

Key West:

Home of ARSOF Underwater Operations

by Kenneth Finlayson

ARMY Special Operations Forces (ARSOF) employs a variety of methods to insert troops in their area of operations. Infiltration by air, land, and sea are all viable options evaluated by ARSOF units during mission planning.¹ The proclivity for waterborne operations training, either surface or sub-surface, has been assigned to Special Forces since 1952. This article will trace the origins of Army underwater operations from World War II to the establishment of the Special Forces Underwater Warfare Operations (SFUWO) school at Key West, Florida. Special Forces underwater operations have undergone a number of course changes and facilities upgrades since the school was established at Key West in 1965.

The origins of ARSOF maritime operations can be traced to the Office of Strategic Services (OSS) during World War II. The OSS had a Maritime Operations Branch and Maritime Unit (MU) that became operational on 20 January 1943. The Maritime Unit trained for surface and sub-surface swimming operations using first-generation underwater breathing equipment. In 1940, Dr. Christian J. Lambertsen had invented a closed-circuit (recycled air system) underwater breathing device. It was known as the Lambertsen Respiratory Unit (LARU) and

became the standard apparatus for underwater swimmers in the MU.² Lambertsen transferred to the OSS in 1943 from the Army Medical Corps. After training newly recruited MU swimmers on his apparatus on Catalina Island, California, and in Nassau, Grand Bahamas, Lambertsen was sent to Ceylon (Sri Lanka) on 7 January 1945. He joined the MU at the base at Galle, Ceylon, where the MU had been headquartered since arriving in the theater in June 1944.³

The Maritime Unit was in the China-Burma-India Theater (CBI) because Brigadier General William O. Donovan, the director of the OSS, promised Lord Louis Mountbatten, the theater commander, that he would furnish forces to assist in intelligence gathering. The under-manned and under-supplied CBI was an “economy of force” theater in World War II.⁴ Based on Ceylon, the MU was initially located at the British Naval facility in Trinco-



OSS Seal

Dive Badge

SCUBA: Self-Contained Underwater Breathing Apparatus is the term commonly applied to underwater diving equipment other than those of the “hard-hat” variety. Where necessary, the different types of systems will be explained.



Dr. Christian Lambertsen (left) and U.S. Coast Guard Lieutenant John P. Booth conducted the dive training for the Maritime Unit in Nassau, the Bahamas.



The Lambertsen Rebreathing Unit was the closed-circuit underwater breathing system used by the Maritime Unit.



The Maritime Unit was based in Galle before moving across the Bay of Bengal to the Mergui Archipelago in December 1944.



The Sleeping Beauty was an underwater submersible of British design.

occupied Burma, gathering intelligence and inserting agents along the mangrove-dominated coast. Between 1 January 1944 and 23 May 1945, thirty-six missions were conducted—the majority against the Japanese in Burma, but some covered Thailand, Sumatra, and the Andaman Islands.⁷ The MU was eventually incorporated into the “OSS 101 Arakan Field Unit” on 15 February 1945, where they continued to conduct maritime operations until disbanded on 15 June 1945. Dr. Christian Lambertsen and the underwater swimmers of the Maritime Unit in the CBI pioneered the techniques and equipment that formed the basis for the future of Special Forces underwater operations.

The end of the war prompted President Harry S. Truman to dissolve the OSS by executive order in 1945. But military interest in underwater operations continued. Between 1947 and 1949, Dr. Lambertsen worked with Army Field Forces Board #2 improving his LARU and

malee before relocating to Galle on the southwestern end of the island. Galle remained the primary MU base until the unit moved across the Bay of Bengal to the Mergui Archipelago in December 1944.⁵ This new base significantly reduced the 2,600-mile round-trip from Galle to their primary area of operations on the Arakan Peninsula of Burma.

