#### **WINTER 2014**



## AquaticsinBrief

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A Full Service Lake, Pond, and Fisheries Management Company

## Creating A Successful Trophy Fishery

#### By Aaron Cushing and David Beasley, Fisheries Biologists

e recently began working on another fun and exciting fisheries management project, creating a trophy fishery from start to finish in West Virginia. To take advantage of this and other unique opportunities, we decided to share our stories and photos with you through a progression of blogs as part of our FISHERIES FRIDAY series. We welcome you to follow our journeys as we create amazing opportunities for trophy fisheries throughout the Eastern US.

This particular West Virginia landowner's goals included combining multiple smaller ponds with the main lake to create a new 15 acre lake designed to support a trophy fishery with largemouth bass, tiger muskie (a sterile cross between northern pike and muskellunge) and hybrid striped bass (a sterile cross between a white bass and striped bass).

A lot of careful planning and several stages

of vital fisheries management techniques are needed for creating any successful trophy fishery.

A lot of careful planning and several stages of vital fisheries management techniques are needed for creating any successful trophy fishery.

This project began with an initial electrofishing study of the original main lake. Electrofishing is key to determining current population dynamics and provides important species and size data that will greatly influence fisheries management strategies.

Following the analysis of the initial fish population, the owner of the property decided to have us return and continue to *Continued on page 2* 

## Creating A Successful Trophy Fishery Continued from front cover

electrofish and remove most of the old, small, and unwanted fish. We then drained the main lake and all the ponds to ensure a complete reset. This allowed us to start over and set the stage for rapid fish growth in the new lake. Starting over is the single most significant step taken towards trophy fish management. Resetting the lake will actually cost less and take less time than fixing an older fishery, and the result is a much younger population of quality fish.

Following the draining of all of the ponds, the physical characteristics and contour of the new lake were shaped to favor the new fishery and more steps were taken to prepare and improve the 15 acre water body. The new expanded portions of the lake will be shallower, providing areas preferred by largemouth bass and tiger muskie, with several deeper open areas favored by the hybrid striped bass.

As the construction phase continued, assembly and installation of fish structure began. Modern man-made fish attractors were used for cover because of their long lasting life underwater. Units were first installed in areas of the main lake where their tops would be just below the surface.

Once the open-water

structures were in place, shallow water fish structure was installed and placed in dense groups around the perimeter, creating a safe haven for forage fish. Next, several large gravel spawning beds were created in shallow areas around the shoreline designed for bluegill reproduction. These spawning areas are critical as young bluegill will be the lakes' primary forage fish. In addition to gravel, a great deal of limestone sand was placed throughout the lake bottom to improve the alkalinity and future water quality.

Before the new lake began filling with water, several directional fish feeders were assembled and installed around the perimeter. Using automatic feeders filled with pellet feed is an ideal method to feed many species of forage fish such as bluegill, golden shiners, and fathead minnows.

About a month after the habitat installation was completed and the smaller ponds were connected to the main lake, the new 15 acre water body was filled with water and was finally ready for fish stocking!

To give them time to establish in the lake, the forage species were added first and included large numbers of fathead minnows,



muskie and hybrid striped bass will get?! We invite you to track the progress of this, and other exciting projects, by subscribing to and following our blog. www.solitudelakemanagement.com/ blog

golden shiners and juvenile bluegill. All of these species will feed on the pellet fish food and will serve as the foundation of the fisheries forage base.

Late in the fall season, juvenile tiger muskies were stocked. Every tiger muskie was first weighed, measured, and tagged with a unique ID number. This will allow our fisheries biologists, and any fishermen, to record their lengths when recaptured. The data recorded allows for growth rate and population survival estimates.

After a six-month timeframe, the foundation work for this new trophy fishery is now complete. Throughout the next year, the lake will continue to be transformed into an incredible fishery. Some of the tasks that will be carried out in 2014 will include monitoring water quality, installing aeration and beneficial vegetation, electrofishing, implementing a fertilizing program, stocking additional forage fish, stocking the remaining predators, and building docks, bridges and a boat house. The largemouth bass will be the last fish species to be added to the lake next fall to allow the tiger muskie to become large enough to avoid predation.

