



LAKEWATCH

Dedicated to Sharing Information About Water Management and the Florida LAKEWATCH Program Volume XXV

Lazy Days of Summer...What will you do?

With summer upon us, LAKEWATCH has dedicated most of this newsletter to several activities that many find themselves enjoying during the summer months.

If you plan on fishing, read the article from the Fish and Wildlife Conservation Commission on page 6 about how to properly measure any fish you catch. Then you'll always be sure that nice fish you hooked is a keeper—or not!

If you plan on enjoying the wildlife around your water there are several articles to help you get started and stay safe. Check out the helpful information on page 5 about alligators and the safety tips listed on page 8. The featured bird described on page 3 is a secretive bird and can be difficult to see—but it is definitely worth the effort! Check out the article on the last page discussing the differences between the native and exotic apple snail found in Florida!



Relaxing on the beach might be one of the activities you choose to do this summer!

Finally, there are some preliminary results discussed from the lake user survey which many of you completed and returned. We were surprised with one of the results—check out the lead article on page 1 to learn more about how Floridians use their lakes. We also discuss, in depth, one of those uses—jet skis and how to stay safe using them.

Whatever you decide to do, we hope this information helps you to be safe and have a wonderful summer enjoying the waters of Florida!

Lake User Survey Results:

“A lake cannot be all things to all people.”

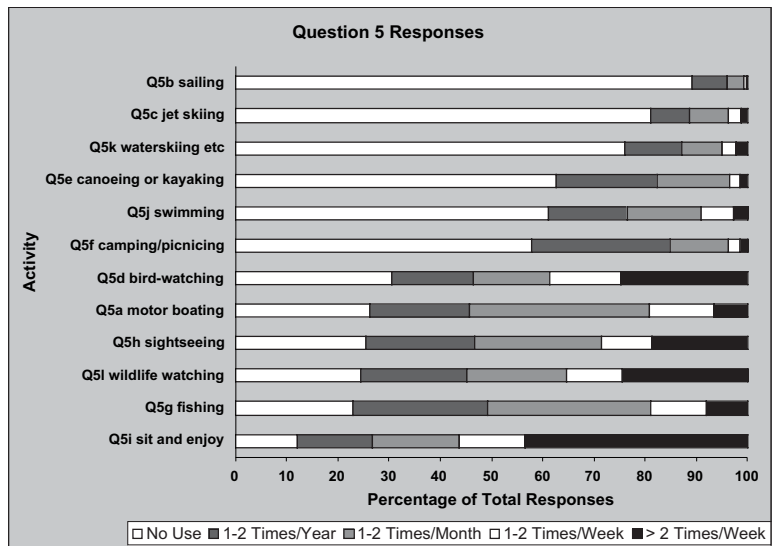
Florida LAKEWATCH personnel recently developed and distributed a lake user survey to help the Southwest Florida Water Management District (SWFWMD) refine current *Aesthetics Standards* and *Recreation/Ski Standards*. The survey looked at how lake water level may impact these standards. A survey with 60 questions was developed with reviews and comments from SWFWMD staff.

To insure that a wide range of user groups participated, five mailing lists were obtained from: Florida Boating Registrations, Florida Freshwater Fishing License Holders, Florida LAKEWATCH Volunteers, Florida

Lake Management Society (FLMS) members, and Florida members of the North American Lake Management Society (NALMS). From those lists, random samples of individuals who reside within the boundaries of SWFWMD were sent the survey. There was a total of 2563 surveys sent and of those 964 were filled out and returned yielding a return rate of 38%. The lowest percentage of returned surveys was from the fishing license holders with only 21% returns. The highest percentage of returned surveys was from LAKEWATCH volunteers with 58% (good job volunteers)!

While analyses continue on the returned survey data, we wanted to share results from one question showing the percentages of how people are using their

lakes. Question 5 from the Lake User Survey asked respondents to rank the amount of time they spent doing 12 different lake user activities. All activities were conducted by at least some of the respondents. However, as Figure 1 shows, sailing and jet skiing are the two activities done least while fishing and sitting to enjoy the lake are



Summary of the percentage of time which survey respondents reported using lakes for a list of 12 different lake use activities. The activities are listed on the left in order of least use (on top--sailing) to most use (on bottom--sit and enjoy).

the activities done most often. These are interesting data because while jet skiing was one of the activities done least it is a topic that generates many questions at LAKEWATCH meetings. With that said we hope the information that follows will help answer some of the questions that we commonly receive on jet skis.

