03050201-07

(Cooper River/Charleston Harbor)

General Description

Watershed 03050201-07 (formerly 03050201-010 (tailrace canal), 030, 050, 060, 070, 03050202-070) is located in Berkeley, Charleston, and Dorchester Counties and consists primarily of the ***Cooper River*** and its tributaries draining into the ***Charleston Harbor***. The watershed occupies 206,457 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 26.9% forested land, 25.9% urban land, 20.3% forested wetland (swamp), 10.5% nonforested wetland (marsh), 10.3% water, 4.6% agricultural land, and 1.5% barren land.

The Tailrace Canal (California Branch, Old Santee Canal) flows out of Lake Moultrie's Pinopolis Dam and merges with Biggin Creek to form the West Branch Cooper River. The West Branch Cooper River then accepts drainage from the Wadboo Creek Watershed, Mepkin Creek, Molly Branch (Stony Branch), Wappoola Swamp, Durham Canal and Durham Creek before merging with the East Branch Cooper River Watershed at "The Tee" to form the Cooper River. Downstream of "The Tee", the Cooper River accepts drainage from Freshing Lead, Cowbell Branch, Grove Creek (Little Johnson Creek) and the Back River. Laurel Swamp (Gants Mill Branch, Tillmans Branch, Poplar Branch, Daisy Swamp, King Branch, Huckhole Swamp), Sophia Swamp (Lindsey Branch, Brick Bound Swamp), Canterhill Swamp, and Chicken Creek flow into the Back River upstream of the Back River Reservoir (also known as the Bushy Park Reservoir). Water is not released from the dam, but is pumped into the Cooper River near Bushy Industrial Park. Prioleau Creek (Long Field Pond, Crane Pond) enters Back River Reservoir in the upper lake region and Foster Creek enters the reservoir near the dam. The West Branch Cooper River also drains into the Back River via Durham Canal/Chicken Creek. All streams to this point are classified FW.

Downstream of its confluence with the Back River, the Cooper River is classified SB and accepts drainage from Flag Creek (Pepper Gully), Slack Reach, Yellow House Creek, and Goose Creek. McChune Branch, Ladson Branch, and Ancrum Swamp (Stroberfield Branch, Limehouse Branch) flow into Bluehouse Swamp and join Huckhole Swamp to form the headwaters of Goose Creek. Goose Creek is dammed to form Goose Creek Reservoir, which is used for recreation and water supply. Goose Creek is classified FW from its headwaters to the Goose Creek Reservoir Dam and SB downstream from the reservoir. Turkey Creek (SB) flows into Goose Creek downstream of the reservoir near the Town of Hanahan. Goose Creek accepts drainage from Old Goose Creek, New Tenant Pond, Brown Pond, and Logan Pond before it flows into the Cooper River.

The Cooper River (SB) then accepts drainage from Filbin Creek, Noisette Creek, Clouter Creek (Beresford Creek - SA), Shipyard Creek, the Wando River Watershed (SA), and the Ashley River Watershed (SA) as it drains into the Charleston Harbor (SB). Town Creek (Newmarket Creek) connects to the Cooper River above and below the Wando River confluence.

The Charleston Harbor accepts drainage from Kushiwah Creek, Shem Creek, Parrot Point Creek, Schooner Creek (Clark Sound), The Cove, and Bass Creek before flowing into the Atlantic Ocean. The AIWW flows across the harbor from the Ashley River and through the Sullivans Island Narrows near Ft. Moultrie. This portion of the AIWW is classified SB. Seaside Creek and Secessionville Creek drain into Clark Sound (SB). Fort Johnson Creek connects Clark Sound to Lighthouse Creek. Clark Sound drains into Lighthouse Creek as does First Sister Creek, Second Sister Creek, Block Island Creek, and Rat Island Creek. Lighthouse Creek drains to the Atlantic Ocean via Lighthouse Inlet. Natural resources in the watershed include Francis Marion National Forest, and Cypress Gardens, Ft. Sumter, and Ft. Moultrie. There are a total of 690.8 stream miles, 2,553.6 acres of lake waters, and 12,020.6 acres of estuarine areas in this watershed.

