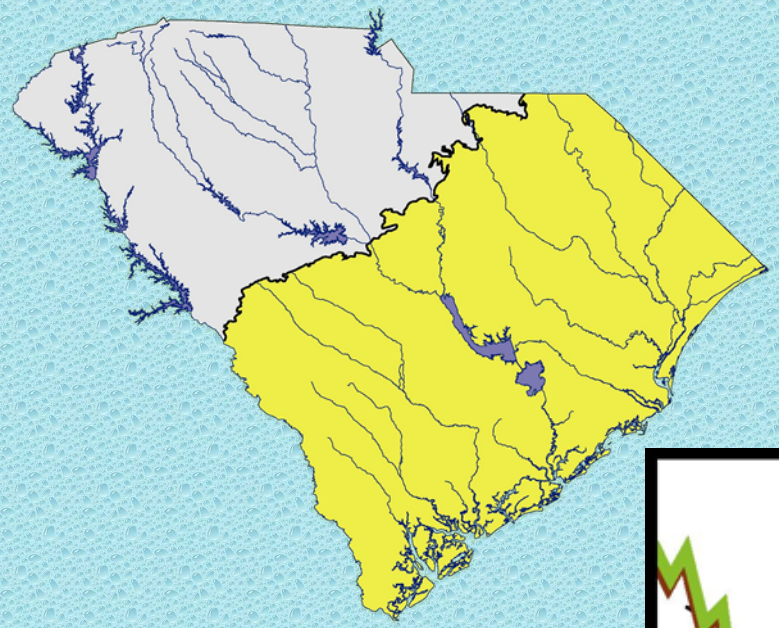
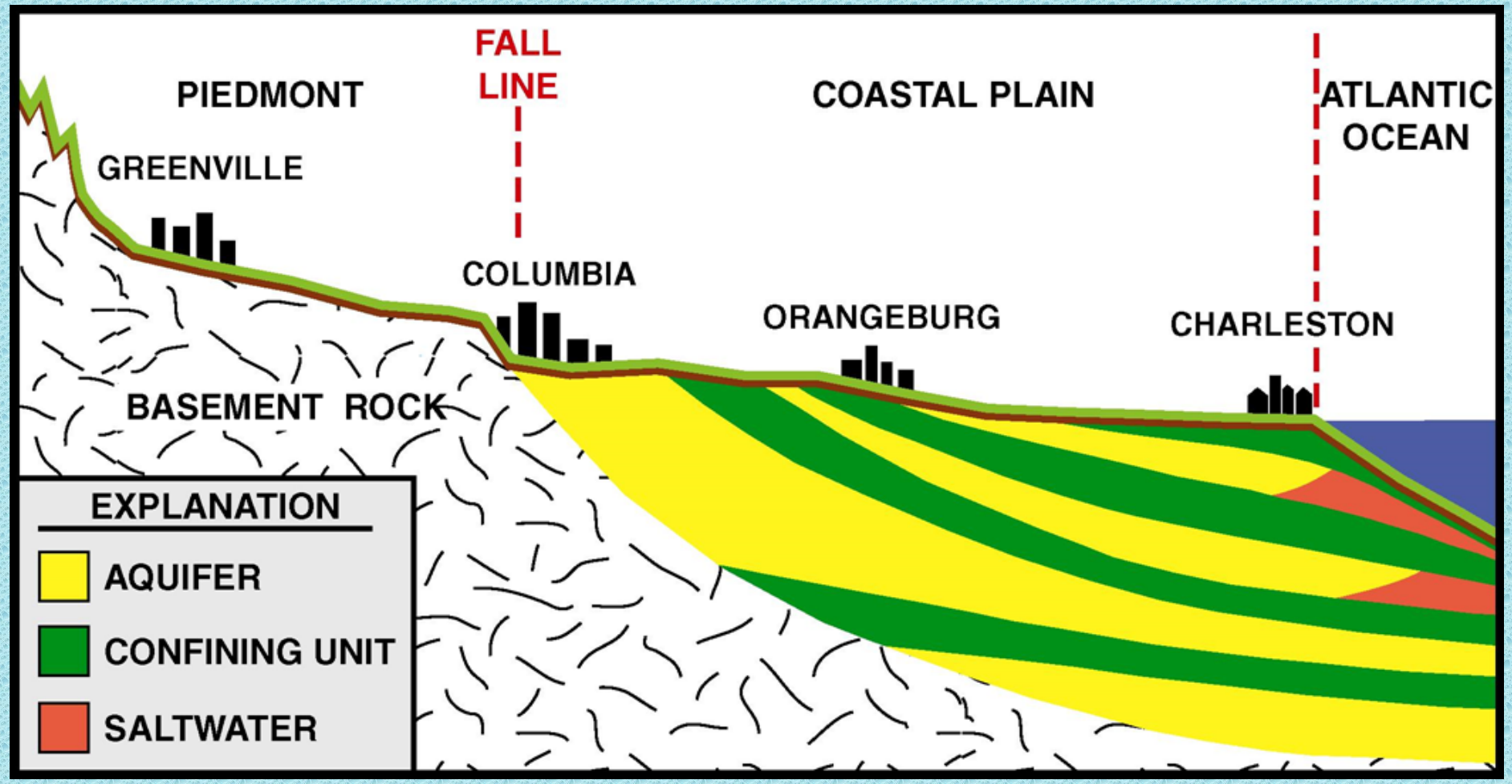
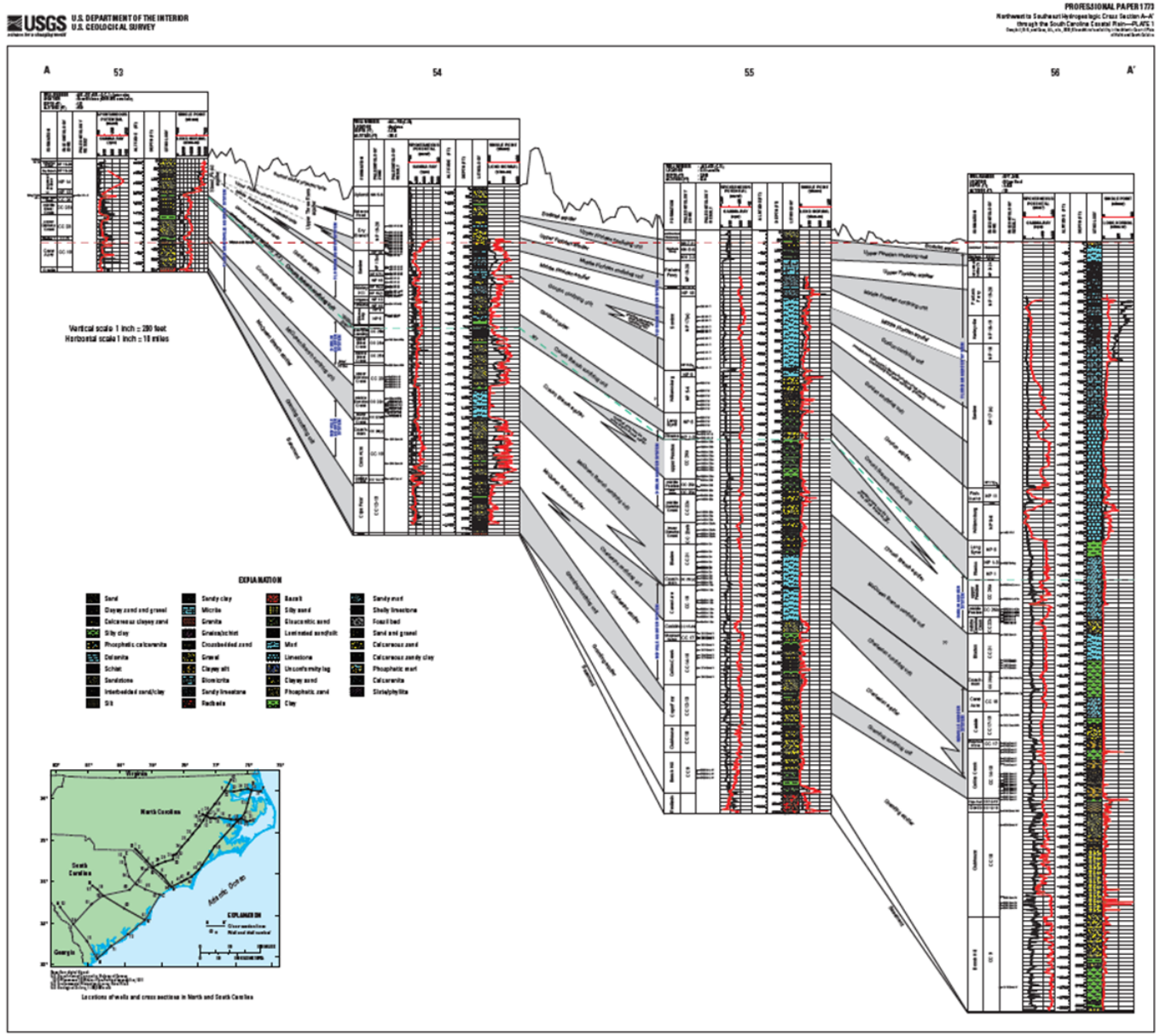
NGWMN Data Providers Meeting
South Carolina Update

Alex Butler, Hydrology Section



Hydrogeological Setting





Northwest to Southeast Hydrogeologic Cross Section A–A' through the South Carolina Coastal Plain

	This report	Aucott and others (1987)	Miller (1986) Miller and Renken (1988)	Colquhoun and others (1983)
	surficial aquifer (layer 1)	surficial aquifer	surficial aquifer	unnamed
FLORIDAN AQUIFER SYSTEM	Upper Floridan confining unit (layer 2)	unnamed confining unit	Upper confining unit	unnamed confining beds
	Upper Floridan aquifer (layer 3)	Floridan aquifer system (Tertiary sand aquifer updip)	Upper Floridan aquifer (Pearl River aquifer updip)	Tertiary Limestone Aquifer System (Tertiary sand aquifer system updip)
	Middle Floridan confining unit (layer 4)			
	Middle Floridan aquifer (layer 5)			
	Gordon confining unit (layer 6)	Tertiary sand aquifer	middle confining unit/ Lower Floridan aquifer	unnamed confining beds
	Gordon aquifer (layer 7)		Pearl River aquifer	Black Mingo Aquifer System
MEYERS BRANCH CONFINING SYSTEM	Crouch Branch confining unit (layer 8)	unnamed confining unit	Chattahoochee River confining unit	unnamed confining beds
DUBLIN AQUIFER SYSTEM	Crouch Branch aquifer (layer 9)	Black Creek aquifer	Chattahoochee River aquifer	Peedee and Black Creek aquifer systems
ALLENDALE CONFINING SYSTEM	McQueen Branch confining unit (layer 10)	unnamed confining unit		unnamed confining beds
MIDVILLE AQUIFER SYSTEM	McQueen Branch aquifer (layer 11)	Middendorf aquifer		Middendorf aquifer system
	Charleston confining unit (layer 12)			
	Charleston aquifer (layer 13)			
APPLETON CONFINING SYSTEM	Gramling confining unit (layer 14)	unnamed confining unit	Black Warrior River confining unit	
RIDGELAND AQUIFER SYSTEM	Gramling aquifer (layer 15)	Cape Fear aquifer	Black Warrior River aquifer	

Figure B39. Current hydrostratigraphic correlations of the South Carolina Coastal Plain compared to past correlations.