Introduction to Jet Skis

Jet Skis. You either love 'em or you hate 'em. With the proliferation of jet skis in the last 20

Jet Skis continued on page 2.





Congratulations LAKEWATCHers! It's time to bake a cake and light the candles. The Florida LAKEWATCH (FLW) program will be 20 years old on August 16, 2006!

The first thing we'd like to do is thank our volunteers, past and present. Because of you, FLW is one of the largest, most successful volunteer water monitoring programs in the country — truly something to celebrate.

Through these 20 years, volunteers have sampled in 57 counties on a total of 2,117 water bodies including 1,373 lakes, 289 coastal sites, 247 river sites, 10 springs and 198 special samples.

Aside from just sheer sampling duties, the program has matured in other ways; we've developed active partnerships with a host of federal, state, county, city and private entities to better serve Florida's citizenry. We've facilitated a constant flow of information and dialogue concerning water management. We thank every single one of these groups/organizations for working with us.

FLW also processes thousands of data requests each year, along with a number of informational circulars, scientific publications, graduate student projects, etc. Not bad for a program that began with the simple idea that citizens could collect their own water samples and then work together with scientists, politicians, water managers and others to increase our knowledge about Florida's vast aquatic habitats. To coin a phrase, "it takes a village to manage a lake." We thank everyone who has contributed and continues to make this program a success, year after year.

Jet Skis continued from page 1.

years, it seems time to address some of the issues associated with their use. Since some lake users believe that jet skis are "ruining" their lakes, efforts have been made to regulate, control, and even ban their use in some Florida water bodies. This newsletter article looks into the various pros and cons concerning Jet Ski usage on water bodies and what can or cannot be done to manage their operation in a responsible manner.

Several types of watercraft are commonly referred to as "jet skis". There are the true jet skis that are operated from a standing position and there are Sea-Doos and Wave-Runners, designed for operation in a sitting position. In this article, we refer to this group of motorized watercraft that use hydraulic jet-drive systems instead of propellers for propulsion as Personal Water Craft, or PWC for short. Remember that PWC are actually just small powerboats. Larger propeller-driven powerboats, including ski boats, bass boats, pontoon boats, and pleasure craft, can also cause many of the problems attributed to PWC use.

Water Quality

Some people are concerned about the potential for PWC to influence water chemistry by re-suspending bottom sediments, increasing nutrient concentrations, and causing increased algal growth. However, both jet-driven and propeller-driven watercraft can re-suspend bottom sediments, especially in shallow water lakes. In general, larger propeller-driven boats with higher horsepower engines cause greater disturbance of

bottom sediments than PWC. While several states restrict PWC operation in near-shore waters less than two feet deep, it is primarily for safety reasons.

Waves created by watercraft can cause shoreline erosion that increases turbidity and contributes to less water clarity. Larger boats with greater hull displacement and higher horsepower engines create larger waves, while PWC, displace less water, creating smaller wakes and waves. Some factors to consider in determining whether shoreline erosion will occur include: shoreline material (rocks, sand, clay, etc.), shoreline slope, near-shore water depth, and vegetative cover that may dampen the energy of waves before reaching shorelines.

Other influences on water chemistry associated with all powerboats include exhaust emissions from burning gasoline and motor oil. Hydrocarbon concentrations in water may increase as a result of burning fossil fuels in any type of motorized vessel. Hydrocarbons from burned and unburned gasoline have been suspected of causing changes in the taste and odor of both fish and water. While there is evidence that this may occur in marina basins where many boats are confined in small areas with poor water exchange, in most open waters where PWC are operated there is little evidence that there is a problem.

How do PWC compare with larger propeller-driven boats concerning fuel efficiency? The water-jet propulsion engines of PWC are actually very fuel efficient when compared to standard 2-cycle outboard motors therefore, less unburned gasoline enters the water from PWC. Older models of 2-cycle outboard motors (pre-1977) discharge an average of 10-27% of their fuel, unburned, into the water. However, the newer well-tuned 2-cycle outboards have been improved to the point where less than 1% of the

unburned fuel enters the water. Four-cycle outboard motors are even more fuel efficient because oil for engine lubrication is not mixed with the gasoline and is not burned.