Can you guess how big these largemouth bass, tiger

## What are Those Furry Creatures in My Pond?

#### By J. Wesley Allen, Environmental Scientist

he Muskrat (Ondatra zibethicus) and North American Beaver (Castor canadensis) have adapted to the increasing number of stormwater ponds and facilities, and can cause huge headaches if not recognized and controlled.

Muskrats are small dark brown to black aquatic rodents (16-24 in., 1.3-4.4 lbs.) that live in ponds and wetlands throughout most of the United States and Canada, feeding on the aquatic vegetation found there. Muskrats are prolific breeders and can have two to three litters of up to eight young per litter every year. Muskrats were once trapped extensively for their fur, but reduction of trapping and predator numbers have allowed muskrat populations to remain strong, even with the loss of wetland habitat.

The muskrat has moved into many stormwater ponds, wetlands, and facilities. They can seriously damage these areas by burrowing into embankments, leading to massive erosion and even pond/facility failure. They can also eat installed and beneficial wetland plants. Because they breed prolifically, the population can quickly become destructive. Although you may not see muskrats, as they are active mainly at dawn or dusk, burrows in the embankment near the water and disappearing aquatic vegetation are indicators of their presence. There are very few preventative measures to keep muskrats from your pond, but keeping cattail populations under control can reduce the risk. Trapping is the best method to control muskrat populations once they are established in your pond.

Beavers are the largest rodent in North America, and are found throughout the continent (25-35 in., average 44 lbs.). They were once almost trapped into extinction. Conservation efforts and the collapse of the fur market have seen their populations rebound. Beavers are prolific dam and lodge builders. The ponds they create give them access to the leaves, buds, and inner bark that is their food source.

Beaver activity in stormwater ponds and drainage areas cause costly damage. Beavers block outfall areas leading to reduced drainage and flooding problems. Beavers can also burrow into embankments that can cause erosion and failure of stormwater facilities. Beavers are nocturnal and often out of site, but fallen trees near your pond are a sure sign beavers are active in the area. Keeping woody vegetation from growing on the embankment or in the facility can reduce the risk of beavers. Trees can also be protected with wire fencing or a mixture of latex paint and sand. Once beavers are in your pond, trapping is often the best method to remove them.

Regulations on trapping vary from state to state. If you think you have a muskrat or beaver problem, your lake and pond professional can work with you, your community, or your client's community to develop the correct management plan for these remarkably adaptable creatures.

## Turf Practices & Your Pond

#### By Dave Ellison, Aquatic Biologist

andscaping practices often cause significant impacts on the water quality and algae and aquatic weed growth within a pond. Buffer management, debris falling into the pond, and poorly managed fertilizer applications are some of the practices that attribute to problems in ponds. Excessive application of fertilizer will allow for more nutrients to enter the pond, creating a source of food for algae to grow.

The Chesapeake Bay Watershed is greatly impacted by inflow from the developed and agricultural areas surrounding the waters. Algae growth in stormwater ponds in urban areas and in the Chesapeake Bay are often directly correlated with high nutrient levels in the waters. Many lawn care practices can contribute to phosphorous and nitrogen loading in the local watershed.

When applying fertilizer this year, you should make sure it is done responsibly to ensure that the product is utilized by the grass and not washed away. One of the first things that you should do is read the label on the product you are applying. The first of the three numbers lists the amount of nitrogen in the bag, the second is the amount of phosphorous, and the third lists the amount of potassium. A soil test at your local agricultural extension office can be performed to determine what fertilizer will work best for your lawn. Phosphorous-free fertilizers work well on most lawns. Phosphorous is often the growth limiting nutrient for algae in ponds and lakes and when lower amounts of phosphorous are present, algae typically has a difficult time growing.

