on or procedures for what criteria should be used, how the criteria should be applied, or how recommendations should be developed or documented. First, the Coast Guard applied its evaluation criteria to a limited universe—only 34 of its stations were thoroughly evaluated. Because of time constraints, the Coast Guard mainly relied on two prior studies which did not contain current information and/or did not evaluate all stations. Second, the criteria the Coast Guard used to evaluate stations did not adequately address such key operational factors as the impact that closure or reduction actions would have on its effectiveness in saving lives or on its ability to perform other missions.

