

THE CUTTERS, BOATS, AND AIRCRAFT OF THE U.S. COAST GUARD

PROFESSIONALLY AND PROFICIENTLY OPERATED BY THE MEN AND WOMEN OF THE U.S. COAST GUARD, the service's cutters, aircraft, and boats are standing by 24/7 to respond to safety and security threats in all weather conditions, day or night. As the lead federal agency in the maritime domain for law enforcement, incident response, homeland security, and disaster management, these specialized capabilities enable the Coast Guard to save lives, protect the environment, enforce federal laws on the high seas, and defend the homeland.

In recent years, the Coast Guard realized several achievements with recapitalizing its assets.

The service christened the sixth national security cutter (NSC), *Munro*, in November 2015. The fifth NSC, *James*, was commissioned in August 2015. The service commissioned its 14th fast response cutter late in 2015, and 14 HC-27J aircraft are being transferred from the Air Force and modified for Coast Guard missions.

Despite these milestones, fleet and aircraft recapitalization timelines lag service need, endangering the ability to be "Always Ready" to prepare for, respond to, and quickly recover from major incidents. Moving forward, the Coast Guard will thoughtfully pursue and achieve a balanced and executable acquisition program for the deteriorating offshore, coastal, and inland assets.



ICEBREAKERS

The Coast Guard operates three oceangoing icebreakers, the newest of which, the CGC *Healy* (WAGB 20), commissioned in July 2000, is the service's largest ship. The Coast Guard also operates one icebreaker on the Great Lakes – the CGC *Mackinaw* (WLBB 30), which replaced an older ship of the same name. Icebreakers are painted with an “icebreaker red” hull to make them noticeable in ice-covered waters. One oceangoing icebreaker, the *Polar Sea*, was scheduled to be decommissioned and its parts used to help keep its sister, *Polar Star*, in operation, but Congress blocked the move and *Polar Sea* is still awaiting disposition.

Icebreakers, 420-foot Healy class (WAGB)

The Coast Guard's largest ship, the CGC *Healy*, was launched in 1997 and commissioned in 2000, joining the two Polar-class icebreakers in their homeport of Seattle, Washington. The *Healy* is designed to conduct a wide range of research activities, providing more than 4,200 square feet of scientific laboratory space, numerous electronic sensor systems, oceanographic winches, and accommodations for up to 50 scientists.

Healy is capable of breaking 4.5 feet of ice continuously at 3 knots and can operate in temperatures as low as minus 50 degrees F. The scientific community provided invaluable input on lab layouts and scientific capabilities during design and construction of the ship.

As a Coast Guard cutter, the *Healy* is also a capable platform for supporting other potential missions in the polar regions, and is capable of accommodating two H-65 Dolphin helicopters or one Dolphin and one H-60 Jayhawk helicopter.

- Length: 420 feet
- Beam: 82 feet
- Displacement: 16,000 tons
- Power plant: Four diesels, two shafts, 30,000 shaft horsepower (shp)
- Speed: 17 knots
- Range: 16,000 nautical miles at 12.5 knots; 37,000 miles at 9.25 knots

Vessel in this class:

- *Healy* (WAGB 20), Seattle, Washington

Icebreakers, 399-foot Polar class (WAGB)

The Polar-class icebreakers, built in the 1970s, were designed for open-water ice breaking and have reinforced hulls, special ice breaking bows, and a system that allows rapid shifting of ballast to increase the effectiveness of their ice breaking. These ships are capable of continuous progress through ice 6 feet thick at a speed of up to 3 knots. The CGCs *Polar Sea* and *Polar Star* were built to serve in the Arctic and Antarctic, supporting science and research as well as providing resupply to remote stations, but their capabilities also enable them to perform search and rescue, ship escort, environmental protection, and enforcement of laws and treaties in places most ships cannot reach. They are fully equipped for helicopter berthing and deck operations, and can carry two H-60 Jayhawks or H-65 Dolphins. *Polar Star* was reactivated in December 2012 after three years of refurbishment and modernization. *Polar Sea* remains laid up while its disposition is determined. The Coast

CGC *Healy*





CGC *Polar Star*

Guard is conducting requirements generation and associated preliminary acquisition tasks for a new heavy icebreaker.

- Length: 399 feet
- Beam: 83.5 feet
- Displacement (28-foot draft): 13,194 tons full load
- Power plant: Six Alco diesels, 3,000 bhp each, three gas turbines, 25,000 shp each, electric drive, three shafts, 66,000 shp
- Speed: 18 knots
- Range: 16,000 nautical miles at 18 knots; 28,275 at 13 knots

Vessels in this class:

- *Polar Star* (WAGB 10), Seattle, Washington
- *Polar Sea* (WAGB 11), deactivated, Seattle, Washington

Icebreakers, 240-foot Great Lakes class (WLBB)

The CGC *Mackinaw* (WLBB 30), like its predecessor of the same name, was designed specifically for the Great Lakes, where its mission has been to keep the shipping lanes open through as much of the winter as possible. Like the former *Mackinaw* (WAGB 83), the new ship is homeported in Cheboygan, Michigan, and remains the only U.S. heavy ice breaking resource assigned to the Great Lakes. The ship performs ice breaking as well as ATON (aids to navigation), search and rescue (SAR), law enforcement, and other missions. It has a crew of nine officers and 46 enlisted members.

The *Mackinaw* features state-of-the-art navigation, communication, and security systems and is able to carry a smaller crew than its namesake. The vessel also has a 20-ton crane for servicing aids to navigation, and an oil spill recovery system on board. It uses two podded propulsors and a bow thruster to provide excellent maneuverability, and is designed to break through 32 inches of ice at 3 knots.

- Length: 240 feet
- Beam: 58 feet, 6 inches
- Draft: 16 feet
- Displacement: 3,500 tons full load
- Power plant: Three 4,200-bhp ABT diesel generators; two ABT 3,350-kw azipod propulsion units
- Speed: 15 knots
- Range: 4,000 nautical miles

Vessel in this class:

- *Mackinaw* (WLBB 30), Cheboygan, Michigan

CUTTERS

The term “cutter” identifies a Coast Guard vessel 65 feet in length or greater, with accommodations for a crew to live aboard. Major cutters like the national security cutter are capable of carrying multiple cutterboat types, including the over-the-horizon (CB-OTH-IV) rigid-hull inflatables, and long-range interceptors (CB-LRI-11). Polar-class icebreakers also carry an Arctic survey boat (ASB), a polar variant of the CB-OTH-IV, and landing craft. Most cutters more than 200 feet in length are capable of accommodating helicopters.

National Security Cutter (NSC), 418-foot Legend class

The first major cutter to join the Coast Guard as part of the fleet recapitalization plan, the national security cutter is the largest and most technologically advanced of the service’s new cutters. At 418 feet in length, capable of speeds up to 28 knots, with a crew complement of 122 and a displacement of 4,500 long tons, the Legend-class cutters are capable of better seakeeping and higher sustained speeds as well as greater endurance than legacy cutters.



CGC *Mackinaw*



CGC *Waesche*

The ships, being acquired by the Coast Guard Acquisition Directorate, feature modern command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) capabilities and provide interoperability with U.S. Navy systems and a common operational picture to enhance maritime domain awareness. In addition to a helicopter deck, the class has a stern ramp for launching and recovering two classes of rigid-hull inflatable (RHIB) cutterboats that deploy with the NSC: the 35-foot CB-LRI-II and the 26-foot CB-OTH-IV. The NSC can carry a total of three boats: one LRI-II and two CB-OTH-IVs. The first cutter, *Bertholf*, was commissioned Aug. 4, 2008, and completed its first extended operations in 2009. The second cutter, *Waesche*, was commissioned May 7, 2010. The third, *Stratton*, was commissioned March 31, 2012. *Hamilton*, the fourth NSC, was commissioned in December 2014. The fifth, *James*, was commissioned in August 2015. The sixth NSC, *Munro*, was christened in November 2014, and the seventh, *Kimball*, is under construction. The Coast Guard plans construction of eight national security cutters.

The NSC is armed with a 57 mm/Mk. 110 gun, which is also employed by the Navy's littoral combat ships, and four M2 .50-caliber machine guns. The NSC can accommodate two H-65s, or one H-65 or H-60 and two vertically launched unmanned aerial vehicles, or other combinations.