Impacts on Aquatic Plants and Wildlife

The water-jet propulsion systems used by PWC are safer for swimmers and are less damaging to aquatic plants than propeller propulsion systems. Water-jet propulsion systems emit a powerful stream of water to create the force used to propel the PWC. The water-jet will not hurt swimmers or chop aquatic plants into pieces like a propeller can. However, direct damage to aquatic plant beds in ten feet of water has been caused by the propeller wash from large ski boat's during the initiation of water-skiing runs.

While the force created by the PWC jet stream may be able to dislodge and uproot plants in shallow areas, this may not be as great a problem because PWC have less thrust and less hull resistance. Also, fragments of aquatic plants tend to clog the water intakes of the water-jet propulsion system causing the PWC to lose power. Because the ride is over until the plant fragments are cleaned from the water intakes, most PWC operators stay in the open water of lakes and try to avoid shallow areas with dense growths of aquatic plants.

It has been proposed that turbulence caused by watercraft in shallow water may also influence fish nesting areas and could lead to increased mortality of the eggs and fry. This proposal has not been substantiated because no significant

Jet Skis continued on page 7.

Green Heron (*Butorides virescens*)

Featured Bird

The green heron is fairly common in small lakes, ponds, marshes, estuaries and wooded streams across much of North America. This bird is also known as the green-backed heron. The green heron is distributed throughout North America, Central America and the West Indies. There are two species of heron that resemble the green heron—the striated heron (*Butorides striata*) and the Galapagos heron (*Butorides sundevalli*). These two species have geographically distinct areas from the green heron. The striated heron is located in the sub-tropical regions of the Americas, Africa and Asia. The Galapagos heron is endemic to the Galapagos Islands located in the Pacific Ocean off of South America.

The green heron is a small, stocky wading bird that attains a height of about 16-18 inches with a wingspan of 25-27 inches. It has an overall dark appearance with blackish wings that have a greenish or bluish gloss. The neck is chestnut brown, the chin is white, and the under parts of the body are gray. This bird has a greenish black cap on the head and a crest that is not always visible. The green heron has a long dark pointed bill and eyes and legs that are either orange or yellow. Its neck is fairly long and is usually kept tucked in closely to its body. However, the green heron's neck and legs are relatively shorter when compared to other herons. The sexes are similar in appearance but the females are generally a little smaller and usually lighter in color.

This is a secretive bird and can be difficult to see. It often will not flush unless closely approached and then it will blast off with a loud, explosive squawking "skeow" and fly quickly to the nearest safe cover. In flight, this bird will resemble a crow but with slower, deeper wing beats. The green heron forages in swamps, along creeks

and streams, marshes, ponds, lake edges, salt marshes and pastures.

When hunting, the green heron crouches low and stands motionless near water waiting to ambush its prey. It grabs the prey with a sudden darting of the head and neck. Some favorite food items include small fish, insects, frogs, invertebrates, mollusks, small reptiles and sometimes mice. The green heron is one of the few birds known to use tools to aid its survival. It has been observed



dropping bait into the water to attract small fish which are then captured and eaten. Some of the baits used



include bread crusts, insects, twigs, feathers, worms and leaves.

The summer breeding range is from Canada through Central America while avoiding the higher, drier areas of the continent. They tend to be solitary birds and usually group in loose colonies only when nesting. The male green heron chooses a nesting site before selecting a mate. This monogamous bird breeds in swampy thickets and the male will defend his nesting territory both before and after mating with one female per season. He attracts a mate with his choice of nesting sites and an interesting courtship display where he erects his neck plumes, swells his throat and calls while hopping from foot to foot in front of the female!

Both the male and female help build a concealed nest out of sticks placed in a

small tree or shrub, usually over water. The female lays from 2-6 pale greenish to bluish-green eggs and both parents help incubate the eggs for about 3 weeks before they hatch. Long before they are able to fly, the young chicks quickly become expert climbers among the branches of the nesting tree. The chicks fledge in 3-4 weeks and the parents tend to the young for at least a month after they have left the nest.

As is typical of many herons, the green heron tends to wander after breeding season is over. While most of their wandering ends when they find suitable foraging areas, occasionally they will range farther and have been documented as far as England and France! The winter range is from the southern United States southward to the northern parts of South America. This species winters mostly in coastal areas and is especially fond of mangrove swamps.

This bird was observed by Florida LAKEWATCH bird survey volunteers in 46 of the 93 lakes participating in the surveys. The months with most sightings were May (20), June (23), July (26) and August (20). Fewer green herons were observed in the months of December (13), January (9) and February (10).

