

## Using Intelligence to Counter Illegal, Unreported, and Unregulated Fishing

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**Identifying IUU is a needle-in-a-haystack problem. Which boats are engaged in IUU fishing? How can one determine that a vessel is so engaged? What is the flag nation of the vessel of interest? Who owns the vessel? Answering these and other questions requires surveillance, deep understanding of fishing operations and behavior, and analysis.**

*Author's note: This article is the result of two years of examination of illegal, unreported, and unregulated fishing in the Pacific by the International Maritime Security Exchange (IMSE) working group. It draws from the proceedings of the IMSE conferences in Hawaii in 2021 and 2022, as well as work by journalists such as Ian Urbina (New York Times). A list of resources on IUU fishing, including IMSE presentations, is provided at the end of this article.*

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### **Countering IUU Fishing is an Intelligence Problem**

Illegal, unreported, and unregulated (IUU) fishing is a worldwide problem. According to a US Coast Guard (USCG) report on the subject in 2020, "IUU fishing has replaced piracy as the leading global maritime security threat. If IUU fishing continues unchecked, we can expect deterioration of fragile coastal States and increased tension among foreign-fishing Nations, threatening geo-political stability around the world."

There are many aspects to the problem. Illegal fishing is conducted in waters under the jurisdiction of a state but without the permission of that state. Unreported fishing involves catch that has not been reported, as required. Unregulated fishing occurs where there are no management measures and is conducted in a manner inconsistent with treaty responsibilities.

### **Monitoring the Crowded Oceans**

The oceans are crowded with fishing boats. The UN Food and Agricultural Organization (FAO) estimated that there are more than 4 million fishing boats worldwide. Many are small, unmotorized, and engaged in local fishing. Larger motorized fishing vessels are industrialized and are the prime actors in overfishing. China maintains by far the largest deep-water fishing fleet.

Identifying IUU fishing is a needle-in-a-haystack problem. Which boats are engaged in IUU fishing, and how do we identify them? What is the flag nation of the vessel of interest? Who owns the vessel? Answering these and other questions requires surveillance, deep understanding of fishing operations and behavior, and analysis. Those engaged in intentional IUU fishing often go to great lengths to disguise their activities.

Previously, surveillance of territorial waters and Exclusive Economic

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The views, opinions, and findings of the author expressed in this article should not be construed as asserting or implying US government endorsement of its factual statements and interpretations or representing the official positions of any component of the United States government.



USCG Cutter *Stone* crew observing fishing activity during Operation Southern Cross in the South Atlantic, January 2, 2021. (US Coast Guard photo by Petty Officer 3rd Class John Hightower)

Zones (EEZs) relied on a nation's patrol ships and aircraft and active fishing boat transmissions, such as from the Automatic Identification System (AIS) and Vessel Monitoring System (VMS), mandated by nations to monitor ships in their areas of responsibility. But IUU fishers often turn off these transmitters, or increasingly spoof their signals, to hide illegal activities. "[O]ver the past year, Windward, a large maritime data company that provides research to the United Nations, has uncovered more than 500 cases of ships manipulating their satellite navigation systems to hide their locations."<sup>a</sup>

Ship-based aerial drones are proving to be a valuable adjunct to ships and aircraft for inobtrusive surveillance, according to the USCG, which

employs the ScanEagle drone from its newer cutters.<sup>b</sup> ScanEagle allows unobtrusive over-the-horizon persistent surveillance of fishing vessels.

Northrop Grumman's MQ-4C Triton high-altitude drone, under development for the US Navy, is a potential broad-ocean-area surveillance capability applicable to countering IUU fishing. Its future capabilities were demonstrated extensively in the international 2022 Rim of the Pacific (RIMPAC) exercise off Hawaii. Australia has committed to buying the drone. Besides carrying electro-optical and infrared imagers the MQ-4C can carry the AN/ZPY-3 multi-function radar, optimized to detect objects on the sea. However, its high cost may preclude many nations from procuring the capability.

The vast spaces of the Pacific, Atlantic, and Indian Ocean fisheries pose a challenge to active sea-based or aircraft surveillance. But the application of high-altitude, long-endurance drones and the growing constellation of commercial satellites promise improvements in maritime surveillance, including for IUU fishing.

Satellite electro-optical imagery has been available commercially for years. Maxar Technologies (a merger of several commercial space technology companies, including DigitalGlobe and Orbital Sciences) provides to its government and commercial customers high-resolution (less than 0.5 meter) optical digital satellite imagery. Planet Labs also operates a constellation of imagery

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a. Anatoly Kurmanaev. "How Fake GPS Coordinates Are Leading to Lawlessness on the High Seas," *New York Times*, September 3, 2022.

b. Address by Captain Holly Harrison, USCG, commander of the USCGC *Kimball*, to the September 2021 IMSE conference.



An MQ-4C Triton Unmanned Aircraft System (UAS) assigned to Unmanned Patrol Squadron 19 (VUP-19), at on the flight line at Naval Station Mayport, Florida, December 16, 2021. (US Navy photo by Mass Communication Specialist 2nd Class Nathan T. Beard)

satellites and states it has 700 customers. Imagery is limited by field of view, resolution, and weather, but when cued by other sources it can help identify suspicious vessels. Newer forms of imagery include the Visible and Infrared Imaging Radiometer Suite (VIIRS) and synthetic aperture radar (SAR). VIIRS is carried on NOAA's Joint Polar-orbiting Satellite System (JPSS) and is used to detect the bright nighttime lights used by many purse-seiner and ring-net fishing boats to attract squid and other species.

SAR allows surveillance in all-weather conditions as it penetrates clouds and darkness, and it provides multi-dimensional images. Civilian use of SAR satellite data began in 1992 with the European Space Agency's Earth Resources Satellite-1 (ERS-1). Since then, many nations have orbited SAR satellites, including

Japan, Canada, Germany, India, Italy, Korea, and others. Commercial companies, such as Finland's Iceye, have recently entered the marketplace for SAR imagery.

The collection of radio frequency (RF) emissions by commercial satellites is a new capability. Several US and European firms have entered this market and can pick up navigation radar and other radio emissions from boats at sea even if the boats turn off their required AIS or VMS broadcasts. These capabilities are very useful in detecting, tracking, identifying, and understanding vessel's patterns that may be engaged in IUU fishing and spoofing active systems, such as AIS. The unclassified nature of the data permits wide sharing among nations and cueing of other sensor systems, such as electro-optical and synthetic aperture radar imagery. In development are unmanned vessels

that tow underwater hydrophones that can detect, classify, and report via satellite link vessels by type and activity through analysis of sonograms.

