

NATIONAL HISTORIC LANDMARK NOMINATION

NPS Form 10-900

USDI/NPS NRHP Registration Form (Rev. 8-86)

OMB No. 1024-0018

USS SLATER (DE-766)

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United States Department of the Interior, National Park Service

National Register of Historic Places Registration Form

1. NAME OF PROPERTY

Historic Name: USS SLATER (DE-766)

Other Name/Site Number:

2. LOCATION

Street & Number: 141 Broadway

Not for publication:

City/Town: Albany

Vicinity:

State: New York County: Albany Code:

Zip Code: 12202

3. CLASSIFICATION

Ownership of Property

Private: X

Public-Local: ___

Public-State: ___

Public-Federal: ___

Object: ___

Category of Property

Building(s): ___

District: ___

Site: ___

Structure: X

Number of Resources within Property

Contributing

1

1

Noncontributing

___ buildings

___ sites

___ structures

___ objects

___ Total

Number of Contributing Resources Previously Listed in the National Register: 1

Name of Related Multiple Property Listing:

Designated a National Historic Landmark

MAR 02 2012

by the Secretary of the Interior

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4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ____ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria.

Signature of Certifying Official

Date

State or Federal Agency and Bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.

Signature of Commenting or Other Official

Date

State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

- ___ Entered in the National Register
- ___ Determined eligible for the National Register
- ___ Determined not eligible for the National Register
- ___ Removed from the National Register
- ___ Other (explain): _____

Signature of Keeper

Date of Action

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6. FUNCTION OR USE

Historic: DEFENSE

Sub: naval facility (ship)

Current: RECREATION AND CULTURE

Sub: museum

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: OTHER: Ship

MATERIALS:

Foundation:

Walls:

Roof:

Other: Steel

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Describe Present and Historic Physical Appearance.**Summary Paragraph**

The destroyer escort USS *Slater* (DE-766) is nationally significant for its outstanding associations with American naval strategy and operations during World War II (Criterion 1) and as a rare and extraordinarily intact example an important class of mass-produced warships designed for convoy protection (Criterion 4). Destroyer escorts were a vital component of the Allied victory during World War II and their design and construction exemplified advancements in technology and wartime mobilization in the face of unprecedented and immediate demands for well-armed naval escorts. By protecting convoys of supply ships crossing the Atlantic and Pacific Oceans, the rapidly-built destroyer escorts safeguarded the movements of men and material throughout the world, which in turn defeated the Axis. Today, the Cannon class *Slater* is by far the best preserved example of a World War II destroyer escort in the nation and the world. It retains exceptional integrity to its World War II naval service, and as such, serves to represent the basic design and technology of the entire fleet of 563 destroyer escorts.

The USS *Slater* (DE-766) is a Cannon class destroyer escort, an all-steel, welded vessel built in 1944 in Tampa, Florida. The ship is 306'-long, 36'-wide at the beam, and is divided into several decks and dozens of watertight compartments. The ship was named for Frank O. Slater of Alabama, a sailor who was killed on the USS San Francisco (CA-38) during the Naval Battle of Guadalcanal and posthumously awarded the Navy Cross for gallantry in action. The *Slater* served in the United States Navy during World War II before being transferred to the Greek Navy in 1951. Since returning to the United States in 1993, the *Slater* has undergone a sixteen-year restoration to its 1945 configuration. Most of the ship has been restored, with post-World War II Greek equipment removed and original World War II electronics and equipment reinstalled. Each restored compartment has been furnished with period uniforms, life jackets, helmets, books, manuals, and personal items that were on the ship when in US service, 1944-1947. The *Slater* is in excellent condition, retains nearly all of its World War II integrity, and is one of the most authentically-restored historic ships in the United States.

Physical Description

The USS *Slater* (DE-766) is maintained as a museum and is currently berthed in the Hudson River in Albany, New York. Commissioned in 1944, the Cannon class destroyer escort measures 306' in overall length, 36'8" in beam, and 8'9" in draft. The welded-steel ship displaces 1,523 tons and retains a largely unaltered World War II profile and deck layout. The *Slater* retains her original twin diesel-electric propulsion units and her 1945 armament. The ship's command quarters, crew quarters, galley, engineering spaces, and storage compartments remain, with minor exceptions, intact from her service in World War II.

The USS *Slater* features a narrow, elongated hull with a sharp, nearly plumb bow, flat floors, hard bilges, and nearly vertical sides. Twin propellers and shafts project aft below the hull where they are supported by struts. Twin rudders project beneath the stern of the ship immediately aft of the propellers. A sonar dome projects beneath the keel approximately twenty-five feet aft of the bow. Above the waterline, the ship is configured with a continuous main deck with a pronounced upward sheer toward the bow. This deck supports a superstructure extending approximately one-half the length of the ship. The forward end of the superstructure rises an additional four decks and houses the command spaces. A steel mast, raked slightly aft, rises to a height of approximately ninety-four feet immediately aft of the bridge structure. The mast supports its original yard, one original platform and two platforms of undetermined dates. A single mid-ships funnel, also raked aft, rises approximately twenty-five feet above the top of the main deck superstructure. A short mast is located well aft of the funnel.

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The ship is divided by bulkheads and decks into a series of cabins and spaces above and below the main deck. Below decks, the mid-ships area is occupied by four large engineering spaces containing engines, generators, uptakes, motors, and circuit boards. These areas occupy the entire space between the floors and the main deck with circulation provided by a series of catwalks and ladders. The two main propulsion plants each consist of twin-mounted, 16 cylinder General Motors diesel electric engines, twin DC generators and two tandem electric motors; two service generators and two emergency generators are also mounted in this area. Two boilers and one evaporator used to provide heat and hot water were removed while in the service of the Greek Navy.

The ship is rated at 6,000 hp and capable of sustaining a cruising speed of 12 knots, and a top speed of 20.2 knots. With the exception of the loss of the two boilers and one evaporator, the engineering spaces retain their World War II integrity. For example, bakelite plates on the circuit boards, labeled in Greek after the transfer of the ship to the Greek Navy in 1951, were found to retain their original English markings on the reverse surfaces. The majority of the gauges, indicators, switches, and valves in these areas appear to date from the ship's initial construction as well. Fuel tanks with a capacity of 316 tons are located in the ship's double-bottomed floors fore and aft of the engineering spaces.

Forward of the engineering spaces, the below decks area of the hull is divided horizontally by three decks. Proceeding aft from the bow, the forepeak area contains boatswain stores, a windlass compartment, chain locker, and sonar compartments. Farther aft, the second deck contains living quarters for the ship's chief petty officers and crew quarters. The third deck contains storage compartments, the gyro room, and a magazine. Additional storage compartments are located below this deck. Aft of the engineering spaces, the below decks area is divided into two decks. The second deck includes crew quarters and a steering compartment in the stern. Steering of the twin rudders is controlled by linked rudder heads and hydraulic steering apparatus that can be operated remotely or directly if needed. Storage compartments, magazines, and shaft tunnels are located below this deck.

Main deck compartments from bow to stern include the officers' staterooms, the wardroom, the galley, the machine shop, and crew washrooms. The 01 deck houses the captain's cabin and the radio shack. This deck is open aft of the mast and features small, non-historic extensions near the after end of the deck installed to support modern homing torpedo tubes which have since been removed. The 02 deck includes the bridge at the forward end and a chart house aft. The 03 deck serves as an open or flying bridge and served as the location for the rangefinder and gun director. Many of the compartments on the main deck and above are provided with round portholes, including the bridge.

The *Slater's* main guns, antiaircraft guns, and depth charge systems are deployed from bow to stern as follows: one 3-inch gun near the bow on the main deck; hedgehog forward-throwing mortar system on the main deck immediately aft the 3-inch gun; one 3-inch gun mounted on the 01 deck immediately above and aft of the hedgehog; port and starboard twin mounted 20-mm antiaircraft guns on the 01 deck immediately aft of the 3-inch gun; one twin mounted 20-mm antiaircraft gun on the bridge deck immediately forward of the bridge; port and starboard twin mounted 20-mm guns on platforms raised above the main deck superstructure aft of the funnel; port and starboard twin-mounted, 20-mm guns on the main deck superstructure aft of and adjacent to the raised 20-mm guns; port and starboard twin-mounted, 40-mm antiaircraft guns added in 1945 in place of the original three torpedo tubes; one twin mounted 40-mm gun at the aft end of the main deck superstructure; one 3-inch gun on the main deck aft of the superstructure; port and starboard 20-mm guns on the main deck near the stern and port and starboard depth charge racks at the stern. Six of the ship's eight depth charge projectors and roller loaders survive, mounted four on the starboard side and two on the port side adjacent to the aftermost 3-inch gun tub.

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The *Slater* is fitted with two stockless anchors, search lights adjacent to the bridge, a 26-foot long wooden whaleboat, mounted forward of the funnel, two boat davits on the starboard side forward of the funnel, and a dummy gun mount amidships used to train crews in handling 3-inch ammunition. The whaleboat is itself a uniquely preserved historic artifact and has been restored to full operation. A twelve-foot high jack staff is mounted above the large chock in the bow of the ship, and a similar flagstaff is mounted directly above the stern. Railings consist of steel stanchions with wire cables except amidships on the main deck where they are formed by a steel bulwark.

Integrity

The destroyer escort USS *Slater* remains afloat and is the best extant representative of an important class of World War II warship in the United States. The *Slater* is berthed in the Hudson River in downtown Albany, New York, not far from her World War II home base at the Brooklyn Navy Yard.

The *Slater* also retains its material integrity. The ship is constructed entirely of welded steel. In places where the original plating has deteriorated, the steel is cropped and replaced with new steel plates welded in place. The *Slater's* volunteers, several of whom have extensive experience with ship construction and repair, preserve the workmanship of the original shipbuilders. Moreover, much of the welding required during restoration is performed using the ship's original welding equipment, which has been returned to working order. The ship's original diesel engines, generators, motors, and control panels are intact and retain the possibility of being restored to operating condition in the future.

