STORMWATER COMMITTEE MEETING
JULY 21, 2015 ◆ 5:00 o'clock p.m.
Surfside Beach Town Council Chambers

1. CALL TO ORDER.

Chairman Elliott called the meeting to order at 5:00 o'clock p.m. Members present: Chairman Elliott, Vice-Chairman Mabry, and members Beck, Crouch, and Mull. A quorum was present. Others present: Dr. Susan Libes, Waccamaw Education Consortium; Clemson University Extension Natural Resource Agent Ben Powell; DDC Engineer Eric Sanford; Town Clerk Herrmann, and Public Works Director Adair.

2. PLEDGE OF ALLEGIANCE.

Chairman Elliott led the Pledge of Allegiance.

3. AGENDA APPROVAL.

Mr. Crouch moved to approve the agenda as presented. Mr. Mabry seconded. All voted in favor. **MOTION CARRIED.**

4. MINUTES APPROVAL.

Ms. Mull moved to approve the minutes of the April 29, 2015 meeting as submitted. Mr. Mabry seconded. All voted in favor. **MOTION CARRIED.**

5. PUBLIC COMMENTS – Agenda Items.

Ms. Kay S. Holmes, 6th Avenue North, had questions about the lack of water flowing the stream that ran past her house that previously had a very healthy flow. She spoke on behalf of her neighbor also who wanted to ask why the weir was installed at 7th Avenue; why change the natural water flow; were drought conditions considered when the weirs were installed, and is there a different process or management of the weirs. The stream previously had abundant wild and plant life. Now they are infested with mosquitoes and snakes. When she built her house in 1968 there was nothing but woods and very deep flowing water. Prior to the weir installation, of which they were not notified, the stream was regularly cleaned by Templeton and Joe who did an excellent job. Since then there has been no water flow except during the three days a month when the weir is opened.

Mr. Ken Laukhuff, 7th Avenue North, said his property was bought in 1988. The same stream that Ms. Holmes spoke about runs along his property. It was a free flowing stream with plenty of wildlife. There were no mosquitoes or snakes like they have now. He never had to call the town to have the stream cleaned. Now, the growth gets so thick it stops the water flow. It is not a ditch; it is a flowing stream with little fish and other wildlife. It was so deep that swans actually swam it to pass between lakes. [Since the weirs were installed] there is no wildlife and he has not seen any swans. He understand the purpose was to raise the lake level, but the stream was healthy until the weirs were installed. He showed photos to the members.

6. WORKSHOP.

Chairman Elliott opened the workshop at 5:06 p.m. and invited former mayor and former stormwater committee chairman Allen Deaton to speak.

Mr. Deaton distributed several photographs to the members, copies of which are attached to these minutes. He gave a brief history of stormwater committee, its purpose, and charge. This committee was created pursuant to the Federal 1995 Clean Water Act. It was an unfunded mandate to meet certain water quality standards; it was not designed to manage moving water. The council decided at that time to correct all of the town's stormwater problems basin-by-basin. Corrections were made at

the south end and were done in succession to the north side of town. In 14-years the only problem was in 2006 due to a natural drought. Mr. Deaton said the photo of Dogwood Lake that looks like snow is on the water was taken in 2006. It was a natural occurrence during a drought that caused an algae bloom. The water was so low that you could almost walk across the lake. The weir as it existed at time is shown in that photo. The bottom picture on that page shows the flood gate that was designed for a 25-, 50-, or 100-year storm that would have 12-inches of rain in a few hours, but has been replaced. The gates were designed to be opened from the bottom. The town faces a similar problem now, but it was a man-made occurrence. The town tests for bacteria, but the Clean Water Act was concerned about heavy metals, pesticides, fertilizers, etc. that go down to the sediment and become toxic. The town created an erosion problem by dropping the water levels. The county and the town have spent millions of dollars to install bulkheads. The town and county entered a contract for the town to take more water from Deerfield and Caropines. The contract included a cost share arrangement for maintenance of 70-percent to be paid by the county and 30-percent to be paid by the town. Several bulkheads were installed in Lake Elizabeth and Dogwood Lake after drainage studies were completed. Some of the bulkheads are in better shape than others. Filtration was key and lowering the lake level lost filtration. He believed this problem resulted from two property owners complaining that their wetlands were being flooded by the lake. Wetlands work like a sponge. The problem was created by building on known wetlands. The four lots were offered to the town by the Presbyterian Church for $10,000, but the town chose not to purchase them even though he recommended that the town purchase them and create a wetland park. The problem has a very easy fix: close the flood gate, which will prevent algae growing as shown in the picture. The photograph of the weir construction shows the actual lake level and the water behind the weir. Lowering the water level reversed the water flow and stagnated the lake. Mr. Deaton spoke with Mr. Adair and told him that the water was stagnated and there would be an oxygen drop, and "sure enough, we had a fish kill." This happed on the other side of the aerator, so there are serious manmade problems. Mr. Deaton spoke for several more minutes giving his opinion of how and why events occurred and should be corrected.

