

BONES IN THE SAND: RECONNAISSANCE AND TEST EXCAVATION OF THE 19TH-CENTURY BARKENTINE *JANE L. STANFORD*

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ABSTRACT

Between 1892 and 1929, the barkentine *Jane L. Stanford* operated as workhorse of the trans-Pacific lumber industry. Once among the largest vessels of its type, the ship voyaged from West Coast ports to Hawaii, China, and Australia. Although its last voyage made under sail was in 1920, the *Jane L. Stanford* continued to serve a useful purpose as a fishing barge in southern California until a collision with the steamer *Humboldt* in 1929 doomed the vessel. Declared a navigation hazard, the Coast Guard blew up the ship. The sturdy timber construction withstood the best efforts of the Coast Guard, however, and the ship refused to sink. Two major sections became beached at Santa Rosa Island off Santa Barbara. The non-profit San Agustin Institute, under the direction of the Channel Islands National Park, conducted a reconnaissance and test excavation of the exposed remains of the *Jane L. Stanford*. Utilizing the energy and enthusiasm of trained volunteers, the Institute mapped and documented the wrecked ship. Combining archaeology with archival documents and contemporary accounts has enabled the story of the *Jane L. Stanford* to be written. The brief project revealed a vessel of substantial character, and opened a porthole into the past, to the final days of wooden sailing ships on the Pacific Rim.

Introduction

In his poem *The Building of the Ship* Longfellow exultantly describes an event once common in shipyards dotting the Pacific coast from Vancouver to San Diego:

...All around them and below, the sound of hammers
blow on blow, knocking away the shores and spurs.
And see, she stirs! She starts—she moves—she
seems to feel the thrill of life along her keel, and,
spurning with her foot the ground, with one exulting,
joyous bound, she leaps into the ocean's arms...

A romantic image of the days of sail lingers, but what does anyone today really know of those times?

In 1987 the San Agustin Institute of Marine Archaeology was founded as a non-profit education and research group to focus on Pacific Coast maritime history and nautical archaeology. The Institute's mission includes educating the public on issues concerning the preservation of cultural resources submerged beneath the waves along California's coastline. A further goal is to include the public as active participants in the process of historic preservation. A program was developed to intensively train sport divers to act as auxiliary site surveyors, and to introduce to them both the skills and ethics necessary to act as responsible archaeological technicians. Furthermore, it was hoped that a core of trained divers would prove a valuable asset for survey and documentation of maritime sites. The concept is far from original and is modeled in part after the highly successful Indiana Scuba Research and Development Program as well as the volunteer program of the Underwater Archaeology Society of British Columbia (UASBC).

The Institute received its first opportunity to accomplish this aspect of its mission in 1991 by assisting the Channel Islands National Park with a site survey on Santa Rosa Island, in the waters of southern California. Volunteers trained by the Institute provided the labor force for the Park Service which has the responsibility and mandate to manage ship wreck and other maritime sites within the park system. In return, transport to the island was provided by the Park Service aboard the *Island Ranger*. Two vessels were sought for preliminary documentation. The first was the *Ella G*, a small sealing vessel, built in Victoria B.C., which was lost during a storm in 1908 in Beecher Bay (*Morning Press* 1908). The second was the four masted barkentine *Jane L. Stanford*, that at one time was among the largest ships in the trans-Pacific lumber trade.

Archival information was located concerning both vessels, including wreck reports, ownership documents, and newspaper accounts. Jacques Marc of the UASBC was particularly helpful in obtaining documents pertaining to the *Ella G*. Keith Oshins of the SAI located news accounts of the *Jane L.* in the county library in Santa Barbara. Under the direction of Park Service marine archaeologist Don Morris, the Institute staff decided to focus on the *Jane L. Stanford*. Two reasons guided the selection: accessibility, and the ease of monitoring volunteers. The *Ella G* had foundered in Beecher Bay, with only vague descriptions of the wreck site pointing to the vessel's location (*Morning Press* 1908). The presumed remains of the *Jane L. Stanford*, on the other hand, were strikingly visible on the beach. Certainly this is not a feature to be overlooked when working with inexperienced amateur archaeologists. It was determined that documenting this vessel would benefit both the Institute and the Channel Islands Park.

