

A Huntington Lake Primer from One in the Know

by Charles Witcher

So, you've decided to compete in the Santana 20 Class Championships on Huntington Lake this year. Good choice, you'll have lots of fun, I guarantee it! We have enjoyed the pleasure of racing on this lake over the past few years and I would like to share a few of the insights we have gained in the process.

The Lake. First a little background information on this sailing venue. Huntington Lake is approximately 7 miles long and 1 mile wide and is oriented west to east along its length. The lake is man made and located at an elevation of 7200 feet in a beautiful valley in the High Sierras. The lake water is cold, this water is snow runoff and the cold nighttime air temperatures help to preserve the cold water temperatures. Huntington Lake's location and long narrow shape contribute to the fact that Huntington has such reliable winds in the summer time. Around the lake on the north, south and especially to the east rise large mountains. To the west of the lake and below lie the Big Creek drainage and the Central Valley basin. This is very important because Huntington is positioned in an outflow valley for the mountain range located directly above the lake. Out flow valley lakes develop two-way alternating winds that are unique to these valleys. At night, as the slopes of the valley cool, the cold, dense surface air drains down the slopes and out onto the lake from the surrounding mountains. This produces the characteristic east winds that are experienced at night and in the early morning hours on Huntington. Each day, as the slopes of the valley heat, the warm, expanding air flows up the slopes and pulls the cool air from over the lake toward the mountains above. This thermal action creates the westerly lake breeze that makes Huntington Lake such an outstanding regatta site. During the summer months, like clockwork, the Westerly wind begins to fill in on the lake at about 10:00 AM. After the wind fills in, it blows throughout the day and typically shuts off at about 6:00 PM. Warm, clear summer days in the High Sierras, around Huntington, create the strongest thermal winds over the lake. Wind gusts of 20 knots are not unusual, during the mid-afternoon, and are generally strongest on the east end of the lake. Shore lifts are prevalent and the lift angle can be extreme due to the steep valley walls especially on the south side of the lake. Cloud cover or high overcast reduces thermal radiation in the mountain valleys and this tends to reduce the wind velocities on Huntington. Occasionally summer thunderstorms in the mountains above the lake can produce very strong easterly winds known as "Monos".

Race Strategies. Now that you have a little more information about the lake and it's characteristics lets take a look at how this effects priorities in establishing race strategies. In establishing a strategy for sailing Huntington Lake, you have to carefully consider the variations in wind velocity and direction on different areas of the lake. I know a lot of you are saying "Duh" but it's not as easy as it sounds. The topography of the land around the lake shapes the wind. The cooler air over the surface of the lake is being pulled up the slopes to replace the warm air that is rising off the land. This air flows along the path of least resistance toward areas of lower atmospheric pressure. The east end of the lake typically has the most stable wind both in direction and velocity. As you move west up the lake you see larger variations in both wind velocity and direction. The difference in wind velocity between a puff and a lull can be substantial. Puffs of air can be quite strong and move as streaks of pressure down the lake. These streaks do not always follow the same patterns, so be alert. The transition zone or edges of these blasts, of air, carry more pressure than the core and fan out as they hit the surface of the water. This fanning effect creates an effective "lift" for a boat riding along either outside edge of the puff. An example is: if you have two boats sailing upwind, on opposite tacks, on either side of a common puff the sailing angles between the two boats can be as little as 5 to 10 degrees. So, when you sail upwind you want to maximizing sailing time on the outside lifted edges of the puffs as they move down the lake. Remember stay in velocity and look for the next puff. If possible position the boat so that you approach the next velocity increase by sailing from the middle, of the puff, to the outside edge going the direction you want to go. Simple, Huh!

Earlier I mentioned that shore lifts are prevalent and that the lifted sailing angles can be extreme. Sailing close inshore on a big lift can be a double-edged sword, at some point you have to tack and sail off the shoreline in what will most likely be the equivalent wind angle. Riding the inshore lifts, on certain sections of the lake, is an advantage that is just too large to ignore. Especially when your competition is doing it, but be careful. Many times we have gone inshore on a lift only to have the competitors sail by happily 100 feet further offshore.

Downwind. After rounding the weather mark many of the same principals, discussed earlier, apply on the down wind legs. Keep the boat positioned in the highest wind velocity that you can while moving in the direction toward the next mark. Try not to sail any additional distance unless the increase in wind velocity justifies it. Keep a close watch out for puffs as they move down the lake. Position the boat on the advantaged gibe for the oncoming puffs. Consider giping when your wind angle is lifted. Sail with the direction of the increased velocity as long as you can.