Detecting misreporting by legally registered fishing vessels has relied in the past on government-sponsored on-board inspectors riding along with a vessel. This is labor intensive and expensive, especially for smaller nations. Also, there have been cases of on-board inspectors disappearing during a voyage with no trace. Several organizations are experimenting with on-board automated video cameras, linked to satellite communications, to monitor activities and the appropriateness of catches.

The US Office of Naval Intelligence (ONI) has long tracked foreign warships and major merchant vessels. Fishing vessels, however, have not been included due to their high numbers, comparatively small

### **Adverse Impacts of IUU Fishing**

High prices, high demand, and shrinking stocks have sparked a “get it while you still can” mentality. In aggregate there are an estimated 3,000 long-distance fishing vessels in the Indo-Pacific, one-third of which fish in prohibited waters without permission. Fifty percent under report what they have caught. Forty percent of the vessels never visit port, off-loading their catch and replenishing at sea.

Besides over harvesting, IUU fishing takes money from legal fishers and out of local economies. Fisheries are the primary source of income for many Pacific oceanic states. The Pew Foundation estimates that IUU fishing costs nations \$23.5 billion annually. The Nature Conservancy projects that many Pacific Island nations will not be able to meet their local food needs in a few years given their population growth and continued IUU fishing. The Nature Conservancy also estimates that more than 95 percent of IUU fishing activities by the Pacific tuna fleet involves unreported or misreported catch by legally licensed boats, not by so-called unregistered “dark boats.” IUU fishing also destroys habitat, especially bottom trawling that damages corals and sea grasses.

Other crimes are associated with IUU fishing, including forgery of records and fraud, corruption of officials, false vessel identity and flagging, licensing avoidance and deception, human rights abuses (e.g., forced labor, human trafficking, enforced prostitution, and child labor), illegal transshipments of catch and fuel, smuggling of drugs and protected species, black marketeering and money laundering, the evasion of penalties, and murder.

For a detailed treatment, see Ian Urbina’s series, “The Outlaw Ocean,” *New York Times Magazine* (2015) and his book by the same name (Knopf, 2019).

displacements, and limited national technical means dedicated to higher intelligence priorities. Into the void of surveying fishing fleets has stepped commercial industry, which has developed capabilities for visual, radar, and radio-frequency surveillance that previously were the exclusive domain of national intelligence agencies.

### **Data Integration, Analysis, and Sharing Are Critical**

To support at-sea enforcement of laws and rules applicable to territorial waters and EEZs, the integration of all-source data is a necessity. Undoubtedly, tracking fishing fleets and specifically illegal fishers will require additional resources. One approach would incorporate public-private cooperation with those commercial firms that already integrate relevant data for their shipping industry and insurance customers. Given the increasing number of collection platforms it should not be difficult to sanitize the sources

for classified data to meet the IUU information requirements. These requirements include, *inter alia*, the time/location of specific ships; their historical movements and patterns (which can reveal at-sea rendezvous often indicative of illegal fishing and illegal transfers of catch to reefer vessels and out-of-port refueling); their suspected use of deceptive methods, such as spoofing tracking signals; their national identity (despite using flags of convenience); and their ownership. Timeliness of data is also important to allow both cross-cueing of collection methods and initiation of law enforcement operations.

The many sensor sources available can produce an overwhelming amount of data. And any one source is rarely sufficient to determine many kinds of IUU fishing. It is the integration of data from disparate sources and the analysis of those data that are critical. The data glut is a challenge requiring various advanced analytical techniques, including artificial intelligence and machine learning.

Determining suspicious vessel activities requires detailed knowledge of fish-rich ocean areas, the movement patterns of vessels engaged in various types of fishing, at-sea rendezvous for illegal transshipments or refueling, and other behaviors.

For the United States responsibility for data integration would logically fall to naval intelligence components, in conjunction with the US Coast Guard which has unique law-enforcement authorities. Several non-governmental organizations analyze data related to IUU fishing. Best known is Global Fishing Watch (GFW), an NGO that tracks in near real time fishing around the globe. The Australian Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is the responsible overseer of fishing in the broad Southern Ocean surrounding Antarctica. The Pacific Islands Fishing Forum Agency, the International Maritime Control and Surveillance (IMCS) network, C4ADS, and several universities and

commercial firms, such as Windward AI, are also involved in aspects of analyzing IUU fishing to provide scientific insight, risk management judgments to companies, or assist in investigations of organizations and individuals behind such illegal activities.

Given the documented decrements in fish stocks and the reliance of many countries' populations on sea-based protein, preserving fish stocks is a priority national security concern for many nations, especially in the Pacific and Africa. The United States is in a unique position to share relevant data with many of these nations, and should do so in a manner that is both timely and integrative of all relevant collected and historical data. Commercial data providers and integrators, of course, have a profit motive. This limits the dissemination of their data to many smaller nations which cannot afford the contractual costs.

Employing a public-private partnership approach, the US government could provide the time-sensitive location data to international partners and compensate commercial companies adequately for the data they provide, leaving less time-sensitive data analysis to commercial companies and NGOs, which they can market, as appropriate (including to the US government).

Pacific nations have organized specialized intelligence centers focused on detecting IUU fishing. The Indonesian Maritime Information Center, for example, was established in 2020; Jakarta has long been the most aggressive in countering illegal fishers. It has seized, burned, and sunk foreign vessels caught



For the first time, USCG members conduct a boarding a fishing vessel in the Eastern Pacific under the South Pacific Regional Fisheries Management Organization (SPRFMO), August 4, 2022. (USCG photo by Petty Officer 3rd Class John Hightower)

conducting IUU fishing within Indonesia's resource-rich EEZ.

Thailand has also focused government resources on improving its monitoring of maritime activities in its Thai Maritime Enforcement Coordination Center (Thai-MECC). The longest running intergovernmental center for tracking IUU fishing is

the Fisheries Forum Agency, which was founded in 1979 and focused on highly migratory fish stocks such as tuna.

