

Coast Guard Aviation

The beginning – The demise – The resurrection

Introduction:

The initial proposal for Coast Guard utilization of aircraft was to assist Coast Guard Cutters in searching for vessels in distress and locating derelicts and hazards to navigation in the open seas. World War I interrupted the development of this concept. Postwar controversy all but abolished the Coast Guard. With the war over Captain Stanley V. Parker turned Coast Guard attention back to the utilization of aircraft in the saving of life and property along the coastal regions of the United States and at sea contiguous to them. The new commandant, Rear Admiral William Edward Reynolds, was favorably disposed toward the establishment of a Coast Guard air station to thoroughly evaluate the concept. In 1920 an air station was established at Morehead City, North Carolina, for evaluation purposes. The aircraft proved effective but the air station closed after a year of operation due to lack of funds. For all practical purposes Coast Guard Aviation ceased to exist.

Congressional funding during the early 1920s was considerably less than what was necessary to carry out the Coast Guard's duties properly. Even though Prohibition became the law of the land in 1920 it was three years later, after other agencies were not able to perform the maritime interdiction mission effectively, that the Coast Guard was finally funded for and became an active participant in the Rum War.

An opportunity arose in 1926 that would lead to the resurrection of Coast Guard Aviation. Through the effort of visionaries and dedicated individuals who took advantage of opportunities, some planned, some not and others pure serendipity, the capitalization of the Coast Guard to meet the challenge inherent in enforcing the Prohibition Law was used to acquire and demonstrate the capabilities of aircraft. Aircraft were highly effective in the suppression and then the elimination of the smuggling syndicates. In the process the adaptability and multi-mission capabilities of aircraft were deliberately and successfully presented. When organized alcohol smuggling was no longer a factor in mid-1937, Coast Guard Aviation was once again able to fulfill its original and primary mission – Search and Rescue.

The Beginning

Rendering assistance to vessels in distress was not a specific mission of the Revenue Cutter Service until 1832 when the Secretary of the Treasury Louis McLane directed several cutters to actively cruise solely for that purpose. Revenue Cutters were kept busy searching for and assisting vessels in distress, hauling in derelicts, and blowing up menaces to navigation. Most of these incidents occurred during the winter. The Revenue Cutter Service and the Life Saving Service were merged on January 20, 1915 to form the U.S. Coast Guard. Originally conducted

along the Atlantic seaboard, primarily in response to the schooner trade to and from the Caribbean, the area of responsibility continued to expand and as a matter of course the task of assisting distressed vessels of all types encompassed the Great Lakes, the Gulf Coast, Pacific Coast, and Alaska. Vessels in trouble at sea had to be searched for – the sea is vast – and time was of an essence. This then was the background for the need of Coast Guard aviation.

Two visionaries, 3rd Lieutenant Elmer F. Stone and 2nd Lieutenant Norman B. Hall assigned to the USCGC *Onondaga* under the command of Captain Benjamin M. Chiswell recognized the potential of aerial search. They saw clearly the benefit of utilizing aircraft to assist vessels in distress and to search for disabled vessels and obstructions to navigation and enlisted the assistance of their commanding officer. With the full backing and active participation of Captain Chiswell the next step was to evaluate the feasibility of the concept. What was needed was an airplane to run a series of tests with the *Onondaga* demonstrating the value of aircraft in Coast Guard operations.



Elmer F. Stone



Norman B. Hall



Benjamin Chiswell

Onondaga was based at Hampton Roads, Virginia near Newport News, Virginia, where Glenn H. Curtiss had set up the Curtiss Aeroplane and Motor Company Flying School at Boat Harbor Point. An evaluation plan was formulated and in early March Chiswell, Hall, and Stone presented their plan to Glenn H. Curtiss and the head of the flying school Captain Thomas S. Baldwin.

Captain Baldwin cooperated by loaning the Coast Guard a pilot and a Curtiss Model F flying boat. The tests were so promising that Baldwin offered to place a plane at Stone's disposal for the purpose of conducting further tests. Captain Chiswell requested that Stone be assigned to aviation duty. The Coast



Curtiss MF Flying Boat

Guard Captain-Commandant concurred. Upon a highly successful completion the tests received official approval from the Captain-Commandant. In addition the US Navy, having been apprised of the success of the tests, offered flight training to assist the Coast Guard in implementing an aviation program.