Historical Background

The *Jane L. Stanford* was built in 1892 by Hans Bendixsen at Fairhaven, California. The yard at this little village near Eureka was the birth place of numerous vessels destined for the timber trade. The *Jane L. Stanford* had a gross tonnage of 970. At the time, it was exceeded in tonnage by only one other ship. According to construction records the vessel measured 215.5 feet in length and was 41 feet at the beam. The four-masted ship was rigged as a barkentine, with square sails on the foremasts. The ship must have been quite a sight. Details of a similar, though slightly smaller, contemporary vessel, *James Tuft*, can be found in Chapelle's *The History of American Sailing Ships*. The prose of the announcement of the vessel's launch in the *Humboldt Standard* on December 20, 1892 would have made Longfellow proud:

The vessel presented a beautiful appearance this morning. She is painted dark green on the outside to the waterline, below which she is copper painted...the cabins are elegantly finished in maple, walnut, and oak and will be furnished in like manner. The after cabin is finished in white and gold. There are six staterooms with bath and toilet, pantry, etc...

According to Lyman, the *Jane L. Stanford* had several owners during its career and traveled to numerous ports including Hawaii, China, and Australia. The first voyage of the *Jane L. Stanford* was to Sydney with a load of timber (*Humboldt Standard* 1892). To this end had the *Jane L. Stanford* been built. This ship was to be a workhorse of the trans-Pacific lumber industry. With an official capacity of 1,200,000 board feet, this was no dog hole schooner. The development of the California lumber industry is well documented. The increasing population throughout the state generated a need for building materials of increasing scale. The railroad alone made great demands and as rail construction expanded, so did the market. The best source of lumber came from northern California and the Pacific Northwest. The virgin forests of these regions had trees of magnificent proportions and were world renowned. Planks of timber 60 feet to 90 feet were not unusual, nor were unfinished logs of 150 feet. The coastal lumber trade developed in schooners. In order to accommodate the timber, builders made the holds as large as possible. Unusually massive keelsons and thick ceiling planking added vital strength to the backs of these mules of the sea. The *Jane L. Stanford*, however, had been built to carry these famous sticks to foreign ports across the Pacific, often with as much or more lumber above deck as below. Redwood was in demand as far away as China. Along the coast, lumber was transported by sail schooners until the turn of the century, when steam powered vessels became king. These would eventually be supplanted by trucks as automotive technology and road networks improved. A similar story can be told of international trade. Larger, powered ships, and age caught up with the *Jane L. Stanford*. The ship enjoyed a brief reprieve from inactivity during the shipping boom that followed WW I. By 1920, however, the vessel was laid up in San Francisco Bay—or more correctly, the Oakland estuary—a well-known final stop for many such vessels.

Sometime after 1920 the vessel was fitted out as a fishing barge and served in this menial function in the Santa Barbara Channel until its final days. The demise of the *Jane L. Stanford* came in August, 1929 and was as inglorious as any ship has ever suffered. The skippers of the two vessels differed on the details but one fact was certain, the passenger steamer *Humboldt*, owned by the White Flyer Line, had rammed the barge while navigating the channel in a serious fog (*Morning Press* 1929). The collision opened a 9 by 15 foot hole in the side of the *Jane L. Stanford*. The local papers reported that initial efforts to salvage the barge were fruitless and the vessel was declared a total loss. The old ship, however, refused to sink, and was becoming a navigation hazard in the channel. The Coast Guard decided, therefore, to blow up the ship. Towed to an area adjacent to Skunk Point on Santa Rosa Island, the ship was mined with 12 ninety-four pound TNT bombs. The resulting explosion ripped the vessel in two. Quoting from the Santa Barbara *Morning Press*: "The terrific force of the blast hurled parts of the ship over a space of more than two miles, scattering pieces of wood and metal along the beach. The huge boiler was blown more than twenty feet into the air. 'It was quite a scene,' said captain Charles Lucas, commander of the coast guard cutter *Tamaroa*."

