

## Mosquitofish an answer to prayer

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mosquitofish. Those are the easiest ones to get onto your site."

"They are fantastic, unreal," said Ken Holyoak, owner of Ken's Hatchery and Fish Farms, Inc. in Alapaha, Ga., the largest supplier of *Gambusia* in the country.

"They would have never finished the Panama Canal without that minnow..."

Ewoldt, who has taken every "air" measure against mosquitoes, has had his wooded areas sprayed with the insecticide Malathion once or twice, "but we do not like to use any chemicals, so we're going this [mosquitofish] route."

The mosquitofish were dumped into Sand Creek's wetlands in late June. Because the weather has been cool since then, "it hasn't been a good indicator for mosquito infestation," Ewoldt said. "But you can see them out there eating away."

Wolfe recommended transplanting 300 to 500 mosquitofish per acre in ponds where they have no predators. "If you have bass or bluegill that eat mosquitofish, you need to put a lot more in there — several thousand per acre," he said. "Once they get established, depending on wintertime temperatures, you needn't restock them."

Mosquitofish are "prolific," Holyoak said, "and reproduce hundreds of babies every 28 days." Which is good, since they are food to other fish, frogs, snakes and turtles.

*Gambusia* are native to the Southeast and therefore susceptible to cold winters, especially where water ices over.

"In South Bend," Wolfe said, "we're marginal [in climate] for having them over-winter."

"If you have deep water, they'll go to the bottom of the lake and survive a harsh winter," Holyoak said. "But they'll die in shallow water."

With his shallow wetlands, Ewoldt put in 3,000 mosquitofish per acre of wetland and expects that he will have to restock each year because of Indiana's harsh winters. Nevertheless, he sees the mosquitofish as worth the investment.

"We bought 10,000 fish at a cost of \$250," he said, "but it cost \$300 in shipping because of the weight and because the fish had to be shipped quickly so that the heat and lack of oxygen didn't kill them."

The best time to order mosquitofish is in cool or cold weather because "June to August is too hot to ship them," Holyoak said. He adds 15 to 20 percent more fish than ordered because of the loss during transportation.

Ken's Hatchery sells the fish for 3 cents apiece in large quan-

ties. They are shipped 5,000 per container — the fish costing \$150, the container \$20 and the freight \$120 — anywhere in United States.

Mosquitofish have been known to eat up to 230 larvae per hour, Wolfe reported.

And because they can live in as little as one-inch-deep water, Holyoak said: "Some people cover a 10-mile radius around their farm, putting them in road ditches — everywhere."

"I wouldn't have a lake without them," Holyoak said. "They are the most valuable fish that

swims. They don't do any harm. They do nothing but eat mosquito larvae, and some aquatic insects, crustacea, algae and zooplankton. They really add to the food chain."

But why haven't golf courses "discovered" these little mosquito-killers sooner?

"I don't think anybody has ever informed them," Holyoak surmised.

Buyers need not worry about the supply, he said. There reportedly are a couple of other fisheries that grow *Gambusia*, and, Holyoak added: "I have 20 million of them."

## White opens turf consultant firm

WATKINSVILLE, Ga. — Charles B. "Bud" White, a longtime agronomist with the USGA Green Section and most recently national manager of agronomic services for the Toro Co., has formed a company here specializing in professional turfgrass consultation.

The firm, TotalTurfServices, Inc., will be associated with both domestic and foreign



Bud White

projects. Its purpose is to provide technical and managerial assistance to golf course superintendents, architects and other turfgrass professionals.

White will also provide outsourcing services to management companies.

The company is located at 1141 Station Drive, Watkinsville, Ga. 30677; telephone 706-769-4570.

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