

03060110-03
(Calibogue Sound)

General Description

Watershed 03060110-03 (formerly 03050208-110) is located in Beaufort County and consists primarily of *Calibogue Sound* and its tributaries, which include the May River, the Cooper River, Broad Creek, and MacKay Creek. The watershed occupies 78,904 acres of the Coastal Zone region of South Carolina. Land use/land cover in the watershed includes: 32.3% forested land, 25.9% nonforested wetland (marsh), 18.9% water, 13.7% urban land, 6.3% forested wetland (swamp), 2.1% agricultural land, and 0.8% barren land. A map depicting this watershed is found in Appendix C, page C-44.

The May River originates near the Town of Bluffton and accepts drainage from Stony Creek, Rose Dew Creek, Bull Creek (Savage Creek), and Bass Creek before joining MacKay Creek (Skull Creek, Jarvis Creek, Whooping Crane Pond, Golden Bear Pond, Old House Creek) to form Calibogue Sound. Calibogue Sound accepts drainage from Bryan Creek (Barataria Creek), the Cooper River (Bull Creek, Hoophole Creek, Ramshorn Creek), Broad Creek (The Folly, Point Comfort Creek, Boggy Gut), Calibogue Creek, and Braddock Cove before flowing into the Atlantic Ocean. Broad Creek originates and flows through the City of Hilton Head Island. Mackay Creek connects Calibogue Sound to Port Royal Sound. Bull Creek connects the May River to the Cooper River. Ramshorn Creek connects Calibogue Sound (via the Cooper River) to the New River Watershed. There are a total of 13,799.4 estuarine acres in this watershed, all classified SFH with a few exceptions. The May River, Bull Creek, and the Cooper River from the New River to Ramshorn Creek and their tributaries are classified ORW. From Ramshorn Creek to Calibogue Sound the Cooper River is classified SFH.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
MD-173	INT	ORW	MAY RIVER, 1.8MI SE OF BLUFFTON OUT FROM END OF S-07-461
RO-06313	RO06	ORW	MAY RIVER, 3.2MI SE OF BLUFFTON
RO-02002	RO02	ORW	MAY RIVER, 0.9MI NW OF CONFLUENCE WITH CALIBOGUE SOUND
MD-016	W	ORW	MOUTH OF MAY RIVER, 1.0MI W OF CHANNEL MARKER 29
RO-056102	RO05	SFH	CALIBOGUE SOUND, 2.7 MI W OF HILTON HEAD ISLAND
RO-036038	RO03	SFH	CALIBOGUE SOUND, 0.6 MI NW OF BROAD CREEK MOUTH
RO-06305	RO06	SFH	COOPER RIVER, 7.8 MI W OF HILTON HEAD ISLAND
MD-257	INT	SFH/ORW	RAMSHORN CREEK AT COOPER RIVER
RT-052106	RT05	SFH	UNNAMED CREEK TO COOPER RIVER, 4.7MI W OF HILTON HEAD
RT-02022	RT02	SFH	BROAD CREEK, 4.0 MI NE OF CONFLUENCE W/CALIBOGUE SOUND
MD-174	SPRP	SFH	BROAD CREEK OPPOSITE END OF S-07-80
MD-175	W	SFH	CALIBOGUE SOUND AT MOUTH OF COOPER RIVER NEAR RED BUOY 32
RO-02009	RO02	SFH	CALIBOGUE SOUND NEAR COOPER RIVER MOUTH

May River – There are four SCDHEC monitoring stations along the May River (**MD-173, RO-06313, RO-02002, MD-016**). Aquatic life and recreational uses are fully supported at all sites; however, there is a significant increasing trend in fecal coliform bacteria concentration at **MD-173**, and a significant increasing trend in five-day biochemical oxygen demand at **MD-016**. This is a tidally influenced system with marsh drainage, which are often characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions were noted at **MD-173, RO-06313**, they were typical of values seen in such systems and were considered natural, not standards violations.

Calibogue Sound – There are four SCDHEC monitoring stations along Calibogue Sound (**RO-056102, RO-036038, MD-175, RO-02009**). Aquatic life and recreational uses are fully supported at all sites and a significant decreasing trend in fecal coliform bacteria concentration at **MD-175** suggests improving conditions for this parameter.

Cooper River (RO-06305) – Aquatic life and recreational uses are fully supported. This is a tidally influenced system with marsh drainage, which are often characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions were noted, they were typical of values seen in such systems and were considered natural, not standards violations.

Ramshorn Creek (MD-257) – Aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration. This is a tidally influenced system with marsh drainage, which are often characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions were noted, they were typical of values seen in such systems and were considered natural, not standards violations. A significant decreasing trend in turbidity suggests improving conditions for this parameter.

Tributary to Cooper River (RT-052106) – Aquatic life and recreational uses are fully supported.

