



SURFSIDE BEACH TOWN COUNCIL WORKSHOP
Jointly with the STORMWATER COMMITTEE
OCTOBER 22, 2013 • 5:00 P.M.
TOWN COUNCIL CHAMBERS

CALL TO ORDER.

Mayor Samples called the workshop to order at 6:30 p.m. Mayor Samples, Mayor Pro Tempore Mabry, and Councilmembers Dodge, Johnson, Smith, and Stevens were in attendance. Councilmember Kohlmann was absent. A Town Council quorum was present. Staff present: Town Administrator Fellner and Town Clerk Herrmann.

Stormwater Committee members present: Chairman Elliott, Beck, Harth, Kohlmann, Mabry, and Meccia (arrived at 5:30 p.m.) Member Harbin was absent. A Stormwater Committee quorum was present.

Others Present: Michelle LaRocco, Coastal Training Program Coordinator (CTP), North Inlet-Winyah Bay (NI-WB) National Estuarine Research Reserve (NERR,) University of South Carolina, Baruch Marine Field Laboratory; Susan Libes, Ph.D. Coastal Waccamaw Stormwater Education Consortium and Professor of Marine Science and Chemistry, Coastal Carolina University, and Erick M. Smith, Ph.D. Research Assistant Professor, NI-WB NERR Research Coordinator, University of South Carolina, Baruch Marine Field Laboratory.

Mayor Samples thanked everyone for attending, and introduced the stormwater committee members. He asked councilmembers to hold comments and questions until the presentation was completed, and then turned the floor over to Ms. LaRocco.

Ms. LaRocco introduced Drs. Libes and Smith and proceeded to explain that they were specifically asked to provide insight into the potential issues surrounding boating in the lakes. She thanked the town for inviting them to share their information. Ms. LaRocco said her role as the CTP was to promote stewardship of coastal resources through science based community training. The research reserve is a core education provider of the Coastal Waccamaw Education Consortium. Mr. Ben Powell, Assistant Forestry & Natural Resources, Clemson University Extension was unable to attend tonight, but he sent a written statement to the council.

Ms. LaRocco said they were asked to specifically respond to the question "what is in our ponds," however, that was an extremely complex question. In collaboration with the community questions were identified that might help council make its decision, which are:

- Determine what was really in the town ponds
- Will there be a human health risk by allowing boating in the ponds
- Will allowing boating in the ponds interfere with the ponds' function by increasing the erosion or sedimentation
- Will allowing boating in the ponds interfere with the town's responsibility to provide water quality protection

Dr. Smith said the information he knows about the town's ponds is from two research projects that he had lead over the past couple of years. The first project was a broad survey of water quality in stormwater retention ponds up and down the coast. Four of the town's ponds were included, which allowed comparisons to other similar ponds in the region. A study of Dogwood and Withers Swash was being completed. Withers Swash is located near 3rd Avenue South in Myrtle Beach. Dr. Smith said the Dogwood Lake is a natural pond that was now used as a stormwater conveyance. It was never engineered or designed to function as a stormwater retention pond, but is part of the Dogwood

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57 watershed, which is why it was being compared to Withers Swash. In the summer of 2010, 26 ponds
58 were surveyed. The four ponds in town that were surveyed were Floral, Magnolia, Dogwood, and Cherry.
59 Dr. Smith said the link between nutrients, how productive the ponds were, and how algae grow was all
60 connected. If there were no algae, there was no life. The growth rate of the algae had to be monitored,
61 because that was the foundation of the pond life. An overabundance of algae could cause dangerous
62 phytoplankton. Algaecides generally only lasted about two weeks. The goal was to find the right
63 balance. He cited numerous statistics on nitrogen and phosphorus. The indicators were that the town's
64 ponds were a bit high in some areas, but low in others. The town's ponds were on the high side of
65 suspended solids that was mostly organic, because they were loaded with algae, except Dogwood Lake
66 had more minerals washing into it. Regardless of the season, Dogwood Lake was almost always much
67 cleaner than other ponds in the watershed, which was good evidence that the pond was doing what it was
68 supposed to do. The ponds accumulate fluffy grain sediment. One comment Dr. Smith made in regard to
69 the boating issue was that you might not want to stir up the sediment. His personal experience was that
70 using a Jon boat with paddles did not stir the sediment, but when anchors were used, the sediment would
71 fluff and disburse in the water when the anchors were raised.
72