Restoration of the USS SLATER

The AETOS was awaiting disposal in Souda Bay, Crete, when it was granted a new lease on life by the members of the Destroyer Escort Sailors Association (DESA). In 1993, the Board of Directors of DESA voted for and established a new organization, the Destroyer Escort Historical Foundation. This foundation was incorporated as a not-for-profit educational corporation, allowing anyone with an interest in preserving destroyer escort history to join. DESA was charged with maintaining and operating a preserved destroyer escort should one be found. Several DESA Board members took on roles in the new organization.

The then 15,000 members of the Destroyer Escort Sailors Association raised \$290,000 to rescue the USS *Slater* and bring it home from Greece. The Greek navy deeded the ship to DESA, and the group raised the funds necessary to insure the ship and tow it to New York. In 1993, the rusty hulk of a ship started its journey from the port of Crete and arrived safely in New York Harbor with the assistance of a Ukrainian ocean-going tug. The *Slater* was berthed adjacent to the Aircraft Carrier USS *Intrepid* at the Intrepid Sea-Air-Space Museum. Local volunteers began the enormous task of restoring the *Slater* to its original condition. The enclosed flying bridge was uncovered. All decks and bulkheads were chipped, primed, and painted with thousands of gallons of fresh paint. Restoration work in New York City ended in 1997 and the *Slater* was transferred up the river to its permanent home in Albany, New York.

With the relocation of the ship to Albany, the organization was reincorporated as the Destroyer Escort Historical Museum and granted a provisional charter by the New York State Department of Education. Restoration work continued with more than one-hundred local volunteers. Many exterior restoration projects have been completed since the ship arrived in Albany. Work on the mast includes the removal of Greek postwar radar platforms and the installation of the original style air search and surface search radar antennae,

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the installation of all the original radio antennas and insulator supports, and the installation of the original bull horn loud hailer.

Restoration on the flying bridge includes the installation of the sky lookout chairs, a missing depth-charge lever, reconstruction of the companionway, deck grating, windshield, and all missing instrumentation. Work on the bridge level includes reinstallation of two 24" searchlights, a missing porthole, the 12" signal lamps, and the missing windshield wipers. Restoration work on the superstructure level includes fabrication of four missing floater net baskets, fabrication and installation of the missing forward life raft racks, installation of five replica life rafts, and replacement of the missing secondary conning binnacle.

Main deck restoration includes removal of two postwar Greek davits on the port side, installation of missing depth-charge projectors, fabrication of three missing roller-loader racks to support the depth-charge projectors, and fabrication of the missing port depth-charge rack on the stern. Additionally, all the existing armament and equipment have been restored and are maintained in excellent condition. Finally, the *Slater's* wooden motor whaleboat has been restored to operation. It is the last functioning example of a 26-foot motor whaleboat built for the United States Navy. To date, *Slater's* volunteers have contributed more than 260,000 working hours towards the restoration of the ship.

The Destroyer Escort Historical Museum is currently working on plans to dry dock the *Slater* to carry out maintenance and repair of the ship's hull. Although the hull is generally in good shape, there are areas where the ship's original quarter-inch hull is thinning. The museum is also working towards a permanent mooring facility in Albany, New York. Currently, the *Slater* is towed each winter just south of Albany to avoid ice damage in the Hudson River. The planned mooring facility includes an ice deflection barrier that will make the *Slater's* docking facility useable year round. Such a facility would remove the dangers inherent in towing the ship twice a year.

The *Slater* maintains exceptional integrity retaining her World War II design and appearance. The ship's armament underwent several changes over the course of its active service from 1944 to 1945. As originally outfitted, the ship mounted three 3"/50 guns, one hedgehog projector, one twin 40-mm machine gun, ten 20-mm machine guns in single mounts, three torpedo tubes, two depth charge racks, and eight depth-charge projectors. During the course of World War II, the *Slater's* torpedo tubes were replaced by four single mount 40-mm anti-aircraft guns, which were in turn replaced in 1945 by two twin mount 40-mm guns. In addition, the ship exchanged its ten single 20-mm guns for eighteen 20-mm guns in twin mounts. Upon its donation to the Greek Navy in 1951, the *Slater* received numerous modifications, the most dramatic of which was an enclosure mounted above the open flying bridge. The Greek navy also removed one depth-charge rack and four depth-charge projectors from the *Slater's* stern. The missing depth-charge rack and two of the four missing depth-charge projectors have been reinstalled on the ship since it arrived in Albany. When the *Slater* returned to the United States in 1993, volunteers in New York City began the process of returning the ship to its 1945 condition. The flying bridge enclosure was removed along with other topside and interior equipment. Today, the *Slater* houses approximately 95 percent of the equipment she would have carried during World War II.

The *Slater's* authentic and extensive collection of accurate period furnishings and equipment complement the ship's material integrity and contribute to the ship's historic feeling and association. The great attention to detail throughout the ship's interior compartments lends the ship a considerable air of authenticity. Much of the ship's World War II equipment, ranging from the ship's PA system to her galley equipment, has been restored to working condition. The radio room houses equipment identical to that carried by the *Slater* in 1945. Much of this equipment is now in working order. The ship's flag bags carried a complete set of signal flags and the chart house is fully stocked. The crew's quarters hold US Navy issue blankets and mess trays. The officers'

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quarters contain many artifacts and uniforms that were donated by the *Slater's* original officers. In nearly every compartment can be found technical manuals and training aids that were carried by destroyer escorts. Today, the *Slater* represents one of the most authentically-restored historic warships in the nation.

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8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties:
Nationally: X Statewide: Locally:

Applicable National Register Criteria: A X B C D

Criteria Considerations (Exceptions): A B C D E F G

NHL Criteria: 1 and 4

NHL Theme(s): IV. Shaping the Political Landscape
 3. military institutions and activities

Areas of Significance: Military

Period(s) of Significance: 1944-1945

Significant Dates: 1944, 1945

Significant Person(s): NA

Cultural Affiliation: NA

Architect/Builder: Tampa Shipbuilding Co., Florida

Historic Contexts: *Warships Associated with World War II in the Pacific Theme Study*

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State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.**Introduction**

The destroyer escort USS *Slater* (DE-766) is nationally significant for its outstanding associations with American naval strategy and operations during World War II (Criterion 1) and as a rare and extraordinarily intact example of an important class of mass-produced warships designed for convoy protection (Criterion 4). Destroyer escorts were a vital component of the Allied victory during World War II and their design and construction exemplified advancements in technology and wartime mobilization in the face of unprecedented and immediate demands for well-armed naval escorts. By protecting convoys of supply ships crossing the Atlantic and Pacific Oceans, the rapidly-built destroyer escorts safeguarded the movements of men and material throughout the world that in turn defeated the Axis. 563 destroyer escorts were built between 1943 and 1945. Today, only ten of these ships remain in the world, many heavily-altered and owned by foreign governments. Of the ten survivors, only three have been set aside as museum ships; the USS *Stewart*, dry berthed in Galveston Texas, the former USS *McAnn* afloat in Rio De Janeiro, Brazil, and the USS *Slater*, restored and afloat in Albany, New York. Today, the Cannon class *Slater* is by far the best preserved example of a World War II destroyer escort in the nation and in the world. It retains exceptional integrity to its World War II naval service and as such serves to represent the basic design and technology of the entire fleet of 563 destroyer escorts.

Destroyer escorts were built as a result of a critical shortage of anti-submarine vessels in the Atlantic at the outset of the war. At the request of the British Navy, American designers developed a new type of warship, based in large measure on the British Hunt class destroyer, which combined heavy anti-submarine and anti-aircraft weapons with the latest electronic equipment for detecting enemy vessels. In addition, destroyer escorts were designed to be versatile and maneuverable long-range vessels that could be quickly built due to their all-welded steel construction. They were designed to accommodate a variety of power plants so that they were not beholden to potential schedule and capacity limitations for the production of any single propulsion system.

The destroyer escorts were a vital component of the Allied strategy for victory in the Atlantic. They escorted the convoys of supply ships that carried the forces needed to win the war in Europe. Destroyer escorts also served in some of the most dangerous areas of the Pacific theater. They escorted convoys, conducted shore bombardments, and served as radar pickets toward the end of the war. The USS *Slater* served in both the Atlantic and Pacific theaters during and immediately after the war. Following its World War II service, the ship was deactivated and subsequently transferred to the Greek Navy in 1951. The *Slater* was renamed AETOS and remained in the Greek service with little modernization until 1991. The ship was then transferred to the Destroyer Escort Foundation, which brought the ship to the United States and initiated a painstaking restoration. The *Slater* remains an outstanding example of its type. The ship preserves an extraordinary array of original propulsion machinery, weapons systems, electronics, and crew accommodations, and retains the feeling and association of naval service in World War II.

Early Allied Escort Vessels

America's sudden entry into World War II in December 1941 caught the Navy's anti-submarine forces unprepared. Although the need for a mass-produced, anti-submarine warship had been recognized well before the war, construction priorities were given to larger warships and smaller landing craft. Thus, the United States Navy began the war with ships that were more or less inadequate to the technological demands of World War II combat. The anti-submarine warships available to the United States Navy at the time of Pearl Harbor included

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World War I-era destroyers of the Wickes and Clemson classes and wood-hulled submarine chasers. These warships, despite their obsolescence, would contribute significantly to the Battle of the Atlantic. They held the line long enough for newer, more technologically-advanced warships to join the fleet, most notably the destroyer escort. The Clemson and Wickes class destroyers, known collectively as “four pipers” for their distinctive smokestacks, were some of the fastest warships in the world at the time. The four pipers were the standard American fleet destroyer during World War I, with most being commissioned near the end of that war. The 314'-long vessels could reach speeds in excess of thirty-five knots on twin screws. The four pipers carried four 4"/50 guns and a variety of smaller weapons. They also carried torpedoes and depth charges.