This species was documented in lakes of all trophic categories but 23 of the 46 lakes were classified as eutrophic or "well-nourished" lakes. These eutrophic lakes typically have more plants and food items and are considered more biologically productive. Therefore, you are more likely to see numerous green heron sighting on eutrophic lakes than on oligotrophic lakes.

Keep your eyes open for this interesting bird. If you don't see them, try paddling closer to shore or walk along the lakeside and you may be able to flush them from their hiding or ambush spots.

Volunteer Bulletin Board

Countless ways to use LAKEWATCH Data... 1 2 3 4 5

Scott Jackson with the Walton-Okaloosa Counties University of Florida IFAS Extension Service and Phillip Ellis with the Choctawhatchee Basin Alliance (CBA) started the process of developing lake management plans for Walton County's rare coastal dune lakes. Utilizing a process similar to the LAKEWATCH TEAM method for developing lake management plans, the first phase was completed in January 2006. At this meeting approximately 60 community participants discussed and identified important issues related to the coastal dune lakes of Walton County.

During April and May 2006, Scott and Phillip hosted community discussions for each individual lake. These discussions generated a list of prioritized projects to enhance the lakes. The LAKEWATCH data was a critical part of this phase as one of the most important issues was water quality. Many of the participants were interested in the current condition of each of the lakes. Because LAKEWATCH data exists on virtually every coastal dune lake in Walton County, information was readily available and was an integral part of the information presented. It was also recognized that volunteer sampling plays an important role in the sustainability of these unique natural resources. LAKEWATCH sampling allows CBA to monitor the lake for changes due to development, population growth and evaluate the success of any restoration projects.

The next step is to forward the ideas produced from these meetings to a technical committee. The technical committee will draft detailed language of the management proposal. The completed management proposal will be presented at a future community meeting for citizen discussion, modification and endorsement. Finalized management plans will then be presented to the Board of County Commissioners for their action and direction. These lake management plans will aid Walton County in future protection and restoration efforts.

For more information about the TEAM Process, check out a past issue of the LAKEWATCH Newsletter discussing the TEAM Process (Volume XIV at <http://lakewatch.ifas.ufl.edu/newslett.htm>). To view the list of issues from each community meeting and for more information about the coastal dune lakes management plan check out <http://walton.ifas.ufl.edu/cdlhome.htm>



This picture courtesy of Tracy Howell

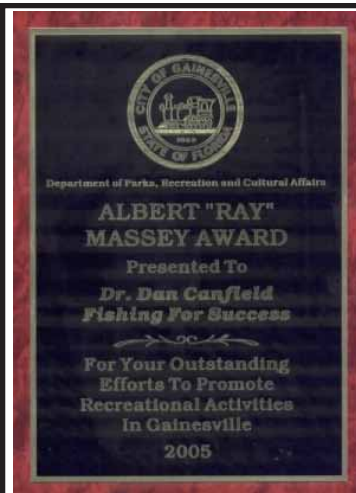
Eastern Lake, one of the coastal dune lakes located in Walton County, periodically breaks open to the gulf and allows saltwater to mix with freshwater.

http://walton.ifas.ufl.edu/CDLABPPP_Final_files/frame.htm

The Florida LAKEWATCH newsletter was once again recognized with a GOLD IMAGE award from the University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS).

The purpose of the IMAGE awards program is to recognize outstanding examples of marketing & communications projects and products enhancing the UF/IFAS image throughout the state.

Many thanks to our LAKEWATCH Staff for working hard to bring these products to you!



Fishing for Success (FFS), a multifaceted program that uses fishing and other related activities as the "hook" to introduce children of all ages to various aspects of fisheries and aquatic environmental sciences, continues to be recognized by community leaders.

On January 23, 2006, Dr. Dan Canfield, Director of Florida LAKEWATCH and FFS, received the **Albert "Ray" Massey Citizen Volunteer Award** for FFS from the City of Gainesville for 2005. Gainesville Mayor, Pegeen Hanrahan, even proclaimed January 23rd, 2006 as a day to honor FFS as a 2005 Albert "Ray" Massey Citizen Volunteer Program.

Congratulations Fishing For Success!

Alligators (*Alligator mississippiensis*) in Florida

Alligators have been in the news recently due to three recent fatalities resulting from alligator attacks. It is not believed that this is a trend of attacks, but a series of unfortunate tragedies. In the past 57 years there have been 391 alligator attacks that resulted in 17 fatalities, not including the three fatalities that are still under investigation. We have put together some information about alligators to help keep you safe during your summer activities.