73 Dr. Libes presented maps of the water sampling points and explained that samples in town were
74 collected by volunteers that live in town: Mr. Ken Harth, Mr. Al Beck, Mr. Ralph Magliette, and Mr. Jerry
75 Strange. Dr. Libes said thank you very much to the volunteers, and said the results of their work was
76 being presented. Recognizing that data is necessary upon which an assessment can be made to
77 determine proper management was the impetus for starting the water sampling program, which helps to
78 identify illicit discharges, i.e., discharges under the stormwater program are not allowed to occur. When
79 they are found, they are required to be cleaned. Sampling is taken every other week; the data is
80 delivered to the public works director very quickly, so that he can go into the field to follow up on any
81 problems. Dr. Libes said trends were detected of a long period of time based on the monitoring data.
82 She also hoped the data would document how the water quality was improving as a result of the
83 stormwater program enhancements that were in place. The stormwater program was linked to the
84 educational outreach opportunities. Volunteers had business cards with information about the program,
85 and she suggested the public speak with them when they saw them sampling water. Water testing
86 includes fecal bacteria, turbidity, salinity, nutrients, oxygen, pH, temperature, and cultural eutrophication
87 (depletion of oxygen in water caused by decomposition and oxygen-depleting plant life resulting in harm
88 to other organisms.) The temperature affects the oxygen and pH levels. Dr. Libes said as she
89 understood it, the town's lakes were not classified water bodies, so the Department of Health and
90 Environment Control (DHEC) would not close them down. But, she believed the DHEC guidelines should
91 be kept in mind when council was determining how much body contact with the pond waters would be
92 acceptable. She summarized the volunteers' testing results: In 2010 there were 75 samples taken by the
93 town volunteers. The Geometric Mean (GM, acceptable level) was determined by DHEC.
94

95	Myrtle Lake	E-coli Bacteria	GM 284	30% exceed GM, common
96		Oxygen	State Standard	5% below standards
97		Nitrogen		detected in 2013
98		Turbidity		medium value to none
99		pH Acidity	Median 7.1	11% high - usually during spring
100		Temperature		warmer temps in winter
101				
102				
103	Dogwood Lake	E-coli Bacteria	GM 15	3% exceed GM, negligible
104		Oxygen	State Standard	21% below, but not hypoxic
105		Nitrogen		detected in 2013
106		Turbidity		medium value to none
107		pH Acidity	Median 7.1	7% high - usually during spring
108		Temperature		no comment
109				

110 Dr. Libes said the samples are measured by drawing water in a bottle without disturbing the
111 sediment. There was no data regarding contents of the sediment, although there was considerable
112 evidence that bacteria can survive and reproduce in sediment. That might be worthy of consideration

113 when council determined how much motion they wished to allow in the ponds. Dr. Libes said when
114 bacteria counts exceed more than 10-percent above the GM, swimming warning notices were published.
115 Myrtle Lake was measured at 15-percent, and 40-percent of the samples were above the GM warning
116 threshold. She said the high counts were caused by warm blooded animals and birds. Dogwood Lake,
117 however, very seldom exceeded the GM. The two lakes had very different situations. In terms of salinity,
118 neither lake was tidal and had no correlation with e-coli. In regards to oxygen levels, there were times
119 when oxygen levels were very, very high. She expected that algae growth precipitated that change,
120 particularly in the spring when levels are down to 7-percent of the samples being low. Nutrient loading
121 problems causing cultural eutrophication might be more intense in Myrtle Lake than in Dogwood Lake.
122 Dr. Libes said data supports that rain did not impact turbidity, but might impact erosion values. The pH
123 acidity levels tend to run higher in the spring, and she believed that was due to the algae growth and the
124 way it extracts carbon dioxide. There is evidence of fecal contamination in Myrtle Lake's water; however,
125 the water in Dogwood Lake has no fecal contamination. Cultural eutrophication exists in both lakes; she
126 recommended regular monitoring, as it was in the town's best interest to minimize particles entering the
127 ponds. Dr. Libes said the proliferation of nutrient loading can lead to harmful algae blooms that create
128 toxins that represent a human health risk by skin contact or consumption by humans or animals. The
129 water testing will eventually provide more data for educational purposes and to document the effects of
130 efforts to keep the waters clean. She encouraged citizens to clean up after their pets as another means
131 of keeping the water clean.

