NATIONAL REGISTER ELIGIBILITY ASSESSMENT
VESSEL: USS *Glacier* (AGB-4) USCGC *Glacier* (WAGB-4)

USCGC *Glacier* underway circa 1966-1972. Photo courtesy of U.S. Coast Guard.

Vessel History

The former U.S. Coast Guard Cutter *Glacier* is an oceangoing icebreaker that was originally designed and constructed for the U.S. Navy in the mid-1950s. In 1966, *Glacier* was transferred to the Coast Guard. Ingalls Shipbuilding in Pascagoula, Mississippi began constructing the icebreaker in August 1953 and delivered the ship to the U.S. Navy in May 1955. It was named for Glacier Bay, Alaska, and was the fourth ship to carry this name. After its initial shakedown cruise, *Glacier* sailed from its homeport of Boston, Massachusetts as Admiral Richard E. Byrd's flagship bound for the Antarctic as part of Operation Deep Freeze I[1] in late 1955. It reached the

[1] Operation Deep Freeze I was the codename for a series of scientific expeditions to Antarctica in 1955-56. The impetus behind the expeditions was the International Geophysical Year 1957-58. IGY was a collaborative effort of 40 nations to study the North and South Poles and points in between. Their goal was to advance knowledge of Antarctic hydrography and weather systems, glacial movements, and marine life. The U.S. Navy was charged with supporting the U.S. scientists for their portion of the IGY studies.

Ross Ice Pack in December where it smashed through thick ice "carving" out a harbor in Kainan Bay for ships delivering materials, supplies, and labor for the construction of Little America V.[2] After clearing a channel and leading a group of ships to Kainan Bay, *Glacier* headed toward the Ross Ice Shelf to assist in the construction of a naval air station at McMurdo Sound. After opening a channel for the supply ships, *Glacier* conducted both air and hydrographic mapping missions in the Weddell Sea and Vincennes Bay. *Glacier* returned to Boston on May 6, 1956 after successfully completing its first of many Deep Freeze missions.

For the next three decades *Glacier* continued to run yearly operations to the Antarctic and provided a variety of services during the Deep Freeze operations and for the National Science Foundation (NSF), which provided the funding for the logistics and scientific missions used in the United States Antarctic Program (USAP). *Glacier*'s routine operations included clearing channels, mapping and scientific missions, special projects for the Antarctic program, assisting other agencies, and performing search and rescue operations. However, *Glacier*'s main mission was icebreaking, which was crucial to providing vessels access to staging areas to deliver the necessary equipment, materials, people, and provisions. *Glacier*'s annual missions coincided with Antarctica's austral summers (November-March) because the climate was milder, therefore allowing the ship to move closer in to the staging areas near the bases of operation (McMurdo Air Station later became the logistical focal point). After clearing channels, *Glacier* performed other tasks as dictated by its schedule.

"CAPT Smythe on Deck USS *Arneb* with CDR Frazer." (Watching USS *Glacier* break ice in Kainan Bay). Watercolor by Robert Charles Haun, December 31, 1955. Courtesy of U.S. Navy, Naval History and Heritage Command.

[2] Little America was a series of Antarctic exploration bases located on the Ross Ice Shelf. Admiral Richard E. Byrd established the first base in 1929.

During the initial exploratory phase of the Antarctic program, mapping missions were a top priority. Because *Glacier*'s design included a helicopter pad and hangar, mission planners utilized helicopters to assist in mapping Antarctica's uncharted areas. *Glacier* had the unique ability to travel off the coast into uncharted territory and launch helicopters into predefined areas. A photo lab onboard the ship permitted personnel to develop and print film. Another helpful asset included *Glacier*'s sonar and fathometer that allowed it to map the underwater topography and produce hydrographic data, which was later used to produce marine charts of Antarctica's coast.

Equally as important as the mapping missions, were the scientific experiments conducted from the icebreaker. The ship carried science labs, which allowed scientists to study a variety of life in the Antarctic such as observing and recording penguin and seal mammal activities, studying the continent's ecology, and taking ice-coring samples.

The *Glacier* also transported government scientists in order for them to conduct various experiments. In tests conducted between 1957 and 1958, the National Advisory Committee for Aeronautics (NACA), (in 1958 NACA became the National Aeronautics and Space Administration or NASA) used *Glacier* as a launching platform for their "rockoon" tests. Rockoons were balloon-assisted rockets that were released from the ship's deck. When the rockets reached a certain altitude the rocket's engine was ignited. This allowed scientists to gather information for the "Explorer" space satellite program. In the summer of 1958, *Glacier* shifted to the Arctic to help supply the Distant Early Warning (DEW) radar stations that were positioned along the 69th parallel to detect Soviet bombers traversing the North Pole.