Mr. Adair introduced himself, Eric Sanford, DDC Engineers, who did modeling and surveying work to arrive at a solution to the problems, and Ben Powell, Clemson University Extension, who will discuss wetlands functions. Mr. Adair said he was hired in 2010. Just about from his hire date, he heard complaints from that entire area about no water flow in the stream running between 7th and 5th Avenues, Palmetto Lake being stagnant, and from residents on all parts Dogwood Lake about high water levels. He never made the connection, and handled the complaints individually. Algae treatments were done; ditches were cleaned, and problems were addressed as they were received. It took several years to realize that there was a connection to all the complaints. The town worked on Myrtle Basin, just south of the Dogwood Basin, during 2005 through 2007. There was too much water in the Myrtle Basin; it did not have sufficient storage to handle the water passing through. Myrtle Lake is just over 1 acre. The objects discussed with Earthworks Engineers were to create more storage, and to move water out of the system that was coming into the system. The proposal was to put a weir at 7th Avenue North to keep the Dogwood water in the Dogwood side to prevent silting up the Myrtle Lake system. The historical minutes document that. (Copies were distributed to members.) Mr. Strickland told Mr. Adair that the object was to keep the siltation from entering Myrtle Lake from the Dogwood system. There are about 20 acres of lake in Dogwood and Elizabeth Lakes. None of that water went over the weir at Dogwood Drive. It was all passing through Palmetto Lake to the Myrtle system. Mr. Adair showed the members how the water travelled on a map. All the actions taken were properly voted on and were included in the construction project. He read from minutes, "It is recommended to install an adjustable outfall structure at this location keeping Dogwood Lake high enough to be able to force water over the weir at Dogwood, which is at 7.1 feet, but by putting the structure at 7th Avenue at 8 feet." The motion was made, seconded, and included in the bid package.

Mr. Adair thought what was not considered at the time after he thought about all the complaints was that was why the stream dried up, and there was no wildlife. The plate at 7th Avenue North was even higher than the water level, so no water at all was going down towards Myrtle Lake, which is why that lake stagnated. Palmetto Lake stagnated just as Mr. Hopkins, a former stormwater committee member, predicted during a meeting when the plan was presented, because there would be no water pushing through the lake. Complaints were received about Dogwood Lake being inundated with water. Three

owners installed new bulkheads at their own expense at the west side of the lake. The previously existing bulkheads were over-topped by the water. The wetlands on the north side of Dogwood Lake were inundated at the same time. Water had advanced into the property in some cases as much as 100-feet from previous shorelines, because the area is so flat. The matter was discussed at no less than six council meetings during 2014. The engineer was hired to model the area; determine the elevations, and a decision was made to back the water off those properties. The spill gates at Dogwood Lake were "all or nothing" hatches; they were either opened or closed all the way. There was no partial opening, so they were replaced with an adjustable board system. The level at 7th Avenue weir was lowered to just an inch or two below that so there would be water flow going both directions and keep the water fresh.