- Length: 418 feet
- Beam: 54 feet
- Displacement: 4,500 long tons full load
- Power plant: Combined diesel and gas (CODAG); one 30,565 SHP gas turbine engine and two 9,655 HP diesel engines
- Speed: up to 28 knots
- Range: 12,000 nautical miles
- Armament: Mk. 110 57 mm gun; Phalanx 20 mm close-in weapon system; Mk. 53 decoy launching system (NULKA); and four M2 .50-caliber machine guns

Vessels in this class:

- *Bertholf* (WMSL 750), Alameda, California
- *Waesche* (WMSL 751), Alameda, California
- *Stratton* (WMSL 752), Alameda, California
- *Hamilton* (WMSL 753), Charleston, South Carolina
- *James* (WMSL 754) Charleston, South Carolina
- *Munro* (WMSL 755), christened November 2015, future homeport Alameda, California
- *Kimball* (WMSL 756) under construction, future homeport Honolulu, Hawaii
- *Midgett* (WMSL 757) planned; long lead-time materials ordered, future homeport Honolulu, Hawaii



CGC Midgett

High Endurance Cutters, 378-foot Secretary class (WHEC)

Highly versatile and capable of performing a variety of missions, these cutters operate throughout the world's oceans. Because of their high endurance and their capabilities, similar to those of Navy warships, Secretary-class cutters occasionally deploy as part of Navy carrier battle groups. CGC *Hamilton* (WHEC 715), commissioned in 1967, was first of the class, which formed the mainstay of the Coast Guard from the 1970s into the 2010s.

The Secretary-class cutters are ideally suited for long-range, high-endurance missions, and for fulfilling the maritime security role, which includes drug interdiction, illegal immigrant interception, and fisheries patrol. The ships are powered by diesel engines and gas turbines, in a combined diesel and gas (CODAG) plant, and have controllable pitch propellers. Equipped with a helicopter flight deck, retractable hangar, and the facilities to support helicopter deployment, these 12 cutters were introduced to the Coast Guard inventory in the 1960s, and seven remain in service. The entire class was modernized through the Fleet Rehabilitation and Modernization (FRAM) program between 1985 and 1992, modernizing their helicopter flight deck facilities, radars and other sensors, and fire-control systems.

With a crew of 160, each displaces 3,340 tons. Each is capable of accommodating a single HH-65 Dolphin helicopter.

Secretary-class cutters have been given upgraded C4ISR capabilities under the Deepwater project. The *Chase* and *Hamilton* were transferred to the Nigerian and Philippine navies, respectively, in 2011. The *Dallas* and *Jarvis* were decommissioned in 2012 and transferred to the Philippine and Bangladeshi navies, respectively. *Gallatin* was decommissioned in March 2014 and has since been transferred to the Nigerian navy. *Rush* transferred to the Bangladeshi navy in May 2015. Ships of the class will continue to be retired as national security cutters enter the fleet.

- Length: 378 feet
- Beam: 43 feet
- Displacement: 3,340 tons full load
- Power plant: Two diesel engines 3,500 bhp each/two gas turbine engines 18,000 shp each, two shafts 36,000 shp
- Speed: 29 knots
- Range: 2,400 nautical miles at 29 knots or 9,600 miles at 19 knots (on gas turbines); 12,000 nautical miles at 14 knots (on diesels)
- Armament: One Mk. 75 76 mm gun; two Mk. 38 25 mm guns; one Phalanx CIWS; two .50-caliber machine guns; two SRBOC launchers

Vessels in this class:

- *Mellon* (WHEC 717), Seattle, Washington
- *Boutwell* (WHEC 719), San Diego, California
- *Sherman* (WHEC 720), San Diego, California
- *Morgenthau* (WHEC 722), Honolulu, Hawaii
- *Munro* (WHEC 724), Kodiak, Alaska
- *Midgett* (WHEC 726), Seattle, Washington

Offshore Patrol Cutter

Offshore patrol cutters (OPCs) will provide the midrange capability in the Coast Guard's layered defense concept, filling the role between the NSC and FRC and replacing the service's two classes of aging medium endurance cutters. The OPC is to feature increased range and endurance, more powerful weapons, a larger flight deck, and improved C4ISR equipment, and will accommodate aircraft and boat operations in higher sea states. Using a two-phase acquisition strategy that emphasizes affordability as a major requirement, the service awarded three Phase I contracts in February 2014 for preliminary and contract design (P&CD) to Bollinger Shipyards Lockport LLC (Lockport, Louisiana); Eastern Shipbuilding Group Inc. (Panama City, Florida); and General Dynamics, Bath Iron Works (Bath, Maine). At the end of the 18-month Phase I period, the Coast Guard will select one team to develop Phase II detail design and construction of the first OPC of a planned 25-ship class.

295-foot Cutter *Eagle* (WIX)

The tall ship *Eagle* is a three-masted sailing barque with 21,350 square feet of sail, homeported at the Coast Guard Academy, New London, Connecticut. It is the only active (operational) commissioned sailing vessel in the U.S. maritime services. Seventh in a line of cutters to bear its name, the CGC *Eagle* was built in 1936 by Blohm and Voss in Hamburg, Germany, as a training vessel for German naval cadets.



CGC Eagle



CGC *Alex Haley*

It was taken as a war prize in 1946, commissioned into Coast Guard service as the *Eagle*, and sailed from Bremerhaven, Germany, to New London, Connecticut. The *Eagle* serves as a seagoing classroom for approximately 175 cadets and instructors from the academy. On the *Eagle*, cadets apply the navigation, engineering, and other skills they develop in classes at the academy.

Eagle's hull is built of steel, four-tenths of an inch thick. It has two full-length steel decks with a platform deck below and a raised forecastle and quarterdeck. The weatherdecks are 3-inch-thick teak over steel. When at home, the *Eagle* is moored at the Fort Trumbull State Park on the Thames River. *Eagle* began the first phase of a four-year refit and renovation program at the Coast Guard Yard in Curtis Bay, Maryland, Sept. 26. The work will proceed in phases so that training periods at sea can continue. The first phase includes maintenance of the rudder, hull and rigging, lead ballast replacement, and berthing area renovations.

- Length: 295 feet
- Beam: 39 feet
- Displacement: 1,824 tons full load
- Power plant: Diesel, one shaft, 1,000 bhp, 21,350-square-foot sail area
- Speed: 10 knots under power;
- 16 knots under sail
- Range: 5,450 nautical miles under power

Vessel in this class:

- *Eagle* (WIX 327), New London, Connecticut (refitting at Coast Guard Yard in Curtis Bay, Maryland)

**Medium Endurance Cutter
282-foot Alex Haley class (WMEC)**

The cutter *Alex Haley* (WMEC 39) is a one-of-a-kind Coast Guard ship, named for the service's first chief journalist, who later wrote *Roots* and won a Pulitzer Prize.

Commissioned in 1971 as the Navy salvage and rescue ship *USS Edenton* (ATS 1), the vessel was transferred to the Coast Guard in November 1997 for conversion into a medium endurance cutter. The cutter's primary missions are law enforcement, domestic fisheries enforcement, and SAR in Alaskan waters. With a crew of 99, the ship can accommodate a single H-65 Dolphin or MH-60 Jayhawk.

- Length: 282 feet
- Beam: 50 feet
- Displacement: 3,000 tons full load
- Power plant: Four Caterpillar diesels, two shafts; bow thruster
- Speed: 16 knots
- Range: 10,000 nautical miles at 13 knots
- Armament: Two Mk. 38 25 mm cannons; two .50-caliber machine guns

Vessel in this class:

- *Alex Haley* (WMEC 39), Kodiak, Alaska

**Medium Endurance Cutter
270-foot Famous class (WMEC)**

The first of 13 Famous-class cutters, the *Bear* (WMEC 901), entered service in 1983, and these ships have become a familiar sight on the world's oceans ever since. Together with the

14 Reliance-class vessels, Famous-class cutters are the service's primary tools for law enforcement, counterdrug, and SAR missions. These ships are the most modern and advanced medium endurance cutters, with a modern weapons and sensor suite. They have long been equipped with a Command, Display, and Control (COMDAC) computerized ship control system that was significantly updated in the 1990s and makes these ships effective with smaller crews. Famous-class ships operate with a crew of 100.

Armament includes a Mk. 75 76 mm fully automatic gun capable of firing up to 80 rounds per minute. The Shipboard Command and Control System (SCCS) uses radar, LORAN (long range navigation), and GPS (Global Positioning System) technologies. SCCS is an integrated and sophisticated system that brings the ship's electronic resources together to facilitate operations.

