



Newsletter for the south Florida canal and urban pond angler

Our Purpose: To identify excellent south Florida freshwater fishing opportunities and to provide urban anglers with relevant information that will enhance the quality of their outdoor experience.

Opportunities in angler education

by Steve Marshall

Have you ever wanted to get involved in handing down the fishing tradition? Or maybe you are looking for a program that teaches your child about being an ethical angler, what makes a fish work, fishing techniques and the importance of protecting and improving fish habitat. If either of these ideas has crossed your mind, you might want to get in contact with one of the youth angling instruction programs highlighted below.

In Broward County, the Youth Environmental Alliance, Inc. (YEA) provides educational programs that highlight the importance of outdoor ethics, safety, and environmental stewardship. YEA offers **Hooked on Fishing-Not on Drugs® (HOFNOD)** and **Fishing for Success (FFS)** as its core angler education programs. Each program offers youth unique opportunities to learn about Florida's aquatic environment while experiencing hands on involvement. YEA connects youth and their families to the Florida fishing experience while fostering life-long respect for aquatic resources.

This newsletter is a publication of the **South Region Fisheries Management Section** of the **Florida Fish and Wildlife Conservation Commission (FWC)**, and is paid for in part by **Sport Fish Restoration** funds. To contact **The City Fisher**, e-mail john.cimbaro@myfwc.com or phone John Cimbaro at 561-625-5122. You can also write to: John Cimbaro; Florida Fish and Wildlife Conservation Commission; 8535 Northlake Boulevard; West Palm Beach, FL 33412. Back issues are available. You can visit us at MyFWC.com.



**Florida Fish and Wildlife
Conservation Commission**

MyFWC.com



The mission of YEA is to develop and deliver comprehensive, hands on, all inclusive outdoor education and recreation programs that encourage stewardship of the environment, promote public awareness of Florida's aquatic ecosystems, and develop life skills to empower

youth to make better life choices. Its goals are to: increase the public awareness and participation in environmental education; teach and promote responsible outdoor recreational activities, ethics and safety; and form partnerships with other organizations to develop comprehensive education programs.

YEA will conduct HOFNOD programs in the fall at Sawgrass Springs Middle School and at the Broward Northwest Regional Library. Both programs will run for eight weeks, with students attending once a week. Another offering, **Hooked on Fishing Summer Camp**, is designed to build an appreciation of South Florida's unique aquatic environments through fun and hands-on activities. Campers will have the opportunity to learn about local habitats and ethical practices while building basic fishing skills. During the four-day outdoor experience, campers will discover the importance of stewardship through program participation. Each camper will receive their own fishing rod and tackle box to keep. This program will run during June and July 2010 (dates and locations are available via the contact information below).

To get involved with **Youth Environmental Alliance** or for further information, contact:
Cindy Davidson
Youth Environmental Alliance
6900 SW 21st Ct, Unit 8
Davie, FL 33317
Phone: 954.382.0188
Fax: 954.382.9770
Email: cindy@yeafrog.org
Website: www.yeafrog.org

In Palm Beach County, the **Florida Fishing Academy (FFA)** offers youth fishing programs with the purpose of developing in children positive life skills, alternatives to destructive or antisocial behavior, and a sense of responsibility for shaping the world around them. FFA uses fishing as a vehicle for delivering these lessons, weaving effective life, environmental and social skills into a youth-oriented, hands-on sports fishing curriculum. FFA used the Hooked on Fishing – Not on

Drugs® curriculum as the base for developing its **Angling for a Healthy Future** course.

FFA's curriculum targets third- through eleventh-graders. In the 20-session elementary school program, taught in the public school aftercare system, students learn the basics of fishing, how to repair their rods and how to clean and cook their catches. Additionally, each student is introduced to lessons involving character-building, family-bonding, leadership opportunities and other life lessons. Each student that attends eighteen or more classes is presented with their own rod and reel.



