

**Our Ocean Backyard — *Santa Cruz Sentinel* columns by Gary Griggs, Director, Institute of Marine Sciences, UC Santa Cruz.**

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**Traffic at Sea**



*Ships waiting offshore Singapore to enter the port.*

Do you ever wonder when you walk into Costco, The Gap, Radio Shack, the Apple Store, or just about any other retail shop, where all that stuff actually comes from? It's pretty safe to say that the great bulk of it comes from some place else and wasn't produced in the USA. Look at the labels on most of your clothes, your camera, computer, I-gadgets, you name it, and odds are that we probably didn't make it here.

It turns out, perhaps not surprisingly if you stop and think about it, that about 95% of all that stuff we import and then fill our houses and garages with comes into the United States by sea. Having now sailed into and out of a handful of Asian ports provided a whole new perspective on just how much stuff gets moved around the world's oceans by ships.

While I saw only a few vessels on our entire 6,500-mile voyage across the Pacific, once we hit the port cities of Asia, the number of ships of all sizes and shapes was overwhelming. Vessels are lined up in shipping channels and harbors like

commuters on Highway 1 at 5:00: container ships, bulk carriers, and boxy car transporters full of Toyotas, Subarus, Hondas, and Nissans.

The oil tankers range from large to huge, sometimes referred to as VLCC for Very Large Crude Carriers, or even bigger, ULCC, for Ultra-Large Crude Carriers. Giving something an acronym seems to help diffuse its magnitude. You could put 3 football fields on the deck of one of these 1200-foot long behemoths. They don't usually play football on the deck but put 3.5 million barrels of crude oil in the tanks.

We arrived in Singapore on February 23, and from the fleet of ships anchored offshore, the size of the container port and the number of cranes and containers waiting to be loaded, it's clearly a huge shipping center. In fact, Singapore and Shanghai battle each other for bragging rights for being the world's busiest or biggest port.

There are different ways to measure port size, which complicates the contest, including total cargo tonnage, number of ships using the port, numbers of containers, and a few others. The ranking shifts back and forth from year to year between these two, but let's call it a tie. They are both massive, each moving over twice as much cargo annually as any U.S. port.

Seeing the number of ships coming in and out of these Asian megaports, and thinking about where so much of the stuff we import is produced, I guess it shouldn't be surprising that of the world's 20 busiest or biggest ports, 14 are in Asia, and 9 of these are in China. And my guess is that many of us have probably never heard of seven of these: Tianjin, Guangzhou, Quindao, Ningbo, Qinhuangdao, Dalian and Shenzhen.

The growth in these port cities is astounding by our standards, shoot, by any standards. I visited Hong Kong 30 years ago and looked north out over an imposing barbed wire barrier into China and what was then rice paddies and a rural village. That small village, Shenzhen, became a Special Economic Zone, is now the world's 15th largest port, and is home to 12 million people, all in less than 30 years! I don't think China has a word for Environmental Impact Report, however.

The United States has two ports in the top twenty: South Louisiana and Houston. Our busy ports of Los Angeles, Long Beach, or Oakland don't even make it onto that list.

Container ships, along with oil tankers, now really rule the seas. We have seen hundreds of these over the past month. The development of large containers that could be conveniently stacked revolutionized transport by sea and land. These giant metal Legos made loading and unloading cargo much faster and far more efficient.

Over time, in order to save costs, container ships like oil tankers, were built larger and larger in order to carry more and more containers without requiring many additional crew. On an average day, between five and six million containers, stacked on ships, are being moved around the high seas, stuffed with everything from plastic bath toys, to Nike running shoes and kitchen microwaves, and everything in between.

Container ships are not immune from large waves, however, and with these metal boxes stacked 7 or 8 high above decks, a surprisingly large number of these go overboard during storms. Shipping companies estimate that somewhere between 2,000 and 10,000 containers annually end up in the ocean. This means 5 to 25 of these end up in the water every day, and represent a significant risk to other vessels for the several weeks to months that they can stay afloat. Robert Redford's sailboat hit one. Some appear to sink quickly, but all of them end up scattered across the sea floor beneath the shipping lanes of the world like sunken treasure chests.