The newly formed Quad of India, Australia, Japan, and the US is aimed at regional prosperity with many initiatives in the realms of economics, science, technology, human

### ***UN Agreement on Protecting Marine Resources***

After almost two decades of negotiations, in March 2023 the UN Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction adopted language for a treaty to protect marine diversity. The treaty language addresses the vast ocean areas beyond nations' exclusive economic zones, with the goal of preserving habitats and sharing marine resources in areas beyond national jurisdictions. The preamble states, "Recognizing the need to address, in a coherent and cooperative manner, biodiversity loss and degradation of ecosystems of the ocean, due to, in particular, climate change impacts on marine ecosystems, such as warming and ocean deoxygenation, as well as ocean acidification, pollution, including plastic pollution, and unsustainable use."

resources, and maritime-domain awareness. Countering IUU fishing is a major focus for the Quad nations.

Vice Admiral Andy Tiongson, US Coast Guard commander of the Pacific region, told the 2022 IMSE conference how the USCG through forensic analyses has helped Pacific countries prosecute illegal fishers and how Coast Guard personnel sail on foreign naval and coast guard ships under its ship-rider program.

Challenges remain, especially in the sharing of data and analyses. In the 2022 IMSE conference the heads of the US Pacific Fleet and Australian Navy and senior officers of the Japanese Maritime Self-Defense Forces emphasized that a free and open Indo-Pacific is critical to economic prosperity as well as maintenance of sovereignty and individual nations' national security. In their view, information sharing is fundamental to effective maritime operations between navies and other maritime forces.

It should be noted that historical concepts of protecting sources and methods have become increasingly obsolescent with the growth of the commercial space-based remote sensing industry and the commercial

development of technologies that were once classified. While some detailed collection will always remain secret, the time-sensitive location data on vessels at sea need not be classified.

### ***The Future***

IUU fishing has already led to tensions in the South China Sea. Since 2012, China has used its coast guard and expansive fishing fleet, often manned by its maritime militia, to intimidate and force Philippine fishers from the waters around Scarborough Shoal and others that sit within the Philippines EEZ and within Beijing's unilaterally claimed dashed-line in the South China Sea. This led to a United Nations Permanent Court of Arbitration case that ruled against China, stating that there was no legal basis for China's claim of historic rights over the area within the dashed line.<sup>a</sup> China has ignored the court's ruling.

The conflict over IUU fishing in the South China Sea, of course, is linked to China's claim that the entire sea is exclusively Chinese. The construction of artificial islands and their militarization has affected others, especially Vietnam, Malaysia,

and the Philippines. Some observers opine that it is only a matter of when Beijing's coercive actions, unless curtailed, will result in an armed clash.

IUU fishing knows no national boundaries. No one nation is capable of enforcing fishing laws and regulations. Countering IUU fishing will require investments, multi-state collaboration, intelligence sharing, and multilateral agreements between the numerous regional fishing management organizations (RFMOs). Some RFMOs are more promoters of fishing than regulators. Conservation officials and naval leaders have noted also that, to date, information-sharing has not always gone well.

There are approaches to IUU fishing beyond law enforcement. These include eliminating national subsidies for fishing. The PRC's subsidies, the most generous of any nation by far, estimated at approximately \$7.2 billion in 2017, make otherwise unprofitable fishing profitable. Certification of catches assures buyers of fish that they were caught legally. Publicity about IUU fishing and the deceptive practices associated with it is an important step in depressing market attractiveness of illegally caught fish. Finally, the promotion of aquaculture—China leads world production, accounting for 60 percent of global aquaculture—is a potential solution for future food needs. Aquaculture has grown steadily since the 1970s and now supplies more than half of all seafood consumed by humans.

Like climate change, seafood sustainability within the foreseeable future will increasingly become a crisis. Understanding and countering

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a. *Press Release: The South China Sea Arbitration (The Republic of the Philippines v. The People's Republic of China)*, Permanent Court of Arbitration, July 12, 2016



The crew of the USCG Cutter *Frederick Hatch* approach the *Ocean Galaxy* to conduct a fisheries boarding 195 nautical miles south of Pohnpei, Federated States of Micronesia, on November 20, 2022. (US Coast Guard photo by Seaman Paula Betancourt)

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IUU fishing is critical for many poorer nations and the worldwide

seafood market. Focusing intelligence on the collection of relevant data,

its integration, analysis and sharing should be a high priority.



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### **Resources on IUU Fishing**

Food and Agricultural Organization of the United Nations, <https://fao.org/home/en>

Global Fishing Watch, <https://globalfishingwatch.org>

IMSE, *Proceedings of the IMSE 2022 Conference* (August 4–5, 2022), <https://imsehawaii.org/imse-2022/2022-written-summary.html>

IMSE, *Proceedings of the IMSE 2022 Conference* (September 8–9, 2021), <https://imsehawaii.org/imse-2021/2021-written-summary.html>

International Maritime Organization, <https://imo.org>

National Oceanic and Atmospheric Administration, <https://fisheries.noaa.gov>

The Nature Conservancy, <https://www.nature.org/en-us>

OCEANA, <https://usa.oceana.org>

Pacific Forum, <https://pacforum.org>

US Coast Guard, *Illegal, Unreported, and Unregulated Fishing*, <https://uscg.mil/iuufishing>

Woods Hole Oceanographic Institution, <https://whoi.org/edu>



## The US Coast Guard and OSS Maritime Operations During World War II

LCDR Michael Bennett, USCG

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### **The Coast Guard's contribution to the Maritime Unit of OSS has been barely noted.**

*Editor's note: We have reprised this article from the December 2008 issue of Studies in Intelligence to provide some insight in to the Coast Guard's historical connection to the work of intelligence.*

As the Intelligence Community continues its transformation and the Coast Guard intelligence program experiences enormous growth, members of both communities would be well-served by reflecting on the contributions Coast Guard intelligence has made in the past. From its beginning as the Revenue Marine in 1790, the Coast Guard's unique authorities, industry access, and organizational culture of adaptability have allowed it to make great contributions to intelligence and to important military successes in our nation's history.

Archived documents, many originally classified, and published histories show that Coast Guard intelligence officers have turned up in some unlikely places—sometimes by design, sometimes by accident, but most by dint of the nature of Coast Guard operations and missions. Examples include scouting and information gathering by revenue cutters during the War of 1812; Rum

War cryptanalysis and code breaking in the 1920s; HF/DF decryption work under the Office of Naval Intelligence before and during World War II, including the work of Field Radio Unit Pacific; contributions to ULTRA; and the Maritime Unit of the Office of Strategic Services. The Coast Guard's contribution to the latter effort was barely noted in the official history of OSS written after the war's end.<sup>a</sup> This article is intended to illuminate this little known aspect of intelligence history.

