Peter Hayes

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Guides & Mentors

Peter Hayes
Co-Executive Director, Nautilus Institute
Berkeley, California

Tell us about your job? What inspired you to pursue this career?

I work with a group of inspired and dedicated people to make peace in the Asia-Pacific region, especially in conflict-prone places like the divided Korean peninsula; and to increase environmental sustainability in this fast growing region of the world's economy.

I grew up on a farm, close to natural cycles, in Australia. The farm was near an estuary called Westernport Bay and the government decided to make this bay the site for the biggest industrial center in the southern hemisphere. Fortunately, they failed, and our entire family was involved deeply in the mobilization to stop this devastating proposal. Ever since, I have worked on environmental issues. I learned that avoiding wars and resolving conflicts is one important way to reduce environmental devastation, as well as to improve human welfare. Now that I have children, my commitment has deepened to continue this life work. I do not see my work as a job or a career, but as a life commitment for which I am lucky enough to be paid to do at the moment.

You're an avid sailor. Paint a picture of sailing on San Francisco Bay. What's a memorable experience you've had out on the Bay?

I grew up sailing on Westernport Bay, where the water, landscape, and weather are very different from San Francisco Bay. I am still learning how to sail on San Francisco Bay, to recognize the patterns of waves, currents, winds, and clouds that portend changes a few hours or days ahead. The sailor always has an eye to the weather! We sail on the Institute’s vessel called the Pegasus, taking out kids. We often sail in the afternoon, and in the East Bay where we sail, it is often very choppy with a strong wind that starts about 1 PM. The water is very shallow in this area, so if the tide is going out against the westerly wind, it whips up steep, short waves which crash over the bowsprit of the boat and sprays the crew with salt water. It can be very wet and cold, so we are careful to wear the right clothes to stay warm and keep out the water.

I remember one day sailing all the way out under the Golden Gate Bridge to the Pacific Ocean, not far offshore from the Cliff House. As we sailed along gently, lifting up and over the big ocean swells, a pod of dolphins decided to swim around us and to say hello. I often remember this event. Another memory I like to recall when I am very tired and going to sleep at night is lying in the forepeak sleeping with the boat under way. You can hear the sound of the waves and water rushing by next to you outside the hull only a few inches away, and the swish and splash is a very soothing sound—a good lullaby when you are overtired. Finally, I remember one kid who had never been out on a sailboat before telling me as he disembarked from the Pegasus at the dock, "the sea is salty." I was very impressed that he had learned this basic fact about the ocean from a short voyage. I bet he never forgets that the sea is salty, unlike the tap water we use in the city.

How are Tokyo Bay and San Francisco Bay linked to one another? (environmentally, economically, culturally)

By their nature, bays enclose a portion of the ocean and provide protection from the wind, surf, and currents to vessels, fish, and birds. For humans, this protection means that vessels can cluster at these Bays and stop safely for a while at anchor to let crews or their passengers visit the land. It's really hard to stop safely along the coast unless you are in a bay, which is why most shipwrecks happen when people mistakenly sail onto a coast line without a bay, and can't get away because of the wind and waves and currents. Bays are also the place where the first trade starts, and as a result, some people start to live there and build settlements. These settlements grow slowly as centers of power and wealth for some, and subordination and poverty for others. Eventually, they become huge cities.

San Francisco and Tokyo Bay differ in this history in one very important respect. San Francisco Bay hosted American Indians for millenia and then a small number of Spanish settlers for some centuries until the mid-1850s when a city grew very rapidly due to the gold rushes—in a few years from a few buildings for trade, to a major city and shipping stopover. In contrast, Tokyo Bay has been the site of imperial and lordly power in Japanese history for many centuries.

San Francisco Bay, like Tokyo Bay, hosts a set of very large trade terminals where big ships load and unload containers. Many of these ships travel back and forth across the Pacific, linking the factories in each city or from the hinterlands in each country. Each Bay also hosts visits by military vessels. They are also plied by local and coastal ships which transport items such as refined oil, and other bulky items which would be more expensive to transport by land.

Both bays are badly polluted by heavy metals and other pollution running off from stormwater drains and other big and small dispersed and very numerous sources.

