

DIVING INTO THE PAST: THE F4U CORSAIR AT CRYSTAL COVE STATE MARINE CONSERVATION AREA

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Crystal Cove State Park is home to many unique cultural resources that tell the story of California's fascinating past. Its marine conservation area is no less extraordinary. In 1949, a Navy F4U Corsair airplane met its watery grave off the coast of Crystal Cove. Since its rediscovery, this underwater site has been studied and recorded by California State Parks with the assistance of other institutions. In 2014, the California State Parks Dive Team revisited the Corsair to evaluate its current physical condition and to make future recommendations for this airplane wreckage that is a part of California's military history.

Crystal Cove State Park is home to many unique cultural resources that tell the story of California's fascinating past. Its marine conservation area is no less extraordinary. Crystal Cove is located along the Pacific Coast Highway between the cities of Laguna Beach and Newport Beach in southern California. The nearly 3,000-acre park offers some of the last remaining undeveloped coastal land in all of southern California and remains one of Orange County's largest examples of open space and natural seashore (California Department of Parks and Recreation 2003; Smith and Breece 2002). Archaeological evidence suggests that the earliest human presence within the area occurred 7,500 years ago. Sporadic European contact occurred as early as the mid-1500s, but extended contact did not occur until 1776, when the Spanish established the Mission of San Juan Capistrano (Smith and Breece 2002). Eventually, San Francisco merchant James Irvine bought the property in 1864 (Allan et al. 1981).

After the development of roads along the coast made the area more accessible, what would become Crystal Cove was developed into a coastal community (California Department of Parks and Recreation 2001). Today, the historic cottages are the last beach community in southern California that has remained relatively unchanged since World War II. The cottages are listed on the National Register of Historic Places (Allan et al. 1981) (Figure 1). The California Department of Parks and Recreation began acquiring land from the Irvine Company in 1979 and classified it as a state park in 1980 (California Department of Parks and Recreation 2001). In 1982, Parks designated the offshore area out to the 120-ft. contour as a Marine Managed Area containing significant ecological and historical resources. Six historic vessels have been reported lost within the area (Smith and Breece 2002). The Corsair airplane rests in what is now designated as the Crystal Cove State Marine Conservation Area and is the only airplane to be documented in State Parks' waters.

Model F4U-4 Corsairs were first built and delivered to the Navy in 1944. This model Corsair was characterized by having an inverted gull wing in which the wings were bent on both sides of the fuselage, a streamlined fuselage, and a large four-bladed propeller that replaced the previous three-bladed propeller of earlier models and improved the speed and climb rate (Figure 2). These planes could reach speeds of up to 451 mph. Corsairs were one of the most successful fighters in World War II, although this model Corsair arrived late in the war and mainly served during the last four months of conflict. It was used substantially during the Korean War. The Japanese ground troops nicknamed the formidable Corsair "Whistling Death" from the whistling sounds it made, caused by the airflow through the engine vents (Fighter Planes and Military Aircraft 2015; National Naval Aviation Museum 2015). The Corsair, including the F4U-4 model represented at Crystal Cove, proved to be a very effective fighter plane, which is why it continued to be used after World War II.

In 1949, Navy Reserve pilot William H. Anderson of Los Angeles was assigned to Los Alamitos Naval Air Station near Long Beach to serve two weeks of training duty (*Long Beach Independent* 1949:1; *Orange County Register* 1949). At 26, Lieutenant Anderson was no longer a rookie pilot, by then having



Figure 1. Crystal Cove coastline with historic cottages.



Figure 2. F4U-4 Corsair.

over 1,500 hours of flying time. On July 5, 1949, he left for San Diego in a Chance Vought F4U-4 Corsair on a routine navigational training flight with three other Corsairs (Anderson 1949; *Orange County Register* 1949; U.S. Navy 1949a). Anderson's particular Corsair had been built and delivered to the Navy in September 1945 and did not see action in World War II (U.S. Navy 1949b).