Famous-class cutters are able to land, launch, and service the H-65 Dolphin, and some can also operate the Jayhawk. A Dolphin and a five-member aviation detachment usually deploy with the ship. The cutter's active stabilization system extends the operating parameters of the cutter aircraft team by providing a stable platform for flight evolutions during rough sea conditions. This allows the cutters to serve the vital role of search and rescue in almost any storm or location. For law enforcement boardings, these cutters carry a 23-foot over-the-horizon cutterboat and a 19-foot rigid-hull inflatable boat.

Under the Mission Effectiveness Project (MEP), Famous-class cutters received capability enhancements, major maintenance, and replacement of obsolete, unsupportable, or maintenance-intensive equipment, which included installing improved C4ISR suites. The Reliance-class ships also underwent MEP. All 270-foot cutters finished their MEP in September 2014, ensuring their operational reliability until their replacement by the offshore patrol cutter.

- Length: 270 feet
- Beam: 38 feet
- Displacement: 1,820 tons full load
- Power plant: Two 3,650-hp V-18 Alco diesel engines, two shafts
- Speed: 20 knots
- Range: Just under 3,800 nautical miles at 19.5 knots; 9,900 nautical miles at 12 knots
- Armament: One Mk. 75 76 mm gun, two .50-caliber machine guns, two SRBOC launchers

Vessels in this class:

- *Bear* (WMEC 901), Portsmouth, Virginia
- *Tampa* (WMEC 902), Portsmouth, Virginia
- *Harriet Lane* (WMEC 903), Portsmouth, Virginia
- *Northland* (WMEC 904), Portsmouth, Virginia
- *Spencer* (WMEC 905), Boston, Massachusetts
- *Seneca* (WMEC 906), Boston, Massachusetts
- *Esanaba* (WMEC 907), Boston, Massachusetts
- *Tahoma* (WMEC 908), Kittery, Maine
- *Campbell* (WMEC 909), Kittery, Maine
- *Thetis* (WMEC 910), Key West, Florida
- *Forward* (WMEC 911), Portsmouth, Virginia
- *Legare* (WMEC 912), Portsmouth, Virginia
- *Mohawk* (WMEC 913), Key West, Florida

Seagoing Buoy Tender, 225-foot Juniper class (WLB)

Juniper-class buoy tenders are seagoing Coast Guard cutters responsible for maintaining short- and long-range ATON such as fixed structures and buoys. They have replaced the aging Balsam class of World War II-era buoy tenders. Buoy tenders provide light ice breaking in ice-laden domestic waters. Buoy tenders are multi-mission vessels, and conduct maritime law enforcement, homeland security, and defense

CGC *Thetis*



operations, as well as provide search and rescue assistance should the need arise.

The 225-foot *Juniper*'s twin diesel engine propulsion system supplies the speed and maneuverability necessary to tend coastal and offshore buoys in exposed locations. Perhaps the most important advance is the use of a new Dynamic Positioning System (DPS). DPS uses a differential GPS to fix positions. Using this technology, the crews are able to maintain the vessel's position within a 10-meter circle in winds of up to 30 knots and waves of up to 8 feet. The *Juniper*-class cutters are to undergo mid-life renovation under the In-Service Vessel Sustainment (ISVS) project.

- Length: 225 feet
- Beam: 46 feet
- Displacement: 2,000 tons
- Buoy deck area: 2,875 square feet
- Power plant: Two Caterpillar 3608 diesels, one shaft, 6,200 bhp
- Speed: 15 knots
- Range: 6,000 nautical miles at 12 knots
- Armament: Two .50-caliber machine guns

Vessels in this class:

- *Juniper* (WLB 201), Newport, Rhode Island
- *Willow* (WLB 202), Newport, Rhode Island
- *Kukui* (WLB 203), Honolulu, Hawaii
- *Elm* (WLB 204), Atlantic Beach, North Carolina
- *Walnut* (WLB 205), Honolulu, Hawaii
- *Spar* (WLB 206), Kodiak, Alaska
- *Maple* (WLB 207), Sitka, Alaska
- *Aspen* (WLB 208), San Francisco, California
- *Sycamore* (WLB 209), Cordova, Alaska
- *Cypress* (WLB 210), Pensacola, Florida
- *Oak* (WLB 211), Charleston, South Carolina
- *Hickory* (WLB 212) Homer, Alaska
- *Fir* (WLB 213), Astoria, Oregon
- *Hollyhock* (WLB 214), Port Huron, Michigan
- *Sequoia* (WLB 215), Apra Harbor, Guam
- *Alder* (WLB 216), Duluth, Minnesota

Medium Endurance Cutter, 210-foot Reliance class (WMEC)

The 14 Reliance-class cutters work alongside the Famous-class ships, carrying out primarily law enforcement and search



CGC *Spar*

and rescue missions. The 210-foot ships were the first true post-World War II Coast Guard cutters. Outwardly, these ships reflect evolving Coast Guard operations during the latter part of the 20th century – sleek lines, flight decks, and a high pilot-house giving the bridge crew excellent all-around visibility. They do not have a helicopter hangar but can operate a single H-65 Dolphin on deck. It has a crew complement of 77.

Although lightly armed, these cutters were designed to carry additional armament including a 3-inch gun, a total of six .50-caliber machine guns, an SQS-17 sonar (later suggestions included using an SQS-36), an anti-submarine projector (Hedgehog), and/or two torpedo launchers. None of this armament was ever actually installed.

From 1986 to 1996, ships of this class underwent a midlife maintenance availability to upgrade machinery and equipment. There were 16 Reliance-class cutters, but budget cuts prompted the decommissioning of the *Courageous* (WMEC 622) and the *Durable* (WMEC 628) in 2001.

To prolong the longevity of the remaining cutters, the Coast Guard began the MEP in 2005 to increase operational availability by installing capability enhancements, performing major maintenance, and replacing obsolete, unsupported, or maintenance-intensive equipment. The successful conclusion of the MEP in September 2014 ensures the operational reliability of these cutters until replacement by the offshore patrol cutter.

- Length: 210 feet
- Beam: 34 feet
- Displacement: 1,000 tons
- Power plant: Two Alco 16V-251 diesel engines, two shafts, 5,000 bhp
- Speed: 18 knots
- Range: 6,100 nautical miles at 12 knots
- Armament: One Mk. 38 25 mm cannon and two .50-caliber machine guns

Vessels in this class:

- *Reliance* (WMEC 615), Kittery, Maine
- *Diligence* (WMEC 616), Wilmington, North Carolina
- *Vigilant* (WMEC 617), Patrick Air Force Base, Florida
- *Active* (WMEC 618), Port Angeles, Washington
- *Confidence* (WMEC 619), Port Canaveral, Florida
- *Resolute* (WMEC 620), St. Petersburg, Florida
- *Valiant* (WMEC 621), Miami Beach, Florida
- *Steadfast* (WMEC 623), Warrenton, Oregon



CGC *Diligence*



CGC George Cobb

- *Dauntless* (WMEC 624), Galveston, Texas
- *Venturous* (WMEC 625), St. Petersburg, Florida
- *Dependable* (WMEC 626), Little Creek, Virginia
- *Vigorous* (WMEC 627), Little Creek, Virginia
- *Decisive* (WMEC 629), Pascagoula, Mississippi
- *Alert* (WMEC 630), Warrenton, Oregon

Vessels in this class:

- *Ida Lewis* (WLM 551), Newport, Rhode Island
- *Katherine Walker* (WLM 552), Bayonne, New Jersey
- *Abbie Burgess* (WLM 553), Rockland, Maine
- *Marcus Hanna* (WLM 554), South Portland, Maine
- *James Rankin* (WLM 555), Baltimore, Maryland
- *Joshua Appleby* (WLM 556), St. Petersburg, Florida
- *Frank Drew* (WLM 557), Portsmouth, Virginia
- *Anthony Petit* (WLM 558), Ketchikan, Alaska
- *Barbara Mabrity* (WLM 559), Mobile, Alabama
- *William Tate* (WLM 560), Philadelphia, Pennsylvania
- *Harry Claiborne* (WLM 561), Galveston, Texas
- *Maria Bray* (WLM 562), Atlantic Beach, Florida
- *Henry Blake* (WLM 563), Everett, Washington
- *George Cobb* (WLM 564), San Pedro, California

Coastal Buoy Tender, 175-foot Keeper class (WLM)

The 175-foot Keeper-class coastal buoy tenders are a new era in buoy tending, equipped with Z-drive propulsion units instead of the standard propeller and rudder configuration. The propulsion units are designed to independently rotate 360 degrees. Combined with a thruster in the bow, they give the Keeper-class cutters unmatched maneuverability.