Mr. Sanford said the new weir was put at basically the same elevation of the old weir. His survey showed the weir was at 29, which is a foot lower than in 1988. All the flow out of the Dogwood Lake was set to flow through Myrtle and out to the ocean. The weir was about 1.5-feet higher than the pipes alongside the back, so any flow that came in to Elizabeth and Dogwood would go to the south, through the Myrtle system. In 2007, a weir was put at 7th Avenue. When it was raised, it removed the storage element. The weir at Dogwood was not designed to send everything over the weir; it was designed to send all the water south. This kept any tidal water from backing up into Dogwood Lake. The weir at Myrtle is set at about 3.5-feet. Basically, there is about a two foot difference between the two lakes elevation. Naturally, water would flow downhill. He presented a map and explained the weir locations; elevations, and how the water traveled between the two systems. The weirs at 7th and Dogwood are basically the same height, which caused the basin to fill. The county did not like that, because there was no storage in the event of a major storm event. Elevations were taken from Mrs. Abrams's property where there are wetlands all the way down to Myrtle Lake. The elevation's lowest height was 4.39-feet, which was a controlling factor for the elevation of Dogwood. Dogwood cannot get any lower than 4.39 feet. The weir is set at 6-feet, so the lake was about 1.5-feet below the weir. When the Dogwood Lake weir was installed, it raised the lake 17-inches based on the elevation. Water was being pushed onto Ms. Abrams's property as much as 40-feet based on the elevations. Mr. Sanford said wetlands are not ponds. They are not meant to be wet all the time, because it would kill the vegetation. There were two bypasses on the sides that were set for emergencies so the town could lower the lake level in anticipation of a storm and to let water pass through. Extreme events were supposed to send water over the weir at Dogwood. Mr. Adair said the storage worked out to be about 400 thousand gallons an inch held in Dogwood Lake. Mr. Sanford said the goal was to keep water moving the right direction and bring the water pushed up onto the properties closer to the original levels and give flexibility to the town in the event of storm events. Currently there are drought conditions, so the weir height should be increased. During wet weather, the weir should be lowered.

Mr. Adair said when the solution to change the weir gates at Dogwood Lake was determined, Horry County's engineering and stormwater management staff were consulted. The county staff supported the town's design 100-percent, and in fact, funded 70-percent of the retrofit.

Chairman Elliott asked Mr. Adair if it was correct that the town stormwater system covered roughly 1,200 acres, and the town receives water from over 1,200 in Horry County. Mr. Adair did not have that information, but did say there was a significant amount of water from the county that drains into the Dogwood system. All that water, at one time, was going through Palmetto Lake, but now it is going two different directions.

Mr. Powell said his position is extension agent with Clemson University tasked with natural resources programming. His background is in water quality and wetland management, which he has done for many years. The town was an open swash system 100-years ago, much like is seen at White Point Swash near Briarcliffe Acres. The ocean communicated; there was saline habitat populated with brackish water species. The system flooded and drained twice a day. At some point, the swash was impounded to turn it into a series of lakes. What that did was provide some very significant benefits. Impounding water is a great way to deal with excessive sedimentation and water quality issues. Currently there are significant stormwater problems, and now, there are federal regulations required to be met, especially water quality. Instead of sending things washing off the street and lawns directly into the ocean where people are recreating, it is now impounded allowing time for the sediments and pollutants to

settle out of the system before that water is released out into the recreational water of the United States. Mr. Powell said the lake system is also fresh water wetlands that are associated with the system. As Mr. Sanford mentioned, a wetland is not necessarily wet. There are three criteria that any wetlands delineator must determine when he inspects an area to determine if it is, in fact, a wetland.

The area being discussed on Dogwood Lake has Rutledge soil, which is a wetlands soil. Rutledge soil was created by dunes advancing and receding as the ocean receded creating troughs that still exists from the coast inland. Once the wetland was impounded creating the lake, the water naturally moved through the old troughs around Ms. Abrams's property (*indicated on map*) and what is now known a Palmetto Lake and the stream or ditch below that. The modified system is entirely at the disposal of the people that manage it, because what was a free-flowing system was impounded.

