Industry sponsors menhaden aerial survey

BIDDEFORD, ME – A coalition of scientists, spotter pilots, fishermen, bait suppliers, and members of the fish reduction industry have teamed up this summer to conduct an extensive aerial survey of Atlantic menhaden from Maine to New Jersey.

SPECIAL REPORT Menhaden

James Sulikowski, an associate professor at the University of New England well known for his work on dogfish and skates, is heading up the project.

"What we're trying to do here is document the presence of menhaden in this northern area, which is outside of the regular survey range, and use at-sea sampling to determine if there are larger, older fish in the area," he said.

The northern-waters aerial survey, the first of its kind for menhaden, which are also called pogies or bunkers, got underway on Aug. 1 with a strong survey team that Sulikowski is confident will help ensure the project's success.

Forest Dameron, a seasoned spotter pilot, formerly with Omega Protein in Reedville, VA, was assigned to fly the first transect, covering northern New Jersey to the Rhode Island border, including the eastern shore of Long Island, NY.

George Purmont, a spotter pilot for 40 years, was assigned the second transect from Rhode Island to Boston. And Maine Aviation Corp. pilot Jacob Adams was assigned the third transect from Boston to Portland, ME, which he flew with Amy Carlson, one of Sulikowski's graduate students.

Sulikowski, who has been out on all of the weekly flights, said high-resolution cameras were being used on each of the planes.

"We're digitally photographing all the schools that we see, and we're estimating abundance," he said. "There's no question that we're seeing a lot of schools out there. We've spotted fish on all of our trips so far. It's encouraging to be seeing fish outside of the traditional survey area."

As of late August/early September, the largest concentrations of fish were spotted off Long Island.

"We saw groups of schools that totaled over 2 million pounds there," Sulikowski said.

But the aerial teams also saw reasonably big schools off Rhode Island, and they found fish in Maine, especially between York and Saco Bay. The Maine schools were smaller, more on the order of 100,000 to 200,000 pounds, but still noteworthy.

Amy Carlson photo

The aerial survey team took this photo of North Star rigged for purse seining and looking for menhaden in Casco Bay on Sept. 20.

Sulikowski said he and graduate students back at the University of New England will be analyzing digital photographs and flight logs from this first stage of the survey throughout the summer and fall.

At-sea sampling

Stage 2 of the survey, which got underway in early September, was focusing on at-sea sampling. Maine fisherman Vincent Balzano was the primary captain lined up to carry out the work, with fisherman Mark Bichrest in the wings to assist if needed.

The project was designed to have aerial spotters guide seiners directly to the fish and "fully capture" the schools present to the extent possible.

The catches will be used to ground-truth or verify aerial estimates of abundance and provide biological samples. Those samples will be especially important in determining the age of the fish.

All catch samples were expected to come from the northernmost portion of the survey range in Maine. While Sulikowski's lab will be processing some of the samples, the majority will be shipped to the National Marine Fisheries Service's laboratory in Beaufort, NC, which specializes in menhaden.

The whole operation was still in full swing at press time in late September, and news about the project was spreading.

Jeff Kaelin of Lund's Fisheries in Cape May, NJ, which has boats that seasonally work on menhaden in the Mid-Atlantic for the bait market, said industry members were very supportive of the project.

"We're excited about the survey," he said. "We're hoping this will change the picture for menhaden."

Sulikowski said preliminary information from the survey would be released this fall, and he hoped a final report would be ready by December.

Lack of data

Menhaden is managed by the Atlantic States Marine Fisheries Commission's (ASMFC) Atlantic Menhaden Management Board. The commercial fishery has two primary components – the bait fishery, which is especially important to lobstermen and blue crab fishermen; and the reduction fishery for fish meal and oil, which are used in a variety of products, including pet foods, aquaculture feeds, and dietary supplements. The reduction fishery has been downsized significantly over the past six decades due to a number of factors. The only remaining reduction plant on the East Coast is Omega Protein in Reedville.

There was a sizeable menhaden bait fishery in New England from the mid-1980s to the mid-1990s. Then it dropped off to almost nothing for a number of years and is just starting to register again on landings charts (see next page). Today, the fishery primarily takes place in the Mid-Atlantic and Chesapeake Bay areas, mostly for reduction, but also, to a

certain extent, for bait.

The last stock assessment for menhaden came out in May 2010. Yet, the information that goes into menhaden assessments is limited at best. In fact, there is no coastwide menhaden survey at all – aerial or otherwise – so assessment data comes mainly from fishery-related information collected in the Mid-Atlantic/Chesapeake Bay area, supplemented by pound net data collected by the Potomac River Fisheries Commission.