With state-of-the-art electronics and navigation systems including DPS, which uses differential GPS and electronic chart displays, it is possible to maneuver and position navigation aids with a smaller crew. Carrying a crew of 24, ships in this class are named for well-known lighthouse keepers. Although not classified as icebreakers, these ships can move through 9 inches of ice at 3 knots.

- Length: 175 feet
- Beam: 36 feet
- Displacement: 845 tons
- Power plant: Two Caterpillar 3508TA diesels, two Ulstein Z-drive, 2,040 bhp
- Speed: 12 knots
- Range: 2,000 nautical miles at 10 knots



CGC Pamlico

U.S. COAST GUARD PHOTO / U.S. COAST GUARD PHOTO BY PETTY OFFICER 3RD CLASS TOM ATKESON

Inland Construction Tenders (WLIC)

The Coast Guard's inland construction tenders are broken into three classes, all designed for the construction, repair, and maintenance of fixed ATON and all operating on inland waters. The 160-foot WLICs are single units without barges. The 75-foot WLICs push either a 68- or 84-foot construction barge. The one 100-foot WLIC pushes a 70-foot construction barge. The barges are equipped with cranes and other ATON equipment to drive piles and work the smaller-sized buoys. The earliest of these tenders date to the 1940s and have crews of 13 to 15.

160-FOOT WLIC CLASS:

- Length: 160 feet
- Beam: 30 feet
- Displacement: 411 tons
- Power plant: Two Caterpillar D379 diesels, two shafts, 1,000 bhp
- Speed: 11 knots
- Range: 1,205 nautical miles at 6.5 knots

Vessels in the 160-foot WLIC class:

- *Pamlico* (WLIC 800), New Orleans, Louisiana
- *Hudson* (WLIC 801), Miami Beach, Florida
- *Kennebec* (WLIC 802), Portsmouth, Virginia
- *Saginaw* (WLIC 803), Mobile, Alabama

100-FOOT WLIC CLASS:

- Length: 100 feet
- Beam: 24 feet
- Displacement: 178 tons
- Power plant: Two Caterpillar 3412, two shafts, 1250 bhp
- Speed: 10 knots
- Range: 1,200 nautical miles at 7 knots

Vessel in the 100-foot WLIC class:

- *Smilax* (WLIC 315, oldest commissioned cutter), Atlantic Beach, North Carolina

75-FOOT WLIC CLASS:

- Length: 75 feet
- Beam: 22 feet
- Displacement: 145 tons
- Power plant: Two Caterpillar D353, two shafts, 750 hp; or two Caterpillar 3412 or V1312TI, two shafts, 1,250-1,350 hp
- Speed: 10 knots
- Range: 1,050-1,300 nautical miles at 9 knots; 2,400-2,500 nautical miles at 5 knots

Vessels in the 75-foot WLIC class:

- *Anvil* (WLIC 75301), Charleston, South Carolina
- *Hammer* (WLIC 75302), Mayport, Florida
- *Sledge* (WLIC 75303), Baltimore, Maryland
- *Mallet* (WLIC 75304), Corpus Christi, Texas
- *Vise* (WLIC 75305), St. Petersburg, Florida
- *Clamp* (WLIC 75306), Galveston, Texas
- *Hatchet* (WLIC 75309), Galveston, Texas
- *Axe* (WLIC 75310), Morgan City, Louisiana



CGC *Penobscot Bay*

Ice Breaking Tug, 140-foot Bay class (WTGB)

The 140-foot Bay-class cutters are single-screw tugs used primarily for domestic ice breaking duties. They are named after American bays and are stationed mainly in the north-eastern United States and the Great Lakes. They use a low-pressure-air hull lubrication or bubbler system that forces air and water between the hull and ice. This system improves ice breaking capabilities by reducing resistance against the hull, thereby reducing horsepower requirements. A 120-foot ATON barge augments the CGCs *Bristol Bay* and *Mobile Bay*. The Bay-class cutters have begun a mid-life renovation program under the In-Service Vessel Sustainment (ISVS) project to renew the most elderly or vulnerable components.

- Length: 140 feet
- Beam: 37.5 feet
- Displacement: 662 tons full load
- Power plant: Two Fairbanks-Morse diesel engines, electric drive, one shaft, 2,500 shp
- Speed: 14.7 knots
- Range: 1,500 nautical miles at 14.7 knots; 4,000 nautical miles at 12 knots

Vessels in this class:

- *Katmai Bay* (WTGB 101), Sault Ste. Marie, Michigan
- *Bristol Bay* (WTGB 102), Detroit, Michigan
- *Mobile Bay* (WTGB 103), Sturgeon Bay, Wisconsin
- *Biscayne Bay* (WTGB 104), St. Ignace, Michigan
- *Neah Bay* (WTGB 105), Cleveland, Ohio
- *Morro Bay* (WTGB 106), New London, Connecticut
- *Penobscot Bay* (WTGB 107), Bayonne, New Jersey
- *Thunder Bay* (WTGB 108), Rockland, Maine
- *Sturgeon Bay* (WTGB 109), Bayonne, New Jersey

River Buoy Tenders (WLR)

The Coast Guard operates 18 tenders of 75-foot and 65-foot lengths on rivers in the western United States, deploying ATON buoys and day boards to mark river channels and to ease

the efficient flow of commerce. WLRs push barges equipped with cranes that work ATON. Some WLRs are equipped with “jetting” devices that are used to set and anchor buoys in rivers with sandy or muddy bottoms. The barges are an integral part of the ATON mission. Barge lengths vary: 90 feet, 99 feet, and 130 feet.

75-FOOT KANKAKEE-CLASS RIVER BUOY TENDERS:

- Length: 75 feet
- Beam: 22 feet
- Displacement: 175 tons
- Power plant: Two Caterpillar 3412 diesels, two shafts, 1,024 bhp
- Speed: 10 knots
- Range: 600 nautical miles at 10 knots

Vessels in this class:

- *Kankakee* (WLR 75500), Memphis, Tennessee
- *Greenbrier* (WLR 75501), Natchez, Mississippi

75-FOOT GASCONADE-CLASS RIVER BUOY TENDERS:

- Length: 75 feet
- Beam: 22 feet
- Displacement: 140 tons
- Power plant: Two Caterpillar D353 diesels, two shafts, 660-750 hp; or two Caterpillar 3412, two shafts, 1,250 hp



CGC *Sangamon*

- Speed: 10 knots
- Range: 3,100 nautical miles at 6.5 knots

Vessels in this class:

- *Wedge* (WLR 75307), Demopolis, Alabama
- *Gasconade* (WLR 75401), Omaha, Nebraska
- *Muskingum* (WLR 75402), Sallislaw, Oklahoma
- *Wyaconda* (WLR 75403), Dubuque, Iowa
- *Chippewa* (WLR 75404), Buchanan, Tennessee
- *Cheyenne* (WLR 75405), St. Louis, Missouri
- *Kickapoo* (WLR 75406), Vicksburg, Mississippi



CGC *Greenbrier*



CGC Elderberry

- *Kanawha* (WLR 75407), Pine Bluff, Arkansas
- *Patoka* (WLR 75408), Greenville, Mississippi
- *Chena* (WLR 75409), Hickman, Kentucky

65-FOOT CLASS RIVER BUOY TENDERS:

- Length: 65 feet
- Beam: 21 feet
- Displacement: 145 tons
- Power plant: Two Caterpillar D353 diesels, two shafts, 660-725 hp
- Speed: 10 knots
- Range: 3,500 nautical miles at 6 knots

Vessels in this class:

- *Ouachita* (WLR 65501), Chattanooga, Tennessee
- *Cimarron* (WLR 65502), Buchanan, Tennessee
- *Obion* (WLR 65503), Owensboro, Kentucky
- *Scioto* (WLR 65504), Keokuk, Iowa
- *Osage* (WLR 65505), Sewickley, Pennsylvania
- *Sangamon* (WLR 65506), East Peoria, Illinois

Inland Buoy Tenders, large-small (WLI)

100-FOOT INLAND BUOY TENDERS:

- Length: 100 feet
- Beam: 24 feet
- Displacement: 174 tons full load
- Power plant: Two diesels, two shafts, 600-660 bhp

