Tidal Currents of the Bagaduce

by Bob Treadwell, originally published in the summer 2009 edition of the Brooksville Breeze, published with permission, August 2017

There are two things that people call “the tide.” First is the tide: is it high or low, rising or falling. It measures the depth of water over a particular point. The second is the tidal current: it floods (flows inland), ebbs (flows toward the sea) or is slack. The tide doesn't matter much to canoes or kayaks, since they draw only a few inches, but the tidal current matters a lot. Let’s look at the tidal current in the Bagaduce River.

The Bagaduce is a series of pools with narrow places in between. The first narrows is at Jones Point - the northernmost point in Brooksville and just up the river from the Seal Ledges Marina in Penobscot. Above Jones Point is the first pool: it is Northern Bay and Southern Bay together. Next comes the second Narrows, between Johnson Point in Penobscot and Green Island at the end of Young’s Point Road in Brooksville. Above the Green Island Narrows is Herrick Bay - the second pool - and above Herrick Bay is the narrows at the bridge beside the Bagaduce Lunch. There are two more pools and another narrows above the bridge; but we can show how the tidal current works by considering these two pools and the three narrows.

It’s low tide at Castine. The tide is ebbing at Jones Point, ebbing at Green Island and ebbing at the Bagaduce Lunch, so each of the pools is filling at the top and ebbing at the bottom. Now the tide begins to rise. Eventually, it reaches the level of the water in Northern and Southern Bays. At that time, an event occurs at Jones Point that is called “low water slack, flood begins.” Because the water level is the same on both sides of the narrows, the current stops ebbing, goes slack, and shortly begins to flow upstream - flooding toward the first pool, Northern and Southern Bay. Notice that this is not low tide; the tide has been rising for about an hour and fifteen minutes before low water slack at Jones Point, but it is still ebbing at Green Island. In other words, the pool is filling from both ends. If you were a kayaker paddling downstream, you would find it easy to get into the pool, but hard to get out because you would meet the current at Jones Point.

The tide continues to rise, and the first pool is filled from both ends. Eventually, the water level in the first pool reaches the level of Herrick Bay. When that happens, we get “low water slack, flood begins” at Green Island. Now the first pool is filling at the bottom and emptying at the top, and Herrick Bay (the second pool) is filling from both ends. This continues until Herrick Bay reaches the level of the pool above the bridge at the Bagaduce Lunch. At that point we have low water slack at the bridge: the current stops ebbing, goes slack, and begins to flood at the bridge.

Back at Castine, the tide continues to rise, and now the current is flooding at all three narrows. High tide passes, but the sea is still higher at the first pool, and the current continues to flood at the three narrows. As the tide falls, after about an hour, it gets down to the level of the first pool. At this point, we have “high-water slack, ebb begins” at Jones point. As the tide continues to fall, the first pool is soon emptying at both

ends… still adding water to Herrick Bay through Green Island Narrows, but now losing water at Jones Point; and the current is still flooding at the Bagaduce Lunch.

About forty-five minutes later, enough water has drained out of the first pool to bring it down to the level of Herrick Bay, and we have high water slack at Green Island Narrows. Herrick Bay begins to empty at both ends, and in another twenty minutes falls to the level of the pool above the bridge. So then we have high water slack there. At this point, the tide is ebbing through all three narrows, and this continues until the cycle begins again at low tide.

Now some lessons from all this, and some numbers. Low water slack occurs at Jones Point about two hours after low tide at Castine. Low-water slack occurs at Green Island almost an hour after Jones Point, and at the Bagaduce Lunch about a half hour after Green Island. That is, *low-water slack moves up the river*. But so does high-water slack! High water slack occurs at Jones Point about an hour after high tide in Castine. High water slack is about 40 minutes later at Green Island, and about 20 minutes after that at the Bagaduce Lunch. Moral: if you want an easy and comfortable ride on the Bagaduce, paddle upstream. If you get to Jones Point just as the tide there begins to flood, you will be at Green Island just as the tide begins to flood there, and at the Bagaduce Lunch in time for a scallop plate while you wait for the current to wash under the bridge and on up the river.

On the other hand, if you are coming down the river, one of two things must happen: either you will have the current in your face somewhere, or else, if you wait for high water slack at the Lunch, the current will be running like a millrace at Jones Point by the time you get there. Now paddling down through Jones Point Narrows with the tide running hard behind you is not all that bad, but it is perhaps more exciting than some of us older folks look forward to.

If you want to get the times for slack water and strength of current, they are published by NOAA for Jones Point. The internet is address is http:tidesandcurrents.noaa.gov. Choose “Tide” on the main page, “Maine”, then “Penobscot Bay” for the region on the next page. The table you are looking for is “Castine.” You can figure the slacks for the other narrows from there. Happy paddling!