On 1 April 1916, 3rd Lieutenant Elmer F. Stone, followed by 2nd Lieutenant Charles E. Sugden, reported to the US Navy Aeronautic Station, Pensacola, Florida, for assignment to naval flight training. In October 2nd Lieutenant Norman B. Hall was ordered to the Curtiss Aircraft Company to study aircraft engineering and construction. The Naval Deficiency Act of 29 August 1916 provided funds for the purchase of 30 Curtiss N-9 "tractor" seaplanes. This same Act provided the means by which the Coast Guard sent an additional 15 personnel to Pensacola for flight and aviation support training. Both Stone and Sugden upon completion of flight training were assigned as flight instructors. Lieutenant Eugene Coffin arrived in late November of 1916 to commence flight training. He was followed by 1st Lt Sugden, 1st Lt Phillip Eaton, 2nd Lt Robert Donahue, 1st Lt Stanley Parker, C.T Thrun Master at Arms, W.S. Anderson Surfman, and L.M. Melka Quartermaster. C.F Griffin Master at Arms was trained as support staff but returned later and earned his aviator wings.

World War I

On 7 April 1917 the Coast Guard was transferred to the Navy Department for the duration of WWI. The Coast Guard aviators were senior to most of their Navy contemporaries and had previous duty assignments as Revenue Cutter Officers providing operational experience that was both desired and required by the fledging naval air arm. This resulted in their being assigned as commanding officers of air stations or to other significant duties.

1st Lieutenant Stanley V. Parker USCG was ordered to establish and command the Naval Air Station, Key West, Florida, which carried out anti-submarine patrols. From August 1918 until July 1919, he commanded the Naval Air Station Rockaway Beach, New York. 1st Lieutenant C.E. Sugden USCG, Commanding Officer of the Naval Air Station, Ile Tudy, France, flew anti-submarine patrol in HS-1 aircraft. The station was credited with the sinking of three enemy submarines. It was considered one of the most important Air Stations on the French Coast. At the conclusion of hostilities Lieutenant Sugden was authorized to accept the "Chevalier of the Legion of Honor of France."

2nd Lieutenant Eugene A. Coffin USCG, after his designation as a Naval Aviator, was assigned as Commanding Officer of newly enlisted recruits at Pensacola. In December of 1917 he was transferred to the Naval Air Station Montauk Point where he served as a patrol plane pilot and was placed in charge of developing the communications system.

1st Lieutenant Phillip B. Eaton USCG, upon being designated a Naval Aviator, was assigned as Commanding Officer of the Naval Air Station, Chatham, Massachusetts. During the late spring and summer of 1918, the German Navy stepped up submarine attacks on shipping off the East Coast of the United States.

2nd Lieutenant Robert Donohue was transferred from the aviation detail aboard the USS *Huntington* and assigned duties as commanding officer of the Naval Air Station at Sydney Nova Scotia, Canada. He then became Commanding Officer of Naval Air Station Montauk Point, New York, and became involved in lighter-than-air aircraft.

Lieutenant Elmer F. Stone was transferred from the aviation detail aboard the USS *Huntington* to the Bureau of Construction and Repair where he became the chief test pilot for seaplanes in the aviation division. Lieutenant Stone, at the Navy's request, was assigned duties in support of the Navy during the next nine years. In addition to being the Pilot of the NC-4 for the first Transatlantic Flight he led in the development of shipboard catapults and aircraft carrier catapults and arresting gear.

All Coast Guard aviators served with distinction during the war and several continued to serve with the Navy for a period after the armistice.

Post WWI

WWI was over with the signing of the Armistice on November 18, 1918. The Coast Guard did not return to the jurisdiction of the Treasury Department until Aug 28, 1919. This was accomplished with much controversy. The Secretary of the Navy Joseph Daniels and the Assistant Secretary Franklin D. Roosevelt wished to retain the Coast Guard in the Navy. Their argument was a redundancy of missions and monetary savings. The Secretary of the Treasury Carter Glass and Coast Guard Commandant Bertholf were opposed and advanced effective arguments for their position. A majority of the Coast Guard Officer Corps also favored this course of action. The primary reason for the Coast Guard Officer Corp opposition was that promotion opportunity and the pay and allowances they enjoyed under Navy jurisdiction would not be available if the Coast Guard transferred back to the Treasury Department.

When the Coast Guard was returned to the Treasury department it experienced postwar downsizing as did the other services. However, many of the Coast Guard duties were still required. There were not enough personnel, equipment or funding to effectively accomplish assigned missions. It would remain that way until 1923.