Identification

Alligators and Crocodiles are known collectively as crocodylians. However, they are placed in different families based on physical features. The American Alligator is identified by its broad "U" shaped snout, blackish coloration and their upper jaw teeth are visible when the mouth is closed.



During the early 1900's in Florida, the alligator population declined because of the value of their hides. This decline in the population resulted in them being classified as an endangered species and consequently being completely protected by the Lacey Act in 1970. Then in 1973 when the Federal Endangered Species Act was created they were placed on this list for protection. Through this classification the alligator population began to rebound and in 1977 they were moved to the Threatened List. Through the management efforts of the Florida Fish and Wildlife Conservation Commission (FWC), the alligator population has become a success story and in Florida they are now on the Species of Special Concern List. This dual classification of Threatened and/or Species of

Special Concern allows the alligator to be hunted or removed with proper licenses and permits in order to regulate and manage the population.

Ecology

Alligators are found in all of Florida's 67 counties. They are found in fresh water lakes, rivers, swamps, wetlands and canals. They will also inhabit brackish water.

Alligators are opportunistic feeders, meaning they will eat what ever comes along if the circumstances are right. Juvenile alligators will eat insects, apple snails, amphibians and small fish. Adults have been found to consume fish,

crayfish, snakes, small mammals and birds.

Female alligators can reach as large as 9

feet and males have been recorded as large as 14 feet in length (state record is 14 feet 5/8 inch). Mating usually starts around May or June. After mating the female will lay approximately 32-46 eggs in a mound of soil, vegetation, and other debris. Incubation takes almost 60-65 days allowing hatchlings to emerge during August or September.

Control

Since the alligator's recovery and the increase in Florida's human population moving to water front property, there is an increased chance of alligator and human interaction. This being said the FWC reports the rate of human attacks has remained constant. This may in part be due to the success of the FWC's

"Nuisance-Alligator Control Program." The program was implemented in 1978 and has evolved through time. It receives approximately 15,000 alligator complaints annually. However, only about 5,000 alligators are removed each year. The program tries to bring a balance between alligator and human interaction through the removal of some alligators and education.

With the recent attacks, the Florida Fish and Wildlife Conservation Commission has been flooded with phone calls. One question that is being asked over and over is, are the recent fatalities due to mating season? The answer is probably not. It is probably a combination of events. As the weather warms alligators become more active and territorial. Their metabolism increases, so they eat more. Also, the alligator population has increased from approximately 300,000 (1970's) to around 1-2 million (2000's) and their habitat has decreased. Combine the increase in alligators, decrease in



habitat, and Florida's human population increasing around waterfront property, and tourists being attracted to

our state for water related recreation, you get the increased chance of an encounter between humans and alligators. If you encounter an alligator over 4 feet that poses a threat to you or your property please call 1-866-FWC-GATOR (392-4286). The FWC will evaluate your complaint and if necessary have the animal removed.

Safety Tips

- *Be aware of your surroundings, especially when you are recreating or working near fresh or brackish water.*
- *Always supervise children when they are playing in or around water.*

Alligators continued on page 8.

New Regulations on measuring Saltwater fish from the Florida Fish and Wildlife Conservation Commission—starting July 1, 2006.

It's an age old question for anglers, "how do I measure the fish I caught to make sure it's legal?" Now there's a simple way to know for sure. All freshwater fish, according to Bob Wattendorf of the Florida Fish and Wildlife Conservation Commission (FWC), should be measured using the "total length" method.

Total Length is the straight line distance from the most forward point of the head with the mouth closed to the farthest tip of the tail with the tail squeezed or compressed (top of the figure).

But what about saltwater fish—are they measured the same way as freshwater fish? Well, yes and no. There are two ways to measure saltwater fish. The first way is using the same method used by the freshwater anglers—the "total length" method. The other way is using the method called "fork length".

The "total length" method measures saltwater fish that have "flat" or irregularly shaped tails. The "total length" measurement is used to measure the snapper and grouper family, red and black drum, snook, spotted seatrout, weakfish, tripletail, bonefish, sheepshead, flounder and a variety of aquarium species (such as angelfish). For a picture of how to measure saltwater species using the "total length" method look at the figure to the left.

