Aquaculture

New Anemia Fades from Salmon Pens

By Aaron Porter

ELLSWORTH — An apparently new strain of Infectious Salmon Anemia (ISA) virus detected on a Heritage salmon farm near Jonesport in November seems to be fading away as mysteriously as it appeared.

Deborah Bouchard who operates Micro Technologies Inc., a private fish health laboratory in Richmond, said recent tests from the lease site indicate a decrease in the occurrence of the virus.

The presence of the salmon virus has been mysterious from the outset. First of all, there were no outward signs of infection.

“We have not seen clinical disease symptoms at the site,” said Samantha Horn-Olsen, aquaculture policy coordinator for the Department of Marine Resources. She said the indicators of the anemia showed up in routine testing but resisted attempts to confirm it as ISA.

“Testing has not actually reached the threshold for removal of the fish,” she said, “so there’s not clinical disease. There’s not mortality.”

But the mere suggestion of the presence of a virus, which led to the destruction of millions of farmed salmon in Cobscook Bay in 2002, got the department’s attention. Horn-Olsen said Commissioner George Lapointe immediately sent the test results to the Fish Health Technical Committee, a group of veterinarians and scientists from federal and state agencies, and academia that advises on fish health matters.

“It was suggested that the best use of the situation would be to do extensive testing and research and learn as much as we could because this is such an unusual event,” Horn-Olsen said.

Although a number of ISA outbreaks in the Cobscook Bay area have been met with swift eradication orders since farms there were restocked, the fish in the Jonesport farm have stayed in the water.

“There was no trigger for automatic removal,” Horn-Olsen said of the Jonesport site. That meant any removal order would have had to come from a special decision by the commissioner.

“We don’t have ISA. We have the detected presence of genetic material of a virus that’s not causing a disease,” she said.

“The advice we were getting from scientists and vets said this didn’t pose a

threat," Horn-Olsen said.

So the fish remained in the water under increased scrutiny and biosecurity measures.

Testing of sluggish fish in pens was stepped up to a weekly schedule from the usual monthly routine. The initial positive tests kept coming back at about the same rate.

"Prevalence doesn't seem to be changing," Horn-Olsen said.

Bouchard said her results showed what seemed to be an increase in frequency. But recently, it has been falling off.

Bouchard said the initial tests performed on all sampled fish simply identify the presence of the virus in general. After that, the sample is genetically sequenced to specifically identify it. Then it can be compared with other known strains. She said it was at this point that the virus was shown to be "very different from the North American strain" and "more similar to European."

While that determination leads to some questions as to where the virus came from, Bouchard said the appearance of a strain of the virus that doesn't lead to wide-scale infection isn't new to European scientists.

"In Norway there are both pathogenic and apathogenic strains, and they manage for them. Whenever they get ISA positive, they do genetic sequencing to determine what strain they are dealing with before they decide whether to remove or not," said Horn-Olsen.

Bouchard said that although the Jonesport virus was similar to European strains, it wasn't similar enough to determine whether it would be pathogenic or not. She explained the variations in infection rates and virulence of different ISA virus strains as similar to human viruses, which don't infect everyone who comes into contact with them.

"Environment, host and pathogen all play an important role," she explained.

She echoed Horn-Olsen's urgent call for scientific study saying, "the more research that's done, the more strain types identified, the more confident we can be in making similar predictions."

Horn-Olsen said, "It's just now getting to the point where I think people are really starting to be satisfied that this is a new strain of the virus."

She said the virus was announced by the department last week because "we wanted to make sure it was public in a way that people could really collaborate

and understand what’s happening.”

Monitoring of the farm that shows the presence of the virus and neighboring sites will continue, according to Horn-Olsen. She said there haven’t been any signs of the virus on those sites.