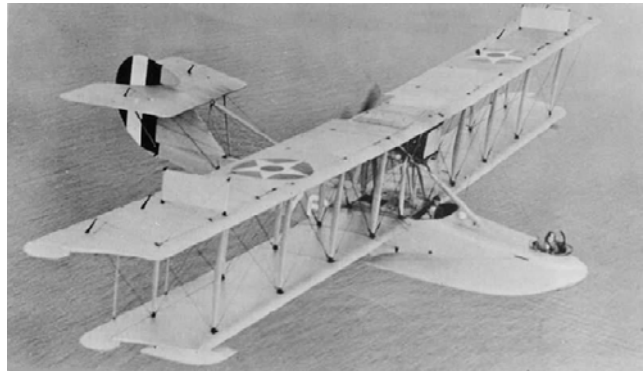
Note:

In May, 1920 Congress enacted a measure to equalize the pay and allowances of Coast Guardsmen with that of the Navy. Legislation enacted June, 1920 required the Coast Guard to adopt Navy rank terminology. Morale would suffer considerably when all temporary wartime promotions were rescinded in 1921. In response to repeated urging by Secretary of Treasury Andrew Mellon, congress passed a bill, signed by President Warren Harding in January of 1923 that removed most of the inequities experienced by coast Guard officers. The bill provided that the commandant ranks with the Navy's rear admiral lower-half and authorized seven senior officers to the rank of captain. Maximum numbers for lower ranks were adjusted accordingly. Most importantly, provision was made for promotion at regular reasonable intervals.

The first Coast Guard Air Station

The Coast Guard was transferred from the Navy back to the Treasury Department on 28 August 1919. Coast Guard Captain Stanley V. Parker who had been the Commanding Officer of the Naval Air Station Rockaway, New York was ordered to Headquarters and assigned as the Aide for Aviation. With the war over Parker turned Coast Guard attention back to the utilization of aircraft in the saving of life and property along the coastal regions of the United States and at sea contiguous to them. The new commandant, William Edward Reynolds, was favorably disposed toward the establishment of a Coast Guard air station to thoroughly evaluate the concept. The authority to establish Coast Guard air stations was contained in the Navy Deficiency Act of 1916. In spite of the shortage of officers in the Coast Guard, Captain William P. Wishar, 1st Lieutenant Carl C von Paulsen, and 1st Lieutenant Edward P. Palmer were assigned to the first postwar Navy flight class at Pensacola. Palmer was found to have an eye defect which disqualified him from flight training but he continued on in aviation engineering training.

Inquiries were made to the Navy as to the availability of surplus aircraft and naval installations that could be used for the establishment of a Coast Guard air station. Morehead City, North Carolina was chosen, from those available, as “best suited to prove the worth of Coast Guard aviation. It was closer to the Graveyard of the Atlantic at Cape Hatteras, where there would be more opportunities to locate vessels in distress, derelict menaces to navigation, and vessels ashore on Diamond Shoals, Lookout Shoals, and Frying Pan Shoals.” The request for aircraft was also honored and six HS-2L Curtiss flying boats and two Aeromarine Model 40s were provided.



H2-SL

LCDR Sugden, Parker’s Executive Officer at the Rockaway Naval Air Station, was assigned temporary duty as commanding officer during the period the Morehead City Air Station was being outfitted. LCDR Stone was given the responsibility of supervising the reconditioning and testing of the HS-2L flying boats that were to be used by the station. In November, the Navy requested Stone’s services in connection with aircraft catapult tests and development. Headquarters approved the request and Stone reported to the aircraft division of the Navy Bureau of Construction and Repair on 20 November 1920, for duty. LCDR Wishar reported in to Morehead City in January 1921 and relieved Sugden. Von Paulsen reported in about the same time. The others assigned were LCDR Robert Donohue, Executive Officer; LT Edward Palmer, Engineering Officer; Gunner C.T. Thrun, Pilot; Machinists W.S. Anderson, Assistant Engineer and Pilot, Carpenter Theodore Tobiason, in charge of aircraft work; Chief Petty Officer Leonard Melka, Pilot; and 16 additional enlisted personnel to maintain the aircraft.

Upon establishment of the air station, Coast Guard headquarters directed assigned duties and responsibilities in order of priority:

1. Saving life in coastal regions and adjacent waters
2. Saving property in coastal and adjacent waters.
3. Enforcement of laws and assisting federal and state officials engaged therein.
4. Transportation of officials to remote areas if time precluded the use other means.
5. Assisting fishermen by spotting schools of fish.
6. Surveying and mapping

The HS-2L fell far short of aircraft that would follow. Range was a limitation and as a result gasoline and oil were stored in drums at strategic locations in the operating area. Engine failures happened regularly. Wishar stated that he had three while the air station was in operation. Space to carry a rescued or ill person was very limited. But the ability to patrol and fly from bays and inlets and in some cases the open seas was successfully demonstrated. In a summary of activities, Commodore W.E. Reynolds, the Commandant of the Coast Guard reported to the secretary of the treasury that:

“The application of aviation to the uses of the Coast Guard in the direction of saving life and property from the perils of the sea, in locating floating derelicts along our coasts, and rendering other kindred services, can now be regarded as an assured proposition. A Coast Guard aviation station has been established at Morehead City, N.C. at practically no expense to the government. The aircraft in use are the Navy H-S flying boats and the station is conducting experiments with the view of furthering the effectiveness of aircraft to life and property saving purposes. It is earnestly recommended that the Congress give its support to the development of this activity for Coast Guard purposes.”