Mr. Powell said inundating a wetland permanently is the first way to destroy a wetland. A wetland must be land before it is wet. If the water level is raised too high for too long, you will kill the wetlands and it will become an open water system. If someone was paying taxes on land that became open water and it was no longer accessible, he understood why they would have very significant concerns about the degradation of the wetland. The pond system is a vital system that helps the town deal with its stormwater runoff. The pond systems help catch the pollutants and sediments coming through the town's watershed and from upstream. The pond system also provides storage during storm events. The ability to manipulate the water level to deal with an impending storm surge is a very valuable tool the town needs to have. Now, the town has the ability to control the inundation of wetlands; the level of the pond itself, and the storage capacity of that system.

Mr. Powell would not say that the improvements were right or wrong, but he did say it would require "taking a good close look and making wise decisions to protect the wetlands and the services they provide; to protect the pond and the services that it provides, and understand that you can't do all of one or the other. There's got to be a balance that must be struck." The town is dealing with a highly modified system. It is not the old natural system; it is not a naturally flowing stream. It is water pushed where the town pushes it. This is a dynamic system and there are many people's opinions to take into account. He hoped the town would make the wisest decisions for the water quality conditions balanced with the town residents' needs.

Mr. Adair said there was a fish kill on Palmetto Lake a few months ago, and asked Mr. Powell to address that. Mr. Powell said there are between 20- and 25-thousand ponds in Horry County, probably two-thirds of them are just excavated holes that do not have any water flow. They do not have fish kills either. Most of the farm ponds are stagnant, still water systems, but they manage because those systems were designed to handle the water, and people use those ponds. They constantly remove the fish, because they are consuming them. The town's system was designed just to let water flow. The fish population probably grew, and there were many nutrients coming through the system. So, not only was the fish population in abundance, but the microbes, invertebrates, and all the other eco-system members were doing well. When the water flow stopped, there were too many creatures for the system to sustain, resulting in the system regulating itself by eliminating the demand for oxygen by eliminating some of the creatures that live there. There is not a single reservoir in the United States that has not experienced some fish kill at some point in time.

Mr. Powell said if the town wants to slow the amount of water coming through the system, because it needs to flow the natural way, through the Dogwood System out to the ocean, the town can increase circulation and improve the biological function by installing a diffusion aeration system that pumps air into the bottom of the pond that creates a current with the bubbles that takes the deep water to the surface to circulate the layers of water mixing the lower and upper waters. The fountains currently being used do not provide adequate circulation. The diffusion aeration system cannot be used in shallow lakes. He recommended a depth of no less than 6- to 8-feet. Ponds with lower levels may require more membranes to get the desired results. If the pond is 6-feet deep, then 4-feet is already being oxygenated, so there should not be a chronic threat for fish kills.

Mr. Adair said diffusion aerators were being considered for Palmetto Lake, since it has limited water flow. Larger fish require the most oxygen, which why the smaller fish survived during the fish kill. Mr. Adair offered to answer any questions about the presentation.

Mr. Deaton said the lake area was called "Big Swamp" in the past. He said the weir was installed about 18-inches too low, which caused the entire lake to disintegrate down. The charge when he was on the stormwater committee was to fix the problem. The committee's charge now is to implement best management practices. In his opinion, the town was not meeting those very well. The Myrtle Lake weir was also built too low. It was supposed to be raised up, because backwash came into the swash between 4th and 5th Avenue. When Myrtle Lake was dredged, 10-pound flounder were found because the water was brackish. That was never repaired, because an outfall was being considered for that location. Mr. Deaton said he fished these lakes since he was 19-years old; he was now 60-years old, so he knows the history. Chairman Elliott thanked him for his historical perspective, but asked him to end so current issues could be discussed. Mr. Deaton said the point was that the water flow was intentionally reversed.