“Remember to stay in the Velocity and look for the next puff...”

Time to Race. Now lets sail a windward leeward course and see how the so-called, often applied “classic” strategies play out racing on Huntington Lake. Some people like to start on the lower half of the starting line. Like right at the pin! Beware, while this starting position makes it easier to determine if you are right on the line at the start (and it is a long line) and this position can help you get to the south shore (the Boy Scout camp) the quickest it carries some possible disadvantages. If a right hand wind shift comes through (which happens) the boats that got a good start mid line will sail right over you.

The Beat. Most competitors will sail the long starboard tack beat, off the starting line, to the Boy Scout camp without tacking. This is usually the best plan but if the wind swings left look for opportunities to consolidate any gains or clear your air by tacking back onto port and sailing up under your competitors before tacking back to starboard. I have seen boats successfully tack up the north shore and win the weather mark. Other wise, think “boat speed” and sail fast to the corner. Once you have reached the south shore, play the shore lifts and puffs up the south side of the lake. Use good judgment, sailing too far inshore can mean that the boats offshore sail past you when the puffs roll down at the wrong time. This is the boat handling part of the race and boats with good tacking skills will gain, with all else being equal. Another clue is to watch your compass as you sail the pressure pockets moving down the lake. This will help you to determine when to tack back inshore or when to continue to sail offshore in better pressure or on a lifted tack.

Determining the lay line to the weather mark can be tricky. As you leave the shoreline the wind patterns change in the center of the lake, pockets of increased wind velocity are more scattered. Watch the water and the boats around you to help with the wind angles. Remember that Patience can be a virtue! Good water reading skills are a big advantage here. Some people find success by over standing the weather mark. That is probably a better option than tacking up the middle when you find yourself short of the lay line. Be observant! You only want to cross to the middle of the lake once! Good Luck, This is a Challenge.

The Run. Before you get to the weather mark observe the wind pattern. At the mark set the chute to the advantaged gibe and aim the boat “Down The Lake” to the next mark. I have observed many different boat position strategies on sailing the down wind legs on Huntington. Some boats like the north side of the lake some like the south side and some like the middle. The only consistent success I have seen is by working hard to keep the boat in pressure. One crewmember should always be looking back and informing the crew of where the pressure lines are on the lake and which direction they are moving. As I stated before keep the boat moving in pressure. Aim at the next mark and gibe on the lifts. Don’t sail unnecessary distance without good reason.

Back upwind. At the leeward mark you have to make a choice on which way you are going to go as you sail back toward the start finish line. This is the East End of the lake where the wind blows with more consistent

velocity and has less variation in direction. This does not mean that there are not puffs to play. After all this is still a high altitude lake. This can be the toughest part of the lake to sail well. After you have worked hard on the down-wind leg to keep your competition behind you, coming around the leeward mark your closet competitors split tacks and go off in different directions. You are left to decide which boat to cover. Sailing to the north shore and playing the puffs up the shoreline (be careful not to sail in to close the wind velocity drops somewhat close into shore)...or... sailing back out to the center of the lake where there might be more pressure and certainly more freedom to play the shifts. Honestly, I have seen success with both strategies. Here - I think that tactical considerations will have to rule your decision.

Recap. In this article, I covered some of the strategic considerations that Aggressive Tendencies, as a team, have either applied or theorized about when racing on Huntington Lake. Some of these have been successful and some are still untried - “oh we should have done this.” Ask your fellow sailors with Huntington Lake experience how they think the lake should be sailed. Make sure you arrive early for the regatta, you know just like all the books and articles say to should, sail the lake and develop your own experiences and opinions. If you have never been to Huntington Lake before, or even if you have, take time out to look down on the lake and the surrounding terrain from the viewpoint of a high vista. Try to do this at the same time of day that the regatta will be held, early afternoon. This will be a valuable experience and help you visualize how the wind patterns develop on the water.

Nothing is more valuable than your own observation and experience, whether it is on or off the water. I wish you good luck and hope to see you all at Huntington Lake for the Class Championships.

Charles Witcher

“You only want to cross the middle of the Lake once...”

Arrive Early. “Sail the lake and develop your own experience and opinions....look down on the Lake from the viewpoint of a high vista”