The air station continued to prove its worth but there was no appropriation for continued operation forthcoming from congress. The Morehead City air station remained in commission until July, 1922 at which time personnel were transferred to other assignments and the aircraft were returned to the Navy. ----- Coast Guard Aviation ceased to exist.

The Rum War

On 13 January, 1920 prohibition of alcohol became law in America. The Volstead Act, passed to enforce the 18th Amendment, outlawed the manufacture, sale and transportation of alcohol. It made no provision against buying or drinking it thus making it legal for the consumer. As the demand for alcohol grew so did those willing to supply it. Manufacturing and distribution immediately became a highly profitable business.

Initially, enforcement was by state law enforcement and federal agents from the treasury department’s newly established Bureau of Prohibition. The Bureau had a small fleet of WWI sub-chasers and personnel with limited experience. This proved to be inadequate for the task of maritime interdiction. Coast Guard involvement came about slowly as it retained all previous

responsibilities and was operating at 1920 force and appropriation levels. In 1922 Commandant Reynolds informed Prohibition Commissioner Ray Haynes that “The appropriations Committees of Congress have consistently declined to increase the appropriations for the Coast Guard to enable it to maintain and operate additional vessels which could be used to assist in the laws relating to prohibition, a duty which the Coast Guard is not specifically charged by law.”



75 foot Patrol Boat – Known as “six bitters”

Smuggling increased exponentially and Treasury Secretary Andrew Mellon, in his 1923 annual report, recommended the Coast Guard be enlarged considerably to effectively combat the illegal distribution of alcohol. In April 1924, Congress appropriated \$12,194,900 to prepare 20 surplus reserve fleet Navy Destroyers for use by the Coast Guard and build 223 cabin cruisers and 100 small boats. The destroyers were reconditioned and the last was on line by the summer of 1925. During the same period the construction of the authorized small patrol boats proceeded.

The largest of these were 75 foot in length, had a sturdy wooden hull, were powered with gasoline engines driving them at 13.5 knots and had an enclosed cabin providing adequate quarters for their eight man crew. They mounted a small cannon and a .30 caliber machine gun. There were 203 of these boats. Picket boats and the 125-foot cutters were added in 1926.

Smuggling vessels, known as ‘blacks,’ had begun to cruise outside the 12-mile limit of jurisdiction and unload to fast smaller craft for the run to the shore. The Coast Guard’s general plan to suppress smuggling was for the destroyers to patrol assigned areas and upon making a contact trail the suspected smuggler until handing them off to patrol boats within 15 to 30 miles of shore. The patrol boat was responsible for monitoring the suspect vessel until they either attempted to offload or entered the 12-mile limit and they could be stopped and searched. The 75 = footers worked well but endurance was limited. The picket boats patrolled the shoreline.

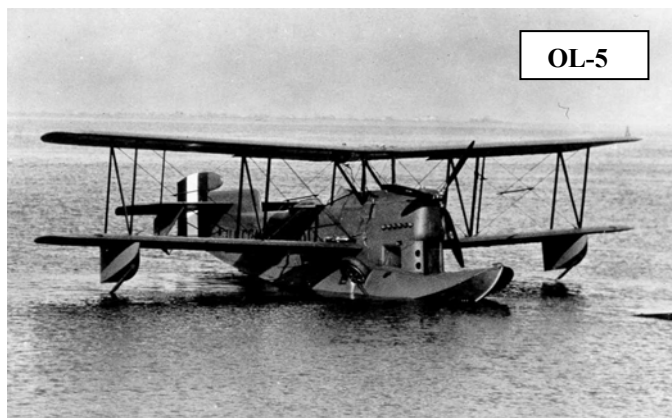
An Opportunity Arises

The 75-foot patrol boats operated from section bases up and down the coast. LCDR Carl Von Paulsen, an aviator, was the commanding officer of Section Base #7 located at Gloucester, Massachusetts. The Gloucester patrol area included the shore line, harbors and bays, from Marblehead, Massachusetts to Portland, Maine, not neglecting the rendezvous locations of the ships offshore. LCDR Von Paulsen approached LCDR Stephen S. Yeandle, aide to Commandant Billard, with an operational concept that utilized aircraft to search and locate both blacks and small boats making a run for shore. This was not by accident on the part of Von Paulsen. In reality Yeandle was more than an aide. When the Army requested assistance from the Coast Guard to support its around the World trip in 1923 Billard appointed Yeandle to plan and implement the support for the northern route from Seattle up through the Aleutians and on to Japan. Yeandle, commended for his service, became familiar with and a proponent of aircraft

