



U.S. DEPARTMENT OF
ENERGY

Savannah River Citizens Advisory Board

Environmental Sampling and Monitoring in the Central Savannah River Area January 29, 2013

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EM *Environmental Management*
safety ♦ performance ♦ cleanup ♦ closure

Acronyms and Definitions

ATSDR	Agency for Toxic Substances and Disease Registry
CSRA	Central Savannah River Area
MEI	Maximally Exposed Individual
mrem	Millirem



Purpose

- **To provide the CAB and public an overview of the environmental monitoring activities conducted in the CSRA.**
- **To identify environmental monitoring activities conducted by the SRS in the state of Georgia.**
- **To present changes under consideration for improving the communication of environmental monitoring information to the public.**



Who conducts environmental monitoring activities in the CSRA and Savannah River?

- **South Carolina Department of Health and Environmental Control**
- **Georgia Department of Natural Resources**
- **Vogtle Electric Generating Plant**
- **Energy Solutions (Barnwell, SC)**
- **Savannah River Site**
- **Beaufort-Jasper Water and Sewer Authority**
- **City of Savannah Industrial and Domestic Water Treatment Plant**



Sample Collection & Monitoring Locations by State SCDHEC, Vogtle and SRS Composite

ENVIRONMENTAL MEDIA	GA	SC	TOTAL
All Radiological Air Surveillance	10	20	30
All Radiological Surface Water Surveillance	21	29	50
FISH	13	10	23
GAME ANIMALS	1	8	9
VEGETATION (edible)			Various
VEGETATION (Non-edible)	3	35	38
MILK	4	9	13
SOIL (RAD)	3	48	51
SEDIMENT (RAD)	2	54	56
DRINKING WATER (RAD)	4	26	30
SURFACE WATER (NON-RAD)	0	24	24
GROUNDWATER	36	1175	1211
SEDIMENT (NON-RAD)	0	38	38
SAVANNAH RIVER SWAMP	0	53	53



SRS Sample Collection & Monitoring Locations by State

ENVIRONMENTAL MEDIA	GA	SC	TOTAL
All Radiological Air Surveillance	3	12	15
All Radiological Surface Water Surveillance	5	22	27
FISH	4	5	9
GAME ANIMALS	1	1	2
VEGETATION (edible)	3	5	8
VEGETATION (non-edible)	3	15	18
MILK	2	4	6
SOIL (RAD)	3	19	22
SEDIMENT	0	27	27
DRINKING WATER (RAD)	1	3	4
GROUNDWATER	10	1100	1110
SAVANNAH RIVER SWAMP	0	53	53

