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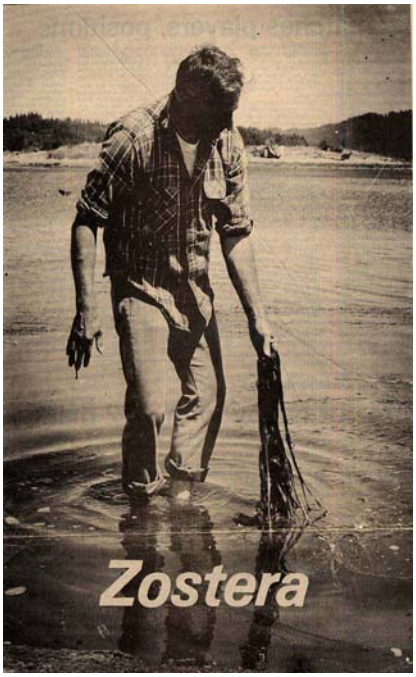
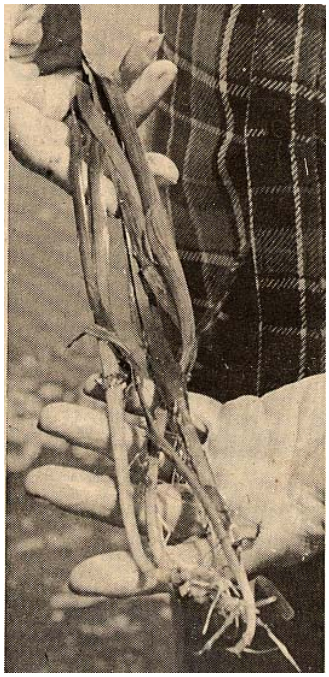
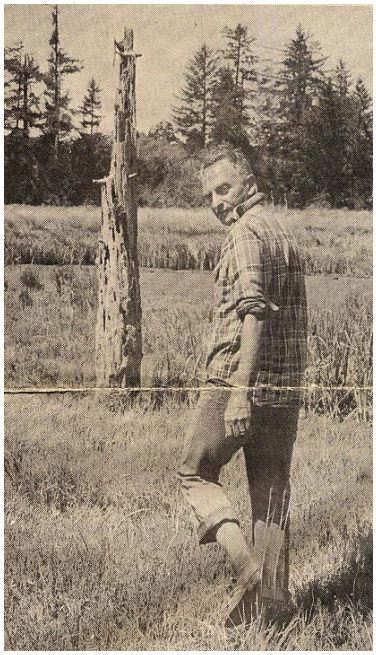


By the banks of the Siuslaw, Wilbur Ternyik's begun restoration of an eel grass (Zostera marina) bed. The grasses, pictured left as they are readied for planting in 12-inch sprigs of three shoots each, are prime feeder areas for geese, and in their decomposition provide food for estuarine micro-organisms. Along with other grasses in their upland neighbors–salt marshes–they provide an essential link in the chain of life that makes estuaries valuable to the earth and man.

Planting eel grass for Oregon's estuaries

Photos and text By LINDA MEIERJURGEN Staff Writer

FLORENCE– Like mermaid's hair, it floats in the shallow waters of the Siuslaw estuary, glistening in the sun, rippling with the tidal flows.

Eel grass provides and essential link in the life systems of the river–maybe a more important one than recognized before.

"Eel grass might be more important to estuaries than salt marshes," beach grass expert Wilbur Ternyik said.

A man of many hats, Ternyik, as a Port of Siuslaw commissioner, has for two years been attempting rejuvenation of eel grass beds on port property to the east of the Bay Street area–with marked success.

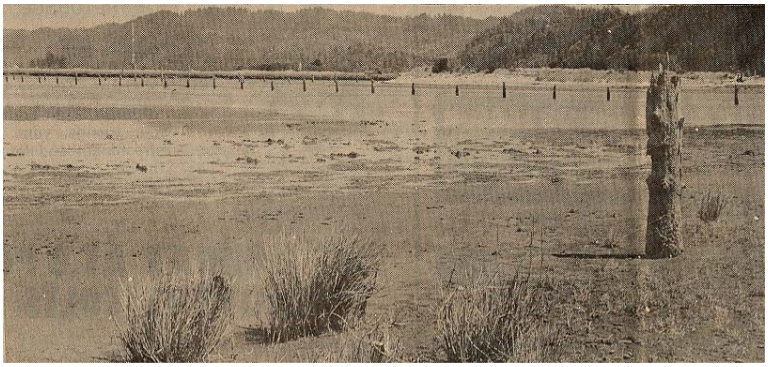
In Oregon, salt marshes are supposed to be protected for the crucial role they play in the productivity of the estuary and for their inhabitants. Ternyik points to

new East Coast research, however, which shows that eel grass (Zostera marine) may play and even more important role.

