

UNITED STATES COAST GUARD

# MARINE SAFETY PERFORMANCE PLAN

FY 2009-2014



NOVEMBER 2008



U. S. Coast Guard marine inspectors conduct a damage survey in the cargo hold of a Great Lakes bulk cargo vessel. To increase marine inspector and investigator capacity, we will add 340 full-time personnel to the marine safety program by the end of 2009.

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**REAR ADMIRAL BRIAN M. SALERNO**

Assistant Commandant for Marine Safety, Security and Stewardship

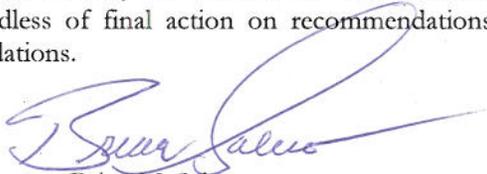
United States Coast Guard

The Coast Guard's missions of preventing and responding to major marine incidents remain unchanged, and conversely, the Coast Guard's responsibility to improve Marine Safety is ever changing. The maritime industry is growing and will continue to grow. This poses new challenges, and we must keep up with our stakeholders' and partners' needs —our biggest challenge! We recognize industry's concerns and value their insights on how best to meet the demands of a dynamic global environment. We are always assessing our performance, making course corrections or charting new courses, and we understand that our success depends on a strong foundation of partnership with our maritime stakeholders. This is why we must have a formal "sail plan" that conveys our goals, objectives and performance targets both internally and externally.

I am pleased to present the Marine Safety Performance Plan (MSPP).. As one of several plans covering each of the Coast Guard's statutory missions, it illustrates the broad range of services the Coast Guard Marine Safety program provides the American public. These services directly support our national interests of ensuring a safe and efficient Marine Transportation System, protecting the environment and natural resources, and preventing disruptions to commerce. The MSPP establishes what the Marine Safety program intends to achieve in the next five years.

As Ben Franklin stated in his *Poor Richard's Almanac*, "an ounce of prevention is worth a pound of cure." I could not agree more! I am focused on keeping accidents from happening and I am totally committed towards keeping the Coast Guard's prevention program the best in the world. To do that I am determined to field highly trained professionals, who provide the best and most efficient service to stakeholders, and who constantly work to strengthen and improve our partnerships.

We actively solicited input to this MSPP, and we received many valuable comments since its initial release on May 22, 2008. A general category of comments received including what sections of the MSPP they address are contained in a separate document. This document as well as the MSPP can be accessed at <http://www.uscg.mil/marinesafetyprogram/>. Changes to the MSPP represent our response to these comments. Some comments and recommendations that are not reflected may be used in future Marine Safety policies and actions. The MSPP is a living document and will be updated annually and posted on the Coast Guard web. Thus, for this MSPP, all comments will continue to be accepted at: [MSPerformancePlan@uscg.mil](mailto:MSPerformancePlan@uscg.mil). Regardless of final action on recommendations, we sincerely appreciate receiving your thoughts and recommendations.



Brian M. Salerno

Rear Admiral, U.S. Coast Guard

## **PROGRAM OVERVIEW**

### **MARINE SAFETY MISSION & VISION**

#### **MISSION**

The Coast Guard Marine Safety program ensures the safety of tens of thousands of U.S. mariners, millions of passengers on ferries and other vessels, and tens of millions of recreational boaters. By preventing marine casualties, we also protect the marine environment from oil spills and the introduction of other harmful substances, and strengthen the economy by minimizing property loss and disruptions to maritime commerce.

The Coast Guard Marine Safety program accomplishes this through a multi-faceted approach that includes standards development, mariner credentialing, compliance enforcement, investigations and casualty analysis, industry and public outreach, and international engagement.

#### **VISION**

The Coast Guard Marine Safety program will be the model of effectiveness and efficiency that other maritime nations seek to emulate. Our personnel will epitomize the values of honor, respect, and devotion to duty. We will be always considerate and responsive to mariners and the maritime community.

### **PROGRAM SCOPE AND IMPACT**

The Coast Guard Marine Safety program is responsible for ensuring the safe and environmentally sound operation of U.S. flagged vessels wherever they are in the world, and exercising Port State authority for foreign vessels operating in U.S. waters. The impact of the regulated industry is significant to the U.S. economy. For example, last year United States deep-draft seaports and seaport-related firms employed over 8 million American citizens while adding nearly \$2 trillion to our domestic economy.

We are the lead federal agency with responsibility for operations within the nation's Marine Transportation System, which consists of 25,000 miles of inland, intra-coastal, and coastal waterways; encompasses 240 locks, 355 ports, 1,000 harbor channels, and 1,941 cargo terminals; and includes 18,000 bridges and 97,000 aids to navigation. The Marine Transportation System is how the majority of the nation's food, clothing, oil, and other raw materials reach warehouses, stores, and gas tanks. More than \$958 billion of international commerce—1.4 billion tons of cargo, including more than 51 million containers—are carried within this system. We serve more than 8 million cruise ship and ferry passengers who log more than 65 million passenger-miles a year; and provide a venue for boaters who operate more than 12.8 million registered recreational vessels that generate an estimated 900,000 jobs and \$100 billion in revenue. Additionally, we support military sealift requirements for national defense.

#### **MULTI-MISSION SYNERGY**

The Coast Guard has added a variety of missions and authorities during its evolution as an organization, each building on prior successes. In the 1800s, Congress enacted legislation to create the Steamboat Inspection Service to protect the public from preventable marine incidents. Preserving life in the aftermath of a marine incident was initially the responsibility of a separate federal search and rescue organization. These disparate agencies were deliberately combined to become the modern Coast Guard in order to reap the synergistic benefits that unity of effort brings to these different responsibilities.

This marriage of multi-mission responsibilities has created an interwoven fabric of prevention and response elements. The unique blending of these capabilities enables us to multitask and utilize the same resources to simultaneously accomplish several missions. This is particularly true in the Marine Safety program. When inspectors board vessels, they are multi-mission in their focus; while inspecting for safety, they also observe environmental protection and security conditions.

## **PROGRAM ELEMENTS**

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### **STANDARDS DEVELOPMENT**

The Coast Guard's prevention role is largely regulatory, and our efforts begin with development of a regulatory regime that provides a set of minimum safety standards. The Coast Guard is the primary federal agency for developing marine safety, security, and environmental protection standards. We rely on a solid understanding of causal factors and risk management principles, and under the provisions of the Administrative Procedures Act, we participate with the public in the development of sound regulations. Coast Guard leaders also play an active role in the development of international marine safety standards.

### **MARINER LICENSING & DOCUMENTATION**

The Coast Guard Marine Safety program ensures the competency of the nation's mariners through its Mariner Licensing & Documentation program. The program issues licenses and documents to qualified mariners, and ensures their competency through a combination of training courses, requisite experience, and examinations.

### **COMPLIANCE**

The Coast Guard Marine Safety program systematically conducts inspections of U.S. and foreign vessels, marine facilities, and reviews plans for vessel construction, alteration, equipment, and salvage to ensure safety and environmental protection standards are being met. These inspections are comprehensive in nature, and often encompass machinery, electrical, piping, industrial, navigation, and pollution prevention systems. In a typical year, the Coast Guard Marine Safety program conducts more than 70,000 domestic vessel inspections, 10,000 port state control examinations, and performs reviews for more than 15,000 vessel plans for technical compliance. Additionally, the Coast Guard conducts annually 7,500 examinations and 7,000 boardings, either dockside or underway of un-inspected commercial vessels including fishing, towing, and passenger vessels.

### **RECREATIONAL BOATING SAFETY**

The Coast Guard Marine Safety program acts to enhance boating safety by developing vessel construction and performance standards; and ensuring compliance through a robust program of factory inspections, visiting some 2,000 of the approximately 3,600 active recreational boat manufacturers each year. The Coast Guard promulgates safety equipment carriage requirements; and in partnership with state and local enforcement agencies, boards and examines more than 1.7 million recreational vessels each year. Additionally, the Coast Guard Auxiliary and United States Power Squadrons provide free vessel safety checks and inspections for more than an additional 130,000 vessels each year.

### **INVESTIGATIONS & CASUALTY ANALYSIS**

For the period 1990 through 2007, the Coast Guard annually conducted an average of 14,000 incident investigations for reportable marine casualties involving vessels and facilities. The Coast Guard makes findings and lessons learned available to the public and other governmental entities, and use the results of the investigations to develop new standards to prevent future accidents.

## **CONSULTATION WITH INDUSTRY**

The Coast Guard is proud that we have close working relationships with organizations for improved safety. Most notable of these are our long-standing partnerships with the Passenger Vessel Association, the American Waterways Operators, and the Cruise Line International Association.

## **OUTREACH & INTERNATIONAL ENGAGEMENT**

The Coast Guard Marine Safety program pursues education and outreach programs that stress *Prevention-Through-People*. The common theme in the safety literature is that human factors are the primary cause of most accidents. We proactively engage with industry stakeholders and associations; as well as with allied agencies at the local, state, and national level, to develop cooperative efforts to promote safe and environmentally sound practices.

The United States is an active Member State of the International Maritime Organization (IMO), and, through the Coast Guard, has maintained a strong leadership role since IMO inception in 1948.

The Coast Guard also addresses safety through close working relationships with industry via the following federal advisory committees:

- Commercial Fishing Industry Vessel Safety Advisory Committee (CFIVSAC)
- Chemical Transportation Advisory Committee (CTAC)
- Great Lakes Pilotage Advisory Committee (GLPAC)
- Houston/Galveston Navigation Safety Advisory Committee (HOGANSAC)
- Lower Mississippi River Waterway Safety Advisory Committee (LMRWSAC)
- Merchant Marine Personnel Advisory Committee (MERPAC)
- National Maritime Security Advisory Committee (NMSAC)
- Navigational Safety Advisory Council (NAVSAC)
- National Boating Safety Advisory Council (NBSAC)
- National Offshore Safety Advisory Committee (NOSAC)
- Towing Safety Advisory Committee (TSAC)
- Delaware River and Bay Oil Spill Advisory Committee (DROBOSAC)
- Merchant Mariner Medical Advisory Committee (MMMAC) (proposed)

## **ALIGNMENT WITH OTHER STRATEGIES & MANDATES**

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### **IMPLEMENTATION OF INTERNATIONAL INSTRUMENTS**

Maritime commerce is a global endeavor. As a recognized leader in Marine Safety, active leadership in the international arena has been and will continue to be expected of the U.S. Nothing supports this more than leadership in development of international safety, security, and environmental stewardship standards and aggressive pursuit of implementing those standards.

