

AN UNDERWATER HISTORIC LANDSCAPE AT EMERALD BAY STATE PARK

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Emerald Bay State Park is one of the most scenic and frequented sites in the California State Park system. The land based sites are popular attractions, however, the park's unique resources do not stop at the water's edge. Recent visual and electronic remote sensing side-scan sonar and magnetometer surveys were conducted on the underwater landscape that vividly represents activities that have taken place in Emerald Bay at the turn of the 20th century. The underwater resources, well preserved in the cold clear waters of Lake Tahoe, tell a historically important story of the life on the lake.

HISTORIC LANDSCAPE BACKGROUND

Emerald Bay's glacially carved elongated valley is approximately two miles long by half mile wide, with water depths in excess of two hundred feet, and lake water elevation 6, 229 ft above sea level. Emerald Bay's historic landscape began in the mid 19th century. Although Native-Americans lived by the lake for thousands of years, John Fremont expedition of 1844 marks the European discovery of Lake Tahoe. Emerald Bay's first land transaction was recorded by John Eckley in 1865, with the land subsequently sold to stagecoach magnate Ben Holiday Jr. in 1868. Holiday built the first private house on Lake Tahoe's Emerald Bay, along with a pier, a boathouse, and a small house on Fannette Island. Following a series of land transfers due to government seizures and a Sheriff's auction, Lucy Kirby acquired the land in 1884 and established the Emerald Bay Resort. In 1890, the *Sacramento Union* describes Emerald Bay as a well-known vacation destination:

Mrs. Lucy Kirby has located what is now the popularly known Emerald Bay Resort. Here is a small hotel, with large parlor and dining room, surrounded by numerous nicely furnished cottages. Boats and fishing tackle are free to guest, and these with swings, hammocks, croquet, and climbing, furnish an abundance of outdoor exercise.

During the early years Emerald Bay thrived with construction of a pier for the Tahoe Steamer, gas pumps, and numerous buildings including the 1888 Emerald Bay Post Office which continuously operated until 1959 when services were discontinued. By 1954, following multiple land transfers, all of Emerald Bay was sold to the State of California. A grandfathered lease with the State allowed operation of the Emerald Bay Resort until 1959, when it was closed. All buildings were removed by the State by 1961. In 1962, the State approved Emerald Bay State Park Boat Camp to be constructed on the site (Marx and Lawrence 2004).

UNDERWATER HISTORIC LANDSCAPE

Recognized as one of the most scenic and most frequented sites in the California State Park system, few remnants of Emerald Bay's historic landscape are recognizable above the water's surface today.

However, within the cold deep waters of the bay there is an underwater landscape reminiscent of the late 19th through mid 20th century activities on Lake Tahoe. Two historic barges constructed of massive pine timbers, located on the southeastern shore of the bay in depths of 4 to 50 feet are the most known and largest features of the underwater landscape. These barges were probably used in the construction of Vikingsholm, prior to abandonment and subsequent sinking (Smith 1991). Other significant underwater features include several historic small boats. As first reported in 1980s by John Foster, senior archaeologist for California State Parks, these well preserved vessels represent a cross section of past maritime activities on Lake Tahoe, and thus they are referred to as Tahoe's "mini-fleet" (Foster 1989). Together the known and unknown cultural and natural resources of Emerald Bay were determined significant, leading to a designation of the entire bay's waters as a state underwater park in 1994 (Beeker 1995).

UNDERWATER LANDSCAPE SURVEY

In an effort to properly document the known mini-fleet vessels and survey for other historic Emerald Bay underwater landscape components, Indiana University conducted a three phase research project during the summers of 2003 and 2004, with phase reports generated as follows:

- 1) Shoreline and shallow water survey in the area of the late 19th century-early 20th century Emerald Bay Resort, at the present day Emerald Bay Boat Camp, with comparison to archival records, and recent California State Park land survey of Emerald Bay Boat Camp. Report: Emerald Bay State Boat Camp Shoreline Survey 2003 (Marx and Lawrence 2003)
- 2) Underwater visual scuba diver surveys using depth contour sweep patterns to depths of 70 feet, with detailed physical measurements taken for all vessels encountered. Report: Emerald Bay Mini-Fleet Archaeological Survey (Smith 2004)
- 3) Remote sensing survey, by use of magnetometer and side-scan sonar with differential GPS, conducted on the previously



Figure 1: Postcard of Emerald Bay Recreational Boating Area courtesy of California Department of Recreation and Parks.

