

ENVIRONMENT

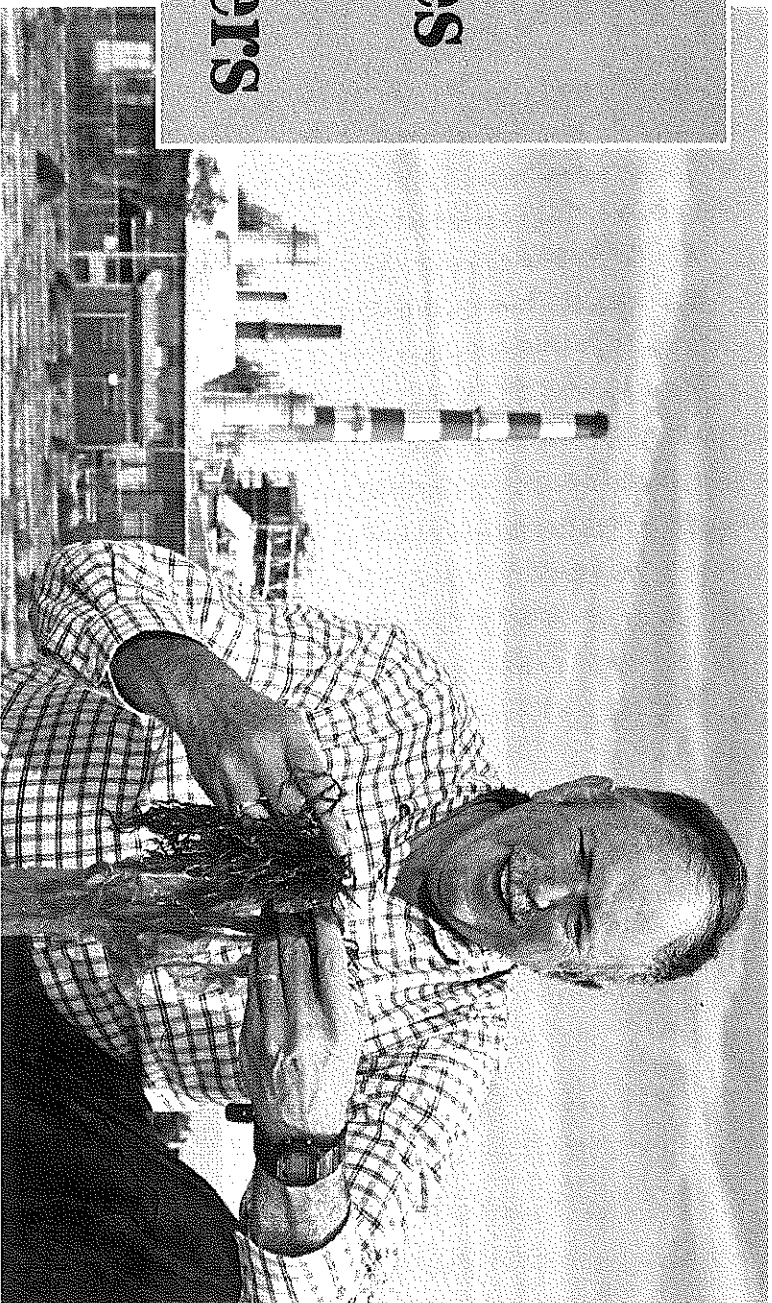
New York pilot project shows seaweed “thrives and cleans” in polluted waters

BY MURIEL L. HENDRIX

Since 2011, Dr. Charles Yarish and colleagues have experimented with growing seaweed on long lines at the head of New York's Bronx River Estuary, along with ribbed mussels suspended from a raft. They have raised a summer crop of the native red seaweed, *Gracilaria tikvahiae*, that grew up to 16.5% a day in July and a winter crop of sugar kelp, *Saccharina latissima*, that grew up to 8 feet in six months. Yarish says he has been surprised by the prodigious growth in an area with low salinity and an overload of “a suite of nutrients” from a nearby waste water treatment plant and non-point runoff from the land and river.

Since the site has been so productive and shows high levels of nitrogen in the seaweed – up to 6% – the pilot farm technology is being transferred to Rocking the Boat, a community development organization that has partnered in the project. Students from the South Bronx will continue to help run the farm.

Yarish will focus on refining techniques at two other research sites in Long Island Sound at Fairfield, Connecticut and Thimble Island. He also is working to inform potential seaweed farmers and local, state and federal coastal managers about the ecological and economic benefits of seaweed and shellfish farms – how they provide ecosystem services by extracting nutrients



Charles Yarish, professor of Ecology & Evolutionary Biology, collects seaweed near an electric power plant along Long Island Sound in Bridgeport, Connecticut. (UConn photo).

from nearshore waters and produce valuable commodities such as sea vegetables, phycocolloids, cosmetics and organic fertilizers.