### **AUTHORITIES AND CONGRESSIONAL MANDATES**

Most of the safety mandates for domestic vessels in U.S. Code are identified in Title 46 for commercial and recreational vessels. Foreign vessels, boats, facilities, and authorities are identified in Title 33 as well as numerous treaties and international agreements. Further refinements of laws are described in the U.S. Code of Federal Regulations.

### **NATIONAL STRATEGY FOR THE MARINE TRANSPORTATION SYSTEM**

The Committee on the Marine Transportation System (CMTS) recently published the National Strategy for the Marine Transportation System: *A Framework for Action*. The CMTS is a cabinet-level committee that brings together 18 different federal agencies to improve federal leadership and coordination to promote the safety, security, efficiency, environmental integration, and reliability of the MTS. As a member of the CMTS, the Coast Guard, through the Marine Safety Program, contributes to meeting the MTS challenges and priorities.

### **COAST GUARD POLICIES, STRATEGIES AND DIRECTIVES**

The Coast Guard is challenged to maintain and keep current the regulations needed to follow technological trends and new safety standards, as well as meet Congressional mandates for vessel inspections, tonnage and measurements, and mariner licensing and documentation. Accordingly, the Coast Guard updates its policies and strategies annually to meet our marine safety mission goals and objectives.

### **DEPARTMENTAL AND EXECUTIVE STRATEGIES AND DIRECTIVES**

This Performance Plan contributes to the Department of Homeland Security (DHS) goals and strategies as well as Presidential Directives. The Marine Safety program directly and indirectly supports the following DHS goals:

- Developing situational awareness on the waterways.
- Protecting lawful trade, travel, and immigration.
- Strengthening the security of the Nations transportation systems.
- Protecting the marine environment and living marine resources.
- Reducing the loss of life and property by strengthening response readiness.

### **PERFORMANCE MEASUREMENT AND EVALUATION**

Program evaluation is one of the major elements of the Government Performance and Results Act (GPRA). The statute calls for agencies to use program evaluations to assess the manner and extent to which federal programs achieve intended objectives. The statute further calls for agency Performance Plans to include a summary of the findings of program evaluations. Additional information on GPRA can be found at the Office of Management and Budget's Web site: [www.whitehouse.gov](http://www.whitehouse.gov)

# GOALS & OBJECTIVES

## GOAL 1 – REDUCE RISK OF MARITIME CASUALTIES

### OBJECTIVE 1.1 – IMPROVE RECREATIONAL BOATING SAFETY

Each year approximately 700 recreational boaters are killed and thousands more are injured. Recreational boating results in the third highest annual number of transportation fatalities.

- Increase awareness of safe boating practices.
- Improve life jacket wear rates.
- Implement measures to reduce alcohol use while boating.

### OBJECTIVE 1.2 – REDUCE TOWING VESSEL CASUALTIES

With more than 7,000 traditional and non-traditional towing vessels and 27,000 barges in service in U.S. waters, the tugboat, towboat, and barge industry is a significant segment of the U.S. commercial vessel fleet and second only to commercial fishing vessels in number. Reducing fatalities, injuries, vessel casualties, and pollution incidents in this important industry segment will thus contribute significantly to reducing fatalities, injuries, vessel casualties, and spills in the maritime industry.

- Develop and phase in inspection regulations for towing vessels, including safety management system requirements.
- Institute a robust, risk-based safety compliance oversight program.
- Increase outreach and strengthen partnership efforts; promote risk reduction, and improve risk management practices.
- Focus on *Prevention Through People* initiative to reduce casualties.

### OBJECTIVE 1.3 – REDUCE COMMERCIAL FISHING CASUALTIES

Fishing vessels account for 27% of the five-year average number of commercial mariner deaths and injuries. Additionally, loss of vessels remains a significant risk factor within the industry.

- Increase rate of safety compliance with existing safety standards through education and outreach.
- Increase enforcement of safety regulations through risk based operations.
- Improve industry risk management practices.
- Continue to seek additional authority to prevent casualties and improve professionalism of crew.
- Partner with fisheries resource managers to reduce risk.

### OBJECTIVE 1.4 – REDUCE RISK FOR HIGH CONSEQUENCE EVENTS

Foreign flag cruise ships, chemical tank ships, and flammable gas carriers are relatively safe compared to other classes of large vessels. While the probability of casualties involving these types of vessels is low, the consequence of such an event designates these vessels as high risk. Continued vigilance in reducing the risk of high-consequence events benefits those industries and U.S. stakeholders nation-wide.

- Develop a more thorough understanding of high risk industries.
- Leverage partnerships with high consequence industries to continually reduce the risk of catastrophic events.
- Develop Centers of Expertise to improve competencies in high-risk areas.

## **GOAL 2 – FACILITATE COMMERCE**

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### **OBJECTIVE 2.1 – IMPROVE SERVICE TO MARINERS, INDUSTRY, AND THE PUBLIC**

Mariners and the maritime employers deserve respect and reasonable service from government. Slow and unequal treatment of mariners during the licensing and credentialing process has been identified as a significant area for improvement. The maritime industry deserves responsiveness to their needs.

- Decrease mariner credentialing processing time and improve the application process.
- Improve policy, procedures, and stakeholder service.
- Improve transparency of decision-making processes and accessibility to decision makers.

### **OBJECTIVE 2.2 – STRENGTHEN INDUSTRY & ALLIED AGENCY PARTNERSHIPS**

The growing complexity of the marine industry, the increase in commerce, and new projects such as liquefied natural gas facilities all demonstrate the need for stronger and more enduring partnerships and a reinvigorated stakeholder focused approach. A safe, environmentally sound, and efficient Marine Transportation System benefits society.

- Improve and enhance cooperative relationships with the maritime community.
- Strengthen relationships with local, state, national, and international partners to enhance safety and regulatory compliance.
- Achieve the proper balance in safety and security concerns in partnerships with industry.
- When appropriate, serve as the maritime industry's and the mariners' advocate.
- Expand our leadership role with local, state, national, and international partners to promote efficiency of the MTS, safety of shipping, and improved environmental compliance.

### **OBJECTIVE 2.3 – LEVERAGE TECHNOLOGY FOR MUTUAL BENEFIT**

As the power of technology continues to increase, we must take advantage of this power to better equip our personnel, to gather better information, and to share our information with the public and the maritime industry. By doing so, our productivity will increase, we will have better information on which to base our decisions, and those with legitimate needs to know will have better transparency of governance.

- Make mobile computing the way we do business.
- Take advantage of local, state, and regional sources of information to improve coordination, efficiency, and maritime domain awareness.
- Continue our move to making our information readily available to those who have a need and the right to possess the information.
- Accelerate automated means of data submission and data collection.

## **GOAL 3 – IMPROVE PROGRAM PROCESSES & MANAGEMENT**

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### **OBJECTIVE 3.1 – IMPROVE PERFORMANCE MEASURES & MEASUREMENT SYSTEM**

No comprehensive measurement regime exists that evaluates the performance of all aspects of the Marine Safety program as compared to national performance goals.

- Expand, improve, and institutionalize performance measurement capabilities and practices through continued implementation of the Mission Management System.
- Expand the Mission Management System to identify leading indicators of future needs.
- Develop a method for evaluating the effectiveness of mission accomplishment.

### **OBJECTIVE 3.2 – PROMOTE LIFESAVING INNOVATION**

Develop performance-based lifesaving equipment standards that encourage innovation, and development of new lifesaving devices that can be approved for a variety of applications.

- Conduct program-wide evaluation of existing standards to identify industry segments needing non-traditional equipment.
- Identify methods for alternative equipment standards that address gaps in existing equipment standards, such as performance-based equipment standards.
- Further develop partnerships with manufacturers to promote the way ahead to innovative equipment, testing regimes, and standards development.

## **GOAL 4 – IMPROVE HUMAN RESOURCE CAPABILITIES**

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### **OBJECTIVE 4.1 – STRENGTHEN DEVELOPMENT & CAREER OPPORTUNITIES**

Coast Guard personnel are confronted with a wide range of career opportunities given the multi-mission nature of the service. Attracting and retaining enlisted and officer personnel in the Marine Safety program are key components in building the competencies and capacities necessary to achieve Marine Safety mission goals.

- Develop the Marine Safety program as a desirable career path to promote long-term availability of experienced military and civilian personnel.
- Develop career paths for the Marine Safety program that ensure career-long professional growth and promotion.

### **OBJECTIVE 4.2 – EXPAND KNOWLEDGE OF INDUSTRY PRACTICES AND PROVIDE ADVANCED TRAINING IN MARINE INSPECTIONS AND INVESTIGATIONS**

There is an identified need to increase the competency of inspectors and investigators as well as their up-to-date knowledge of current industry practices beyond that taught through normal training opportunities. To ensure our inspectors and investigators possess the technical expertise wherever and whenever necessary to perform quality inspections and investigations, we will:

- Increase advanced educational opportunities for marine inspectors and investigators in the maritime - related topics.
- Provide real-world training in certain high-profile vessel types and investigations, emphasizing both the theoretical and practical application of inspection and investigation techniques.

**OBJECTIVE 4.3 – IMPROVE MARINE INSPECTOR AND INVESTIGATOR CAPACITY AND PERFORMANCE TO MATCH INDUSTRY GROWTH**

Independent analysis has shown that the Coast Guard has not kept pace with demands to meet current and projected industry needs for inspector and investigator services.

- Champion a human resources system to meet the current and projected demands of the marine safety program – the right skills in the right locations at the right time.