Surface Water Quality

Station #	Type	Class	Description
CSTL-062/SC-033	P/INT/SC	FW	TAILRACE CANAL AT US 52 & 17A BELOW LAKE MOULTRIE
CSTL-085	S/INT	FW	PIER IN W. BR. COOPER R. AT END OF RICE MILL ROAD IN PIMLICO
MD-217	P/W	FW	DURHAM CREEK AT S-08-9 BRIDGE
MD-240	P/W	FW	FOSTER CREEK AT CHARLESTON CPW WATER INTAKE
RT-042070	RT-04	SB	UNNAMED TRIB TO THE COOPER R. NEXT CK UPRIVER FROM GROVE CK
CSTL-124	INT	FW	BACK R. RES. IN FOREBAY EQUIDISTANT FROM DAM AND SHORELINES
MD-152	P/W	FW/SB	COOPER RIVER AT S-08-503, 6.2 MI ESE OF GOOSE CREEK
MD-043	P/SPRP	SB	COOPER RIVER AT CHANNEL MARKER 72 NEAR USN AMMO DEPOT
RO-06308	RO-06	SB	COOPER RIVER, 1.8 MI NNE OF GOOSE CREEK
RT-07040	RT-07	SB	CLOUTER CK, 0.5 MI BELOW NORTHERN CONFLUENCE WITH COOPER R.
MD-114	P/W	FW	GOOSE CREEK AT U.S. 52 N CHARLESTON
RL-04390	RL-04	FW	GOOSE CREEK RESERVOIR, 2.8MI NW OF SPILLWAY NEAR OTRANTO
RL-06434	RL-06	FW	GOOSE CREEK RESERVOIR, 2MI N OF SPILLWAY
RL-08065	RL-08	FW	GOOSE CREEK RESERVOIR, MIDLAKE IN LINE WITH NORTHBROOK BLVD
RL-07017	RL-07	FW	GOOSE CK RES., 0.6MI NW OF 2ND POWERLINE UPSTR OF BOAT RAMP
ST-033/CL-050	W	FW	GOOSE CREEK RES. AT 2ND POWER LINES UPSTREAM OF BOAT RAMP
RL-05412	RL-05	FW	GOOSE CREEK RESERVOIR, 0.55MI W OF DAM
RL-07001	RL-07	FW	GOOSE CREEK RESERVOIR, 100M NW OF SW DAM
ST-032/CL-049	P/SPRP	FW	GOOSE CREEK RESERVOIR 100 M UPSTREAM OF DAM
MD-039	P/INT	SB	GOOSE CREEK AT S-08-136 BRIDGE
MD-044	P/W	SB	COOPER RIVER BELOW MOUTH OF GOOSE CREEK AT CHAN. BUOY 60
RO-046070	RO-04	SB	COOPER RIVER, 0.7MI SSW OF MOUTH OF GOOSE CREEK
MD-249/MD-593	P/W	SB	FILBIN CREEK AT VIRGINIA AVE., NORTH CHARLESTON
MD-248	P/SPRP	SB	COOPER RIVER AT MARK CLARK BRIDGE (I-526)
RO-08352	RO-08	SB	COOPER R, 1MI DOWNSTREAM FROM NOISETTE CK IN THE NAVY YARD
MD-045	P/INT	SB	COOPER RIVER ABOVE MOUTH OF SHIPYARD CK AT CHAN BUOY 49
MD-243	P/W	SB	SHIPYARD CREEK BETWEEN MARKER #6 AND MCALLOY DOCK
MD-046	P/W	SB	COOPER RIVER UNDER GRACE MEMORIAL BRIDGE
MD-047	P/W	SB	TOWN CREEK (W SIDE OF DRUM ISLAND) UNDER GRACE MEM. BRDG
RO-06304	RO-06	SB	COOPER RIVER, 0.3MI W OF SHUTES FOLLY ISLAND
MD-071	P/SPRP	SB	SHEM CREEK AT BRIDGE ON US 17
RO-07336	RO-07	SB	CHARLESTON HARBOR, 0.4MI SE OF MOUTH OF SHEM CREEK
MD-247	P/INT	SB	CHARLESTON HARBOR NEAR MT. PLEASANT WWTP DIFFUSER
MD-069	INT	SB/SFH	AIWW AT SC 703, E OF MT. PLEASANT
RO-046066	RO-04	SB	CHARLESTON HARBOR, 0.65MI SSE OF SHUTES FOLLY ISLAND
MD-165	P/INT	SB	CHARLESTON HARBOR AT FT.JOHNSON PIER AT MARINE SCIENCE LAB
MD-048	P/W	SB	S. CHANNEL CHAS HARBOR OFF FT JOHNSON , BELL BUOY 28
RT-042072	RT-04	SB	UNNAMED TRIB TO PARROT POINT CREEK, 0.8MI S OF FT. JOHNSON

Tailrace Canal (CSTL-062/SC-033) – Aquatic life and recreational uses are fully supported. There is a significant increasing trend in pH. A significant decreasing trend in five-day biological oxygen demand suggests improving conditions for this parameter.

West Branch Cooper River (CSTL-085) – Aquatic life and recreational uses are fully supported; however, there are significant decreasing trends in dissolved oxygen concentration and increasing trends in five-day biological oxygen demand and total phosphorus concentration. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standard violations.

Unnamed Tributary to Cooper River (RT-042070) – Aquatic life and recreational uses are fully supported.

Cooper River – There are ten monitoring stations along the Cooper River. At the furthest upstream site (***MD-152***), aquatic life and recreational uses are fully supported for both freshwater and saltwater classifications. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standard violations. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters at this site. Moving downstream, ***MD-043*** is fully supported for both aquatic life and recreational uses; however, there is a significant increasing trend in five-day biological oxygen demand. Significant decreasing trends in turbidity, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters at this site. At the next site downstream ***(RO-06308)***, aquatic life and recreational uses are fully supported.

Further downstream, aquatic life and recreational uses are fully supported at ***MD-044***. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus concentration, total nitrogen concentration, and fecal coliform bacteria suggest improving conditions for these parameters at this site. Aquatic life and recreational uses are fully supported at ***RO-046070***. Moving downstream, ***MD-248*** is fully supported for both aquatic life and recreational uses; however, there is a significant increasing trend in five-day biological oxygen demand. Significant decreasing trends in turbidity, total phosphorus concentration, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters at this site. Aquatic life uses are fully supported at ***RO-08352***, but recreational uses are partially supported due to fecal coliform bacteria excursions.

At ***MD-045***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biological oxygen demand. Significant decreasing trends in turbidity, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters at this site. Moving downstream, ***MD-046*** is fully supported for both aquatic life and recreational uses. There is a significant decreasing trend in pH. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological

oxygen demand, turbidity, total phosphorus concentration, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters at this site. At the furthest downstream site ***(R0-06304)***, aquatic life and recreational uses are fully supported.

Durham Creek (MD-217) – Aquatic life and recreational uses are fully supported. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters.

Foster Creek (MD-240) – Aquatic life uses are not supported due to dissolved oxygen excursions. There is a significant increasing trend in pH. Significant decreasing trends in five-day biological oxygen demand, turbidity, and fecal coliform bacteria suggest improving conditions for these parameters. Recreational uses are fully supported.