- Speed: 10.5 knots
- Range: 2,000-2,700 nautical miles at 7 knots

Vessels in this class:

- *Bluebell* (WLI 313), Portland, Oregon
- *Buckthorn* (WLI 642), Sault Ste. Marie, Michigan

65-FOOT INLAND BUOY TENDERS:

- Length: 65 feet
- Beam: 17 feet
- Displacement: 71 tons
- Power plant: Two GM diesels, two shafts, 400 hp (WLI 65401); one GM diesel, one shaft, 300 hp (WLI 65303)
- Speed: 9 knots (WLI 65303); 11.3 knots (WLI 65401)
- Range: 1,700 nautical miles at 6 knots; 1,500 nautical miles at 5 knots (WLI 65303)

Vessels in this class:

- *Bayberry* (WLI 65400), Long Beach, North Carolina
- *Elderberry* (WLI 65401), Petersburg, Alaska

PATROL BOATS

The diverse range of Coast Guard duties is reflected dramatically by the number and variety of its patrol boats, which are assigned to most of the service's missions. Island-class cutters are high-speed vessels that offer an operating radius of almost 1,000 nautical miles, making them highly effective for illegal



CGC Bernard C. Webber

immigrant interdiction operations (AMIO) and a range of other duties. However, the Island class are aging, and are being replaced by the fast response cutter. Eighty-seven-foot Marine Protector-class vessels have an IEBS (integrated electronic bridge system) and a stern-launched rigid-hull inflatable boat useful for various duties including carrying boarding crews.

Fast Response Cutter (WPC), 154-foot Sentinel class

The Sentinel class is a key component of the Coast Guard's recapitalized fleet and is critically needed to replace the aging 110-foot Island-class patrol boat fleet. The first cutter in this class, *Bernard C. Webber*, was delivered in February 2012. To honor past Coast Guard members, each cutter in this class will be named for one of the service's many enlisted heroes.

These cutters will be able to deploy independently to conduct the service's missions, such as port, waterway, and coastal security; fishery patrols; drug and illegal immigrant law enforcement; SAR; and national defense operations. The cutters' C4ISR suites will be completely interoperable with U.S. Navy, Coast Guard, Department of Defense, and Department of Homeland Security assets.

The 154-foot cutters have a speed of more than 28 knots, and are based on an existing patrol boat design from Damen Shipyards. This vessel class is planned for a total of 58 patrol boats.

- Manufacturer: Bollinger Shipyards Inc.
- Parent craft designer: Damen
- Length: 154 feet

- Beam: 25 feet
- Displacement: 353 metric tons
- Power plant: Two 4,300 Kw MTU diesel engines
- Speed: 28-plus knots
- Endurance: five days
- Crew: 24 (four officers, 20 enlisted)
- Armament: One stabilized 25 mm machine gun mount and four non-stabilized crew-served .50-caliber machine guns

Vessels in this class:

- *Bernard C. Webber* (WPC 1101), Miami Beach, Florida
- *Richard Etheridge* (WPC 1102), Miami Beach, Florida
- *William Flores* (WPC 1103), Miami Beach, Florida
- *Robert Yered* (WPC 1104), Miami Beach, Florida
- *Margaret Norvell* (WPC 1105), Miami Beach, Florida
- *Paul Clark* (WPC 1106), Miami Beach, Florida
- *Charles David Jr.* (WPC 1107), Key West, Florida
- *Charles Sexton* (WPC 1108), Key West, Florida
- *Kathleen Moore* (WPC 1109), Key West, Florida
- *Raymond Evans* (WPC 1110), Key West, Florida
- *William Trump* (1111), Key West, Florida
- *Isaac Mayo* (1112) Key West, Florida
- *Richard Dixon* (1113) San Juan, Puerto Rico
- *Heriberto Hernandez* (1114) San Juan, Puerto Rico

Under Construction:

- *Joseph Napier* (1115), San Juan, Puerto Rico
- *Winslow Griesser* (1116) San Juan, Puerto Rico
- *Richard Patterson* (1117), San Juan, Puerto Rico

- *Joseph Tezanos* (1118), San Juan, Puerto Rico
- *Rollin Fritch* (1119) Pascagoula, Mississippi
- *Lawrence Lawson* (1120) Pascagoula, Mississippi
- *John McCormick* (1121), Ketchikan, Alaska
- *Bailey Barco* (1122), ordered, Ketchikan, Alaska
- *Benjamin Dailey* (1123) ordered
- *Donald Horsley* (1124) ordered
- *Jacob Poroo* (1125) ordered

Patrol Boat, 110-foot Island class (WPB)

The Coast Guard 110-foot Island-class patrol boats are modified versions of a well-regarded British-designed patrol boat. These ships have excellent range and seakeeping capabilities, but are wearing out rapidly and are to be replaced by the fast response cutter.

Seventeen 110-foot WPBs were renovated under the Mission Effectiveness Project (MEP) to ensure the 110-foot WPB fleet remains a reliable entity until the arrival of the FRC. The MEP was completed in 2012. Built in the late 1980s, they are equipped with advanced electronics and navigation equipment. WPBs are being decommissioned as more fast response cutters join the fleet.

- Length: 110 feet
- Beam: 21 feet
- Displacement: 154-165 tons
- Power plant: Two Alco-Paxman Valenta diesel engines, 5,820 bhp; WPB 1338-1349: Caterpillar 3516 diesel engines, 5,460 bhp
- Speed: 28 to 30 knots
- Range: 3,380 nautical miles at 8 knots
- Armament: One Mk. 38 25 mm cannon; two .50-caliber machine guns

Vessels in this class:

- *Farallon* (WPB 1301), Valder, Alaska
- *Maui* (WPB 1304), Manama, Bahrain
- *Ocracoke* (WPB 1307), South Portland, Maine
- *Aquidneck* (WPB 1309), Manama, Bahrain
- *Mustang* (WPB 1310), Seward, Alaska
- *Naushon* (WPB 1311), Ketchikan, Alaska
- *Sanibel* (WPB 1312), Woods Hole, Massachusetts
- *Edisto* (WPB 1313), San Diego, California
- *Sapelo* (WPB 1314), San Juan, Puerto Rico
- *Matinicus* (WPB 1315), San Juan, Puerto Rico
- *Nantucket* (WPB 1316), Atlantic Beach, North Carolina
- *Baranof* (WPB 1318), Manama, Bahrain
- *Chandeleur* (WPB 1319), Ketchikan, Alaska
- *Cushing* (WPB 1321), San Juan, Puerto Rico
- *Cuttyhunk* (WPB 1322), Port Angeles, Washington
- *Drummond* (WPB 1323), Miami, Florida [San Juan, PR?]
- *Key Largo* (WPB 1324), San Juan, Puerto Rico
- *Monomoy* (WPB 1326), Manama, Bahrain
- *Orcas* (WPB 1327), Coos Bay, Oregon
- *Sitkinak* (WPB 1329), Miami, Florida [Bayonne, NJ?]
- *Tybee* (WPB 1330), Woods Hole, Massachusetts
- *Washington* (WPB 1331), Apra Harbor, Guam
- *Wrangell* (WPB 1332), Manama, Bahrain
- *Adak* (WPB 1333), Manama, Bahrain
- *Liberty* (WPB 1334), Auke Bay, Alaska
- *Anacapa* (WPB 1335), Petersburg, Alaska
- *Kiska* (WPB 1336), Hilo, Hawaii
- *Assateague* (WPB 1337), Apra Harbor, Guam
- *Grand Isle* (WPB 1338), Gloucester, Massachusetts
- *Key Biscayne* (WPB 1339), Key West, Florida
- *Kodiak Island* (WPB 1341), Atlantic Beach, North Carolina
- *Galveston Island* (WPB 1349) Honolulu, Hawaii

CGC *Liberty*





CGC *Crocodile*

Coastal Patrol Boat (WPB), 87-foot Marine Protector class

The Marine Protector is an innovative, multi-mission class of vessel capable of performing search and rescue, law enforcement, fishery patrols, drug interdiction, illegal immigrant interdiction, and homeland security duties up to 200 miles offshore. The 73 cutters in this class carry an 11-person crew and are capable of achieving a maximum continuous speed of 25 knots. The class offers numerous improvements over the former 82-foot Point-class vessels, including improved seakeeping abilities (up to sea state 5), enhanced habitability, and compliance with current and projected environmental protection laws. The Marine Protector class also employs an innovative stern launch and recovery system using aluminum-hulled cutterboats propelled by inboard diesel-powered waterjets. The vastly larger pilothouse is equipped with an integrated bridge system, including an ECDIS (electronic chart display system), which interfaces with surface search radars used by U.S. warships. Four were built specifically to protect Navy ballistic missile submarines while they are in transit in and out of Kings Bay, Georgia, and Bangor, Washington. Production was completed in 2009.