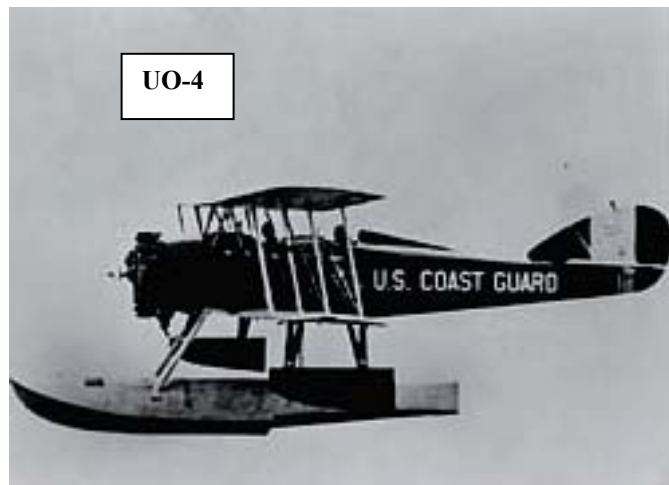
operations. He thought Von Paulson's concept had considerable merit and he approached the Commandant who approved the idea but no funds were available. A Navy surplus Curtiss OU-1C was located and an agreement was made for the Coast Guard to utilize it for a period of one year.

The OU-1C flew initially out of the naval reserve air station at Squantum, Massachusetts in land plane configuration and then reconfigured as a floatplane, operated out of a make-shift tent-hangar located on Ten Pound Island in Gloucester Harbor reconfigured as a floatplane. The first use of an aircraft to chase a rum-runner was on 20 June 1925. The OU-1C assisted in the first capture of a rum runner with aviation support on 24 June 1925. Von Paulsen and veteran aviator Leonard Melka flew many thousands of miles on patrol during the first year locating smugglers from the air and directing the patrol boats to them. The experience obtained from operating this single airplane convinced Coast Guard Headquarters of the advantages derived from the use of aircraft in the Rum War. This led to the establishment of air stations at Ten Pound Island, Gloucester, Massachusetts and Cape May New Jersey.

The Resurrection Begins



Admiral Billard obtained an appropriation of \$162,000 for the purchase of five aircraft specifically designed for the Coast Guard. Three were modified Loening OL-5 amphibians with strengthened hulls for rough water landings and larger fuel tanks providing increased fuel for extended law enforcement patrols. They had a large center float faired into the fuselage with wheels arranged so that they could be swung clear when operating from the water. A bi-plane, it had stabilizing floats located at the ends of the lower wing. The wing span was 45 feet and the aircraft length was 35 feet. It had a range of 450 miles at a cruising speed of 75 mph. In addition to a pilot and an observer the OL-5 could carry one passenger. They cost \$32,710 each and were given the numbers CG 1, CG-2, and CG-3.



Two of the aircraft purchased were modified Vought UO-1 seaplanes designated as UO-4s. These aircraft were fitted with the improved UO-3/FU-1 wings. The UO-4 was a bi-plane with a 34

foot 4 inch wingspan and a length of 28 feet 5 inches. They had a range of 365 miles at a cruise speed of 90mph. A center float was attached to the fuselage and small floats were attached at the

ends of the lower wings for stabilization. It carried a crew of two. They cost \$18,000 each and were given the numbers CG-4, and CG-5.

The Coast Guard went on the offensive and the three-mile limit was effectively extended to twelve miles by means of agreements with other nations. The aircraft at both air stations flew daily patrols. The value of aircraft in locating smugglers and directing an intercept by a surface vessel to picket and prevent the off-loading of contraband was demonstrated time and again. This was a direct result of the development of aircraft radio communications equipment capable of a voice communication with a range of 150 miles and a CW range of 1200 miles. Radio Electrician A. G. Descoteaux, USCG, stationed at Coast Guard Air Station Gloucester, conceived and developed this idea. He constructed and installed radio equipment in the station aircraft. The system was designed for battery operation completely independent of the aircraft's regular electrical system. Descoteaux's radio provided two-way continuous wave telegraph and high-quality voice communication. This was the basis for later Coast Guard aircraft equipment. The work of Descoteaux and C. T. Solt of the Communications Section of USCG HQ resulted in the use of the first loop type radio direction finder.