Since its inception, the Coast Guard has been involved in the collection and maintenance of information that might today be equated to intelligence. In performing duties involving the security of the homeland, the Coast Guard has charted local coastlines and collected information on the movement of ships and other vessels, ship manifests, cargoes, and crews, most of which was passed to customs collectors in ports and to Treasury Department headquarters. More than 122 customs inspectors and surveyors and 10 revenue cutters in ports up and down the coast of the young United States supplied Treasury Secretary Alexander

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a. Kermit Roosevelt, *War Report of the OSS* (Government Printing Office, 1949). Originally classified Top Secret, the book was partially declassified in 1976 and reprinted commercially. One declassified version was published by Walker and Co. of New York with an introduction by the historian of WW II intelligence Anthony Cave Brown.

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### **A Quick Look at Coast Guard History**

1790: Founded as the Revenue Marine Service by Secretary of the Treasury Alexander Hamilton to “combat illicit shipping in and out of US ports and along US coasts.”

1791–1801: In a quasi-war with France, revenue cutters organized as a naval force alongside privateers and later the US Navy. Revenue cutters captured 18 of 22 French vessels it attacked.

1789–1862: Revenue cutters took part in efforts to suppress slave trade after its abolition in 1808.

War of 1812: Cutter Jefferson made the first capture of a British war ship of the war. After the war revenue cutters were used to chase down pirate ships in the Gulf of Mexico and the Caribbean and to identify pirate strongholds.

1836–42 and 1846–48: The Revenue Marine Service was engaged in the Seminole War and Mexican War, respectively.

1861–65: Most cutters sided with the North and were used to blockade southern ports.

1915: Life Saving Service combined with Revenue Cutter Service to form the modern day Coast Guard. New service officially included a “chief intelligence officer.”

1917–18: During WW I the Coast Guard, attached to the Department of the Navy, did patrol and convoy duty and had the highest percentage loss of life among among military services.

1941–45: During World War II, the Coast Guard engaged in large range of actions, including first contact with the enemy before Pearl Harbor and seizure of German radio installations in Greenland. It was also involved in amphibious landings in both theaters.

### **Moments in Coast Guard Intelligence History**

1904: The Coast Guard pioneered ship to shore radio communication, which later became the foundation for HF/DF, often referred to as Huff-Duff, communications intercepts during the Rum War and World War II.

1915: The law establishing the modern Coast Guard authorized “securing of information which is essential to the Coast Guard in carrying out its duties; for the dissemination of this information to responsible officers, operating units of the Coast Guard, the Treasury Department and other collaborating agencies; and the maintenance of adequate files and records of law enforcement activities.” The duties of the intelligence officers included “obtaining and disseminating to proper officials information of the plans and movements of vessels and persons engaged and suspected of being engaged in the violation of laws, the enforcement of which is charged to the US Coast Guard.” Additional language stated that the Coast Guard would be constituted as part of the military forces and operate as part of the Navy in time of war or when the president shall so direct.

Hamilton “an unending stream of intelligence.”<sup>a</sup> In effect, Hamilton possessed an overt human information and intelligence collection system that spanned the entire length of the eastern seaboard and into the Caribbean.

This type of collection took on an almost modern appearance when, during the War of 1812, the officer commanding the defenses of Wilmington during the British blockade of Delaware Bay issued instructions—collection guidance today—to the revenue cutter General Green to obtain information on the size and disposition of the blockading squadron, the involvement of local pilots, landings on the bay’s shores, the status of provisioning and water, and so on. The order also instructed the cutter to get information about British behavior from local watermen and to examine local boats for British contraband and collaborators.

This combination of information gathering, scouting, and reporting would form the foundation not only for how information was collected and organized in ports across the United States but also dictated the conduct of law enforcement intelligence collection until Prohibition and the war against the rum runners in the early 1920’s, when the use of HF/DF spotting and location technology introduced an early form of COMINT to the Coast Guard and US intelligence. These practices ideally placed the Coast Guard in a position to respond to executive orders President Franklin Roosevelt issued in 1941, before and after the attack on Pearl Harbor, to bring the Coast

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a. Ron Chernow, *Alexander Hamilton* (New York: Penguin Press, 2004), 341.

Guard into a wartime footing under US Navy command.

### ***Guardian Spies of WW II***

The Coast Guard would have myriad duties under the Navy that would eventually involve it with Colonel Donovan as Coordinator of Information and later as the head of the Office of Strategic Services (OSS). The history of OSS has been well documented. What remains little known, however, is the relationship between OSS and the Coast Guard, including the formerly classified history of the use of Coast Guard signals intelligence; Coast Guard men attached to OSS West Coast Schools and Training; Domestic Coordination at Area D on the Potomac River using the Coast Guard's Captain of the Port authority for "protection zones"; and the secret "Philadelphia Plan" designed to use OSS personnel to train the newly formed Coast Guard Auxiliary for antisabotage operations at East coast ports.

In these maritime activities, Coast Guard men recruited for their swimming, diving, boathandling, and signaling skills were at the heart of the OSS Maritime Unit (MU) and Operational Swimmer Group (OSG) operations. After they were organized and trained, these men were deployed with the OSS MU to Europe and the

China, Burma, India (CBI) Theater of Operations and to the Navy's Underwater Demolition Team 10 in the Pacific.

By August 1944, OSS had 226 men assigned to its Maritime Unit.<sup>a</sup> Of these, according to declassified personnel rosters, almost 75 were from the Coast Guard. Another 40 were attached to the West Coast training schools.<sup>b</sup> This small contingent was part of the largest expansion of the Coast Guard in its history, one that transformed the small peacetime Coast Guard fleet into a force of "160,000 men, manning 30 destroyer escorts, 75 frigates, 750 cutters, 290 Navy vessels, and 255 Army vessels, among scores of smaller craft."