At the middle and high school level, taught largely in city-run Youth Violence Prevention Programs, FFA offers a two-year advanced curriculum. In the first year, students take an advanced version of the 20-session **Angling for a Healthy Future**, with basic fishing lessons supplemented by more sophisticated, age-appropriate life skills programs. The second-year program, **Charting a Course in the Marine Industries**, is an in-depth curriculum that develops passion for fishing and continues on with a career-development curriculum. These advanced students learn the mechanics of building and painting custom rods, boat maintenance, commercial chartering, commercial fishing and fishing in junior angler tournaments. The final phase of the advanced curriculum has students return to elementary schools to mentor the basic Angling for a Healthy Future students. For all FFA programs, it is important to remember that the outdoors is their second classroom, and fishing trips to local water bodies and even to the ocean by boat are essential for students to practice their lessons, challenge their skills and see for themselves how fishing can change their lives.

FFA is currently conducting programs at: Carolyn Sims Center at Wilson Park in Boynton Beach on Mondays from June 7 through August 10; Royal Palm Beach Elementary in Royal Palm Beach on Mondays from June 7 through July 26; For the Children Barton Beacon Center in Lake Worth on Mondays from June 21 through July 19; Discovery Key Elementary School in Lake Worth on Tuesdays from June 8 through July 6; Forest Park Beacon Center in Boynton Beach on Tuesdays from June 15 to August 3; New Horizons Elementary School in Wellington on Wednesday from June 16 through July 14; City of Riviera Beach Youth Empowerment Center on Thursdays from June 10 through August 12; Boca Raton Housing Authority/Pearl City Cats on Thursdays from June 10 to July 8; and Pioneer Park YEA in Belle Glade on Thursdays from June 10 through July 8.

To get involved with **Florida Fishing Academy** or for further information, contact:
Capt. Richard Brochu
Florida Fishing Academy
7067 Peninsula Court
Lake Worth, Florida 33467
Phone: 561-740-7227
Email: rich@floridafishingacademy.com
Website: www.FloridaFishingAcademy.com

Fish biology: How smart are fish?

I once had a very enlightening experience as a college student. This particular lesson didn't take place in the lecture hall, but at the small four-acre pond found on campus. If I wasn't actually attending class or in the dorm cramming for an exam, you'd find me fishing the shoreline or in the campus canoe that you could "check out" at the main office. I usually fished for largemouth bass, and I always used a 4" black or motor oil colored worm. This worked great . . . for a while. But I eventually began catching fewer and fewer fish with my "sure thing" lures. One day I strayed from my habitual fare and tied on a spinnerbait. And suddenly, I was catching bass from "dry" water that I'd

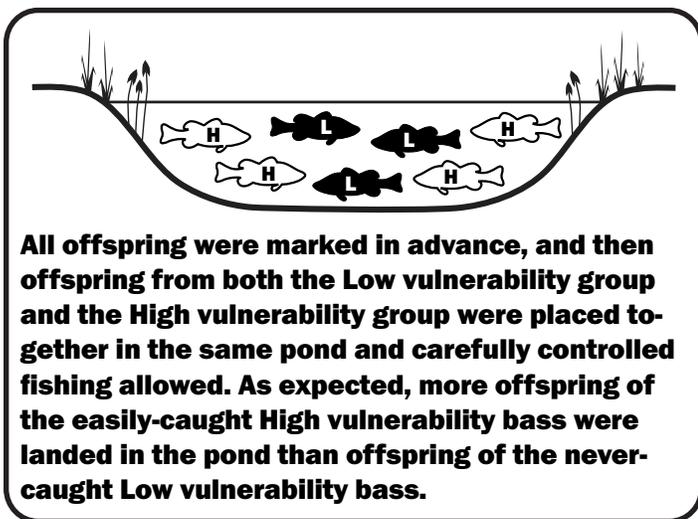
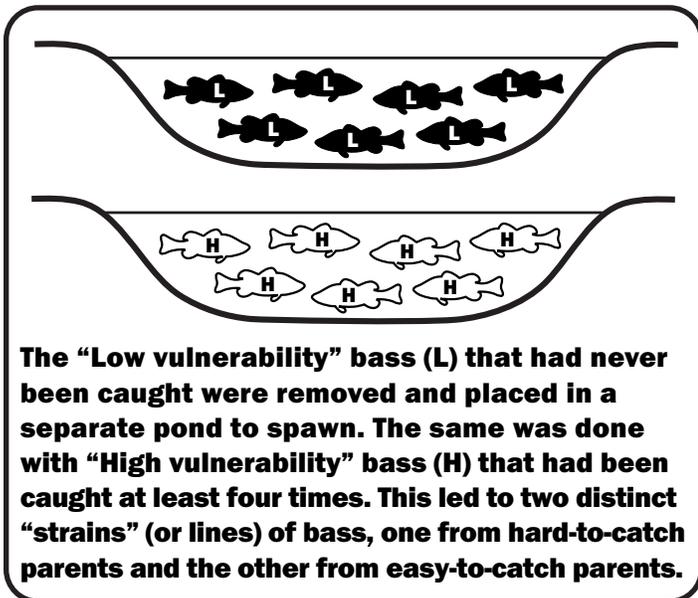
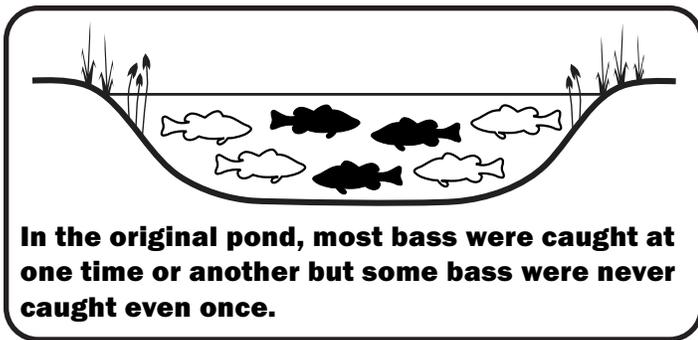
whipped to a froth with my plastic worms only days before. That was when I realized: the bass were "on" to me!