Coast Guard Intelligence:



Mrs. Elizabeth S Friedman

It is important to digress a bit here to discuss the establishment and operation of Coast Guard Intelligence. The development of an Intelligence Section, begun in 1924 by LCDR Charles R. Root, was instrumental in the Coast Guard's success during the Rum War. The battle for information superiority was fought by both sides but the Coast Guard's approach of collecting, human intelligence, communication intelligence, image intelligence and open intelligence and utilizing it in direct support of the interdiction forces, without going through a hierarchy of command, proved to be superior. By early 1927 the smugglers, now syndicates, began directing operations by radio in code and cipher. Mrs. Elizabeth S Friedman, an outstanding cryptanalyst, was hired by the Bureau of Prohibition and assigned to the Coast Guard Intelligence Division. Through her efforts the Coast Guard continued to be able to monitor the smuggling operations and, effectively provide intelligence to the operating forces.

High frequency direction Finding (HFDF) capability was created which allowed the Coast Guard to locate both smugglers at sea and the illicit radio stations and communications networks that supported and directed operations. By 1929, Communication Intelligence had been effectively implemented. Cooperation between government agencies had been fully achieved. Coast Guard Intelligence worked directly with operational units in much the same fashion as the Joint Interagency Task Force South (JIATFS) does at the present time.

The Resurrection continues:

The potential of aviation had been proven and aircraft with increased capabilities were desired. A Coast Guard Aviation Section was established at Headquarters under the direction of CDR. Norman B. Hall in 1928. A statement of requirements was presented to aircraft manufacturers:

“An aerial ‘eye’ capable of extended search, radio equipped to maintain constant contact with surface, thus saving hours and possibly days of search; an aerial ambulance capable of a speed of 100 miles per hour, able to land in a rough sea, equipped with hatches large enough to admit of stretcher cases and to be able to take off on rough water; a demolition outfit to effect the destruction of sea derelicts and obstructions to navigation within a few hours after the report of location; a high speed flying patrol for observation, landing and returning with rescued crews of distressed small craft and capable of taking aboard fifteen or more passengers from distressed craft and standing by for lengthy periods on the surface, maintaining in the meantime radio communication with surface craft until transfer can be made of its passengers”

Realizing that the Rum War would not be indefinite, future search and rescue requirements were written into the statement. It is important to note however that extended search capability; radio capability enabling monitoring as well as constant contact with both shore based and surface craft; and speed requirements, made the aircraft ideal for interdiction operations during the Rum War.

Coast Guard headquarters continued to stress the need to obtain photographs of suspected rum-runners at sea. In 1929, Coast Guard aviation aircraft patrolled a total area of 945,275 square miles and identified 5,113 vessels. This practice was on going. The photos, constantly updated, were used in an identification book used by all patrol forces.

In 1932, five flying boats manufactured specifically for the Coast Guard were obtained. They were a result of a design competition involving eight different companies. Known as flying Life Boats (FLB), they were a Fokker design built by General Aviation Corporation. General Aviation became North American and PJ-1 and -2 designations were adopted. They required the addition of fuselage strakes and had separation problems with the laminate wood wing construction. This was corrected by the Naval Air Factory but no further orders for the PJ were placed. During the same period an evaluation of a flying boat designed and built by Douglas Aircraft Company took place. This aircraft, a prototype seaplane, was originally intended as a luxurious air-yacht. From this aircraft a line of amphibians were developed. The Coast Guard purchased the prototype and two other Dolphins



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during 1932. The aircraft more than met the requirements. This led the Coast Guard to purchase ten additional Dolphin amphibians, designated RD-4s, in 1934. Both the PJs and RDs were long range aircraft equipped with the latest in radio and automatic direction finding (ADF) capabilities. Each aircraft was allocated an international wireless telegraphy call sign as a means of identification. The RDs were superior to the PJs and the last was still in operation during 1943.

Prohibition is Over – The Rum War Continues:

Admiral Billard began a Coast Guard reorganization project in 1932. This was directly attributable to reduced funds available during the Depression. Admiral Hamlet completed it eliminating various overlapping functions and consolidating regional divisions. Seven Destroyers were returned to the Navy and some of the 75-footers were taken out of service. There was a reduction of 25% in annual expenditures. On 5 December 1933 the Eighteenth Amendment was repealed, Prohibition was over and further downsizing of the Coast Guard continued. The last of the destroyers were returned to the Navy; only fifty-eight 75-Footers of the original 203 were retained; picket boats were halved and a further reduction in personnel was made. The aviation forces, however, remained intact as did Coast Guard Intelligence. Contrary to popular belief then and now, repeal did not terminate the Rum War. Instead it provided new hope and impetus to the smugglers. When it again became legal to manufacture and distribute alcohol, the local, state and federal governments taxed it heavily. Smugglers were quick to realize that they could clear between two and three dollars per gallon. By the summer of 1934, there were as many boats hovering off of New York as in 1928 and the number was climbing fast.