Ms. Mary Ellen Abrams, 13th Avenue North, who owns part of the wetland area affected by the increased lake level said there are actually over 3-acres of federally protected wetlands on the north side of Dogwood Lake. Several years after her neighbors and she bought their property, for the purpose of stewardship of the wetlands, and not trusting local politics, they purchased the undevelopable lots to protect them. She heard about 2001, 2006, and 2007, but she has not heard anyone mention that there is a Declaration of Restrictive Covenants on that 3+ acres that has been in effect since January 15, 1997. You heard Mr. Sanford talk about the town pushing water onto those wetlands. You heard Mr. Powell say that wetlands are not designed to be wet all the time. The flooding that was caused by the town's negligent acts in 2006 and 2007 were illegal. The Restrictive Covenants specifically prohibit flooding of those wetlands. The only thing that was done this year was the town finally righted the wrong and unflooded [sic] that property. Ms. Abrams said the vegetation has been damaged. On a regular basis, trees fall in her wetlands property. Her neighbor has pictures of damage on his property. Nobody seems to understand that this is not negotiable. There is a legal document that states that property may not be flooded, among other things. Ms. Abrams offered a copy of the restrictions to anyone that might want one.

Mr. Ken Laukhuff, 7th Avenue South, said prior to 2001 weir being put on Dogwood there was a stream that passed his house. The stream was there when he purchased his house in 1988. Ms. Holmes purchased her property in 1968, and the stream was there. It was not a ditch that only had water when it rained. He wanted to know what happened to the stream. Mr. Adair said the invert of the pipe that goes under 7th Avenue was the control. Whatever elevation that is caused the water to travel that way, and also went out Dogwood weir. (**Several people spoke at once, none of whom were using the microphone.)

Mr. Powell said there have been some very significant lawsuits across the nation against cities, counties, states, and other entities as a result of inter-basin transfers, i.e. taking water from one watershed and putting it into another watershed, either through a water treatment plant for drinking water, irrigation water purposes, or to make sure there is enough water in that system. Mr. Powell said the town created an inter-basin transfer and that was the issue. Water was being taken out of the Dogwood watershed and being put into the Myrtle watershed. It did not matter how long the stream was there, it was not natural. It was either manmade by forcing water through or it was dug to conduct the water there, because that was not what nature wanted to do. Nature wanted to send that water to the ocean. You can either maintain the current status where you are transferring water between two different watersheds through a manipulated weir system, or the watersheds can be entirely separated. If the watersheds are separated, understand there will be impacts to the Palmetto system, because it was adapted for a flowing water system. The impact to that narrow section between the watersheds might be much less of a significant impact compared to the watersheds in their entirety and how water flows through each individual watershed. There will be issues and problems whenever you move water among watersheds.

Mr. Beck said that Mr. Powell referred to the map earlier and said the line of arrows represented a natural creation from eons ago when all the dunes were created, and the water flow from that went all the way up and even across the lake; that was one watershed. Mr. Powell explained that the watershed is Dogwood and all the lakes and they flow down through to the ocean. There is a natural depression that would have been a stagnant wetland with Rutledge soils which would not have been permanently inundated, which was an old dune depression in the area (pointed to map north side of Dogwood Lake.) When the dam was placed in Dogwood Lake, it caused water to change direction. Mr. Beck asked if Mr. Powell believed the water did not move that way 100-years ago. Mr. Powell said no, water went straight to the ocean. To move water between Dogwood and Myrtle watersheds, someone had to cut through a hill and dig that canal to create the water path. Now, the hill was replaced with a weir, which gives the town the ability to control water levels.

Mr. Lonnie Hopkins, Cedar Drive North, said he moved here in 1993, and he worked with the town and the county to get the system that exists now. Since the sluice gate was lowered at Dogwood Lake, he was worried now because there is not enough water in the lake system and stagnation is developing. Stagnation will be a huge problem during dry weather. During the past when the Lake Elizabeth became stagnant, the hydrogen sulfide was so bad you could not hardly breathe. He cautioned that a different problem was developing. Correct one little problem and make a major problem, which would be a health problem. Horry County was very good to work with the town, and gave $1 million plus to drain their 1,200 acres through the town. Chairman Elliott was correct, it was 1,200 acres. The county hired LPA, Inc., who in his opinion was number one; the best professional engineering firm in the state.

Mr. Adair said with the recent dry weather, even if the lake level was not lowered, the water would not be spilling over the spillway. Water is currently 10.5 inches below its previous level. No water flow is coming into the lake from the county or town, because it has not rained. Stagnant conditions like Mr. Hopkins described always occur during dry weather and when water does not flow.