Glacier underway. Location and date are unknown. Photo courtesy of U.S. Coast Guard.

Other crucial missions *Glacier* performed were search and rescue (SAR) operations. The Antarctic is one of the most inhospitable places on Earth and when people or ships required immediate assistance, *Glacier* responded. There were many incidents when both foreign and domestic ships became beset in the ice. *Glacier* assisted many vessels by breaking channels and freeing trapped vessels, sometimes traveling hundreds of miles to reach them. SAR missions also required *Glacier*'s crew to aid injured sailors. The ship housed an operating room and berthing spaces for a surgeon and a dentist because of prolonged missions to isolated areas. *Glacier*'s crew assisted many injured sailors with procedures ranging from root canals to appendectomies.

Although *Glacier* assisted many distressed vessels, it also encountered its own difficulties. To prevent the ship from becoming beset in the ice, *Glacier*'s crew employed the ship's helicopters to survey ahead and spot leads in the ice. There were some occasions when the helicopters worked to no avail, the ship's heeling system failed, and the vessel became imbedded in the ice. This occurred in 1970 when the Argentine icebreaker *General San Martin* contacted the *Glacier* for assistance after the ship became trapped in the frozen Weddell Sea. While traveling to the stranded ship, *Glacier* also became trapped and was stuck from February 23, to March 5. The ice eventually released *Glacier* and it was able to free *San Martin*.

Other hazards occurred after the ship ran aground in uncharted waters around Antarctica, which happened on more than one occasion. *Glacier*'s crew also had to be on constant alert because large ice chunks frequently damaged the ship's propellers by bending and breaking the blades.

Left: "USS *Glacier* Breaking Ice," Robert Charles Haun Oil on canvas, 1956.
Right: "Supplies and Homes Building Up at Little America," Robert Charles Haun, Oil on canvas, 1956. Courtesy of the U.S. Navy, Naval History and Heritage Command.

Each year *Glacier*'s crew prepared for its annual re-supply of the Antarctic bases. The biggest challenge was preparing the ship and crew for extended periods at sea. Crew morale was a priority because of the long separation from family and friends. Different activities were planned throughout the tour such as movies and popcorn, games, and communication home via a ham radiotelephone. Another means of occupying their time included training for service wide exams, drills, and reading books from the ship's well stocked library. Finally, ports of call provided the crew with a short vacation in exotic locations such as Cape Town, South Africa, Montevideo, Uruguay, and Rio de Janeiro, Brazil.

The *Glacier* underwent many changes in its long career. The most significant was the title transfer from the U.S. Navy to the U.S. Coast Guard on June 30, 1966. On May 7, 1965, Defense Secretary Robert S. McNamara approved the transfer of five navy icebreakers (the navy's entire icebreaking fleet) to the Treasury Department and the Coast Guard assumed responsibility for all icebreaking missions. Other minor alterations included the removal of its five-inch/38 caliber dual-purpose guns and the hull's color change from white to red in 1972 so helicopter crews could better distinguish the ship against the back drop of ice and snow. The addition of women on board was another significant change; the first female scientist boarded in 1973 and the first female crewmembers served onboard in 1980.

The *Glacier*'s long career spanned over three decades and its role proved critical to the development and support of the bases in the Arctic and Antarctica, most notably the missions supporting Operation Deep Freeze. When the *Glacier* began service, it was the most powerful icebreaker in existence and proved its worth many times over such as when it made the earliest and longest penetration into Antarctica's ice field. The *Glacier* also demonstrated its value in mapping Antarctica (both aerial and underwater) using helicopters and sophisticated equipment. SAR missions saved many ships and personnel from the perils of the polar environment and when necessary, *Glacier*'s medical staff tended to both foreign and domestic sailors.

The Coast Guard decommissioned *Glacier* on July 7, 1987, and the ship entered the Maritime Administration's Suisun Bay Reserve Fleet on October 3, 1991 where it remains today awaiting final disposition.