Trans-Boundary Issues

- Regional Cones of Depression in Confined Aquifers

- Saltwater Intrusion in Hilton Head Island Area

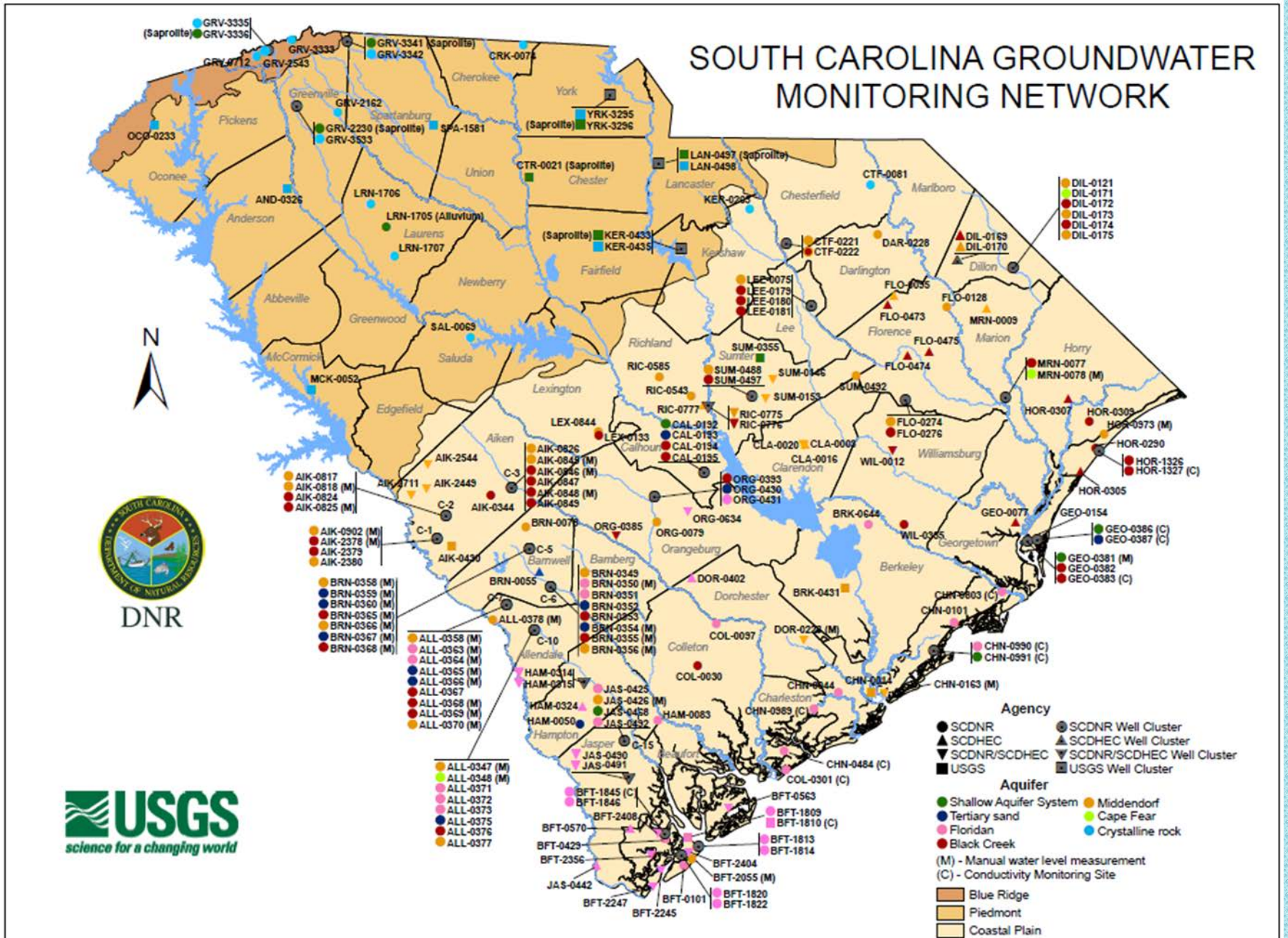
Existing Monitoring Networks

Groundwater Monitoring Network

- Primarily Hourly Data Recording
- Wells are for observation only

Potentiometric Mapping Network

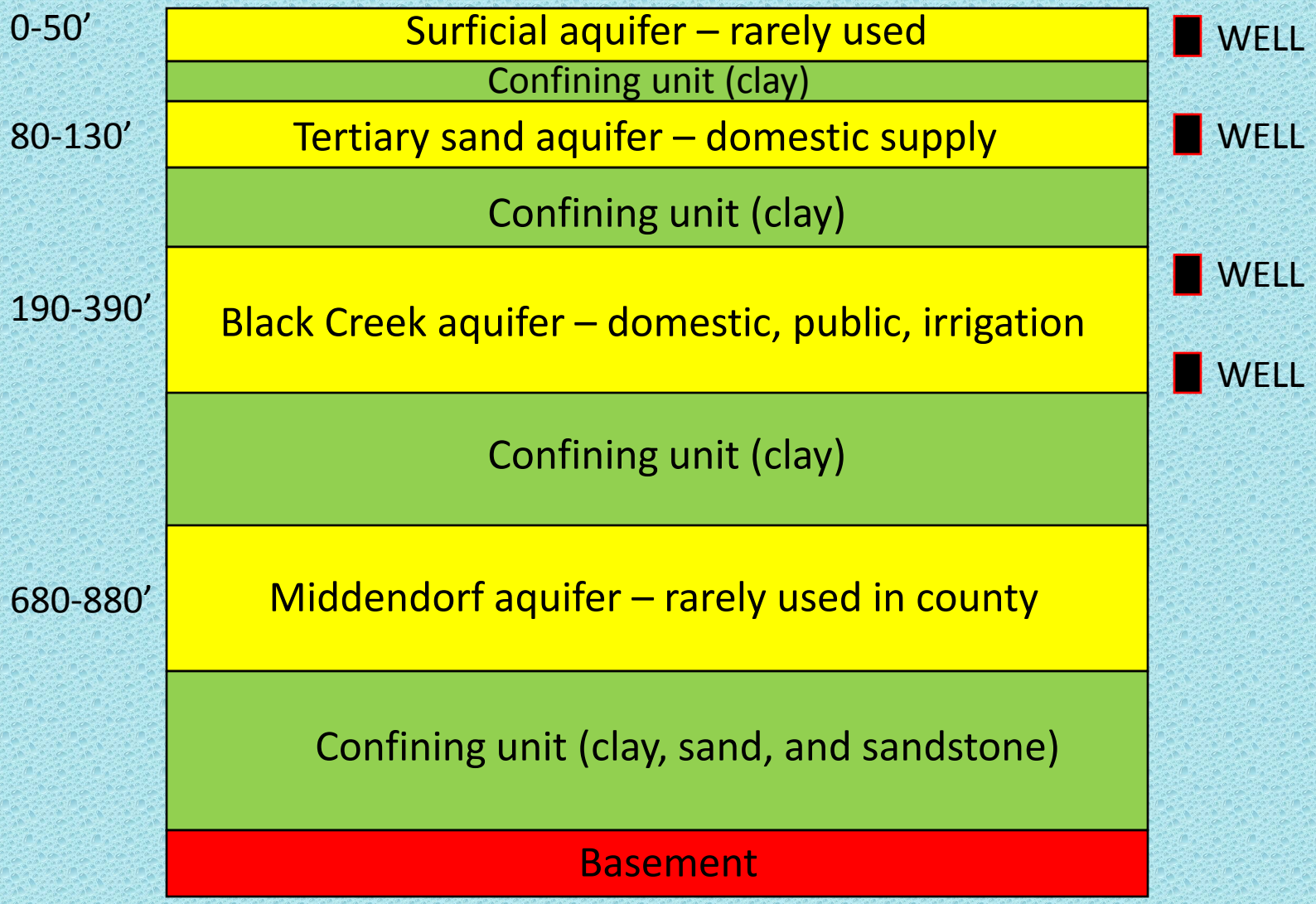
- Water Levels Taken every 3 years on rotating basis by major aquifer
- Wells have a mix of primary uses.. Shut down for measurement


SOUTH CAROLINA GROUNDWATER MONITORING NETWORK
N
DNR
USGS
science for a changing world
Pickens
Oconee
Anderson
Greenville
Spartanburg
Cherokee
York
Union
Chester
Lancaster
Chesterfield
Marlboro
Laurens
Newberry
Fairfield
Kershaw
Darlington
Dillon
Abbeville
Greenwood
Saluda
McCormick
Edgefield
Lexington
Richland
Sumter
Lee
Florence
Marion
Horry
Aiken
Calhoun
Clarendon
Williamsburg
Georgetown
Berkeley
Barnwell
Bamberg
Orangeburg
Dorchester
Colleton
Allendale
Hampton
Jasper
Beaufort
Charleston
Agency
SCDNR
SCDHEC
SCDNR/SCDHEC
USGS
SCDNR Well Cluster
SCDHEC Well Cluster
SCDNR/SCDHEC Well Cluster
USGS Well Cluster
Aquifer
Shallow Aquifer System
Tertiary sand
Floridan
Black Creek
Middendorf
Cape Fear
Crystalline rock
(M) - Manual water level measurement
(C) - Conductivity Monitoring Site
Blue Ridge
Piedmont
Coastal Plain
0 10 20 40 60 80 Miles
SCDNR data are available at http://www.dnr.sc.gov/water/hydro/groundwater/groundwater.html
USGS data are available at http://waterdata.usgs.gov/sc/nwis/gw
For more information on the SCDNR groundwater monitoring network contact Scott Harder at harders@dnr.sc.gov
Map prepared by the Land, Water & Conservation Division of the South Carolina Department of Natural Resources: October 2016.

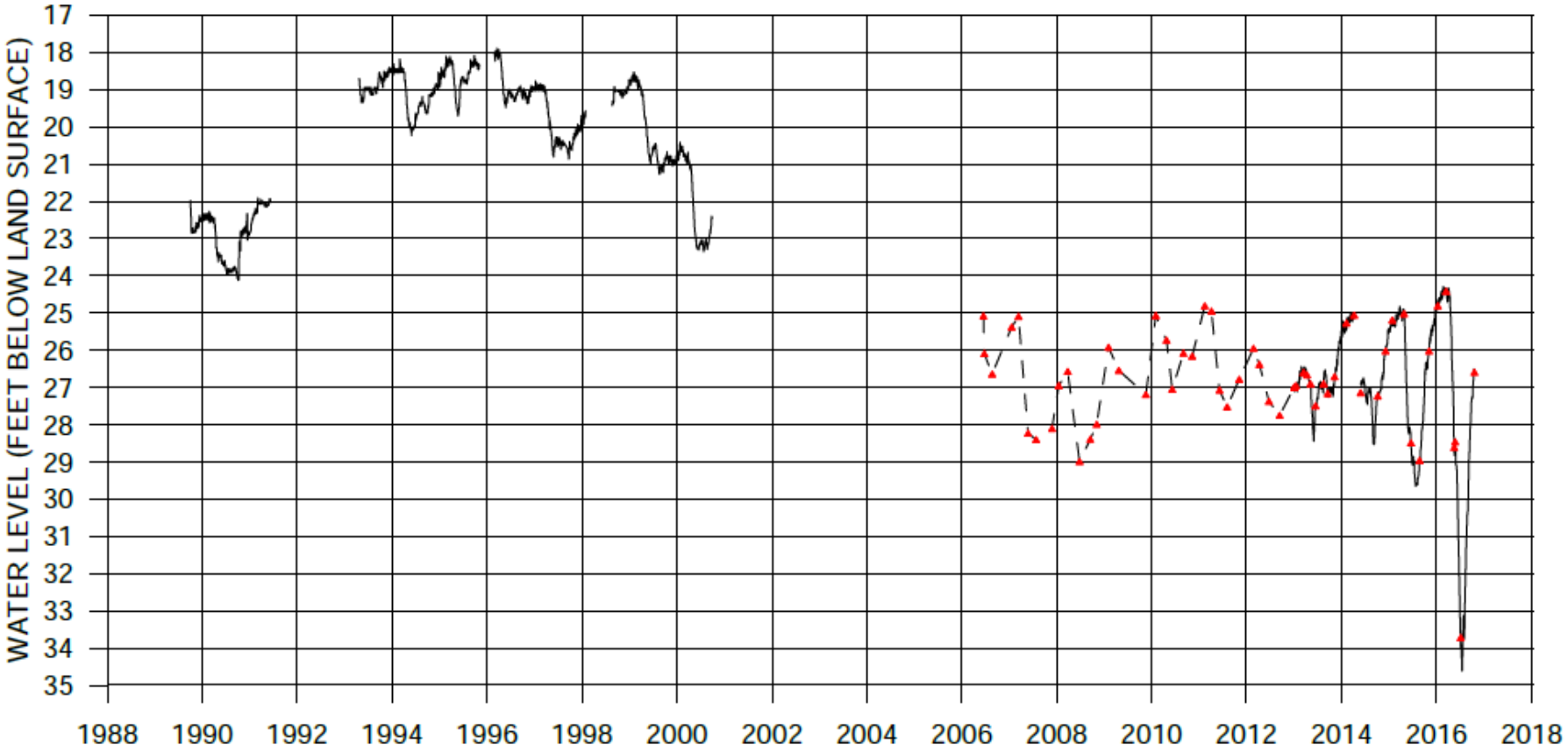
Establishment of a Groundwater Monitoring Station in Calhoun County

