

Wilderness Mississippi

Exhibit Assessment

Jackson Zoological Park, Jackson, MS

An exhibit within Wilderness Mississippi featuring **otters and beavers** was also evaluated by Alvine Aquatics. The otter tank was unused due to a problem with leaks, and the water in the beaver tank was milky white. The controls that the systems were provided with did not function properly, causing inconsistent chemical levels and a faulty level control/make-up process. The bottom drain of the beaver pool easily clogged with leaves and wood debris.

To improve these habitats, Alvine Aquatics recommended:

- The milky water could improve by filtering more water. Keeping the surface of the water calm was also recommended. The water could be milky due to very small organic particulate which existing filters cannot remove. In this case, adding a flocculent product to the exhibit on occasion will coagulate the organic material so it may be filtered out.
- Considering disinfecting with UV or ozone systems, recommended because of the desire to introduce fish into the exhibits.
- Providing a shelter to protect all system components from precipitation and the sun's UV rays. In addition, allocating power for temporary heating in cold weather occurrences.

This new 4-acre exhibit opened in 2006, and features fish and animals native to the region. Almost immediately, the Zoo experienced problems with the life support systems. Alvine Aquatics was contracted to evaluate the situation and make recommendations for improvement in two different areas.

Visitors had a difficult time seeing the inhabitants of a three-tank/one-system exhibit housing a variety of **fish, turtles, and snakes**. The existing ozone system, installed to disinfect the water, was inoperable. Each of the three tanks held different types of animals, and the water level of each varied; tying multiple pools of different water levels together into one system proved problematic for level control and balancing. Widely varying water level in the tanks caused floating particulates to linger on the surface of the water, and adhere to the glass when the water level falls.

The Alvine team's recommendations included:

- Repairing or replacing the ozone generator
- Adding high-water sensors to the tanks to prevent flooding
- Separating the tanks so each had its own system
- Adding a small reverse osmosis unit to provide RO water for glass washing