Although the four pipers were fast, they suffered from several design flaws that limited their capabilities as anti-submarine vessels in World War II. The most glaring of these deficiencies was a poor turning radius and a limited amount of depth charge storage. The four pipers could easily outrace a surfaced German submarine, but they could not keep up with their nimble adversary's tight turns. The American destroyers' lack of maneuverability made it especially difficult for them to deliver effective depth charge attacks. Exacerbating this shortcoming was the four pipers' limited depth charge armament. The four pipers were slender vessels, measuring only thirty-one feet at the beam. The ship's width decreased severely at the fantail, which ended in a pointed stern. This design severely limited space for depth charge projectors and magazine space to carry reloads.

Despite these shortcomings, the four pipers helped to bridge an important gap in the Allied navies' anti-submarine fleets. The United States gave fifty of these aging vessels to the British in exchange for the use of British naval facilities in the Caribbean. The British manned destroyers, known as the Town class, participated in some of the deadliest convoy battles in the first years of the war. They bought the time needed for the development and construction of newer, more advanced vessels, especially the destroyer escort.¹

The other types of anti-submarine vessels immediately available to the Navy at the time of America's entry into World War II also dated back to World War I. These were wood-hulled sub chasers used primarily for coastal and harbor patrol. Although most of the World War I sub chasers had been scrapped long before Pearl Harbor, a similar design was quickly put into construction by the Navy once the United States entered the war in 1941. The 110-foot long ships could be built quickly, and their use in coastal waters freed larger destroyers for oceanic escort and patrol assignments. The Navy also built larger, steel-hulled 173 foot sub chasers, which proved to be quite valuable during World War II. These ships mounted 3"/50 guns and a variety of anti-aircraft and anti-submarine weapons. They saw action all along the East Coast, in the Mediterranean, and throughout the Pacific theater. Much like the four pipers, the wooden and steel sub chasers were a vital component of the Allied victory in the Atlantic. Their use in coastal waters allowed the newly-constructed destroyer escorts to concentrate in the Atlantic, where their large numbers overpowered German submarines.²

Development of the Destroyer Escort

The production of modern destroyer escorts was first seriously considered by the United States Navy in the spring of 1939. Even then, it was suspected that in the event of war there would be a need for a mass-produced destroyer type capable of transoceanic convoy and anti-submarine warfare. A similar concept was tested toward the end of World War I, when Henry Ford's factories turned out a mass-produced patrol vessel known as the Eagle Boat. These 200-foot long steel ships incorporated a number of features that would be included in

¹ See Norman Friedman, *U.S. Destroyers: An Illustrated Design History* (Annapolis: United States Naval Institute Press, 1982), ch. 3.

² Peter Elliot, *Allied Escort Ships of World War II: A Complete Survey* (Annapolis: United States Naval Institute Press, 1977), 419-49.

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the destroyer escorts, including heavy armament and simplified assembly. The Eagle Boats came into use too late to see combat during World War I, but they demonstrated the feasibility of applying industrially-scaled assembly techniques to the production of modern warships.

With the outbreak of World War II, the need for a mass-produced escort vessel became acute. A number of designs were produced and rejected since production was not yet considered a matter of urgency. However, by the spring of 1941, a design by the firm of Gibbs and Cox was approved by the General Board. Their design was based on the British Hunt class destroyer, a small but rugged ship that could survive the pounding of frequent North Atlantic gales.

At about the same time, the need for convoy escorts demanded immediate attention. The British suffered mounting losses to a foe under the sea as dangerous as the one in the air. Royal Navy Rear Admiral J. W. S. Dorling, Senior Officer of the British Supply Council in North America, impressed American Navy Secretary Knox with the urgent need for destroyer escorts, and the possibility of using Lend-Lease funds to defray the costs. Because of commitments for other types of craft, it was not until February 1943 when the first destroyer escort was delivered.³

The capability of submarines to interdict their enemy's supply lines and to destroy their ability to wage war was the single reason for the inception of the destroyer escort. Although destroyers were among the only surface ships capable of locating, attacking, and destroying submarines, they were expensive and time consuming to build. Destroyer escorts could be built for approximately one-third of the cost of destroyers, and once deployed, could release destroyers from convoy duty for other critical fleet assignments.

Destroyer escorts varied from 1140 to 1450 tons unloaded displacement, 300 tons more when fully loaded, and 290'-306'-feet in length. Complements ranged from 180 to 220 officers and men. They did not have the offensive armament and fire control of destroyers, nor the speed. They were, however, vastly more maneuverable than destroyers and had a much smaller turning circle.⁴

A variety of power plant configurations were employed in building destroyer escorts in order to avoid dependence on any one type and inevitable delays in meeting immediate demands. Because destroyer escorts were not top priorities for available steam turbines (aircraft carriers, battleships, and destroyers were more important), the destroyer escorts were forced to adapt to whatever type of power plant was available at the time they were ordered. Thus, there were destroyer escorts with diesel-g geared engines, diesel electric, steam turbo-g geared and steam turbo-electric engines. In general, destroyer escorts with similar main engine plants were kept in the same operational divisions to simplify problems such as fuel type, speed, maneuvering capabilities, and spare parts.

The destroyer escort was classified as a major combat vessel. In general, destroyer escorts were deployed in four types of operations. The first consisted of escort divisions of six or more destroyer escorts each, escorting merchant marine convoys, navy supply vessels, or troop transports. Convoy escort was a defensive operation designed to ward off enemy submarine and aircraft attacks on ships carrying men and equipment for the overseas war effort.

The second grouping operated as part of "hunter-killer" teams in task forces, each consisting of a small aircraft carrier (CVE) and five or six destroyer escorts that went to sea for the specific purpose of locating and

³ Lewis M. Andrews, Jr., *Tempest, Fire, and Foe: Destroyer Escorts in World War II and the Men Who Manned Them* (Victoria, Canada: Trafford, 2004), 1.

⁴ Theodore Roscoe, *Destroyer Operations of World War II* (Annapolis, United States Naval Institute, 1953), 297-99.

destroying submarines. A third operation, more common in the Pacific than the Atlantic, was anti-submarine and anti-aircraft screening of capital ships as they bombarded enemy shore installations prior to amphibious assaults. The fourth assignment developed in the Pacific in the later stages of the war. The destroyer escorts manned "picket" stations on the outer perimeter of fleet and landing operations to engage kamikazes and to warn inner perimeter vessels of their approach. This was very hazardous duty, and destroyer escorts suffered significant personnel and material casualties. In fact, there were few tasks destroyer escorts could not perform. They engaged shore batteries, suicide manned torpedoes, and suicide speed boats. They guarded minesweepers while they performed their dangerous tasks. They even delivered personal mail to other fleet units, a highly important morale function.⁵

Destroyer Escort Classes

The 563 destroyer escorts built during World War II were divided into six classes. Four of the six classes mounted 3"/50 guns, while the last two classes mounted the larger 5"/38 guns. The various destroyer escort classes were also differentiated by different types of propulsion, depending primarily upon what type of engine was available due to the high demands of new construction.

The Evarts class was the first type of destroyer escort to enter service in early 1943. These ships, commonly referred to as the short-hull destroyer escort, were 290 feet long, sixteen feet shorter than the other five destroyer escort classes. They mounted three 3"/50 guns, a variety of anti-aircraft guns and depth charges and a hedgehog⁶ for anti-submarine combat. The Evarts class was the only destroyer escort type that did not carry torpedo tubes as built. In all, ninety-seven Evarts class destroyer escorts were built in American shipyards. Thirty-two of these were given to the British Navy, while the rest remained in US service. Although the Evarts class proved the concept of the mass-produced destroyer escort, their relatively short range and poor sea-keeping characteristics made them an unpopular design.⁷

Many of the shortcomings of the Evarts class were rectified with the second destroyer escort type, the Buckley class. The Buckley class featured a longer hull that improved sea-keeping and increased range. These ships carried a similar armament to the Evarts class, but they were the first destroyer escort type to carry torpedoes onboard. The Buckley class carried a turbo-electric propulsion plant, which gave it more speed and better range than the Evarts class. Numerically, the Buckley class was by far the largest destroyer escort class. By the war's end, 154 Buckley class destroyer escorts had been produced. Forty-three of these ships went to the British Navy. In addition, forty-three of these ships were converted by the United States Navy into high-speed transports.⁸

The Cannon class was the third destroyer escort type to enter service. This was one of the smallest classes produced during the war with seventy-two Cannon class ships completed by 1945, including the USS *Slater*. The Cannon class was very similar in design to the Buckley class, the primary difference being a diesel-electric power plant instead of the Buckley class's turbo-electric design. The fuel-efficient, diesel electric plant greatly improved the range of the Cannon class, but at the cost of speed. Eight Cannon class destroyer escorts were given to the Brazilian Navy during World War II, while six more were given to the Free French Navy.⁹

⁵ Andrews, *Tempest*, 1.

⁶ The hedgehog was an ahead-thrown depth charge. It fired a pattern of twenty-four contact-fused warheads ahead of the destroyer escort, and was one of the most effective anti-submarine weapons available during World War II.

⁷ Martin Davis, ed., *Destroyer Escorts of World War II* (Deland, FL: DESA, 1987), 9.

⁸ Al Adcock, *Destroyer Escorts in Action* (Carrollton, TX: Squadron/Signal, 1997), 12-17.

⁹ *Ibid.*, 18-24.