- Length: 87 feet
- Beam: 19.4 feet
- Displacement: 91 tons full load
- Speed: 25 knots
- Range: 900 nautical miles
- Power plant: Two MTU 8V diesel engines

Vessels in this class:

- *Barracuda* (WPB 87301), Eureka, California
- *Hammerhead* (WPB 87302), Woods Hole, Massachusetts
- *Mako* (WPB 87303), Cape May, New Jersey

- *Marlin* (WPB 87304), Fort Myers Beach, Florida
- *Stingray* (WPB 87305), Mobile, Alabama
- *Dorado* (WPB 87306), Crescent City, California
- *Osprey* (WPB 87307), Port Townsend, Washington
- *Chinook* (WPB 87308), New London, Connecticut
- *Albacore* (WPB 87309), Little Creek, Virginia
- *Tarpon* (WPB 87310), Tybee Island, Georgia
- *Cobia* (WPB 87311), Mobile, Alabama
- *Hawksbill* (WPB 87312), Monterey, California
- *Cormorant* (WPB 87313), Fort Pierce, Florida
- *Finback* (WPB 87314), Cape May, New Jersey
- *Amberjack* (WPB 87315), Port Isabel, Texas
- *Kittiwake* (WPB 87316), Honolulu, Hawaii
- *Blackfin* (WPB 87317), Santa Barbara, California
- *Bluefin* (WPB 87318), Fort Pierce, Florida
- *Yellowfin* (WPB 87319), Charleston, South Carolina
- *Manta* (WPB 87320), Freeport, Texas
- *Coho* (WPB 87321), Panama City, Florida
- *Kingfisher* (WPB 87322), Mayport, Florida
- *Seahawk* (WPB 87323), Carrabelle, Florida
- *Steelhead* (WPB 87324), Port Aransas, Texas
- *Beluga* (WPB 87325), Little Creek, Virginia
- *Blacktip* (WPB 87326), Oxnard, California
- *Pelican* (WPB 87327), Abbeville, Louisiana
- *Ridley* (WPB 87328), Montauk, New York
- *Cochito* (WPB 87329), Little Creek, Virginia
- *Manowar* (WPB 87330), Galveston, Texas
- *Moray* (WPB 87331), Jonesport, Maine
- *Razorbill* (WPB 87332), Gulfport, Mississippi
- *Adelie* (WPB 87333), Port Angeles, Washington
- *Gannet* (WPB 87334), Dania, Florida
- *Narwhal* (WPB 87335), Corona Del Mar, California
- *Sturgeon* (WPB 87336), Grand Isle, Louisiana
- *Sockeye* (WPB 87337), Bodega Bay, California

- *Ibis* (WPB 87338), Cape May, New Jersey
- *Pompano* (WPB 87339), Gulfport, Mississippi
- *Halibut* (WPB 87340), Marina Del Rey, California
- *Bonito* (WPB 87341), Pensacola, Florida
- *Shrike* (WPB 87342), Port Canaveral, Florida
- *Tern* (WPB 87343), San Francisco, California
- *Heron* (WPB 87344), Sabine, Texas
- *Wahoo* (WPB 87345), Port Angeles, Washington
- *Flyingfish* (WPB 87346), Boston, Massachusetts
- *Haddock* (WPB 87347), San Diego, California
- *Brant* (WPB 87348), Corpus Christi, Texas
- *Shearwater* (WPB 87349), Portsmouth, Virginia
- *Petrel* (WPB 87350), San Diego, California
- *Sea Lion* (WPB 87352), Bellingham, Washington
- *Skipjack* (WPB 87353), Galveston, Texas
- *Dolphin* (WPB 87354), Miami, Florida
- *Hawk* (WPB 87355), St. Petersburg, Florida
- *Sailfish* (WPB 87356), Sandy Hook, New Jersey
- *Sawfish* (WPB 87357), Key West, Florida
- *Swordfish* (WPB 87358), Port Angeles, Washington
- *Tiger Shark* (WPB 87359), Newport, Rhode Island
- *Blue Shark* (WPB 87360), Everett, Washington
- *Sea Horse* (WPB 87361), Portsmouth, Virginia
- *Sea Otter* (WPB 87362), San Diego, California
- *Manatee* (WPB 87363), Corpus Christi, Texas
- *Ahi* (WPB 87364), Honolulu, Hawaii
- *Pike* (WPB 87365), San Francisco, California
- *Terrapin* (WPB 87366), Bellingham, Washington
- *Sea Dragon* (WPB 87367), Kings Bay, Georgia (Navy owned)
- *Sea Devil* (WPB 87368), Bangor, Washington (Navy owned)
- *Crocodile* (WPB 87369), St. Petersburg, Florida
- *Diamondback* (WPB 87370), Miami Beach, Florida
- *Reef Shark* (WPB 87371), San Juan, Puerto Rico

- *Alligator* (WPB 87372), St. Petersburg, Florida
- *Sea Dog* (WPB 87373), Kings Bay, Georgia (Navy owned)
- *Sea Fox* (WPB 87374), Bangor, Washington (Navy owned)

65-foot Small Harbor Tug (WYTL)

Built between 1962 and 1967, the small, 65-foot harbor tugs are multi-mission cutters that have the distinction of being used only on the East Coast, from Maine to Virginia. With a crew of six, their primary missions are domestic ice breaking, port security, search and rescue, and law enforcement operations on rivers and in littoral areas. They are capable of breaking ice up to 12 inches thick.

- Length: 65 feet
- Beam: 16 feet
- Displacement: 72 tons full load
- Power plant: One diesel, one shaft, 500 bhp
- Speed: 10 knots
- Range: 850 nautical miles at 9.8 knots; 2,700 nautical miles at 5.8 knots

Vessels in this class:

- *Capstan* (WYTL 65601), Philadelphia, Pennsylvania
- *Chock* (WYTL 65602), Baltimore, Maryland
- *Tackle* (WYTL 65604), Rockland, Maine
- *Bridle* (WYTL 65607), Southwest Harbor, Maine
- *Pendant* (WYTL 65608), Boston, Massachusetts
- *Shackle* (WYTL 65609), South Portland, Maine
- *Hawser* (WYTL 65610), Bayonne, New Jersey
- *Line* (WYTL 65611), Bayonne, New Jersey
- *Wire* (WYTL 65612), Saugerties, New York
- *Bollard* (WYTL 65614), New Haven, Connecticut
- *Cleat* (WYTL 65615), Philadelphia, Pennsylvania

CGC *Hawser*





47-foot Motor Life Boat

BOATS

Coast Guard vessels under 65 feet in length are classified as boats and usually operate near shore, on inland waterways, or attached to cutters. The service has about 1,680 altogether, although the number fluctuates. These craft include heavy weather response boats, special purpose craft, ATON boats, and cutter-based boats. Sizes range from 64 feet in length down to 12 feet. The new emphasis on homeland security has produced a corresponding emphasis on smaller, fast boats such as the Response Boat-Small and Response Boat-Medium. An added capability for the ATON forces is the procurement of new work boats that replaced those that have exceeded their economic service life and are no longer cost effective to maintain. The new boats brought into service are ATON Boat-Small (AB-S), a 20-foot aluminum hull with a range of 70 nautical miles, and ATON Boat-Skiff (AB-SKF), a 16-foot aluminum hull with a range of 50 nautical miles. Both boats are outfitted with standard electrical systems and ample working deck space. Coast Guard boats include:

47-foot Motor Life Boat (MLB)

The 47-foot MLB is primarily designed as a fast-response rescue vessel in high seas, surf, and heavy weather environments. But the unique feature of this boat is that it can self-right in only 30 seconds if knocked over by waves or surf. With state-of-the-art electronically controlled engines, fuel

management systems, and integrated electronics suite, the 47-foot MLB has become the ideal platform for operations in extreme sea and weather conditions. The 47-foot MLBs are planned to undergo refit and renovation under the In-Service Vessel Sustainment (ISVS) project. There are currently 117 MLBs in inventory.

