TACTICS AROUND ALCATRAZ

EDITOR'S NOTE: Gary Mull, in this column, went "way over the edge" in explaining racers, who are certain they can clear Alcatraz, find, at the last minute, that they have to tack. Mull revealed a secret previously known to only a few Bay sailing gurus in his column on March, 1990. The repercussions of this revelation soun-

ded around the world; his words were reprinted in England and elsewhere in the U.S.A. In case you missed it the first time around, here is Gary's most famous column. We still get requests for copies, so this time, keep it! (A lot of people miss you, Gary...)

Why, after all these years, the Federal Bureau of Land Management and the Federal Department of Corrections have finally seen fit to go public about some of the actual details regarding Alcatraz is a mystery, as most things to do with government usually are.



Gary Mull; a guy who left a "big wake"

Ordinarily, bureaucrats tend to gather information relentlessly, but seem philosophically incapable of releasing anything actually useful. They will

spend hundreds of thousands of your dollars and mine on studies of the mating habits of some obscure insect found only in Beaverbreath, Oregon, but won't let the citizenry in on the secrets of why, if daylight savings time is so great, we don't have it all the time.

Having kept a secret for over a century, censured all references or even hints about it from history books and even retouched numerous paintings in public buildings and museums, our friends in high places have done a complete about face and decided to come clean. I'm sure they have an ulterior motive that will show up on some new tax proposal.

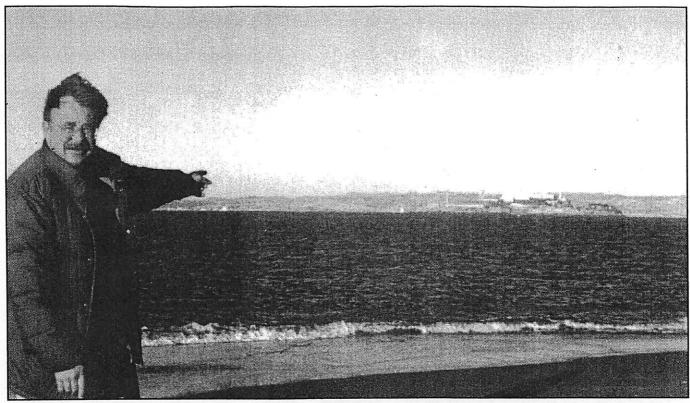
Currents

Nevertheless, it gives me an opportunity to offer some information which I think should go a long way toward understanding the strange currents and the odd tactical situations which come up so often when sailing near Alcatraz.

We are all, I am sure, familiar with the famous "cone" under Alcatraz and,

in fact, many people realize that there is not one cone, but two. The most obvious one, of course, is the wind cone which can be seen on the water and is clearly the simple phenomenon of the island blanketing a substantial area to leeward. You can look at the water and see the glassy calm under the island and, with relatively little skill, a sailor should be able to avoid that calm in the middle of a race.

However, just as certainly, many of the more experienced sailors realize that there is another "cone" below the island on most occasions, and that is a current cone which is quite substantial on a flood tide and, in fact, acts very much like a wake of a large ship. This is the reason why many oldtimers in the Bay



Gary Mull pointed to Alcatraz Island, the movement of which he scientifically calibrated during a particularly strong ebb tide in 1990.

speak of "playing the cone," meaning that they have to get as close to the island on a flood tide as possible in order to utilize the "wake cone" and, at the same time, avoid the wind cone.

The really experienced sailors -Jake Wosser and Myron Spaulding come most readily to mind established well-deserved reputations as they seemed to exercise an uncanny ability to sail even a little way into the flat spot of the wind cone and yet benefit from the "suction effect" of the wake cone. On more than one occasion racing International One Designs 25 or so years ago, I had the experience of seeing Jake sail up under Alcatraz well into the flat spot, with his boat sitting bolt upright, yet still moving with virtually undiminished speed forward, caught in some odd back eddy that was undetectable to the rest of us.

The International Class, or socalled ICs, were one of the hottest classes on the Bay in those days, and the fleet was centered at the San Francisco Yacht Club in Belvedere. Jake Wosser was the reigning king of the class and, while he was not unbeatable, we didn't finish ahead of him very often and certainly never with ease. On one occasion, going back to the club and sitting over screwdrivers which, for some reason, Jake insisted on calling spoolies, we were discussing the race where he had once again played the cone to perfection, gaining 200 yards at least, and putting an end to any hopes we had had of catching him.

Tidal fluke

Neither one of us were on our first drinks as we sat discussing the race, and after I lamented that once again he had won the race only because of some tidal fluke near Alcatraz, Jake slipped and gave me my first clue as to what was really going on.

My comment to him was that he seemed to have been dragged to weather almost as though he were caught in the wake of an aircraft carrier, and he looked at me with that little tight smile of his and said, "You damned fool, it's a ship!" When asked what he meant by that, he clammed up tight and I didn't think much more of it that day, but his remark kept running around in my mind to the point where I started to do a bit of research. I was going to UC Berkeley at the time and my first move was to go to the geography department to go over the most detailed charts I could find of San Francisco Bay. At the same time, the Army Corps of Engineers was doing a very detailed study of tides and currents in the Bay preparatory to making that fantastic model over in Sausalito.