Can fish learn? They sure do. Are some fish smarter than others? This appears to be the case. And one ongoing study in South Carolina is shedding a little more light on the subject. Begun in 1975 on Ridge Lake near Charleston, the study required anglers on the limited-access lake to allow each fish they caught to be tagged before releasing it back into the water. The results were interesting: many of the bass were caught multiple times—as frequently as three times in two days—and one particularly gullible fish was caught sixteen times in a single year.

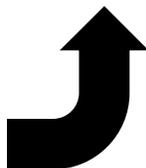
But the study didn't stop there. The lake was drained after four years, allowing biologists to capture every single bass present. This totaled about 1,700 fish, and the biologists found that 200 of those fish (12%) weren't tagged—meaning *they had never been caught once* during the previous four years. Their "secret" existence had never been documented by the anglers fishing the lake. Some of these never-caught fish were tagged and then moved to a separate pond, where they were allowed to reproduce. This created a pure "strain," or parental line, of **Low Vulnerability** bass that in the original pond had a very low susceptibility (or vulnerability) to being caught.

The other fish—the bass that had been caught and tagged at one time or another—received the same treatment. Records from the individual fish tags allowed biologists to select males and females that had each been *caught at least four times* during the previous study. These fish were also placed in a separate pond and allowed to spawn. This created a strain of **High Vulnerability** bass from parents that had been caught multiple times in the original lake.

At this point, the two strains of bass were *pre-tagged* (so that every individual could be identified, as well as distinguished by what group it was in) and then mixed together in a single pond. Carefully-controlled fishing was conducted in the pond, and—sure enough—when the numbers were tabulated, it was discovered that the offspring of the high vulnerability (frequently-caught) fish were caught

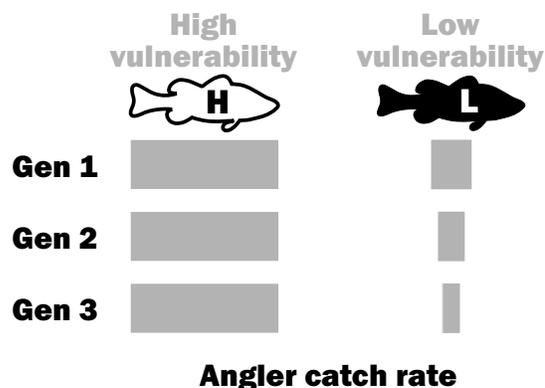


The entire experiment was then repeated, until eventually the Low vulnerability bass came from several generations of parents that had never been caught even once.



more often than the offspring of the low vulnerability (never-caught) fish.