45-foot Response Boat-Medium (RB-M)

The 45-foot RB-M is being procured to replace the 41-foot utility boat (UTB). It is an all-aluminum boat that has a wireless crew communication system and is powered by twin diesel engines and water jet propulsion. Unlike the 41-foot UTB, the RB-M has the ability to self-right if it should ever capsize. This feature allows the RB-M to operate in higher seas, ensuring the crew (and rescued survivors) comes home safely. For example, RB-M's survivability parameters are 12-foot seas and 50 knots of wind, whereas the UTB's limits are 8-foot seas and 30 knots of wind. The RB-M has a top speed in excess of 40 knots and cruises at 30 knots, compared to the 41-foot UTB top speed of 26 knots. All 174 RB-Ms have been delivered.

25-foot Response Boat-Small (RB-S)

Brought into service in 2003 to replace shore-based non-standard boats, the RB-S features a reinforced bow, full shock-mitigating seating, and a large cabin. It can tow up to 10 tons, operate in winds up to 25 knots and seas of up

to 6 feet, and has a range of 150 nautical miles. The second-generation boats (RB-S II) are now in production and will replace the original RB-S classes. The RB-S IIs are 29 feet long and have a range of 220 nautical miles. Approximately 268 RB-S boats are in service.

32-foot Transportable Port Security Boat (TPSB)

Operated by Port Security Units (PSUs), which are composed of Reserve and active-duty personnel, the TPSB provides for defense readiness operations in the United States and when PSUs are deployed overseas. It travels at 43-plus knots, and carries a .50-caliber machine gun and two M60 machine guns. There are 52 in operation.

16- to 64-foot Aids to Navigation Boats

These boats assist in maintaining the nearly 50,000 navigation aids on the marine transportation system. They include the 64-foot Self-Propelled Barge that primarily operates on protected rivers and protected waters; 55-foot aluminum hull that can operate in moderately rough weather in coastal and inland waters; 49-foot Stern Loading Buoy boat that supports the short-range ATON mission; 26-foot Trailerable ATON boat that serves as the workhorse for ATON teams; 20-foot ATON Boat-Small; and 16-foot ATON Boat-Skiff.

18- to 64-foot Special Purpose Craft

The special purpose craft are designed to meet specific mission requirements or provide a capable and safe asset in a unique operating environment. A few of these boats are: 64-foot Screening Vessel; 52-foot Heavy Weather; 42-foot Near Shore Lifeboat; 36-foot Boarding Team Delivery; 33-foot Law Enforcement; 24-foot Shallow Water; skiffs that can be used to support natural disaster response; and ice boats that are used for conducting ice rescues.



25-foot Response Boat-Small

33-foot Special Purpose Craft



14- to 38-foot Cutter-based Boats

The cutterboats provide fast and effective surface capabilities that, in most cases, enable cutters to interdict boats on the high seas and conduct boardings. Included in this asset base are: 38-foot Arctic Survey Boat; 36-foot Long Range Interceptor; 24- to 19-foot Cutterboat-Large; 24-foot ATON-Large; 24-foot and 26-foot Over-The-Horizon cutterboats; 18-foot ATON-Medium; 17-foot Cutterboat-Medium; and 13-foot Cutterboat-Small, just to name a few.

27-foot Utility Boat-Medium

With a closed cabin, these aluminum-hulled boats are used for law enforcement, search and rescue, or ATON missions. They are being replaced by standard boats.

17- to 28-foot Utility Boat-Light (UTL)

With generally an open cabin, these boats are either fiberglass or aluminum hulled and are assigned to ATON cutters and shore units.

AIRCRAFT

The Coast Guard operates 202 fixed-wing and rotary-wing aircraft – airplanes and helicopters – to support its work as a law enforcement arm, a military service branch, and a seafaring service. Nearly all Coast Guard aircraft have some role in homeland security operations, and some are now armed.

The Coast Guard operates its aviation fleet on the principle that it cannot afford a fleet of aircraft intended solely for specialized missions, and has concentrated on aircraft that can carry out a wide range of diversified missions.

HC-144A Ocean Sentry, Medium Range Maritime Patrol Aircraft (MPA)

A medium-range maritime patrol version of the EADS CASA CN 235-300M cargo aircraft, the HC-144A is performing missions previously carried out by the HU-25 fleet as well as surveillance, rescue, and transport roles performed by the HC-130Hs. The HC-144A – equipped with a new command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) suite, radar and EO/IR sensor mission systems pallet – is designed to serve as an on-scene command platform for SAR and homeland security operations and perform transport missions.

The Coast Guard has accepted delivery of 17 Mission System Pallets (MSP), a roll-on, roll-off suite of electronic equipment that enables Ocean Sentry aircrews to compile data from the aircraft's multiple integrated sensors and transmit and receive classified and unclassified information with other aircraft, surface vessels, and shore facilities. With multiple voice and data communications capabilities as well as satellite communications, the MSP contributes to the common tactical and operating pictures.

The HC-144A provides extended on-scene loitering capabilities while also being capable of performing maritime patrol, law enforcement, SAR, disaster-response, and cargo

HC-144A Ocean Sentry





C-37A Gulfstream V

and personnel transport missions. The Ocean Sentry also is capable of maintaining secure communications with the Department of Defense, Department of Homeland Security and allied forces.

The Coast Guard completed planned work under this project with the delivery of its 18th HC-144A in September 2014. Ocean Sentries are currently operating from Coast Guard Air Stations Mobile, Alabama; Cape Cod, Massachusetts; Miami, Florida; and Corpus Christi, Texas. Procurement has ended in light of the acquisition of 14 C-27J Spartans.

- Power plant: Two 1,750 shp (1,305 kW) General Electric CT7-9C3 turboprop engines
- Maximum cruising speed: 236 knots
- Range: up to 2,000 nautical miles (depending on configuration)
- Range with payload: (6,000 pounds) 1,000 nautical miles (cargo configured)
- Max endurance: 11.0 hours
- Maximum takeoff weight: 36,380 pounds
- Dimensions: Length, 70 feet, 2 inches; wingspan, 84 feet, 7 inches

HC-144 Air Stations:

- CGAS/CG Aviation Training Center Mobile, Alabama
- CGAS Miami, Florida
- CGAS Cape Cod, Massachusetts
- CGAS Mobile, Alabama
- CGAS Corpus Christi, Texas

HC-27J Medium Range Maritime Patrol Aircraft

The Coast Guard is integrating 14 ex-U.S. Air Force C-27J Spartan aircraft into its medium-range surveillance aircraft fleet, to work alongside the HC-144A Ocean Sentry. The C-27Js are already outfitted with weather radar and military communications equipment capable of supporting transport and other Coast Guard missions. All 14 aircraft are planned to be modified with a standard Coast Guard fixed-wing Mission Systems Pallet, an integrated surface search radar, electro-optical/infrared sensors, and night vision goggle capability.

- Length: 74 feet, 5 inches
- Wingspan: 94 feet, 2 inches
- Height: 31 feet, 8 inches
- Weight: 70,000 pounds
- Speed: 290 knots
- Range: Up to 2,674 nautical miles
- Endurance: 12 hours
- Ceiling: 30,000 feet



HC-27J Spartan



HC-130H Hercules, HC-130J Super Hercules

C-37A Gulfstream V Command and Control Aircraft

The service operates two Gulfstream V aircraft as its principal command and control transport for senior Coast Guard and Department of Homeland Security officials. On long flights, the C-37A can carry 12 passengers and a crew of four with a range of 6,500 nautical miles, all with considerable fuel efficiency. The C-37A enjoys commonality of parts and supplies with more than a dozen C-37As operated by the other military branches.

- Power plant: Two 14,750-pound thrust BMW-Rolls-Royce BR710-48 turbofan engines
- Max cruising speed: Mach 0.885/459 knots
- Certified ceiling: 51,000 feet
- Range: 5,500 nautical miles
- Gross weight: 90,900 pounds
- Dimensions: Wingspan, 93 feet, 6 inches; length, 96 feet, 5 inches; height, 25 feet, 10 inches

C-37A Air Station:

- CGAS Washington, D.C. (Ronald Reagan Washington National Airport)

HC-130H Hercules and HC-130J Super Hercules, Long Range Surveillance (LRS) Aircraft

The Coast Guard currently operates a long-range turboprop aircraft fleet consisting of 22 HC-130H Hercules and six HC-130J Super Hercules. However, the HC-130H Hercules aircraft are reaching the end of their useful service lives. The Coast Guard conducted a limited sustainment and enhancement project to modernize systems on its HC-130Hs and is continuing with the acquisition of the more capable and cost-effective HC-130J. Under the direction of the Department of Defense Authorization Act for fiscal year 2014, seven HC-130Hs will be transferred to the U.S. Forest Service following modification by the U.S. Air Force. The remaining HC-130Hs will be systematically retired as the HC-130Js are accepted into service.