1046

General hydrostratigraphy of Calhoun County



AIK-0826 (C3) Daily Average and Manual Water Levels



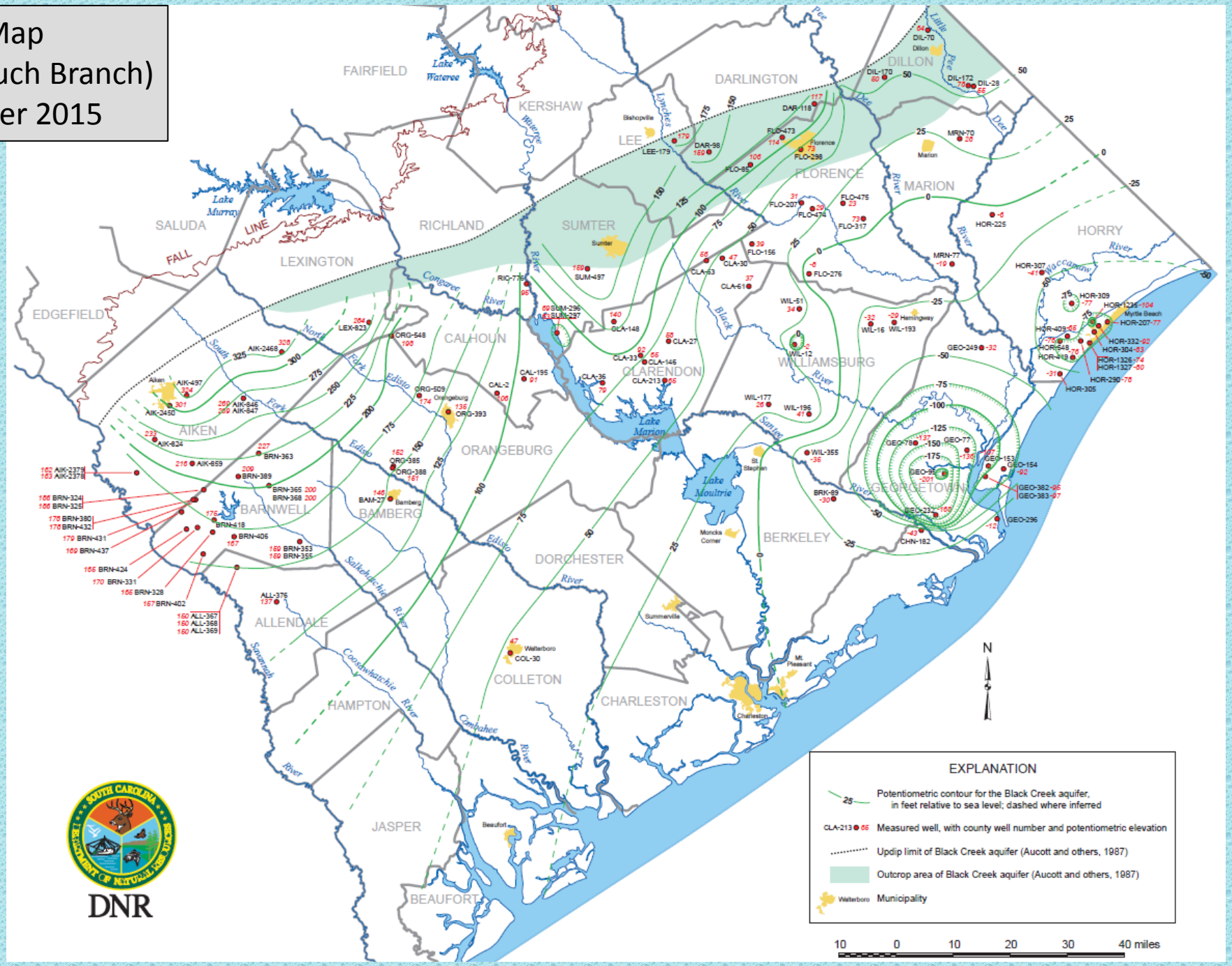
DNR

Daily average water level

Manual water level

Aquifer: Middendorf
Elevation: 294.9 ft.
Depth: 500 ft.
Screen: 485-495 ft.

Potentiometric Map Black Creek (Crouch Branch) Aquifer, November 2015



Potentiometric Surface of the Middendorf Aquifer in South Carolina, November 2014

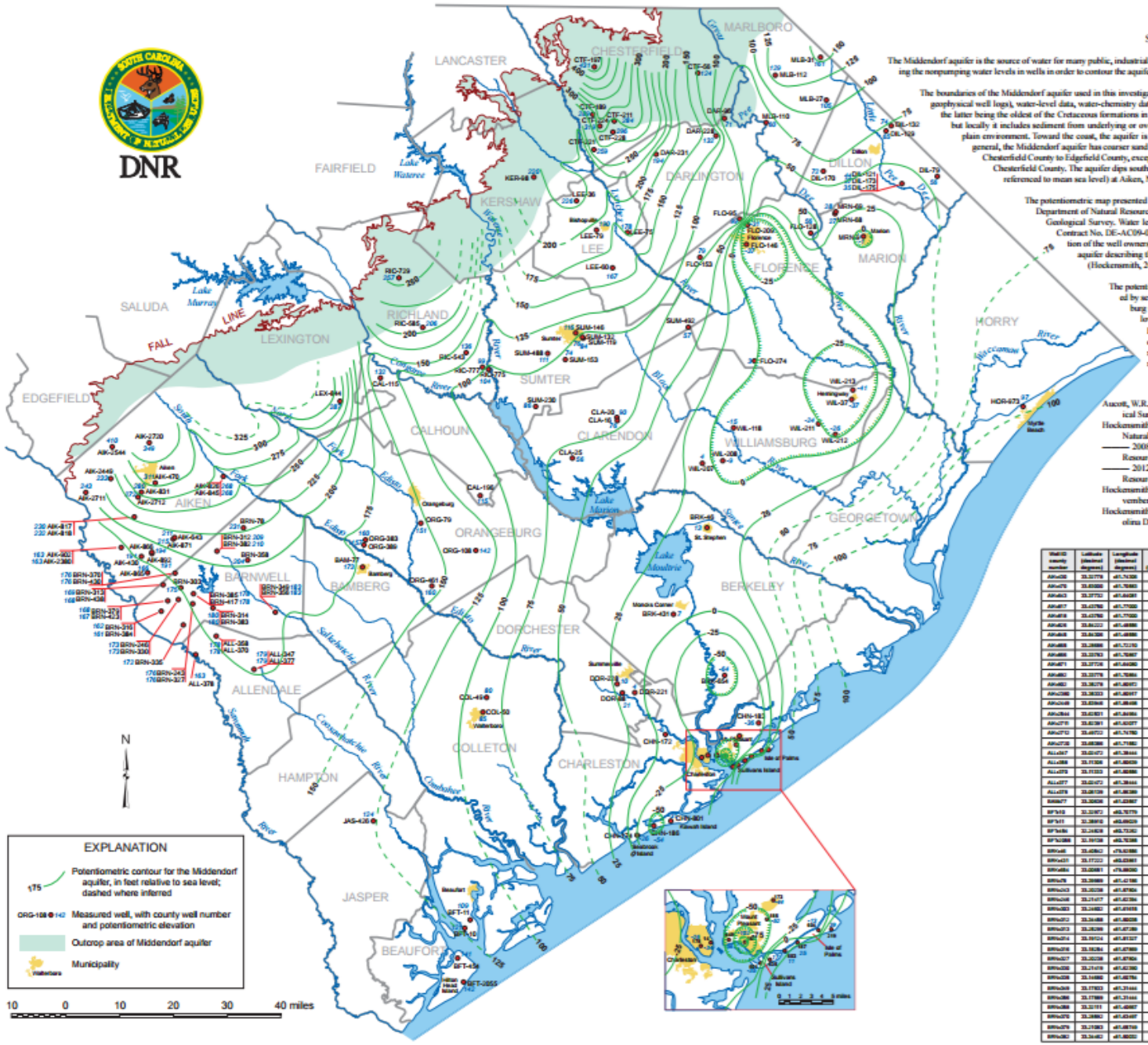
by
Andrew Wachob
Land, Water and Conservation Division
South Carolina Department of Natural Resources

The Middendorf aquifer is the source of water for many public, industrial, and agricultural supplies in the Coastal Plain of South Carolina. This important water resource is monitored by regularly measuring the nonpumping water levels in wells in order to contour the aquifer's potentiometric surface, which is defined by the elevations at which water stands in tightly cased wells completed in the aquifer.

The boundaries of the Middendorf aquifer used in this investigation are those defined by Aucott, Davis, and Speiran (1987), who delineated the aquifer on the basis of geologic data (primarily geophysical well logs), water-level data, water-chemistry data, and previous investigations. The Middendorf Formation is between the Black Creek Formation and the Cape Fear Formation, the latter being the oldest of the Cretaceous formations in the region. The Middendorf aquifer is composed mostly of permeable sediments of the Middendorf Formation (hence its name), but locally it includes sediment from underlying or overlying formations. In the updip areas, the aquifer is composed of sand interbedded with clay lenses deposited in an upper delta plain environment. Toward the coast, the aquifer is composed of thin- to thick-bedded sand and clay that were deposited in marginal marine or lower delta plain environments. In general, the Middendorf aquifer has coarser sand and less clay in the western part of the Coastal Plain than in the eastern part. The Middendorf crops out along the Fall Line from Chesterfield County to Edgefield County, except for some areas in Aiken County where it is not exposed. Its outcrop is narrowest in southwestern Edgefield County and widest in Chesterfield County. The aquifer dips southeastward near the Fall Line and southward along the coast. The top of the aquifer is at elevation 100, -800, and -1,700 ft msl (feet, referenced to mean sea level) at Aiken, Myrtle Beach, and Charleston, respectively. Thickness ranges from 0 ft at the Fall Line to more than 300 ft in Dorchester County.

The potentiometric map presented here was constructed using water levels measured in 143 wells in late 2014 (see table). Data were collected by the South Carolina Department of Natural Resources, the Savannah River National Laboratory, the South Carolina Department of Health and Environmental Control, and the U.S. Geological Survey. Water level data for 25 P-wells at the Savannah River Site were collected and provided by Savannah River National Laboratory under Contract No. DE-AC09-08SR22470 with the U.S. Department of Energy. The author is grateful for the assistance of these other agencies and the cooperation of the well owners in obtaining the water-level measurements necessary to produce this map. Similar maps have been produced for the Middendorf aquifer describing the potentiometric surface in 2011 (Hockensmith and others, 2013), 2009 (Hockensmith, 2012), 2004 (Hockensmith, 2008), 2001 (Hockensmith, 2003), and 1996 (Hockensmith and Waters, 1998).

The potentiometric surface of the Middendorf aquifer for November 2014 shows that the generally southeastward groundwater flow is affected by several potentiometric lows. These cones of depression have developed because of groundwater pumping in Florence and Williamsburg Counties and Berkeley and Charleston Counties. Of the 119 wells measured for both the 2011 and 2014 maps, 71 wells (60%) had lower water levels in 2014; 19 wells (16%) had no change from 2011; and 29 wells (24%) had higher water levels in 2014. Water levels in 59% of these 119 wells changed by 2 ft or less from 2011, and by 5 ft or less in 77% of these wells. The most substantial changes from 2011 occurred in Charleston County: Water levels in 3 wells measured at Kiawah Island recovered 8, 21, and 56 ft, significantly reducing the depth and extent of the cone of depression in that area, while water levels in the Mount Pleasant area showed a significant decline, with 4 wells having water levels 17 to 20 ft lower than in 2011.



References

Aucott, W.R., Davis, M.E., and Speiran, G.K., 1987, Geohydrologic framework of the Coastal Plain aquifers of South Carolina: U.S. Geological Survey Water-Resources Investigations Report 85-4271, 7 sheets.

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——— 2008, Potentiometric surface of the Middendorf aquifer in South Carolina, November 2004: South Carolina Department of Natural Resources, Water Resources Report 46, 11 p., 1 plate.

——— 2012, Potentiometric surface of the Middendorf aquifer in South Carolina, November 2009: South Carolina Department of Natural Resources, Water Resources Report 51, 11 p., 1 plate.

Hockensmith, B.L., Wachob, A., Howard, C.S., and Koch, E. 2013, Potentiometric surface of the Middendorf aquifer in South Carolina, November 2011: South Carolina Department of Natural Resources, Water Resources Report 54, 1 sheet.

Hockensmith, B.L., and Waters, K.E., 1998, Potentiometric surface of the Middendorf aquifer in South Carolina, November 1996: South Carolina Department of Natural Resources, Water Resources Report 19, 1 sheet.