The whole study was then repeated using only the offspring bass. Individual fish from both the high vulnerability offspring and the low-vulnerability offspring were again selected and allowed to reproduce in separate ponds, each producing new offspring of their own. Eventually, there were two distinct strains of bass in which either *all* their foreparents had been caught multiple times, or *none* of their foreparents had ever been caught once. After several repetitions of the experiment and increased “fine-tuning” of these two genetic lines, the biologists observed that the difference in catch rates between the two lines was growing wider. Interestingly enough, however, most of this change was occurring among the low-vulnerability bass. While the high vulnerability bass were only slightly easier to catch than their parents and grandparents had been, the low-vulnerability bass were becoming harder and harder to catch with each succeeding generation.



With each succeeding generation, the difference in catch rate between the High vulnerability group and the Low vulnerability group became larger. However, the High vulnerability bass weren’t changing much—they were only slightly easier to catch than their parents were. The real change was in the Low vulnerability bass, which were becoming increasingly harder to catch. (Note: Graph is illustrative rather than reflecting actual numbers.)

What does this mean? For largemouth bass, catchability is at least partly controlled by a fish’s genes—a parent that can be easily caught can pass this trait on to its offspring. Conversely, if a bass parent was smart (or at

least suspicious) enough not to get caught, this trait was passed on to its own offspring as well. And while easily caught bass will probably remain as easy to catch as their parents were, the offspring of bass that were never caught might be even harder to fool than their parents.

While the biologists conducting this study acknowledged that this carefully controlled experiment was highly artificial, they also noted that it was only accelerating what occurs normally in nature. For the sake of an easy-to-use example, let's suppose that this same principle applies to crappie. Now, imagine a small but heavily fished lake loaded with "specks." Over time, anglers will remove a lot of fish. If some of these crappie are more vulnerable to being caught than others, obviously they will be caught and removed first. So which crappie will be left in the lake to reproduce and contribute to next year's fishing stock? The low-vulnerability fish that weren't caught and removed, of course. And since a lot of their more easily caught brethren were removed from the lake, these low vulnerability crappie now represent a larger part of the population. Come spawning season, a higher percentage of fry will be coming from low vulnerability parents, and will also be representing a larger portion of the population. And this trend will become more distinct as consecutive fishing seasons occur, with more of the easily-caught fish being removed from the small lake, and a higher and higher percentage of hard-to-catch fish being left in the lake to reproduce. In a small lake with very heavy fishing pressure, a large but hard-to-catch population of crappie could result over time. This process is called "selection," since fish with specific characteristics (in this case the characteristic of being hard to catch) are being *selected for survival* by removal of the easy-to-catch fish from the lake by anglers.

Is this why fishing isn't as good as it used to be in your favorite fishing hole? Well . . . probably not. As with most scientific principles, specific conditions apply. First of all, your fishing hole would have to be small enough and receive enough fishing pressure that a significant percentage of the easy-to-catch fish were actually being removed ev-

ery year. Fishing effort this extreme is not often seen. Also, any regulations in place that required you to release some fish might trump this selection process. For example, a 10" minimum on crappie would mean that plenty of easily-caught fish of reproductive or near-reproductive size are going back into the water to replenish the annual stocks of easy-to-catch members of the population. (The same would result from voluntarily releasing any crappie you didn't consider to be "keepers" even if a regulation did not apply.) So, it's not likely that your fishing hole has spawned a race of uncatchable super-specks. However, it *is* possible that a few more of those fish than before are now "on" to you!

Information for this article was taken from the following sources:

Philipp, D. P., S. J. Cooke, J. E. Claussen, J. B. Koppelman, C. D. Suski, and D. P. Burkett. 2009. "Selection for vulnerability to angling in largemouth bass." *Transactions of the American Fisheries Society* 138:189-199.

University of Illinois at Urbana-Champaign. "Born To Be Caught: Largemouth Bass Vulnerability To Being Caught By Anglers Is A Heritable Trait." *ScienceDaily* 15 April 2009.

FWC goes social!