The second method is called the "fork length" method and it

is used to measure fish that have forked or angled tails. The "fork length" method should be used on amberjacks and rudderfish, hogfish, dolphin, cobia, mullet, bluefish, king and Spanish mackerel, permit, pompano and African pompano, and beginning July 1, gray trigger fish.

To address concerns that applying the "total length" method might affect the management of certain saltwater species, such as snook, the FWC has also proposed adjusting the snook slot limit by one inch on the lower and upper ends of the limit, moving from 26-34 inches to 27-35 inches total length.

"This will accommodate the slight increase in length some anglers might gain by squeezing the tail and actually result in about a four percent decrease in harvest from current levels," said Mark Robson, Director of FWC's Division of Marine Fisheries Management.

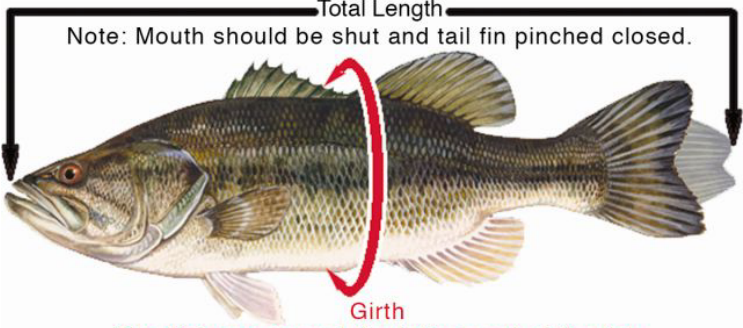
"By simplifying the way we measure saltwater fish in Florida and making the slot limit adjustment we are proposing for snook, anglers can expect uniformly enforced rules by officers in the field and a high compliance with important fisheries resource protection regulations," said Robson.

The FWC has an online site that explains the proper way to measure saltwater fish at <http://www.myfwc.com/marine/>

[Fishing_Measurement.htm](http://www.myfwc.com/marine/Fishing_Measurement.htm) and freshwater fish at <http://floridafisheries.com/Fishes/measure.html>. Then you'll always be sure that nice fish you hooked is a keeper—or not.

Total Length

Note: Mouth should be shut and tail fin pinched closed.



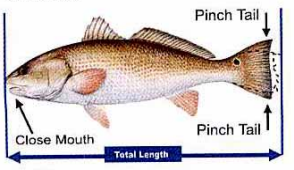
Girth
The distance around the fattest part of the fish

http://floridafisheries.com/Fishes/measure.html

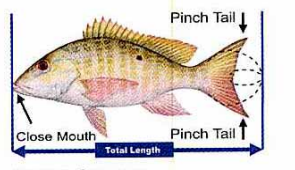
Freshwater fish are measured using the "total length" method depicted above. The total length is the maximum length of the fish, with the mouth closed and the tail fin pinched together.

Total Length

Total Length is measured from the most forward point of the head, with the mouth closed, to the farthest tip of the tail with the tail compressed or squeezed together, while the fish is lying on its side.



Red Drum




Mutton Snapper

Total Length Species Include:

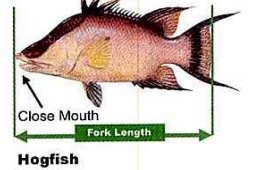
- Snapper Family
- Grouper Family
- Red Drum
- Black Drum
- Snook
- Spotted Seatrout
- Weakfish
- Tripletail
- Bonefish
- Sheepshead
- Flounder
- Several ornamentals (Angelfish, etc.,)

Fork Length

Fish regulated by fork length are measured from the tip of the jaw or tip of the snout with closed mouth to the center of the fork in the tail.



Spanish Mackerel



Hogfish

Fork Length Species Include:

- Amberjacks
- Rudderfish
- Hogfish
- Dolphin
- Cobia
- Mullet
- Bluefish
- King Mackerel
- Spanish Mackerel
- Permit
- Pompano
- African Pompano

Photo from http://www.myfwc.com/marine/Fishing_Measurement.htm

Saltwater fish are divided into two categories depending on the species. Fish that have "flat" or irregularly shaped tails are measured by "total length". Fish that have forked or angled tails are commonly measured by "fork length".

Jet Skis continued from page 2.

impacts on warm-water fish populations have been documented. However, noise and movement of powerboats may disturb bird populations, particularly in nesting areas or migratory bird resting areas.