My next clue came when I went over to the model and talked with one of the technicians who was in charge of translating the various readings the government had been making around the Bay into adjustments to the little drag plates embedded in the model of the Bay which allow the Bay model to duplicate exactly the currents of the





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Bay. I noticed that around Alcatraz the drag plates were bent in a very curious manner completely different from those throughout

the rest of the model. I remarked to

the Corps of Engineers technician that I was studying naval architecture at Cal, and that the way in which the drag plates had been adjusted reminded me most of the turbulence simulators on tank test models, and that it looked to me like they were trying to model the wake of a ship more than the flow of water around an island.

He smiled and said, of course, that was exactly it, because Alcatraz, in fact, wasn't actually an island but is, for all intents and purposes, a very large ship anchored in its present location.

Classified

A long discussion ensued in which, as it turned out, I was made privy to a number of bits of information that were still supposedly classified, at least by the federal penitentiaries board.

It turns out that the reason that there are two cones, a wind and water cone below Alcatraz, more similar to an anchored ship than an island, is simply because Alcatraz itself isn't actually an island.

While all of the facts have been available to the public for years under the Freedom of Information Act, they have been obscurred simply because all of the facts and information were never gathered together in one place and connected in a logical pattern.

Here now is the story, the true story, of Alcatraz. In the early 1700s, when the Spanish first began exploring what is now Northern California, they came upon San Francisco Bay and were stunned by its beauty and obvious advantages as a safe harbor as tourists are still stunned today. That it would make a fabulous harbor for a settlement was clear even at first glance. A small Spanish settlement was begun, and western civilization had come to San Francisco Bay.

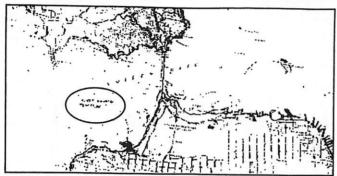
Father Junipero Serra and others began preaching their wares and the settlement prospered. The Spanish were concerned about protecting their settlements and trading posts, and began looking around for a suitable place to install a small garrison. A large promontory in the area that is now Baker Beach was selected as the best place to build a fort to protect the entrance to the Bay.

For a number of years, a garrison which varied from a little over 50 to well over 600 men manned the fort on that promontory, guarding the Bay against unwanted incursions.

It was in the great storm of 1772 that the Spanish discovered that the promontory on which they had built their fort was not attached to the mainland, but actually

seemed to be what is called now in geological circles a floating island. In fact, they had built their fort on what apparently was a large pumice plug, blown loose at some time from a volcano in some gigantic eruption. There are theories that the volcano in question is Mount Rainier, which was certainly far more active in prehistoric times than it is today.

Pumice, as everyone knows, is a fairly light, very porous



1. This chart shows the original position of Alcatraz "Island."

rock having a density of just about 58 pounds per cubic foot, or a little more than 10 percent lighter than seawater. In other words, this stone can actually float, as is usually demonstrated in high school physics class. In fact, as it turns out, what we call Alcatraz Island is not an island at all, but a very large hunk of some prehistoric eruption which is composed mainly of pumice at its core but, of course, with crusts of heavier igneous rocks in its shell. It isn't as buoyant as a ping-pong ball, but it is buoyant enough, as the Spaniards discovered in the 1772 storm, when the waves washed what we now call Alcatraz Island off the beach and moved it farther east, even closer to the Bay entrance.

Luckily, for some reason, it seems fairly stable in its present "upright" position, and the Spanish fort was not damaged, although the garrison was pretty shaken psychologically to find themselves winding up six miles further east at the end of the storm.

In those days, of course, science was a good deal less highly developed than it is now, and the Spanish saw this as an omen warning them that the way they were treating the native inhabitants of the area was not in keeping with the Christian beliefs they espoused and many students of the social sciences and the history of that time are convinced that this gave rise to the incredible efforts to treat the natives more kindly by establishing missions and churches up and down the coast for their education and betterment. In any case, the Spanish fort and garrison stayed in that location for a long while, as can be seen in the very well known mural at Mission Isabella which shows the fort in that location and, of course, shows no island where we now have Alcatraz. When I first visited Mission Isabella and looked at the mural, for a long while I couldn't figure out



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what looked so odd about it. Of course, the City of San Francisco with the built up skyline, Coit Tower, the Pyramid, and the Golden Gate

Bridge are not there, and it is interesting to see a view of the area when there was nothing but hills, grass, etc. However, it finally dawned on me that Alcatraz Island was missing, and this was

another clue that had not been connected previously to explain the mystery.

It was in the mid-1800s when California became a state that the U.S. federal government decided to move the fort and garrison from China Beach further into the Bay to what is now called Fort Point.

