

Appendix IV – Pro/Con Dialogue

Draft 1: Pro/Con Dialogues

Florida Black Bass Management Plan 2010-2030

Appendix IV-Pro/Con Discussion for Controversial Issues.

These issues reflect the two perspectives regarding select action items that reflect the complexity of fisheries management in Florida. Even what seems like a wonderful idea, can sometimes have unexpected consequences--ecologically, economically or socio-politically. In an effort to explain some of these challenges and better allow constituents to make an informed decision FWC biologists have described alternate scenarios. Obviously, these are not all-or-none situations for the most part, and some degree of compromise or site-specific applications is possible.

Use of Hydrilla as a Management Tool

Manage Above Lowest Feasible Level

Submersed aquatic plants provide nursery habitat for young largemouth bass. Native submersed plants, such as eelgrass, southern naiad and peppergrass, as well as non-native hydrilla can provide this function (Tate et al. 2003). Hydrilla needs much less light to grow than our native submersed aquatic plants. Therefore, it can survive to provide additional habitat in areas of lakes (offshore) where native submersed plants cannot. It can also survive in lakes that in which nutrient pollution inhibits native submersed aquatic plants. Therefore, a plan to allow hydrilla to provide important largemouth bass habitat should be developed for lakes where hydrilla exists. While the management of hydrilla is necessary to keep the plant from covering the whole lake, and that management may be expensive, the economic benefit of the bass fishery should justify the management cost.

Manage at Lowest Feasible Level

Because of its ability to grow under low light conditions, hydrilla can completely cover a lake in a short time period, out-competing native submersed plants and interfering with recreational access. In some cases, die-offs of significant coverages of hydrilla can threaten water control structures. Allowing significant coverage of hydrilla can threaten the native ecology of nearby lakes that are hydrilla-free through the transport of this plant on trailers and boats. Native submersed plants should be conserved because they serve as important habitat without the need for much management. In addition, it is much cheaper to manage hydrilla when it only exists in small areas, than having to manage it after it gets out of hand.

Tate, W. B., M. S. Allen, R. A. Myers, E. J. Nagid, and J. R. Estes. 2003. Relation of age-0 largemouth bass abundance to hydrilla coverage and water level at Lochloosa and Orange Lakes, Florida. *North American Journal of Fisheries Management*. 23:251-257.

Tournament Exemptions

Allow tournament angler exemptions to size restrictions

Competitive tournament angling for largemouth bass is very popular in Florida, and has profound economic impacts locally and state-wide. For example, the 2005 BassMaster Classic held on the Kissimmee Chain-of-Lakes generated an estimated \$25 million during the three day event. Some of the premier largemouth bass fisheries in Florida (e.g., Istokpoga, Orange, Walk-in-Water) have protective slot limits (15 – 24 inches) that would restrict anglers from maximizing their daily weight. Because most tournaments penalize anglers for weighing dead fish, tournament anglers try to take very good care of their fish. Therefore, FWC provides exemptions to size restrictions to allow tournament anglers to temporarily possess these fish. Anglers must release these fish after they are weighed in. The success of tournament angling depends on the ability to obtain harvest exemptions, and because of the economic importance of tournament angling harvest exemptions should be permitted.

Prohibit tournament angler exemptions to applicable size restrictions

Many recreational anglers think it is unjust for tournament anglers to get an exemption from the designated harvest restriction. Harvest restrictions are set for specific water bodies to best manage the fishery based on a stated objective. Tournament-associated mortality could negatively impact the population and prevent managers from meeting the objective of the fishery. Tournament associated mortality has been found to average 26-28% (Wilde et al. 2003), and modeling of the effects of this mortality has shown the potential for tournament associated angling, under certain circumstances, to effect the sizes of fish available for anglers to catch (Allen et al. 2004). Thus, the designated harvest restriction should be followed by all anglers to ensure that management objectives are met.

Allen, M. S., M. W. Rogers, R. A. Myers, and W. M. Bivin. 2004. Simulated impacts of tournament-associated mortality on largemouth bass fisheries. *North American Journal of Fisheries Management* 24:1252-1261.

Wilde, G. R., K. L. Pope, and R. E. Strauss. 2003. Estimation of fishing tournament mortality and its sampling variance. *North American Journal of Fisheries Management* 23:779–786.