**OBJECTIVE 4.4 –BALANCE DEVELOPMENT & STABILITY OF THE WORKFORCE**

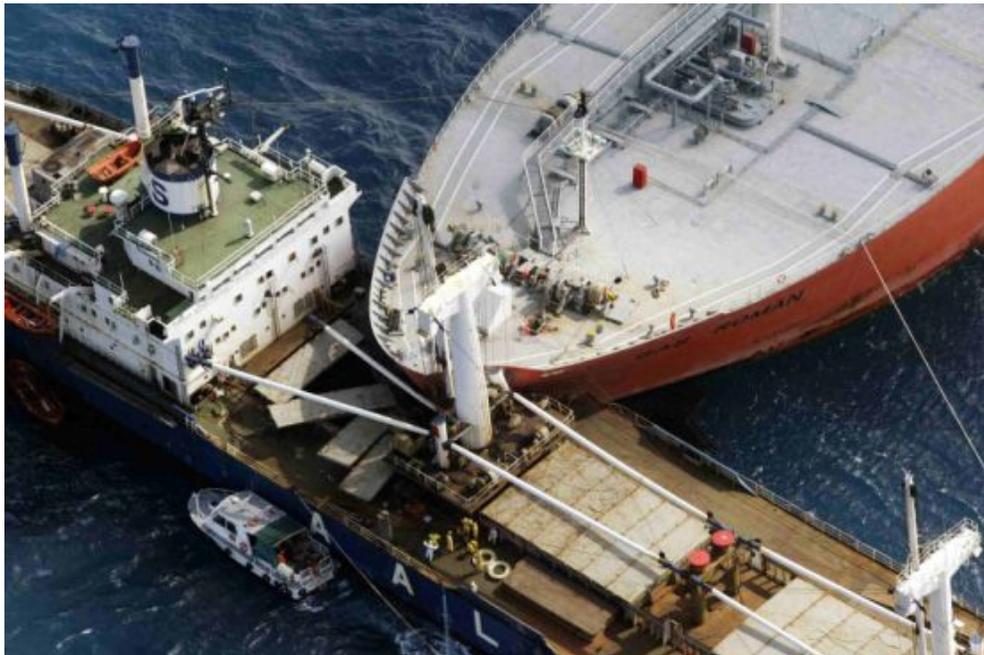
Maritime industry feedback indicates that due to rotation and promotion policies military marine inspectors and investigators do not spend sufficient time in either a discipline or a geographic area to become experts in their trade.

- Increase the ratio of civilian marine inspectors and investigators to provide stability and continuity.
- Increase opportunities for professional development, including industry training.
- Increase accessions of personnel with maritime, seagoing, and engineering backgrounds.
- Develop unit and program readiness measures.

**OBJECTIVE 4.5 – EXPAND ENGINEERING & RULEMAKING CAPACITY**

Rulemaking and engineering capacity and expertise are challenged to keep pace with required updates to existing regulations and provide necessary plan review and other approval services.

- Seek authority to hire additional engineers for standards development, plan review, and regulatory development projects.
- Continuously improve plan review, policymaking, and standards development processes to improve timeliness.



# PERFORMANCE INITIATIVES

To address the aforementioned issues, the Coast Guard Marine Safety program will undertake six major initiatives over Fiscal Years 2009–2014 to meet the identified goals and objectives. These initiatives include: improving the capacity and competency of our personnel to ensure a superior workforce; improving service delivery to our stakeholders; improving management practices; improving recreational vessel safety; addressing towing vessel safety; and reducing the risks associated with commercial fishing. The chart below depicts the linkages between these initiatives and the supported goals and objectives.

Initiatives	Course of Action	Goals & Objectives Supported
<b>Superior Workforce</b>	<ul style="list-style-type: none"> <li>▪ Increase Marine Inspector and Investigator Capacity</li> <li>▪ Strengthen Marine Inspection and Investigation Consistency by Adding Civilian Positions</li> <li>▪ Continually Improve the Tools Available to Improve Productivity and Effectiveness</li> <li>▪ Increase Accessions from Maritime Institutions</li> <li>▪ Strengthen Marine Safety Career Paths</li> <li>▪ Expand Professional Marine Safety Training and Education and opportunities for Maritime Industry Training</li> <li>▪ Improve Competence of Marine Inspectors and Investigators</li> <li>▪ Enhance Engineering Capacity</li> </ul>	<p><b>Goal 2 – Facilitate Commerce</b> Objective 2.1 – Improve Service to Mariners, Industry, and the Public Objective 2.3 – Leverage Technology for Mutual Benefit</p> <p><b>Goal 4 – Improve Human Resource Capabilities</b> Objective 4.1 – Strengthen Development &amp; Career Opportunities Objective 4.2 – Expand Knowledge of Industry Practices and Provide Advanced Training in Marine Inspections and Investigations Objective 4.3 – Improve Marine Inspector and Investigator Capacity and Performance to Match Industry Growth Objective 4.4 – Balance Development &amp; Stability of the Workforce Objective 4.5 – Expand Engineering &amp; Rulemaking Capacity</p>
<b>Superb Service Delivery</b>	<ul style="list-style-type: none"> <li>▪ Establish Centers of Expertise</li> <li>▪ Improve Information Technology Systems</li> <li>▪ Increase Rulemaking Process to Expedite Regulatory Implementation</li> <li>▪ Improve Mariner Credentialing</li> <li>▪ Conduct Independent Evaluation</li> </ul>	<p><b>Goal 2 – Facilitate Commerce</b> Objective 2.1 – Improve Service to Mariners and Industry Objective 2.2 – Strengthen Industry &amp; Allied Agency Partnerships Objective 2.3 – Leverage Technology for Mutual Benefit</p>
<b>Quality Management</b>	<ul style="list-style-type: none"> <li>▪ Improve Management Accountability</li> <li>▪ Strengthen Program Management</li> <li>▪ Develop a Balanced Scorecard</li> <li>▪ Expand the Mission Management System</li> </ul>	<p><b>Goal 2 – Facilitate Commerce</b> Objective 2.1 – Improve Service to Mariners, Industry, and the Public Objective 2.2 – Strengthen Industry &amp; Allied Agency Partnerships</p> <p><b>Goal 3 – Improve Program Process &amp; Management</b> Objective 3.1 – Improve Performance Measures &amp; Measurement Systems Objective 3.2 – Promote Lifesaving Innovation</p>
<b>Boat Safe</b>	<ul style="list-style-type: none"> <li>▪ Assess Effectiveness of Boating Education</li> <li>▪ Increase Safety Communications</li> <li>▪ Increase Carriage of Safety Equipment</li> <li>▪ Increase Compliance with Navigation Rules</li> <li>▪ Increase Life Jacket Wear Rates</li> <li>▪ Assess Effectiveness of Boating-Under-the-Influence (BUI) Efforts:</li> <li>▪ Increase Manufacturer Compliance Efforts</li> </ul>	<p><b>Goal 1 – Reduce Maritime Casualties</b> Objective 1.1 – Improve Recreational Boating Safety</p> <p><b>Goal 2 – Facilitate Commerce</b> Objective 2.2 – Strengthen Industry &amp; Allied Agency Partnerships</p>
<b>Tow Safe</b>	<ul style="list-style-type: none"> <li>▪ Institute Towing Vessel Inspection Program</li> <li>▪ Establish a Risk-Based Oversight Regime</li> <li>▪ Strengthen Safety Partnerships &amp; Increase Outreach Efforts</li> <li>▪ Increase Towing Vessel Inspector Workforce</li> </ul>	<p><b>Goal 1 – Reduce Risk of Maritime Casualties</b> Objective 1.2 – Reduce Towing Vessel Casualties</p> <p><b>Goal 2 – Facilitate Commerce</b> Objective 2.2 – Strengthen Industry &amp; Allied Agency Partnerships</p>
<b>Fish Safe</b>	<ul style="list-style-type: none"> <li>▪ Seek Additional Authority</li> <li>▪ Increase Outreach and Communication</li> <li>▪ Expand Partnerships</li> <li>▪ Increase Maritime Law Enforcement</li> <li>▪ Increase Fishing Vessel Examiner (Inspections) Workforce</li> </ul>	<p><b>Goal 1 – Reduce Risk of Maritime Casualties</b> Objective 1.3 – Reduce Commercial Fishing Casualties</p> <p><b>Goal 2 – Facilitate Commerce</b> Objective 2.2 – Strengthen Industry &amp; Allied Agency Partnerships</p>

## SUPERIOR WORKFORCE

People are the heart of the Marine Safety program. Our ability to keep abreast of the rapidly growing and evolving maritime industry is fundamentally linked to the competency, capacity and readiness of our personnel. The Coast Guard must invest in our people and the supporting systems so that in the long term, the marine safety program develops and retains an experienced cadre of technically savvy professionals who provide excellence in mission execution and meet domestic and international expectations and requirements.



### COURSE OF ACTION

To achieve the needed improvements in capacity and competence, the Coast Guard will:

- ***Increase marine inspector and investigator capacity:*** The Coast Guard will add 340 full-time personnel (FTP) to the program in FY09 and will continue to assess Marine Safety personnel requirements in future budget planning cycles.
- ***Strengthen marine inspection and investigation consistency positions:*** Additional civilian inspectors, port state control officers, and investigating officers will help the Coast Guard retain expertise and geography-specific competencies and familiarity while ensuring long-term continuity in critical mission areas. The Coast Guard will distribute civilian positions according to need and to complement the military workforce. Military personnel must continue to serve as marine inspectors and investigators to ensure differing perspectives and garner requisite experience for future program management and command responsibilities. A blend of military and civilian personnel is critical to building and sustaining consistency and competence. Another method of improving the consistency of marine inspectors and investigators is how the Coast Guard manages the training processes. This will impact those being trained and those performing the training. We are developing a revised model for training inspectors at the larger ports, including assignment policies, tour lengths, and rotational assignments with a focus on enhancing competency and consistency.
- ***Continually improve tools available to improve productivity and effectiveness:*** Technology continues to offer opportunities for enhanced productivity and effectiveness and to ease data gathering and improve accuracy. Personal digital assistants, MISLE Lite, and wireless technology offer opportunities that have proven themselves in recent years. The Coast Guard will expand these proven technologies and others to increase marine inspector and investigator productivity in the field. This can result in more timely availability of information and when properly developed, ensure more accurate information entry. The Coast Guard will develop a long range plan for developing information technology tools to enhance job performance and will also examine better methods and tools to enhance effectiveness and efficiency.
- ***Increase accessions from the U.S. Coast Guard Academy, U.S. Merchant Marine Academy and other maritime institutions:*** The Coast Guard will strengthen recruiting efforts at the maritime colleges through additional liaison officers and by seeking opportunities for Coast Guard officers to serve as faculty at those institutions. Maintaining and sustaining competence within the Marine Safety program begins with recruitment and accession of additional maritime professionals and active partnerships with maritime educational institutions. We will include

outreach to the maritime industry to ensure a diverse cadre of civilian marine inspectors and investigators similar to the past “219” program for commissioned officers. We will actively recruit from colleges, including minority colleges and universities, offering science, engineering, technology, and mathematics degrees.

