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Scientists, state and crabbers extend bay pact

Ten-year effort seeks to boost blue crab population

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The sharp, vinegar fragrance of steamed crabs, the crack of a crab mallet on shell, the golden brown of a crab cake — what would a Maryland summer be without them?

We may never have to answer that question, thanks to the scientists and fishermen who have been collaborating with a state agency to preserve those traditions and the crab's economic impact in Maryland.

The University of Maryland Biotechnology Institute, the Maryland Watermen's Association and the state Department of Natural Resources announced Tuesday that they will extend their three-year working relationship by a decade to explore the complicated life cycle of the blue crab and how to manage the bay's crab population.

For watermen, keeping the crab population stable is a major concern, said Mick Blackistone, an Anne Arundel County crabber and executive director of the Watermen's Association's Crab Restoration Around the Bay, or CRAB, program.

Commercial crabbing in Maryland is worth about $30 million annually, according to the DNR.

"It's not new to anybody that it's not the way it was 10 years ago or 20 years ago," Blackistone said of the bay's crabbing industry.

DNR, UMBI and the watermen said their partnership has resulted in the release of about 300,000 juvenile crabs into the Chesapeake Bay for spawning.

The partnership's chief scientist, Yonathan Zohar, the director of UMBI's Center of Marine Biotechnology in Baltimore, has been studying the delicate and complicated life cycle of the blue crab since 2001.

Zohar has been hatching and raising baby blue crabs, a feat unheard of in aquaculture, and is exploring the juvenile crab release program as a method of restocking the bay's crab population.

Through the three-way collaboration, Zohar has gained access to the DNR's Piney Point hatchery in St. Mary's County, where he and his fellow researchers have nurtured about 120,000 of the crabs they have released.

The new agreement includes an expansion in the Piney Point facility to allow the release of as many as 500,000 to 1 million juvenile crabs, Zohar said.

Zohar's work began in 2001, just after the state's blue crab population exhibited an alarming decline. In 2000, DNR estimated that based on its annual winter survey, the bay held just 280 million crabs. In 1990, the same survey had reported 791 million crabs.

The numbers since have risen slightly and stabilized, with DNR recording about 339 million crabs for the winter of 2005 to 2006, according to Lynn Fegley, a DNR fisheries biologist

"First and most important is to study about the basic biology of the blue crab," Zohar said of his work. "I found it quite surprising, in view of how important the blue crab is to the ecology of the Chesapeake and the economy of the mid-Atlantic region, how little is known about that biology."

Exploring the biology can not only result in a possible restocking program, Zohar added, but in more educated policymaking regarding the fishing and conservation of the bay and its precious crabs.

"Crabs are still by far the most valuable catch we get from the Chesapeake Bay," said Doug Lipton, an economist and professor at the University of Maryland, College Park, who has studied the crab's economic impact.

"Watermen, if they're going to stay watermen, they have to have crab income," Lipton added.

Ecologically speaking, for the bay and all its living creatures, crabs are critical, Fegley said.

"They are a member of the ecological community," she said.

Zohar's work so far has been funded largely as part of the Blue Crab Advanced Research Consortium, the recipient of $12 million in federal money over the past five years. That group consists of UMBI, the Smithsonian Environmental Research Center, the Virginia Institute of Marine Sciences, North Carolina State University and the University of Southern Mississippi.

Blackistone's group has raised about $100,000 so far for the CRAB program, as it calls its collaboration with Zohar.

Zohar said his project is fully funded for a Piney Point expansion to allow more crabs to hatch there, and hopefully to allow more sites from which to release them into the bay. He also is exploring the use of DNA tracking to keep tabs on the released crabs; currently the team implants electronic tags into the flesh of the crab.

In five years, the scientist said, he expects to have a handle on whether the hatch-and-release program could effectively restock crabs in the bay. If the technology works, UMBI would seek to transfer it to the commercial fishing industry, Zohar added.

His work, said Lipton, has been controversial.

“There’s a good argument on both sides of the issue,” the economist said. “One is that you just can’t produce enough little crabs to make up for what nature needs to provide.”

The other side, Lipton said, believes the knowledge about the crab’s
biology is invaluable: “We have no idea whether or not we’re going to be successful — the only way we’ll find out is to try it.”

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