The second half of 1934 saw a reversal of the downsizing efforts and a re-capitalization and buildup of Coast Guard forces began. The Coast Guard had the 125 foot cutters and continued the building of the 165-foot cutters. There was a buildup in personnel and the aviation forces continued to expand. The combination of a recapitalized patrol fleet, robust intelligence capabilities, and a burgeoning air fleet formed the final tactical model of the Rum War.

The fusion of Coast Guard Intelligence and the Airplane:

Henry Morgenthau, the new secretary of the treasury, asked the Coast Guard to take the lead in coordinating all treasury organizations within a single command structure. This divisional structure worked well with the growing intelligence and aviation capacities. The relationships within these two divisions were as direct as the commandant intended. Experience had shown that when divisions were run hierarchically they did not perform as well. Commanders that directed actions from top down yet lacked the technical knowledge to grasp a situation failed to make effective use of assets.

Commandant Hamlet explained the fusion of the sea, air and intelligence in a 1934 tactics bulletin:

“The Intelligence boat (or any suitably equipped unit) detects black radio traffic and obtains a radio bearing. The air station of a plane (standing by) is notified of the bearing of the “black.”

The plane takes the air and flies to the position of the patrol boat and passes over her on the course (corrected navigationally) corresponding to the bearing. Upon reaching the black the radio-equipped plane circles overhead and calls for radio bearings from all direction-finder units... The bearings are transmitted by units taking them together with the latter's positions to a designated patrol unit, and the plot places the position of the "black" which can then be sought and trailed. If the rumrunners abandoned their radios, the aircraft could still search for them. There is no way to outrun or hide from an aircraft, other than inclement weather. And the circling aircraft could call a cutter at its convenience."

An article appearing in the Brooklyn Daily Eagle, October 27, 1935 attested to the effectiveness of this fusion. The Coast Guard placed an aircraft, the RD-4 *Capella*, in Hangar 1 at Floyd Bennet Field, Brooklyn, New York. Coast Guard intelligence had a solid bearing on a rum runner and from radio intercept believed that the vessel was about to run her cargo ashore. Divisional HQ in New York directed the aircraft to search for the suspected smuggler and gave an estimated position 80 miles off Montauk Point, Long Island. The *Capella* departed at dawn. The crew was Lt. Perry Lyons pilot, AP1/c Ted McWilliams copilot, and Petty Officers 2/c Gifford, Veny and Mason as crew. New York gave a detailed briefing of the latest intelligence information including the latest ADF bearing. It took a two hour flight to find the suspected vessel. The *Capella* circled the vessel and relayed a detailed description of the vessel back to NY Intelligence. It was a match. Lyons was now the on-scene commander. During the description transmission, a DF fix was established. It was about 100 miles off Montauk Point. This position was relayed to the nearest cutter and Lyons was instructed to continue monitoring and the smuggler and the cutter chopped to Lyons. Lyons made a pass across the smugglers bow as a signal to stop. The smuggler ignored it and Lyons turned the aircraft over to Mc Williams and proceeded forward to mount the machine gun. Another pass was made across the bow and Lyons emphasized the message by firing a blast from the machine gun across the bow ahead of the vessel. This too was ignored - the smuggler was making a run for it. As a result the aircraft made a pass down the side of the smuggler and Lyons blasted the pilot house. Two more passes were made as Lyons attempted to disable the engine. The smuggler slowed maintain headway. The aircraft continued to circle and shortly thereafter the cutter arrived and the vessel was captured. The Cutter's commanding officer was now on scene commander and aircraft returned to base. The newspaper said that this was the first time that a rum runner had been fired on from the air. (This statement could not be corroborated.)

The Buildup of Coast Guard Aviation:

In 1932, one OL-5 and both UO-4s were in Service, three variants of the RD series were aboard and five PJ aircraft were obtained. This was the beginning of the deliberate enhancement of the image intelligence (IMINT) and surface interdiction capabilities of Coast Guard aviation. The 1933 secretary of the treasury report listed 2,600 vessels located and photo identified by aircraft. By the end of 1933, aircraft were used for interdiction purposes in conjunction with a surface vessel as assigned by Coast Guard Intelligence utilizing information obtained from communication intercept. In many cases, credit was given to other sections or agencies "to hide" Coast Guard intelligence capabilities. In September of 1934, the aviation section was moved from headquarters engineering division to a separate operations division, with its head, CAPT

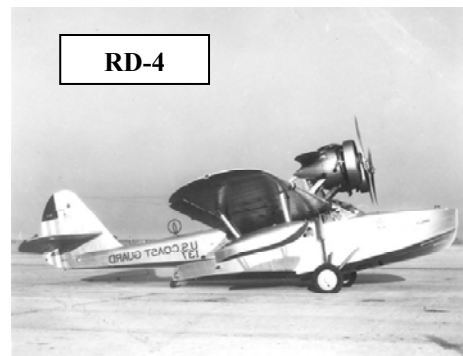
Lloyd Chalker, an aviation advocate, reporting directly to the Commandant. A rapid buildup of aviation capabilities took place.