***Back River Reservoir* (*CSTL-124*) –** Aquatic life uses are partially supported due to dissolved oxygen excursions. In addition, there are significant increasing trends in five-day biological oxygen demand and total phosphorus concentration. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. Recreational uses are fully supported.

Clouter Creek (RT-07040) - Aquatic life and recreational uses are fully supported.

Goose Creek - There are two monitoring stations along Goose Creek. At the upstream site ***(MD-114)***, aquatic life uses are not supported due to dissolved oxygen excursions. Significant decreasing trends in five-day biological oxygen demand, turbidity, and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site. At the downstream site ***(MD-039)***, aquatic life uses are fully supported. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity, total phosphorus concentration, and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform suggests improving conditions for this parameter.

Goose Creek Reservoir – There are eight monitoring stations along Goose Creek Reservoir and recreational uses are fully support at all sites. At the furthest upstream sites to mid lake ***(RL-04390, RL-06434, RL-08065, RL-07017)***, aquatic life uses are partially supported due to dissolved oxygen excursions. At the next site downstream ***(ST-033)***, aquatic life uses are not supported due to total phosphorus excursions. Aquatic life uses are fully supported at ***RL-05412*** and ***RL-07001***. At the furthest downlake site ***(ST-032)***, aquatic life uses are not supported due to total phosphorus excursions and there is a significant increasing trend in total phosphorus concentration. There is a significant decreasing trend in pH at this site.

Filbin Creek (MD-249) – Aquatic life uses are fully supported. Although dissolved oxygen excursions occurred, they were typical of values seen in such systems and were considered natural, not standard violations. There is a significant decreasing trend in pH. Recreational uses are not supported due to fecal coliform bacteria excursions and there is a significant increasing trend in fecal coliform bacteria concentration.

Shipyard Creek (MD-243) – Aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus concentration, total nitrogen concentration, total suspended solids, and fecal coliform bacteria suggest improving conditions for these parameters.

Town Creek (MD-047) – Aquatic life and recreational uses are fully supported. Significant increasing trends in dissolved oxygen concentration and decreasing trends in five-day biological oxygen demand, turbidity, total phosphorus concentration, total nitrogen concentration, and fecal coliform bacteria suggest improving conditions for these parameters.

Shem Creek (MD-071) – Aquatic life uses are partially supported due to ammonia excursions. In addition, there is a significant increasing trend in five-day biological oxygen demand. There is a significant decreasing trend in pH. Significant increasing trends in dissolved oxygen concentration and decreasing trends in total phosphorus concentration and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Atlantic Intracoastal Waterway (MD-069) - Aquatic life uses are fully supported; however, there are significant increasing trends in five-day biological oxygen demand and turbidity. There is a significant decreasing trend in pH. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter. Recreational uses are fully supported.

Charleston Harbor – There are five monitoring stations within the Charleston Harbor and recreational uses are fully supported at all sites. Aquatic life uses are fully supported at ***RO-07336*** and ***RO-046066***. At ***MD-247***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biological oxygen demand. There is a significant decreasing trend in pH. Significant increasing trends in dissolved oxygen concentration and decreasing trends in total nitrogen concentration and fecal coliform bacteria concentration suggest improving conditions for these parameters at this site. At ***MD-165***, aquatic life uses are partially supported due to ammonia excursions. In addition, there is a significant increasing trend in five-day biological oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity, total phosphorus concentration, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters. Near the mouth of the harbor, aquatic life uses are fully supported at ***MD-048***. There is a significant decreasing trend in pH. Significant increasing trends in dissolved oxygen concentration and

decreasing trends in five-day biological oxygen demand, total nitrogen concentration, and fecal coliform bacteria concentration suggest improving conditions for these parameters at this site.

Parrot Point Creek Tributary (RT-04272) – Aquatic life uses are not supported due to turbidity excursions. Recreational uses are fully supported.

A fish consumption advisory has been issued by the Department for mercury and includes the Tailrace Canal, West Branch Cooper River, portions of the Cooper River, and Durham Creek within this watershed. Fish tissue samples from Charleston Harbor, Back River Reservoir, and Goose Creek Reservoir indicate no advisories are needed at this time. For more information and the most current advisory, visit http://www.scdhec.gov/fish .

Shellfish Monitoring Stations

Station #	Description
10A-11	RAT ISLAND CREEK AT CONFLUENCE WITH FIRST CREEK ON LEFT FROM LIGHTHOUSE CREEK
10A-13	LIGHTHOUSE CREEK AT CONFLUENCE WITH FOLLY CREEK
10A-15	SECESSIONVILLE CREEK AT PRIVATE DOCKS
10A-16	CLARK SOUND AT OCEAN VIEW FLATS
10A-16B	CLARK SOUND, 550 YDS E OF STATION 10A-16A
10A-18	MOUTH OF SCHOONER CREEK
10A-19	JUST INSIDE CLARK SOUND FROM SCHOONER CREEK
10A-23	LIGHTHOUSE CREEK STATE SHELLFISH GROUND AT MOUTH OF FIRST SISTER CREEK
10A-29A	LIGHTHOUSE CREEK AT SECESSIONVILLE CREEK AND CLARK SOUND
10A-30	SECOND BEND IN RATHALL CREEK
10A-32	BLOCK ISLAND CREEK – 100 YDS S.OF SPILT FORM SPOIL AREA
10A-33	CONFLUENCE OF LIGHTHOUSE CREEK AND CLARK SOUND
10A-34	THE FIRST DOCK IN SECESSIONVILLE CREEK AT ITS CONFLUENCE WITH CLARK SOUND
10A-34A	BLOCK ISLAND CREEK AT FLATS
10A-35	RIGHT FORK OF SCHOONER CREEK, MIDDLE OF DOCKS, ACROSS FROM PARROT POINT DEVELOPMENT