Very few people realize that Fort Point derived its name from the original fort built on the pumice plug rather than the fort that was built on solid land later on.

The fort was rebuilt and expanded, I think, in about 1865 or so, at which time the old fort was completely torn down to make way for the new one. The U.S. Army took advantage of an extremely high tide and decided to move the fort even further into the Bay and anchored it offshore. It served as a perfect blocking fort for the San Francisco Bay entrance, but as there became less and less need for a fort, it was moved to its present location, using the original Spanish anchor chains and anchors to secure it. The original Spanish chain was a fantastic piece of iron work, apparently forged by one of those magnificent steam forges in use during that time. The links are severely worn away where they would join with one another. The links were raised by a fisherman in 1923 when he fouled it with his gear. The link will soon be on display next to the section of cable from the Golden Gate Bridge in the San Francisco Golden Gate Bridge museum.

Anchoring

Chart No.1 shows the various positions of Alcatraz "Island" as nearly as I have been able to determine them from the records to which I have had access. The original Spanish anchoring array was a group of three anchors at approximately equal angles from the island, which served until the famous attempted escape from Alcatraz prison portrayed in the movie with Clint Eastwood.

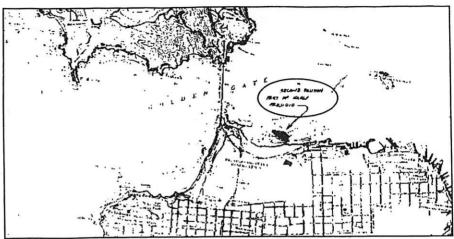
It is interesting to note that, at that time, even though Alcatraz was no longer used by the Federal Bureau of Corrections, they still had a secrecy blanket on the fact that the basic constituent of the island was pumice. The reason for this, of course, is that they thought they might very well need the prison later on and didn't want this fact to be known. Frank Morris, the con who escaped from the island apparently had done his homework, and in the movie where you see him digging through supposedly rotting

concrete, in fact he actually dug through pumice, which is quite soft. The Hollywood filmmakers had to rewrite those details to keep the secret.

Obviously, no one that I know of has actually ever seen "rotten" concrete. It is one of the glories of Hollywood that they were able to make so many people go along with the gag that he used a soup spoon from the mess hall to supposedly dig through "rotten" concrete. In fact, he was digging through pumice, as many of us have done in high school or college classes.

Apparently what had tipped Morris on to the idea was that he had noticed from his cell window that, on a strong ebb tide in the spring when there was a lot of water flowing down from the rivers to augment the ebb tide, the island seemed much closer to San Francisco than usual.

He made a very crude surveyor's instrument which he could use from



2. Alcatraz's second charted position is also where the "Island" was refitted with anchors.

his cell window, and determined that during certain combinations of ebb tide and river flow, the island actually moved nearly 160 yards closer to the San Francisco shore.

Apparently he thought this was just the margin he needed to assure his ability to swim to shore. Most sailors here in the Bay have had similar experiences with the island moving somewhat in tidal currents. Who hasn't had the experience of feeling certain that they could sail to weather of the island without a tack, only to find at the last minute that the island had moved just enough to force a tack offshore?

This attempted escape gave the



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authprison orities serious worries and led them to request that the Army Corps of Engineers do a more careful survey of the area around Alcatraz in which they found that one of the old Spanish anchors had dragged considerably. The drift, together with the wearing between the links, had added this approximately 200-yard slack in the anchoring system. It is not known for certain, but there was some suspicion that the anchor chain might very well have been snagged by a Japanese midget submarine, however, that is a totally unsubstantiated rumor.

As is usual with anything federal, the original budget for replacing the anchoring array with more modern equipment began at an estimated cost of \$32 million, and wound up costing you and me, the taxpayers, nearly \$182 million, including the casting of four stainless steel anchors, each weighing about 26 tons, and connected to the island with stainless steel cables and a rather sophisticated water cylinder damping system.

The new anchor array shown in Chart No. 2 was installed under the guise of yet another Army Corps of Engineers survey of the area. The anchors and cables were laid during the early morning hours, when the fewest people might be around. One side benefit from this last operation was that the cable layer was easily converted to its present use, and we have all seen it at one time or another wandering around the Bay collecting flotsom, jetsam, and debris in the forward scoop area in which used to be mounted the stainless cable laying guides.

The future of Alcatraz is some-

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what uncertain. Although not made broadly public, there was apparently some talk a few years back about moving Alcatraz once again, either somewhere into the South Bay or perhaps up in the shoals near San Rafael, or even as far up as Carquinez to serve as a place on which the federal or state government, it was never clear which, would build low-cost housing.

Unfortunately, as it turned out, owing to the silting upon the Bay from soils carried down from the rivers, Alcatraz seems to be firmly aground at present and the next tide high enough to float it once again will come in the year 2014.

By that time, it is hoped that we will have found some other way to deal with the problems of the homeless and the need for low-cost housing, but it certainly would be grand to see the Bay once again open as it was when the Spanish explorers first came here.

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