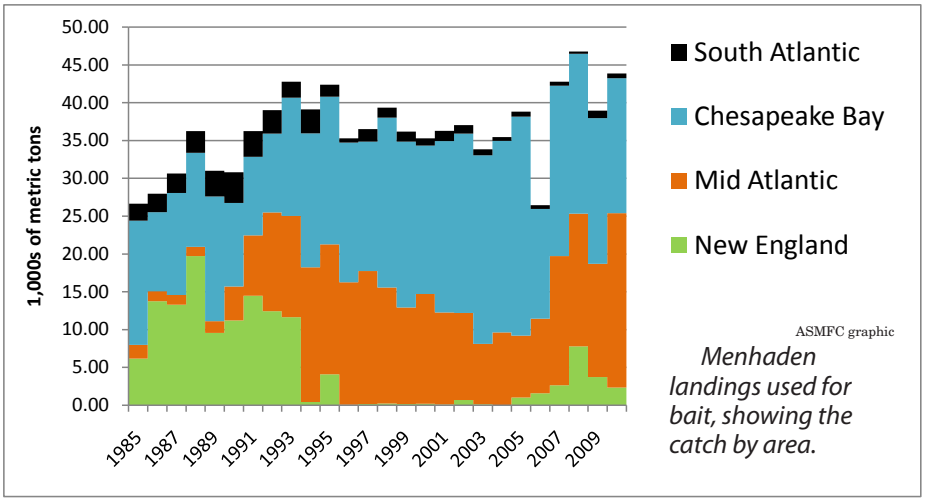
Assessment scientists use this information to develop a "fishery-dependent" index of relative abundance for adult menhaden. They also use fishery-independent seine survey data from several states from Rhode Island to North Carolina to develop an index for juvenile abundance. However, menhaden is a bycatch species in the seine surveys, not a target species.

Since there's no independent region-wide survey for menhaden and there's very little fishing going on in the north to supply fishery-dependent data, the concern is that menhaden surveys might not accurately reflect the stock's status.

What troubles industry members most is that the model used to crank out the assessment assumes that all age 3+ menhaden – the mature ones – are considered to be "fully recruited" into the fishery and incorporated into the assessment.

The problem is that many age 3+ menhaden spend their summers in colder, northern waters in New England – that area where there's very little fishing and few samples are available to scientists.

Sulikowski explained that if schools of older menhaden are present in New England and aren't being incorporated into the calculations, the assessment could be overestimating fishing mortality and underestimating spawning potential.



ASMFC graphic

Menhaden landings used for bait, showing the catch by area.

> *There's no question that we're seeing a lot of schools out there. We've spotted fish on all of our trips so far.*
> **—James Sulikowski**

Industry steps up

The scientists who conducted the 2010 menhaden assessment and those who peer reviewed it highlighted this problem and said the assessment would be "substantially improved" by a coastwide fishery-independent survey and sampling data for the full range of the resource, including the north.

According to Omega Protein's Ben Landry, everyone involved has recognized this predicament for years. Industry, ASMFC, state agencies, menhaden technical committee members, and others began talking about the need for an expanded survey and fish sampling program in the north back in 2008, and the discussions continued into 2010. But things fell apart every time the conversation turned to funding.

Who was going to pay for this work?

While the situation was frustrating, it also was understandable.

"A state like Virginia is not going to fund a survey in Maine," Landry said.

Ultimately, industry members decided they needed to step up.

"We didn't see this funding coming from any other source, so Omega Protein looked at this and said, 'Let's go ahead and do it.' We need to make sure that the stock assessment is capturing the full population."

> *We're excited about the survey. We're hoping this will change the picture for menhaden.*
> **—Jeff Kaelin**

While Omega Protein put up the actual money for the survey, Kaelin said others in the industry were ready to help out as well.

"We're all cooperating," he said.

Furthermore, industry leaders were trying to inform everyone – down to the smallest-scale lobsterman who occasionally uses menhaden as bait – about the need for better data and what was at stake without it, including the potential for significant quota restrictions on the fishery.

"We're trying to broaden everyone's understanding of this within the industry," said Kaelin.

He also emphasized that the 2011 aerial survey was just a start, especially if ASMFC adopts a "maximum spawning potential" management strategy. To work properly, such an approach requires annual stock status updates (see related story page 10 for ASMFC developments).

"Our long-term strategy has to be to develop an annual survey," he said.

Industry members are hoping to get a little help from the Sustainable Fisheries Partnership (SFP), a nongovernmental organization founded in 2006 to foster sustainable seafood production and fisheries. SFP provides strategic and technical guidance to seafood suppliers and producers and helps build consensus to achieve common goals. The partnership has staff in 17 countries.

As it turns out, one of SFP's "fishery improvement projects" is focused on Atlantic menhaden, and leading the menhaden effort is former ASMFC staffer Brad Spear.

While SFP does not provide direct funding, which is what industry members say is needed most right now, Spear has applied for grants to fund a pilot survey or at least the design of one, though so far to no avail.

Nonetheless, he confirmed that SFP remains interested in ensuring a sustainable menhaden fishery, and, he said, "A clear step is getting a coastwide adult abundance survey up and running."

The industry-funded New England aerial survey, Spear said, was "a move in the right direction."

Janice M. Plante