Genetic Conservation and Management of Florida largemouth bass

Genetics should be the priority concern when enhancing largemouth bass stocks

The Florida largemouth bass has unique characteristics that make it the premier freshwater sport fish in North America. The goal of FWC's genetic conservation efforts is to protect the genetic integrity and diversity of this native species to avoid losing those unique characteristics. Stocking only pure Florida largemouth bass into its native range will help preserve pure populations of Florida bass. Using large numbers of wild brood fish will maintain high genetic diversity of stocked bass and avoid domestication issues. Genetic Management Units were designed to reduce mixing of genetically divergent groups of largemouth bass. Growing evidence shows that many fishes are highly adapted to local environmental conditions and that natural selection operates at various life history stages. The mixing of genetically divergent stocks of largemouth bass through stocking can break down local adaptations. Offspring of bass that are genetically different may have reduced growth, survival (Philipp and Clausen 1995), or other, less obvious, problems. For example, in the Midwest, F1 hybrids of largemouth bass displayed reduced cardiovascular, swimming and respiratory performance relative to their parental stocks; which the authors interpreted as a loss of local adaptation (Cooke et al. 2001; Cooke and Philipp 2005). Genetic impacts of stocking or other introductions may go undetected for many generations and may be impossible to reverse.

Production of largemouth bass should be more important than genetic integrity

Genetic Management Units require that each state hatchery incorporate two or three different groups of brood fish into their spawning protocol. This can reduce production of fingerling bass for stocking due to limited hatchery space. This can also effect when fish are available for stocking, possibly missing optimal stocking times. The use of Genetic Management Units also eliminates the opportunity to stock pure Florida largemouth bass into populations in north Florida. This could limit trophy bass production the north Florida, as other southeastern states attribute trophy bass production to their Florida bass stocking programs, particularly Texas (Lutz-Carrillo et al. 2006) and Oklahoma (Horton and Gilliland 1993).

Literature Cited

Cooke, S. J., T. W. Kassler, and D. P. Philipp. 2001. Physiological performance of largemouth bass related to local adaptation and interstock hybridization: implications for conservations and management. *The Journal of Fish Biology* 59 (Supplement A):248-268.

Cooke, S. J., and D. P. Philipp. 2005. Influence of local adaptation and interstock hybridization on the cardiovascular performance of largemouth bass *Micropterus salmoides*. *The Journal of Fish Biology* 208: 2055-2062.

Horton, R.A. and E.R. Gilliland. 1993. Monitoring trophy largemouth bass in Oklahoma using a taxidermist network. *Proceedings Annual Conference Southeastern Association of Fish and Wildlife*

Lutz-Carrillo, D.J., C.C Nice, T.H.Bonner, M.R.J.Forstner, and L.T. Fries. 2006. Admixture analysis of Florida largemouth bass and northern largemouth bass using microsatellite loci. Transactions of the American Fisheries Society 135: 779-791.

Philipp, D. P., and J. E. Claussen. 1995. Fitness and performance differences between two stocks of largemouth bass from different river drainages within Illinois. Pages 236-243 in H. Schramm, editor. Uses and effects of cultured fishes in aquatic ecosystems. American Fisheries Society Symposium 15. American Fisheries Society, Bethesda, Maryland.

Customized Harvest Regulations

Harvest regulations should be customized for each waterbody.

Successful regulation of the harvest of largemouth bass is based on the management objective, and the growth, mortality and exploitation of the stock of fish. According to recent and historical surveys of bass anglers, there are a variety of desired outcomes of fish management. Some people would like to eat some of what they catch, while others think that the fishery should be managed for trophy fish, which should never be harvested. There are a lot of lakes in Florida, so we should be able to provide a diversity of fishing experiences. While there is a need for statewide (or zoned) regulations because of the large number of lakes, rivers, and canals in Florida, there are also many fisheries that would benefit from resource specific regulations. Growth, mortality and exploitation of bass populations vary from lake to lake depending on water quality, habitat and fishing pressure. For example, according to the data collected in 2008, it takes about four years for a bass on Crescent Lake to attain 18 inches. It would take eight years for a bass to attain the same size from Lake Santa Fe. Therefore, similar regulations would not be expected to produce similar results for these two lakes. In order for biologists to satisfy a variety of angling interests they must be able to use a variety of regulatory tools.

The number of different harvest regulations should be limited.

Although most anglers would like to be regulated, they do not like a wide variety of regulations to remember and contend with. This is a common complaint from the recent survey as well as from historical surveys. Because fishing pressure and habitat conditions change, biologists cannot fine-tune regulations to exacting expectations. Minor differences in regulations (13-inch minimum size limit compared to a 14-inch size limit) would not be expected to result in measurable differences in the resulting population, but could be frustrating to anglers. The desire for " fine-tuning" regulations should be balanced with the public desire to simplify our regulatory scheme.