Henry Morgenthau Jr., the new secretary of the treasury, directed that all treasury department aviation requirements be performed by the Coast Guard:

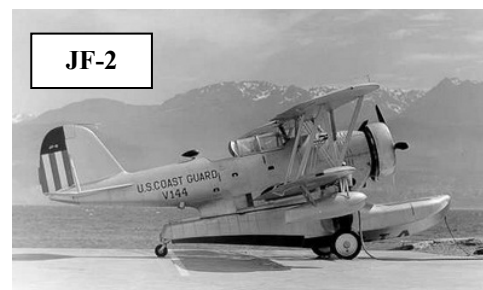
1. An aviation border patrol detachment to interdict smuggling along the southern border from Texas to California was established in 1934. At first they used confiscated aircraft obtained by Customs and Border Patrol Agents. These aircraft were less than desirable. A secretary's report also states that an air detachment was established at Buffalo, New York, but listed no further information. Six O2U-2 Corsairs were obtained from the Navy. They underwent modification by Eastern Air Service, a wholly owned subsidiary of Eastern Airlines. The overhaul included removal of the tail hooks, installation of dual controls for the aft cockpit, installation of USCG supplied radios, complete engine overhauls, and removal of the fixed tail skid which was replaced by a steerable tail wheel. The designation was changed to O2U-3. The OSU-3 could carry a mounted machine gun in the rear cockpit.



2. Beginning in Nov 1934 through April 1935 ten RD-4 Dolphin aircraft were delivered. These were long range, radio and ADF equipped aircraft which evolved from the original prototype. These aircraft were used extensively for both smuggling interdiction and Search and Rescue operations. There are many incidents where an RD-4 successfully landed in the open sea on rescue operations. It performed well – the last being retired in 1943.



3. The Coast Guard ordered 14 JF-2 Grumman "Duck" amphibian aircraft as a follow on to 27 JF-1s produced for the Navy. The primary differences between the aircraft models were that the Coast Guard specified a Wright 1820 engine and automatic direction finder (ADF) capabilities. The JF-2 was an excellent utility aircraft with IMINT capabilities, good speed and adequate range. Delivery began on 27 October 1934 and continued until 21 November 1935. Eight of the first nine aircraft were delivered to Cape May which would indicate their use in the newly initiated land, sea, and intelligence tactic. The delivery dates of the RD-4 and JF-2 are within the same timeframe which may indicate that one of the reasons the



JF-2 was chosen was the immediate need for aircraft. It also was the best fit as the aircraft to be carried aboard the 327-foot cutters being built

4. In 1936, five small OO1 Scheck/Viking seaplanes were ordered. They were used primarily on the west coast of Florida and the upper Gulf of Mexico coast. They were small and were not radio equipped. They did not seem to be a fit. The 1936 annual treasury report, for the first time, listed under aviation the discovery and destruction of 151 stills; the 1937 Report showed 360 stills discovered and destroyed and the 1938 report showed 607 stills. The OO-1s were retired in 1939 and the still activity was no longer listed. Possibly, the low cost OO-1s were used to combat the “Moonshiners” of the day.



5. To alleviate the acute shortage of Coast Guard pilots, 19 enlisted pilots and 17 aviators were assigned flight school and graduated during 1935. In 1936, 9 aviators graduated and an additional 9 graduated in 1937.

The resurrection completed:

It was the “Rum War” that resurrected and built Coast Guard Aviation. An estimated tax revenue of 32.5 million had been lost to the treasury in 1934 due to liquor smuggling. With the full implementation of the new tactics the loss was reduced to 6.5 million in 1935 and it fell precipitously from there. By mid1937, organized liquor smuggling had fizzled out. Aviation visionaries had realized that Coast Guard capitalization was directly linked to the Rum War. Thus they initially proposed and illustrated the significant contribution aircraft brought to anti smuggling operations. This mission continued to be performed exceptionally well. They were also significantly astute realizing that in the process they could demonstrate the importance and necessity for aircraft in the performance of the Coast Guard’s multiple missions, especially Search and Rescue, and obtain the funding required to gain Coast Guard Aviation permanence and expansion. History has shown them to have been highly successful. The 1938 annual secretary of the treasury report stated. “Operations during the past year in law enforcement missions, in saving and protecting life at sea, and affording assistance to other branches of Government have demonstrated the increasing importance of aircraft in the performance of Service duties.”

As of 30 June 1938 there were 54 aircraft, eight air stations, and two detachments. All were adequately manned. Coast Guard aviation continued to grow.

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