On Anderson's return trip to the naval air station around 10:30 in the morning, his engine began to have trouble about 2 mi. offshore of Laguna Beach (Anderson 1949; U.S. Navy 1949a). On the previous flight in that particular aircraft, the pilot had reported the engine running rough, and the maintenance officer had replaced the spark plugs as a result. Before Anderson's flight, the plane had satisfactorily checked out on the ground (U.S. Naval Air Station 1949). Anderson was 43 minutes into his flight now when he began to experience trouble. Anderson moved his mixture control to full rich position to try to get enough fuel into the engine, but he could not get his engine to function well enough to continue the flight. He notified his flight leader that he would have to ditch his plane since he could not make it back to the air station. He unfastened his parachute, locked his shoulder straps, and locked his hood in the open position.

Anderson noticed a small fishing boat nearby and directed his plane that way. He readied the plane for a water landing near the fishing boat near Crystal Cove. He came in low, eased down, and made a perfect ditching, although the impact was still strong, considering that the plane hit the water flat at about 90 mph. The Corsair skidded to the left, and water began to pour over Anderson. The plane began to sink immediately after it hit the water, but Anderson was able to unlock his safety belt and escape the Corsair. He stepped out onto the water-covered wing and noticed that the tail was already rising rapidly. Anderson jumped into the water and watched the plane disappear below the surface. Since he had unfastened his parachute, he left his pararaft that was inside the chute in the plane. He managed to inflate his Mae West lifevest, but he forgot to unfasten the harness attached to the parachute that was still inside the sinking plane. The pressure intensified as Anderson could not easily breathe while still attached to the parachute, and he struggled to unfasten the harness as the plane continued to sink to the bottom. Eventually, Anderson managed to deflate one side of his lifevest enough to release the parachute harness, and he was freed from the plane. The other three Corsairs were circling Anderson by now, and he waved to assure them that he was all right. Anderson kept his shoes and clothes on to protect himself from the rocky shoreline, and he began to swim on his back towards shore. After about 20 minutes, Anderson noticed the small fishing boat, waved at them frantically, and the fishing boat picked up a tired Anderson, who noted that he had a difficult time climbing into the boat.

The boat took Anderson to Laguna Beach, where he was taken to the local police station to be transferred back to Los Alamitos Naval Air Station. He was debriefed back at the station, and it was recommended that the Navy review proper ditching procedure since he should not have inflated his lifevest before releasing himself from the parachute. Anderson did do everything else according to protocol. Anderson was not injured in the crash, and the plane sat on the ocean floor for years, forgotten (Anderson 1949; U.S. Navy 1949a).

The plane was rediscovered in 1961. A skin diver, Marine Corporal Thomas B. Fuller of El Toro Marine Corps Air Station, was searching for the body of a fellow skin diver who had drowned, and he encountered the barnacle-encrusted plane. Fuller reported the plane to the Navy and mentioned that there was a body inside the plane (*Orange County Register* 1961). The Navy assigned Lt. Commander Tommy Thompson and divers from the Long Beach Naval Station Explosive Ordnance Disposal to investigate. After three weeks of searching, starting from the shore using the most advanced technology of the day, the plane was located in 75 ft. of water offshore. Navy divers observed that the plane was a Corsair and was as intact as if it had just been placed on the ocean floor. The machine guns were in the wings, and the "body" turned out to be seat padding that was slowly deteriorating. A parachute was entangled in the wreckage. They returned to port and considered the task a success. Shortly afterwards, Thompson was ordered to return to the Corsair to remove the engine and machine guns, to identify the plane, and to evaluate the effects of prolonged submersion in saltwater on the parts. The Navy's diving unit salvaged the Pratt/Whitney engine with a cable and salvage tug, and they positively identified the plane using the



Figure 3. Looking forward at the fuselage of the Corsair, with the fuselage skin removed, exposing the rib structure; approximately early 1970s.

plates attached to the salvaged engine as ID #82097, Lt. Anderson's plane. The Navy left the remainder of the plane on the ocean floor (*Los Angeles Times* 1961; Miller 1991; U.S. Navy 1949a; Samuel Miller, personal communication 2015).