This did not completely destroy the *Jane L. Stanford*, however, and sections were now separately adrift in the channel. Captain Lucas was compelled to obtain an additional 10 mines to finish the task. "It was an awe inspiring sight to see pieces of lumber flying high into the air," stated Captain Lucas. It must have been a noisy day for the residents on Santa Rosa Island that day as the Navy battleship *West Virginia* was shelling the other side of the island for target practice the same morning. Eventually two sections of the ship were beached. Details from the log book of the *Tamaroa* help in placing these on the map (Morris n.d.). One section, however, was reported adrift sixteen miles from Skunk Point by the captain of a Standard Oil tanker, and is presumed to have sunk somewhere in the channel.

The Survey

Today the remains of the vessel are scattered over the beach, wave action and weather having added to the deterioration and wild distribution of material over the years. Two large sections rest nearly two miles apart on desolate, barren beach. The first fragment can be identified by weathered knees protruding from the sand marking the spot like some macabre driftwood cemetery. The second section investigated represents a 60-foot portion of heavily constructed keel and keelson with numerous corroded iron fastenings standing out of the sand resembling a picket fence. Santa Rosa Island, the setting for these bones in the sand is itself a barren, wind-swept, and uninviting place. What scant vegetation the island has clings to eroding hillsides, and is constantly traumatized by feral pigs. Legend names the island as the final resting place for its European discoverer, Spanish explorer Juan Cabrillo, though others argue in favor of San Miguel Island, three miles to the northwest (Bancroft 1886). The nature of the terrain lends the place an oppressive, forbidding quality. This stark beauty has essen-

tially saved the island from development. A small working ranch and a road to the remains of a WW II radar station represent the principal extent of human disturbance. The pigs have done much worse.

The survey objectives were straightforward and can be divided into four categories.

Technical

1. To determine the extent of the wreckage and degree of preservation.
2. To seek debris associated with the destruction episode.
3. To document construction details.

Particularistic

1. To determine what features enhance our knowledge of 19th-century shipbuilding.
2. To distinguish construction elements that could be contrasted or compared with documentary sources.

Historical

1. To verify the accuracy of archival records concerning the destruction and the location of the vessel.
2. To provide data of value for assessing the vessel's significance to the park.

Practical

1. To train a group of volunteers appropriate site recording techniques.

Test Excavation

Standard methods for surface survey were employed, and a small test excavation was dug at each site. These test holes were subsequently reburied to pre-disturbance levels. Under the guidance of Don Morris, the enthusiastic volunteers cleared away several hundred cubic feet of sand at each site between specific features visible on the surface, and conducted detailed documentation of structural features in both drawings and photographs. A tremendously strongly built vessel was revealed. The first site investigated was a section of hull marked by a row of knees. The use of a metal detector and manual probing techniques revealed that extensive remains were extant, buried in the sand beyond the area marked by the knees, to a distance of 78 feet. Positive "hits" with the metal detector were triangulated from an arbitrarily designated point, along with the visible remains, and logged to a site chart. A test unit measuring 9 feet by 12 feet was staked out to include two knees. The unit was dug to the depth of 4 feet to fully expose the knees and ceiling planking. The unit was later expanded to expose frame and futtock timbers. The timbering was substantial. The knees were spaced 42 inches apart, measured from the insides, 6 feet 8 inches long, and 10 1/4 inches wide. The knees had been notched in 2 places to snugly fit thick ceiling strakes. A total of 22 were counted, but possibly as many as 24 iron bolts fastened the knees to the planking. These were offset in 2 rows, varying from 7 to 8 inches apart on center. The longest of the fastenings measured 36 inches and had a diameter