- ***Strengthen Marine Safety career paths:*** We will demonstrate the value the organization places on the Marine Safety profession by revising personnel management policies. These policies must continue to ensure a viable career path to the most senior ranks in the Coast Guard, as well as value and promote the competencies of marine safety specialists. These policies could include, but are not limited to modifications to the Coast Guard Academy curriculum; direct commission programs; direction and guidance to officer selection panels relating to the need for specific Marine Safety specialties; geographic stability; incentives to retain qualified inspectors and investigators; institutional recognition of Marine Safety leadership positions in the field; adjustment of tour lengths; model career paths; revisions of assignment practices; and continuation contracts for officers possessing critical skills. We must recognize and value those who advance from apprentice to journeyman to expert Marine Safety professional status.
- ***Expand professional Marine Safety training and education:*** We will expand formal and informal training and educational opportunities to improve Marine Safety competencies, skills, and qualifications. These programs will include formal education opportunities for the military and civilian marine safety workforce, expanded opportunities for professional development, and enhanced pipeline training for field personnel to ensure better continuity and consistency in service. Through continuous evaluation, we will ensure training, education and qualification standards are responsive to the dynamics of the Marine Transportation System. We will assign additional expert field personnel to conduct unit training in order to build and sustain these critical competencies.
- ***Expand opportunities for maritime industry training:*** The Merchant Marine Industry Training (MMIT) program is a model of industry partnership and professional development. Therefore, the MMIT program will be expanded to enhance interaction and experience. The Coast Guard will engage industry within applicable legal and ethical guidelines to maximize training opportunities and fully immerse participants in industry operations. Other industry familiarization programs will be offered to a larger group of Marine Safety professionals.
- ***Enhance engineering expertise for plan review, policy, and standards development:*** We will assign additional expertise for plan review of vessels and facilities. Increased technical capacity is needed to address plan review of commercial non-tank vessels, marine firefighting and salvage, standards development and vessel construction specialties at Coast Guard Headquarters and the Marine Safety Center. Increased growth and complexity in ship design and construction—including high-capacity fast ferries, LNG ships, mega container and cruise ships, and novel structural designs—call for an innovative and knowledgeable technical staff to develop guidance, standards, and policy. As industry evolves, so too does the demand for technical expertise.

## SUPERB SERVICE DELIVERY

Delivery of services to those within the Marine Transportation System, as well as the general public, is fundamental to our purpose as a public service agency. In addition to improving policy, procedures, and stakeholder service and improving transparency of decision-making processes and accessibility, we must deliver customer focused, high-quality products and services in a timely and professional manner and in a format that is convenient to the industry and apparent to the public

### COURSE OF ACTION

To enhance service delivery, the Coast Guard will:

- ***Establish Centers of Expertise:*** We will establish additional Centers of Expertise (COE) to provide venues for professional development and exchange between industry and Coast Guard personnel. COEs will focus on specialized areas of industry to improve inspector and investigator competencies and promote nationwide consistency. COEs are appropriate for existing industry sectors and projected growth areas such as flammable gas ships, towing vessels, cruise ships, chemical tank ships, commercial fishing vessels, and outer continental shelf activities. In addition to improving investigation and inspection competencies, COEs will also provide support to accidents such as collisions and groundings and support high surge capacity.
- ***Improve information technology systems:*** We will incorporate tools to improve access and facilitate the exchange of information between industry and government using existing marine exchanges as a model. Such systems provide real-time, technology-based information to capture and manage the Marine Transportation System. The Coast Guard will enhance Web-based portals for the sharing of information and lessons learned by Coast Guard field personnel and industry. Web-based portals will also include Coast Guard office directories with contact information, as well as provide help desks and FAQs to facilitate transparency. Information technology systems must also address the program needs for real-time information captured in an efficient manner and available in user-friendly formats regardless of location. Additionally, we must work more closely with other safety and security organizations and agencies to share information, reduce duplication, and enhance effectiveness and efficiency.
- ***Improve rulemaking process to expedite regulatory implementation:*** We will continue to improve our rulemaking process to address current and anticipated rulemaking projects. Improvements will include reduced cycle times through more robust project management, rulemaking development, economic analysis, environmental analysis, technical writing, and administrative law review to ensure legal sufficiency and efficacy of implementing regulations. Efforts are currently underway to increase our capacity for rulemaking through the addition of appropriate staff to address the needed improvements.
- ***Improve mariner credentialing through greater efficiency, transparency, and capacity:*** The consolidation of mariner credentialing functions at the National Maritime Center (NMC) began in 2005. The NMC, now located in West Virginia, has begun to show the intended process stability and improvements. Recent accomplishments include implementation of the Mission Management System and reduction in cycle time by 25 percent since September 2006, accompanied by continually improving maritime industry satisfaction with results. The following efforts will further improve service delivery to the mariners and maritime employers:
  1. Increased availability of online self-service tools to improve customer services
  2. Bulk application processing for academies, schools and industry groups
  3. Modernized information technology systems to increase efficiency, improve quality, and reduce processing times
  4. Simplified application processes and tools to reduce burden on mariners and reduce processing time
  5. A comprehensive course oversight program to ensure the quality and integrity of training programs

- ***Independent Evaluation:*** The Coast Guard is currently undergoing a comprehensive evaluation of the Marine Safety program. Key elements in the evaluation include identifying program customers and stakeholders, verifying their needs and expectations, validating program purpose and design, evaluating performance—particularly satisfaction with service levels—and identifying additional opportunities for improvement.

## QUALITY MANAGEMENT

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Sustained organizational performance, while regulating the complex and diverse maritime industry, requires a commitment to sound management practices. We must take a systematic approach that considers performance management practices, program performance measures, internal processes and systems to satisfy program objectives including stakeholder satisfaction, efficiency, and achieving desired outcomes.

### COURSE OF ACTION

To improve our management practices, the Coast Guard will:

- ***Improve Management Accountability:*** We will develop well understood program objectives and outcomes. These will be characterized by measures meaningful at local, intermediate, and national levels. We will monitor measures and discuss strategies for balancing missions and achieving goals, and hold ourselves accountable for achieving our goals. We will provide visible and practical program direction that supports close, cooperative relationships with operational commands, industry customers, and other stakeholders. We will provide single-point accountability for all program outcomes, and designate management authorities and *line-of-service* responsibilities that correspond with key industry segments to the greatest extent possible. Ensuring management structures and practices align with customer and other stakeholder needs—and that they are understood internally and externally—is central to improving service delivery to the marine industry.
- ***Develop a Balanced Scorecard:*** We will expand and improve our performance measurement capabilities and practices, and develop a balanced scorecard that includes customer satisfaction metrics as well as a complete suite of outcome, output, activity, capability, readiness, and efficiency measures.
- ***Implement a Quality Management System:*** We have adopted a Quality Management System called the Mission Management System (MMS), which will utilize the ISO 9001:2008 standard to focus our efforts on continual improvement in fulfilling our mission while aiming to meet stakeholder needs and ensure customer satisfaction. An organization of policy, procedures, processes and data working together to establish and fulfill objectives, the MMS will enable us to better identify, measure, control, and improve the various core processes that lead to improved mission performance.

## BOAT SAFE

While recreational boating is a fun and generally safe activity, each year over 700 boaters die and thousands more are injured. Recreational boating results in the third highest annual number of transportation fatalities, and boating deaths are on the National Transportation Safety Board's Most Wanted List.



### COURSE OF ACTION

To improve recreational boating safety, the Coast Guard will aggressively implement a strategic plan, developed in consultation with the National Boating Safety Advisory Council. Elements of the plan address:

- **Assess Effectiveness of Boating Education:** We will work with our partners to track the utilization and effectiveness of training and education courses.
- **Improve Safety Communications:** We will work with key stakeholders and partners to improve safety communications and increase awareness of safe boating practices.
- **Increase Carriage of Safety Equipment:** We will work with industry partners to increase boaters' knowledge of required safety equipment and monitor trends for carriage.
- **Increase Compliance with Navigation Rules:** We will work with the National Association of State Boating Law Administrators (NASBLA) and other boating safety partners to improve awareness of and enforcement of compliance with navigation rules.
- **Increase Life Jacket Wear Rates:** We will aggressively work with our partners to assess factors affecting life jacket usage, encourage availability of life jackets, and strengthen the enforcement regime.
- **Assess Effectiveness of Boating-Under-the-Influence (BUI) Efforts:** The Coast Guard will create a baseline measurement to track trends in alcohol use by boaters, assess the effectiveness of field sobriety penalties, and increase the effectiveness of enforcement.



- ***Increase Manufacturer Compliance Efforts:*** We will identify boats involved in accidents where carbon monoxide, flotation, capacity, or fuel systems are factors; verify noncompliance through the USCG Factory Visit program; and ensure corrective actions are implemented. We will work to enhance manufacturer understanding and compliance with USCG regulations. We will keep manufacturers and state boating law administrators informed about USCG Factory Visit program discrepancies that led to federal recalls by producing at least one Boating Safety Circular annually.

## TOW SAFE

America's economy depends on the towing industry and the nation's 25,000 miles of natural waterways. This industry moves more than 800 million tons of cargo each year, and one 40-barge tow transports the equivalent of 600 rail cars or 2,400 trucks. To improve towing vessel safety and meet the mandate of the Marine Transportation Act of 2004, the Coast Guard has been working diligently to develop an innovative and effective inspection program for towing vessels. A foundation of this program will be a Safety Management System, which the National Transportation Safety Board has recommended be required for all towing vessels. This initiative stems from a congressional mandate; the Coast Guard's decade-long safety partnership with the tugboat, towboat, and barge industry; and the Coast Guard's commitment to risk-based decision-making as a tool to drive safety improvements.



To improve towing vessel safety and meet the mandate of the Marine Transportation Act of 2004, the Coast Guard has been working diligently to develop an innovative and effective inspection program for towing vessels. A foundation of this program will be a Safety Management System, which the National Transportation Safety Board has recommended be required for all towing vessels. This initiative stems from a congressional mandate; the Coast Guard's decade-long safety partnership with the tugboat, towboat, and barge industry; and the Coast Guard's commitment to risk-based decision-making as a tool to drive safety improvements.