It should be noted that any harassment of wildlife is illegal. Harassment is defined as "any action that may cause an animal to deviate from its normal behavior" and would include chasing wildlife, disturbing them with loud noises, or interrupting their feeding, nesting or resting behavior. Additionally, mammals such as manatees, otters, whales and sea lions can suffer injury as a result of impacts by boats traveling at high speeds. It is good practice and common sense to avoid areas of high animal populations.

Noise Pollution

In Florida, no vessel can be operated in such a manner so that it exceeds a maximum average sound level of 90 dBA at a distance of 50 feet from the vessel. A common complaint against PWC is that the noise created by these watercraft disturbs the peace and quiet of others using or relaxing by the lake. Noise has been defined as "unwanted sound" and is "an affliction suffered by those who have no part in creating it". PWC produce a high pitched, annoying, whining sound that undulates with different RPMs produced by the engine when performing certain maneuvers such as wave jumping. Frequent changes in loudness and pitch make the noise produced by PWC more disturbing than a constant noise level. One study also found that a constant sound at 90 dBA was found to be less disturbing than intermittent sound at 75 dBA.

Noise pollution is often exacerbated by groups of two or more PWC operators running together. Unlike most powerboats that are used to get from point A to B (except for possibly ski boats), PWC are often seen and heard zipping back and forth endlessly in the same general area or round and round in the same small area. This makes it difficult for PWC to co-exist with domestic tranquility. This is especially important because the number one lake use reported in the Lake User Survey (Figure 1) was to sit and enjoy a lake.

Safety Issues

According to the Coast Guard and state reports, the number of PWC-related fatalities has risen steadily from 5 deaths in 1987 to over 50 deaths in 1996. The Coast Guard also reported that in 1996, out of the 8005 recreational boating accidents recorded, some 2868 accidents involved PWC which, while accounting for only 7.5% of the state registered recreational boats, contributed to 36% of the accidents and 41% of the injuries. According to these statistics, safety issues involving PWC appear to be a legitimate concern. However, this may be more the fault of the PWC operator and not an inherent safety issue associated with the PWC itself. Inattention, inexperience and inappropriate speed were the most frequently cited causes contributing to PWC accidents and fatalities.

As of 1995, over 58,000 PWC were registered in Florida. In 1995, 503 accidents resulted in 12 fatalities (Florida DEP, Office of Waterway Management). It is important to remember that PWC activities are not covered under standard life insurance policies according to the Florida Insurance Commissioner's Office.

According to a spokesperson for the PWC industry, the increasing number of PWC accidents resulting in fatalities needs to be considered in relation to the increased number of PWC being used recreationally each year. In that context, while the total number of yearly fatalities may have increased over the years, the percentage of fatalities based on the total number of PWC users has decreased.

PWC users must obey all Florida State boating laws including but not limited to the following:

- Each person operating, riding on, or being towed behind a personal watercraft must wear an approved non-inflatable Type I, II, III, or V personal flotation device. Inflatable personal flotation devices are prohibited.
- The operator of a personal watercraft must attach the engine cutoff switch lanyard (if equipped by the manufacturer)

to his/her person, clothing, or PFD.

- PWC cannot operate from one-half hour after sunset to one-half hour before sunrise. However, an agent or employee of a fire or emergency rescue service is exempt from this subsection while performing official duties.
- Maneuvering a personal watercraft by weaving through congested vessel traffic, jumping the wake of another vessel unreasonably close or when visibility around the vessel is obstructed, or swerving at the last possible moment to avoid collision is classified as reckless operation of a vessel. Any person who violates this subsection shall be guilty of a first-degree misdemeanor.
- A person must be at least 14 years of age to operate a personal watercraft in this state. It is unlawful for the owner of any PWC or any person having charge over or control of a PWC to authorize or knowingly permit the same to be operated by a person under 14 years of age in violation of this section. Any person who violates this subsection shall be guilty of a second-degree misdemeanor.
- A person must be at least 18 years of age to rent a personal watercraft in this state.
- Anyone 21 years of age or younger, is required to either have successfully completed a National Association of State Boating Law Administrators (NASBLA) approved boating education course or have passed a course equivalency or temporary certificate examination and have in their possession a boating education ID card and a photo identification card before operating a vessel with a motor of 10 HP or more in Florida. Identification cards for persons completing the course or the equivalency exam are good for a lifetime. Temporary Certificate

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exams are made available to the public through contractors. The temporary certificate is valid for a period of 12 months from the issue date.