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-053	GB	PEE DEE	MONCKS CORNER
AMB-024	GB	BLACK MINGO	SANTEE COOPER

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME*	*NPDES#* *TYPE*
TAILRACE CANAL SCPSA/JEFFERIES GENERATING STATION	SC0001091 MAJOR INDUSTRIAL
TAILRACE CANAL C.R. BARD, INC.	SC0035190 MINOR INDUSTRIAL
WEST BRANCH COOPER RIVER TOWN OF MONCKS CORNER WWTP	SC0021598 MAJOR DOMESTIC
WEST BRANCH COOPER RIVER BCW&SA/CENTRAL BERKELEY WWTP	SC0039764 MINOR DOMESTIC

WEST BRANCH COOPER RIVER DICK SMITH CHEVROLET/MONKS CORNER	SCG750032 MINOR INDUSTRIAL
WAPPOOLA SWAMP SCE&G/WILLIAMS ASH DISPOSAL	SC0046175 MINOR INDUSTRIAL
MOLLY BRANCH SCE&G/WILLIAMS LANDFILL	SC0039535 MINOR INDUSTRIAL
MOLLY BRANCH TRIBUTARY BCSD/OAKLEY MAINTENANCE FACILITY	SC0026867 MINOR DOMESTIC
MOLLY BRANCH D&A PARTNERSHIP/DANGERFIELD MINE	SCG730125 MINOR INDUSTRIAL
COOPER RIVER KAPSTONE CHARLESON KRAFT LLC	SC0001759 MAJOR INDUSTRIAL
COOPER RIVER HESS/CHARLESTON N. TERMINAL	SC0002852 MINOR INDUSTRIAL
COOPER RIVER HESS/CHARLESTON S. TERMINAL	SC0002861 MINOR INDUSTRIAL
COOPER RIVER ALLIED TERMINALS/CHARLESTON	SC0001350 MINOR INDUSTRIAL
COOPER RIVER CHEVRON USA INC./DELPHIN GROUP	SC0003026 MINOR INDUSTRIAL
COOPER RIVER SUN CHEMICAL CORP./BUSHY PARK	SC0003441 MAJOR INDUSTRIAL
COOPER RIVER US NAVY/WEAPONS STATION	SC0043206 MINOR INDUSTRIAL
COOPER RIVER NCSD/FELIX DAVIS WWTP	SC0024783 MAJOR DOMESTIC
COOPER RIVER DAK AMERICAS LLC/COOPER RIVER PLANT	SC0026506 MAJOR INDUSTRIAL
COOPER RIVER BP AMOCO CHEMICALS/COOPER RIVER	SC0028584 MAJOR INDUSTRIAL
COOPER RIVER BCW&SA/LOWER BERKELEY WWTP	SC0046060 MAJOR DOMESTIC
COOPER RIVER NUCOR STEEL/BERKELEY PLANT	SC0047392 MAJOR INDUSTRIAL
COOPER RIVER TRIBUTARY CHARLESTON CPW/DANIEL ISLAND	SC0047074 MAJOR DOMESTIC
COOPER RIVER SCE&G/WILLIAMS STATION	SC0003883 MAJOR INDUSTRIAL
COOPER RIVER PETROLIANCE LLC	SC0047261 MINOR INDUSTRIAL
COOPER RIVER DETYENS SHIPYARD INC./MAIN YARD	SC0047562 MINOR INDUSTRIAL

COOPER RIVER SEACREST MARINE HOLDINGS LLC	SC0048518 MINOR INDUSTRIAL
COOPER RIVER KINDER MORGAN OPERATING LPC/SHIPYARD TERM.	SCG250287 MINOR INDUSTRIAL
COOPER RIVER EI DUPONT/COOPER RIVER PLANT	SC0048950 MINOR INDUSTRIAL
YELLOW HOUSE CREEK OL THOMPSON CONSTR.CO., INC./PRIMUS TRACT	SCG730117 MINOR INDUSTRIAL
CANTERHILL SWAMP AUSTIN CONTR. CO. INC./COLEMAN MINE	SCG731032 MINOR INDUSTRIAL
CLARK SOUND TRIBUTARY LOYD MCCRACKEN PIT MINE	SCG731118 MINOR INDUSTRIAL
FILBIN CREEK DEFENSE FUEL SUPPLY CENTER/CHAS.	SCG340022 MINOR INDUSTRIAL
FILBIN CREEK MEAD WESTVACO CORP/CHAS.	SC0001759 MAJOR INDUSTRIAL
FILBIN CREEK KINDER MORGAN BULK TERMINAL/N. CHAS.	SCG340015 MINOR INDUSTRIAL
LINDSEY BRANCH JW ALUMINUM CO.	SCG250105 MINOR INDUSTRIAL
POPLAR BRANCH THOMAS DANIELS 17A BORROW PIT	SCG730005 MINOR INDUSTRIAL
CHARLESTON HARBOR TOWN OF MT PLEASANT/CENTER ST. & RR RD	SC0040771 MAJOR DOMESTIC
COVE CREEK TOWN OF SULLIVANS ISLAND WWTP	SC0020052 MINOR DOMESTIC

Municipal Separate Storm Sewer Systems (MS4)