### COURSE OF ACTION

To improve towing vessel safety, the Coast Guard will:

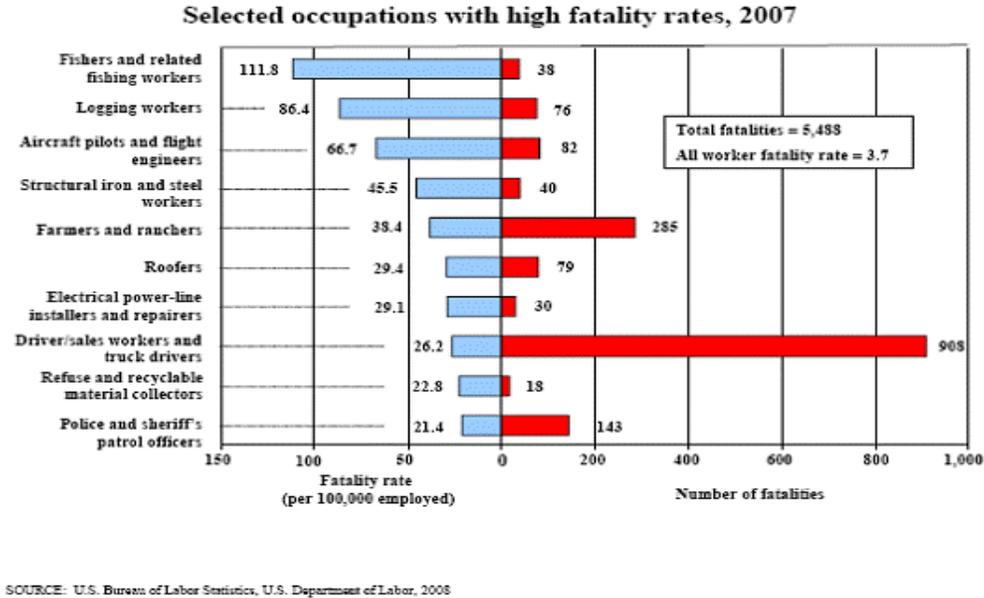
- Develop and phase in inspection regulations for towing vessels, including a safety management system requirement.
- Institute a robust, risk-based maritime safety oversight program that includes the use of qualified, Coast Guard-approved third parties.
- Increase outreach and strengthen partnership efforts; promote to risk reduction.

The Coast Guard is working to promulgate regulations establishing the new towing vessel inspection program in consultation with the congressionally established Towing Safety Advisory Committee (TSAC), a federal advisory committee that includes representatives from the barge and towing industry, shippers, maritime labor, ports and terminals, the offshore mineral and oil industry, and the general public. TSAC has recommended that the inspection regulations require towing companies and vessels to comply with a Safety Management System as well as requirements affecting vessel construction, condition, operations, and human factors. TSAC has also recommended that the Coast Guard utilize qualified, approved third parties, subject to a robust Coast Guard oversight regime, to conduct towing vessel inspections.



## FISH SAFE

Commercial fishing continues to be one of the most dangerous occupations in America. The industry also faces severe economic pressures—depleted stocks and limits on fishing, increasing fuel and other costs, and prices for products that have stagnated since at least 2000. This fosters an attitude of greater risk tolerance that can lead to decreased concerns about training, safety equipment, and vessel and equipment maintenance. Although there is no legal authority for mandatory examination of commercial fishing vessels, we believe the Coast Guard has a clear mandate to minimize marine deaths and injuries associated with commercial fishing.



### COURSE OF ACTION

To improve commercial fishing vessel safety, the Coast Guard will undertake the following actions as part of the initiative:

- Seek Additional Authority to Improve Fishing Vessel Safety Standards:** Despite unsuccessful attempts to achieve additional authority to address safety within the commercial fishing industry, we will continue this pursuit. Remarkable change has been achieved within the industry, but fishing remains the most hazardous occupation in America. Progress has plateaued without addressing the major issues facing the industry: poor condition of vessels and no standards for operation of vessels. The U.S. is the only advanced country without such standards.
- Increase Outreach and Communication:** Our prevention efforts have focused on industry outreach and communications. To improve our impact, we will seek to add additional full-time civilian Commercial Fishing Vessel Safety Examiners and Coordinators. This will allow us to expand the Voluntary Docksides Examination program and reach out to the Fishing Industry to help them understand and come into compliance with regulations for basic safety equipment and lifesaving devices. Fisheries management plans are more often requiring observers aboard fishing vessels, and the National Marine Fisheries Service requires decals for vessels carrying observers. This is also driving the need for increased docksides examinations and increased examiners.

The Coast Guard Auxilliary performs a significant number of safety exams, and at many commands, they are an integral part of the fishing vessel safety team. We will seek to expand their involvement and institutionalize their role. In particular, we will seek to expand the dock walker program, use

Auxiliarists in Boarding Officer training, and include Auxiliarists in investigations of fishing vessel casualties. We will continue to promote safety and best practices through active participation at conferences and industry trade shows and through printed materials.

- **Expand Partnerships:** We will continue to work within the Commercial Fishing Industry Vessel Safety Advisory Committee to improve safety communications and risk tools to assist fishermen.

We will expand our role at Fisheries Management Councils and with the National Marine Fisheries Service to ensure fishery regulators consider the safety affects of management plans and are continually reminded of the impacts their decisions have on safety.

We will work with the National Institute of Occupational Safety and Health and take advantage of their expertise to develop future strategies for reducing commercial fishing deaths and injuries. The Coast Guard will build upon close relationships with state fisheries regulators and seek to leverage their authority to favorably impact commercial fishing vessel safety.

Inasmuch as fisheries management rules play a significant role in fishermen’s behavior and risk-taking behavior, safety cannot be fully addressed without consideration of fisheries plan development. We will work with the National Marine Fisheries Service and other fisheries management organizations to ensure safety is adequately addressed in the development of fisheries management plans.

- **Increase Maritime Law Enforcement:** We will encourage operational commands to use risk-based tools to target high-risk fisheries, to provide capable and sufficient resources, to schedule activities to maximize access to vessels and crews, and to provide ample advance publicity to effectively announce the program and explain its purpose. We will emphasize the importance of keeping the process cooperative and non-adversarial.

At-sea law enforcement boarding of vessels to ensure compliance with maritime law is standard Coast Guard procedure. We will encourage effective coordination of at-sea boardings of commerical fishing vessels by identifying vessels who pose a greater safety concern. We will emphasize the importance of keeping the boarding process non-adversarial and charge boarding officers to promote safety by pointing out and explaining potentially dangerous conditions, whether or not they are contrary to laws and regulations.

- **Increase Fishing Vessel Examiner Workforce:** As more restrictive resource management plans are implemented, more observers are used for data gathering. In order to ensure the safety of observers, the National Marine Fisheries Service Observer Program continues to require vessels subject to observer carriage to possess a valid Voluntary Dockside Examination decal. The Coast Guard supports this posture but is challenged to continue to grow the dockside exam program without additional examiners. We plan to pursue increases in the workforce to accommodate the trend toward more such examinations.



# APPENDIX

## INDUSTRY TRENDS

U.S. waterborne commerce has expanded tremendously and will continue to expand as illustrated in Table 2. In 2006, total waterborne commerce reported by the U.S. Army Corps of Engineers was 2,588 million short tons—a 2.4% increase over 2005, a 6.0% increase over the 2001–2005 average, and an 8.8% increase over the 1996–2005 average.

**U.S. Waterborne Trades, 2001-2005**  
(Million Metric Tons)

Trade	2001	2002	2003	2004	2005	% Ch. 2001-05
<b>Foreign</b>	1,157.5	1,131.3	1,209.6	1,305.7	1,348.8	16.5
Imports	830.1	813.9	879.9	954.6	995.2	19.9
Exports	327.4	317.4	329.7	351.1	353.6	8.0
<b>Domestic</b>	945.7	926.3	921.9	949.9	933.4	-1.3
Coastwise	202.8	196.3	202.8	200.1	193.8	-4.4
Inland	562.3	551.6	553.0	568.1	566.1	0.7
Lakes	90.7	92.1	81.5	93.9	87.3	-3.7
Other	89.9	86.3	84.6	87.8	86.2	-4.1
<b>Total</b>	2103.2	2057.6	2,131.5	2,255.6	2,282.2	8.5

**Note:** Other includes intra-port and intra-U.S. territory trades.  
**Sources:** Foreign—U.S. Bureau of Census, Foreign Trade Division. Detailed data available at [www.census.gov/foreign-trade](http://www.census.gov/foreign-trade). Domestic—U.S. Army Corps of Engineers, Waterborne Commerce of the United States. Detailed data available at [www.usace.army.mil/ndc](http://www.usace.army.mil/ndc).

The growth in container traffic has been particularly dramatic. In 2006, more than 51 million containers were handled at U.S. ports. This is a 67.4% increase from just six years ago—and the volume is expected to be 50% greater by 2015. Additionally:

- According to the WTO, the U.S. imported and exported 12% of all global merchandise trade in 2006 (\$2.9 trillion). Over 90% transported by vessels.
- From 2002 to 2005, U.S. port calls of large, oceangoing merchant vessels (i.e., over 10,000 gross tons) increased nearly 10% to 61,047, according to U.S. Department of Transportation statistics.
- Over the last five years, offshore oil industry vessel growth exceeded 35%.

Industry Activity	Growth (2001-2006)
Tanker calls at U.S. ports	23%
U.S. container trades by port	52%
Containership calls at U.S. ports	25%
Containerships over 4,999 TEUs making calls at U.S. ports	241%
LNG carrier capacity calling at U.S. ports	115%
North American departures for cruise passengers (2003–2006)	19%

There are about 10,500 vessels in the fleet of U.S. vessels subject to Coast Guard inspection. This will expand by two-thirds when regulations implementing the Marine Transportation Act of 2004 are phased in, adding some 5,200 traditional towing vessels and 1,800 assistance vessels and other vessels engaged in towing. Additionally, over the last five years, the number of U.S. flag passenger vessels has increased by 7%.

Maritime trade is expected to more than double by 2020; port infrastructure continues to expand at a rapid rate; LNG and other new facilities have been and are being added; carriers are deploying increasingly larger vessels.

The average annual number of cruise passengers in the North American market, reported by the Cruise Lines International Association, was 8.1 million in the period 2000 to 2005. This is nearly a 66% increase from just six years earlier. Average annual passenger travel on ferries, reported by the American Public Transportation Association, increased to 65.6 million passenger miles for the period 2000 to 2005—a 21% increase from the average six years earlier.

There were approximately 12.8 million recreational boats registered in the U.S. in 2006, and the five-year average of registered boats has increased 1.33% during two average periods from 1997–2001 and 2002–2006.

Examining visiting foreign flag vessels for compliance with international standards is essential to ensuring the safety of passengers, protecting our marine environment, and preventing disruptions to maritime commerce. This “Port State Control” responsibility has grown tremendously—foreign vessel arrivals in U.S. ports more than doubled over the past ten years.

Today’s maritime industry is complex both in the technology of the vessels and systems and the nature of business operations. The shipping industry continues to grow, producing larger, faster, and much more complicated ships. Offshore systems are a marvel of technology and can cost more than a billion dollars. Like all businesses, the maritime industry faces tighter margins, more demanding customers, and myriad audits. In addition, since ships operate between national and/or state jurisdictions, they face multiple governing regimes.