#### ***The Creation of Area D and a New Marine Section***

It took nearly 17 months for the OSS Maritime Unit to move from conception in early 1942 to its first operational assignment in Europe in late July 1943. During this time a British naval officer, CDR B.G.A. Woolley, was brought in to organize and train its operatives. According to a history of the Maritime Unit prepared late in the war by its chief:

*Comdr. Woolley was assigned by General Donovan to assist in a study of British methods of training operatives and raiding forces. Thus far in the war, the*

*British had been conspicuously successful in infiltrating agents by sea and executing acts of maritime sabotage. Details of their equipment and experience were obtained by Comdr. Woolley and in great part formed a basis for O.S.S. future maritime activities.<sup>c</sup>*

A location on the Potomac River, designated Area D, had been acquired for Woolley's activities—even before a unit was officially established. The site was located in an area of about 1,200 acres just south of Quantico, Virginia, with roughly two miles of water frontage on the south bank of the river.

Because his marine section was not officially a stand-alone branch of OSS, CDR Woolley had to "beg, borrow, and steal" necessary resources for his start-up operation. He did not get control of the grounds from the OSS component that had controlled it until March 1943, along with supplies and equipment.<sup>d</sup>

Cabin cruisers had to be acquired for training. Their acquisition was no small matter because the Coast Guard and the Navy had already acquired many cabin cruisers suitable for service at the beginning of the war, and a shortage existed. OSS had to conduct an extensive search to identify vessels 70–90 feet in length for its purposes.

a. LT Dennis Roberts, USN, "Maritime Unit History," 1944. The history was compiled for Roosevelt's OSS history project. The declassified report is in the possession of Mr. Tom Hawkins of the Naval Special Warfare Foundation. Provided to author via e-mail on 22 January 2007.

b. Office of Strategic Services (OSS), West Coast Training Center (WCTC), Roster of Station Compliment, Avalon, CA, 2 April 1945 and OSS WCTC Memorandum titled "Present Status of Boat Division Personnel," dated 13 February 1945. LCDR Howard Shelby (USCGR) listed as Command of Boats and Crews with an additional 35 Coast Guard men assigned under his command. National Archives College Park, M: , Record Group 226-134- 8 accessed by author on 21 July 2007. OSS Detachment 404 Headquarters South East Asia Command, "Personnel Roster" ated 1 March 1945. National Archives College Park, MD: Record Group 226-165A-5-9. Roster listed Coast Guard officers and enlisted men attached to 404.

c. Roberts, "Maritime Unit History."

d. *Ibid.*, Chapter 1.

OSS files show that this process took about 10 months.

Navy and Coast Guard officers eventually identified two suitable cabin cruisers, the *Maribel* and the *Marsyl*, which were licensed by Coast Guard Captain of the Port (COTP) authority, and slots at local marinas and yacht clubs in the DC area were obtained. In addition, the boats received special COTP protection for maritime training missions, which often were conducted at night and inevitably looked suspicious.

As intensive training was about to begin in the summer of 1943, CDR Woolley worked with Washington area Coast Guard Captain of the Port H.G. Hemmingway to establish special protection zones for maritime training, obtain documentation, and provide security. These pioneering arrangements and the training practices CDR Woolley imported became the foundation for clandestine maritime training in the United States. The training center also went on to pioneer new equipment and methods in the maritime environment that were exported to several theaters between 1943 and 1945.

The arrangements lasted until late in 1943, when new training sites were located and camps organized. In November 1943, a Special Maritime Unit, consisting of approximately 40 officers and men was recruited and commenced training at Camp Pendleton, California. By this time, Donovan had approved the use of

### **OSS Maritime Unit Chronology**

(From Roosevelt's War Report)

Feb 42: British Naval Officer (presumably Woolley) loaned to OSS

Aug 42: First maritime operations training class begun.

20 Jan 43: Marine Section established.

18 Feb 43: Underwater swimming groups okayed by Donovan.

24 May 43: First underwater swim training in Annapolis.

9 Jun 43: Maritime Unit formalized.

July 43: First MU officer dispatched to run caique service for clandestine supply and infiltration.

Coast Guard men for OSS operation, moving the OSS–Coast Guard relationship from one of cooperation to participation.

The warm water off southern California had a great deal to do with the decision to relocate phases of MU training from the East to the West Coast. In February 1944, another camp was established on Catalina Island. Two months later, in May, a training base was set up in Nassau, British Bahamas, after tests proved that these warm waters and exceptional weather conditions made it ideal for swimming exercises. Severe pollution in the Potomac was also a factor in relocating swimming activity.

### **From Coordination to Frogmen: Becoming Operational**

Coast Guard involvement in operations had been formally broached in a 3 September 1943 confidential letter from chief of OSS Special Operations CAPT Carl O. Hoffman (USA) to CAPT Ward Davis (USN), chief of OSS Naval Command. Captain Hoffman stated:

I have proposed to the General [Donovan] the use of Coast Guardsmen for OSS work.... The reason for the proposal is that most Coast Guardsmen are well trained in communications and incidentally trained in the use of sidearms. If wherever possible we can draw our men from the Coast Guard we have gained in time as more than half their training is complete.... Many of the Coast Guardsmen are likewise trained in Small Boat Handling which will prove useful in an emergency.<sup>a</sup>

This letter was critical in moving the organizational relationship between the Coast Guard and OSS from one of coordination to full use of Coast Guard men in all aspects of MU training, education, mission support, and operations, including those involving the Operational Swimmer Groups.

When OSS asked the Coast Guard to provide personnel for its operational swimmer program, it got a mixed response. The assistant commandant of the Coast Guard, RADM L. T. Chalker, wrote to the executive officer of the OSS, LTC O.C. Doering, that the Coast Guard could

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a. CAPT Ward Davis (USN) letter to CAPT Carl O. Hoffman (USA), 3 September 1943. National Archives, College Park, MD. Record Group 226-Entry No. 146ABox 14. War Report of the OSS stated that "OSS Naval Com was responsible for the recruitment, processing and management of Navy, Marine Corps, and Coast Guard Personnel. Officers were administratively detailed to OSS as an activity of the Office of Chief of Naval Operations; enlisted men were nominally assigned to the Potomac River Naval Command. In May 1943, when OSS Naval Command was established, the orders of all officers and enlisted me were amended to specify assignment to it.... The Naval Liaison Officer in the OSS Nav Com was the official contact between the branches of OSS and various naval intelligence units."

not provide the number of officers requested:

*For some time the Coast Guard has been faced with an acute officer situation which has been brought about by manning a considerable number of Naval craft in addition to taking care of our own expanding needs. For this reason the Commandant is loath to make any commitments involving officer personnel.*

Enlisted men could be detailed, however. The Coast Guard

*will make available the enlisted men asked for.... It is regrettable that circumstances make it inadvisable to supply the officer personnel as the Coast Guard always has tried to cooperate with the [Office of Strategic] Services whenever it has been able to do so.<sup>a</sup>*

In the end, a few officers were assigned to OSS duty. But these men had leadership roles: LCDR Howard Shelby and CWO Wilfred Keil commanded boats and crews at West Coast Schools and Training at Camp Pendleton; LT John Booth became the commander of OSG II in the CBI Theater; CWO Thomas Medlicott also in OSG II; CWO Robert Butt led a landing unit and OSG III in the South East Asia Command (SEAC); and ENS Arthur Garrett led OSG I and UDT 10 in the Pacific.