RECEIVING STREAM ***MUNICIPALITY*** ***RESPONSIBLE PARTY*** ***IMPLEMENTING PARTY***	***NPDES#*** ***MS4 PHASE*** ***MS4 SIZE***
COOPER RIVER TOWN OF GOOSE CREEK TOWN OF GOOSE CREEK TOWN OF GOOSE CREEK	SCR031502 PHASE II SMALL MS4
COOPER RIVER TOWN OF GOOSE CREEK NAVAL WEAPONS STATION NAVAL WEAPONS STATION	SCR031504 PHASE II SMALL MS4
COOPER RIVER TOWN OF HANAHAN TOWN OF HANAHAN TOWN OF HANAHAN	SCR031503 PHASE II SMALL MS4

COOPER RIVER UNINCORPORATED AREAS BERKELEY COUNTY BERKELEY COUNTY	SCR031501 PHASE II SMALL MS4
COOPER RIVER UNINCORPORATED AREAS NAVAL WEAPONS STATION NAVAL WEAPONS STATION	SCR031504 PHASE II SMALL MS4
COOPER RIVER CITY OF CHARLESTON CITY OF CHARLESTON CITY OF CHARLESTON	SCR031901 PHASE II SMALL MS4
COOPER RIVER TOWN OF MOUNT PLEASANT TOWN OF MOUNT PLEASANT TOWN OF MOUNT PLEASANT	SCR031906 PHASE II SMALL MS4
COOPER RIVER CITY OF NORTH CHARLESTON CHARLESTON AFB CHARLESTON AFB	SCR031909 PHASE II SMALL MS4
COOPER RIVER CITY OF NORTH CHARLESTON CITY OF NORTH CHARLESTON CITY OF NORTH CHARLESTON	SCR031907 PHASE II SMALL MS4
COOPER RIVER TOWN OF SULLIVANS ISLAND TOWN OF SULLIVANS ISLAND CHARLESTON COUNTY	SCR031908 PHASE II SMALL MS4
COOPER RIVER UNINCORPORATED AREAS CHARLESTON COUNTY CHARLESTON COUNTY	SCR031902 PHASE II SMALL MS4
COOPER RIVER TOWN OF SUMMERVILLE TOWN OF SUMMERVILLE TOWN OF SUMMERVILLE	SCR033502 PHASE II SMALL MS4
COOPER RIVER UNINCORPORATED AREAS DORCHESTER COUNTY DORCHESTER COUNTY	SCR031501 PHASE II SMALL MS4

Nonpoint Source Management Program

Land Disposal Activities

Land Application Sites

LAND APPLICATION FACILITY NAME	***PERMIT # YPE***
SPRAYFIELD CHARLESTON CPW/HANAHAN WTP	ND0073491 DOMESTIC

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
SCE&G/WILLIAMS STATION INDUSTRIAL	083320-1601 ACTIVE
SCE&G/GENCO/WILLIAMS STATION INDUSTRIAL	083309-1601 ACTIVE
BERKELEY COUNTY LANDFILL MUNICIPAL	081001-1101 ACTIVE
BERKELEY COUNTY LANDFILL MUNICIPAL	081001-1102 ACTIVE
BERKELEY COUNTY COMPOSTING FACILITY COMPOSTING	081001-3001 ACTIVE
OLD BERKELEY COUNTY MUNICIPAL	--------- INACTIVE
OLD BERKELEY COUNTY/NEIGHBORS SITE MUNICIPAL	---------- INACTIVE
BERKELEY COUNTY C&D LANDFILL CONSTRUCTION	081001-1201 ACTIVE
BERKELEY COUNTY TIRE DISPOSAL MUNICIPAL	081001-5101 INACTIVE
WOOD NOT WASTE LAND APPLICATION	102756-8001 ACTIVE
GREEN OASIS ENVIRONMENTAL INC. USED OIL PROCESSING	102619-7101 ACTIVE
GREEN OASIS ENVIRONMENTAL INC. UOM	102619-7301 INACTIVE
MONTENAY CHARLESTON RESOURCE RECOVERY INC 	102495-4001 ACTIVE
SHEPPARD TRUCKING CO. INDUSTRIAL	--------- INACTIVE
SPRING GROVE ENVIRONMENTAL INC. COMPOSTING	102441-3001 ACTIVE
SPRING GROVE ENVIRONMENTAL INC. INDUSTRIAL	102441-1601 ACTIVE
AMOCO CHEMICAL CO. INDUSTRIAL	---------- INACTIVE
WESTVACO LANDFILL INDUSTRIAL	---------- INACTIVE
CHARLESTON COUNTY MUNICIPAL	--------- INACTIVE
CHARLESTON COUNTY SOLID WASTE REDUCTION MUNICIPAL	--------- INACTIVE

CHARLESTON/SPRUIL AVENUE DUMP MUNICIPAL	--------- CLOSED
GASTON DUMP MUNICIPAL	--------- CLOSED
HOLSTON LANDFILL MUNICIPAL	---------- INACTIVE
ROMEY STREET LANDFILL MUNICIPAL	---------- INACTIVE
M&S DEVELOPMENT CO. INDUSTRIAL	---------- INACTIVE
G&S ROOFING PRODUCTS INDUSTRIAL	102434-1601 ACTIVE
WESTVACO/CHARLESTON CO. MUNICIPAL	--------- CLOSED
WESTVACO/CHARLESTON CO. INDUSTRIAL	--------- CLOSED
TOWN OF SULLIVANS ISLAND MUNICIPAL	--------- CLOSED
LADSON WOOD RECYCLING COMPOSTING	102745-3001 ACTIVE
CHARLESTON DISPOSAL SERVICE INC. MUNICIPAL	---------- INACTIVE
RUBBER RECOVERY INC. WTP	082728-5201 ACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
D&A PARTNERSHIP JOHN R. CUMBIE MINE	0747-15 SAND
SHUMPERT CONSTR. CO. WEEKS MINE	1611-15 SAND
SC GENERATING CO., INC. WILLIAMS ASH DISPOSAL	0964-15 SAND
OL THOMPSON CONSTRUCTION CO., INC. PRIMUS TRACT	0962-15 SAND/CLAY
ACRE MAKER, A PARTNERSHIP 17A MINE PIT	0743-15 SAND; SAND/CLAY
ROBERT O. COLLINS COMPANY, INC. SPRINGROVE MINES	0595-19 SAND/CLAY