At one time, our industry promoted limiting the number of times you fertilize your lawn to avoid excess nutrients from getting into the watershed, but the EPA recently conducted a study showing that it is good to fertilizer your lawns with multiple, small dose applications performed in the growing season. Thick, plush turfgrass, versus bare, eroded areas, will actually hold in nutrients and keep them from easily running off into to your pond during the next rain storm. Well established lawns will likely have a healthier root system and can easily uptake fertilizer and available nutrients. Lawn aeration will increase soil uptake and can help create a healthier looking lawn.

Use the right equipment to apply fertilizer at the right rate, based on the soil test results. A Chesapeake Bay Nutrient Management report recommends not applying fertilizer within 15 to 20 feet of a water body. One of the most important things to remember is to prevent spills and overspreading of the product into drains or ditches that flow into ponds. Runoff is a major source of nutrient input for ponds and the added input from fertilizer will further degrade the water quality in your pond.

Also, when maintaining your lawn and garden, keep grass clippings and other debris from entering the nearby waterbody. This will also add extra nutrients to the pond, causing nuisance algae and aquatic weed growth. Responsible lawn practices are not only beneficial for your lawn, but also will prevent long term pond problems.

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## Being Part of The SOLution

elping others is contagious! If you haven't already joined us in our efforts to create a better world, we invite you to do so through The SOLution. Throughout the year, our team and partners donate time and resources to benefit a variety of non-profit organizations and under resourced families in the communities we serve. Whether you follow us on our social media pages, where we pledge to donate to a great cause on your behalf, join us at the Foodbank, meet up at a local park for a creek cleanup, or inform us about a non-profit's lake or pond that is in need of our donated services, we welcome you to join us in the excitement! Call or message us at www.solitudelakemanagement.com/contact



#### Making "A Splash" in 2013

The SOLution was a HUGE success again this year! Here is a brief look at some of our achievements and the impact we had on our local communities in 2013:

#### **Company SOLutions**

Although geographically we have a large footprint, we are still a local company with a lot of local ties. Each office plans team volunteering events several times a year, in addition to each employee's personal volunteering passions:

- The Foodbank's Backpack Program
- Food for Others, Power Pack Program (P3)
- Fishing Tournaments and Outdoor Kids' Events
- River and Creek Clean Ups
- Lake Restorations for Kids' Camps and non-profits
- Dog Adoption Events
- And so much more!





#### Little GOBBLERS

Our Little GOB-BLERS program helps school age children, in the markets we serve, bring home a Thanksgiving turkey or grocery store gift card to purchase needed food supplies. This year, the program grew 120% in the number of families supported and 100% in number of the schools who re-

schools who received turkeys or gift cards. The 10 elementary and middle schools located in Virginia

> Beach, Norfolk, Newport News, Fredericksburg and Charlottesville, VA, Raleigh, NC, Lincoln, DE and West Grove, PA all identified a need within their schools and 137 families were extremely grateful for SOLitude's assistance this time of the year.



# TING

HOLiday Cheer Through our social

media fans and B-Strong Foundation we donated \$10 in games, for every new social media follower from Nov 1 through Dec 10, and made a large donation to the children who spent



their holiday on the oncology floor of The Children's Hospital in Philadelphia. We also "adopted" three under resourced families, one in Charlottesville, VA, one in Chesapeake, VA and the other in West Grove, PA, who were going through really tough times in 2013. Our company and employees donated a large assortment of wish list gifts to the families to help bring them much needed HOLiday Cheer.

#### Recycling

Each office takes the time to clean out, shred, and recycle plastic pesticide containers throughout the year. We care about our environment and keeping these bulky containers and other recyclable items from filling up our landfills!

#### The SOLution Stats for 2013:

Dollars Donated: \$21,540 (\$16,500 in 2012) Hours Volunteered: 798 (350 hours in 2012) Under Resourced Families Helped: Over 2,225 Plastic Pesticide Containers Recycled: 5,770 Recycled Cardboard, Plastics & Paper: 15,960 lbs. Good Feelings Created: Immeasurable! A special thank you to our dedicated partners and staff who support The SOLution and our ongoing initiatives to help create a better world!



www.solitudelakemanagement.com/solution www.solitudelakemanagement.com/community

In each issue, staff members from SOLitude are highlighted. It is our pleasure to introduce the incredibly talented members of our team and give you insight into the vast array of knowledge and experience they offer. In each issue, staff members from SOLitude are highlighted. It is our you insight into the vast array of knowledge and experience they offer.