The men recruited for OSS MU operations were trained and worked in joint teams that combined Coast

### **The Security Arrangements**

Classified letters exchanged on 15 June and 16 June 1943 between Captain Hemmingway and Commander Woolley outline the coordination arrangements.<sup>a</sup>

Commander Woolley to Captain Hemmingway, 15 June 1943:

“It would be appreciated if you would kindly issue the necessary permit for the vessel to pass up and down the river Potomac while she is in government service with the Office of Strategic Services. The work performed by the vessel is of a secret nature which has been explained to your predecessor”

Captain Hemmingway to Commander Woolley, 16 June 1943:

Agreeable to your request of this date, a renewed license for the MARIBEL to cruise the Potomac River is enclosed herewith. This office will depend on you personally to comply with the first paragraph of your letter of this date, in case it becomes necessary to do so [regarding transfer of the MARIBEL from government service]. In case of your detachment from your present duty it is requested that you bind your successor to the same requirements”

On 17 June, CAPT S. E. Barron, Chief of Staff for the Coast Guard District Potomac River Naval Command, sent Commander Woolley a copy of the protection order stating that:

The “MARIBEL,” a flush-deck type gas screw motor yacht, 66.8 feet in length, 16.3 beam, official number 2251123, is engaged in special government work. Patrol vessels of the Coast Guard Patrol Base, Washington, are to give her free passage and are not to board her. She operates often at night, blacked out, in the vicinity of Clifton Beach. Such patrol vessel commanders are to bear this in mind and are to keep clear of her. In directing other vessels, such patrol commanders, shall see that such vessels stay clear of her.”

a. All cited exchanges can be found in National Archives, College Park, MD: Record Group 226-328-92-9

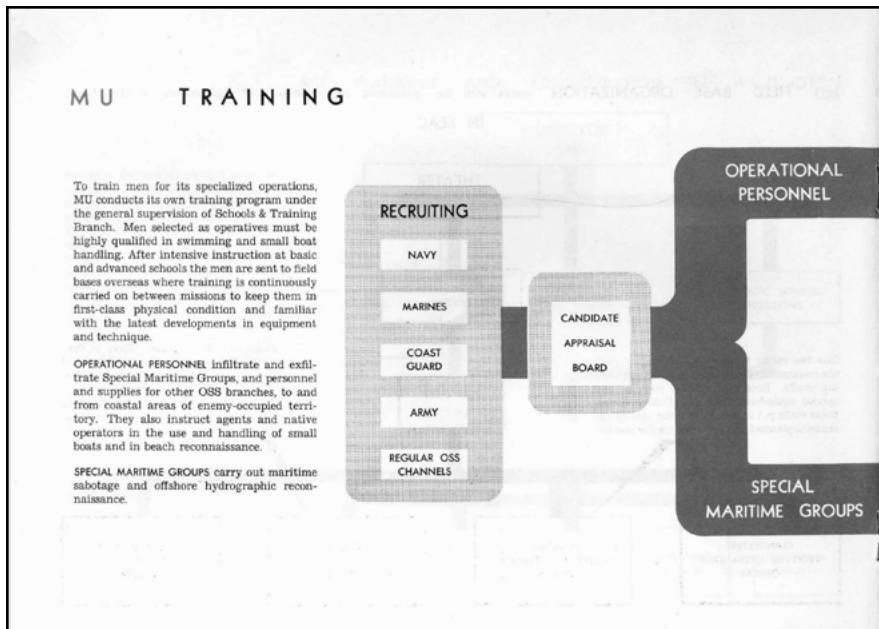
Guard, Navy, Army, and Marine Corp counterparts. The graphic on the following page, taken from the declassified Maritime Unit Manual of June 1945, highlights the recruitment and training of men from all military services, including the Coast Guard.

In his Maritime Unit History, Lieutenant Roberts noticeably overlooks (as did Roosevelt) the Coast Guard contribution, writing, “On August 31, 1944, the date which marks the close of this history, the

Maritime Unit had total personnel of 226. These included: Officers and enlisted men, Army-60; Navy 143; and Marines-19. In addition, there were 4 civilians.”<sup>b</sup> Declassified records, however, clearly highlight the role of Coast Guard men, who, as of August 1944, constituted almost a third of the Maritime Unit and almost half of the 143 Navy men Lieutenant Roberts counted as “Navy” personnel, most likely because of Executive Order 8895, which attached the Coast Guard to Navy for the duration of the war.

a. Letter from RADM L.T. Chalker, Assistant Commandant USCG to LTC O.C. Doering, Executive Officer of OSS in reply to a request for additional officer personnel. National Archives Record Group 226, Entry No. 136, Box 133, File 1418 (accessed by author 28 February 2008).

b. Roberts, “Maritime Unit History.”



**The Final Test: Operation Cincinnati**

Operation Cincinnati was a full-scale exercise conducted by LT John Booth's OSG II, just after it completed its team training in Nassau. The objective of the exercise was to penetrate US Navy harbor defenses in Guantánamo Bay, Cuba, and just before OSG II deployed to CBI. The exercise served both to test Navy defenses and to evaluate the effectiveness of the new group's ability to conduct reconnaissance, infiltration, and sabotage operations from the sea before it was to deploy to Asia in the fall of 1944.

As the leader of an attacking "Red Group," Lieutenant Booth was in command of the operation, including the assault group and the mother ship. According to the operational-order for the exercise, each man of the Red Group

*shall be equipped with wrist watch, waterproof compass, sheath knife, fins, sneakers, and face plates. Each group shall carry waterproof flashlights. Each anchorage detail... shall carry M-3's in waterproof covers. Anchorage detail of Red shall carry sidearms. Waterproofing of all demolitions shall be inspected by LT French (USA).<sup>a</sup>*

The exercise was the first of its kind in an actual maritime environment and took place almost 40 years before the Navy commissioned a US Navy officer from SEAL Team Six to set up Red Cell teams in 1984 to ascertain the Navy's vulnerability to terrorist attacks.

