

# Fish Tales Newsletter

West Virginia's Aquaculture Newsletter is produced to help inform, educate, and update those interested in producing quality aquatic products, in a sustainable manner, for the recreational and food fish markets.

## Ken's Corner

The national meeting of the U.S. Trout Farmers Association will be held in Shepherdstown this year. This is the second national aquaculture meeting held in 2003 within driving distance to local growers. Sessions are scheduled to begin at 10 a.m. on Thursday, Oct. 15 at the National Conservation Training Center (NCTC). Thursday's afternoon session will be held at the National Center for Cool and Coldwater Aquaculture (NCCCWA) in Leetown. Friday's sessions will also be held at the NCTC and include presentations from both researchers and farmers on current issues, fish health, nutrition, and production systems. A tour has been scheduled for Saturday. In contrast with the huge World Aquaculture Society meeting held in Louisville earlier this year, you may find that the USTFA meetings are more like family gatherings where old friends become reacquainted and new friends are made. For more information, contact Mary Wiltshire at the national USTFA office (111 West Washington St., Suite One, Charlestown, WV 25414-1529, phone 304-728-2189).

## REPORT: Aquaculture America 2003 Meeting in Louisville

The Kentucky International Convention Center in Louisville was the site for the Aquaculture America 2003 national conference. Although the tremendous snowstorm that blanketed the East Coast of the United States on Feb. 16-17 did keep a few participants from attending the meeting, the trade show was packed with booths and the concurrent presentations were well attended. The ice storm that hit eastern Kentucky made it difficult to watch the road for those coming from West Virginia. Along both sides of the interstate, the ice formations on the trees and the paddocks produced a shimmering glitter that would have made Ansel Adams reach for his camera.

**West Virginia AQUA's** brand of arctic char is being marketed under the name *ISIS*. Delicious samples of the product were distributed by **Teresa Halloran**, who attended the trade show with a welcoming smile for all who dropped in for a snack.

For an entire day, one room was devoted to *New Aquaculture Opportunities in Appalachia*. Many of the leading researchers from West Virginia presented their work, starting with **Joe Hankins, Mike Whitt, Tina Rimmer, Melody Danley, and Steve Summerfelt**. After lunch, the stream of information continued with talks by **Patricia Mazik, Julie Bebak-Williams, Ken Semmens**, and finally a talk on "Elasticities of Demand for Fee Fishing Operations in West Virginia" by WVU's **Chad Pierskalla**. The Mountain State was well represented at this national conference.

The *Freshwater Prawn Session* was dominated by presentations from researchers at Kentucky State University and Mississippi State. With at least two start-up shrimp producers in West Virginia, **Shrimp Country** and **Mike Nardella**, much of the information presented was useful to new producers. In fact, Mike Nardella was seen taking notes so rapidly that his pencil began to smoke. Or was that his cigar?

The social events were crowded and filled with chatter and liquid refreshments. The president's reception, unlike other years, turned out to have plenty of good food from start to finish. There were no injured waiters this year.

Mother Nature must have known about this conference event, because during the entire four days rain fell in varying amounts. And water is what this industry is all about. Even when all was said and done, the rain fell cold and hard. This made the Saturday tour of Kentucky State University's aquaculture research station a bit wet. This research station showed how the university can help develop jobs in the aquaculture industry by supporting researchers with moderate facilities.

As a result of talking with one of the researchers at the meeting, six people from West Virginia were invited to visit a commercial freshwater shrimp hatchery just outside of Lexington. Most of us felt that the shrimp hatchery tour was the highlight of the day. In all, it was a good conference that helped to keep the wealth of information flowing to those who need it.

## Farm Pond Productivity

By Daniel Miller

Farm ponds can be used for a variety of pleasures that do not always work well with one another. Managing a pond for the grandchildren to swim in will be different than managing it for maximum fish production. This article focuses on managing a pond for good backyard fishing and entertainment.

Sometimes a pond just isn't good for fish production. Much depends on the soil for keeping water in the pond, the water source that will determine the quality of the habitat, and the pond's size, which will impact the temperature and habitat. Some fish just don't grow well unless the water is warm. Cool spring water may lower temperatures.

Most farm ponds in West Virginia get hot in the summer and have ice on them in the winter. West Virginia has smaller ponds than most other states because our slopes are greater than most. A pond smaller than an acre can still be a nice place to fish. First, let's look at what makes a pond good for fish production.

A good fish pond will be between 6 to 10 feet deep over most of the surface area. That way rooted plants will not dominate the environment. Plants provide good habitat for small and large fish so they are desirable in fish ponds, but if the pond is too shallow they will become too numerous and cause an imbalance in the pond. 30% of the pond area with plants is desirable. Deeper ponds may not be good for fish because the oxygen level often drops below the desirable level for fish unless there is a current (or spring) to mix the water.