Mr. Ron Ott, 7th Avenue North, said he lives on Lake Elizabeth, and he has been watching it for a long time. The lake is really low now. He can see dirt under the bulkheads that were installed by the residents in Harbor Lights. Today, you can see the flotsam going down the lake. The public works director needs to “attack” as soon as possible, because the vegetation is coming up now. We lowered the water, and now there is a drought situation. The next complaint will be people complaining of the stink. The lakes are beginning to stink, because they are at the bottom of the barrel. He did not know about the other lakes, but he did know about Lake Elizabeth that is in his backyard. The water is way down. Thank you.

Mr. Beck said it seemed to him that in the past the water flow from Dogwood Lake to Palmetto Lake was much heavier than it is now. He and his grandson used to traverse between the two lakes in their rowboat. Since the new bridge was installed with two pipes that are only about half full, he wondered if that cut down the flow. Mr. Adair said the bridge was replaced in 2011 with two 48-inch pipes, which has not restricted the water flow. The new bridge was engineered to hydraulically to handle the water flow. Mr. Beck believed the depth was deeper in the past that allowed more lower-water flow between the two lakes. Mr. Adair said the new bridge was engineered for flow and approved by the Army Corp of Engineers. Mr. Beck said that change might be an additional component to the problem. He realized the bridge was already in place and there was probably not much that could be changed. His grandson would be very happy if the lake would rise another foot so they could go sailing again.

There were no other comments. Chairman Elliott declared the workshop closed at 6:03 p.m.

7. DIRECTOR’S REPORT, Public Works Director Adair.

Mr. Adair reported that the town completed the public parking lot at 4th Avenue North and Ocean Boulevard. The parking lot was constructed entirely of pervious materials so there is no discharge, which is quite an achievement for the town.

8. BUSINESS.

A. Report from town on fish kill and probably causes/contributing factors, Member Beck.

Mr. Beck said that a lot of information was given on the fish kill. He heard that a lot of the larger bottom dwelling fish would die first. He witnessed that in the lake behind his house, where he found a dead grass carp.

B. Use of grass/weed eating carp fish to control plant growth in lakes, Member Beck.

Mr. Beck said he had not seen a dead grass carp for several years. He believed the residents around Dogwood Lake stocked it with grass carp several years ago before the town took over the lakes. He did not believe there were any plans to restock the grass carp to keep the weeds under control. The lake has been in much better condition now than it was 10-years ago. Mr. Beck thought the town might consider restocking the lakes with sterile grass carp to help eliminate the vegetation growth. Mr. Adair that the lakes had not been stocked during his tenure, but knew that it was done in the past. He was interested to hear Mr. Powell's comments on sterile grass carp.

Mr. Powell said he loves grass carp! They are amazing fish. He asked when the carp were stocked. Mr. Mabry said around 1975. Mr. Powell said sterile grass carp cannot reproduce, which is good to avoid having an overabundance of fish in the lakes. However, it does mean the carp have to be restocked every 8- to 10-years if the town wants to benefit from them. Grass carp are *phenomenal* (speaker's emphasis) at consuming submersed vegetation. The only exception is lily pads; otherwise they will control anything that grows from the bottom up through the water column. "Bang for your buck, there's nothing like the grass carp." Stocking fish was much more cost effective than using aquatic herbicides; the fish have good longevity, but they do need to be restocked. Grass carp can survive as long as 14-years, but usually around the 8- to 10-years mark the effectiveness is lost because of natural losses. Mr. Powell suggested that if the town chooses to stock grass carp that maintenance stock of about 10 fish per surface acre be placed in the lakes. If the town can determine the weed acreage, stocking can be done based on that amount, which would be 20 fish per acre of vegetation. Grass carp do not fare well in saline systems, so they could not be stocked in Myrtle Lake. They would survive in Lake Elizabeth and Dogwood Lake, or any other freshwater systems. When grass carp grow larger, they are more susceptible to fish kills, because they do not like low oxygen systems.