Water Quantity

WATER USER STREAM	*REGULATED CAP. (MGD) PUMPING CAP.(MGD)*
CHARLESTON WATER SYSTEM	125.0
FOSTER CREEK	150.0
CHARLESTON WATER SYSTEM	10.0
GOOSE CREEK RESERVOIR	10.0

Growth Potential

There is a high potential for growth for much of this watershed, which contains the Towns of Moncks Corner, Hanahan, Goose Creek, Ladson, and Kiawah Island, the City of Folly Beach, and portions of the City of Charleston, North Charleston and the Towns of Summerville, Seabrook Island, Sullivans Island, and Mount Pleasant. At the top of the watershed, future growth is expected in the Town of Moncks Corner, the Whitesville and Pimlico Communities, and the Berkeley Country Club area. The Town of Moncks Corner and Berkeley County operate water and sewer systems in the area, which may allow scattered development. Scattered development is also possible for the Town of Goose Creek. Summerville, Hanahan, North Charleston, Charleston, and Berkeley County are population growth areas in the central area of the watershed. In addition, the Charleston County Parks and Recreation Commission has purchased a large parcel of land above Goose Creek Reservoir for development as a county park. The interbasin transfer of fresh water via a pipeline connecting the Edisto River to the Hanahan WTP will help to provide for growth in this area.

Fresh water is a vital necessity to the area's economy. The Back River and its tributaries are a major source of fresh water for the public water supply and many of the large industries located along the Cooper River. The Union Terminal (Sea Port Facility) within the City of Charleston is projected to be an area of population growth. The population in the urban areas west of the Cooper River has declined in the last decade and are not expected to grow in the near future. The U.S. Navy Base/Shipyard was closed by the Navy in 1996. The Office/Manufacturing/Industrial reuses of this property will occur well into the future, but residential uses are not significant components of the Base Reuse Plan. The Bushy Industrial Park includes several very large industries and should continue to encourage industrial growth.

The lower portion of the watershed contains the Peninsula of the City of Charleston, Mount Pleasant, James Island, Johns Island, the beaches, and Charleston Harbor that bring great residential and commercial growth. Suburban growth areas include: the Dills Property, Ellis Property II, Stiles Point Plantation, Stonefield, Fort Lamar, Grimbel Shores, and Harborwoods III on James Island; and Kiawah Island, Andell Property, and Hope Plantation on Johns Island. All growth areas in the watershed have water and sewer services available.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

The TMDLs addressing dissolved oxygen for the Ashley River and for the ***Cooper River***-Wando River-***Charleston Harbor*** have been revised. The revised TMDLs are combined in a

single TMDL document covering Charleston Harbor and the Cooper, Ashley, and Wando Rivers. The basis for this revision is a new 3-Dimensional Environmental Fluid Dynamics Code (EFDC) model covering the entire system completed in 2008, a revised Dissolved Oxygen standard as amended in the South Carolina Pollution Control Act in 2010 (adopted in S.C. R.61-68 in 2012), and subsequent reallocation of the TMDLs led by the Berkeley-Charleston-Dorchester Council of Governments. The revised TMDL was placed on public notice in October 2012 and approved by EPA in April 2013. The TMDL determined revised wasteload allocations for oxygen-demanding pollutants from continuous point sources which will be implemented in NPDES permits.

The previous and revised TMDLs can be compared on a percent reduction basis. The Cooper River TMDL required an interim reduction of 58% (Phase 1) and a final reduction of 69% (Phase 2) from pre-TMDL permitted UOD; the Ashley River TMDL required a reduction of 32% from pre-TMDL permitted UOD. This TMDL applies a more accurate water quality model in addition to a more accurate laboratory characterization of the wastewater. Based on this new information, the revised TMDL is equivalent to an additional 2% reduction below the Phase 1 level for the Cooper River. The revised TMDL for the Ashley River is equivalent to a 15% reduction from the pre-TMDL permitted UOD. For more detailed information on TMDLs, please visit www.scdhec.gov/tmdl.

Special Models

Charleston Harbor System TMDLs

Modeling for the revised TMDL includes EFDC hydrodynamic and water quality models for the river and harbor segments and linked Loading Simulation Program in C++ (LSPC) watershed model. Charleston waters are considered naturally low in dissolved oxygen, so the TMDL target is an allowable oxygen depression of 0.1 mg/L due to continuous NPDES point sources. Regulated stormwater and nonpoint sources were determined equivalent to natural background due to high levels of natural organic matter in the system. As such, they do not contribute to the 0.1mg/L depression target at existing conditions. The TMDL model is currently being adapted for future harbor deepening evaluations.

Special Projects

Charleston Harbor Project

The Charleston Harbor Project initiated a comprehensive variety of projects designed to inform the public and decision makers on all major issues affecting the harbor and facilitate the best possible policies for achieving economic and natural resource goals for the region. Considerable scientific research was conducted with over fifty reports published on topics including ecological dynamics, water quality impacts of urban growth, and recreational uses of the resource.