In 1974, the plane was accidentally rediscovered by Dave Bewley and Mike Curtis when they were looking for deep reefs to dive and noticed an abnormal reading on their depth sounder (Miller 1991). They dived down to investigate and discovered the plane, which looked as though it had made a near-perfect landing. Bewley found a single propeller blade stuck upright in the sand, and 10 ft. behind that was the plane (Figure 3). They noted that the tail section was broken off and the cockpit canopy was open (Figure 4). A tangle of nylon cloth—the parachute—was underneath the fuselage. The wing, body, and instrument panels were missing. The wings were half-buried in the sand, and the rear edge of the fuselage was supported by the tail landing gear. The two divers observed that overall the wreck was overgrown with marine life. They noted that the engine was gone, but bits of machinery still remained in the compartment. They decided to keep the plane wreck a secret and adopted a “look but don't take” policy to preserve the site (Hanauer 1977; Samuel Miller, personal communication 2015).

A 1977 article in *Skin Diver* magazine by Eric Hanauer reported these conditions of the Corsair, noting that overall it was largely intact, with some damage to the tail section (Figures 5-6) (Hanauer 1977). After the publication, more divers began to visit the wreck site and began to take items off the plane as souvenirs (Samuel Miller, personal communication 2015). In 1979, California encountered one of its worst storms in years. Hanauer dove on the wreck afterwards and discovered that the underwater wave action tumbled the airplane along the ocean floor, damaging the aircraft. It also appeared that a fishing boat had entangled its anchor on the plane behind the cockpit and had pulled the plane apart while



Figure 4. Front part of Corsair with engine compartment, cockpit, and one propeller blade; approximately early 1970s.

trying to retrieve the anchor (Miller 1991). The fuselage, from the wind screen to the tail, had been reduced to twisted wreckage and was strewn over a 30-ft. area. Hanauer later wrote an article in *Skin Diver* magazine observing that the wreck had greatly deteriorated (Hanauer 1981). In 1990, those who had recently dived on the Corsair noted that they could not even recognize it as an airplane anymore because the ocean had dispersed so much of the wreckage (Miller 1991).

In 2005, Sheli Smith and Annalies Corbin of the Partnering Anthropology with Science and Technology (PAST) Foundation, along with Charlie Beeker of Indiana University, conducted a study to map the Corsair site (Figure 7). The study identified the instrument panel outlets, rudder controls, and cockpit wiring of the Corsair. The fuselage was missing aft of the firewall, and only about 8 ft. was left of the fuselage. The cockpit and tail section were also missing, although the top of the rudder in the tail section was still present. The archaeologists were able to record general measurements of the forward engine housing and both gull-shaped wings (Figures 8-9). They noted pieces of the rear rudder and elevator flaps, along with other mechanisms, within the debris field. Observations of the remaining airplane suggest that the plane touched down on its left wing first and then settled to the bottom in an upright position. The left wing was severely damaged or completely missing from the halfway point, and the right wing of the plane was just short of being completely intact (Beeker and Smith 2005; Smith 2005).

In the fall of 2014, the State Parks Dive Team returned to the Corsair as part of their training to complete a condition survey of the site. The divers re-located the wreck in 70 ft. of water. They conducted site maintenance, took measurements, and recorded its current condition to update the Corsair site. Observation of the wreck indicates that the plane is rapidly deteriorating from underwater currents that continually move remnants of the wreckage across the ocean floor. The cowling has disengaged, and the fuselage has deteriorated (Figures 10-12). In addition, the wings have devolved to their cross structures (Dodds 2014).



Figure 5. View of forward section of Corsair looking aft; approximately 1977.

As a result, the different forces acting on the Corsair, such as surge, currents, marine organisms, saltwater corrosion, and divers removing pieces of the plane, have all taken their toll on the site. Essentially, the Corsair site is now a debris field, with most of the pieces unidentifiable. Only a skeleton remains of the Corsair airplane. It is beneficial that State Parks already recorded the Corsair, because, at this rate, the plane will most likely be lost to the ocean (Dodds 2014).

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Figure 6. The cockpit of the Corsair; approximately 1977.



Figure 7. Front of the Corsair in 2002.



Figure 8. Engine compartment of the Corsair during the 2005 dive.



Figure 9. Right wing flap of the Corsair during the 2005 dive.



Figure 10. Divers recording the remains of the Corsair during the 2014 dive.



Figure 11. Forward fuselage of the Corsair during 2014 dive.



Figure 12. Forward fuselage of the Corsair, which has been reduced to a skeletal structure.