Examples of current developments include:

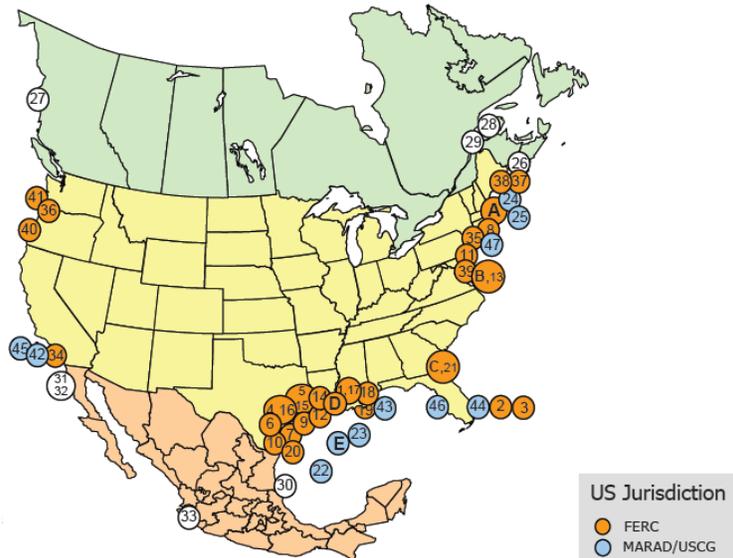
- A cruise ship is under construction in Europe that will be the largest ever at more than 220,000 GT carrying over 6,000 passengers. Targeting the North American market in September 2009, this \$1 billion cruise ship is being designed using the most advanced stability, structural, and fire protection technologies.
- There are 31 product tankers being built to new classification society structural standards under construction or on order at U.S. shipyards for the U.S. Jones Act market.
- Proposed amendments to the Short Sea Shipping Transportation Initiative include \$2 billion of loan guarantees to assist shippers with constructing a new class of cargo ship for short sea shipping.
- There is unprecedented growth in the liquefied natural gas (LNG) industry. There are currently six shore-side LNG terminals operating in the U.S. There are as many as 20 additional LNG terminals proposed for operation in the next 5-10 years. 250,000 cubic meter LNG ships are being constructed which are twice the size of existing LNG ships.
- Offshore oil and gas production platforms continue to increase in size and complexity, as potential oil fields get deeper and there is a need to extract more from each well. Recent innovations include the use of temporary or short-term platforms that incorporate vessel-like characteristics, yet remain on scene for only three to five years before moving to a new

location. The increased competition leads to more diverse regulatory compliance schemes, such as certification by foreign administrations that cause Coast Guard inspectors to increase their breadth of safety standards.

- There are currently six Offshore Continental Shelf facilities under construction as well as three conceptual Floating Production Storage and Offloading (FPSO) units in design and development. The costs associated with these projects range from \$2.2 to \$4.4 billion. A typical FPSO has more than 500,000 bbl of storage capacity and can produce 50 to 80k bbl oil perday and 15 to 50 million cubic feet of gas per day.
- The largest container ship in operation, with a maximum carrying capacity of 11,000 twenty-foot containers, is the longest ship currently in service and is propelled by the largest diesel engine ever manufactured. The integrated computer system in the engine room, cargo control room, and bridge continuously monitors 8,000 separate data signals. This vessel entered operation in the fall of 2006 and is the first of seven vessels in this class.

All of these projects incorporate the latest technologies in advanced fire protection, structural design, naval architecture, and marine engineering. The systems associated with these vessels and facilities must operate with minimal error and incorporate the latest design concepts. Most novel designs far exceed the current scope of both Coast Guard Marine Safety regulatory and inspection schemes.

### Existing and Proposed North American LNG Terminals



## FY 2007 PERFORMANCE REPORT

The Government Performance and Results Act (GPRA) is the statutory impetus for performance measurement, reporting, and results-oriented management. It requires annual performance plans and subsequent performance reports, and directs agencies to define intended performance in an objective, quantifiable, and measurable form.

Heads of agencies are required by Executive Order “to approve clear annual and long-term goals defined by objectively measurable outcomes.” The emphasis on outcomes is explicit in various Office of Management and Budget (OMB) directives—activity measures are not used to judge program success. OMB Program Assessment Rating Tool guidance, for example, provides criteria for evaluating the quality of long-term and annual performance measures, appropriateness of targets, and extent to which results have been achieved. It stipulates that “output measures, interim milestone outcomes, or proxy outcome measures are only acceptable where clear outcome measures are not available, comprehensive, or of sufficient quality.” Because of their importance, OMB and agencies must agree on suitable measures.

The table below lists measures that reflect Marine safety effectiveness in preventing marine casualties. These metrics are reported to the Department of Homeland Security (DHS) and used by OMB and the U.S. Government Accountability Office (GAO) to judge Coast Guard annual and long-term outcome performance.

### Marine Safety Program Annual & Long-term Performance Results

	FY 2007		PRIOR YEAR		TARGET		PRIOR YEAR VARIANCE		TARGET VARIANCE	
	Annual	5yr Ave	Annual	5yr Ave	Annual	5yr Ave	Annual	5yr Ave	Annual	5yr Ave
Recreational Boating Deaths & Injuries	3,224	<b>4,037</b>	4,197	<b>4,367</b>	3,928	<b>3,959</b>	23.2%	<b>7.6%</b>	17.9%	<b>(2.0%)</b>
Commercial Mariner Deaths & Injuries	408	<b>508</b>	621	<b>523</b>	430	<b>428</b>	34.3%	<b>2.9%</b>	5.1%	<b>(18.7%)</b>
Commercial Passenger Deaths & Injuries	211	<b>225</b>	330	<b>219</b>	180	<b>162</b>	36.1%	<b>(2.7%)</b>	<b>(17.2%)</b>	<b>(38.9%)</b>
Total Maritime Deaths & Injuries	3,843	<b>4,770</b>	5,148	<b>5,109</b>	4,538	<b>4,549</b>	25.3%	<b>6.6%</b>	15.3%	<b>(4.9%)</b>
Oil Spills >100 gallons	135	<b>154</b>	165	<b>155</b>	152	<b>158</b>	18.2%	<b>0.6%</b>	11.2%	<b>2.5%</b>
Chemical Spills	39	<b>44</b>	48	<b>49</b>	50	<b>49</b>	18.8%	<b>10.2%</b>	22.0%	<b>10.2%</b>
Chemical Spills & Oil Spills >100g per 100 million short tons shipped	11.8	<b>15.0</b>	16.0	<b>16.2</b>	15.0	<b>19.0</b>	26.3%	<b>7.4%</b>	21.3%	<b>21.1%</b>
Collisions	195	<b>234</b>	222	<b>252</b>	236	<b>236</b>	12.2%	<b>7.1%</b>	17.4%	<b>0.8%</b>
Allisions	865	<b>739</b>	700	<b>713</b>	649	<b>649</b>	<b>(23.6%)</b>	<b>(3.6%)</b>	<b>(33.3%)</b>	<b>(13.9%)</b>
Groundings	818	<b>850</b>	897	<b>851</b>	779	<b>779</b>	8.8%	<b>0.1%</b>	<b>(5.0%)</b>	<b>(9.1%)</b>
Total Collisions, Allisions & Groundings	1,878	<b>1,823</b>	1,819	<b>1,816</b>	1,664	<b>1,664</b>	<b>(3.2%)</b>	<b>(0.4%)</b>	<b>(12.9%)</b>	<b>(9.6%)</b>

FY 2007 annual results for recreational boating deaths and injuries were an improvement over prior year and the five-year average. [Note that boating injuries in 2007 were under-reported due to lag in receiving validated data from the states. The actual number of injuries stands at 3,639.] Commercial mariner deaths and injuries likewise showed an improvement over prior year and the five-year average. Long-term performance for recreational boating deaths and injuries, as indicated by year-to-year change in the moving five-year average, continued to show improvement due primarily to sustained declines in boating injuries. Long-term performance for commercial mariner deaths and injuries also improved in FY 2007; the moving five-year average returning to where it was at the end of FY 2005. The annual result for commercial passenger deaths and injuries was an improvement over prior year, but above our target and the moving five-year average, which increased again in FY 2007. The unfavorable long-term trend in passenger deaths and injuries is attributed to an increase in maritime passenger traffic—MARAD water transportation statistics published in May 2007 report that the number of North American cruise passengers increased 19.4% between 2003 and 2006.

The Coast Guard did not meet long-term targets for commercial mariner, passenger, and recreational boating deaths and injuries. In retrospect, these targets were overly ambitious. Target values for the five-year averages in commercial mariner and passenger deaths and injuries were set in 2005 using understated baseline data. Translation of commercial mariner and passenger casualties from the legacy MSIS database into the current Marine Information for Safety and Law Enforcement (MISLE) system resolved data query issues, which led to nearly a 6% increase in baseline results.

Annual results for chemical spills and significant oil spills—oil spills greater than 100 gallons—showed improvement over prior year and five-year average. This supported continuation of a several years' trend of improved long-term performance, as indicated by year-to-year change in moving five-year averages.

Collisions, allisions, and groundings are a subset of adverse vessel events the Coast Guard strives to prevent; and proxy outcome measures for disruptions to maritime commerce. In FY 2007 there were fewer collisions and groundings, and corresponding improvements in long-term performance. There was, however, a significant increase in allisions, and long-term performance for this metric was consequently unfavorable.

The Coast Guard did not meet its targets for allisions and groundings, which when established several years ago, unrealistically anticipated perpetual continuation of a steeply sloped performance trend line.

#### **MARITIME PERSONNEL DEATHS AND INJURIES**

The Coast Guard develops and ensures compliance with marine safety regulations and standards to prevent death and injury to tens of thousands of U.S. mariners, millions of passengers on ferries and other vessels, and tens of millions of recreational boaters. We track commercial mariner, commercial passenger, and recreational boating deaths and injuries as measures of annual marine safety performance. We use five-year averages of these as indicators of long-term performance trends.