USCGC *Glacier* clears a channel in Winter Quarters Bay to reach the McMurdo Station Antarctica.
http://fr.wikipedia.org/wiki/Fichier:USCGC_Glacier_nearing_the_ice_pier.jpg

Historic Context

In the nineteenth century, steam-powered vessels with reinforced wooden hulls were used for ice breaking in the U.S. The first vessel used for this purpose was in Philadelphia in 1837. The *City Ice Boat No. 1*, a wooden paddle steamer, cleared the path for vessels steaming up the icy Delaware River to deliver their goods to Philadelphia. Icebreaking operations continued to be performed seasonally at the local level to clear channels leading to major east coast ports. It was not until the U.S. purchased Alaska from Russia in 1867, that the U.S. government, through its Revenue Cutter Service (1790-1915),[3] began to perform icebreaking operations. The Revenue Cutter *Lincoln* was the first cutter to operate in Alaskan waters and *Lincoln* made three voyages

[3] The U.S. Coast Guard received its present name in 1915 under an act of Congress when the Revenue Cutter Service merged with the Life-Saving Service. The nation then had a single maritime service dedicated to saving life at sea and enforcing the nation's maritime laws.

to the new territory prior to 1870. Several other notable Revenue Service Cutters operated in the territory of Alaska and around Greenland in the last part of the century.

The Revenue Cutter *Bear* was one of the most notable. At nearly 200-feet in length, the steam barkentine was heavily built, with six-inch thick oak planks, reinforced with heavy steel plating, which allowed the ship to move through ice. From its launch in Dundee, Scotland in 1874 until 1884, *Bear* travelled annually to the Arctic sealing grounds. In 1884, *Bear* steamed to the Arctic to rescue the surviving members of the Greely Arctic Expedition that became trapped there for three years.

Russia, where icebreaking was essential, was already developing icebreaker technology by the turn of the century. The Russian vessel *Yermak* (also spelled *Ermak*), is considered to be the world's first true icebreaker. Launched in 1898, *Yermak* was nearly 320-feet in length with a beam measuring nearly 72 feet. This powerful vessel operated until 1964 with Russia's Imperial Navy, the Soviet Union's Navy, and the Soviet merchant marine. Nineteen years later, the Russian icebreaker *Krassin* became the world's most powerful icebreaker. Its revolutionary design in 1917 includes three decks, is nearly 328-feet in length, with a beam measuring over 70 feet and a displacement of 10,000 tons. The total capacity of it steam engines is more than 10,000 horsepower and the vessel is capable of breaking ice more than 16 feet thick. Today, *Krassin* is a floating museum in Saint Petersburg, Russia. In 1933, another revolutionary design, the Swedish icebreaker *Ymer,* became the world's first diesel electric icebreaker.

While the U.S. did not experience prolonged periods of extreme cold like Russia or Sweden, clearing seasonal ice from harbors and channels was vital for sea-borne commerce. From the late 1800s, through the mid 1930s, the Revenue Cutter Service, and later the U.S. Coast Guard, performed these duties in addition to operating in the Arctic. In 1929, the Coast Guard Cutter *Northland* replaced the *Bear*. *Northland* was 216-feet in length, with a displacement of over 2,000 tons, and was powered by twin-diesel electric engines providing up to 1,000 hp. Its hull was welded steel with reinforced sides, and the ship was subdivided into water-tight compartments. It had a sailing rig in the event that its engines failed. After operating in Alaskan waters for nine years, in 1938, *Northland* shifted its operations to the Atlantic and Greenland theatres.

It was not until 1936 when President Franklin D. Roosevelt issued Executive Order No. 7521, directing the Coast Guard "… to assist in keeping open to navigation by means of ice-breaking operations, in so far as practicable and as the exigencies may require, channels and harbors in accordance with the reasonable demands of commerce; …" that the service begin to seriously study icebreaker technology. Between 1936 and 1941, the Coast Guard developed several classes of vessels that performed icebreaking duties such as the 110-foot *Raritan* class in 1939, and the 180-foot *Cactus* class in 1941. However, it was not until World War II that the United States began building and operating seagoing icebreakers. Prior to this period, there were no vessels built specifically for this purpose. In addition to domestic icebreaking operations,

countries also saw the importance of polar exploration for scientific, military, and commercial interests.

Beginning in 1936 until just before the U.S. entered WWII, Coast Guard Lieutenant Commander Edward Thiele traveled to northern Europe where he collected information on the icebreakers in use there. The major concern was the need to keep channels open into America's newly established bases on Greenland's east coast. In the fall of 1941, the U.S. requested the loan of the Russian icebreaker *Krassin* for this purpose. The Russians agreed and sent the ship to Seattle. It was moved to the east coast and placed in the Coast Guard shipyard in Curtis Bay, Maryland for repairs; however, the Coast Guard never used the ship and in late November 1941, Russia terminated the loan and the ship was returned.