Well ID county number	Latitude (decimal degrees)	Longitude (decimal degrees)	2014 WL elevation (ft MSL/NGVD)	WL change from 2011 (ft)
AIK-0202	33.33779	-81.74383	191	-2
AIK-0210	33.33202	-81.70883	311	n/a
AIK-0403	33.37732	-81.64381	211	-2
AIK-0417	33.43788	-81.77020	232	-1
AIK-0418	33.43788	-81.77020	232	-1
AIK-0429	33.36222	-81.48886	288	0
AIK-0431	33.36388	-81.48886	288	1
AIK-0455	33.28886	-81.72192	188	-1
AIK-0456	33.33783	-81.78867	196	0
AIK-0471	33.37728	-81.64392	218	-1
AIK-0482	33.33778	-81.76886	191	0
AIK-0483	33.38278	-81.80411	163	0
AIK-0508	33.38333	-81.80417	163	0
AIK-0549	33.43944	-81.88408	233	n/a
AIK-0644	33.43831	-81.84994	410	n/a
AIK-0711	33.43391	-81.83277	243	n/a
AIK-0712	33.49722	-81.74192	270	n/a
AIK-0738	33.48386	-81.71892	349	0
ALL-0347	33.02472	-81.38444	179	-1
ALL-0368	33.11306	-81.38439	179	-1
ALL-0370	33.11333	-81.38386	179	-1
ALL-0377	33.02472	-81.38444	179	-1
ALL-0378	33.08139	-81.38389	183	-1
BAM-0077	33.30806	-81.83867	173	-7
BFT-0010	32.33972	-80.70778	121	-1
BFT-0011	32.38972	-80.69528	109	-1
BFT-0046	32.34528	-80.73192	141	20
BFT-0088	32.19139	-80.76389	142	n/a
BRN-0018	33.40842	-81.63386	13	n/a
BRN-0031	33.17222	-80.83861	7	1
BRN-0064	33.00861	-81.86389	44	18
BRN-0076	33.39889	-81.41186	231	n/a
BRN-0103	33.30278	-81.87806	176	-1
BRN-0108	33.21417	-81.82386	173	-1
BRN-0303	33.24692	-81.81419	176	-1
BRN-0312	33.36389	-81.80208	209	0
BRN-0313	33.35389	-81.87389	169	-1
BRN-0314	33.19114	-81.81317	180	-1
BRN-0316	33.18194	-81.87889	182	-1
BRN-0327	33.30278	-81.87806	176	0
BRN-0330	33.21419	-81.82389	173	-1
BRN-0336	33.34889	-81.82194	172	-2
BRN-0349	33.17833	-81.31444	183	-1
BRN-0366	33.17889	-81.31444	183	-1
BRN-0369	33.22111	-81.40667	264	0
BRN-0370	33.28861	-81.43167	176	-1
BRN-0379	33.21583	-81.87139	188	-1
BRN-0382	33.36483	-81.80222	210	0

Well ID county number	Latitude (decimal degrees)	Longitude (decimal degrees)	2014 WL elevation (ft MSL/NGVD)	WL change from 2011 (ft)
BRN-0383	33.19722	-81.81139	180	-1
BRN-0384	33.19139	-81.87611	183	-1
BRN-0385	33.21889	-81.87833	178	-1
BRN-0417	33.22667	-81.87639	178	-1
BRN-0423	33.21389	-81.88722	187	-1
BRN-0430	33.28889	-81.83333	176	-1
BRN-0431	33.28333	-81.87639	188	-1
CAL-0115	33.73333	-81.04167	25	0
CAL-0196	33.73333	-81.04167	25	0
CHA-0172	32.78333	-79.86667	8	8
CHA-0180	32.78333	-79.86667	8	21
CHA-0185	32.78333	-79.86667	8	56
CHA-0186	32.78333	-79.86667	8	4
CHA-0187	32.78333	-79.86667	8	-17
CHA-0188	32.83333	-79.83778	-62	-18
CHA-0189	32.83333	-80.13833	-86	21
CHA-0190	32.78333	-79.78833	28	24
CHA-0219	32.83333	-79.73333	28	7
CHA-0221	32.79667	-79.84278	-28	-4
CHA-0263	32.77667	-79.86694	11	0
CHA-0264	32.83389	-79.79667	-12	-8
CHA-0268	32.78478	-79.83333	17	-8
CHA-0281	32.81403	-80.28214	-31	18
CHA-0310	32.79167	-79.88917	-88	-8
CLA-0110	33.61389	-80.21167	70	n/a
CLA-0120	33.70278	-80.17333	60	2
CLA-0128	33.61389	-80.26389	58	-22
CLA-0130	33.68389	-80.23361	60	-2
CLA-0140	33.61178	-80.24733	68	-28
CTF-0066	34.43478	-79.84667	124	0
CTF-0108	34.41611	-80.28842	200	n/a
CTF-0187	34.48194	-80.27889	-231	-2
CTF-0210	34.38639	-80.21833	284	-1
CTF-0224	34.41389	-80.26667	319	-1
CTF-0228	34.47361	-80.23333	208	-2
DAR-0040	34.42083	-79.88611	71	3
DAR-0128	34.45889	-79.86833	132	2
DAR-0231	34.41528	-80.08194	184	0
DIL-0170	34.34694	-79.37361	90	-2
DIL-0171	34.33972	-79.39389	64	0
DIL-0218	34.40833	-79.33194	68	-2
DIL-0232	34.40333	-79.31694	74	-2
DIL-0170	34.35333	-79.38333	72	n/a
DIL-0172	34.33333	-79.39556	37	n/a
DIL-0173	34.33333	-79.39722	38	n/a
DOR-0068	33.18878	-80.29167	21	0

Well ID county number	Latitude (decimal degrees)	Longitude (decimal degrees)	2014 WL elevation (ft MSL/NGVD)	WL change from 2011 (ft)
DOR-0221	33.08028	-80.18278	4	7
DOR-0228	33.08389	-80.17639	10	0
FLO-0048	34.22194	-79.67139	88	1
FLO-0128	34.18889	-79.68889	88	0
FLO-0145	34.18889	-79.71889	-87	4
FLO-0152	34.15694	-79.63139	79	7
FLO-0200	34.21972	-79.71972	-81	21
FLO-0214	33.88889	-79.71639	3	-3
HOR-0073	33.72139	-79.66278	67	0
JAS-0126	32.61833	-80.69528	124	-2
KER-0068	34.38417	-80.61833	228	2
LEX-0136	34.36028	-80.24167	226	-12
LEX-0140	34.19389	-80.23611	167	0
LEX-0178	34.30139	-80.17833	179	1
LEX-0179	34.21111	-80.27361	168	-1
LEX-0184	33.76611	-81.13750	287	-2
MLB-0027	34.84722	-79.63583	108	-4
MLB-0031	34.87361	-79.60194	161	0
MLB-0112	34.83528	-79.77917	63	-2
MLB-0113	34.83528	-79.68917	128	0
MRN-0068	34.18403	-79.61528	-1	n/a
MRN-0069	34.24278	-79.63917	27	-1
MRN-0070	34.28111	-79.61972	28	-1
ORG-0079	33.41139	-80.84167	151	-1
ORG-0108	33.34972	-80.67639	142	n/a
ORG-0383	33.38806	-80.62111	160	n/a
ORG-0386	33.38389	-80.62333	157	n/a
ORG-0451	33.24139	-80.83333	160	n/a
RIC-0403	33.87833	-80.72833	138	0
RIC-0585	33.94889	-80.84833	208	1
RIC-0729	34.08389	-80.91778	207	-1
RIC-0775	33.83194	-80.63889	104	n/a
RIC-0777	33.84639	-80.64194	98	n/a
SUM-0119	33.91833	-80.33111	84	-4
SUM-0132	33.91833	-80.33333	78	n/a
SUM-0146	33.93028	-80.34833	118	n/a
SUM-0153	33.88833	-80.37667	74	n/a
SUM-0230	33.73778	-80.43528	88	n/a
SUM-0488	33.87444	-80.41278	111	-2
SUM-0492	33.94889	-80.67833	87	-2
WIL-0037	33.74778	-79.61833	-27	0
WIL-0118	33.87272	-79.63917	-118	-4
WIL-0207	33.87083	-79.63833	-4	-3
WIL-0208	33.88222	-79.67639	-9	-2
WIL-0211	33.88188	-79.68917	-31	-2
WIL-0212	33.88361	-79.65528	-28	-2
WIL-0213	33.77222	-79.64583	-41	-6

Potentiometric Surface of the Floridan and Tertiary Sand Aquifers in South Carolina, November 2013

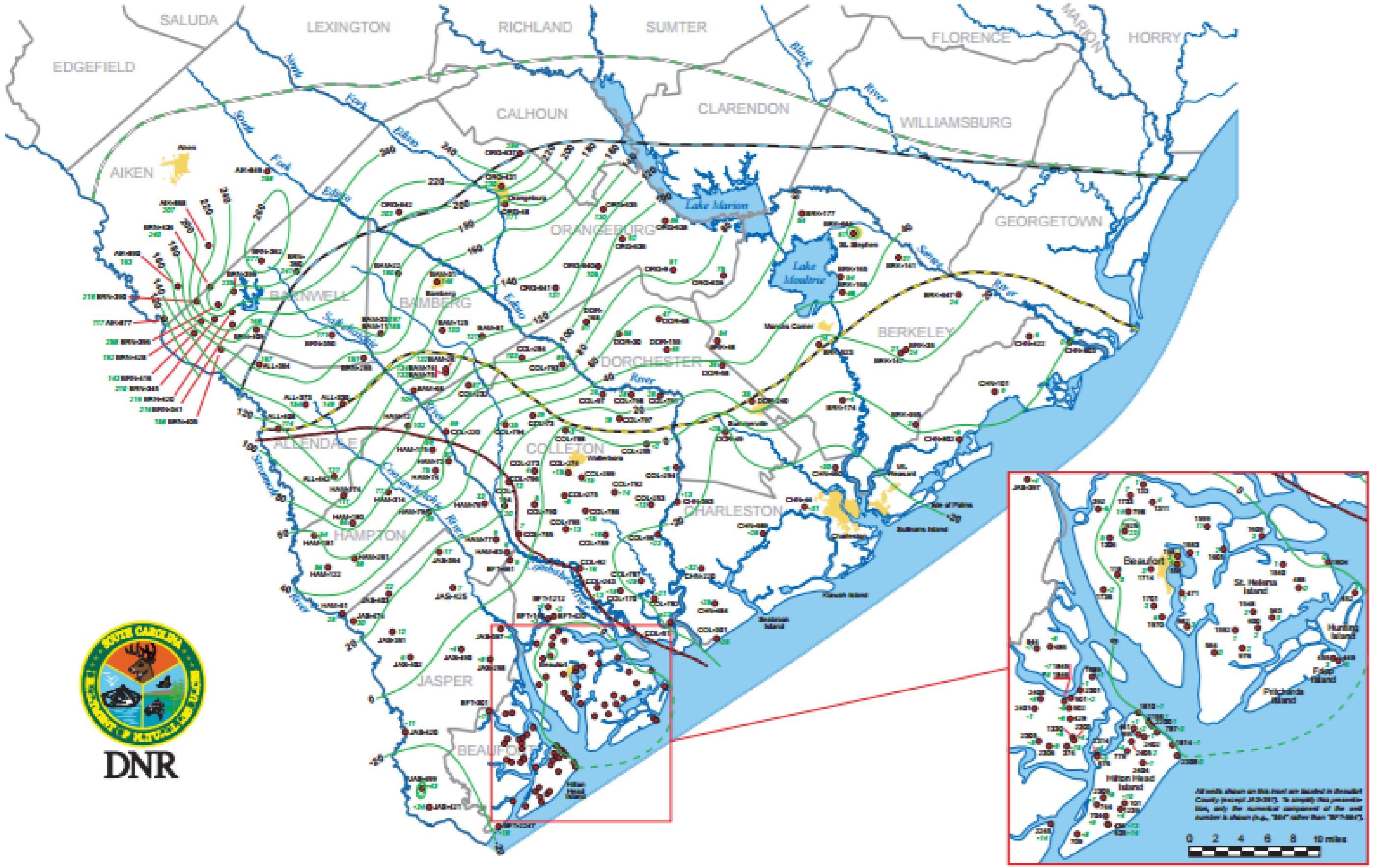
by
Andrew Wachob, Brenda L. Hockensmith, Katie Luciano, and C. Scott Howard
Land, Water and Conservation Division
South Carolina Department of Natural Resources

EXPLANATION

- Potentiometric contour for the Floridan/Tertiary sand aquifer, in feet relative to sea level; dashed where inferred
- Measured well, with county well number and potentiometric elevation
- Updip limit of Tertiary sand aquifer (Aucott and others, 1987)
- Updip limit of extended Floridan aquifer (Aucott and others, 1987)
- Updip limit of Floridan aquifer (Miller, 1985)
- Updip limit of upper Floridan aquifer
- Municipality

10 0 10 20 30 40 miles

N



The Floridan aquifer and its updip clastic equivalent, the Tertiary sand aquifer, is the source of water for many public, industrial, and agricultural supplies in much of the South Carolina Coastal Plain. This important resource is monitored by regularly measuring nonpumping water levels in selected wells. The potentiometric surface of an aquifer is defined by the elevations at which water stands in tightly cased wells completed in the aquifer.

The boundaries of the Floridan aquifer and the Tertiary sand aquifer used in this investigation are those defined by Aucott, and others (1987). The Floridan aquifer generally includes the Cooper Formation, the Ocala Limestone, and the Santee Limestone (Aucott and others, 1987).