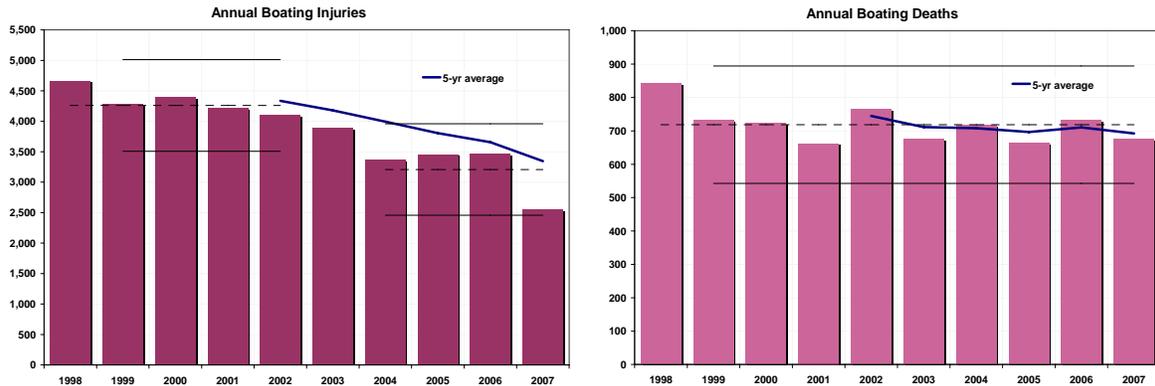
45 CFR 4.05-1 requires operators of commercial vessels to notify the Coast Guard of any loss of life or injury that requires professional medical treatment beyond first aid. Notices of commercial mariner and passenger casualties are recorded in the Coast Guard's Marine Information for Safety and Law Enforcement (MISLE) database. Commercial mariner deaths, disappearances, and injuries include crewmembers or employees aboard U.S. commercial vessels in U.S. waters. Casualties aboard foreign flag or government vessels are excluded. Commercial passenger deaths and injuries include casualties from passenger vessels operating in U.S. waters. Passenger deaths, disappearances, or injuries associated with diving activities are excluded. Deaths, disappearances or injuries determined to be the result of natural causes or intentional acts—such as heart attack, altercation, or the like—are excluded.

33 CFR 173.55 requires filing a Boating Accident Report when a person dies, is injured and requires medical treatment beyond first aid, or disappears from the vessel under circumstances that indicate death or injury. Boating Accident Reports are recorded in the Coast Guard's Boating Accident Report Database (BARD) System. Recreational boating casualties include deaths and disappearances caused or contributed to by a recreational vessel, its equipment, or its appendages. Deaths, disappearances, or injuries determined to be the result of natural causes or intentional acts—such as heart attack, altercation, or the like—are excluded.

#### ***Recreational Vessels***

While the annual number of boating injuries has shown a decline over the past decade, there has been an increase in injuries over the last four years. [Note that boating injuries in 2007 were under-reported due to lag in receiving validated data from the states.] The actual number of injuries stands at 3,639. The annual number of boating deaths, however, has remained relatively constant over the same period. We lose approximately 700 boaters each year—the third highest annual number of transportation

fatalities—and recreational boating fatalities remain on the National Transportation Safety Board’s Most Wanted List.



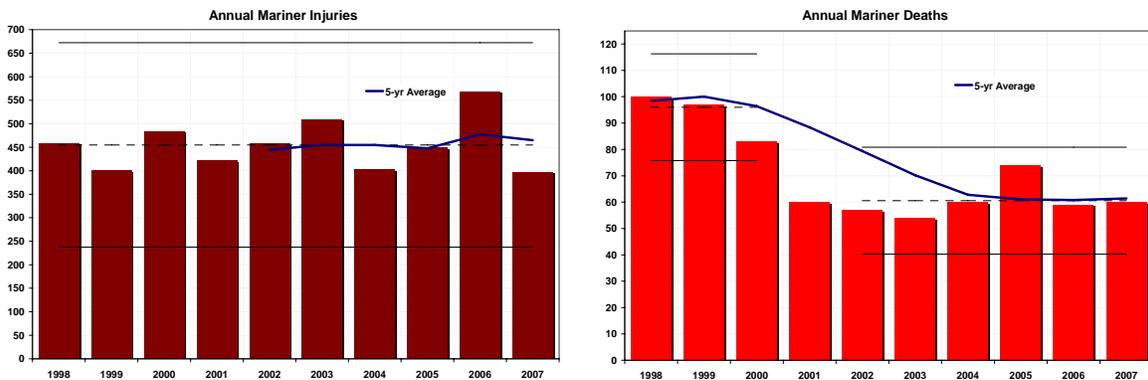
Eighty-six percent of reported fatalities occur on boats where the operator was not reported to have received boating safety instruction. Issues that safety instruction seeks to address—operator inattention, not maintaining a proper lookout, carelessness, reckless operation, and excessive speed—are primary contributing factors in all reported accidents.

Overall, in two-thirds of all fatal boating accidents, the victims drowned. Of those who drowned, 90% of the victims were not wearing a life jacket.

Alcohol use is the leading contributing factor in fatal boating accidents; accounting for nearly 20% of all reported fatalities.

**Commercial Mariners**

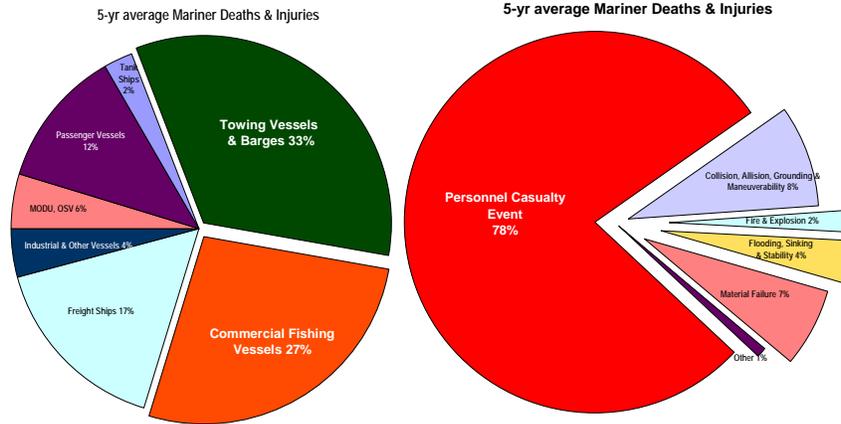
The annual number of commercial mariner injuries has remained relatively constant for the past ten years. The annual number of commercial mariner deaths has decreased from pre-2001 levels but has remained within expected limits of variation for the past seven years.



Towing vessels and commercial fishing vessels account for more than 60% of commercial mariner deaths and injuries. Coast Guard District Eight, with its large towing vessel community, accounts for about 35% of commercial maritime deaths and injuries; District One contributes about 17% to the five-year average; and District Seventeen accounts for 15%. We expect the inclusion of a Safety Management System as a key component of the towing vessel inspection regulations to reduce the risk of fatalities and injuries in the towing industry.

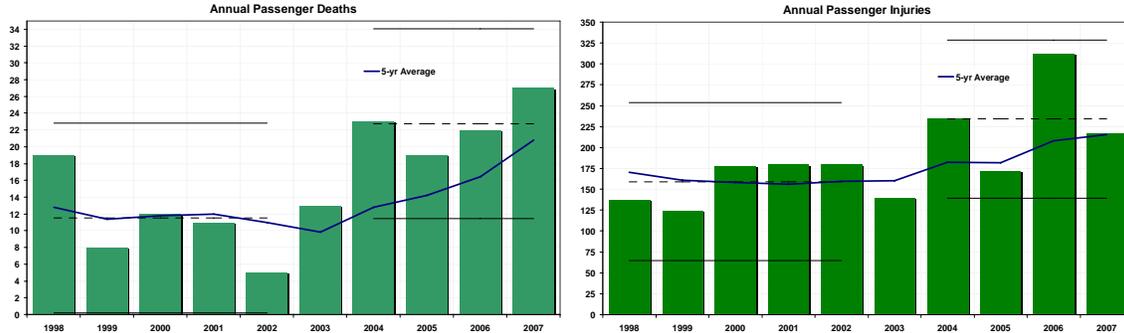
More than three-quarters of commercial mariner deaths and injuries are accounted for by incidents where the initial event is a personnel injury, such as falling overboard or being struck by an object.

About 8% of commercial mariner deaths and injuries are accounted for by incidents where the initial event is a collision, allision, grounding, or maneuverability incident, such as loss of steering. About 7% of mariner casualties are accounted for by incidents where the initial event is some type of material failure.



### Commercial Passengers

Commercial passenger deaths and injuries have varied significantly from one year to the next. For the past four years, they appear to be varying within a new, higher range, with corresponding increases in the moving five-year averages.

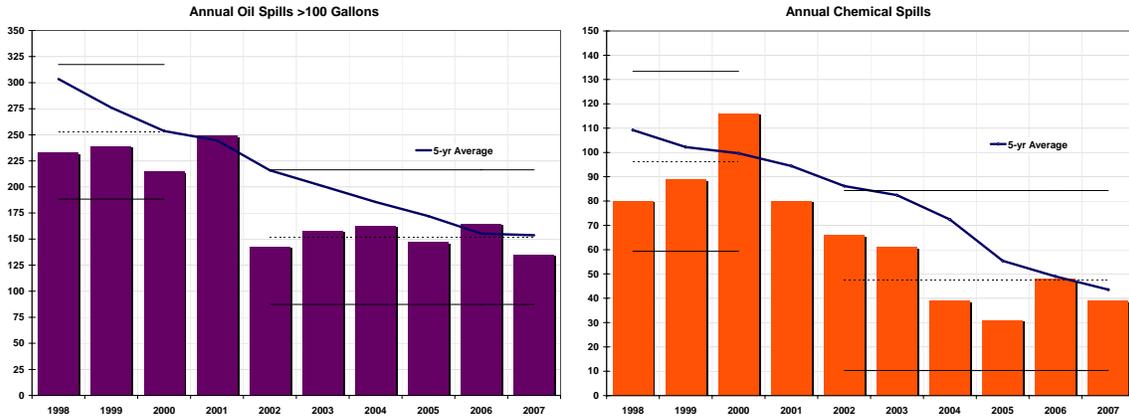


### OIL & CHEMICAL SPILLS

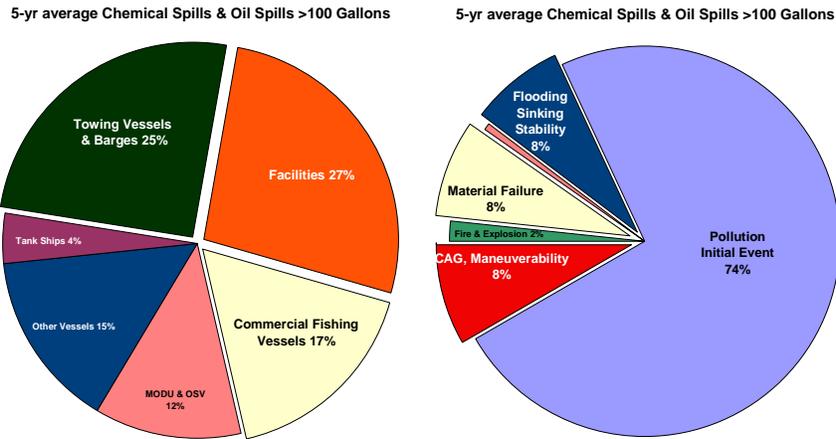
Developing and ensuring compliance with marine safety regulations and standards also contributes to the prevention of oil and chemical spills due to marine casualties. The number of chemical spills and the number of oil spills (greater than 100 gallons) are used as proxy outcome measures of risk to the marine environment. We use five-year averages of these metrics to track long-term performance trends.

