Zebra mussel populations in the lower Mississippi River are growing at an alarming rate and probably will cause big problems for Louisiana industries this spring, several experts said Tuesday.

The experts said local populations of the tiny mollusk, which had reached 40,000 per square meter in August, increased to 400,000 per meter in checks run Monday in the water system at Dow Chemical Co. in Plaquemine.

Dow has found the mussels because the company has looked for them, but many other companies haven't looked for the mollusk or haven't known what to look for, several experts said during a seminar on the issue Tuesday.

The population here is equivalent to that in the Great Lakes, where the marine pests have shut down power plants and caused millions of dollars in damage and down time for industries, said John Lynn of LSU's zoology department.

The mussels haven't caused major problems here yet because most of them are still small, he said.

By May or June they will grow to adulthood and will be covering intake screens and blocking the insides of pipes and pumps, Lynn and other experts said.

"In June, plants (on the Mississippi River) are going to have serious fouling problems," said Robert McMahon of the University of Texas at Arlington.

Large colonies can force power plants, municipal water supplies and other industries to shut down for expensive cleanouts and repairs.

They also can alter ecosystems and affect fisheries, said Bruce Thompson of LSU's Coastal Fisheries Institute.

The mussels also can cause problems for commercial and recreational vessels by attaching to boat bottoms like barnacles and by growing inside water-cooled engines and causing them to overheat and fail.

Unlike the Great Lakes, Louisiana's warmer waters allow the mussels to grow during the winter, said Charles O'Neill of the New York Sea Grant Institute.

That is ironic since many experts had predicted zebra mussels would never be a problem in Louisiana because they couldn't tolerate the warm water.

One expert, Thomas Dietz, said Louisiana's warm water did hold back the population growth of mussels in the summer of 1993, but the mussels appear to have adapted and went through the summer of 1994 without serious stress.

"In one year they have taken up residence (in Louisiana) and are thoroughly enjoying it," Dietz said.

Many companies haven't acted quickly enough to protect their water systems and are likely to experience serious problems this spring, several experts said.

In addition to growing more rapidly in Louisiana's warm waters, the mussels also might reproduce faster here, according to experts at the seminar.

A single female can produce more than a million eggs in a year.

Once fertilized, the eggs hatch into free-swimming larvae that attach to hard substances.

There they grow from an almost invisible size to the size of an adult's thumbnail.

The danger they pose is in their numbers. As the tiny larvae grow into full size mussels they block the insides of the pipes and pumps to which they have attached.

The mussels can be killed by running hot water or various toxic chemicals through pipes, but their shells can clog heat exchangers and small pipes.

A European native, the mussels were transported to the Great Lakes in ballast water of ships, then began moving south.