The Tertiary sand aquifer is divided into upper and lower units. The upper unit is the sand facies equivalent of the Floridan aquifer, and extends from northwestern Allendale County to Orangeburg and curves eastward into southern Georgetown County (extended Floridan aquifer). It is composed of sediments from the Barnwell, McBean, and Congaree Formations and ranges in age from Early to Late Eocene. The lower unit consists of clastic sediments of Early Eocene and Paleocene ages and includes part of the Black Mingo Formation.

The base of the Floridan dips southeastward and is at elevation 300, -600, and -1,400 ft msl (feet, referenced to mean sea level) at Aiken, Walterboro, and Hilton Head Island, respectively. Thickness ranges from 0 ft at the updip limit to more than 1,000 ft at Hilton Head Island.

For this map, water-level data from upper Floridan wells in Beaufort and Jasper Counties and most of Hampton County were used. Data from middle and/or lower Floridan wells were used within the boundary shown for the Floridan aquifer. Elsewhere, data from wells in the Tertiary sand aquifer were used.

The potentiometric map presented here was constructed by using water levels measured in 212 wells in late October, November, and early December 2013 (see table). Data were collected primarily by the South Carolina Department of Natural Resources, with assistance from the U.S. Department of Energy, the South Carolina Department of Health and Environmental Control, and the U.S. Geological Survey. Similar maps have been produced for the Floridan and Tertiary sand aquifers describing the potentiometric surface in 2010 (Hockensmith and others, 2013), 2004 (Hockensmith, 2009), 1998 (Hockensmith, 2001), and 1986 (Crouch and others, 1987).

Although water levels in wells located near the coast can be influenced by tides and, to a lesser extent, barometric conditions, the water-level elevations used for this potentiometric map have not been corrected to account for these effects.

Consistent with previous potentiometric surface maps of the Floridan aquifer and its updip clastic equivalent, the Tertiary sand aquifer, the potentiometric surface for late 2013 indicates a generally southeastward ground-water flow. Unlike earlier maps, however, no significant cones of depression are delineated on the 2013 map. Of the 158 wells measured for both this map and the 2010 map (Hockensmith and others, 2013), 104 wells had higher potentiometric levels in 2013, while 31 wells had lower potentiometric levels in 2013. Changes in potentiometric levels from 2010 to 2013 were generally less than 5 feet, although a few wells showed significantly higher water levels, probably owing to reductions in local pumping rates.

References

Aucott, W.R., Davis, M.E., and Speiran, G.K., 1987, Geohydrologic framework of the Coastal Plain aquifers of South Carolina: U.S. Geological Survey Water-Resources Investigations Report 85-4271, 7 sheets.

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Hockensmith, B.L., 2001, Potentiometric map of the Floridan aquifer and Tertiary sand aquifer in South Carolina, 1998: South Carolina Department of Natural Resources, Water Resources Report 23, 1 sheet.

——— 2009, Potentiometric map of the Floridan aquifer and Tertiary sand aquifer in South Carolina, November 2004: South Carolina Department of Natural Resources, Water Resources Report 48, 20 p., 1 plate.

Hockensmith, B.L., Wachob, A., Howard, C.S., and Koch, E., 2013, Potentiometric surface of the Floridan and Tertiary sand aquifer in South Carolina, November 2010: South Carolina Department of Natural Resources, Water Resources Report 53, 1 sheet.

Miller, J.A., 1985, Geohydrologic framework of the Floridan aquifer system in Florida, Georgia, and parts of Alabama and South Carolina: U.S. Geological Survey Professional Paper 1403-B, 91 p., 33 plates.

Well ID county number	Latitude (decimal degrees)	Longitude (decimal degrees)	2013 WL elevation (ft NGVD29)	WL change from 2010 (ft)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Well ID county number	Latitude (decimal degrees)	Longitude (decimal degrees)	2013 WL elevation (ft NGVD29)	WL change from 2010 (ft)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

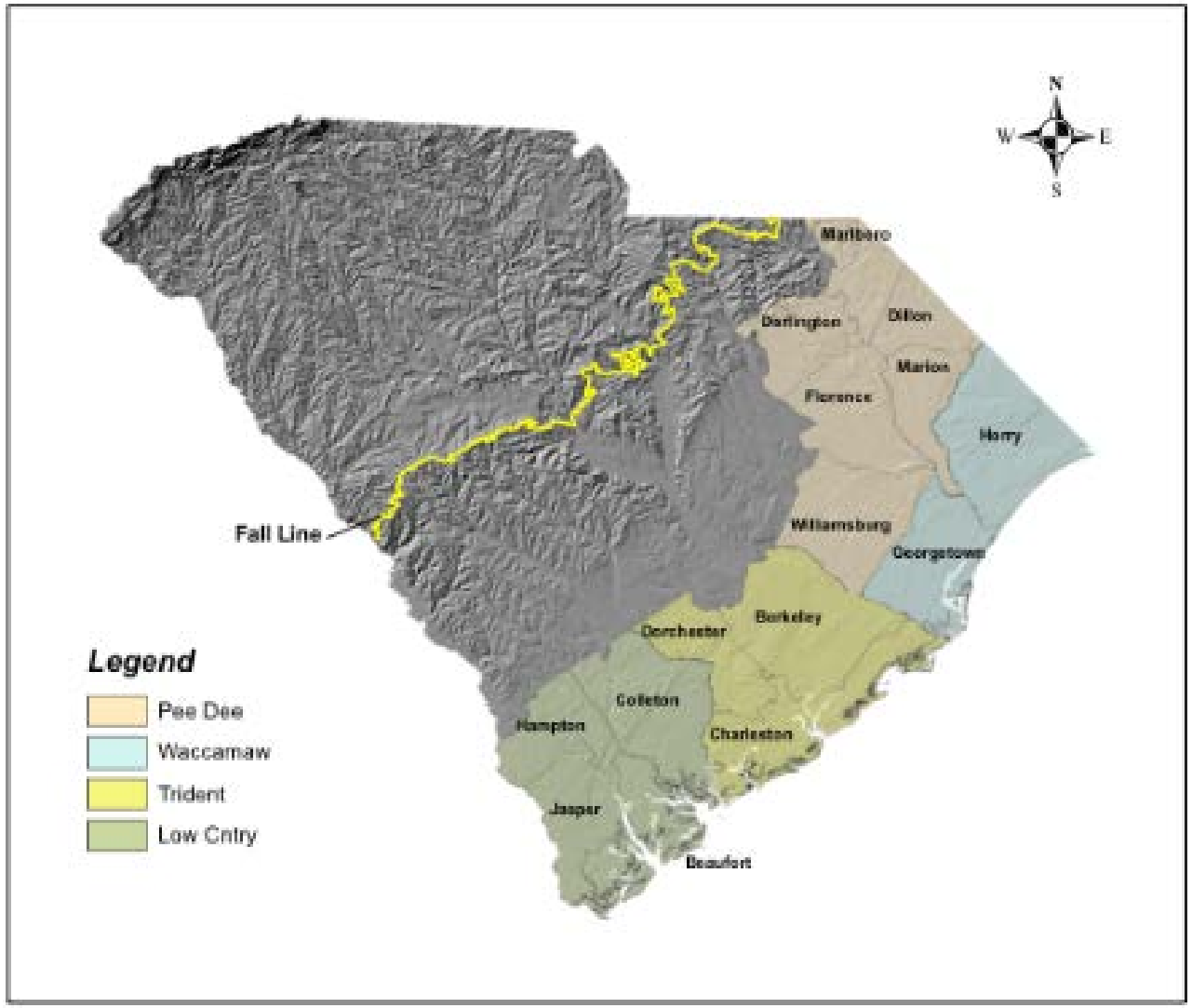
Well ID county number	Latitude (decimal degrees)	Longitude (decimal degrees)	2013 WL elevation (ft NGVD29)	WL change from 2010 (ft)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

* Average water-level elevation for November 2013.

DNR

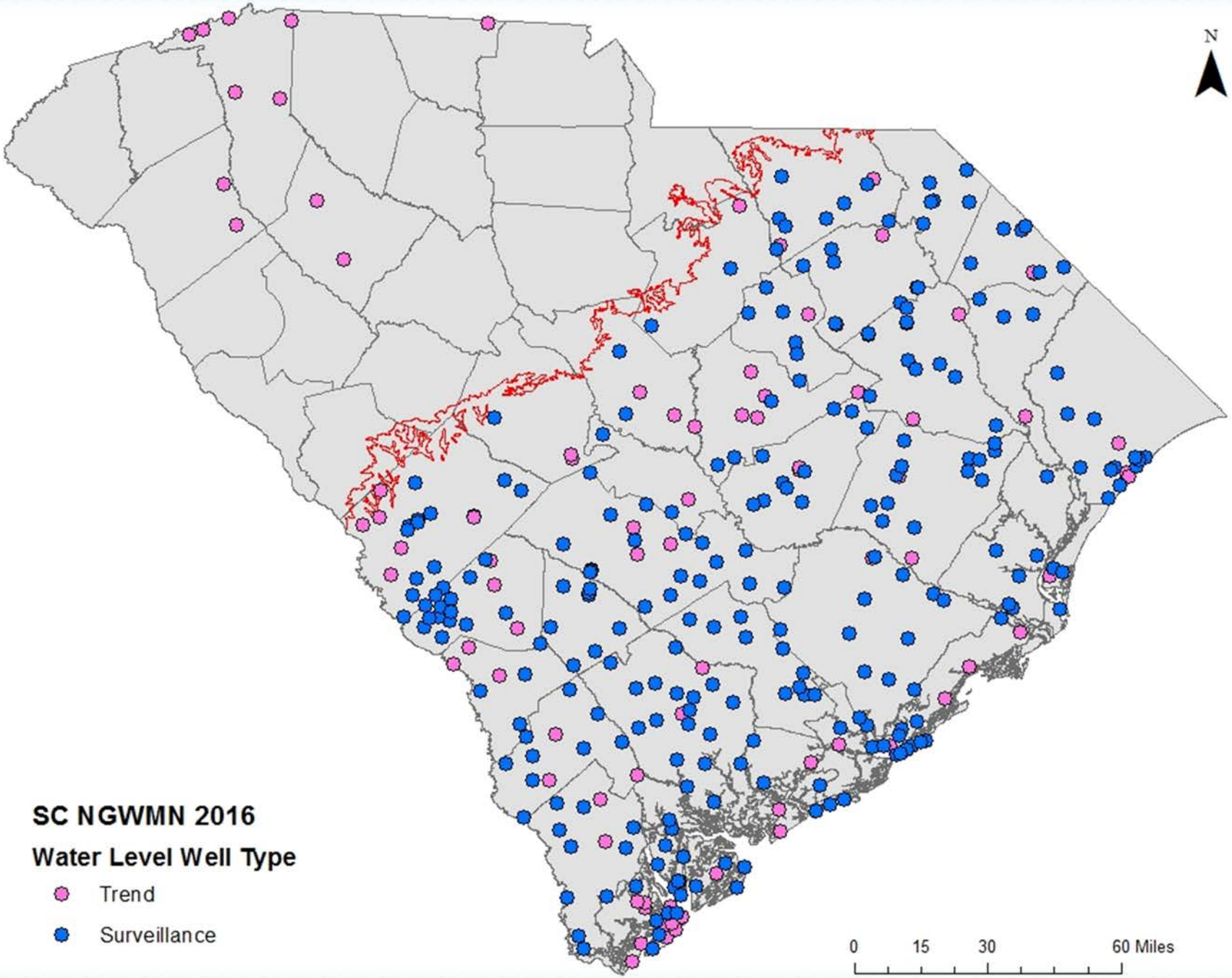
How is SCDNR Data Used?