Becky Higgerson manages field service operations, vendor relations, purchasing and procurement for SOLitude Lake Management. Her 25 years of leadership experience managing both people and processes are instrumental to her new role. Prior to joining the SOLitude team, Becky built and managed a purchasing team of 18 people and managed \$1.3 billion in purchases a year for a large company that provided tactical equipment, services, procurement, and support solutions to governmental



Becky Higgerson, Service & Inventory Manager

organizations. She was instrumental in developing systems and processes that delivered better results to customers. Becky is a graduate of Old Dominion University in Norfolk, Virginia and holds a degree in business administration with a concentration in finance.

"Becky's ability to align a system or process with our ultimate focus on superior customer service and satisfaction will be an enormous asset to both our company and our customers," said Kevin Tucker, president. "We are privileged and happy to have Becky join our team."

Becky and her husband, Chris, love spending time with their 14 nieces and nephews. Their Norfolk terrier, Rugby, is their kid, so he certainly gets plenty of their attention, too! Becky loves the outdoors and stays active by running 3 miles almost every day of the week, as well as stand up paddleboarding, biking, walking and flying with Chris.

Shawnda Copeland brings over 15 years of customer service and administrative experience to the team. She spent most of her career in the gear manufacturing industry working for mG miniGears. She then changed career paths and spent six years with the local real estate multiple listing giant, REIN. Shawnda holds an Associate's Degree in Business Administration from American Intercontinental University (AIU). At SOLitude Lake Management, Shawnda works closely with the sales and customer service staff



Shawnda Copeland, **Customer Service** 

handling the day-to-day interaction with clients.

Shawnda enjoys the challenges that come with learning a new industry, especially having to pick up on the new terminology, quickly. Go ahead, ask her what "rip rap" is! Through her extensive training, Shawnda learned all about aeration and everything that is required to keep lakes and ponds flowing like a well-oiled machine (now that's a term she certainly understands!)

When asked to share some interesting facts about herself that many people don't know, she replied, "Many people don't know what a wide variety of musical tastes I have. I enjoy everything from Hip-Hop to Classical. It just depends on the day and how the wind blows. I enjoy politics and during election season, I spend some of my free time working in my candidate of choice's campaign office. I love to read, horseback ride and I am that loud mom on the sidelines at the football games cheering on my son at Bayside High School in Virginia Beach."

#### Volunteer of the Quarter:

#### **Congratulations to our Volunteer of** the Third Quarter, Lisa Richards!

Our Fisheries and Wildlife Biologist has certainly shown her love of the environment and all of its creatures. Not only has Lisa been a staple at all Northern VA team volunteering activities, she also



found a passion of her own to nurture. In 2013, Lisa trained to be a volunteer at The Raptor Conservancy of Virginia in Falls Church, VA. This organization is dedicated to the rehabilitation and release of injured, ill or orphaned native Virginia birds of prey and is committed to educating the public. Lisa's volunteerism includes cleaning cages, preparing food, taking the birds out for exercise and sun and most importantly, conditioning them to fly once they are released back into the wild.

#### **Congratulations to our Volunteer of** the Fourth Quarter, Shannon Junior!

Shannon Junior volunteered at her local animal shelter almost every weekend in the fourth quarter of 2013 and helped find dogs, like Gabe and Valerie, the perfect new families to love and care for them. She also continued creating and selling tie dyed



t-shirts and doggy bandanas, where 100 percent of the profits go directly to the Madison County Animal Shelter.

In addition to her personal passion for finding dogs and cats their forever homes, Shannon had an integral role in getting her team involved with Food For Others, the largest direct food distribution network in Northern Virginia, providing supplemental food for thousands of food-insecure families. The Northern Virginia SOLitude team was so inspired from their afternoon spent assembling Power Packs of food for less fortunate school-aged children, that Shannon is coordinating monthly team volunteer events with Food for Others in 2014.