Broad Creek – There are two SCDHEC monitoring stations along Broad Creek. This is a tidally influenced system with marsh drainage, which are often characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions were noted at both sites, they were typical of values seen in such systems and were considered natural, not standards violations. At the upstream site (**RT-02022**), aquatic life and recreational uses are fully supported. At the downstream site (**MD-174**), aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter.

Shellfish Monitoring Stations

<u>Station #</u>	<u>Description</u>
19-01	MAY RIVER SOUTH OF PALMETTO BLUFF, MARKER #8
19-02	UNNAMED CREEK AT JACK CROW ISLAND IN COOPER RIVER
19-03	RAMSHORN CREEK AT COOPER RIVER
19-09	BULL CREEK AT COOPER RIVER
19-11	BULL CREEK AT SAVAGE CREEK
19-12	BULL CREEK AT MAY RIVER
19-16	MAY RIVER BEHIND BLUFFTON OYSTER CO-OP
19-17A	COOPER RIVER MARINA AT EDGE OF CSZ
19-18	MAY RIVER BELOW DRAINAGE CANAL AT MARKER #11
19-19	MAY RIVER AT FIRST DOCK IN HEADWATERS PAST BLUFF
19-24	MAY RIVER AT SOUTHERN END OF CRANE ISLAND
19-25	MAY RIVER AT GREEN MARKER #25
19-26	MAY RIVER, SOUTHEAST OF HEYWARD COVE
20-01	BRADDOCK POINT – SOUTH END OF HILTON HEAD ISLAND
20-02	CALIBOGUE SOUND, MARKER #32
20-03	SHARK BANK AND BROAD CREEK – CSZ SEA PINES WWTP, MARKER #2
20-04A	BROAD CREEK AT PALMETTO BAY MARINA CSZ – EBB TIDE (COMBINED 20-04E AND 20-04F)
20-05	MAY RIVER AT CALIBOGUE SOUND
20-06	JARVIS CREEK AT CALIBOGUE SOUND
20-07	BUCKINGHAM LANDING AT BRIDGE
20-10	SKULL CREEK AT SMALL CREEK FROM MARINER’S COVE
20-11	SKULL CREEK, MARKER #19
20-12	SKULL CREEK BEHIND HILTON HEAD SEAFOOD COMPANY
20-15	BROAD CREEK AT LAWTON CREEK
20-15A	BROAD CREEK AT CALIBOGUE SOUND – NORTH END OF BUCK ISLAND
20-16	CREEK BEHIND LYNN SMITH’S OYSTER PLANT AT BROAD CREEK
20-16A	CREEK APPROXIMATELY 50 YDS SOUTHEAST OF STATION 20-16
20-18	BROAD CREEK AT SHELTER COVE MARINA
20-19A	BROAD CREEK AT HARBOR TOWN MARINA CSZ (COMBINED 20-19E AND 20-19F)
20-20A	MOSS CREEK MARINA CSZ (COMBINED 20-20E AND 20-20F)
20-22	OLD HOUSE CREEK AT CALIBOGUE SOUND
20-23	FIRST MAJOR “Y” IN JARVIS CREEK
20-24	FIRST MAJOR CREEK RIGHT AFTER MARKER #18
20-25	BROAD CREEK AT CONFLUENCE OF CHANNEL AT OLD OYSTER FACTORY
20-26	NORTHWEST OF S. BEACH MARINA CLOSURE ZONE
20-28	BROAD CREEK AT SOUTHERN BOUNDARY OF SOUTH ISLAND WWTP PROHIBITED CLOSURE ZONE
20-29	BROAD CREEK AT NORTHERN BOUNDARY OF SOUTH ISLAND WWTP PROHIBITED CLOSURE ZONE

Groundwater Quality

<u>Well #</u>	<u>Class</u>	<u>Aquifer</u>	<u>Location</u>
AMB-092	GB	TERTIARY LIMESTONE	HILTON HEAD ISLAND

All water samples collected from ambient monitoring well **AMB-092** met standards for Class GB groundwater.

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME</i>	<i>NPDES# TYPE</i>
WHOOPING CRANE POND CONSERVANCY HILTON HEAD #1 PSD WWTP	SC0046191 MAJOR DOMESTIC
CYPRESS CONSERVANCY HILTON HEAD #1 PSD WWTP	SC0046191 MAJOR DOMESTIC
GOLDEN BEAR POND/INDIGO RUN HILTON HEAD #1 PSD WWTP	SC0046191 MAJOR DOMESTIC
BOGGY GUT MARSH/WHITE IBIS MARSH SOUTH ISLAND PSD WWTP	SC0042501 MAJOR DOMESTIC
CALIBOGUE SOUND SOUTH ISLAND PSD/WTP	SC0047724 MINOR DOMESTIC