132
133 Mayor Samples asked the clerk to read Mr. Powell's statement into the record. Ms. Herrmann
134 read:

135
136 A statement in response to the question regarding the suitability of using the
137 ponds in the Surfside Beach for boating...

138
139 It has been presented to me that the Town of Surfside Beach is considering an
140 ordinance to allow residents to use the ponds/lakes within its jurisdiction for boating, with
141 provisions limiting the types of boats allowable. I was asked to participate in this
142 discussion because of my experience in pond and lake management and firm
143 understanding the complexities of managing surface water systems for multiple uses. Let
144 me be clear, I am an educator and not a regulator. I intend through this statement to
145 provide insight regarding recreational use of municipal waters. not to interpret law or
146 regulations. I apologize that I cannot be present at this meeting, but I have prepared this
147 statement to provide my perspective on this situation.

148
149 Although the town's codes refer to the lakes in Surfside Beach as stormwater
150 ponds, they were not designed or constructed for this purpose. They are not designed
151 according to the engineered standards used for standard stormwater ponds. They do not
152 hold a predetermined treatment pool, nor are they constructed with a predetermined
153 freeboard for capturing and moderating the flow of runoff. Technically speaking, they are
154 (mostly) embankment ponds constructed by damming or embanking natural runs.
155 Essentially, they are modified streams or swashes. Their construction and design is not
156 all that different from embankment ponds across the southeast that were constructed for
157 a wide array of uses such as recreation, irrigation, fire suppression, watering livestock,
158 aquaculture, municipal water supply, and many other uses. Structurally speaking, they
159 are suitable for recreational uses such as boating and fishing, but those uses are limited
160 by the size of each pond. They have adequate depth and access, at least in the case of
161 the larger lakes such as Dogwood and the lake just upstream from Dogwood. The main
162 difference between these ponds and other embankment ponds used for recreation is the
163 degree of development of the watershed.

164
165 Surfside is a relatively dense residential community and is almost completely
166 built-out. The watershed has a fairly large percentage of impervious cover and an ageing
167 stormwater drainage system that has very few structural BMPs (best management
168 practices) to capture sediment and control pollutants. This means that runoff

169 (stormwater) flowing from the lots and streets has a significant effect on the water quality
170 in the ponds. Although the ponds are not designed as stormwater ponds, they are
171 influenced greatly by runoff, and as a result, may be subject to water quality conditions
172 that exceed the safe limits established by the State for recreational waters. Pathogenic
173 bacteria indicated by fecal coliforms counts are the most concerning of these water
174 quality challenges in recreational waters. We know already that Surfside has a history of
175 high bacteria levels in its runoff and in its surf zone, and I think pollutant tracking work
176 has shown that much of this contaminant is originating in runoff draining to the ponds are
177 from the waterfowl using these ponds. Dr. Libes can speak in more detail regarding
178 water quality conditions in these systems. This means that the ponds may have bacterial
179 levels that exceed the state's advisory threshold, especially during the warmer summer
180 months when folks are most likely to be using the ponds.

181
182 The question then is, "Should the town restrict access to the ponds over
183 concerns that users of the ponds may become exposed to water that may contain
184 elevated levels of harmful bacteria?" Of course, this is a similar concern to the beach
185 and surf zone, which is already being used as a recreational resource and is known to
186 have water quality problems. It seems inconsistent to restrict boating in the lakes based
187 on this reasoning, but not restrict folks from going swimming at the beach, too, because
188 the conditions of the two systems are linked and bacteria levels may occasionally exceed
189 acceptable levels in either system.