Using the information assembled by Thiele and with data garnered from studying the *Krassin,* the Coast Guard began construction of a series of 269-foot icebreakers. The ships were designed by the New York firm of Gibbs & Cox, and built by Western Pipe & Steel Co. of Los Angeles. The *Wind* class would become the first true icebreakers built by the U.S. These included the following vessels: *Staten Island* (WAGB-278), *Eastwind* (WAGB-279), *Southwind* (WAGB-280), *Westwind* (WAGB-281), and *Northwind* (WAGB-282). The *Burton Island* (WAGB-283) and *Edisto* (WAGB-284) were first built for the U.S. Navy and originally classified as AG-88 and AG-89 respectively. In 1949 their designation was changed to AGB-1 and AGB-2 respectively.

The Coast Guard Cutter *Mackinaw* (WAGB-83) was the last of the heavy icebreakers built during the war years and it was built specifically to operate on the Great Lakes. Thiele referred to *Mackinaw* as a "squashed down" version of the *Wind* class; however *Mackinaw* was larger than that class but had a shallower draft. Its hull was constructed from mild steel versus high-tensile steel because the ship operated in fresh water.

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When *Glacier* was built in 1955, it became the world's most powerful icebreaker until the 399-foot Coast Guard Cutters *Polar Star* (WAGB-10) and *Polar Sea* (WAGB-11) were built more than two decades later. The Coast Guard Cutter *Healey* was added to the fleet in November 1999 and is the Coast Guard's newest and most technologically advanced icebreaker. All three vessels currently operate in the Arctic and Antarctic serving science and research as well as providing supplies to remote stations, continuing to carry out the many missions of their predecessors.

Description/Principal Characteristics of Vessel

Type:	Icebreaker
Builder:	Ingalls Shipbuilding Corporation, Pascagoula, Mississippi
Year:	1953
Sister Ships:	None
Location:	Suisun Bay Reserve Fleet, Benicia, California
Length:	309.8'
Beam:	74.4'
Draft:	28.3'
Displacement:	8,449
Speed:	17 knots

Glacier represents a single ship class and was America's largest and most powerful icebreaker until the construction of the U.S. Coast Guard's *Polar*-class vessels in 1976. *Glacier* was 41 feet longer than the *Wind*-class icebreakers with nearly double the horsepower. Its propulsion system is diesel-electric. When *Glacier* was built, its Westinghouse D.C. motors were the largest ever used in a ship and its twin Fairbanks-Morse engines constituted the most powerful diesel power plant of any vessel built in the U.S.

Glacier was constructed out of high-tensile steel and its all welded double hull was reinforced with 1-5/8" steel plating. The outer shell plating is heavier in order to break through, or ride up onto ice that is over 20 feet thick. The two layers of plating are joined by struts and by transverse or longitudinal bulkheads, which create tanks used to store fuel or water ballast. If the ship became locked in ice, water could be pumped from one side to the other to create a heeling motion to assist in freeing the ship. The pumps were capable of transferring approximately 350 tons of water between tanks in 85 seconds.

The *Glacier* has a standard icebreaking bow that allows it to ride up on the ice and crack it with its weight. The ship was built with a notch in the stern to eliminate any gap between vessels while towing in heavy ice. The wide wheelhouse has small windows to reduce heat loss and the glass is heated electrically to keep them free of ice or fogging. The ice lookout/conning station are insulated and fitted with similar windows and is accessible by a ladder within the mast.

As a naval vessel, *Glacier* had living quarters for a crew of 339. After the transfer to the Coast Guard, it carried a crew of 241, in addition to scientists when it supported polar research missions. It carried a complete hospital, including a dental clinic and x-ray spaces. The *Glacier* was designed with a cargo hold forward in order to deliver supplies to bases when ice conditions made it impossible for other ships to reach them. It was built with a helicopter pad aft and a helicopter hanger abaft the stack.

The construction of the *Wind* class assisted naval architects in *Glacier*'s design and the ship boasted an impressive array of machinery and new concepts.

The machinery spaces contained an assortment of equipment. Engineers placed 10 engines in two engine rooms; the Fairbanks-Morse (12-cylinder opposed-piston) diesel engines were rated at 2,400 horsepower each. Connected to the engines were 10 Westinghouse generators that produced a 900-volt DC current. The generators powered two Westinghouse motors rated at 10,500 horsepower that drove two 17-1/2 foot propellers. The aft steering compartment housed electric-hydraulic steering rams manufactured by Western Gear Works.