Municipal Separate Storm Sewer Systems (MS4)

<i>RECEIVING STREAM MUNICIPALITY RESPONSIBLE PARTY IMPLEMENTING PARTY</i>	<i>NPDES# MS4 PHASE MS4 SIZE</i>
CALIBOGUE SOUND CITY OF HILTON HEAD ISLAND CITY OF HILTON HEAD ISLAND CITY OF HILTON HEAD ISLAND	----- PHASE II SMALL MS4

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

<i>LANDFILL NAME FACILITY TYPE</i>	<i>PERMIT # STATUS</i>
MALPHRUS CONSTRUCTION COMPANY INDUSTRIAL	----- INACTIVE
MELROSE PLANTATION TRANSFER STATION TRANSFER STATION	072492-6001 ACTIVE
HAIG POINT TRANSFER STATION TRANSFER STATION	072496-6001 ACTIVE
ESC INC. WOOD PROCESSING COMPOSTING	072412-3001 INACTIVE
DAUFUSKIE SITE PREP./AIR CURTAIN INCINERATOR INCINERATOR	072753-4001 ACTIVE

SEA PINES WOOD CHIPPING FACILITY COMPOSTING	072405-3001 ACTIVE
HILTON HEAD DISPOSAL CHIPPING FACILITY COMPOSTING	073339-3001 INACTIVE
HILTON HEAD DISPOSAL COMPOSTING	072431-3001 INACTIVE

Land Application Sites

***LAND APPLICATION SYSTEM
FACILITY NAME***

***ND#
TYPE***

GOLF COURSES WATER OAK UTILITY/MOSS CREEK PLANTATION	ND0014567 DOMESTIC
SPRAYFIELDS BROAD CREEK PSD	ND0063100 DOMESTIC
GOLF COURSE SOUTH ISLAND PSD/LONG COVE PLANT	ND0013528 DOMESTIC
GOLF COURSE SOUTH ISLAND PSD/WEXFORD PLANT	ND0017141 DOMESTIC
SPRAYFIELDS SOUTH ISLAND PSD	ND0064033 DOMESTIC
GOLF COURSE HAIG POINT/MELROSE WWTP	ND0062286 DOMESTIC

Mining Activities

***MINING COMPANY
MINE NAME***

***PERMIT #
MINERAL***

T.H. COBERN CONSTRUCTION COMPANY COBERN MINE	1182-13 SAND/CLAY
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Growth Potential

There is a high potential for growth in this watershed, which contains portions of the Towns of Bluffton and Hilton Head. The Town of Bluffton and the surrounding unincorporated area of Beaufort County experienced substantial growth from 2000 to 2006 and may do so again when the economy and the market recover. Del Webb's Sun City retirement community development near Bluffton has added tremendous residential and commercial growth to the area. Between 25 and 50% of the total land area is suitable for septic system installations; and another 25% or less is classified as marginally suitable. Beaufort-Jasper Water and Sewer Authority has extended water and sewer services to the area to provide for the growth. They were then able to extend the services over to Hilton Head, where the natural aquifer is becoming shallow and salty.

The area along US 278 en route from Bluffton to Hilton Head is a high growth residential and commercial corridor. There are numerous golf and/or residential developments, and plans to develop nearby areas in a similar fashion. The new toll road that by-passes a portion of US 278 diverts the heavy commercial tourism traffic to more residential areas and the beaches. Hilton

Head Island has adequate sewer service, but is trying to control growth due to size limitations of the highly developed island. The island has recently lost population. However, this area is still projected as a growth area due to the following plans: (1) Beaufort and Jasper Counties are cooperating to construct a regional wastewater treatment plant in the Cherry Point area; (2) the regional water and sewer authority has proposed a regional water supply project to serve southern Beaufort and Jasper Counties with the Savannah River as the source; (3) a four lane, limited access highway connecting Hilton Head Island with I-95 will be built in the next few years; and (4) Union Camp has plans to develop at least a portion of its holding in southern Beaufort County.

Watershed Protection and Restoration Strategies

Special Studies

SCDHEC awarded the Town of Bluffton a Section 319 grant to implement a watershed-based plan to protect the May River. The goal of the project is to reduce fecal coliform levels in the May River, specifically at station 19-19. This multi-party grant will work to address all potential sources of fecal coliform. In addition to extensive educational efforts, the project includes a Stormwater Best Management Practices (BMPs) Pilot Project which will address approximately 20% of the Station 19-19 drainage area, a Unified Code Overhaul Project that addresses land use and zoning from a watershed perspective, a Septic System Inspection, Cleanout, and Replacement Program, and a Rain Barrel/Rain Garden installation project. Currently the project is scheduled to be completed in July 2012.

May River/Calibogue Sound Watershed (03060110-03)

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