identified underwater landscape features and areas outside the visual survey boundaries, at depths beyond those safely accessible by use of open circuit scuba systems. Report: Underwater Archaeological Cultural Resources Survey in Emerald Bay, Lake Tahoe, California (Lydecker 2004)

SURVEY RESULTS

Research in regional archives yielded a myriad of historic photograph, postcards (Figure 1), brochures, land ownership records, and other late 19th-early 20th century documents useful for comparison to the archaeological features encountered during the underwater surveys. Although no intact buildings remain, important archaeological evidence of the Emerald Bay Resort complex exists on land and in the adjacent shallow waters. These include the Tahoe Steamer pier pilings and Emerald Bay Resort pier pilings, rock wharfs, stone walls, building foundations, footers, and septic systems.

Research divers conducted underwater visual surveys through use of sweep patterns starting from shallow water to depths of 85 feet. Previously known vessels in the mini-fleet were located within the Boat Camp mooring buoy field and adjacent waters. As anticipated, additional vessels were encountered and an increased total count of eight vessels was identified in the mini-fleet (Table 1)

Using standard underwater archaeological techniques, the vessels were documented in detail to determine vessel type, construction,

approximate age, type of materials, and integrity. Although the sailboat and kayak are damaged, the other vessels are in remarkably good condition. The evidence supports the theory that small, wooden boats were intentionally sunk to protect them from the harsh winter weather. Vessels would be scuttled at a depth below ice formation level, but shallow enough to be retrieved in the spring for preparation for summer use.

The mini-fleet vessels were all determined to be historically significant, representing a cross-section of small boat activity on Lake Tahoe, prior to WWII, and most of the vessels were likely built at Lake Tahoe. The oldest vessel was built entirely out of wood with more recent vessels constructed out of metal and wood. This illustrates the transition in the use of boat building materials and represents a spectrum of construction techniques ranging from the simple to complex. Additionally, the mini-fleet illustrates the development and use of various propulsion mechanisms from the paddled kayak and rowboats, sailboat, to early 20th century inboard motors transitioning to outboard motors.

In an effort to locate additional historic vessels outside the area and depths accessible for scuba diver surveys, remote sensing surveys were conducted in the deep center, shallow end, and shoreline of Emerald Bay, at 100 foot intervals for over 230 line miles. Understanding the difficulty of positively identifying large shipwrecks through any specific magnetic signature, and the lack of ferrous fittings on many of the wooden mini fleet vessels, a magnetometer, side-scan sonar and differential GPS were used in the remote sensing survey. The

Resource Number	Vessel Type	Depth	Description
CA EB MF1	Fishing boat	35 feet	Intact wooden fishing boat with mid-ship bait box
CA EB MF2	Kayak	30 feet	Metal constructed kayak severely damaged mid-ship
CA EB MF3	Y-backRowboat	45 feet	Intact metal sheathed rowboat with two seats and decorative "Y" on transom
CA EB MF4	Hard ChineSkiff	42 feet	Intact wooden flat-bottom skiff with mid-ship bait box adjacent to seat
CA EB MF5	Lapstrake motorboat	40 feet	Intact lapstrake wood sided motor vessel with inboard engine mount
CA EB MF6	Sailboat	50 feet	Wooden forward masted lapstrake sailboat with severe bow damage
CA EB MF7	Y-backRowboat	84 feet	Metal sheathed Y-back rowboat with hogging damage from intake water pipe
CA EB MF8	Y-backRowboat	60 feet	Intact metal sheathed rowboat with two seats and decorative "Y" on transom

Table 1: Known vessels of the Emerald Bay Mini-fleet.

electronic survey resulted in 4 magnetic and 51 side-scan sonar anomalies that may represent additional cultural remains. Some of the anomalies are most likely natural, such as the numerous tree trunks and large rock formations. However, of the 51 side scan targets, as many as 20 anomalies could represent additional historic vessels, ranging in depths of 65-180 ft.

CONCLUSIONS

The historic landscape of Emerald Bay does not end at the waters edge. Today it is perhaps best represented underwater. The two historic barges, well preserved and documented mini-fleet vessels, and other historic vessels yet to be found in the depths of Emerald Bay, form an underwater landscape that is a very important submerged cultural resource significant to California history. Although the late 19th and early 20th century land structures are mostly gone, their remnants are intricately tied to the rich underwater landscape. Together, these unique resources should be actively managed and protected for current and future generations.

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