

Mark your calendars...

- August 23-27: Conservation Science Special Course (offered through Florida Master Naturalist Program)—Putnam Co. See www.masternaturalist.org for more information or to register
- August 25 (10 am—3 pm)—Introduction to Aquaculture workshop (Whitney Lab, Marine-land) \$10 registration fee. Contact Maia for details or to register.
- More on back page!

Potential federal budget cuts for Sea Grant...

The House subcommittee on Commerce, Justice and Science (CJS) released its preliminary budget for the National Sea Grant program last month. It suggests more than a 30% reduction compared to the current level of funding. The actual 2012 budget is decided in conference between the House and Senate (with the President’s signature at the final step of the process). The President’s budget recommendation for 2012 is a freeze at 2011 funding (\$62.5M).

Constituents who value the Sea Grant program have an opportunity to affect the budget outcome. As part of its recommended cuts, the House entirely eliminated the Sea Grant aquaculture research and extension program and the aquatic invasive species program (including anticipated lionfish funding for Florida and other southeastern states). It also propose a drastic cut to the core funding level, which could result in job losses.

We are asking Sea Grant supporters to make contact with FL members of the Senate, to reinforce the importance of Sea Grant to them or their business, to discuss the unique attributes we have within NOAA, and to talk about how our program has great importance for economic sustainability and recovery. Please contact Marco Rubio (8669 NW 36th Street, Suite 110, Doral, FL 33166) and/or Bill Nelson (1301 Riverplace Blvd, Suite 2010, Jacksonville, Florida 32207) and ask the Senators to tell their colleagues on the Senate’s CJS Committee to hold firm at the \$62.5 level and not let the program get cut. Thanks.

M. P. McGuire

Maia McGuire, PhD
Marine Extension Agent

Inside this issue:

- Update: fuzzy docks 1-2
Worms in your fish? 3

Update on “fuzzy docks”

In May 2010, I wrote a newsletter article about fuzzy dockposts which were causing concern to many Palm Coast residents. In that article, I wrote, “The reported “problem” is seen as “fuzziness” on the surface of the wood, usually starting where a piling abuts decking or a bulkhead. The fuzziness is often just on one side of the piling, and often only affects a small number of pilings, and not the entire dock. The fuzziness is reddish-brown in color, in contrast with the greenish color of the piling (which has been treated with a copper-based preservative.) The wood beneath the fuzzy layer may be peeling off in thin layers (delaminating.)”

Based on a research paper from 1992, I explained that the fuzziness was most likely the result of a physical process by which salt water is wicked up internal tubules in the wood, then as the fresh water component evaporates (above the water line), microscopic salt crystals are left behind in the wood. The formation of these salt crystals causes tiny wood fibers, already weakened by the preservative used on the wood, to fracture, causing the fuzzy appearance of the post.

...continued on page 2

Update on “fuzzy docks” (cont.)

I explained that this is a phenomenon that only affects the surface of the wood, and is not expected to shorten the lifespan of the dock (typically estimated at about 20-30 years). Two recent publications further support these comments.

There have been concerns that a fungus might be causing or contributing to the damage. In June, researchers from the USDA’s Forest Products Laboratory in Madison, WI, published a fact sheet titled, “Salt Damage to Wood: ‘Fuzzy Wood’ often confused with fungal decay.” From this publication, “although salt damage can be unsightly, the fuzzy wood need not be a cause for alarm. The gradual sloughing off of the wood surface proceeds slowly, and the wood beneath the affected area remains sound. Salt damage has been observed on poles and piles that are still in service after 25–30 years. Paints, coatings, or barriers have been suggested to prevent the movement of water from the wood surface, but it’s not clear how effective these treatments might be.”

The publication includes the statement that “salt damage is sometimes confused with fungal decay, although characteristic signs of salt damage are considerably different than those of fungal decay.”

It explains that there are three types of fungi that are often found impacting wood, with the caution that “None of these fungi can grow in conditions of high salt.” The document contains images of wood samples that have been affected by salt damage and the three different types of fungi. It also shows a photograph, taken using a scanning electron microscope, of salt crystals found in fuzzy wood from a piling from Charleston, South Carolina. These crystals are tiny (hundredths of a millimeter in size) and cannot be seen with the naked eye. This document can be viewed at <http://stjohns.ifas.ufl.edu/sea/dockposts.html>.

Dr. Dave Jones, along with colleagues in the forest products department at Mississippi State University, recently published an Extension document called “What is Salt Killed Wood?” This document does not provide any new science, but it does explain the cause of the fuzzy wood in language geared towards the general public. From that publication (available online at <http://stjohns.ifas.ufl.edu/sea/dockposts.html>), “Generally, only the outer shell of the wood is degraded, as this is the portion with the highest concentration of both salt and sunlight.” Also, that paper suggests that people should not pressure wash the fuzzy wood because “the high-pressure water from a pressure washer is often enough to cause some of the wood surface fibers to lift up or break off....Thus, it is usually best not to pressure-wash wood surfaces.” Additionally, bleach should not be used on the affected wood as that can worsen the situation.