190
191 Setting water quality aside, there are several pros and cons to opening the ponds
192 to boating access:

193
194 Pros:

- 195 • Improved Quality of Live for visitors/residents by adding a recreational
196 opportunity
- 197 • Increased appreciation for the condition of the ponds as more folks
198 interact with these aquatic ecosystems
- 199 • Potential revenue source if town allows for boat rentals/access fees or
200 requires permits for access (Dogwood Lake is probably the only lake
201 suitable for this type of use)

202
203 Cons

- 204 • Increased liability for illness, if waters exceed maximum allowable water
205 quality conditions
- 206 • Increased liability for drowning or injury
- 207 • Increased potential for trespass or invasion of privacy
- 208 • Potential overfishing or impacts to wildlife
- 209 • Increased potential for introduction of invasive weeds

210
211 I take a different approach in my concern for allowing residents to use the Town's
212 ponds for recreation. I think the ponds are suitable for boating and other recreational
213 uses, but the town needs to know that it is assuming liability when it allows residents to
214 access its property. If the town chooses to open the ponds up for recreational use, then it
215 is very similar to opening a new recreational or athletic park, and the town would need to
216 take precautions to prevent death, injury, or illicit activities on its ponds just as it would for
217 a town park or athletic facility. This means the town would have to protect users by
218 conducting such activities as maintaining clean, safe access points, monitoring water
219 quality, maintaining healthy water or restricting access when water quality conditions
220 exceed the state's allowable thresholds, managing or eliminating waterfowl, and other
221 human-wildlife conflicts, providing instructional signage, removing hazardous obstacles
222 and debris, restricting access to dams or water control structures, protecting against
223 trespass from the water onto private property, enforce litter laws and conduct litter clean-
224 ups, assess and maintain the fishery, if fishing is allowed, and so forth. Essentially, this

225 means that the town will need to assume maintenance activities on the ponds that are as
226 intense as in a recreational or athletic parks in order to avoid being negligent. This is
227 especially true, if the town charges for access or for rental equipment used for boating. A
228 lawyer familiar with public access laws could help inform the town of what it would need
229 to do to avoid negligence and lawsuits in the event of an incident.

230
231 Many large cities allow these types of uses of the lakes and rivers within their
232 limits, and they have similar or worse water quality challenges. It can be a real benefit to
233 the town and residents alike to allow boating; however, the assumption of liability for the
234 well being of users of its property, as well as for the condition of the lakes is something
235 the town must not take lightly. As a result, most municipalities that have considered this
236 type of use have been very explicit and detailed about the rules and expectations
237 regarding boating. If the Town of Surfside Beach chooses to allow boating on its lakes,
238 then it needs to understand the level of liability it is assuming, prepare to maintain the
239 lakes to minimize health concerns and accidents, and consult with other regulatory
240 authorities such as the Department of Natural Resources regarding boating and fishing
241 regulations and the Department of Health and Environmental Control regarding
242 monitoring and mitigating water quality conditions for recreational uses. The Town also
243 should review thoroughly the rules, regulations, and penalties established by other
244 townships that allow boating on municipal lakes.

245
246 This decision should not be taken lightly. If an accident or mishap happens on
247 land, people fall down. If it happens on water, people may drown. My final word is, "Do
248 your homework." I suggest you speak with a lawyer regarding public access law and
249 liability, speak with the state agencies with authority over boating laws and water quality
250 standards, and review similar ordinances of other townships in order to craft an ordinance
251 that increases opportunity to residents while providing ample protections to the town.

252
253 Sincerely, Ben Powell, Clemson Extension.