of 1 1/2 inches. The bolt circumference was 4 1/4 inches. The knees themselves were of a single piece of Douglas fir, the grain following the natural curve. The first notch of the knees accommodated a massive transverse timber, 15 1/2 inches sided, and 11 inches molded, even with the tops of the knees. This piece was fastened to frames with 2 iron bolts. After a gap of 9 inches a second parallel cross timber 6 inches sided by 11 inches molded was positioned over the frame elements. This timber had been notched 2 inches deep with the sided dimensions of the frames and was snugly fitted to them like a toy "Lincoln Log." The exposed futtock was 12 inches sided and 9 inches molded. It extended 50 inches beyond the top of the knee. Adjacent to this piece was a frame element of the same dimensions but extending only 19 inches beyond the top of the knee. A highly corroded but still articulated iron ring was fastened to the ceiling planks midway between the knees above a row of iron fastenings, 2 to a plank. Ceiling planks varied from 12 1/2 to 7 1/2 inches in width. The ring was positioned only inches below what would have been the underside of a deck supported by these knees. In all, 12 feet of inner planking was exposed. Only a slight curvature was detected. We believe it is safe to say we were working on a section of the lower deck above the turn of the bilge.

The second site examined was more than two miles away towards Skunk Point. The surrounding dunes were littered with debris, moldings, painted trim, and splintered fragments of wood. The exposed section of keel members and bolts stood proud in the sand, measuring close to 80 feet in length. Oddly, there was no evidence of a mast step. It was presumed that keel and keelson were visible, but as the test trench was expanded the extent of our mistaken assumption became clear. Larger and more massive sister and partner keelsons were revealed. The test hole was deepened to locate the actual keel but due to sea water seepage, we could not expose it. The keel was possibly double. As we were not equipped to pump out the water or to engage in any greater excavation, we had to content ourselves with documenting down to the keelson and the floor members which extended outward to a length of nearly 13 feet. The floor timbers were 16 inches by 11 3/4 inches sided on average, and extended 8 feet from the keel assembly. The adjacent frame measured 11 1/2 inches by 16 inches, and extended 12 feet 8 1/2 inches. The keelson arrangement was complex. Sister pieces, of which we suspect four, measured 14 inches by 16 1/2 inches sided. Assistant sister keelson had a molded dimension of 6 inches but we could not accurately measure the sided dimension due to the placement of a rider sister keelson timber which measured 15 inches by 16 1/2 inches. The eroded portion above the sand extended the assembly an additional 40 inches. As we exposed only one side of the ship's backbone, it is presumed that these pieces were reflected on the other side. Stacked like a layer cake, and in profile like a staircase, the complete keelson assembly measured 7 feet 6 inches above the floor timbers.

Conclusion

The San Agustin Institute is preparing a publication on the preliminary survey which will be made available for distri-

bution through Channel Islands National Park. The remains of the *Jane L. Stanford* offer a special opportunity to compare historic construction documents to field measurements. But there is a postscript to the field work which demands attention. New and more engaging information has surfaced about the *Jane L. Stanford* in the form of a 1992 interview with the captain's daughter (Lima n.d.). A spry octogenarian, she provides a fresh new perspective about life aboard a commercial sailing vessel. Mrs. Carol Jung lived on board the *Jane L. Stanford* the first seven years of her life, and describes a cheery vessel that escaped storms. She recalled playing marbles on deck with dried shark's eyes, and stringing vertebrae into necklaces. She also mentions that the ship made a call at Pitcairn Island while en route to Australia. Best of all for purposes of reconstruction, her family possesses a model of a fully-rigged *Jane L. Stanford*, built by the master.

The San Agustin Institute would like to extend its gratitude to Don Morris and Jim Lima of the Channel Islands National Park for their cooperation and support. In the final assessment, the institute does not recommend that the vessel be salvaged or restored; however, it is recognized that there is a great deal to be learned from the remains of this ship. It is a treasure trove of information concerning late 19th-century building techniques. Our own short survey was far from complete. The disposition of the remains ideally suit them for further detailed study, and they could easily be developed as a teaching site or field school. In this capacity the *Jane L. Stanford* could continue to serve the maritime community, even as the ship once did when the wind filled its sails.

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