Stationed at the OSS Maritime Unit Base in Galle, Dr. Lambertsen continued to train the MU swimmers with his rebreathing apparatus and in the use of the British submersible, the Sleeping Beauty. “Dual-hatted” as the unit medical officer, he divided his time between training the MU swimmers, maintaining the delicate submersibles, and attending to the medical needs of the men. At the end of the war, Lambertsen transferred back to the Army Medical Corps where he remained until his discharge in 1946.⁶

The MU focused its efforts against the Arakan coast of Japanese-

gaining approval for adoption for standard use by Army divers.⁸ Until the 1950s, the Corps of Engineers was the only Army element interested in diving. The Corps employed “hard-hat” divers for underwater salvage work and repair of lock and dam facilities. The creation of Special Forces in 1952 expanded the Army’s interest in maritime operations. By the mid-1950s, Special Forces soldiers were training for missions that required the underwater diving equipment of the time, technology that was readily available and rapidly evolving.

In the post-war years, underwater diving had moved from a strictly military application to one of recreation. In the pre-war years, Frenchman Jacques Cousteau and Austrian Hans Hass had each invented “open-circuit” diving systems that used bottled oxygen and discharged the used air into the water. Cousteau’s “Aqua-lung” was marketed commercially after the war and became the standard for recreational divers. In an academic paper on physiology related to diving, Dr. Lambertsen coined the term SCUBA (self-contained underwater breathing apparatus) that became the popular term for all types of underwater breathing systems. The first Special Forces divers were part of the SCUBA boom. In an early example, men of the 77th Special Forces Group at Fort Bragg, North Carolina, formed a “Para-Divers” Club in 1955 with membership open to those individuals who were trained parachutists and SCUBA divers. The club officers, Master Sergeant Carl J. Brewster, President; Master Sergeant Walter Boyling, Vice-President; Sergeant First Class Everett White, secretary; and Sergeant First Class George H. Campbell, treasurer, received certification from the National Frogmen Club of Glendale, California, at that time the official sanctioning body for recreational diving in the United States.⁹ At this time, the other Special Forces Groups were training and conduct-



77th SFG Distinctive Unit Insignia



Members of the 77th Special Forces Group. SCUBA-qualified members in the Group formed a “Para-Divers” Club in 1955.



Men of Detachment-Berlin assist local officials with an underwater body search and recovery in Bavaria, 1961.

ing underwater operations.

The 1st Special Forces Group (SFG) on Okinawa and Detachment A in Berlin, as well as the 8th SFG in Panama all conducted training and operations to become proficient in SCUBA operations because it was an infiltration technique.¹⁰ The early Special Forces SCUBA divers were trained by the Navy at their underwater swimmers school at Key West, Florida. Sergeant Robert F. Mulcahy was one of ten members of 77th SFG who completed the Navy's Underwater Swimmers School at Key West in June 1958.¹¹ The next year, Mulcahy and nine SCUBA divers from the 77th SFG received advanced underwater training at Norfolk, Virginia, with the Navy.¹² The growing interest in Special Forces underwater operations led to the establishment of a course of instruction through the U.S. Army Special Warfare Center in 1961.

Brigadier General William P. Yarborough, commander of the U.S. Army Special Warfare Center at Fort Bragg, saw the need to standardize the underwater training in



Graduating class of the Navy's Underwater Swimmers School, June 1958. Sergeant Robert F. Mulcahy is in the second row, 5th from the right.

