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ENVIRONMENT

Seeds of hope

Eelgrass restoration could help blue crabs

By PAMELA WOOD, Staff Writer

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CRISFIELD - The rest of the year, the floating lawnmower contraption piloted by Warren Teets is used to chop up invasive aquatic grasses that clog propellers and hinder boating.

But for seven days each spring, the device is used in an attempt to restore the vital native underwater grasses that are crucial to a thriving blue crab population in the Chesapeake Bay.

Since 2003, the state has run a program that involves harvesting seeds from eelgrass beds that flourish in the salty waters off the Lower Eastern Shore. The seeds are then planted in other parts of the bay in an attempt to establish more grass beds.

As with most environmental restoration projects, the program has had its hits and misses, acknowledged Lee Karrh, a Maryland Department of Natural Resources biologist who runs the program.

Grass plantings in the Patuxent River and in Eastern Bay near



Pamela Wood - The Capital

Warren Teets operateds an aquatic grass harvester in the Little Annemessex River near Crisfield.

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Kent Island died. But in the Lower Potomac River, the eelgrass seeds took off and grew into lush beds.

"The most noticeable thing is there is now an eelgrass population in the Potomac River for the first time in decades. We dove ... and some of the beds were beautiful," Mr. Karrh said.

But, he added: "The over 30 acres we've put into the Potomac isn't even a blip."

The various governments involved in the multistate bay cleanup effort set a goal of having 185,000 acres of various species of underwater grasses flourishing on the bay bottom by 2010.

And by the end of 2008, at least 1,000 acres of new grass beds are supposed to be planted.

The effort is falling short on both fronts. In 2007, there were just 65,000 acres of underwater grass beds. And only 140 acres of new beds have been planted.

Alicia Pimental, a spokesman for the Chesapeake Bay Program Office, said a big hurdle - especially for planting new beds - is a lack of money being put into bay grasses.

"A lot of it has to do with funding," she said. "It's equal to funding."

Critical habitat

Underwater grasses are important for several reasons: they calm wave action, they use up harmful excess nitrogen and phosphorus, they help floating dirt settle to the bottom, they provide food for animals (especially waterfowl) and they are a hiding spot for blue crabs and other critters.

Eelgrass, in particular, plays a vital role in the blue crab life cycle.

Blue crabs can find refuge in the long blades of eelgrass when they become vulnerable during the molting process.

"With crabs it's really all about structured habitat. Eelgrass is certainly that, in that it provides really good shelter ... when they are shedding and vulnerable to predation, especially with the little guys," said Lynn Fegley, a DNR biologist and crab expert.

Protected from predators, the crabs can harden their new shells and grow. Scientists say blue crabs can be up to 30 times more abundant in grass beds than in areas without grasses.

Grass beds also are home to small critters that blue crabs eat.

As officials in Maryland and Virginia have clamped down on the blue crab harvest to boost the population, watermen and advocates are pushing the states to pay attention to other factors that affect blue crabs - including eelgrass.

"It's really critical habitat. If they're not surviving through that early juvenile stage, you're going to have fewer crabs on your dinner plates at the end of the day," said Stephanie Reynolds, a fisheries scientist with the nonprofit Chesapeake Bay Foundation.

Eelgrass also is the species that scientists know the most about when it comes to



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harvesting seeds and sowing new beds.

Research is ongoing for other species that live in less-salty bay waters, including sago pondweed, widgeon grass and redhead grass.

Making a difference

Dr. Roberth Orth at the Virginia Institute of Marine Science pioneered the process for replanting eelgrass.

It all starts with the harvester.

On a recent overcast morning, the light blue-colored contraption, about 30 feet long, chugged along in the Little Annessex River near the Lower Eastern Shore town of Crisfield.

Mr. Teets guided it back and forth over eelgrass beds, guided by a handheld GPS device and maps provided by state biologists.

Taking a break, Mr. Teets pointed out the sickle blade at the front, which ratchets back and forth over the grass bed, lopping off shoots of grass a foot long.

"That thing will cut just about anything it comes into contact with," he said.

The cut-off grass blades then ride up a conveyor belt into a holding area below Mr. Teets' pilot seat. When enough piles up, he backs the harvester up to a waiting DNR motor boat.

A conveyor belt jutting out the back of the harvester dumps the grass into a large bin on the DNR boat.

There, a crew of volunteers and staffers stuffs the grass into mesh laundry bags. Wriggling blue crabs caught in the grasses are tossed overboard.

From the Little Annessex River, the grasses are taken across the bay to Piney Point at the tip of the Potomac River.

The state's Piney Point facility, which once was an eel processing plant, has several gigantic tanks - 30 feet across - where the plants are soaked until the seeds fall out.

"The seeds pop out and they settle to the bottom," Mr. Karrh said.

The seeds are then used in one of two ways: mesh bags are filled and hooked to buoys, or workers spread the seeds by hand.

Mr. Karrh calls the second approach "Johnny Eelgrass Seed: just reach in and toss."

The whole operation is expensive. Mr. Karrh couldn't put an exact figure, but estimates it somewhere north of \$100,000 per year.

Renting the harvester alone costs \$1,500 per day. Then there are the watermen who haul the heavy laundry bags of grasses from the water and ferry them across the bay - that's \$1,150 per trip for about a dozen trips.

The majority of the expense is for the DNR workers who spend their time out on the water.

Using the harvester is actually less expensive than what the DNR tried at first - using

divers to collect the seeds by hand. That was so time-consuming that it proved to be cost prohibitive.

Mr. Karrh said the eelgrass restoration is slow-going, but it's starting to reap rewards.

"It is making a difference," he said. "We're jump-starting the population."

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