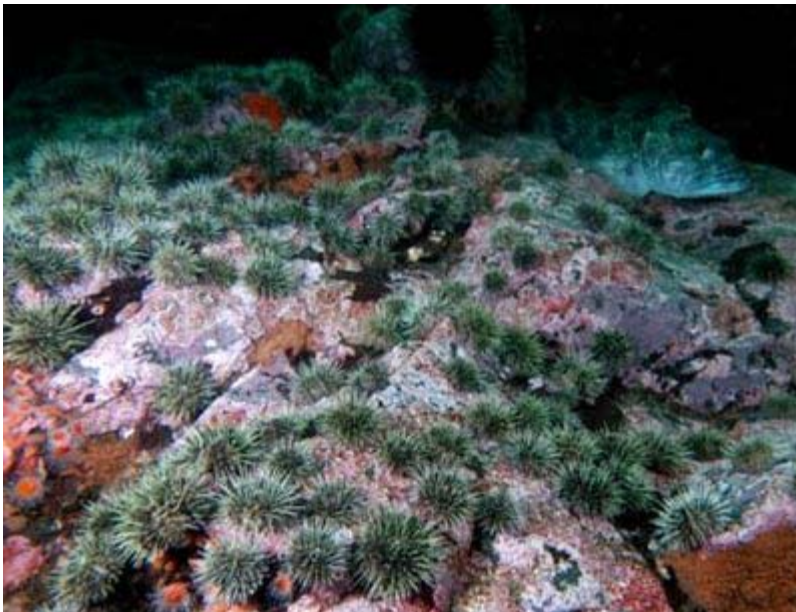


Chautauqua Watershed Notes
From the Chautauqua Watershed Conservancy
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“..... Hitched to Everything Else”

By Tina Nelson

For the Chautauqua Watershed Conservancy



This "urchin barren" was once a magnificent kelp forest. What chain of events led to this and how is it related to Chautauqua Lake?

Let us travel to a place many miles from Chautauqua Lake. We will return to Chautauqua once a point is made. The place is the continental shelf off the coast of the Pacific Northwest. Here a forest is disappearing. It is a forest of Giant Kelp, a kind seaweed. Unlike plants with roots, kelp absorbs its nutrients through blades that are analogous to a plant's

leaves. Kelp clings to the rocky ocean bottom by means of a structure

called a holdfast. Winter storm surges often break them with an effect similar to uprooting a tree in a terrestrial forest. Such winter loss is natural to the kelp forest ecosystem; kelp grow fast and quickly replace their winter losses in spring. Lately, however, the kelp are breaking loose spring, summer and fall as well as winter and the magnificent kelp forests of the Pacific Northwest are disappearing. The culprit? Sea urchins. Normally sea urchins tuck themselves into crevices and are content to gnaw algae off the rocks. But sea urchin populations have outstripped their usual food supply and are venturing out to chew on kelp holdfasts. "Urchin barrens" are replacing the great kelp forests because sea otters, a major predator of sea urchins, have been declining. Killer whales, which normally prey mainly on seals and sea lions, are preying on sea otters because seals and sea lions are not finding enough fish to eat. The fish are being commercially harvested at unsustainable rates, leaving not enough to go around for the seals and sea lions. The point is, when we look for simple answers to complex ecological problems, we find that, in the words of John Muir, "When we try to pick out anything by itself, we find it hitched to everything else in the universe."

Chautauqua Lake has an aquatic weed problem. Historically, unwanted aquatic plants in the lake have been chopped (harvested) or poisoned with herbicides. Many of the aquatic plants eliminated have been native species upon which live invertebrates that form the

base of the lake's food pyramid. Small fish hide among the plants and feed on invertebrates. Big fish that comprise the lake's sport fishery feed on the smaller fish. Do you see a chain of events? Weeds gone – invertebrates gone – fewer smaller fish – fewer big fish – fewer sport fishermen coming to Chautauqua Lake. Fewer sport fishermen jeopardize the Chautauqua Lake region's economy. Exotic, invasive plant species like Eurasian Watermilfoil and Curlyleaf Pondweed replace the native species and may provide cover for fish but also form dense mats that entangle boat propellers and swimmers' arms and legs. Vacationers, upon whom the economy depends, like boating and swimming as well as fishing. Harvesting encourages the plants' vegetative reproduction so the weeds grow denser with each cutting. Historic applications of herbicides have resulted in fish kills and persistent poisons in lake sediments in addition to their intended effect.

Ecological problems are complex, so we would do well to proceed cautiously when dealing with nature and to be aware that “when we try to pick out anything by itself, we find it hitched to everything else in the universe.”

The Chautauqua Watershed Conservancy is a private, not-for-profit, 501(c)(3) organization with a mission to preserve and enhance the water quality, scenic beauty and ecological health of the lakes, streams and watersheds of the Chautauqua region. Its urgent focus is to conserve the endangered natural shore lands of Chautauqua Lake, which provide fish and wildlife habitat and pollution filtering functions essential to a healthy lake. Only four miles (10%) of the lake's shoreline remains in a natural, undeveloped condition. The Conservancy is funded primarily through membership donations. Its 2008 annual membership campaign is currently underway. It is presently raising funds to conserve the Chautauqua Lake's most important remaining natural shoreline habitats, undertake programs to address the root causes of the conditions that fuel lake plant growth, and manage its preserves. It is the only local organization conserving lands in perpetuity for these purposes. Please contact the Conservancy at 664-2166 to join for 2008!