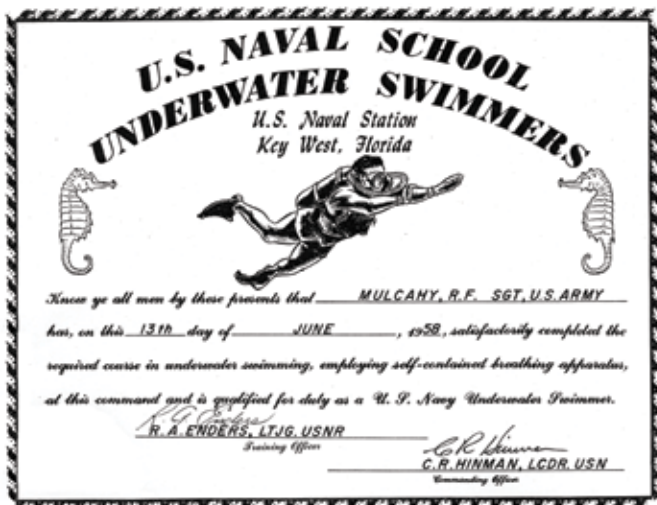
the SF Group. "At that time, SF Scuba was a hodge-podge of programs. We had the same problem with HALO (high-altitude low-opening parachuting) and we needed to develop training programs. In 1961, the Special Warfare Center established a cross-training program with the Navy Underwater Demolition Teams."¹³ It soon became clear that the Army Special Warfare Center needed a facility for its own underwater operations course.

In 1964, Captain Ola L. Mize was assigned to the Advanced Training Committee at the John F. Kennedy Special Warfare Center (formerly the U.S. Army Special Warfare Center). Mize, recipient of the Medal of Honor in the Korean War, was initially the committee chief. The Advanced Training Committee was responsible for HALO (now called military free-fall) training, the Fulton Recovery System (Skyhook), and the Jumpmaster courses for HALO and static-line parachuting. At BG Yarborough's direction, Mize was also put in charge of a program of instruction for underwater operations.

"I took over the Scuba School, and the biggest assets were [SFC Johnny] Dolin the medic and 'Ski' Sichowski who was a UDT [Navy Underwater Demolition Team veteran] from World War II. We tried our best to find someplace here in North Carolina for the school. We tried talking with



As the commander of the John F. Kennedy Special Warfare School, Brigadier General William P. Yarborough was instrumental in the establishment of the Special Forces Underwater Operations school.



Certificate awarded to Sergeant Robert F. Mulcahy upon completion of the Navy's Underwater Swimmers School at Key West in 1958.



Medal of Honor recipient Colonel Ola L. Mize established the underwater operations school at Key West while serving on the Advanced Training Committee at the John F. Kennedy Special Warfare School.

the Navy about going up to Little Creek, Virginia, but they were very much against it.”¹⁴ The Navy position was to retain proponency for all military dive training. Captain Mize and his staff put together a two-week training program that was first conducted at Camp Blanding, Florida, for members of the 20th Special Forces group.¹⁵ “We found out about Key West and I sent [Sergeant Walter L.] Shumate and [Sergeant First Class Johnny F.] Dolin down there. They came back and told me what a fine place Key West would be, so that’s where we estab-

lished the school. We didn’t have to go through a big rigmarole of studies and approvals of general officers all the way up the line. I made the decision for the school to be down there and everybody backed me one hundred percent,” Mize recalled.¹⁶ The school was established in Key West in July 1965.

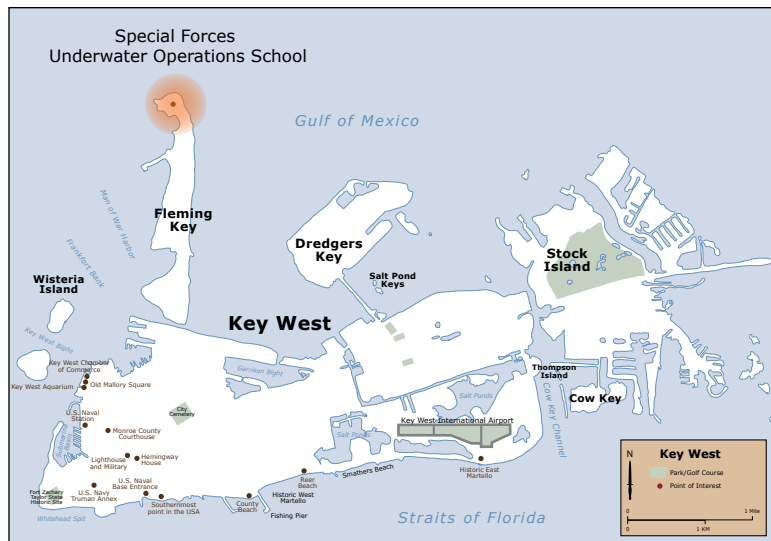
The best location was at the extreme end of Fleming Key, next to A Battery, 6th Missile Battalion, 65th Artillery Regiment, whose Hawk anti-aircraft missiles were oriented toward Cuba. Initially, they used temporary facilities, but after agreements were made with the Naval Air Station, Key West, some permanent buildings were constructed in the late 1960s. At that time, the curriculum concentrated on open- and