All farmers know the importance of nutrients for good, healthy growth. The same nutrients used in agriculture are also needed in aquaculture. In freshwater, phosphorus is often the first limiting nutrient. However, it can also be the cause of excessive productivity in ponds and lakes. Fertilizing a pond will have an indirect effect on fish growth because the nutrients added, usually P or N, will help the algae (phytoplankton) grow better, which is the beginning of the food chain. The algae will feed the small invertebrates (zooplankton), which are excellent food for smaller fish. Many ponds may not require any fertilization at all.

If the pond is clear during summer months, you may try fertilization the following spring. You can fertilize a pond with a few pounds per acre of a fertilizer, high in phosphorus, two or three times the first week. Then you can check the results by lowering a white plastic lid (from an ice cream container) nailed to the end of a piece of wood (from a broken rake handle) and measure the depth at which you can just barely see the white lid in the water. That depth will decrease as your pond becomes more productive (turns green). When you cannot see the lid at a depth of 2-3 feet, you can stop fertilizing. (continued on page 3)

## Did YOU KNOW?

The West Virginia Division of Tourism has sponsored the publication and distribution of 40,000 brochures promoting Fee Fishing in West Virginia. These brochures are located in hotels and restaurants in the Charleston/Huntington, Bluefield/Princeton, Fairmont/Clarksburg, and Summersville/Beckley areas.



A stream classified by the WVDEP as a 2.0 tier stream can be permitted for 100% of its assimilative capacity, with reason.



A typical flow-thru raceway system can produce 50-100 pounds of trout for each gallon per minute of flow.



100 pounds of whole marine shrimp renders 64 pounds of edible shrimp. 100 pounds of whole freshwater shrimp renders 34 pounds of edible shrimp.



## Farm Pond Productivity - Continued from page 2

If fertilizer is used in a field that drains into the pond, or cattle graze in the field, then you already have nutrients draining into the pond. Fertilizer is best applied in the spring suspended in a bag near the surface. That way the phosphorus will dissolve in the water column and not bind with the soil and be lost for use by the algae.

If this pond does not receive much direct sunlight, then the results will not be good because algae need sunlight and nutrients to grow well. For ponds with a slow continuous flow it may be better to add an organic fertilizer like alfalfa meal or chicken manure because they release nutrients over a longer period of time and there is less of a jolt to the system. Fertilization rates will differ from pond to pond. If you do succeed at getting a nice algae bloom in your pond, you can be assured that your fish will grow better. Just tell the grandkids to bring the Zebko rod and leave the mask and snorkel at home.

---

## Now You Know

Answer to the question in our last newsletter: If an aerator runs 24 hours a day, it is probably removing oxygen from the pond during sunny afternoons. Do you know why?

Answer: During sunny days, the sunshine on a pond will cause the algae and plants in the pond to produce more oxygen than they consume. The term for this chemical reaction is called *photosynthesis*.

During the morning hours, oxygen levels of the pond will rise. After a few hours of sunshine, the oxygen level in the pond will surpass the saturation level of the water. At that point, the water will become supersaturated with oxygen. Through a process called *osmosis*, the oxygen will then actually move from the water to the air. If an aerator is running 24 hours a day, it will increase the rate that oxygen moves into the air during periods of supersaturation, just like it increases the rate of oxygen moving into the water when it is below saturation. Saturation levels of oxygen in water depend on temperature and altitude.

Question: Where is it perfectly legal to go trout fishing in West Virginia, any day of the year, without a W.Va. fishing license? Check our next issue for the answer.

## Time for a Change

As aquaculture grows in this state it is becoming increasingly clear that some state laws, which were written before aquaculture became a significant business, need to be modified so that fish farming wastes can be treated just like chicken, cow, and pig waste. Presently the WVDEP is required to deal with the solid waste from fish farms, which can be useful as a nutrient for pasture or row crops, as an industrial waste. Industrial wastes are not permitted to be land applied.

This is causing unnecessary expenses for the major fish producers in the state. An effort is being made to convince the WVDEP that solid wastes from fish farms should be permitted to be land applied using the same principles governing other agricultural waste applications.

Last year, the W.Va. legislature passed a law (HB 4551), known as the “**beneficial sludge rule.**” Efforts are being made to use this rule to allow for the permitting of fish farm sludge to be land applied just like other agricultural wastes that have beneficial use.

A West Virginia Department of Agriculture certified nutrient management planner will need to approve any fish farmer’s plan for solid waste field application **if the beneficial sludge rule were allowed to be used.** Many local mining reclamation areas would benefit from this type of nutrient source, by promoting the growth of plants that can help reduce runoff and erosion associated with heavy rains.

We welcome contributions to this community newsletter. Please contact Dan Miller at 304-293-4832, ext. 4465

---

### Congratulations!

Word was slow in getting out but it has been confirmed that two of West Virginia AQUA's most responsible production managers were married in January. Yes, Matt Rimmer and Tina Savage tied the knot on January 18, 2003, and are now officially Mr. and Mrs. Rimmer. The aquaculture community of West Virginia wishes them a happy and productive life together.