254
255 Mr. Stevens said Mr. Mike Battle, the town attorney, was asked for an opinion about the
256 town's liability in allowing paddle boating, etc. on the lakes. Mr. Battle responded in an email
257 message saying, "The first question deals with the increased potential liability for allowing
258 recreational use of retention ponds. The short answer is yes, it will increase the town's exposure
259 to liability. The recreational use statute protects property owners who allow people who use the
260 property free of charge for recreational uses. However, the statute does not protect property
261 owners who are found to be grossly negligent. Gross negligent [sic] is a factual inquiry by the jury
262 or the (**) fact. Usually, risky rewards analysis, while there is some increased exposure to
263 liability, most claims are thrown out for summary judgment, because most negligent [sic] is so
264 difficult to prove. If the town believes the benefit to the public outweighs the possible increase in
265 risks, they can allow recreational use. I do not have any information on how much allowing such
266 a use would affect your liability premiums. SCMIRF (South Carolina Municipal Insurance Risk
267 and Financing Fund) alone can answer that question."

268
269 Mr. Stevens asked if large rainfalls affected the water quality. Dr. Libes said the rainfall
270 was measured in 2013, and did not affect water quality at most testing sites, but there was not
271 sufficient data to answer.

272
273 Mayor samples said one year did not establish a trend. Dr. Libes said yes.

274
275 Mr. Smith said concerning the beaches, whether outflow pipes to push stormwater runoff
276 way out into the ocean would correct beach problems. Dr. Libes said testing was being done now
277 at North Myrtle and Myrtle Beaches where outfall pipes were placed, but there was not yet
278 sufficient data. In another year, there should be sufficient data to answer that question. In her
279 opinion, BMP upstream to purify the runoff as much as possible should be used. Mr. Smith asked
280 if rain was recorded over the past few weeks when samples were taken. Dr. Libes said the

281 town's volunteers started keeping rain measurements in 2011 that were used when interpreting
282 the monitoring data. Dr. Libes thanked the volunteers, particularly Mr. and Mrs. Harth, for their
283 consistent efforts to provide data. She believed the fire station had a meteorology station, and
284 she was trying to obtain its information.
285

286 Mr. Harth said Dogwood Lake was tested throughout 2012 and it was clean. DHEC was
287 posting contamination notices on the beach; it was one of the worst years the town had with
288 DHEC. There was something between the water coming out at Ocean Boulevard and where it
289 entered the ocean that was contaminating the ocean. There were comments that there was a
290 dumpster with a hole leaking contaminations, but he did not know that for a fact. Test samples at
291 Ocean Boulevard were clean. Now, when DHEC finds contamination, a sample is sent to Dr.
292 Libes for analysis to determine whether contamination is, simply stated, animal, vegetable or
293 mineral. Since that system was implemented, there has only been one hit. Mr. Harth said to
294 answer Mr. Smith's question, the water coming out of Dogwood Lake was clear.
295

296 Mr. Smith asked if Mr. Harth was aware of the Grand Strand Water pumping station near
297 the lake. Mr. Harth said the pumping station was next to Myrtle Lake, near 4th Avenue North, and
298 reiterated that Dogwood Lake over the three years he's tested has been clean. Myrtle Lake,
299 however, improved, but then started going down again. Mr. Harth said he would present the data
300 at the stormwater committee meeting. Mr. Smith said the pumping station he was referring to
301 was at the outlet to the ocean by the condominiums.
302

303 Mr. Stevens concurred with Mr. Harth, as he was one of the volunteer water testers. He
304 remembered that Dogwood Lake was very clean in all the tests. He said that the test results presented
305 indicated that Dogwood Lake was clean and asked Dr. Libes, in her professional opinion, if Dogwood
306 Lake was safe for boating. Dr. Libes said there was no way to predict what the impact on water quality
307 might be, if the lake was used for recreation. The way things are right now, the water in Dogwood Lake is
308 very clean with respect to bacteria, which is the only health risk that she could think of other than the
309 possibility that harmful algae blooms might occur. They did not measure for that, so she could not say.
310 The ponds do have filamentous green algae on the surface, which is the type of algae that has the
311 potential for toxins. The other possible risk would be a fish kill due to reduced oxygen, which would be a
312 health risk.
313