6th SFG beret flash



Sergeant Walter L. Shumate (third from right, front row) was one of the Special Forces soldiers detailed by Captain Ola Mize to determine the best location for the Underwater Operations School.



Map of Key West showing Fleming Key. The school is located at the extreme northern tip of Fleming Key.

closed-circuit diving.

Sergeant Earl J. Moniz was assigned to the 6th Special Forces Group at Fort Bragg when he attended the school in 1969. “We stayed in Quonset huts; there were two or three on the site. The course was six weeks in length, with four weeks of open-circuit (SCUBA) and two weeks on closed-circuit equipment, (the Emerson rebreather unit). We used the pool at the Navy Officer’s Club. There was no surface work with kayaks at all, nor any lock-out (submarine exit) training. We parachuted in [a water jump] to start the course and I remember I graduated on my 21st birthday.”¹⁷

The course was soon expanded to seven weeks to include training on submarine lock-out techniques using an older model diesel submarine.¹⁸ (A submarine lock-out involves entering an airlock from inside the submarine which is then flooded and the divers exit a hatch to the outside). Captain Thomas Purvis commanded the school in 1972, and he recalled some of the cost-saving measures undertaken to keep the school operating. “Master Sergeant William G. ‘Pappy’ Loggins, the Senior NCO [non-commissioned officer] came up with the idea



The Hawk missiles of A Battery, 6th Missile Battalion, 65th Artillery occupied Fleming Key when the Special Forces team came looking for a site for the school.



Cinder block buildings were the order of the day when the school was first established in Key West. The School initially used GP Medium tents for housing.

of jumping the students into Key West to start the course and when they left, to jump them back into [Fort] Bragg. This saved all transportation costs, gave the students an initial water jump on arrival and gave everyone in Key West quite a show as we normally jumped the students in quite high."¹⁹

In addition to using an airborne operation to start and end the course, Purvis sent instructors to the Evinrude Outboard Motor Company in Milwaukee for training on outboard motors and to the U.S. Divers School in California to learn to maintain the regulators on the dive equipment, thereby saving on maintenance costs. The school acquired the entire stock of the Emerson rebreather units from the Navy when their UDT dive school at Key West was closed.²⁰ Up until 1970, the instructors at the school were on Temporary Duty (TDY) status. In 1972, the cadre was permanently assigned to Key West which provided stability for the instructors.²¹ In addition to paring costs,



Troop barracks replaced Quonset huts for the soldiers at the school in the 1970s. These troop barracks were in use until 1995. Master Sergeant Sam Foster painted the Group flashes on the buildings in 1988.



Apollo XIII Commander James Lovell visited the school in 1972 as part of an Army recruiting event. From left to right: Sergeant Eric Erickson, Instructor SFUWO; Mr. Glen Swengros, Advisor, The President's Council on Physical Fitness; Captain Tom Purvis, Commander SFUWO; and Captain James Lovell, U.S. Navy.

the cadre worked to increase the visibility of the school by actively participating in local community events.

