Fishing in the Grass

Kevin Yokum

This stand of arrowhead growing inside one of the Stonewall Jackson Lake enclosures began with just 12 plants in 2005.

By Kevin Yokum

Just a few years back, most folks would have emphatically argued that thriving aquatic vegetation beds in West Virginia reservoirs could never happen, but recent test plots of aquatic plants show great promise.

Much more abundant in states with shallower lakes, vegetation beds improve fish habitat. Along with providing shelter for fish, the plants provide food in the form of insects and other aquatic organisms which attach to them. In the long run, that translates to greater success for anglers and more varied fishing opportunities.

During 2003, the Division of Natural Resources, in cooperation with the West Virginia B.A.S.S. chapter, implemented test plantings of annual grasses. Although the grass planting resulted in only marginal success, it established the basis for our current project of perennial vegetation.

Prior to the reservoir project in the spring of 2004, DNR wildlife resources personnel and West Virginia B.A.S.S. members planted 155 test colonies of arrowhead and soft stem bulrush along the shores of Burnsville, Stonewall Jackson and Sutton lakes. Each test plot was packed with both live plants and tubers or roots of the two species.

Selected test plots were fenced to protect against them from being eaten by various herbivores. Each 3 by 3 by 3 foot triangular cage encompassed both bulrush and arrowhead plants at various life stages. The goal was to determine which species and which life stage would give plants the best chance at survival. Live plants usually offer the best chance of survival, but live plants are also more expensive to purchase than roots or tubers.

Despite harsh post planting conditions, which included snow, heavy frost and muddy water, the live plants looked good once the waters receded.

A surprising aspect developed during the early summer months when the arrowhead tubers emerged and surpassed growth of the original live plants. By July, arrowhead had filled the test cages and plants were spreading outside the cages. Soft stem bulrush also emerged during the warm summer months, although the plants hadn't spread like the arrowhead.

Just about every plot which wasn't fenced ended up being devoured by herbivores. This result had been well documented by similar studies and was not unexpected in ours. Research conducted by other states has shown that fenced enclosures are extremely important when attempting to establish plant colonies; so future plots will all be fenced. Plants in the fenced plots in this pilot study were not eaten.

Once plants start spreading outside the cages, herbivores will take their toll. The key point in the project's success will be establishing enough protected plants to produce sufficient spread to overcome localized destruction. Once this "critical mass" is obtained, vegetation should take off on its own and expand outside the protective fences.

The difficulty in establishing aquatic plants in West Virginia reservoirs centers around the geographic location of the Mountain State. Nearly all our reservoirs experience annual drawdowns during the winter, meaning that aquatic plants are exposed to nature's fury for six months of the year. Plants in West Virginia reservoirs must overcome several dilemmas including significant drawdowns, nutrient poor soil, severe water fluctuations and harsh winters in order to survive, let alone reproduce and spread. Compounding the problem, turtles, carp, deer and geese hamper attempts to establish vegetation on West Virginia reservoirs because these animals love to feed upon the alluring green plants.

Jim Walker

DNR fisheries staff Kevin Yokum and Eric Mauzy plant American elodea on a protective Burnsville Lake enclosure.

> Devotion from serious angler groups and resource agencies will make a difference in enhancing our fisheries. Maybe one day, Mountain State anglers will be able to "fish the grass."

Previous attempts have failed to establish aquatic vegetation in the Mountain State, but recent research has turned up new information which virtually revolutionized the process of vegetation establishment. The Oklahoma Division of Wildlife, Texas Parks and Wildlife and the U.S. Army Corp of Engineers have discovered exciting techniques which have been effective in establishing successful aquatic vegetation programs over the last few years.

By using techniques these agencies have perfected, other groups will benefit from such an accelerated learning curve. Perhaps capitalizing on this information will make the difference in establishing aquatic vegetation for West Virginia anglers.

One of the keys in establishing a successful plant community is to offer a diverse mix of species. Plantings in 2005 included fencing large enclosures of arrowhead, and native submergent plant species such as sago pondweed, coontail and American elodea. Larger clumps will give the colonies a better chance of spreading outside the enclosures. Ideally, vegetation will spread outside the enclosures and become permanently established along some sections of the lake.

While analysis of 2004 plantings showed overwinter survival, some plots exhibited a four-fold increase in the number of plants, even spreading outside the cages. By the end of 2005, arrowhead and

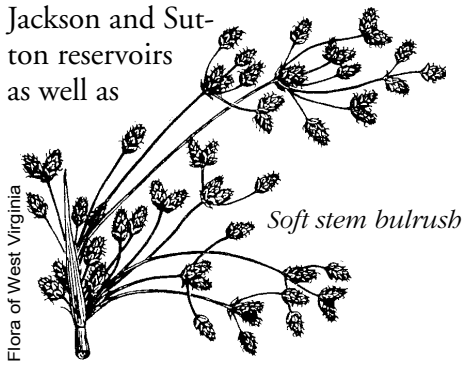
Arrowhead

DNR Photo

Largemouth bass, the most popular fish among American anglers, should benefit the most from the vegetation. Crappie, bluegill and even musky should benefit also.

pondweed which were planted in March rapidly spread outside the cages. For the first time documented expansion of aquatic vegetation in reservoirs was complete.

In 2006, Wildlife Resources Section personnel built additional enclosures in Burnsville, Stonewall Jackson and Sutton reservoirs as well as new plots in East Lynn reservoir. Two small impoundments, Parker Hollow in Hardy County and Woodrum Lake in Jackson County, were initiated into the project this year.



Flora of West Virginia

Soft stem bulrush

Initially, the vegetation establishment program has been a great success, but some setbacks along the way seem inevitable. Establishment of aquatic vegetation will not happen overnight and it will take a bit of effort and time for fishable "grass beds" to develop in West Virginia reservoirs. However, the overwinter survival of vegetation planted in last year's test plots is an awesome indication that successful reintroduction of permanent aquatic vegetation can occur.

The DNR has made a solid commitment to continue endeavors with the West Virginia B.A.S.S. chapter in attempting to establish vegetation in the Mountain State. Two new cooperators–Muskies Inc. and Dominion Natural Resources–have also joined in the venture. Such a diligent work ethic and devotion from serious angler groups and resource agencies will make a difference in enhancing our fisheries, and maybe one day, Mountain State anglers will be able to "fish the grass."

Kevin Yokum is the district fisheries biologist stationed at French Creek.