There is a distinct Japanese American community in San Francisco with a Japanese community center; there is a big American business community in Tokyo, but no specific locus of "Little America." American cultural influence is more pervasive, in terms of film and popular culture such as music and Disney iconography.

Much of the biota of San Francisco Bay consists of imported exotic species which have displaced the original species endemic to the Bay/Delta estuary. I don't know if Tokyo Bay has suffered a similar effect from foreign invaders — but it is irreversible and the long run stability and productivity of San Francisco Bay is threatened by this change.

Both bays lead to the same shared ocean which links everyone on the planet — almost all the oceans are linked in one body of water; and we are all dependent on the slow circulation of water through the biosphere.

Both Tokyo and San Francisco are large urban centers that face a number of environmental challenges. What actions do people in these communities need to take in order to ensure a sustainable future?

Among the most important steps are to reduce dependence on polluting cars for mobility; and to control the emissions of heavy metals and other pollutants such as hydrocarbons into the Bay. Although Tokyo is farther along than San Francisco in some respects because of the higher density of its city and greater per capita reliance on public transport, the absolute size of Tokyo City is overwhelming for the coastal ecosystems of Tokyo Bay. In San Francisco, the most important next step is to take advantage of the availability of new computing power and three dimensional time dependent circulation models of the movement of water and pollutants to estimate the fate and impacts of low-level, chronic pollution on the Bay/Delta ecosystem.

For me, the most important place to start is with education of the young who will inherit Earth. They need a basic environmental understanding if they are to achieve environmental sustainability. This is what we hope to achieve with the Pegasus Project.

What would make the Bay Area of California a truly sustainable community?

Put simply, it will have to stop growing and start shrinking in absolute impact and scale, measured in bio-physical terms. The atmospheric, land-based, and aquatic ecosystems which constitute this eco-region simply cannot support forever this many people with their high energy and high materials usage.

How are the lives of people living in a bay community intimately connected to the health of the bay's ecosystem?

Every day, the Bay greets the people who live on its shores. The contours of the hills which surround it, the blue waters which separate each community also bind it together by providing a shared cultural and natural landscape. It is the environmental roots of our shared identity, part of what makes us different from the communities which live in land-bound areas, and part of what is common between ourselves and other Bay-based communities—such as Tokyo. It is where many plants and animals which are unique to the area, or which visit on their migratory routes, live and depend on the enormous productivity of the shallow estuarine areas of Bays.

For people to live healthy and productive lives, they need forests and a functioning watershed around the Bay, not just buildings and roads. They need clean air to breathe and wind to remove the atmospheric pollution and disperse it. And they need the Bay to be able to absorb all the runoff and pollution made by modern living and still be able to support fish and other animals and plants which live in the Bay. Most of all, they need to know that right here on their urban doorstep is a marine wilderness, part of the global ocean which protects the planet and is the basis if all life.

For you, what does it mean to live on a bay?

Most of all, it means protected proximity to the ocean. I find it hard to live surrounded by land for very long, although I like to visit mountains and plains with vast vistas such as inland Australia or mid-western USA or inner Mongolia. But the wildness and power of the ocean entrances me. I need to be close to the ocean if I have to live on land. I feel most alive when I am on the ocean itself, attuned to the daily tides and pull and tug of the celestial planets and our star, to the winds which distribute the sun's energy around our planet, and to the waves which pack such awesome power. A well tuned boat is a living art form; and well sailed boat is a combination of dance and theater, involving timing, coordination, and movement on a constantly moving platform. A well made wooden

boat has a lineage of thousands of years of design and experience. That knowledge is disappearing fast with the advent of plastic boats. This is why we use a hundred year time horizon in our planning for the maintenance and operation of the Pegasus. Our kids and theirs deserve to be able to sail on a classic wooden boat on a clean bay under a sky which protects them from the sun's harmful ultraviolet light. A bay is a good place to find and found a community of like-minded people with a passion for the ocean and sailing the winds which blow in from it, and for teaching our kids the respect it deserves.

email: phayes@nautilus.org

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Nautilus Institute
608 San Miguel Ave., Berkeley, CA 94707-1535 | Phone: (510) 423-0372 | Email: nautilus@nautilus.org