Roosevelt gave Operation Cincinnati a good evaluation in his War Report:

*In these tests, the lengthy training showed commendable results, because the swimmers were able to circumvent the net defenses in each instance. An additional point of value was proof that the Navy sound detection gear did not reveal the presence of underwater swimmers.<sup>b</sup>*

Operation Cincinnati also provided proof of concept for equipment to be used in forthcoming undersea warfare operations. One key piece of equipment was an underwater breathing apparatus invented by Dr. Christian Lambertsen.<sup>c</sup> Although other self-contained diving equipment was under development, the Lambertsen Rebreathing Unit (LARU) was the first unassisted diving capability employed operationally by the United States. It allowed MU swimmers to stay under water at a depth to 50 feet for as long as 90 minutes, allowing time to swim almost a mile.

Other significant contributions included development of the two-man kayak, two-man surfboard, and use of the British submersible unit referred to as the "Sleeping Beauty," which enabled swimmers silently to move agents past enemy defenses in either infiltration or exfiltration operations.

a. Operation Cincinnati OORDER.

b. Roosevelt, *War Report*, 227.

c. Lambertsen was more than an inventor. He was also the mentor and trainer for OSS Maritime Unit personnel. In the year 2000, Dr. Lambertsen was designated as the Father of US Combat Swimming by the Navy's UDT/SEAL community. His life's work has included significant contributions to the US Coast Guard Air/Sea Rescue Program, Navy SEALs, the US Army, and NASA. He is the creator of most of the technology used for Combat Swimming Operations in the United States today.



Operational Swimmer Group II, a truly joint force, shown in Cuba in 1944. Unit commander, LT John Booth, is standing at the far left. Of the 32 men posing in this image, 16 were members of the Coast Guard. Of the remainder, seven were from the Army, five from the Navy, and four from the Marine Corps. The dog's service of origin is unknown. Photo Source: RM1/C John Harrigan (USCGR).

## ***Field Operations***

### ***Europe***

In January 1944, the first Maritime Unit members began to deploy to Europe and CBI. In the Mediterranean, highly successful clandestine ferrying operations were carried out in the Aegean Sea, as agents and supplies were landed and downed fliers and refugees evacuated. In Italy the MU supported the operations of the Italian amphibious group, the San Marco Battalion (see text box), and trained in maritime sabotage and sneak attack operations; in the United Kingdom, MU coordinated the use of PT boats and submarine chasers.<sup>14</sup> L-Unit I and II were part of the original MU Operational Swimmer training that began earlier in the war and deployed to the UK and European Theater of operations during January–June of 1944.

### ***China, Burma, India***

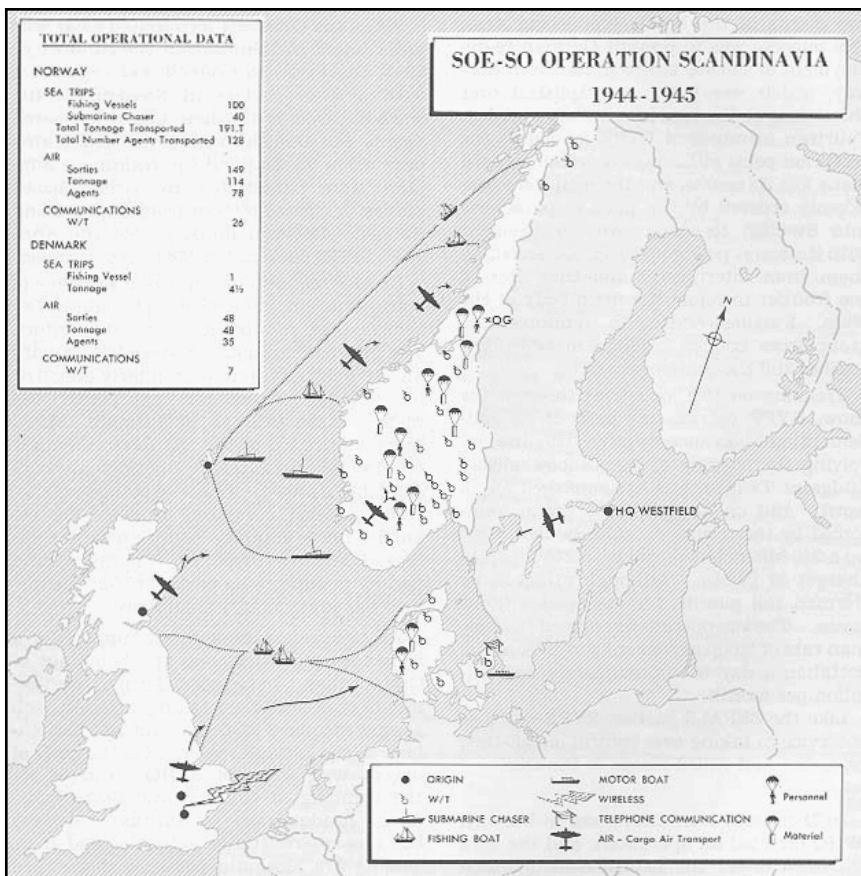
In January 1944, after training in Coronado, the Bahamas, and Guantánamo Bay, OSG II deployed to Burma, Ceylon, and Kandy as part of Detachment 101 and Detachment 404 of the OSS (January 1944–April 1945). The “Arakan Field Unit” was a combination of OSS Operational Group and MU men in which the latter were to provide coastal intelligence to the British-led XV Indian Corps for an advance south along the Burmese coast and to provide maritime services to all branches in theater.

OSG III trained in the Bahamas and deployed to Ceylon, the Southeast Asia Command, and Detachment 101 (October 1944–January 1945). By 1944 and early 1945 many of the Coast Guard men attached to the MU were deployed to

the OSS missions and sub-missions in both theaters of the war.