The Coast Guard has jurisdiction for spills into or upon navigable waters of the U.S, adjoining shorelines, the contiguous zone, Deepwater Ports, the Continental Shelf and other areas. 40 CFR 300 requires vessel or facility operators to report any discharge of oil or oil products that cause a sheen, discoloration, sludge or emulsion; and any hazardous substance that equals or exceeds reportable quantities listed in 40 CFR 302. Only investigations recorded in the Coast Guard’s MISLE database of reportable chemical and oil discharge incidents into U.S. waters from maritime sources subject to Coast Guard jurisdiction are counted. Discharges onto land, into the air, or into enclosed spaces are

excluded. Discharges from non-maritime sources—such as aircraft, trucks and other vehicles, rail cars and rail equipment; U.S. Navy and other public vessels; fixed platforms and pipelines—are excluded. Discharges from unspecified, unclassified, and unknown sources are also excluded.



There was a dramatic decrease in oil spills greater than 100 gallons after FY 2001, but the annual number of these has since remained relatively constant. Note that in addition to corresponding with September 2001, this dramatic decline also coincides with a shift from the MSIS database to the current MISLE system. The annual number of chemical discharge incidents has also varied within expected limits of variation since FY 2001 and has remained relatively constant for at least four years.



Facilities account for about 27% of the five-year average chemical spills and oil spills greater than 100 gallons. Towing vessels and barges account for about 25%, and commercial fishing vessels about 17%.

About three-quarters of chemical spills and oils spills greater than 100 gallons are accounted for by situations where the initial event is a pollution incident such as spills occurring during fuel transfer operations. About 8% of these spills are accounted for by marine casualties where the initial event is a collision, allision, grounding, or maneuverability incident such as loss of steering. About 8% result from marine casualties where the initial event is some type of material failure, and a similar number follow with initial events associated with flooding, sinking, or stability.

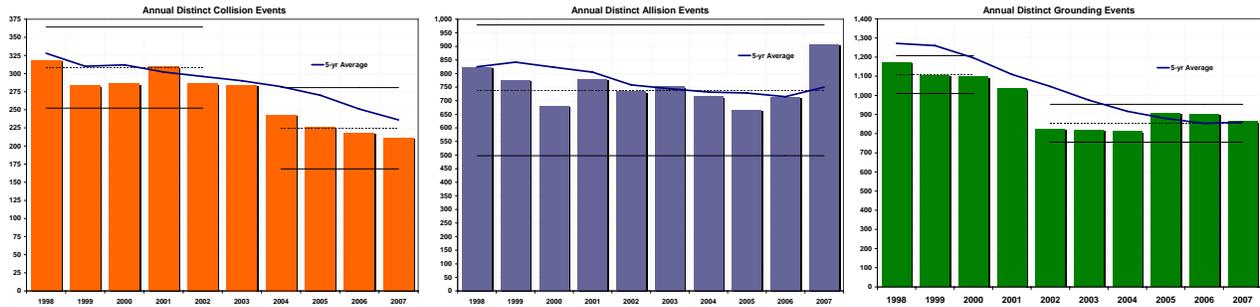
**COLLISIONS, ALLISIONS & GROUNDINGS**

The Coast Guard develops and ensures compliance with marine safety regulations and standards to prevent marine casualties that result in property losses or disruptions to maritime commerce. We use the numbers of collisions, allisions, and groundings as proxy outcome indicators of risk to the

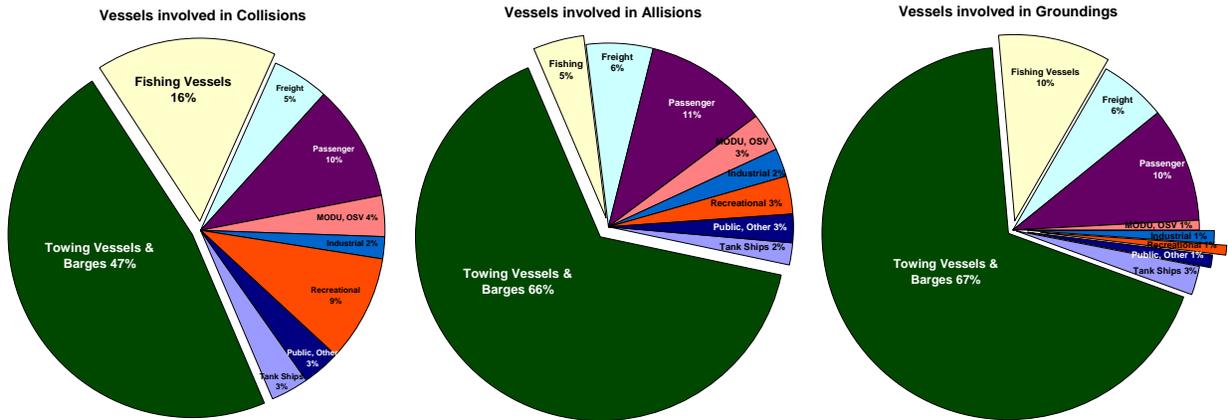
maritime economy due to marine casualty incidents, and five-year averages of these as indicators of long-term performance trends.

46 CFR 4.05-10 requires the owner, agent, master, operator or person in charge to notify the Coast Guard of any occurrence involving a vessel that results in a collision, allision, or grounding. Only investigations recorded in the Coast Guard’s MISLE database of reported collision, allision, and grounding incidents in U.S. waters involving commercial vessels are counted. Collision, allision, and grounding incidents not involving a commercial vessel—such as a collision between two recreational vessels—are excluded. Only distinct events are counted. For example, a collision in U.S. waters between two or more vessels, at least one of which is not a recreational boat, is counted as one distinct collision event.

The annual number of distinct collision events was relatively constant for six or more years, yet showed a significant decline after FY 2003 and continues to show some year-to-year improvement. The annual number of distinct allision events has remained relatively constant for the past decade and more. The annual number of groundings declined significantly after FY 2001 but has remained relatively constant for the past six years.



Towing vessels and barges account for 47% of the five-year average number of vessels involved in collisions, two-thirds of vessels involved in allisions, and a similar portion of vessels involved in groundings. Commercial fishing vessels account for 16% of vessels involved in collisions, 5% of allisions, and 10% of groundings. Passenger vessels account for 10% of vessels involved in collisions, 11% of allisions, and 10% of groundings. Passenger vessels account for 10% of vessels involved in collisions, 11% of allisions, and 10% of groundings.



## FY 2009–2014 TARGETS FOR MARINE SAFETY OUTCOMES

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Long-term and annual performance targets for the outcomes measures listed in the tables at the end of this section are established by the process described below.

### **TARGET SETTING PROCESS**

The process for establishing targets for the current budget year plus five additional years—the future years planning horizon—begins with a determination of annual targets. Targets for five-year averages, which are used as long-term performance measures, are then calculated from actual past results and the annual targets established using the method below.

Targets for annual measures are based on a determination of current baseline performance and the impact of factors expected to modify performance through the planning horizon. To forecast these impacts we consider separately the future effects of external drivers and trends, any anticipated impacts due to capability constraints, expected results of continuous improvement efforts, and the promised benefits of performance initiatives. These areas of consideration are further explained below.

#### ***Baseline Forecast***

The Baseline Forecast is that progression of performance outcomes expected to result with no more than mere maintenance of the status quo.

In a stable performance environment, where results are expected to deviate within normal limits of variation above and below some average value, the baseline forecast is typically a forward projection of that midpoint.

In a dynamically changing performance environment, the baseline forecast is more appropriately based upon some trend line—with due care given to both the type of trend line and its expected persistence.

#### ***External Drivers & Trends***

These adjustments to the baseline forecast are those expected due to external outcome drivers and trends — the anticipated impact of status quo changes caused by factors beyond organizational control.

External outcome drivers are causal factors outside organizational control that can directly impact desired outcomes—cause increased or decreased outcome results. An example might be industry implementation of a new technology that directly impacts the desired outcome.

Trends are factors outside organizational control that may indirectly impact desired outcomes—they are the currents and frictional forces that can magnify or dampen the impact of a key internal or external outcome driver. Examples might include econometric or demographic changes.

#### ***Capability Impacts***

Capability Impacts are predicted changes in performance outcomes due to expected changes in resource inputs—not captured as anticipated benefits of continuous improvements or performance initiatives. Consideration should be given to any expected changes in Authorities, Capabilities, Capacities, Competencies, and Partnerships—including changes in staffing, training, equipment, infrastructure, information, and operating budgets.

***Continuous Improvement***

Adjustments to the baseline forecast are performance gains expected from incremental improvements in the utilization of existing resources.

***Performance Initiatives***

Adjustments to the baseline forecast are those benefits promised by initiatives designed to achieve quantum improvements in performance outcomes—the business case proffered by white papers for new Resource Proposals, Reinvestment Proposals, Legislative Change Proposals, etc.

**OUTCOME TARGETS**

**Annual Targets for Marine Safety Outcome Measures**

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Recreational Boating Deaths & Injuries	4,184	4,184	4,184	4,164	4,162	4,155
Commercial Mariner Deaths & Injuries	496	486	462	426	415	415
Commercial Passenger Deaths & Injuries	236	200	196	161	188	188
Oil Spills >100 gallons	150	150	146	141	140	140
Chemical Spills	50	44	42	41	41	41
Collisions	212	212	199	193	187	180
Allisions	739	739	716	709	702	695
Groundings	885	885	855	855	855	855

**Long-term Targets for Marine Safety Outcome Measures**

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
5-yr Average Recreational Boating Deaths & Injuries	4,187	4,184	4,180	4,177	4,173	4,169
5-yr Average Commercial Mariner Deaths & Injuries	529	520	487	480	457	441
5-yr Average Commercial Passenger Deaths & Injuries	251	248	221	204	197	187
5-yr Average Oil Spills >100g per 100 million short tons shipped	13.0	12.1	11.6	11.3	11.0	10.7
5-yr Average Chemical Spills per 100 million short tons shipped	25.9	22.8	22.0	21.8	21.4	20.9
5-yr Average Collisions	231	218	212	206	200	194
5-yr Average Allisions	754	754	754	728	721	712
5-yr Average Groundings	886	886	877	873	867	861