Trophy Largemouth Bass Management

Designate certain lakes as trophy bass lakes

Public surveys indicate that there is some interest in managing bass fisheries for " trophy" fish. Management actions such as harvest regulations, habitat enhancement, and stocking are typically designed to meet a pre-determined objective for a fishery. Angler expectations (e.g, potential to catch a trophy fish or potential to catch high numbers of fish) as well as biological considerations, such as trophic state, water quality and quantity, habitat availability, and fish community composition are critical factors in determining the objective of a fishery. However, angler expectations can vary between anglers, water bodies, and geographical regions. Thus it is critical to provide a suite of management actions that meet varying angler expectations on water bodies that have biological factors conducive to the objective of the fishery. Providing a diversity of angling opportunities across water bodies through management actions designed to meet a pre-determined objective helps satisfy the varying expectations of anglers. Pre-determined objectives should be defined for selected fisheries to provide 1) biologists guidance for specific management actions and 2) anglers with an opportunity to make an informed decision about their fishing destination based on their expectation for a trip. . Florida is blessed with a large number of lakes. Management of a few of these lakes for trophy fisheries could satisfy trophy anglers.

Do not designate lakes as " trophy" lakes

Specific lakes should not be identified and labeled as " Trophy," " Quality," or " Numbers" lakes. It is beneficial to manage lakes differently based on their potential, but labeling them in publications and with signage has many pitfalls. Among them, it is often impossible to maintain a lake as a trophy fishery for long periods of time due to environmental factors. Lakes with trophy potential could/should be managed to maximize the trophy fishery for as long as possible and promoted without giving an official designation. If the public wants to know where to go to increase their chances of catching a trophy bass, FWC can keep a list of lakes currently (updated yearly) most likely to produce trophy bass.

The key to making Florida the " Bass Fishing Capital of the World" is not to have a handful of 'Trophy' and 'Quality' lakes around the state, but to actively manage for Quality fisheries in as many lakes, rivers, and canals as possible, given system productivity, habitat limitations, etc. Public surveys have indicated that a majority of the angling public would prefer to catch a moderate number of 'quality' fish instead of a single trophy or a large quantity of smaller fish. When a system is managed for a Quality fishery it will often produce its share of trophy bass. This provides many anglers with the potential to catch a trophy bass even if they are not targeting trophy bass. If there are a few lakes in the state labeled as 'Trophy Lakes', many anglers will feel as though they do not have a chance of catching a trophy bass unless fishing in one of these lakes. Managing for Quality fisheries throughout the state makes the entire state of Florida, instead of two or three lakes, THE destination for bass fishing, because anglers have a chance to catch a trophy bass each time they go bass fishing in Florida.

Trophy Fish Donation and Breeding Program

Create a trophy donation and breeding program

Florida likely produces more trophy size largemouth bass than any other state, yet we have no way to document these catches. A program similar to one in Texas would be beneficial to FWC, anglers, and the state of Florida in numerous ways. Documentation of trophy catches would bring notoriety back to the state of Florida for being the place to go to catch a trophy bass. Recording trophy catches would show just how important trophy fish are to our fisheries and what they do for our economy. A documentation program would also allow FWC to identify variables (e.g. habitat, forage availability, water levels) that contribute to the production of trophy fish, which could, in turn, be used to better manage our resources. This program would also help increase awareness about the importance of conserving the Florida Largemouth Bass and the importance of catch and release of trophy fish. The program would allow anglers to actively take ownership and participate in the management of our fisheries and would improved public relations between FWC and the anglers. Our program will not be marketed as a trophy breeding program, however, donation of some trophy fish will give FWC unique research opportunities to evaluate selective breeding programs and scientifically determine if there is any merit to them.

Do not create a trophy donation and breeding program

The education, documentation, and public relations aspects of a program like this are beneficial, as it is believed that Florida produces many trophy bass that are never documented or promoted. The ability to document such catches and promote trophy bass fishing has helped Texas build their current reputation. However, the need and desire for the breeding aspect of such a program is questionable. It has not been shown that spawning very large bass and stocking their offspring provides any benefit. Trophy bass are old enough that they have already spawned multiple times, so their genetics have already been passed on to future generations. The Texas ShareLunker program has had problems successfully spawning the fish donated to the program for various reasons. The cost and effort required to support the breeding aspect of such a program are great and may not be worth the result.