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Except for the propulsion, the Edsall class was nearly identical to the Cannon class in every respect. This fourth class of destroyer escort mounted a direct, drive diesel configuration that proved to be extremely reliable. Eighty-five Edsall class destroyer escorts were built during World War II. Thirty-seven of the Edsall class ships have the distinction of being the only destroyer escort class manned by United States Coast Guard personnel during the war. Many of the Edsall class ships were converted after World War II into long range radar picket ships. These ships, known as DERs, were some of the last destroyer escorts to be taken out of service in the late 1960s.¹⁰

The fifth destroyer escort class, the Rudderow, represented a major departure from the original design. This was the first class to mount 5"/38 guns instead of the usual 3"/50. The Rudderow class also featured a completely redesigned, much lower superstructure than that found on the earlier destroyer escorts. Seventy-two Rudderow class destroyer escorts were built between 1944 and 1945. Most of these ships were converted into high speed transports known as APDs. Only twenty-one of the RUDDEROW class ended the war in their original configuration.¹¹

The final destroyer escort class produced during the war was named for the USS *John C. Butler*. These ships were outwardly identical to the Rudderow class, but they mounted the steam driven turbine propulsion plant that was common to most ships in the United States Navy at that time. The Butler class represented the peak of destroyer escort design. They combined many of the characteristics of the earlier classes with weapons and propulsion plants, features missing from the earlier classes because of limited industrial capacity at the inception of the destroyer escort project. Eighty-three *John C. Butler* class destroyer escorts were built during the war, and many of them remained active in the Navy long after the war ended.¹²

Destroyer Escort Weapons and Technology

Destroyer escorts mounted the latest and most up-to-date anti-submarine weapons and detection gear available during World War II, including depth charges, hedgehogs, air and surface search radar, sonar, and a high frequency radio direction finder known as HF/DF. Destroyer escorts also carried a sophisticated control station for this technology known as the combat information center (CIC). The ships mounted Hedgehog ahead-thrown depth charges and conventional depth charges for attacking submerged boats, as well as large and small caliber deck guns. All of these technologies are preserved intact aboard the *Slater* today.

Radar transmitted microwave beams in a straight line through the air. When these beams struck an object, reflected energy returned to and was captured by the radar antennas. The effective range of search radars was extended by placing the surface and air antennas high on top of the ship's mast. Targets could be detected by radar long before visual sightings were made. This information was displayed on radar scopes as the contact's bearing and range. Radarmen plotted this information, resulting in a series of plots over a period of time that could determine the contact's course and speed.

Radar was one of the most important innovations of World War II. Sets mounted onboard ships early in World War II could barely detect a large ship and little possibility of finding the small conning tower of a submarine. However, radar technology rapidly evolved during the war, and improved sets were frequently installed on ships. By the time the *Slater* was commissioned in 1944, its radar sets could detect airplanes almost ninety

¹⁰ Davis, *Destroyer Escorts*, 29-30.

¹¹ Adcock, *Destroyer Escorts in Action*, 32-5.

¹² *Ibid.*, 38.

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miles away, and a U-boat's periscope at two miles away. The radar sets currently mounted onboard the ship, an SA air search set and SL surface search set, are the same types carried by the *Slater* during World War II.¹³

Sonar was a destroyer escort's only means of detecting a submerged submarine. A sound wave was transmitted through the water causing a return echo upon encountering an object. The operator used the time it took for the echo to return to its point of origin to estimate the distance of a potential target. Sonar technology improved dramatically during the course of World War II, but it was still markedly inferior to sonar equipment in use today. The sonar set carried onboard the USS *Slater*, designated QGB, was similar to a searchlight beam in that it only scanned a small area at a time, and it had to be constantly shifted manually to scan the whole area in front of a ship.¹⁴ Upon the *Slater's* return from Greece, the sonar room had been gutted and a postwar SQS-4 sonar stack was in place in the lower sound room. This sonar set has been restored to working condition by *Slater* volunteers. In addition, a World War II QGB set from the USS *Loeser* (DE-680), identical to that carried by the *Slater*, was donated to the museum in 2006. This set was installed in its original location in the *Slater's* upper sound room on the flying bridge. Other sonar equipment, including a bulkhead mounted attack plotter and tactical range recorder, are located in their original positions in the sound room.

One of the most important technological developments of World War II resulted in the HF/DF detection gear. HF/DF stood for high frequency direction finder, but was most commonly known as Huff Duff. This detection gear was installed on Allied escort ships and found at land based listening stations during WWII. Huff Duff was developed to intercept Nazi U-boat transmissions. Nazi strategy called for U-boats to maintain constant radio contact with a U-boat headquarters in France. They radioed convoy contact and weather reports, and in turn received their operating instructions.

By intercepting these transmissions, the Allies were able to determine the direction, or line of position of the U-boat relative to the receiving ship or land installation. If two or more allied ships or land facilities in different locations intercepted the same transmission, it was possible to triangulate the U-boat's position. Convoys could thus be rerouted to avoid the submarines. Allied hunter killer groups, many which included destroyer escorts could then locate and attack the U-boat wolf packs (A wolf pack refers to a group of German subs traveling and operating together, thus increasing their ability to cause damage to a convoy.). HF/DF intercepts were responsible for nearly one quarter of all U-boat losses during World War II.

The actual Huff Duff equipment consisted of a tall radio antenna carried aft of the stack. The radio receiver and scope were located at the operator's station in a compartment in the aft deckhouse on destroyer escorts. Although the *Slater* itself never carried a HF/DF set, the equipment currently on display in the ship is the last Huff Duff set known to exist. Given the significance of HF/DF to the Allied victory in World War II, the set is displayed onboard the *Slater* in the location where it would have been mounted on other destroyer escorts.¹⁵

The efforts of the radar, sonar, and HF/DF operators on destroyer escorts were coordinated by a station known as the Combat Information Center or CIC. This was an area abaft the bridge and under the flying bridge that housed the radar equipment, plotting tables, internal and external communications gear, and various other status and plotting boards. CIC received, evaluated, and plotted on a universal drafting machine all information from sonar, radar, bridge, lookouts, radio, semaphore flags or signal lights, and other pertinent information. It then fed data and recommendations to the captain on the flying bridge to assist him in his decisions.

¹³ Davis, *Destroyer Escorts of World War II*, 5; Elliot, *Allied Escort Ships*, 523-4.

¹⁴ For an in-depth evaluation of World War II sonar technology, see Willem Hackmann, *Seek and Strike: Sonar, Anti-Submarine Warfare and the Royal Navy, 1914-1954* (London: Her Majesty's Stationery Office, 1984).

¹⁵ Andrews, *Tempest*, 2, 20; Elliot, *Allied Escort Ships*, 525-6.

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In addition to tracking air and sea contacts and reporting their course and speed, CIC also assisted in station keeping, fire control, shore bombardment, navigation, and search and rescue. The CIC was the nerve center and eyes of the ship whenever the ship was underway by night, day, fog, rain, snow, or clear skies. The value of the Combat Information Center in the destruction of enemy submarines was considerable.

Once a destroyer escort detected a submarine, it could attack with hedgehogs and depth charges. The hedgehog projector was designed to fire twenty-four projectiles at a submarine ahead of a destroyer escort while the ship still had sonar contact with the target. World War II sonar scanned only ahead, so contact was always lost when an attacking ship got over the submarine in order to drop depth charges. The hedgehog projector solved this problem. Hedgehog projectiles were loaded on a launcher consisting of cylindrical bars called spigots, attached to cradles, which swung about a fore-and-aft axis by means of a roll-correction gear assembly mounted on a gun-train indicator pedestal. The movement was limited, but it allowed the spigots to train enough to compensate for the roll of the ship and to aid in leading the target. The spigots are so positioned that, when fired, the charges described an elliptical pattern of about 140' x 120'. Hedgehog projectiles carried a contact fuse, meaning a direct hit on the submarine was required. Nevertheless, even the small charge carried in the projectile head was lethal.¹⁶

Destroyers also carried a large number of depth charges to counter submarines. There were two depth charge racks on the stern and four depth charge projectors on each side of the ship to fire depth charges outward. The depth charge, with its 300 to 600 pounds of TNT, was the traditional antisubmarine weapon. However, a depth charge barrage required a high degree of accuracy, particularly against double-hulled German U-boats. The "water hammer" effect of a 300 pound depth charge required an explosion within thirty yards of the submarine hull for damage and ten yards for a kill. The 600 pound depth charge's lethal area was considerably enlarged. During the war, the Navy introduced a new type of charge with a "teardrop" shape and tail fins, like aerial bombs, to make them sink faster. Depth charges were detonated by hydrostatic pressure, with depth set before firing. Later models also had magnetic impulse detonators that would fire when in proximity to a submarine. Japanese submarines, lacking the hull strength and depth tolerance of their German counterparts, were more vulnerable to destruction by this weapon.¹⁷

Finally, destroyer escorts carried many guns. As noted above, destroyer escorts carried either 3"/50 main guns or 5"/38 guns. The Cannon class USS *Slater* mounted three 3"/50 guns. The 3"/50 caliber dual purpose guns were mounted inside circular gun shields. The later destroyer escort classes had two 5"/38 caliber dual purpose destroyer type guns in enclosed movable gun mounts. Both types could be fired individually or by director fire control. The 3" guns were frequently criticized as lacking penetration power against double-hulled U-boats. The 5" type was far more effective.

In addition to the above weapons, a destroyer escort had a secondary battery of about eight 20 mm machine guns and one quadruple 1.1" or one twin 40-mm machine gun. Although designed primarily for anti-aircraft defense, these guns were quite often effective antipersonnel weapons. They could quickly sweep an enemy gun crew off the deck of a submarine or keep men pinned down inside the conning tower of a damaged submarine on the surface. The advent of kamikazes in the Pacific induced a hurried and massive addition of 40-mm, 20-mm, 50-caliber and even 30-caliber machine guns. The *Slater* represents this late war modification. It mounts three twin 40-mm gun mounts and nine twin 20-mm machine gun mounts.¹⁸

¹⁶ Elliot, *Allied Escort Ships*, 530-1; John Campbell, *Naval Weapons of World War II* (Annapolis: United States Naval Institute Press, 1985), 91-2.

¹⁷ *Ibid.*, 88-90; Norman Friedman, *U.S. Naval Weapons: Every Missile, Mine, and Torpedo Used by the U.S. Navy from 1883 to the Present Day* (London: Conway Maritime, 1983), 122-24.