Capacity Use Areas



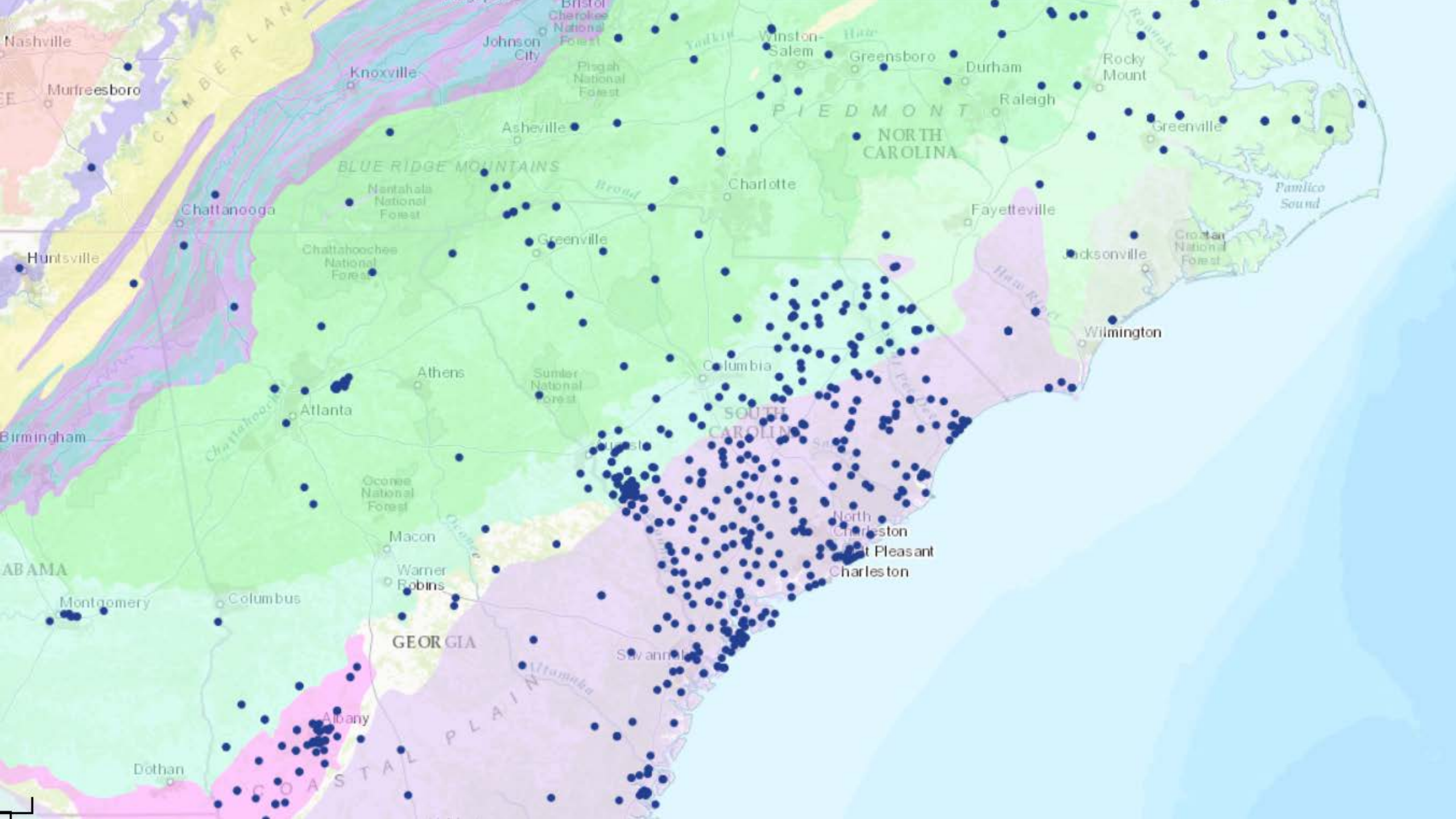
Capacity Use areas require a Groundwater Withdrawal Permit from SCDHEC for use over Three Million Gallons in any Month