314 Mr. Stevens said Dr. Smith mentioned during his comments that stirring up sediment might cause
315 a problem and asked him what the risk might be. Dr. Smith reiterated his comment that his personal
316 experience was that using a Jon boat with paddles did not stir the sediment, but when anchors were
317 used, the sediment would fluff and disburse in the water when the anchors were raised. Unless testing
318 was performed, there was no way to predict whether stirring the sediment would be a concern.
319

320 Mr. Jerry Strange suggested that the TVA (Tennessee Valley Authority) be contacted for
321 information as many of its lakes were used for recreation. Dr. Smith said the TVA would not be a good
322 comparison, because its lakes were very large and very deep.
323

324 Mr. Lonnie Hopkins asked if the aerator in Dogwood Lake increased the amount of oxygen in the
325 water and if that affected the test samples. Dr. Smith said that particular aerator drew water from the
326 surface, which did not aerate the water nor did it stir the sediment. In his opinion, it was purely aesthetic.
327 Mr. Hopkins said rainfalls provided oxygen to the lakes, so they knew better samples would be taken.
328 When the weather was dry, the readings were much different, so he wanted to see samples compared
329 between dry and rainy seasons. The lakes had not been dredged in over 20-years, and the sludge was
330 knee deep. Dr. Smith said the sludge was a collection of particles, largely from organic matter breaking
331 down in the lake. Mr. Hopkins said there was no reference to the NPDES (National Pollutant Discharge
332 Elimination System) requirements in relation to the matter, which addresses sediment control. He thought
333 that should be addressed.
334

335 Mr. Ron Ott said some of the most embarrassing things are the warning signs posted on the
336 beach. The town lost 2,000 feet of beach, because will not sit within 200-feet of either side of the signs at

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337 the swashes. He believed the council's number one goal should be to keep those signs off the beach.
338 The easy way would be to pipe the stormwater out a couple of miles, but the professionals were here that
339 understood the water and he said the town should find out what it had to do to clean the lakes so clean
340 water was going into the ocean. It would cost some money, but in his opinion, it would be well worth it in
341 the end.

342
343 Mr. Stevens asked for an opinion of whether it would be safe for young children to use inner
344 tubes on the ponds. Dr. Smith said he would not advise that small children have direct contact with the
345 pond waters, but he was comfortable allowing them to boat on the ponds.

346
347 Ms. LaRocco ended the presentation saying that Drs. Libes, Smith, and she were available to
348 answer questions. Their contact information would be available on the town website. She encouraged
349 everyone to complete the assessment forms and return them to her.

350
351 **ADJOURNMENT.**

352
353 Mayor Samples declared the workshop adjourned at 6:18 p.m.

354
355 Prepared and submitted by,

356 Debra E. Herrmann
357
358 Debra E. Herrmann, CMC, Town Clerk

359
360 Approved: November 12, 2013

361
362 Douglas F. Samples
363
364 Douglas F. Samples, Mayor

365 Mary Beth Mabry
366
367 Mary Beth Mabry, Mayor Pro Tempore

368 Mark L. Johnson
369
370 Mark L. Johnson, Town Council

371 Roderick B. Smith
372
373 Roderick B. Smith, Town Council

Ann Dodge
Ann Dodge, Town Council

Elizabeth A. Kohlmann
Elizabeth A. Kohlmann, Town Council

Randall M. Stevens
Randall M. Stevens, Town Council

374
375
376 Clerk's Note: This document constitutes minutes of the meeting that was audio taped. These are
377 detailed minutes documenting each member's comments. Appointments to hear audio tapes may be
378 scheduled with the town clerk. In accordance with FOIA, meeting notice and the agenda were distributed
379 to local media and interested parties. The agenda was posted on the town website, the entry door at
380 Town Council Chambers, and in the Town Hall reception area. Meeting notice was also posted on the
381 Town marquee. Public Comments and Town Council Comments are transcribed as close to verbatim as
382 possible. When (**) is used a section of the tape is inaudible.