¹⁸ Roscoe, *Destroyer Operations*, 15-18; Friedman, *Naval Weapons*, 64-7, 72-3, 76-81.

Production of Destroyer Escorts

President Roosevelt ordered the first 50 destroyer escorts on August 15, 1941, and construction began in February 1942 only months after the United States formally entered World War II. During the war, 1,005 destroyer escorts were ordered. 563 were launched before the war concluded, and the remaining orders were cancelled. The destroyer escort program is a significant demonstration of the nation's industrial capabilities during the war. The work of producing these ships was assigned to five navy yards and twelve shipyards across the country. Using standardized plans and a newly expanded workforce, these ships were built side-by-side in the yards, and construction of each ship was reduced to an average of eleven months. Some ships were built in significantly less time, including the USS *Andres* (DE-45), which was launched in Philadelphia in six months in 1942. This is a remarkable achievement when considered in the overall context of wartime production demands for other classes of ships, aircraft, tanks, and weapons.

Labor shortages became acute as thousands of shipyard workers began to enter military service. Women joined the workforce in significant numbers and filled clerical positions as well as traditionally male trades. They played a significant role in the miracle of building 563 destroyer escorts in record time.

One shipyard worker Zelda Becht recalled her work as a welder:

“I am one of the people who helped build the Destroyer Escorts in 1943 at the Federal Shipyard in Kearny, New Jersey. They had an article and our pictures in *The Halyard*. I am in there, right up front, lower left. That was October 15, 1943. I was one of the welders. I wonder how many are alive today? I am eighty-six years old. Zelda the welder. I was twenty-one then, married to a GI who was in the Sicilian invasion. Working with me were women whose husbands were in the war, and older gentlemen who were too old to be in the service, some even closing their small shops to do what they could for the war. And we worked in the shipyard, kept warm around a tin can stove, and climbed ladders to reach bulkheads, where we welded plates of steel to construct the ships. Oh yes, we did that. Why is it I never hear about us, only about the men who sailed on them. They would not have the ships to sail if we did not make them. I got a release from my job as a legal secretary to be permitted to work in the shipyard, so it was no small matter. Hundreds of everyday people who couldn't be in the service did what they could for the war. Time to acknowledge them also.”¹⁹

Norma Bates worked on destroyer escorts as an electrician:

“During WWII 1942 to 1944 I worked at Defoes Ship Building. The Navy took over for two years, during the building of DEs. I worked there for the two years. They said when we were hired that women could work only two years or the duration of the war. I was the first woman to be hired and the last to be laid off. I was working in the gyro room as an electrician. In 1944 Defoe sent me and another woman to the Brooklyn Navy Yard to a special school to learn to waterproof cables below the water line. Then we were to come back and teach others how to do the process. I've been trying to find out what numbers I worked on during that period. Some of them are: USS BULL DE693, USS BUNCH DE694, USS RICH DE695 (sank after hitting a mine off Normandy, June 8, 1944), USS

¹⁹ Zeilda Becht, August 27, 2009, quoted in *Trim but Deadly: Quarterly Newsletter of the Destroyer Escort Historical Museum* 15, no. 3 (2009): 16.

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SPANGLER DE696, USS GEORGE DE697, USS RABY DE698, USS MARSH DE699, USS CURRIER DE700, USS OSMUS DE701, USS EARL V. JONSON DE702, USS HOLTON DE703, USS CRONIN DE704, USS FRYBARGER DE705, USS HOLT DE706, USS JOBB DE707, USS PARLE DE708, USS BRAY DE709, USS BATES APD47 (sunk 5-25-45. Don't know where it was built.) Seeing I was so young I didn't think to keep track of the ones I worked on. The job I had was helping to hook up the gyro board. They sent a letter back to Defoes and said we were the only women in that school and being our hands were small we worked good on the cables."²⁰

The sustained construction of these warships at unprecedented rates as part of the nation's overall industrial mobilization introduced fundamental changes in the American workplace and ultimately revolutionized the role of women in American society. The herculean efforts to launch these ships in time for them to help turn the tide of the war reflected the best of American patriotism and pragmatism.

The Battle of the Atlantic

The Battle of the Atlantic was the longest battle of World War II. It began immediately upon the British declaration of war against Germany in September 1939 and ended with Germany's surrender to the Allies in May 1945. During those six years, thousands of ships were sunk and tens of thousands of men were killed in the Atlantic Ocean. The battle pitted Allied merchant and supply ships, along with their escorts, against German submarines, aircraft, and surface raiders. British Prime Minister Winston Churchill said of the Battle of the Atlantic, "everything elsewhere on land, sea and air, depended ultimately on the outcome of this battle." The outcome of the Battle of the Atlantic depended on the destroyer escort.

The outbreak of World War II caught both the British and German navies by surprise. Germany had less than fifty U-boats available in 1939, but the British had few escorts with which to counter them. The Nazis immediately began a program of unrestricted submarine warfare against British shipping, a strategy that came very near to starving England out of World War II. Although the British Navy began convoying ships as soon as the war started, the lack of escorts cost these convoys dearly. As more and more German submarines entered the battle, British shipping losses increased at an alarming rate.

Churchill appealed to President Franklin Roosevelt for aid. Although the United States was neutral, Roosevelt agreed to provide the British Navy with fifty obsolete four piper destroyers in exchange for the use of British bases in the Caribbean. The United States also began neutrality patrols, ostensibly to protect neutral shipping rights in the western Atlantic but also to give American naval commanders vital experience should the United States enter the war. The United States also agreed to build escort vessels for the British under the Lend Lease Program. It was this program, combined with America's experimentation with the World War I Eagle boats, that ultimately led to the development of the destroyer escort.

The Japanese attack on Pearl Harbor on December 7, 1941, brought the United States openly into the war. Germany's declaration of war against the United States also greatly expanded the Battle of the Atlantic. German submarines, which had been operating out of western France since its capitulation in June 1940, had the range to reach the East Coast as well as the Gulf of Mexico. America's sudden entry into the war left it completely unprepared to face the U-boat menace. In the first months of 1942 alone German submarines sank hundreds of Allied ships, mostly along the eastern United States.

²⁰ Norma Bates, n.d., quoted in *Trim But Deadly: The Quarterly Newsletter of the Destroyer Escort Historical Museum* 15, no. 2 (2009): 16.

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The United States Navy soon adopted the British convoy system, but it lacked enough ships to escort the hundreds of ships sailing across the Atlantic to supply England. By this time, the Navy had approved the destroyer escort design, but it would be nearly a year before the first destroyer escort joined the fleet. American industry was still transitioning from a peacetime to a wartime footing, so there were not enough war materials to build all of the warships and landing craft needed to fight a war in two oceans. Until the destroyer escorts were available in force, the US Navy was forced to rely on stopgap escort vessels, including the four pipers and subchasers. Despite the mammoth efforts of these inadequate ships, 1942 proved to be the worst year of the war for the Allies in terms of ships lost in the Atlantic. Between January and December 1942, German U-boats and aircraft sank over 1,000 Allied ships, many along the East Coast of the United States.²¹

Finally, in January 1943, the first destroyer escorts entered the Battle of the Atlantic. American industrial capacity had caught up with demand and would soon exceed all expectations. By the end of the year, sixteen American shipyards were launching seventeen destroyer escorts per month. These new ships immediately began the dangerous task of escorting Allied merchant ships across the U-boat infested Atlantic. Destroyer escorts became even more deadly adversaries to the U-boats as improved electronic equipment, such as radar and HF/DF, became available. In addition, the construction of small escort carriers allowed the Navy to form hunter killer groups. These groups, consisting of one escort carrier supported by several destroyer escorts, were not tethered to a convoy, but could roam the Atlantic ferreting out U-boats and destroying them.

The tide of the Battle of the Atlantic turned irrevocably against the Nazis in May 1943. That was the first month that more U-boats were sunk than Allied merchant vessels. From May 1943 until the end of the war two years later, German submarines were unable to duplicate their successes of the first three years of the war. Destroyer escorts were an instrumental part of the Allied victory in the Atlantic. Their range and seaworthiness allowed them to escort convoys back and forth across the Atlantic despite fierce North Atlantic storms. Their radar, sonar, and HF/DF equipment allowed them to detect U-boats, surfaced or submerged, by day or by night and in any weather conditions. Their speed, maneuverability and firepower made them lethal foes once a U-boat had been found. Finally, their overwhelming numbers due to their rapid construction made it virtually impossible for the submarines to hide.²²

Destroyer escorts also carried out several important feats during the Battle of the Atlantic. Perhaps the most important of these feats was the capture of the German submarine U-505.²³ The submarine was captured on 4 June 1944 by a hunter killer group composed of the escort carrier USS *Guadalcanal* (CVE-60) and the destroyer escorts USS *Pillsbury* (DE-133), USS *Pope* (DE-134), USS *Flaherty* (DE-135), USS *Chatelain* (DE-149), and USS *Jenks* (DE-665). The destroyer escorts attacked the submerged U-boat and forced her to surface. Boarding parties from the destroyer escorts then rushed over to the submarine while its crew abandoned ship. The American sailors stopped the submarine from sinking and then towed it back to Bermuda.

The capture of the U-505 was one of the greatest intelligence coups of World War II. It gave the Allies a working Enigma code machine; a device which generated codes that the Allies had been only marginally successful at cracking. It also produced a complete set of the code books to go along with the machine. Most importantly, the U-505 gave the Allies the current settings for the Enigma machine in use by the U-boat fleet, which allowed the Allies to begin cracking German codes with great success. These finds allowed Allied cryptographers to intercept, decode, and read German radio transmissions almost as quickly as the Germans

²¹ Numbers of ships destroyed in the Battle of the Atlantic vary by source. For comprehensive single-volume histories of the battle, see Samuel Elliot Morrison, ed., *History of United States Naval Operations in World War II*, vol. 1, *The Battle of the Atlantic, September 1939-May 1943* (Boston: Little, Brown, 1956); Walter J. Boyne, *Clash of Titans: World War II at Sea* (New York: Simon and Schuster, 1997).