Common Sense and Courtesy

Learn the Rules and Obey the Law. PWC should be operated in a reasonable and prudent manner. This includes being aware of other boats in the operating area, awareness of environmental concerns and respecting the rights of shoreline property owners. PWC operators should not follow other boats closely and should not jump the wake of other boats. Never operate a PWC in a swimming area with bathers present. Enjoy responsibly!



Florida LAKEWATCH

This newsletter is generated by the Florida LAKEWATCH program, within UF/IFAS' Department of Fisheries and Aquatic Sciences. Support for the LAKEWATCH program is provided by the Florida Legislature, grants and donations. For more information about LAKEWATCH, to inquire about volunteer training sessions, or to submit materials for inclusion in this publication, write or call:

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Alligators continued from page 5.



- Do not swim outside of designated swim areas.
- Swim during the daylight hours. Alligators are more active at dawn & dusk.
- The state law prohibits the feeding, killing, molesting or possession of alligators without a permit. So, please leave them alone.
- Keep pets away from waters that are known to have alligators. Also, do not let pets swim in designated human swimming areas. This can attract alligators, because dogs resemble natural prey.
- Only observe alligators from a distance.
- If bitten by an alligator seek medical attention, immediately. Alligator bites in many cases result in serious infections.

All of the information in this article was taken from the FWC website. This information and more can be viewed at MyFWC.com.

Apple Snails in Florida

By Drs. Shirley Baker and Patrick Baker

The native Florida apple snail, *Pomacea paludosa* occurs in freshwater wetlands throughout peninsular and coastal Florida. It grows to about 65 mm (2.5 in, Figure 1), and grazes periphyton, or microorganisms growing on other objects or plants. It is probably best known as the primary prey of the endangered Everglades kite (*Rostrhamus sociabilis*). Eggs are white to slightly pinkish, relatively large (diameter about 3-6 mm or 1/8-1/4 in), and loosely packed together in a cluster of several dozen laid above the waterline (Figure 2).

The channeled or golden apple snail, *P. canaliculata**, has been introduced from South America to three states in the US: California, Arizona, and Hawaii. The nonindigenous snails found in Florida were originally identified as *P. canaliculata*, but recent genetic work suggests that the nonindigenous apple snail in Florida is *P. insularum**. The presence of nonindigenous apple snails is often first identified by the presence of egg masses. *P. insularum* lays tight clusters of several hundred small, bright pink eggs above the waterline on emergent vegetation, wood, and other objects (Figure 2). Adult snails may exceed 100 mm (4 in, Figure 1).

The nonindigenous channeled apple snail, *P. insularum*, was probably brought to Florida for human consumption or for the aquarium trade. By 1987, wild populations had been established, and it has since spread to 24 Florida counties. The spread of *P. insularum* in Florida is of concern. *P. insularum* consumes aquatic plants and therefore has the potential to significantly alter freshwater ecosystems – such as turning macrophyte-dominated communities into phytoplankton-dominated communities. In addition, both *P. canaliculata* and *P. insularum* are important pests in wetland agriculture, including rice and taro.

You can help in controlling the spread of these nonindigenous snails.

- Do not release aquarium animals into natural water bodies.
- Do not move snails from one water body to another.
- Adult snails and egg clusters can be removed by hand from your lake – just be sure to leave the native snails and their eggs!

*The common name of channeled or golden apple snail is used for both exotic species mentioned in this article because there is not yet a recognized common name for *P. insularum*.



Figure 1. On the left is the exotic apple snail which can exceed 100 mm (4 in) in size and on the right is the native apple snail which grows to about 65 mm (2.5 in) in size.

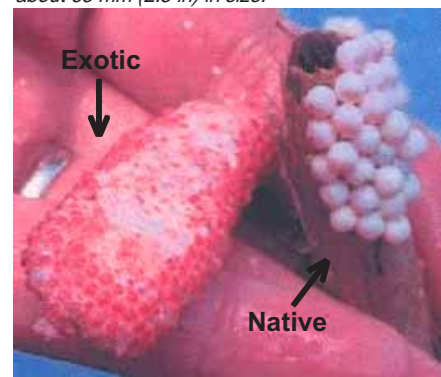


Figure 2. Channeled apple snail egg mass is pictured on left. It contains hundreds of small, tightly packed, bright pink eggs. The native apple snail egg mass is pictured on the right. It contains several dozen, loosely packed, relatively large white to slightly pinkish eggs.

Photos from Bear Lake Preservation Association Newsletter.