The HC-130 provides a versatile platform capable of serving as an on-scene command-and-control platform with extended loitering capabilities as well as performing various missions, including maritime patrol, law enforcement, search and rescue, disaster response, and cargo and personnel transport. As a surveillance platform, it provides the critical means to detect, classify, and identify targets. For each of these missions, the information is shared with operational forces capable

of interdicting drugs or migrants, protecting living marine resources, and enforcing economic, safety, and security zones.

The HC-130 uses a powerful multimode surface-search radar and a nose-mounted electro-optical/infrared (EO/IR) device combined with an Airborne Tactical Workstation and military satellite communications capability to improve mission effectiveness.

In 2001, the Coast Guard received funding for the acquisition of six HC-130Js. Full operational capability with missionization was completed in mid-2010. In recent years, the service has received additional funding for five more aircraft, three of which were ordered through the U.S. Air Force in September 2012. These aircraft are scheduled for delivery in early 2016.

- Power plant: (HC-130H) Four 4,910-hp Allison T56-A15 turboprop engines; (HC-130J) four 5,600-hp Rolls-Royce AE2100D turboprop engines driving six-bladed propellers
- Performance: (HC-130H) Cruising speed, 280 knots/ max 320 knots; service ceiling, 33,000 feet; range,

up to 4,300 nautical miles; (HC-130J) cruising speed, 280 knots/max 362 knots; service ceiling, 39,000 feet; range, up to 5,200 nautical miles

- Weight: Maximum gross weight at takeoff, 155,000 pounds; normal max 175,000 pounds (EWP-Emergency War Planning)
- Dimensions: Wingspan, 132.6 feet; length, 99.6 feet; height, 38.6 feet; wing area, 1,734 square feet

HC-130 Air Stations:

- CGAS Sacramento, California
- CGAS Clearwater, Florida
- CGAS Elizabeth City, North Carolina
- CGAS Kodiak, Alaska
- CGAS Barbers Point, Hawaii

MH-60T Jayhawk Medium Range Recovery Helicopter

An all-weather, medium range recovery helicopter similar to the Navy MH-60R and MH-60S Sea Hawk, with roots

MH-60T Jayhawk





MH-65D Dolphin

going back to the Army's basic H-60 Black Hawk transport, the Coast Guard MH-60 is a medium range recovery helicopter that is capable of a variety of missions. The service began to operate the aircraft in 1990 as a replacement to the now-retired HH-3F Pelican. The Coast Guard has 42 MH-60Ts. Jayhawks are crewed by two pilots, a flight mechanic, and a rescue swimmer, and can carry up to six seated survivors. It is capable of limited shipboard operations as well as land-based operations out to 300 nautical miles, with a 45-minute on-scene time.

The MH-60T employs full night-vision-device capability. Primary tactical navigation is accomplished through blended GPS and inertial navigation system receivers. In addition to a rescue hoist – rated for 600 pounds – the Jayhawk is equipped with a heavy-lift external sling with a capacity of 6,000 pounds. The MH-60 carries sensors and equipment for SAR missions, law enforcement, and homeland security missions. Upgrades completed in 2008 providing armed response capability precipitated an airframe designation from HH-60J to MH-60J. The MH-60T is an upgrade of the MH-60J with “glass” cockpit, new electro-optical and infrared sensors, new radar, and upgrades to the engines. All MH-60Ts are equipped with Airborne Use of Force (AUF) capabilities. These upgraded MH-60Ts are expected to serve

until 2027. The final MH-60T conversion was delivered in February 2014.

- Power plant: Two 1,560-shp General Electric T700-GE-401C turboshaft engines
- Dimensions: Rotor diameter: 53 feet, 8 inches; length, 64 feet, 8 inches; height, 17 feet; main rotor disc area, 2,261 square feet
- Performance: Maximum speed, 180 knots; service ceiling, 13,000 feet DA; range, 700 nautical miles
- Weights: Empty, 14,500 pounds; gross weight, 21,884 pounds
- MH-60 Armament: .50-caliber precision fire weapon, M240 7.62 mm machine gun

MH-60T Units:

- CGAS/CG Aviation Training Center Mobile, Alabama
- CGAS Kodiak, Alaska
- CGAS Sitka, Alaska
- CGAS San Diego, California
- CGAS Clearwater, Florida
- CGAS Cape Cod, Massachusetts
- CGAS Elizabeth City, North Carolina
- CGAS Astoria, Oregon



MH-65C/D Dolphin Short Range Recovery Helicopter

The H-65 Dolphin is the Coast Guard's oldest and most numerous current helicopter, dating to the 1980s when it was selected for the short-range rescue mission, and one of the service's first helicopters without the capability to perform water landings.

The H-65 is a short range recovery aircraft. This twin-engine, single-rotor helicopter is certified for all weather and night time operations, but it is prohibited from flying under known icing conditions. The strengths of this aircraft include its speed, flexibility, and integrated electronics package. The H-65 is the Coast Guard's standard shipboard-deployable aircraft and operates from all flight deck-equipped cutters. Navigation inputs are processed through a central mission computer unit, which can generate search patterns from pilot-provided input. This minimizes the attention needed to navigate the aircraft and maximizes search effectiveness. Endurance of the H-65 is limited, with a maximum endurance profile at 75 knots for 3.5 hours. The aircraft can sprint at speeds up to 165 knots for short periods and sustain speeds of more than 140 knots.

An AUF capability was added to all H-65s, resulting in their redesignation as MH-65C. The MH-65C also obtained

SATCOM capability, an integrated EO/IR system, and a night vision goggles (NVG) heads up display (HUD) to help pilots maintain situational awareness during nighttime operations. The MH-65Cs used by Helicopter Interdiction Tactical Squadron (HITRON) Jacksonville, Florida, for counterdrug operations carry an M240 machine gun and an M107 .50-caliber precision fire weapon for disabling fire.

The MH-65D is the result of the latest incremental modernization project, Segment 4 of a six-segment modernization plan, which commenced in August 2010 and will extend the aircraft's service life through 2027. It addresses immediate critical mission degraders as well as replacing additional obsolete subsystems, including the aircraft's navigation system and gyros, with digital GPS and inertial navigation. It adds a new digital Automatic Flight Control System (AFCS), integrated flight deck with sensor display screens, and a robust, effective C4ISR suite. As of October 2014, 80 of the service's 99 H-65s had been modified to Segment 4, or MH-65D standard. Segment 5 will add a secure shipboard handling, securing, and traversing system. Segment 6, which brings the fleet to MH-65E standard, will replace the analog automatic flight control with digital systems, and install digital weather radar and digital glass cockpit instruments, among other modernization upgrades.

Data applies to MH-65C/D.

- Power plant: HH-65C – two 853-shp Turbomeca Arriel 2C2-CG turboshaft engines
- Performance: Maximum speed, 175 knots; cruising speed, 120 knots; operational ceiling, approximately 10,000 feet; range, 375 nautical miles
- Weights: Empty weight, 6,200 pounds; max gross weight, 9,480 pounds
- Dimensions: Main rotor diameter, 39 feet, 2 inches; main rotor disc area, 1,204 square feet; length, 44 feet, 4 inches; height, 13 feet, 4 inches
- MH-65C Armament: .50-caliber precision fire weapon, M240B 7.62 mm machine gun

H-65 Air Stations:

- CGAS Traverse City, Michigan
- CGAS Barbers Point, Hawaii
- CGAS Borinquen, Puerto Rico
- CGAS Atlantic City, New Jersey
- CGAS Corpus Christi, Texas
- CGAS Detroit, Michigan
- CGAS Houston, Texas
- CGAS Humboldt Bay, California
- CGAS Los Angeles, California
- CGAS Miami, Florida
- CGAS/CG Aviation Training Center Mobile, Alabama
- CGAS New Orleans, Louisiana
- CGAS North Bend, Oregon
- CGAS San Francisco, California
- CGAS Port Angeles, Washington
- CGAS Savannah, Georgia
- CGAS Kodiak, Alaska
- HITRON Jacksonville, Florida