²² See Michael Gannon, *Black May* (New York: Harper Collins, 1998).

²³ U-505 is a National Historic Landmark on display at the Museum of Science and Industry in Chicago, Illinois.

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themselves. The U-505 was an intelligence bonanza in other ways as well. It gave the Allies an opportunity to test the capabilities of their German foes, which in turn led to improved tactics to counter the U-boats.²⁴ The U-505 has been preserved in Chicago and is a National Historic Landmark.

The USS *Slater* had a minor role in the U-505 incident. Among the many discoveries on the submarine was a new type of acoustic torpedo. These deadly weapons locked onto the propeller noise of Allied ships and caused massive damage when they struck. The acoustic torpedo was taken from the U-505 and loaded onto the *Slater*, which was in Bermuda at the time completing training exercises. The *Slater* rushed the torpedo back to the United States for analysis, which resulted in an improved countermeasure to the acoustic torpedo known as the Foxer gear. This improved countermeasure saved many lives in the war's remaining months. The U-505 and the torpedo delivered by the *Slater* are currently on display at the Museum of Science and Industry in Chicago, Illinois.

Germany's surrender in May 1945 ended the longest continuous battle of the war. Between 1939 and 1945, more than 2,700 Allied merchant ships were lost to enemy activity, with over 1,000 being lost to German U-boats alone. Over 130,000 Allied sailors lost their lives in the battle. Although these losses were severe, they would have been far worse without destroyer escorts. Once these ships entered the battle in 1943, U-boat successes dropped dramatically. By the time the *Slater* joined the battle in 1944, convoy losses to U-boats had been largely eliminated. The *Slater* escorted 176 merchant ships across the Atlantic without loss during World War II.²⁵

As severe as the Allied losses were, they were much worse for the U-boat force. Of 1,100 German submarines produced during the war, nearly 800 were lost to Allied action. 28,000 of 40,000 U-boat sailors were killed in the Battle of the Atlantic. Statistically, the job of a German submarine sailor was the deadliest of the entire war. Destroyer escorts were responsible for many of these U-boat losses. They were instrumental to the Allied success in Europe during World War II.²⁶

Destroyer Escorts in the Pacific

Destroyer escorts played an equally vital, if less well known role in the Pacific theater. The ships escorted American supply convoys over vast distances between Pacific islands. Destroyer escorts conducted anti-submarine sweeps, including one of the most important of the war carried out by the USS *England* (DE-635). The ships provided defense for fleets of US warships. Destroyer escorts that had been converted to high-speed transports carried out shore bombardments and amphibious assaults. Destroyer escorts also served as radar picket ships during the Okinawa campaign, which was the costliest battle of the Pacific war.

Destroyer escorts in the Pacific carried out the same escort assignments as their Atlantic counterparts, but over even greater distances. The vast expanse of the Pacific Ocean forced American forces to establish bases in several places. These various bases were connected by lifelines of supply ships, which in turn were escorted by destroyer escorts. These long patrols were often not as dangerous as those in the Atlantic because the Japanese submarine force was much smaller than the German U-boat fleet. Nevertheless, destroyer escorts frequently fought off Japanese attacks by aircraft, especially after the Japanese began kamikaze attacks late in the war.

²⁴ For detailed accounts of the U-505's capture, see Andrews, *Tempest*, 76-9, and Roscoe, *Destroyer Operations*, 309-10. For an in-depth record of the development of the *Enigma* and its importance to the Battle of the Atlantic, see David Kahn, *Seizing the Enigma: The Race to Break the German U-Boat Codes, 1939-1943* (New York: Barnes and Noble Books, 1998).

²⁵ Clay Blair, *Hitler's U-Boat War: The Hunted, 1942-1945* (New York: Random House, 1998).

²⁶ In-depth accounts of the Allied victory in the Battle of the Atlantic are available in Samuel Eliot Morrison, *History of United States Naval Operations in World War II*, vol. 10, *The Atlantic Battle Won* (Boston: Little, Brown, 1956).

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Pacific theater destroyer escorts also carried out hunter killer anti-submarine sweeps. These ships, working from an intelligence reports gained from radio interception and decryption as well as Huff Duff triangulation, roamed the Pacific searching for Japanese submarines. The most famous anti-submarine sweep of the war was carried out in May 1944 by the USS *England* (DE-635), in company with the USS *Spangler* (DE-696), the USS *George* (DE-697), and the USS *Raby* (DE-698). Acting on an intercepted Japanese transmission, the *England* set out to stop a group of six Japanese submarines that were attempting to resupply a garrison and scout out the American fleet. The *England* sank all six submarines over a period of twelve days, a feat of anti-submarine prowess unrivaled in naval history. The *England's* actions also allowed the undetected American fleet to carry out a series of devastating attack on Japanese forces.²⁷

Fleet defense was another important role carried out by destroyer escorts in the Pacific. Since destroyer escorts lacked the speed to escort large capital ships such as battleships and aircraft carriers, they were relegated to escorting smaller escort carriers assigned to supply amphibious fleets. Nevertheless, these destroyer escorts took on the vital role of protecting their charges from Japanese attacks. It was in this capacity that four destroyer escorts, the USS *John C. Butler* (DE-339), USS *Raymond* (DE-341), USS *Dennis* (DE-405), and USS *Samuel B. Roberts* (DE-413) found themselves in one of the most famous battles of naval history.

The Battle of Samar took place in October 1944. A poor decision by Admiral Halsey left the American amphibious fleet at Leyte Gulf virtually undefended, save for small groups of escort carriers, destroyers, and destroyer escorts. One such group, composed of six escort carriers, three destroyers and the four destroyer escorts above, suddenly came under attack by a massive Japanese fleet. This force included several destroyers, cruisers, and battleships, including the *Yamato*, the largest battleship in the world. The escort vessels and carrier planes immediately attacked the Japanese forces in an attempt to save the carriers and the amphibious forces beyond. What should have been a hopeless and quick American defeat became a victory due to the stunning courage displayed by the American ships and planes. After a severe struggle that cost both sides several ships, the Japanese broke off the attack and left the area. The *Samuel B. Roberts* was the only destroyer escort lost in a battle and became one of the most celebrated in the history of the United States Navy.²⁸

Destroyer escorts also contributed to victory in the Pacific through amphibious operations. The ninety-four destroyer escorts that had been converted into high-speed transports known as APDs²⁹ performed dangerous amphibious assaults on islands throughout the Pacific. These small transports carried Marine raider forces, Army engineering detachments, and Navy Underwater Demolition Teams to islands in the Philippines, Okinawa, and other Japanese-held islands. These teams would then carry out missions to prepare the way for Army and Marine ground forces that followed close behind. The APDs would cover their forces with gunfire support before retrieving the teams from the beach and carrying them to another assignment.

The invasion of Okinawa in April 1945 initiated a new and deadly facet of destroyer escort service in the Pacific. By this time, the Japanese were relying heavily on suicide aircraft known as kamikazes. These planes had been inflicting severe damage on the American fleet since the invasion of the Philippines in 1944. Kamikazes became more and more dangerous as American forces neared the Japanese home islands. Once US forces landed on Okinawa, the Japanese unleashed the full fury of their kamikaze forces. In an attempt to minimize the losses to its capital ships and amphibious fleet, the Navy sent destroyers and destroyer escorts out to picket stations around Okinawa. From these stations, the small combatants would use their radar to detect

²⁷ Roscoe, *Destroyer Operations*, 398-401; Andrews, *Tempest*, 153-8.

²⁸ See James D. Hornfischer, *The Last Stand of the Tin Can Sailors: The Extraordinary World War II Story of the US Navy's Finest Hour* (New York: Bantam Dell, 2004).

²⁹ APD is a naval abbreviation for transport (high speed). Naval History & Heritage Command, "Glossary of U.S. Naval Abbreviations," last modified November 14, 2001, accessed November 6, 2014, <http://www.history.navy.mil/books/opnav20-p1000/A.htm>.

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incoming kamikazes and then warn the fleet at Okinawa, which would send fighter planes out to shoot down the incoming planes.

Once the Japanese realized what the destroyers and destroyer escorts were doing, they began targeting the ships to counter the early warning strategy. As a result, radar picket duty became the deadliest job in the navy's history. Over the next few months more than 300 ships were hit by kamikazes at Okinawa, most of them destroyers and destroyer escorts. More than 5,000 sailors were killed during the battle, more than the Navy had lost in every other battle in its history combined. Nevertheless, the destroyer escorts remained on station with the larger destroyers and continued providing the early warning advantage throughout the campaign.³⁰

Destroyer escorts were indeed a vital component of the US Navy's success during World War II. Everywhere the fleet went and everywhere it fought, destroyer escorts were there. The ships carried out most of the mundane escort assignments and sailed thousands of miles waiting for attacks that never materialized. But destroyer escorts also fought in some of the most dangerous battles of the war, including Samar and Okinawa. Ships like the USS *England*, the USS *Samuel B. Roberts*, and the destroyer escorts that captured the U-505 performed feats that were much greater than their diminutive size would seem to allow. These ships, and the hundreds of destroyer escorts like them, contributed significantly to the Allied victory during World War II.

Destroyer Escort Crews

The preservation of the technical aspects of the Destroyer Escorts (DE) should not overshadow the human side, especially the people who lived, fought, and sometimes died serving these vessels. DE sailors often quipped that their ships were so wet that they deserved to receive comparatively higher submarine pay because they were underwater so much of the time, particularly during Atlantic convoys.