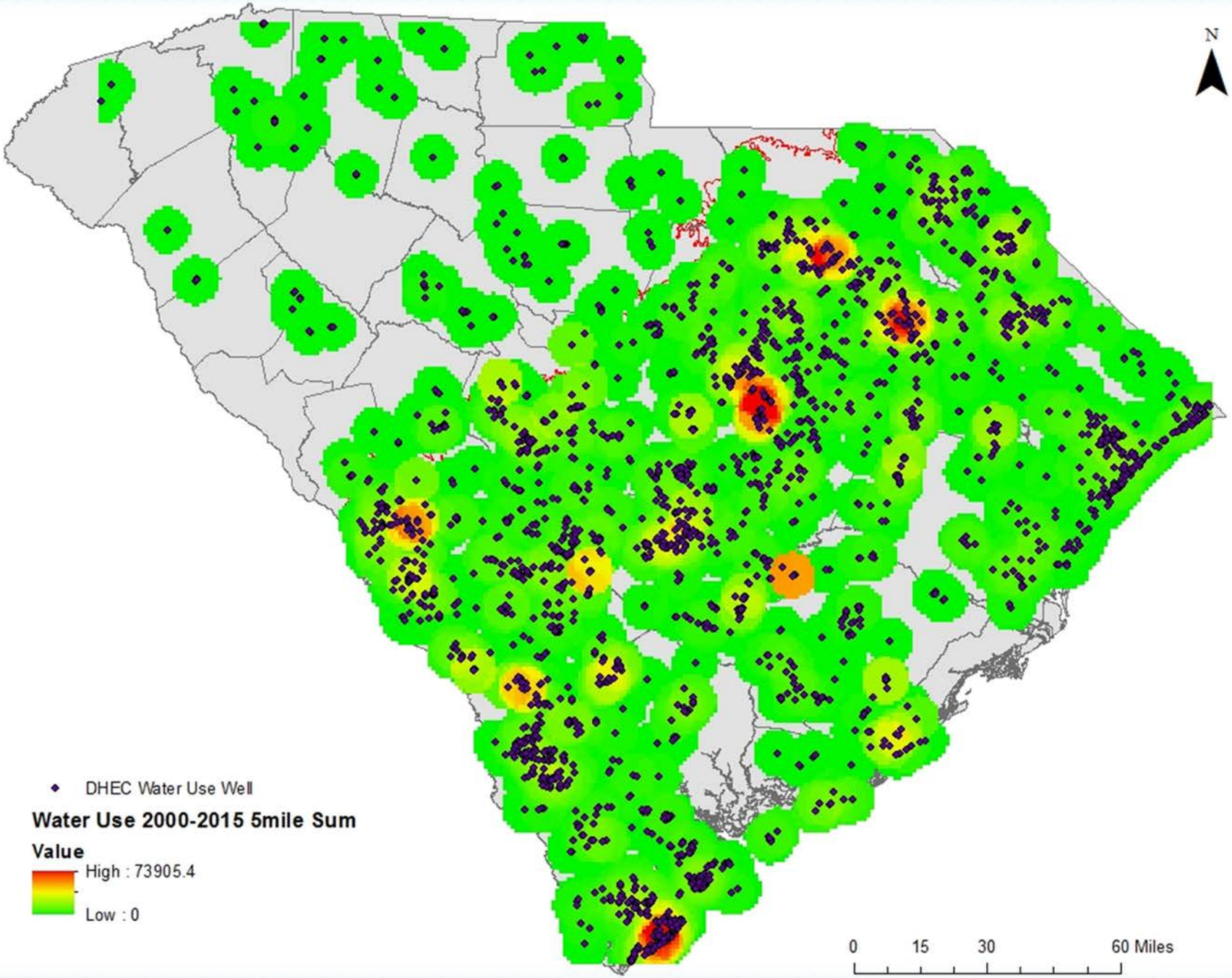
NGWMN Site Selection and Classification



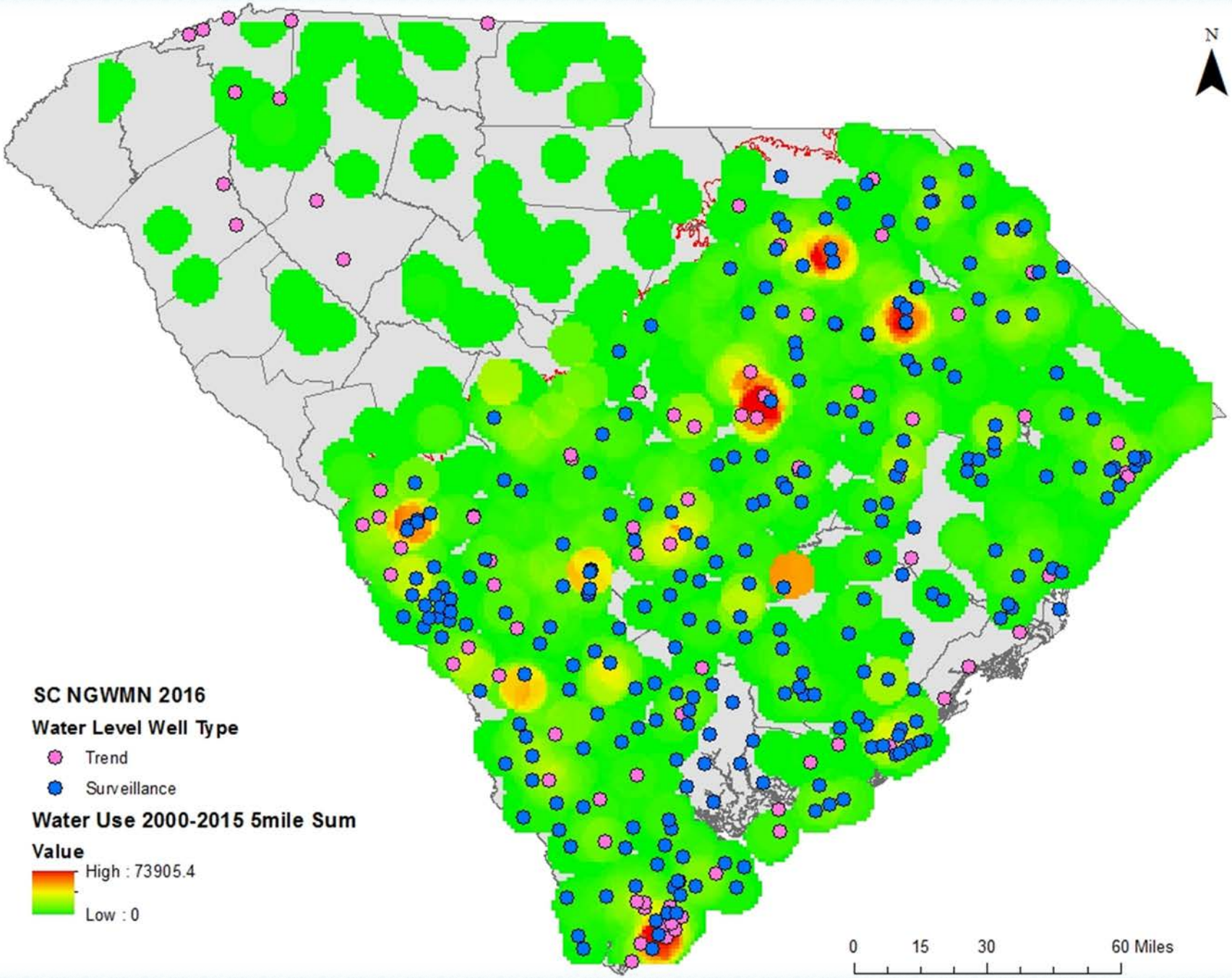
South Carolina Wells Added to NGWMN

137 Trend
301 Surveillance

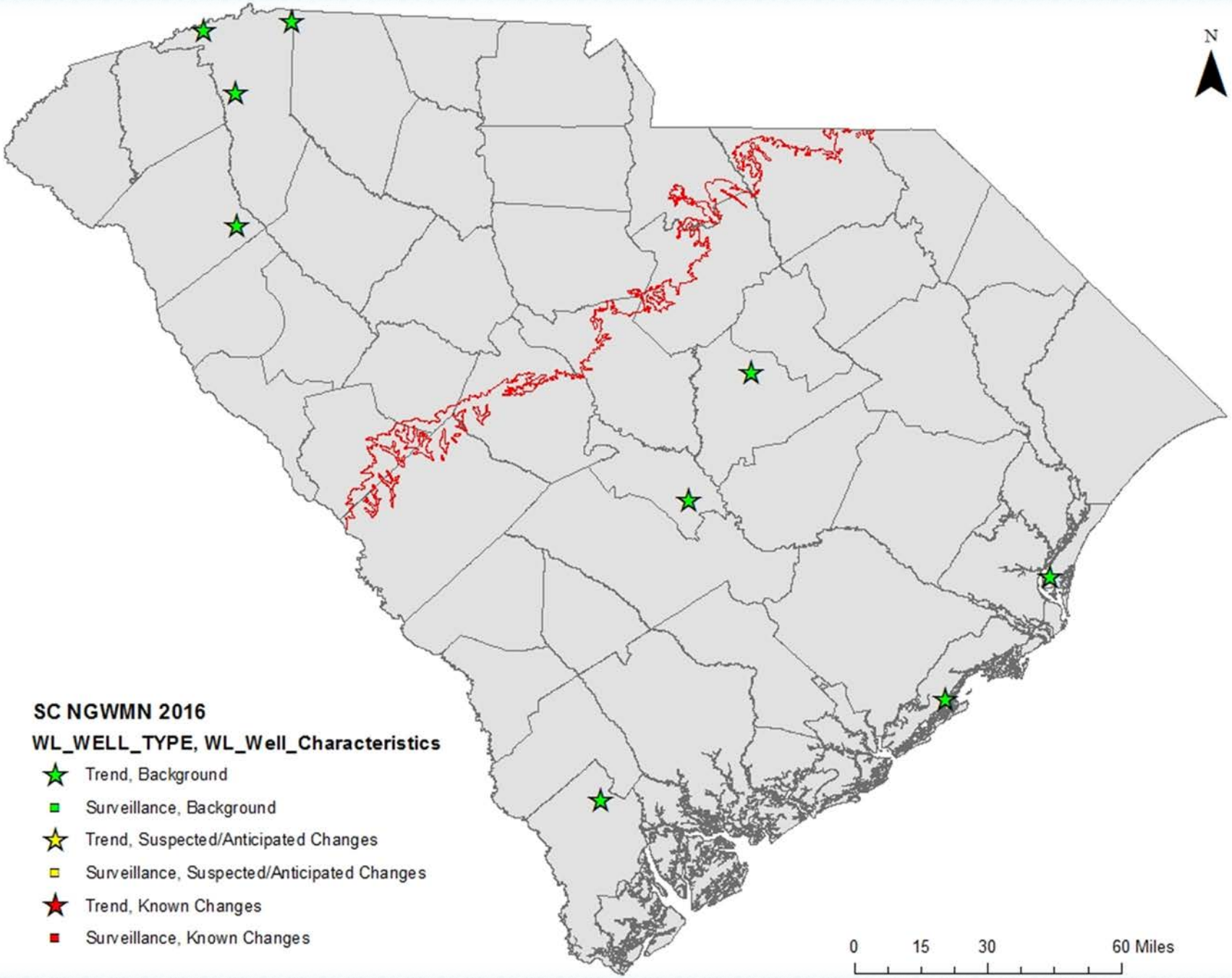

Nashville
Murfreesboro
Knoxville
Johnson City
Bristol
Cherokee National Forest
Pisgah National Forest
Winston-Salem
Greensboro
Durham
Raleigh
Rocky Mount
Greenville
PIEDMONT
NORTH CAROLINA
Asheville
BLUE RIDGE MOUNTAINS
Nantahala National Forest
Chattanooga
Huntsville
Chattahoochee National Forest
Charlotte
Fayetteville
Pamlico Sound
Croatan National Forest
Jacksonville
Wilmington
Athens
Sumter National Forest
Columbia
Atlanta
Birmingham
SOUTH CAROLINA
Oconee National Forest
Macon
North Charleston
Mt Pleasant
Charleston
Warner Robins
Montgomery
Columbus
GEORGIA
Savannah
COASTAL PLAIN
Albany
Dothan



Water Use Reported to South Carolina Department of Health and Environmental Control