The FWC has entered the social networking arena, now posting information at several of these internet sites. Here are the sites FWC is using, brief descriptions of how the public generally utilizes these sites, and how FWC is using them to keep you informed about important news in the outdoors:



YouTube is a popular site for viewing—or posting—videos about practically anything. If your kid (or cat) did something hilarious that you managed to capture on video, this is the place to post it. The same goes for your "how-to" video on jerk baits, or your extreme bass fishing movie. FWC uses YouTube for posting informative videos about everything from the importance of wearing your life jacket to

padding trails and law enforcement activities. You can subscribe to receive notices when new FWC videos are posted, and can comment on posted videos if you wish.

www.youtube.com/myfwcvideos

facebook Facebook can be a great way to stay in touch with friends, especially those that might not be in the immediate area (such as your high school graduating class). Individual users can post all kinds of information on their profile, including their music and movie likes, hometown, occupation, etc. You can also post pictures and create different albums for others to view. You can keep your friends up to date on your activities, and can even send posts or photos from an internet-enabled cell phone (allowing the rest of the club to see your big bass right away, even if you're in the middle of the Everglades). FWC uses Facebook to post important news releases, regulation updates, or to advertise special events. Become a "Friend" of FWC, and you'll see our posts when you go to your personal Facebook page.

www.facebook.com/MyFWC

twitter Twitter can be thought of as a no-frills version of Facebook, for communicating with others in very brief messages (less than 140 characters—that's not much!). If you want others to know what you're having for breakfast or that you're getting your oil changed right now, Twitter is for you. However, someone has to be interested enough in what you're doing to actually "Follow" you before they begin receiving any notifications (or **tweets** as they are called) that you post. FWC uses Twitter to send out more important information, such as breaking oil spill or other news or regulations announcements. Since the messages must be short, a website link is included for more information. "Follow" FWC to receive all tweets being sent out; you can even opt to be notified via your cell phone if you want to really stay up-to-date.

<http://twitter.com/myfwc>

Social networking basics: Most social networking sites will require you to create an account before you can use them, or at least use all

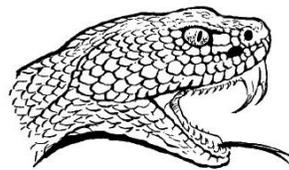
available features. Although you can post all kinds of interesting information on many of these sites, you should only post information that you consider to be public—don't depend on privacy for anything posted on a social networking site. Finally, check your employer's policy on visiting social networking sites on the job—many have restrictions in place.

Snake meets angler!

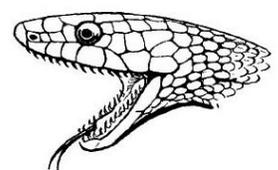
As youngsters, my kid brother and I spent hours wandering around mountains, lakes, rivers and woods. Since I was older and more experienced, it was only natural for me to go first wherever we went. Years later, I learned that my brother always let me go first because there might be snakes.

There's something about snakes that strikes fear into the heart of a man who would otherwise be willing to go hand-to-paw with a bear if it came down to it. Maybe it's because they're cold-blooded. Or maybe it's the fact that snakes have very little "body language" someone can read, the way they might be able to with a deer or a dog. Whatever the reason, snakes receive a helping of fear and apprehension well out of proportion to their actual place in the animal kingdom.

The good news is that your odds of surviving a bite from a venomous snake fall somewhere between great and fantastic. A comprehensive study in **The New England Journal of Medicine** found that about 7,000 to 8,000 people are bitten by venomous snakes in the United States every year. Out of all those encounters, only about five victims actually die, which works out to less than one-tenth of one percent (< 0.1%). Your morning commute is more dangerous.



Venomous



Non-venomous

Whether a snake is venomous or not, what you do remains the same: Leave it alone!

If you're still worried, try moving to Maine, Hawaii or Alaska—these states have no

venomous snakes. But for the rest of us, know that unless you're living in a cypress dome your chances of coming across a venomous snake are fairly low. Florida is home to 44 species of snakes, and only six of these are venomous. If you come across a snake, what you should do remains exactly the same regardless of whether the snake is poisonous or not: Leave it alone! Most snakebites occur when someone tries to get a closer look at a snake for identification, or tries to kill it. (You probably can't blame the snake for trying to defend itself.)

Kinds of snakes — Of the six venomous species of snakes, only a couple are aquatic, and only one of those is found in south Florida. We'll cover all the venomous species below, including the terrestrial varieties, plus the non-venomous brown water snake.