In one instance, the commander of the Apollo Flight XIII, Navy Captain James Lovell, visited Key West as part of an Army Recruiting effort in conjunction with the President's council on Physical Fitness. Lovell received a full tour of the facility and training with a commensurate amount of media publicity, enhancing the image of the school.²²

In June 1989, the unit became C Company, 2nd Battalion, 1st Special Warfare Training Group in the U.S. Army John F. Kennedy Special Warfare Center and School. The school had evolved into a joint operation with Navy SEALs, Air Force Para-Rescue Jumpers (PJ's), and Army Rangers undergoing training with the Special Forces soldiers and providing instructor support for classes that averaged thirty students per rotation.²³ In October 1989, a Water Infiltration Course (WIC) was begun at Key West specifically to train Special Forces soldiers in surface swimmer, rubber boat, and kayak operations. The five-week course was divided into three phases that covered those aspects of waterborne infiltration not requiring sub-surface diving.²⁴ The course is not currently offered in the school program of instruction, but elements of waterborne infiltration are incorporated into the Combat Divers Qualification Course (CDQC).

On 16 October 1992, the Corps of Engineers broke ground for a new training facility. Twenty-one months later, on 28 July 1995, the \$9.7 million facility was dedicated. The new facility consists of a 12,000 square foot headquarters and classroom building, a 30,000 square foot barracks for students and cadre, a new 3,500 square foot dining facility, and a 1,500 square foot medical aid station. Unique to the complex is the fifty-foot high dive tower used to execute lock-out training and free-ascent diving techniques and two hyperbaric chambers for dive emergency training and to provide medical services for all dive emergencies that occur south of Miami. Also



The Water Infiltration Course included training on the Klepper folding kayak. The use of kayaks goes back to the OSS Maritime Unit of World War II.

included in the new facility is a stand-alone compressor-generator building for providing compressed air for dive systems, a 4,500 square foot boat storage and maintenance facility, and a parachute drying tower.²⁵ The facility is self-contained with a pool (the first improvement built in 1986), a boat launching site, and all the maintenance facilities needed to keep boats and dive equipment in top operating condition. The soldiers are not neglect-



Members of the family of Sergeant Major Walter L. Shumate assist in the unveiling of the new dive tower named in his honor.

ed as the dining facility is a past recipient of the Army's Connolly Award for the best small unit mess. In recognition of his role in the establishment of the school, at the opening of the new facility, the dive tower was named in honor of Sergeant Major Walter L. Shumate.²⁶

Over the years, the course has grown to accommodate all aspects of underwater operations. Presently the school offers three residency courses, a preparatory training course, and two distance learning courses. The heart of the curriculum is the Combat Diver Qualification Course lasting thirty-nine days. This is the basic combat diver's course and focuses on open-circuit and closed-circuit systems and subsurface infiltration techniques. Recently, a pre-CDQC course has been inaugurated at the school to reduce the impact on the Special Forces groups preparing their candidates for CDQC.²⁷ The three-week Combat Diving Supervisor Course (CDSC) prepares CDQC graduates for planning and executing combat diving operations. Special Forces medics assigned to SF dive teams are trained at the three-week Special Forces Diving Medical Technician Course (DMTC) to handle the specific medical problems associated with dive operations. Further medical training is provided through distance learning



The new fifty-foot dive tower allows for the simulation of locking out of a submarine and for training in the free ascent from deep water.



Deck training during the Combat Diver Qualification Course. Rigorous physical training is an essential element of the course.



Swimmer completes the free ascent exercise in the fifty-foot tower. This event is essential for learning to return to the surface from deep water.

programs in decompression and diving physics.

With its roots stretching back to the OSS Maritime Unit of World War II, Special Forces underwater operations have been a key component in the arsenal of the Special Forces Groups. Constantly at the forefront of technology and techniques, the Special Forces Underwater Operations School at Key West is one of the premier training facilities in the world. ▲

The author would like to thank Mr. Tom Purvis, Major Pat Lesley, and Master Sergeant Jeffrey Burns for their assistance with this article.

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