2012 Report on the Condition of Quilcene Bay

by JD Gallant

Quilcene Bay is sick–very sick. It's sick because of it has a slow flushing rate that keeps human-caused pollution hanging around longer than it should. This is a well known condition acknowledged by government agencies that include Washington State and Jefferson County. But what they aren't saying is that Quilcene Bay is a victim of slow poisoning and is slowly dying.

Quilcene Bay is being poisoned by the injection of excessive nitrates into its waters. It's not unlike that of a human being given the wrong dosage of drugs. And because Quilcene Bay is practically a living organism, she is being killed. Probably unintentionally, but she is, nevertheless, being slowly killed.

I know all of this because I've been checking the data for over two years. Working with Greenfleet Monitoring Expeditions–using YSI dissolved oxygen probes and a LaMotte chemical analyzing system–we have confirmed that the dissolved oxygen levels are far too high and that nitrates are being consumed by algae as fast as they enter the waters of the bay.

Too high oxygen levels are evident throughout the year–primarily in spring and summer. We've often reached numbers of over 150% dissolved oxygen (DO) saturation when they should never be above 100%. Confirmed by University of Washington's ORCA buoy readings in Dabob Bay on both DO and chlorophyll and our observations with the Secchi disk, it's obvious that–as in Dabob Bay–we have too much algae in Quilcene Bay. But since Quilcene Bay has a problem of flushing totally only "once per year" (DOE), the high DO problem is much more dramatic.

The problem begins with algae getting too much food which allow them to prosper and produce more algae. Evidence of excessive algae are blooms on the surface and dying plants (eelgrass is very vulnerable) on the bottom. Too much algae stops sunlight from reaching bottom plants, so they die. The dead plants combined with dead algae (algae are short lived) are eaten by bacteria which lowers the oxygen for bottom fish and other bottom feeding organisms. From research into the cause of fish and shellfish kills and the condition of Lower Hood Canal, I predict that Quilcene Bay is primed to become nearly as dead as that body of water.

The cause of Quilcene Bay's high algae count is too much nutrition in the form of human-introduced nitrates. My prime suspects for these nitrates are: 1) Coast Seafoods, 2) failing or overburdened septic systems, and 3) contagion from Dabob Bay and

This may not be a massive algae bloom, but small blooms this one in Quilcene Bay are a good indication of excessive nutrients in the water.

When we get too much algae on the top, we get damage to the plants on the bottom. This debris shows what we can collect in the Quilcene marina.

possibly Lower Hood Canal. Coast Seafood tops the list simply because they produce both algae and nitrates with barely any apparent controls for limiting or monitoring their wastewater outflow–technically called “industrial waste.”

As seen from the accompanying photos, Coast Seafoods shows no inclination to control or monitor their waste. To the contrary, evidence shows that abundant algae benefits shellfish–albeit, in the short run–especially oysters and mussels–Coast’s and Penn Cove Seafood’s (Coast subsidiary) big money makers. But Pacific Seafood, now owning Coast and half of Penn Cove, will make millions in profits every year even as our paradise disappears.

To me, it is no mystery as to how it’ll happen. The first to go will be bottom fish (mostly already gone), then forage fish, then shrimp, (somewhere in there juvenile salmon will be affected by the highs and lows of DO and the lack of eelgrass) then will go crab, then the bivalves (mussels, oysters, clams). When we get our bacterial mat like the one in Lower Hood Canal, Quilcene Bay will be dead and Dabob Bay will be very sick. If nothing is done, I predict that our Quilcene Bay paradise will be gone before I die–and I’m 80. When this happens, we’ll all be to blame–but mostly those who do nothing.

Coast Oyster has over 30 open pipes draining wastewater into the estuary. It would be impractical, if not impossible, to monitor nitrate, live algae, or any chemicals draining from the many tanks in the hatchery or from outside activity.

No government environmental agency would sanction major and regular activity on the shores of a sensitive ecosystem such as the Quilcene Bay Estuary–such as shown here . Yet, Coast Seafoods has been doing just that for years.