Naval architects chose diesel-electric propulsion over direct drive or clutched diesel engines for two important reasons: maneuverability and compartmentalization. Diesel-electric eased control between forward and reverse (icebreakers normally run into thick ice and have to back up and ram the ice to break it apart). Diesel-electric engines also benefit from not having alignment problems between the engine and shaft, which adds to better compartmentalization or watertight integrity.

Four service generators and one emergency auxiliary supplied auxiliary power for the ship. Although the main motors used DC power, the rest of the ship used AC power. The four primary generators were on the hold level in three separate compartments. In the generator room, there were four 300-kilowatt Fairbanks-Morse diesel generators and one 200-kilowatt Westinghouse diesel emergency generator that provided the ship with auxiliary power for multiple units: electronics, lighting, the galley, pumps, refrigeration, and steering.

The heeling tanks were another significant feature on the *Glacier*. Naval architects borrowed the concept from the Swedish icebreaker *Ymer*. When beset in ice, the ship could draw 320 tons of seawater into its heeling tanks and transfer the water back and forth through four powerful pumps. The rocking motion would shift the vessel 10 degrees off center every 85 seconds until it "wiggled" off the ice. Additionally, fuel could be stored in the heeling tanks adding to its immense capacity. These systems were not new or novel; they had been incorporated into the *Wind* class vessels and the Coast Guard icebreaker *Mackinaw* during World War II.

Icebreaking was *Glacier*'s primary mission, but it was sometimes required to tow a vessel through ice. The ship housed a large and powerful towing winch in a space aft on the main deck; an Almon-Johnson constant tension-towing winch with a maximum pull rating of 80,000 pounds. When the crew employed the winch, the cable went through a towing bit that contained a series of pullies that helped maintain the direction of the cable and reduced friction. The stern had a padded rubber notch at the end of the ship to pull another vessel in close during a towing evolution.

To assist in its polar missions to re-supply the American base at McMurdo, naval architects incorporated cargo booms and a helicopter hangar into their design. Near the bow were two cargo booms on the port and starboard sides that could lift intermediate objects weighing up to

2,000 pounds. Naval architects placed two stronger cranes on the port and starboard side, aft beside the helicopter hangar, which could lift objects weighing up to 25,000 pounds. The onboard hangar (which was also heated) stored two helicopters that were used to transport crew, cargo, and for reconnaissance and mapping.

From the bridge, the crew operated the ship and navigated it through the ocean and polar ice. The navigation bridge housed an assortment of electronics (radios, GPS, Loran-C, fathometer, and radars) and the helm used to pilot the ship. A gyro repeater and compass provided bearings for navigation and the gyrocompass was located on the third deck. On the bridge, throttles regulated the speed of the ship through a series of linkages that were connected to the main engines. The same system applied to the helm and the steering gear. Aft of the bridge was a combat information center (CIC) and a space that handled ice reconnaissance and operations.

Atop the bridge was a flying bridge and a mast containing an aloft conning tower. Designers placed the Mark 56 gun director on the flying bridge to aid in fire control for the twin 5"/38 dual-purpose guns on the bow. The mast housed an assortment of electronic equipment that connected to the bridge equipment. Additionally, the mast contained a conning tower capable of holding two crewmembers, heated and enclosed to protect them from the harsh elements of the weather. Engineers also created controls in aloft conning station connected to the propulsion motors.

Glacier was constructed during the Cold War so the navy equipped the ship with additional armament. In addition to the 5"/38 caliber guns, the navy placed six 3" twin guns in various places around the ship and four 20-mm anti-aircraft guns. When the U.S. Navy transferred the *Glacier* to the U.S. Coast Guard, the Coast Guard removed the armament at different stages in its career and replaced them with smaller caliber weapons.

Beneath the bridge (02 level) were the living quarters and cabin for the captain and an extra space for a flag officer. These spaces shared a common bathroom and shower. In the commanding officer's cabin was a sitting area and mess table, as well as a private galley. The *Glacier* had the ability to carry a unit commander (flag officer) on board to direct a task force of ships within an operation.

The main deck contained storerooms, the mess halls and galley, lounges, berthing, and work spaces. The ship's bow contained an assortment of storerooms for clothing and parts and an exchange. Aft of the storerooms was the crew's mess and aft of the crew's mess was the galley located on the centerline. Off the portside of the galley was the officer's ward room and lounge, and aft of that were spaces for senior officers, which included the executive officer, operations officer, and aviator officer. Off the starboard side of the galley was the chief petty officer's mess. Just aft of their mess was their berthing spaces. Aft of the berthing spaces was a crew's lounge and a ship's library (starboard side). On the opposite side (port) were engineering work spaces.