The Destroyer Escort program was an outgrowth of the submarine chaser program with most of the officers being reservists who went through training at the Submarine Chaser Training Center in Miami, Florida. Initially, the early DE's received Annapolis graduates as skippers and regular navy crews, but the demands of the rapidly-expanding wartime fleet caused the transfer of these regular navy personnel to fleet destroyers and larger ships, leaving the DEs largely manned by reservists. For this reason, they were perceived as a second string outfit by the regular navy, without the prestige attached to fleet destroyers. But DEs fought just as hard and valiantly as their regular navy counterparts.

A great many of these officers were wealthy upper-class Ivy League graduates who joined the Navy and rapidly rose in the ranks thanks to pre-war experience in yachting. Many of these officers rose to high positions in government and industry after the war. A few examples were Raytheon CEO Charles Adams who commanded the USS *Fogg* (DE-57), Former Secretary of the Navy Graham Claytor who commanded USS *DE-368*, and Franklin D. Roosevelt, Jr., son of the President, who commanded USS *Ulverm M. Moore* (DE-442).

In the case of the USS *Slater* her commanding officer was a rough-hewn former merchant marine from New Orleans, Marcel Blancq. He went to sea while in his teens and worked his way up through the ranks with the Louisiana-based Lykes Brothers Steamship Company. He commissioned the *Slater* on May 1, 1944, and remained with the ship until after VJ Day. Married with a young daughter, he was regarded as an excellent seaman and navigator who ran a taut ship and never got as close to the crew as some commanding officers did.

³⁰ See Bill Sholin, *The Sacrificial Lambs* (Bonny Lake, WA: Mountain View, 1989).

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The *Slater's* officers and crew represented people from all walks of life, plucked from their comfortable civilian routines and called on by the times and their nation to rapidly learn the skills needed to navigate and fight their ships and sail into harm's way.

Destroyer escorts also played an unanticipated but important role in African-American history. The USS *Harmon* (DE-678) was the first American warship named for an African American. Leonard Roy Harmon, was a Mess Attendant First Class when he was killed in action aboard the cruiser *San Francisco* during the naval battle of Guadalcanal on November 12-13, 1942, the same ship Frank Slater died aboard. With disregard for his own safety, Harmon rendered invaluable assistance caring for the wounded and evacuating them to a dressing station. Harmon was hit while deliberately exposing himself to gunfire as he tried to protect a shipmate. He was posthumously awarded the Navy Cross.

The destroyer escort USS *Mason* (DE-529) had the distinction of being the only US Navy destroyer to be manned with a predominantly black (enlisted) crew. This was the first time African-Americans were permitted to train and serve in ratings other than cooks and stewards. The "experiment," prompted by First Lady Eleanor Roosevelt, was derisively referred to by critics as "Eleanor's Folly." Nevertheless, the *Mason* served with distinction during the war. The *Mason's* sailors were recommended for commendation by their captain, Lieutenant Commander Bill Blackford, and the convoy commander, Alfred Lind. Shamefully, the commendations were never transmitted up the chain of command. However, the demonstrated success of the *Mason* crew contributed to President Truman's July 26, 1947, executive order officially desegregating the armed forces of the United States (Executive Order 9981).³¹

Finally, the first African American to command a US warship was Samuel Gravely, who commanded the destroyer escort USS *Falgout* (DER-324) off Vietnam in the 1960s. Gravely rose to become America's first African-American admiral, and was an active member of the Destroyer Escort Sailors Association until his passing.

Surviving Destroyer Escorts

The majority of American warships, of all classes, from World War II have either been lost or scrapped. For example, of the 25 battleships built during this period, seven remain; of the 34 carriers from this period, five remain. Given the large number of destroyer escorts (563) that were built for service in the war, the number of surviving examples is proportionately smaller.

Excluding the *Slater*, there are currently nine destroyer escorts believed to exist around the world. Two of these ships are preserved as museums, the rest are still in some form of service in foreign fleets. Of the following ships, only the USS *Slater* (DE-766) is preserved and maintained in its World War II configuration. As of this writing, the surviving destroyer escorts are as follows: the ex-USS *Atherton* (DE-169) is currently in service with the Philippine Navy as the *BRP Rajah Humabon*. Although the ship is in good condition, it has been heavily modified from its original configuration. The ex-USS *Hemminger* (DE-746) was transferred to Thailand and recommissioned as the *Pin Klao*. The ship was active in the Thai fleet until at least 1999 and is now believed to be used only as a training hulk.

The ex-USS *Forster* (DE-334) was transferred to the South Vietnamese Navy in 1971. Renamed the RVNS *Tran Khanh Du*, the ship was captured in dry dock by North Vietnamese forces after the fall of Saigon in 1975. The North Vietnamese renamed the ship the VPNS *Dai Ky* and kept it in active service until at least 1997. The ship is now believed to be used as a training hulk. The ex-USS *Hurst* (DE-250) was transferred to the Mexican

³¹ NavSource Naval History, "USS *Mason* (DDG-87)," <http://www.navsource.org/archives/05/01087.htm>.

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Navy in 1973 and re-commissioned as the *Arm Manuel Azueta*. The ship was still in service as of 2000, but like the ex-USS *Atherton*, the *Azueta* has been heavily modified from its original destroyer escort configuration.

Like the ex-USS *Forster*, the ex-USS *Camp* (DE-251) was transferred to South Vietnam in 1971. The ship escaped the fall of South Vietnam and sailed to the Philippines, where it was officially transferred to that nation in 1976. Recommissioned as the PNS *Rajah Lakandula*, the ship remained in active duty until 1988. The ship is currently used as a barracks ship in Subic Bay, Philippine Islands.

The ex-USS *Thomas J. Gary* (DE-326) was transferred to the Tunisian navy in 1973. The ship was recommissioned as the *President Bourghiba* and placed on active duty. The ship was eventually renamed once more as the *Indakh*. Following a serious fire onboard the ship in 1992, the *Indakh* is currently serving as an immobile headquarters and accommodation ship in Bizerte, Tunisia. The ex-USS *Ruchamkin*, a former high speed transport, was transferred to the Colombian navy in 1969. After a decade of service as the *Cordoba*, the ship was decommissioned. The interior of the ship was scrapped, but the gutted ship was put on display, where it remains today near Bogotá, Colombia.

The last two destroyer escorts are preserved as floating museums. The ex-USS *McAnn* (DE-179) was transferred to the Brazilian navy in 1953. The ship served as the *Bauru* until 1982, when it was decommissioned and restored as a museum ship. The ship is currently berthed near Rio de Janeiro, and though some of its equipment has been removed, the *Bauru* is generally in excellent condition. The USS *Stewart* (DE-238) was decommissioned after World War II service in 1946. Donated to the state of Texas in 1974, the *Stewart* has been repurposed as a museum in Galveston. After a lengthy period of neglect, the *Stewart* has been undergoing major renovation and repair for the past several years. Although the ship is generally in good condition, it is missing a great deal of equipment and armament. The USS *Stewart* was added to the National Register in 2007 and is currently undergoing repairs following damage done by Hurricane Ike in 2008.

History of the USS SLATER (DE-766)

The Cannon class USS *Slater* is named for Frank O. Slater, born in Fyffe, Alabama, on December 19, 1920. Slater enlisted in the United States Naval Reserve on February 10, 1942. Upon completion of basic training, Slater was transferred to the Receiving Station, Pearl Harbor, for reassignment. He served on the USS *San Francisco* (CA-38) from April 4, 1942, to November 12, 1942, when he was killed in action when a Japanese bomber crashed into his battle station. The men at the station continued to fire right up to the moment of impact. Frank Slater was posthumously awarded the Navy Cross for gallantry in action.

The Tampa Shipbuilding Company in Tampa, Florida, laid the keel of the USS *Slater* on March 9, 1943. The ship was launched on February 13, 1944, sponsored and christened by Mrs. James L. Slater, Frank Slater's mother.³² The *Slater* was commissioned on May 1, 1944, under the command of Lieutenant Commander Marcel J. Blancq in command.

The *Slater* completed its shakedown cruise off Bermuda on June 25, 1944. It was ordered to Norfolk to deliver a torpedo captured from the German U-boat 505 prior to sailing to Boston for post-shakedown availability. The *Slater* then sailed for Key West, Florida, on July 11, where the ship acted as a target ship for torpedo plane squadrons and as a sonar school ship until departing for New York on September 15. The escort moved to Portland, Maine, for training and returned to New York on October 3. Operating out of the Brooklyn Navy

³² In the US Navy a "sponsor" is a prominent citizen chosen to christen a naval vessel. In addition to the ceremonial breaking of a champagne bottle on the bow during a ship's launching, the Sponsor remains in contact with the ship's crew and is involved in special events throughout the life of the ship.

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Yard, the *Slater* was then assigned Atlantic convoy duty for the remainder of 1944 and into the spring of 1945. USS *Slater* escorted two convoys to England during the remaining months of 1944. From January to May 1945, the ship escorted three convoys to Wales. During this service, the ship's topsides were painted in dazzle camouflage to obscure her from enemy observation.

As the Battle of the Atlantic drew to a conclusion, the *Slater* underwent modifications to its armament in preparation for battling a new threat in the Pacific theater, where the menace of kamikaze aircraft was taking a heavy toll on US and Allied vessels. Following an overhaul at Brooklyn in which the *Slater* received augmentation of her anti-aircraft armament in preparation for the invasion of Japan, the escort sailed from New York for San Diego via Guantanamo Bay, Cuba, and Panama. It transited the canal on June 28, 1945, and arrived in San Diego on July 6. Three days later, the ship sailed for Pearl Harbor.

The *Slater's* arrival in the Pacific roughly coincided with the dropping of the atomic bombs on Hiroshima and Nagasaki and the subsequent Japanese surrender. The ship was routed to the Philippine Islands via Eniwetok, where it joined Task Unit 33.2.4 at Manila on September 5 and escorted it to Yokohama, Japan. The *Slater* picked up another convoy there and returned to Manila on the September 21. During the remainder of the year, the *Slater* escorted convoys to Japan and to the Caroline Islands. The ship operated in the Philippine Islands until January 31, 1946, when it sailed for the United States.