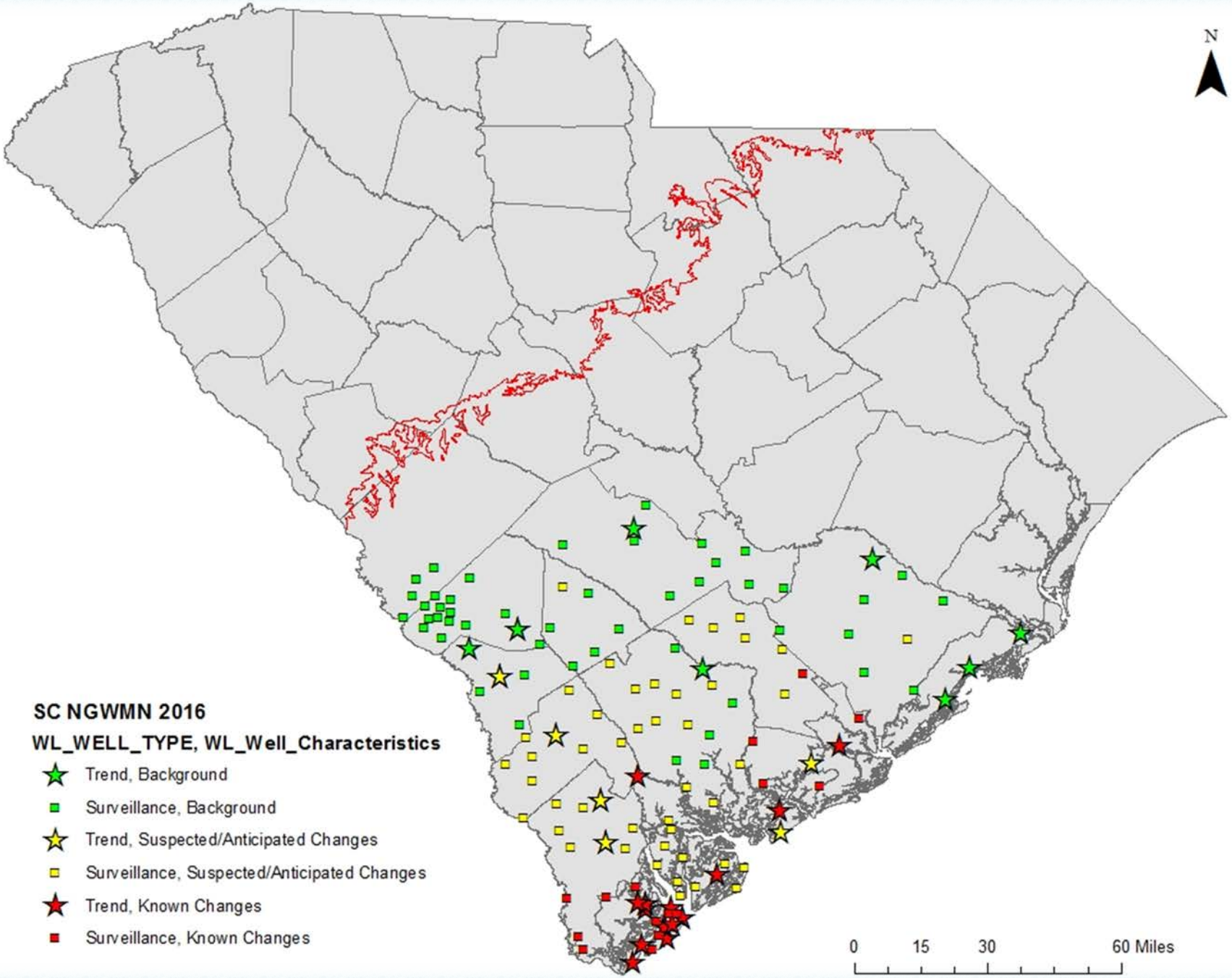


South Carolina Wells Added to NGWMN w/ Water Use Overlay



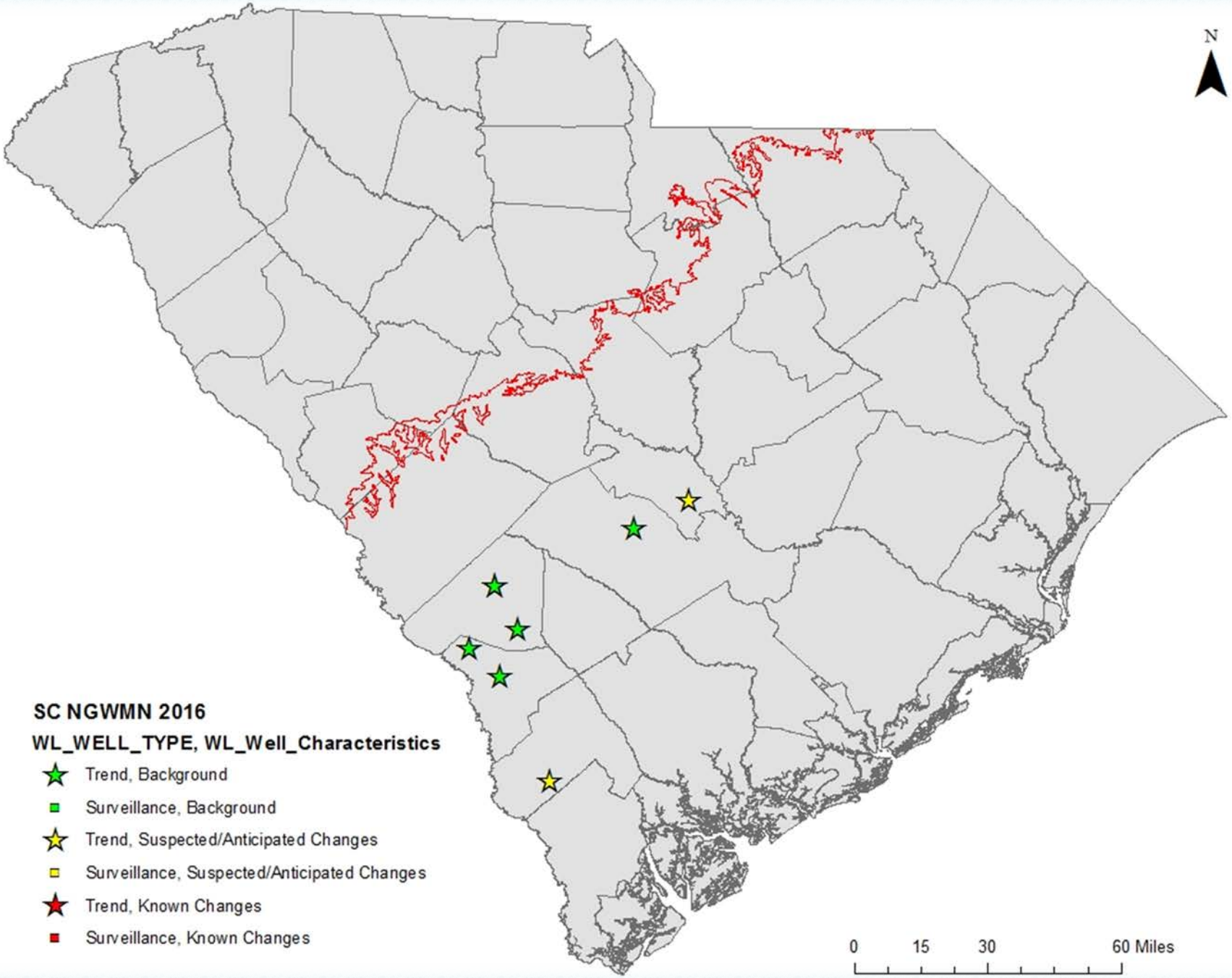
South Carolina Wells Added to NGWMN

Surficial Aquifer



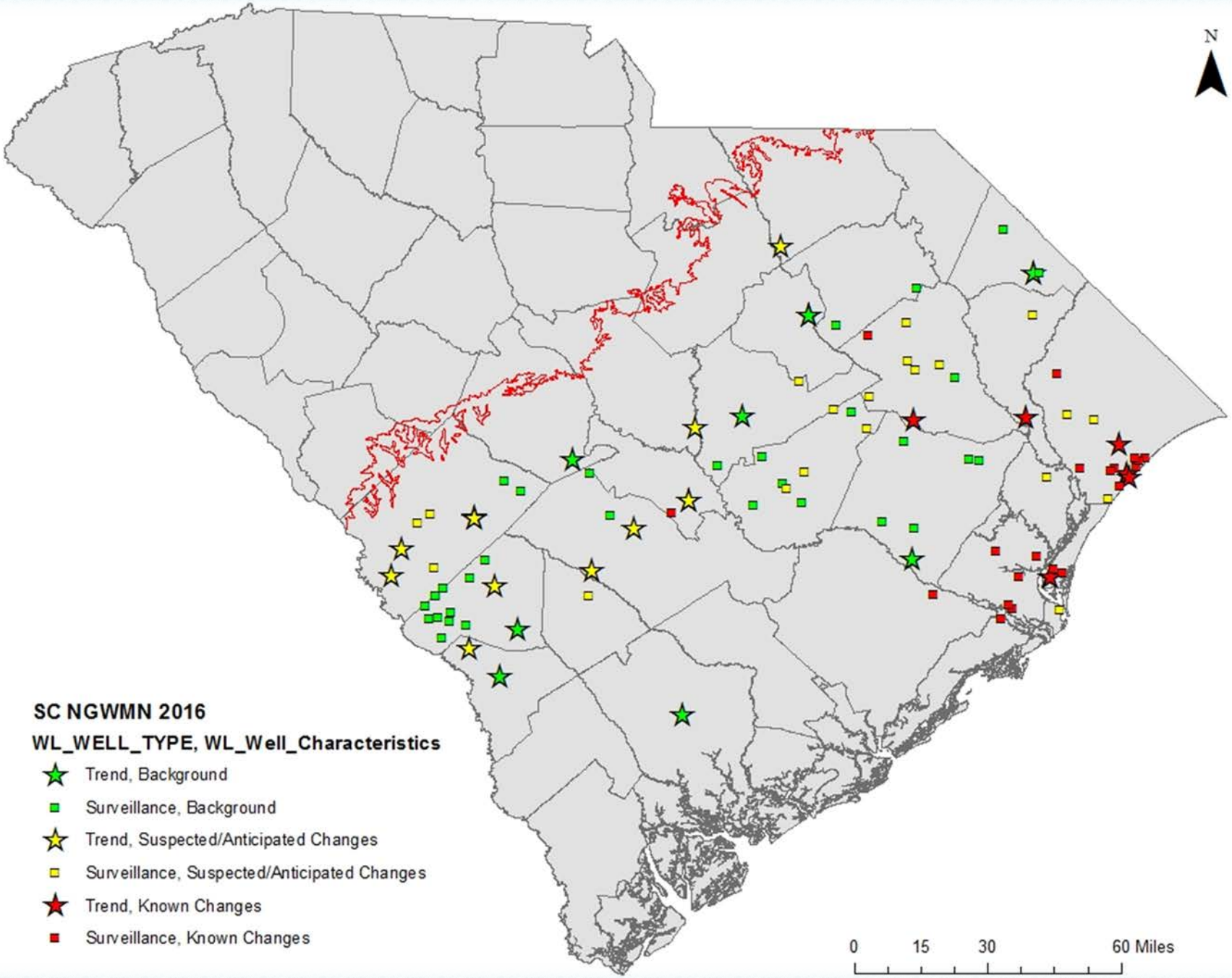
South Carolina Wells Added to NGWMN

Floridan Aquifer



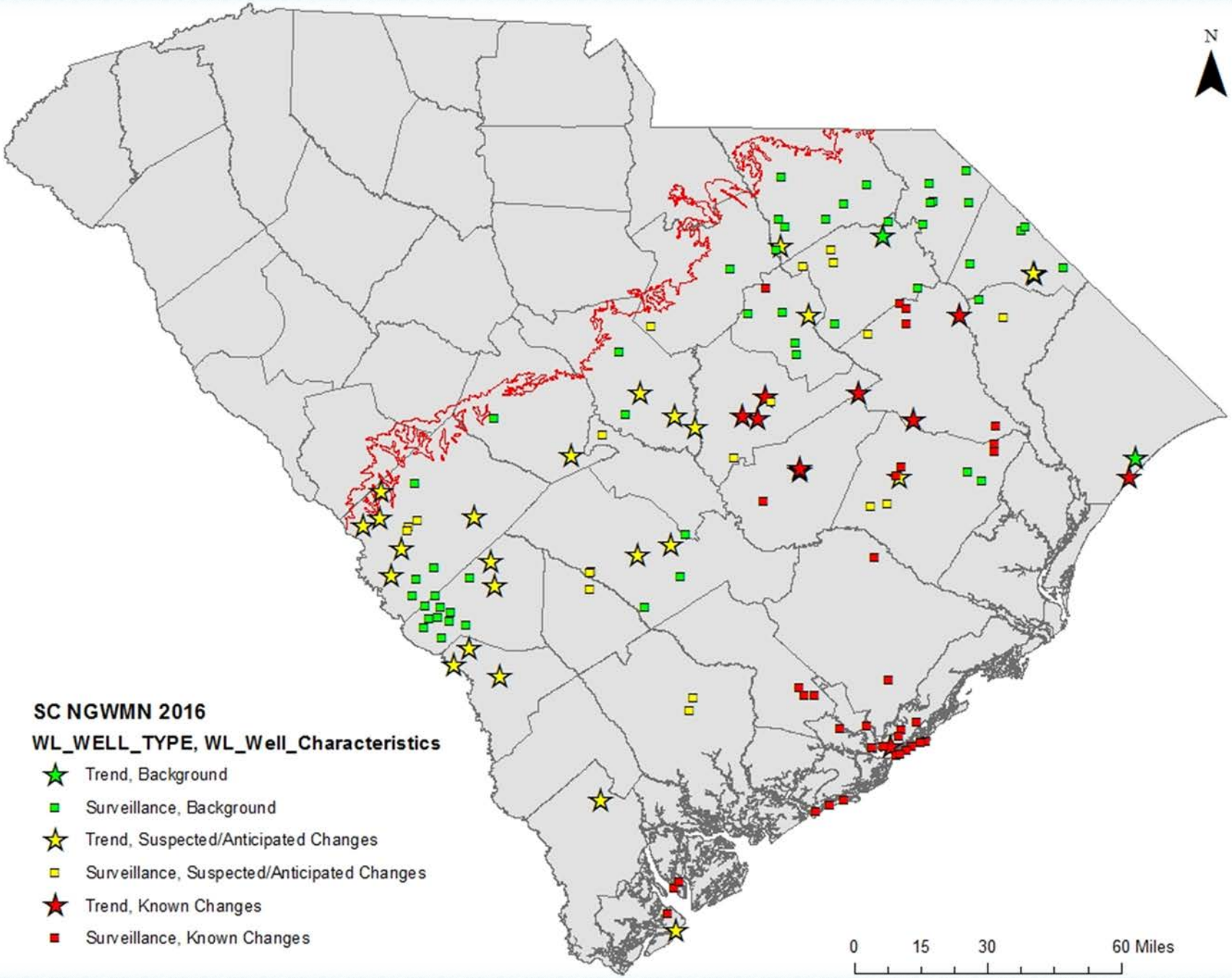
South Carolina Wells Added to NGWMN

Tertiary Sand Aquifer



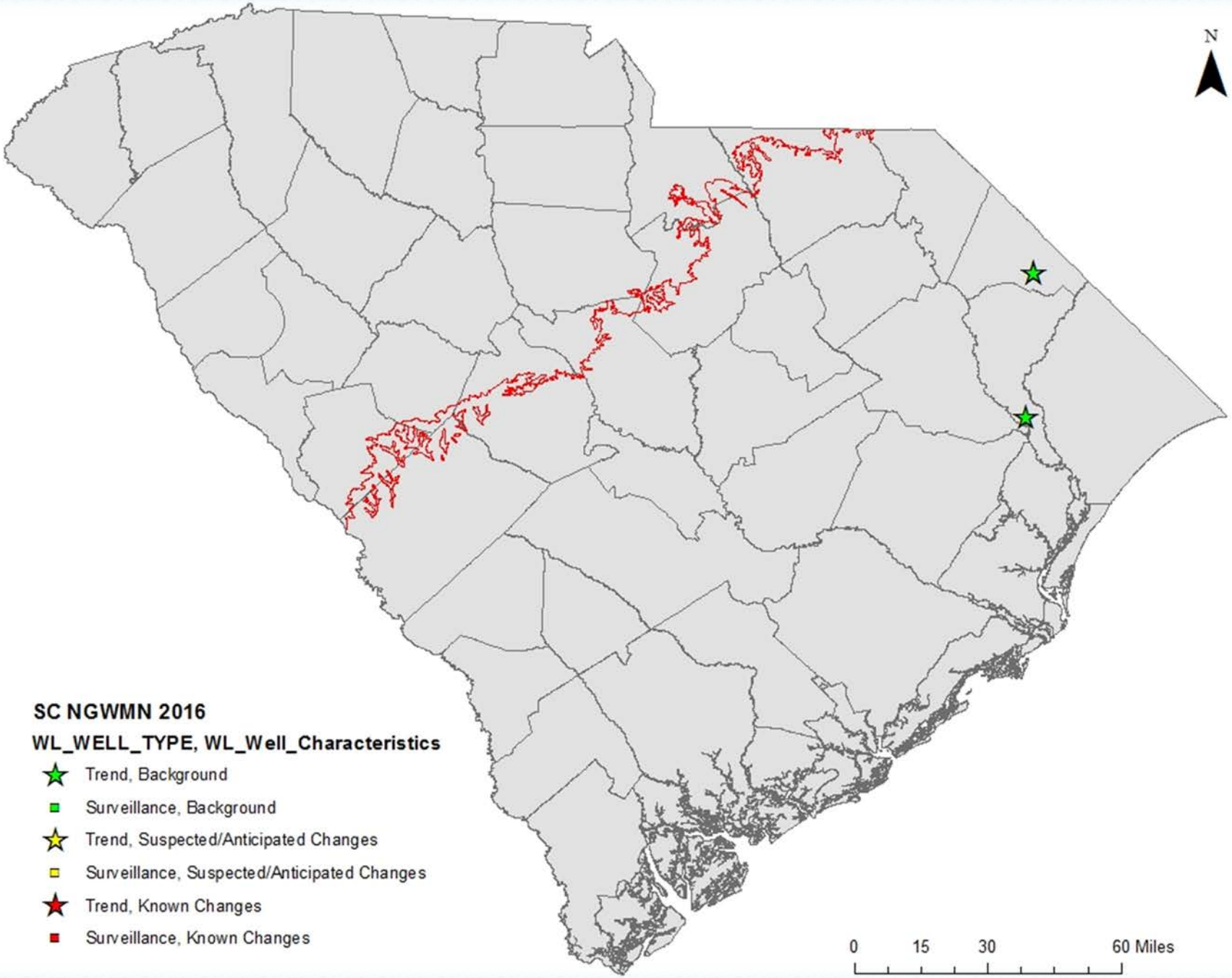
South Carolina Wells Added to NGWMN

Black Creek Aquifer



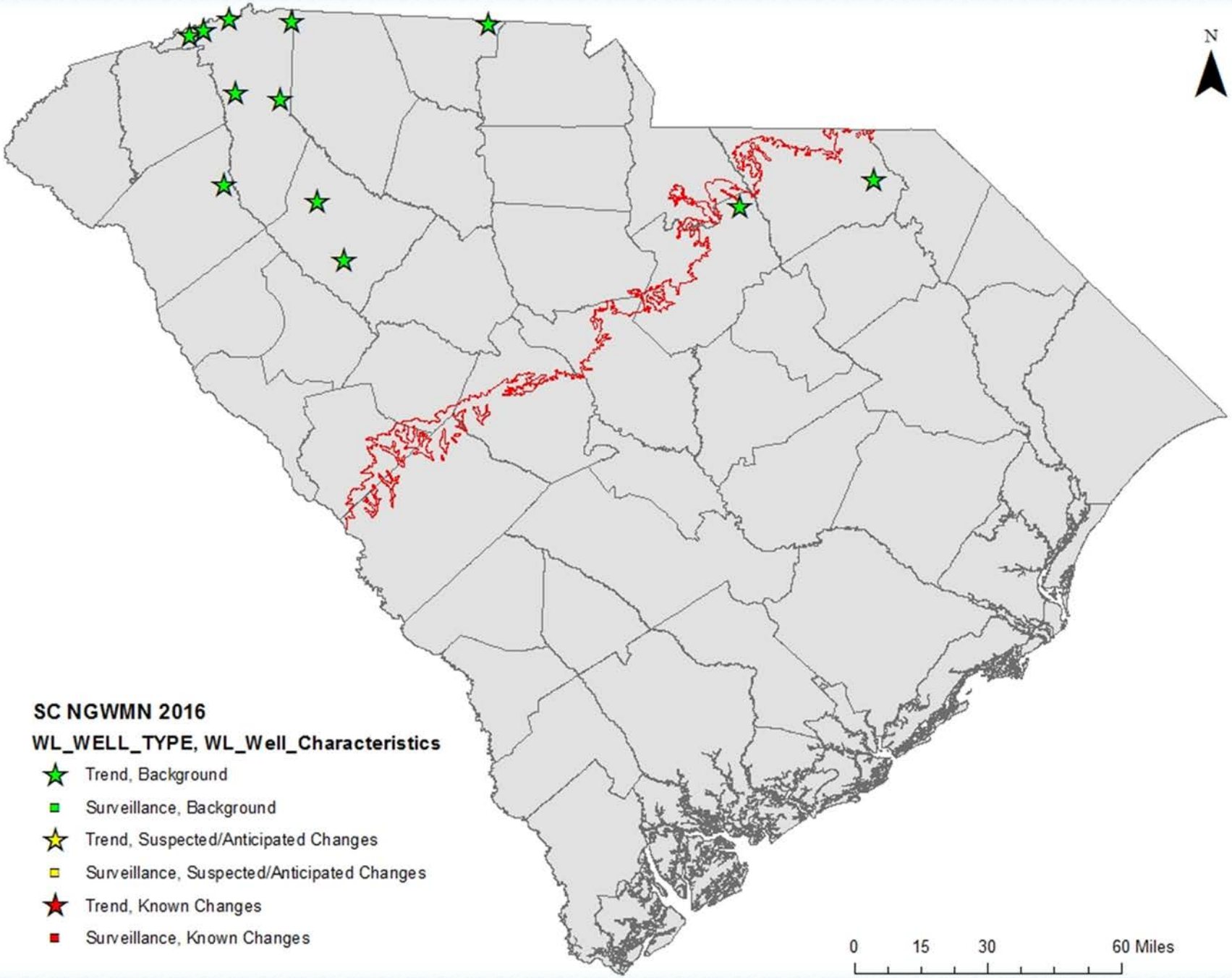
South Carolina Wells Added to NGWMN

Middendorf Aquifer



South Carolina Wells Added to NGWMN

Cape Fear Aquifer



South Carolina Wells Added to NGWMN

Fractured Rock

Current NGWMN Enhancements (Objectives 3-5)

- Updating of Lithology Database
- Updating and Calculation of Tidal Efficacies in Coastal Wells

QUESTIONS?

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