C. Any items of interest or concern to committee members.

There were no other items of discussion.

9. PUBLIC COMMENTS.

Ms. Holly Watson who was unable to attend submitted a letter which was read by the clerk. The letter is attached hereto and made a part hereof.

Dr. Libes said the oxygen levels so far this summer been in the normal range. Even so, there are still some hot days coming during the remainder of the summer. In general, Dogwood Lake tends to have high oxygen. Her interpretation was that algae was growing in the lake that puts oxygen into the water. They would have to wait to see what happens with the water level lower. It was interesting to her that the town had gained flexibility to adjust the water level to deal with Mother Nature. She expected over time that the ability to adjust the water levels would be more sophisticated as staff understands the system better. In response to Ms. Watson's comments about bacteria in Myrtle Lake, she remembered when the Coastal Carolina University lab did the testing in 2001 for Ms. Watson. She did not understand at the time why she was requesting that, so that was very interesting to get this perspective. The volunteer water quality monitors have documented that e-Coli levels have been high for the period we have been testing, which began in 2010. There is no history prior to that date. Since then, there are detailed statistics available. It was true that there was a continued elevated level of e-Coli, which is a regulatory water quality standard indicator for fresh water. Myrtle Lake occasionally has saline, because wash over

occurs when the flooding ocean tide brings salt water into the lake. Volunteers have measured and documented the salt levels in the lake. Dr. Libes said about two months ago Mr. Adair asked her to develop a project to determine what the potential source is for e-Coli in Myrtle Lake. For cost effectiveness, the project was started by eliminating the human source bacteria as a significant input, because human sources were a very high risk contaminate. They did not want people recreating in contaminated water at the swash along the beach. There are other risks associated with contamination by birds, muskrats, dogs, or other animals. Mr. Adair said not only was a human source the largest health risk, it was also one of the easiest to identify and correct. There was very little that could be done about animal contaminates. Dr. Libes said sampling began today on the ebb tide in Myrtle Lake, and also downstream at the ocean at the Department of Health and Environmental Control testing site where water samples were taken weekly during the summer season. This season started with many measurements that had very high levels of bacteria in the ocean. That motivated them to get this program started quickly to start sampling during this beach season.

Mr. John Craig, Cedar Drive North, commented on the water being lowered in the lake. The conversation earlier seemed to indicate that many people were complaining because the water was too high on Dogwood Lake. He and most his neighbors were more concerned about water being lowered than it being too high. He had lived on the lake about nine years, and the water level has been about the same. He felt good about that, but was concerned about it being lowered. He heard a lot of talk about grass carp. Their primary function was to eat algae. He hoped the committee would consider it strongly. He has an 800 gallon waterfall feature behind his home that was filled with 160 Comet Gold Fish. The only thing the fish eat is algae; they get no other food. The fish help keep his water feature clean. It was certainly worth the cost. In regard to the geese, they have been in his backyard making an awful mess. He had to replace about 10-feet of his yard last year, because the geese destroyed it. He wanted to protect the geese, but he wished they would find some other place to live instead of his backyard.

10. COMMITTEE COMMENTS.

There were no committee comments.

11. ADJOURNMENT.

Mr. Crouch moved to adjourn the meeting at 6:20 p.m. Ms. Mull seconded. Chairman Elliott, Vice Chairman Mull, and members Crouch and Mabry voted in favor. Member Beck voted against. **MOTION CARRIED.**

Respectfully submitted,

_____
Debra E. Herrmann, CMC, Town Clerk

Approved: _____

_____
Sandra Elliott, Chairman

_____ _____
P. L. Mabry, Vice Chairman Alan Beck, Committee Member

_____ _____
Ron Crouch, Committee Member Tabitha Mull, Committee Member

Clerk's Note: This document constitutes summary minutes of the meeting and are not intended to be a complete transcript. Appointments may be made with the town clerk to hear recordings or you may provide your own flash drive to obtain a copy. In accordance with FOIA, meeting notice and the agenda were distributed to local media and the email public subscription list. The agenda was posted on the entry door at Town Council Chambers, and on the Town marquee.