A professor at University of Connecticut, he is collaborating with facilities from the UConn School of Business and School of Law to persuade Connecticut legislators to include seaweed and shellfish in the state's nitrogen trading program. It awards credits for reductions in nitrogen by sewage treatment plants, and presently is paying \$5.01 per equalized pound of nitrogen.

Also, Yarish and the owners of Ocean Approved seaweed farms and processing of Portland, Maine, have conducted workshops on how to grow kelp. Three workshops in August and September were attended by 153 people, including shellfish growers, lobstermen and displaced fishermen.

Yarish has extolled the potential of seaweed and shellfish as bioremediators since 1991, but he says in the early days no one would listen to him. Now they do; his

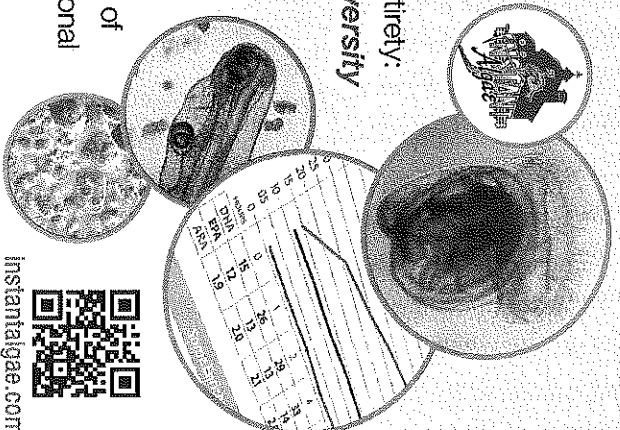
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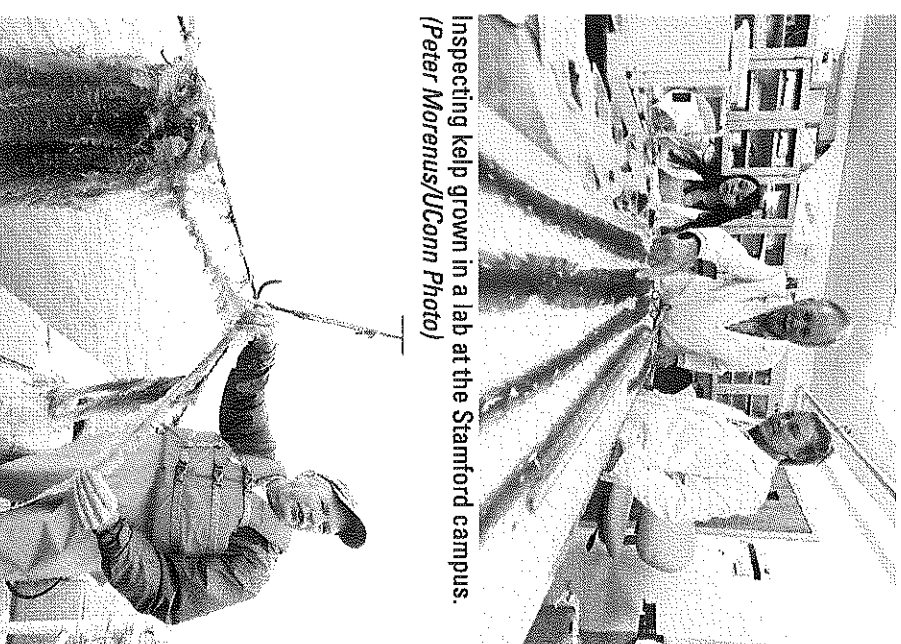


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Charles Yarish looks over a line of kelp as it is being harvested by the Thimble Islands Oyster Company from Long Island Sound near Branford. (Peter Morenus/UConn Photo).

work in Long Island Sound was recognized as a National Water Program Best Practice in the 2012 End of Year Performance Report of the USEPA.

He will continue to push for nitrogen credits, but says he plans to let growers work out the best market for their product. Tests have shown that seaweed from the Bronx River site is excellent for animal feed; it has a high level of protein, including key amino acids not found in soybeans.

“I’ve always believed that the New England coastal waters are far better for growing seaweed than any of the waters in heavy production areas such as in Asia,” Yarish says. To him, a top priority now is to spread the word of his projects’ success and to get more people involved in providing high quality seaweeds in biosecure coastal waters of the United States.

To view a handbook on Seaweed Culture in New England: <http://s.uconn.edu/seaweedplaylist>

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