## A Picture Perfect Pond In A Pinch

By Shannon Junior, Aquatic Ecologist and Preferred Applicator of the Year

OLitude works with a privately owned pond in a Purcellville, Virginia community that has several other privately owned ponds, as well as a large lake that is commonly owned by the Property Owners' Association. Unfortunately, all of the water bodies in the community have experienced severe blooms of watermeal and various other species of nuisance vegetation each year. Although many of the residents treat their own ponds on an annual basis, the community does not maintain the lake. Because there are numerous swans and other waterfowl that move between the water bodies, there is the constant problem of reintroduction of watermeal to the treated ponds.

SOLitude has treated this particular privately owned pond for watermeal every year for the last four years. The pond is 1.5 acres with a 6-foot average depth and moderate flow. During wet years, we have struggled to maintain an adequate concentration of herbicides in the water column, but have generally achieved good control by mid-summer. Early in the summer of 2013, it appeared 
 Before



Shannon Junior's successful series of treatments of this privately owned pond in Purcellville, VA earned one of her three SePRO "Seeing Is Believing" Awards

that we may have finally won the long-term battle since the pond was still clear of watermeal in mid-July. However, algae and brittle naiad began to take over the pond in late July. The client initially opted not to treat, but then changed his mind when the watermeal began to appear a couple of weeks later.

By the time we were hired to perform the treatment in early August, the pond was 100 percent covered with a combination of watermeal, algae, and brittle naiad. The client requested that his pond be clear of vegetation in time for his annual Labor Day Picnic on September 2. The extensive coverage by vegetation and the lack of aeration made the use of a fast-acting herbicide too risky due to dissolved oxygen concerns; therefore, a slowacting systemic was selected. The pond was treated on August 12 and was rechecked on August 24. There was already a remarkable improvement in the appearance of the pond. The watermeal was mostly bleached and the coverage was reduced, and the brittle naiad had dropped down from the surface and exhibited extensive chlorosis.

We followed up with a bump application of the systemic herbicide on August 29. By the time of the party on September 2, the brittle naiad was not visible from the surface and the watermeal coverage was less than 10 percent. The pond was completely clear of the vegetation by September 17 and was "picture perfect." The client was very happy with the results, but promised to let us treat earlier in 2014! As always, we recommend that

our clients implement SOLitude's

Annual Advantage Program, which provides ongoing proactive, preventive care for aquatic resources. Instead of just treating the surface symptoms once a problem reveals itself, we develop a proactive plan to help restore balance and prevent long-term challenges from ever becoming an issue in the first place. We take all of the guesswork and risk out of the process, and provide cost-effective strategies to help prevent big expenses (like dredging and management of recurring algae blooms) by maintaining ecological balance all year round.

## Seeing Is Believing with SePRO

Congratulations to Kyle Finerfrock, Shannon Junior, Brad Harris, Lisa Richards, David Riedl, Brent Weber, Greg Blackham and Gavin Ferris, for their combined 14 "Seeing Is Believing" Awards in 2013. At their annual Preferred Applicator Seminar, SePRO recognized SOLitude's experts for their successful "Before and After" treatment photos and case study submissions. Our clients certainly have some amazing looking ponds after a little SOLitude TLC (with the help of our valued partner's superior and environmentally conscious aquatic products, of course!).



## Congratulations, Shannon Junior, Preferred Applicator of the Year

ePRO, an industry leader in the development and manufacturing of environmentally responsible solutions for aquatic plant management,

recognizes one person, throughout the nation, as Preferred Applicator of the Year. This prestigious award recognizes an individual who shows leadership in advancing the science of aquatic plant management, has demonstrated environmental and product stewardship throughout their career, continues to express a high level of professionalism in aquatic plant management, and has a drive to expand their knowledge of aquatic plant management.



Shannon received her award from Bill Culpepper (left), President and CEO of SePRO Corporation and Sam Barrick, Executive Director of SePRO's Aquatics Business Unit, at the Preferred Applicator Seminar in Whitakers, North Carolina.