Estuaries–places where the fresh water flowing from timbered watersheds meets and mixes with salt water–are fringed with groups of plants, some favoring submerged locations and some liking the water for only portions of the day, some liking their roots dry much of the time: Residents of the salt marshes.

In their growth and decay, salt marshes provide the nutrients to feed micro-organisms which provide food for larger critters, who in turn are eaten by fish and other inhabitants used by man.

They also provide cleaning systems–of sorts–for estuaries, making use of some pollutants to speed their growth.



Some grasses by the saltwater's edge like their roots wet only part of the time; others, like eel grass, like to be wet almost all of the time. They march in progression up the shore creating habitat for water and land creatures and areas for many to enjoy.

The reason eel grass might be an important link, Ternyik explains, is because it is a more efficient decomposer. It appears from recent research, Ternyik said, that salt marshes may not return as much as 50 percent of their bio-mass to estuaries to feed the system. "They might return a lot less," he said, adding "on the other hand, eel grass looks like it could return a lot more."

Aside from its nutrient value, the grass is also a favorite of black brandt and geese, providing an attraction for these migratory birds.

Many Oregon estuaries have large segments without eel grass, Ternyik notes, and also without salt marshes.

In his own efforts on the port's property, the plants go marching down the slightly sloped shore of the mudflats as nature has suited them. Highest out of the water is "regular, old beach grass" (Caryx lingbieii), followed by other grasses (Deschampsia caespitosa), as well as a few flowering species that like wet roots, and with the buffer next to the eel grass beds ringed by Salicornia pacifica–a vascular-looking plant with jointed stems.

Some of the plants are initial colonizers–some of the grasses, for instance–meaning they will move into an area without plants, flourish and stabilize the mud, thus allowing other plants to take root and grow.

Prior to the rejuvenation project, there were no plants on the nine-year old spoils site, Ternyik says, adding that these and other plants, possibly large-stemmed bulrushes and sea grasses, like Agrostis palustris, could be used to rejuvenate such areas the length of the Oregon coast.

Spoils sites could be correctly sloped and could have "arms" of spoils coming out of them like a starfish to provide tidal backwaters where seeds of these plants will catch and re-establish, Ternyik claims.

The problem with the effort–particularly for eel grass beds–is the cost in establishing them. Elsewhere, efforts to do so have cost as much as $50,000 an acre, he explains, adding that one reason for the Siuslaw effort is to see if that cost can be reduced. So far, it has been.

The reason for the high cost is the difficulty of planting beds in locations which are underwater much of the time and getting the plants' roots to take hold before the current can carry them away again, Ternyik explains.

Sprigs of the grass are collected–at minus tides–from adjacent areas of the estuary, thus giving them a better chance of feeling at-home when planted, he explains. Three-stemmed portions are separated out and cut to about a foot in length (longer tops would create too much pull when the tide rushes out).

Then again, on a minus tide, the sprigs are planted about 4 inches deep, 12 inches apart, Ternyik explains.

A second bed of grasses has been started in a sandier location near the estuary's mouth, Ternyik said.

Those planted in the first season are now 6-feet long and have more than 30 stems to a clump, Ternyik notes. Second-season plantings, which got a boost from a fertilizer heavy in potash in order to quickly establish their roots, are also doing well.

The grass is planted in the spring and has about a four-month growing season, Ternyik said.

Ternyik found it necessary to use a barrier on the tidal side of the plants for a portion of the growing season in order to keep the swift and powerful flows from washing the starts away.

Ternyik, aside from funding the project, is also a grass planter, along with fellow worker Bobbi Larson.

As far as he knows, the experiment is the first on the Oregon coast, although the U.S. Army Corps of Engineers has a large, similar restoration project at a Florida site.

Eventually Ternyik's findings will be studied for future applications; in the meantime, visitors to the marsh area on the Florence waterfront can dig clams or simply watch the tides move the shimmering strands in and out of the water's edge.