In between these two spaces were machinery and scientific work spaces. Scientific labs comprised the aft end of the main deck and their offices consisted of dry labs (starboard), biological and geophysical, and wet labs (port), physical and chemical. The *Glacier* had the ability to carry up to 20 scientists while underway.

Located on the second deck were storerooms, quarters for the crew, and machinery spaces. The bow held storage areas and a storeroom. Aft of the storage spaces was half of the berthing area of the enlisted crew, heads, and a recreation space. Officer country was in between the heeling tanks and their small staterooms were either single or double bunks. Behind the officer's berthing was the other half of the enlisted crew's berthing space. Another oceanographic room, complete with a winch and assorted equipment for taking coring samples of the ice, was in the aft section of the ship and the steering space was in the lazarette.

The dry provisions and reefers for the vegetables and meat were stored in the forward section of the ship on the third deck. Naval architects allocated generous spaces for the supplies because the *Glacier* missions were longer compared to other ships – its longest cruise on record was 217 days during Operation Deep Freeze 1963 and its shortest was 128 days during Operation Deep Freeze 1980 and 1981. The *Glacier* normally carried enough supplies to last six months – longer cruises required the ship to re-supply.

To the rear of the reefers was a mixture of storage and machinery spaces. The gyroscope and emergency gyro were just aft of the reefers. Additional spaces for storing linens, laundry equipment, tools, as well as electrical shops and a post office comprised most of the area. The main motors were just aft of these spaces and their immense size filled in most of the space – each motor had a diameter of 15 feet and weighed 108 tons each. Due to the large size of the motors, designers incorporated two doors in the forward end bells of each motor so mechanics could conduct maintenance – the immense size of the brush rigging inside the housing prevented the rotation of the brushes and the openings allowed the mechanics inside to clean.

Glacier's endurance validated the work of the naval architects and the shipyard. It was a self-contained ship providing many services because supply bases were distant from its areas of operation. The ship's design allowed it to break ice up to 20 feet thick and travel for extended periods. Habitability influenced designers to create top-of-the-line crew's quarters and facilities, as well as new fiberglass thermal insulation instead of using cork as in previous designs. The equipment and storage aboard allowed the crew and scientists to direct all of their efforts toward their missions in the Antarctic and at the bases located there.

Integrity of Characteristics/Features

Glacier was originally constructed in 1955. The icebreaker did not undergo any major modifications during its service life. Its hull, originally navy gray, was painted white after its transfer to the Coast Guard; in 1972 the Coast Guard painted it red to be more easily identified while working in the stark environment of the Arctic and Antarctic. After the navy transferred the *Glacier*, the Coast Guard removed the armament at different stages in its career and replaced it with smaller caliber weapons. The vessel's physical integrity is degraded and the vessel's overall condition is poor. It has been at the Suisun Bay Reserve Fleet for nearly 20 years.

Statement of Significance

The *Glacier* served for 32 years, beginning in 1955 as the USS *Glacier* and is the last remaining vessel from the U.S. Navy's icebreaking fleet. It served the U.S. Navy for 11 years before the Coast Guard acquired the ship on June 30, 1966. It remains notable as a polar icebreaker, making 29 deployments to the Antarctic and 10 to the Arctic. *Glacier* also proved critical in establishing permanent American bases in the Antarctic, the first constructed during Operation High Jump (1946-1947), and assisting with the yearly logistical re-supply of the bases, which are currently still in operation. It is also notable for its association with Admiral Richard E. Byrd, serving as his flagship to the Antarctic in 1955.

National Register Eligibility Statement

Glacier played a crucial role during the period of U.S. polar exploration and in the establishment of permanent U.S. bases in Antarctica, making the ship eligible under Criterion A. Its close association with Rear Admiral Richard E. Byrd, the pioneering naval aviator, polar explorer, and Medal of Honor winner, qualify it as eligible under Criterion B. The ship is also significant under Criterion C in that the vessel represents a "significant and distinguishable entity" as the only ship both designed by and built for the U.S. Navy for the specific purpose of icebreaking, and it was the largest and most powerful of its kind for more than two decades.

Date: January 14, 2011
Determination: ELIGIBLE

Sources

Brouwer, Norman. *Glacier* Ship History. 2006.

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