One example of the many operations conducted in CBI was an operation called “Cleveland” on 25 January 1945. Although many of the missions conducted by OSGs were dangerous and often far behind enemy lines, Operation Cleveland was nevertheless unique in that its objectives were to obtain intelligence of a target area; to capture a native for the purposes of interrogation; and to ascertain generally, enemy strength in the area.<sup>a</sup> Several men of OSG II, including LT Booth and Chief James Eubank of the Coast Guard were involved (the two are shown returning in the image to the right).<sup>14</sup> An enemy agent was, in fact, captured, exfiltrated, and interrogated by OSS personnel. In addition, a survey of the coastline, terrain, and

a. Operational Summary for Operation Cleveland. National Archives Record Group 226. File labeled SEAC Operations.



This map from Kermit Roosevelt’s declassified War Report illustrates the importance of maritime operations in the Scandinavian region.

status of enemy forces was accomplished for the commander of CBI.<sup>a</sup>

Of the 22 missions listed in the Maritime Unit Diary, Coast Guard men participated in all but two. The chief of the Maritime Unit in the China, Burma, India Theater said in his July 1945 report to OSS HQ in Washington DC that:

*enough cannot be said in the praise of these [Coast Guard] men and the remainder of the group which joined on 13*

*January [1945], for the spirit in which they took up their new assignment and the cooperation and loyalty that they gave us. Their lot was not an easy one, but their previous training proved invaluable. They were engaged in the infiltration of agents where the existence of the enemy was known and in working their way many miles into enemy lines through mangrove swamps under enemy outposts, and dodging enemy M.L’s. We can be thankful that*

*no men were lost through enemy action.<sup>b</sup>*

## Conclusion

### A Past Finally Recognized

The Coast Guard men attached to the OSS during World War II all are part of the long blue line of Coast Guard history. But even more, they helped lay the foundation for future Coast Guard operations and for defense organizations yet to come. The training, tactics and procedures pioneered by the OSS MU and OSGs of which Coast Guard men were such a big part would help build the foundation for future covert diving operations, US Navy SEALs concepts, and Special Operations Command combat swimming operations. Indeed, in a ceremony at the Special Forces Command in 1998, the Coast Guard frogmen and the men of the OSS Maritime Unit were inducted as honorary members of the Special Forces, more than 50 years after their service in war.

### Looking Ahead

In the summer of 2007 the Coast Guard reestablished, for the first time since WW II, the intelligence specialty for enlisted personnel and brought into the Coast Guard people who specialize in all-source, human, communications, signals, and counterintelligence missions. The Coast Guard’s new cryptologic program is the service cryptologic element for the Department of Homeland Security, and, under revisions to

a. Interview of LT John Booth by author, April 2006, confirmed in interview with Maj. Christian Lambertsen, October 2006.

b. National Archives. OSS Files. Record Group 226, Entry No. 549, Box 92, File 13. “Burma War Diary.” Drafted by LT Jon Babb, Chief Maritime Unit, India, Burma Theater. July 1945. The “Burma War Diary” provides a summary of the activities of the MU in Burma, listing names, missions and responsibilities of the men conducting covert and sabotage operations in that theater up until the MU received orders to disband on 15 June 1944.



Executive Order 12333 introduced by President Bush in July 2008, intelligence and counterintelligence elements of the Coast Guard were authorized to:

- Collect (including through clandestine means), analyze, produce, and disseminate foreign intelligence and counterintelligence including defense and defense-related information and intelligence to support national and departmental missions;
- Conduct counterintelligence activities;
- Monitor the development, procurement, and management of tactical intelligence systems and equipment;
- Conduct related research, development, and test and evaluation activities; and
- Conduct foreign intelligence liaison relationships and intelligence exchange programs with foreign intelligence services, security services, or international organizations.

Until the reintroduction of the intelligence speciality, intelligence duties were often performed by officers and enlisted personnel from other specialties in the service, a policy that left the Coast Guard at a disadvantage in building long-term expertise to perform national intelligence duties.

**Excerpt from OSS War Report on Maritime Unit Operations with San Marco Battalion in Europe<sup>a</sup>**

In February 1944 an arrangement had been concluded between OSS and the Duke of Aosta to make available to OS the techniques and services of the Italian San Marco Battalion, an elite corps of Italian naval personnel specializing in amphibious operations and maritime sabotage. A volunteer group of five officers and 50 men from the battalion was assigned to OSS, along with the latest items of Italian maritime equipment. Included were swimming gear, two man “mattresses” with silent electric motors to permit clandestine landings, and other assault, reconnaissance, and demolitions equipment.

The San Marco were placed under the direction of OSS Maritime Unit Branch personnel. In May, they were based at Fasano, south of Bari, subsequently moved to Falconara, north of Ancona, and after the capture of Ravenna in December 1944, set up an advance base near that city. US PTs and British MTBs were used alternately with Italian MAS or MS boats under British Navy control. By the spring of 1945, the MU staff had been reconstituted as the Maritime Detachment of Company D and had added various locally procured fishing craft and speedboats to its equipment.

The first mission took place on 19 June 1944, a sabotage operation that succeeded in blowing a railroad bridge along the coast 100 miles behind enemy lines. A second such operation was carried out late in July. In the August month period, the first operation for intelligence purposes was run, at Eighth Army request, to exfiltrate agents and an Italian with plans and photographs of a section of the Gothic Line in the Pesaro region. Several carefully briefed partisan guides and San Marco officers were infiltrated and returned successfully four days later. The material reached the Eighth Army four days before its attack on the Gothic Line in the Pesaro Sector.

A total of 10 clandestine maritime patrols on Lake Comacchio were accomplished, several small islands in the lake occupied, and a series of small offensive forays run against the enemy-held northern shore of the lake. By mid-April, partisan groups south of Chioggia were contacted and, with the more clement spring weather conditions, rapidly supplied both by air and by sea. Several other operations were run jointly with an Eighth Army detachment to infiltrate and recover agents and couriers.

a. Roosevelt, *War Report*, 228–29

Ironically, the reinvigoration of intelligence responsibilities in the Coast Guard since 9/11 has almost brought the Coast Guard back to its intelligence related work of WW II. In the summer of 2008, the commandant of

the Coast Guard announced a partnership with Naval Special Warfare in which Coast Guard men will be trained as US Navy SEALs.

The original guardian spies would be pleased.<sup>a</sup>



a. Readers can find more detail, including a bibliography of literature on the Coast Guard and its historical role at: [www.uscg.mil/history](http://www.uscg.mil/history) and [www.guardianspies.com](http://www.guardianspies.com).