I e-mailed Dr. Jones to ask his recommendations for homeowners with affected docks. Here is his response. “If they can live with the appearance, leave it alone. Tell them not to use harsh chemicals like bleach on wood or a pressure washer, this seems to make it worse. While not proven yet, using a sealer should stop it from occurring by limiting the amount of water than can make it to the surface of the wood and evaporate. They just need to choose proper sealant, and reapply it every few years. We have been trying for years to get funding to research how to stop it from occurring.”

It is important to reiterate that salt kill is a surface phenomenon. The Southern Pressure Treaters’ Association has a salt kill task group (comprised of industry and university representatives). An e-mail from a member of that task group states, “We also polled the university professors and engineers in our task group to get a better understanding of the damage caused by salt kill, and (found) no thought that it was responsible for a piling structure failure.” This is supported by Colin McCown from the American Wood Protection Association, who states, “I’m not aware of chemical degradation causing structural failures or really much more than pulping/erosion of the surface fibers....I haven’t seen anything worse than a surface degradation.”



Worms in Your Fish...? Not to Worry

While the thought of worms in a fish you just caught and plan to eat is not an appealing one, occasionally anglers do come across them while cleaning their catch. Fortunately, while unsightly, they pose little risk to fish consumers. It is important to remember two key points. First, worms and other parasites naturally occur in most fish species, and second, while certain parasites can infect people, properly handling and preparing your catch will render these parasites harmless.

A variety of parasitic worms are found in local species including tapeworms, flukes, roundworms (also known as nematodes) and thorny-headed worms. While these species can potentially occur in or on all fish, some groups are more susceptible due to their life history and diet.

Members of the drum family including sea trout, red drum, and black drum, for example often have worms present, but sharks, amberjacks, cobia, and groupers also commonly have them. Most parasites found in fish have complicated life cycles that require them to utilize a number of hosts before they can reproduce. They tend to work their way up the marine food web while growing and multiplying, and this is one reason the adult forms tend to be found in top predators. Parasitic worms rarely harm their host species, and in fact, researchers have found the presence of a variety of worms can be an indication of a healthy marine environment. Fish found in polluted areas tend to have fewer species in greater abundance where fish in more pristine waters typically will have a greater diversity of parasites in lower numbers.

Tapeworms: These parasites are commonly observed by fishermen when cleaning their catch. Larval tapeworms form cysts on or in the internal organs or in the body cavity. Adults are white, have worm-like segmented bodies, and are found in the intestines. Because the worms' bodies are long and twisted they can give the illusion that a fish is more infected than it really is; typically a fish will not have more than three or four worms.

Roundworms (nematodes): Roundworms are very common parasites in fish. The larvae may be found in cysts or coiled in or on various internal organs. Adults are usually found in the intestines, and can even be seen extending from the anus. Some are found coiled under the skin. Like tapeworms, roundworms require multiple intermediate hosts to complete their life cycle.



Anglers typically have little to worry about when it comes to being infected by these parasites as most are very host-specific and therefore, cannot be passed to humans. The risk from parasitic worms is far less than the risk associated with elevated levels of bacteria that can build up from poor handling and preparing practices. It is also important to note that most adult parasitic worms are commonly observed in the digestive tract of fish, which anglers remove while cleaning and filleting their catch. Any worms that do remain can be eliminated by freezing or thoroughly cooking the fish before it is used. According to most authorities, cooking fish to an *internal* temperature of 140°F (60°C) will kill any parasites present. Since most home freezers do not reach the extreme temperatures recommended for commercial operators to kill these parasites within hours, anglers should freeze any infected fish at least five to seven days to kill the parasites.

The complete article by Collier County Sea Grant Extension Agent Bryan Fluech can be found at [http://collier.ifas.ufl.edu/SeaGrant/pubs/Fact%20Sheet%20on%20worms%20in%20fish.docx\[1\].pdf](http://collier.ifas.ufl.edu/SeaGrant/pubs/Fact%20Sheet%20on%20worms%20in%20fish.docx[1].pdf)



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We're now on Facebook—check out facebook.com/NEFLSeaGrant and “like” it to keep informed about coastal topics in the region.

More “Mark your calendars”

- September 8-October 20: Coastal Master Naturalist class (Clay Co). See www.masternaturalist.org to register or for more information.
- September 12-17: Wildlife Monitoring Special Topic course (offered through Florida Master Naturalist Program)—Putnam Co. See www.masternaturalist.org to register or for more information
- September 24: National Estuaries Day 10 am—3 pm, GTMNERR Environmental Education Center. See www.gtmnerr.org or call Diana at 904-826-4500 for more information.
- October 2-30: Freshwater Wetlands Master Naturalist class (St Johns Co.) See www.masternaturalist.org to register or for more information.
- October 7-November 11: Freshwater Wetlands Master Naturalist class (Volusia Co.) See www.masternaturalist.org to register or for more information.
- October 21-23: Georgia Association of Marine Education conference, Skidaway Island, GA. Contact Angela Bliss (acbliss@uga.edu) for more information.
- October 25: Educator’s Aquatic Species Collecting Permit workshop. 4-6 pm. Volusia County Agricultural Center, DeLand. Cost: \$25. To register, or for questions, contact Maia.
- October 31-November 21: Coastal Master Naturalist class (Nassau Co). See www.masternaturalist.org to register or for more information.

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