A publication with recommendations related to these studies was made available in 2000. One particular recommendation of the final report was the development of a Special Area Management Plan focused on the Upper Cooper River region. This project was completed in 2004 with the management of old rice fields, a major subject of interest. A website with the final

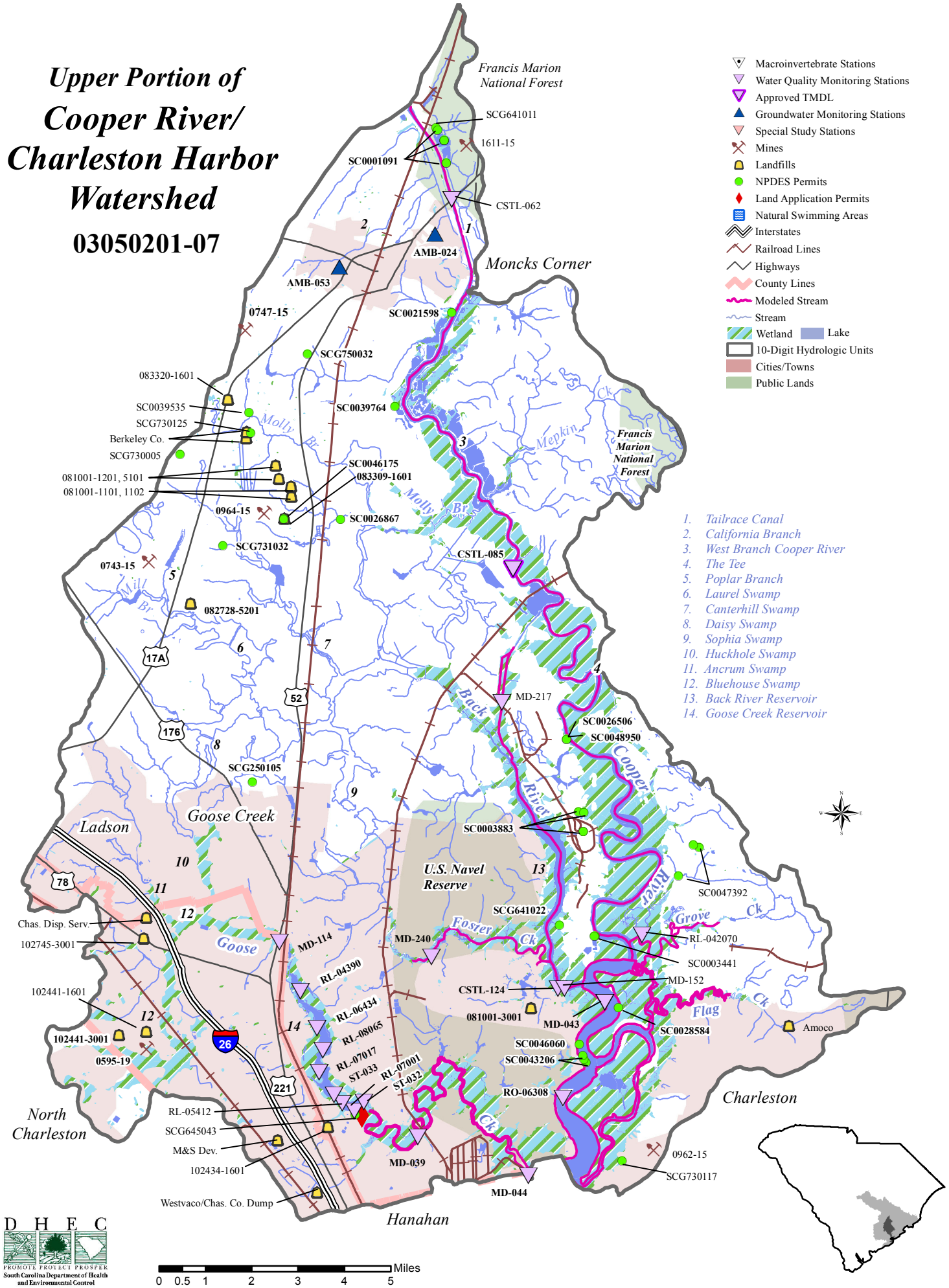
report as well as a searchable database of other information on the project is available at: http://www.scdhec.gov/environmental.ocrm.samp.htm.

Charleston Harbor Deepening Project

The U.S. Army Corps of Engineers – Charleston District and the South Carolina State Ports Authority initiated the feasibility phase of the Post 45 harbor deepening project in 2011. The feasibility study will analyze economic benefits and environmental impacts for various alternative depths for the Charleston Harbor ship channel and includes National Environmental Policy Act (NEPA) review by USEPA and Section 401 water quality review by SCDHEC.