The *Slater* arrived in San Pedro, California, on February 24, 1946, and received orders routing it to Norfolk, via the Canal Zone, for inactivation. The ship arrived there on March 26 and prepared for decommissioning. On April 25, 1946, the *Slater* sailed for Green Cove Springs, Florida, for its final berthing place. However, the ship was towed to Charleston, South Carolina, on February 13, 1947 and, in May, back to Green Cove Springs, where it was placed in reserve, out of commission.

The *Slater* was transferred to the Greek navy on March 1, 1951, as AETOS 01 under the Military Defense Assistance Program, also known as the Truman Doctrine. Under this program, if Communist forces invaded Western Europe, escort vessels given to European NATO nations would be available to assist in convoy escort and antisubmarine warfare. The ship began Greek service as an officer training ship in July 1951. For the next forty years, the AETOS completed more than 3,223 voyages for cadet training, patrols, exercises, and independent missions and sailed 617,876 nautical miles. These missions involved NATO maneuvers, naval academy voyages, and trips to ports within the Mediterranean, Africa, Scotland, the North Sea, and South American ports. The AETOS also played a small role in filming the movie *The Guns of Navarone*. By the late 1980s, the need for the ship's services had diminished and was subsequently deactivated on July 5, 1991, just two days short of forty years from the date of its arrival in Greece. The AETOS was stricken in Crete and stripped of all useable gear and equipment.

Conclusion

Destroyer escorts represent the pinnacle of World War II anti-submarine technology. They combined speed, maneuverability, seaworthiness, firepower, and the latest electronic technology into a warship that could be built in less than a month. The 563 destroyer escorts completed between 1943 and 1945 represent the single largest type of warship ever constructed by the United States Navy. The destroyer escorts fought in every naval theater of the war and carried out some of the war's most important assignments. From convoy escort to fleet defense to long range radar picket duty, destroyer escorts accomplished every mission they received. Today, only ten are extant.

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The USS *Slater* is the best representative of a World War II destroyer escort in the world today. The *Slater* is berthed in the Hudson River in downtown Albany, New York. Although the ship never visited the port of Albany during its active career, it was based out of the relatively close Brooklyn Navy Yard for most of its World War II service. Today, the *Slater* houses approximately 98 percent of the equipment it carried during World War II. An estimated 90 percent is original to the ship. The remaining 8 percent, mostly interior habitability furnishings, came from 1940s-era ships or was fabricated to original specifications.

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Previous documentation on file (NPS):

- Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
 Previously Listed in the National Register.
 Previously Determined Eligible by the National Register.
 Designated a National Historic Landmark.
 Recorded by Historic American Buildings Survey: #
 Recorded by Historic American Engineering Record: #

Primary Location of Additional Data:

- State Historic Preservation Office
 Other State Agency
 Federal Agency
 Local Government
 University
 Other (Specify Repository):

10. GEOGRAPHICAL DATA

Acreage of Property: less than one acre

UTM References:	Zone	Easting	Northing
	18	602497	4721875

Verbal Boundary Description: All that area encompassed within the extreme length and breadth of the vessel as she lies at her berth in Albany, New York.

Boundary Justification: As the vessel is the nationally significant resource, and not her current location, the boundary incorporates only the area of the vessel as she lies at her berth in Albany, New York.

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DESIGNATED A NATIONAL HISTORIC LANDMARK
March 2, 2012

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**USS Slater DE-766**

Albany, New York

Aerial photo, starboard side of ship at its dock. Note the respectable amount of armament crammed onto the small ship: depth charge racks on fantail (left of shot), anti-aircraft guns on superstructure deck (center of shot), and 3"/50 caliber main guns (one on the fantail, two forward at right of shot); surface and air search radar antennae visible at top of foremast.

Photographer unknown, 2008

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USS Slater DE-766

Albany, New York

Port bow of ship. Anchoring gear, mooring lines, camels (wooden blocks at right of shot used to keep the ship in deep water at low tide) and excellent condition of the hull evident in shot.

Photographer unknown, 2006.

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USS Slater DE-766

Albany, New York

Forecastle of ship showing 3"/50 caliber main gun at left foreground, its ready service ammunition locker and shells at right; hedgehog anti-submarine weapon at center; number two 3"/50 caliber main gun above the hedgehog; superstructure and flying bridge in background.

Photographer unknown, 2008.

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**USS Slater DE-766**

Albany, New York

Starboard side of ship, midship. The *Slater's* Mark 2 Motor Whaleboat. The boat is an original wooden whaleboat, and is the only known World War II boat still in operation. The boat is lowered into the river and hoisted aboard using the original davits (curved metal structures). Also visible in the shot are a 20mm gun tub and the ship's funnel (left of shot) and the flying bridge, mast and 24" searchlight (at right under canvas cover).

Photographer unknown, 2009

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USS Slater DE-766

Albany, New York

Interior, crew's mess compartment. The enlisted crew's mess. Note the period furnishings, including hammocks, World War II-vintage mess trays, napkin dispensers, salt and pepper shakers and fire fighting equipment visible at left.

Photographer unknown, 2008.

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**USS Slater DE-766**

Albany, New York

Interior, main radio room. This was the communications center for the ship while at sea. Radiomen sat at the typewriters visible in the background and copied down Morse Code messages containing news, weather reports and orders. Also visible in this shot are the SA Radar transmitter (far right), TDE transmitter (right of center), several different radio receivers (background), TBS radio transmitter (left), power supply and sample radio message received by the *Slater* (left foreground).

Photographer unknown, 2009

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USS Slater DE-766
Albany, New York

Off Manhattan, April 6, 1945 in measure 32/3d dazzle camouflage.

Official US Navy photo from National Archives and Records Administration Collection.

USS SLATER

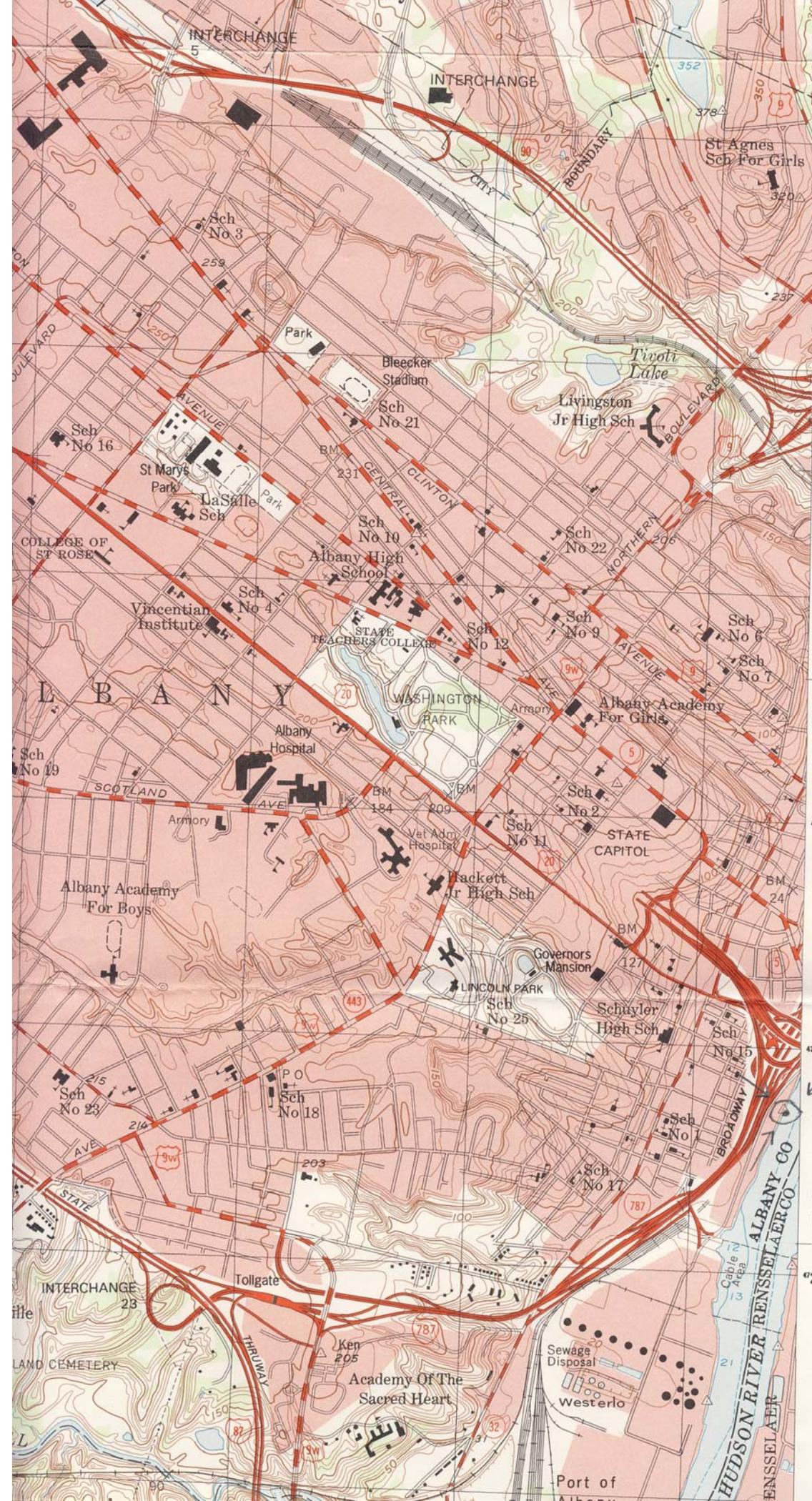
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USS Slater DE-766
 Albany, New York
 40 mm gun crew.
 Photo by Lyman Peterson, 1944.



USS SLATER DE 760
 Albany, Albany Co, NY
 Zone: 18
 Easting: 602497
 Northing: 4721875

47°21'00"N