Southern copperhead and Timber (or Canebrake) rattlesnake — Rest easy; although both of these are found throughout the south-east United States, within Florida they are restricted to the panhandle. So you're already safe from a third of Florida's venomous snake species!



Florida cottonmouth — (Average length 36") This is the one anyone near water *thinks* they're seeing; most of the time, it's not. If someone tells you they had a near-fatal encounter with a "water moccasin," they probably mean the cottonmouth (even if what they actually saw was a **brown water snake**, next species). The cottonmouth's flat head is much wider than its neck; its distinctive feature is the *dark brown or black band extending from the eye to the rear of the jaw*. The body is stout, with an *abruptly-tapering tail*. Body coloration ranges from olive-brown to black, with or without black cross-bands. This snake inhabits wooded wetlands, swamps, marshes, and the forested margins of



lakes or streams. It hunts at night. During the day it rests, usually near water and in grass or under debris. If disturbed, the Florida cottonmouth will stand its ground, moving into a loose coil and opening its mouth wide to display the white interior that gives this species its name.



Brown water snake (NONVENOMOUS) — (Average length 36") The reason this *nonvenomous* species is included here is because, far more often than not, this is the species erroneously reported as a "water moccasin" or cottonmouth. To the untrained eye, it can look the part: this snake may be brown with dark bands, reminiscent of the cottonmouth. However, the head is much smaller and is not conspicuously wider than the neck. Coloration of the brown water snake can vary widely, to almost entirely black. This species is common in and around lakes, ponds and rivers, but unlike the Florida cottonmouth doesn't make nearby forest one of its habitat requirements. As a result, this is the snake that will turn up in the drainage ditches and retention ponds more typical of urban settings. The brown water snake will usually escape when disturbed (rather than stand its ground like a cottonmouth). However, while not venomous, water snakes can inflict a painful bite if provoked.



Dusky pigmy rattlesnake — (Average length 20”) This small but stout-bodied snake is gray and marked with rounded, dusky spots. Many individuals will have a broken, reddish stripe down the back. The pigmy rattlesnake is much fonder of water than its larger cousin (below). It may be found in pine flatwoods dominated by palmetto or wire grass, grassy margins of wetlands, or near lakes, ponds and marshes. This feisty snake makes up in attitude what it’s missing in size—it will bite with little provocation. Don’t expect to be warned by the eponymous rattle—in this diminutive species, all you’ll hear will be an insect-like buzz, and then only if you’re very close. However, don’t spend too many sleepless nights worrying about pigmy rattlers—no human fatalities have been reported for this species in Florida.



Eastern diamondback rattlesnake — (Average length 70”) This relative of the pigmy rattlesnake is much bigger, but much less common. The bulky head is much wider than the neck, and the body is marked with a distinctive diamond-shaped pattern. Preferring much drier habitats than the pigmy, this rattlesnake is found in palmetto flatlands, pine woods, and abandoned fields or brushy areas—but turns

up in many atypical locations as well. This is the largest venomous snake in North America, made all the more dangerous by its striking speed and the amount of venom it can deliver. Thankfully, this species does not possess the short temper of its smaller relative, and has an easily heard warning rattle.



Coral snake — (Average length 30”) This distinctively-colored snake is similar to a few non-venomous species; look at the banding: *if red is next to yellow*, it’s the venomous coral snake. It prefers rotting wood or vegetation, heavy leaf cover, or brush piles. This species is seldom seen and is fairly good-tempered compared to the other venomous species. Its venom is the most potent of any North American species, but it chews on its prey to introduce the venom rather than injecting it like most other poisonous snakes, making it less dangerous.

Dealing with snakes — First, remember the number one rule: Venomous or not, leave snakes alone! You don’t need to get a close-up look to identify it, and you don’t need to kill it. Six feet is the absolute minimum safe distance from any snake. Stay on paths or trails, and avoid grass or brush (or other areas where visibility is limited) unless wearing boots.

Venomous snake photographs used with permission of **Allstate Fish & Wildlife Management, Inc.** Their venomous snakes chart is available for purchase online at:
www.naturecharts.com

Other photographs, illustrations, and information are from the FWC website at:
MyFWC.com/WILDLIFEHABITATS/SpeciesInfo_Snakes.htm