Upper Portion of Cooper River/ Charleston Harbor Watershed

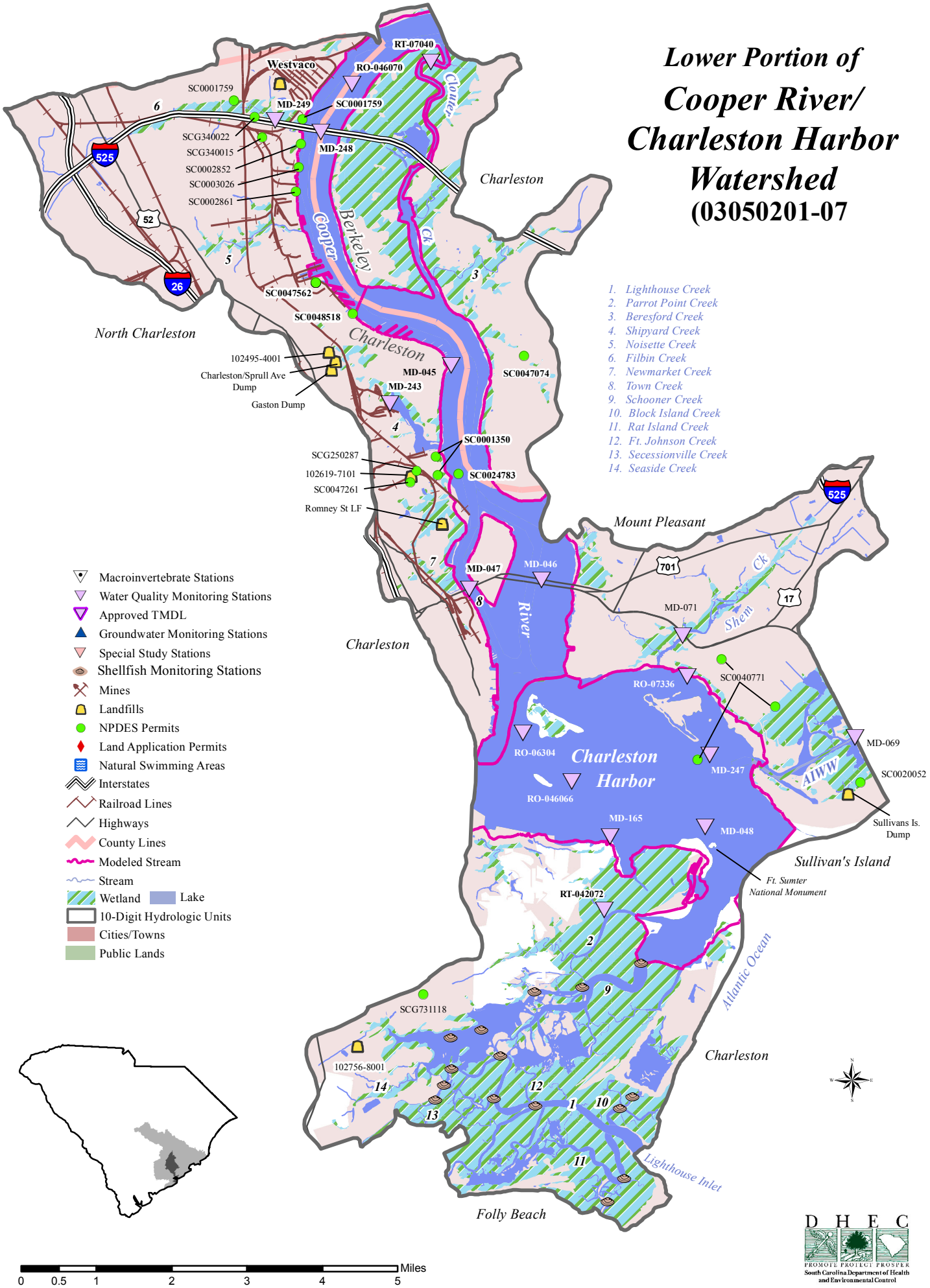
03050201-07



- Macroinvertebrate Stations
- Water Quality Monitoring Stations
- Approved TMDL
- Groundwater Monitoring Stations
- Special Study Stations
- Mines
- Landfills
- NPDES Permits
- Land Application Permits
- Natural Swimming Areas
- Interstates
- Railroad Lines
- Highways
- County Lines
- Modeled Stream
- Stream
- Wetland
- Lake
- 10-Digit Hydrologic Units
- Cities/Towns
- Public Lands

1. Tailrace Canal
2. California Branch
3. West Branch Cooper River
4. The Tee
5. Poplar Branch
6. Laurel Swamp
7. Canterhill Swamp
8. Daisy Swamp
9. Sophia Swamp
10. Huckhole Swamp
11. Ancrum Swamp
12. Bluehouse Swamp
13. Back River Reservoir
14. Goose Creek Reservoir

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control


Lower Portion of
Cooper River/
Charleston Harbor
Watershed
(03050201-07
1. Lighthouse Creek
2. Parrot Point Creek
3. Beresford Creek
4. Shipyard Creek
5. Noisette Creek
6. Filbin Creek
7. Newmarket Creek
8. Town Creek
9. Schooner Creek
10. Block Island Creek
11. Rat Island Creek
12. Ft. Johnson Creek
13. Secessionville Creek
14. Seaside Creek
Macroinvertebrate Stations
Water Quality Monitoring Stations
Approved TMDL
Groundwater Monitoring Stations
Special Study Stations
Shellfish Monitoring Stations
Mines
Landfills
NPDES Permits
Land Application Permits
Natural Swimming Areas
Interstates
Railroad Lines
Highways
County Lines
Modeled Stream
Stream
Wetland
Lake
10-Digit Hydrologic Units
Cities/Towns
Public Lands
RT-07040
RO-046070
SC0001759
MD-249
MD-248
SCG340022
SCG340015
SC0002852
SC0003026
SC0002861
Westvaco
Clouter Ck
Cooper
Berkeley
Charleston
North Charleston
SC0047562
SC0048518
102495-4001
Charleston/Sprull Ave Dump
Gaston Dump
MD-045
MD-243
SC0047074
SC0001350
SC0024783
SCG250287
102619-7101
SC0047261
Romney St LF
MD-047
MD-046
Mount Pleasant
Shem Ck
MD-071
SC0040771
RO-07336
RO-06304
RO-046066
Charleston Harbor
MD-247
MD-069
AIWW
SC0020052
Sullivans Is. Dump
MD-165
MD-048
Sullivan's Island
Ft. Sumter National Monument
RT-042072
Atlantic Ocean
SCG731118
102756-8001
Charleston
Lighthouse Inlet
Folly Beach
Miles
0 0.5 1 2 3 4 5
D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control