Shannon Junior, Aquatic Ecologist *Whitakers, North Carolina.* and Regional Manager at SOLitude Lake Management, has 14 years of aquatic plant management and treatment experience and is a licensed applicator in eight states. Throughout her career, Shannon has been instrumental in providing aquatic plant management education to her peers and clients as well as using her experiences and expertise to better the industry. In addition to working with the Virginia Department of Agriculture and Consumer Services to set up a pesticide container recycling program for her own office, she also served on the Technical Advisory Committee (TAC) to the Virginia Department of Environmental Quality for the creation of the National Pollutant Discharge Elimination System (NPDES) permit for aquatic pesticide applications.

## SOLitude Named One of the Fastest Growing Companies in Hampton Roads

OLitude Lake Management was named to Inside Business' 2013 Roaring 20 list. Inside Business, the business journal of Hampton Roads, VA, honors only twenty businesses in southeastern Virginia who exhibit revenue and employee growth as well as make significant contributions to the local economy. SOLitude has expanded its team from 14 employees in 2010 to 22 employees in 2012, is now at 26 employees and continuing to grow in all of the markets they serve.



Tracy King, Director of Marketing, and Kevin Tucker, President and Founder of SOLitude, accepted the award from Barb Smith, Cherry Bekaert, LLP and Ed Power, Publisher of Inside Business

SOLitude continues to hire the best people and only uses the latest and greatest technology, equipment and products, so that they can give each of their clients, and their clients' lakes and ponds, the special attention and utmost care they deserve.

## Check Us Out...

OLitude Lake Management will be participating in the following events over the coming months. We encourage you to come see us! If you need information on attending any of these events, please call our office at 888-480-LAKE (5253).

#### January 17-19

**Richmond Bass and Saltwater Fishing Expo** Meadow Event Park, State Fairgrounds of Virginia, Doswell, VA

#### January 21-23

15th Annual Northeast Aquatic Plant Management Society Conference Water's Edge Resort, Westbrook, CT

#### **January 28-29**

54rd Annual Turf and Landscape Conference and Trade Show Fredericksburg Expo Center, Fredericksburg, VA

#### March 8

28th Annual Southeastern Virginia Chapter of Community Associations Institute's Annual Community Associations Day Virginia Beach Convention Center, Virginia Beach, VA

#### March 9-11

Virginia Lakes and Watersheds Association (VLWA) Virginia Water Conference Doubletree by Hilton, Richmond, VA



Kimberly Niesel, Director of Business Development and Client Relations, earned the "Past Presidents Award" for the Central VA Chapter of Community Association's Institute (CAI). The organization recognizes one of the Chapter's past presidents who continues to volunteer their time and efforts in support of the Chapter's goals. Kim is the Chairperson for the Va Leadership Retreat, sits on both the social and newsletter committees and also helped out at this year's golf tournament. Congrats, Kim!



## Want helpful pond and fisheries management tips all of the time?



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### Ponder These Thoughts

OLitude Lake Management wants to be certain that your pond is prepared for 2014. With this in mind, we recommend that you consider the following during the winter months:

- Evaluate your pond and determine if you need to add aeration to meet your management goals and objectives for 2014, and don't forget to schedule annual maintenance and service for your current fountains and aeration systems this winter.
- Consider installing a Sonic Solutions algae control device prior to spring to help prevent the onset of algae blooms as the weather warms.
- If you have not been maintaining the vegetative buffer along the shoreline and the sloped areas adjacent to your pond, schedule thinning of the vegetation in these areas.

- Failure of your stormwater pond is never an option. A structural inspection can ensure your pond is functioning properly.
- Review your lake/pond budget and Replacement Reserve funds to ensure that funds are available for bathymetry to determine if and when you will have a need for dredging.
- Think ahead to spring and pesky mosquitoes! Keep them at bay by stocking minnows in your pond.
- Consult with a Fisheries Biologist to set the ground work for an annual youth fishing tournament or environmental education day.
- Most importantly, implement a sustainable annual maintenance program for your lake or pond.





Vertex Water Features