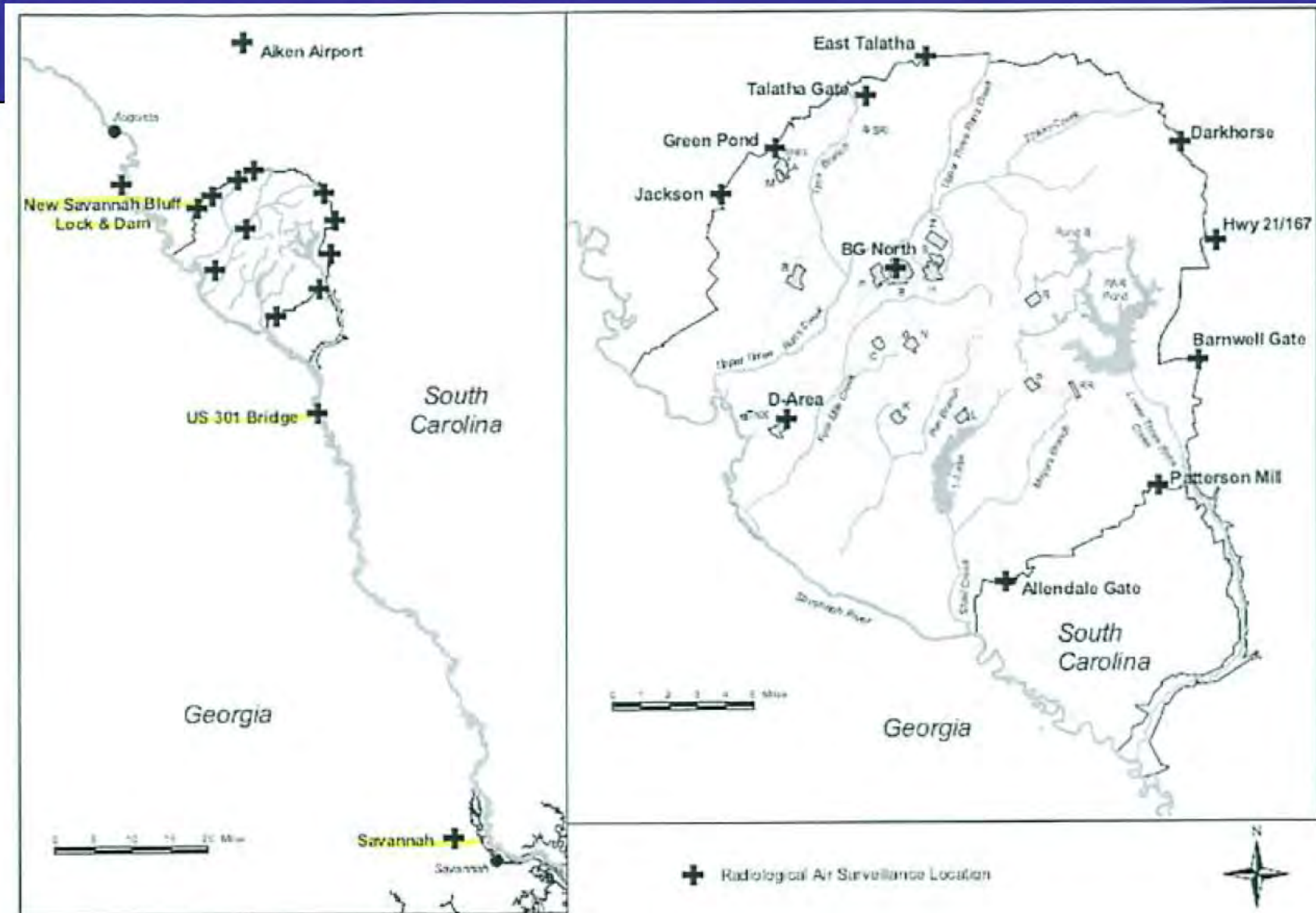


SRS Offsite Sample Collection & Monitoring Distribution by State

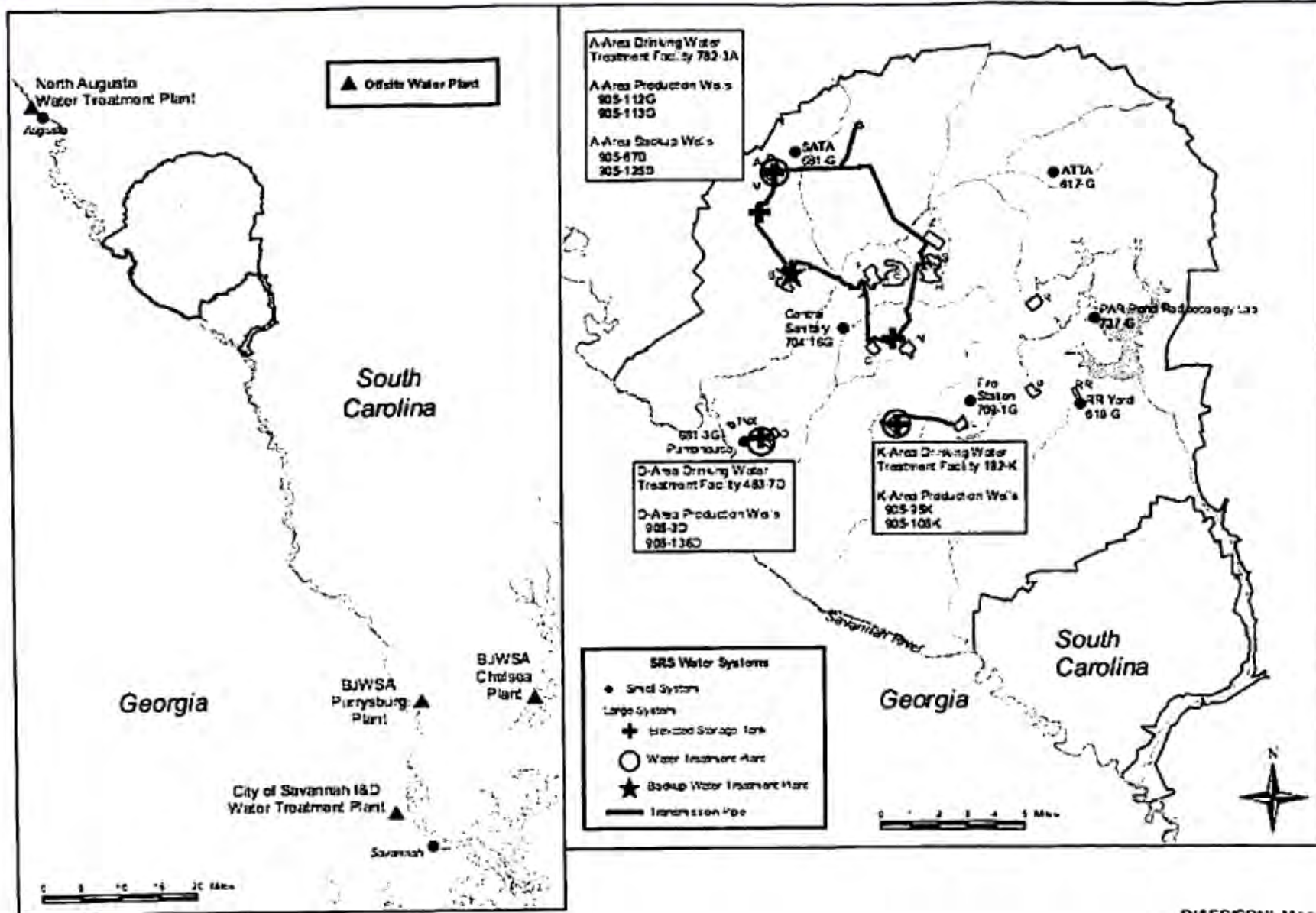
ENVIRONMENTAL MEDIA	SOUTH CAROLINA	GEORGIA
AIR	1	3
FOODSTUFF	5	3
MILK	4	2
SOIL	1	3
DRINKING WATER	3	1
GROUND WATER	0	10
VEGETATION (Non-edible)	1	3
GAME ANIMALS	-	1
SAVANNAH RIVER SWAMP	53	0



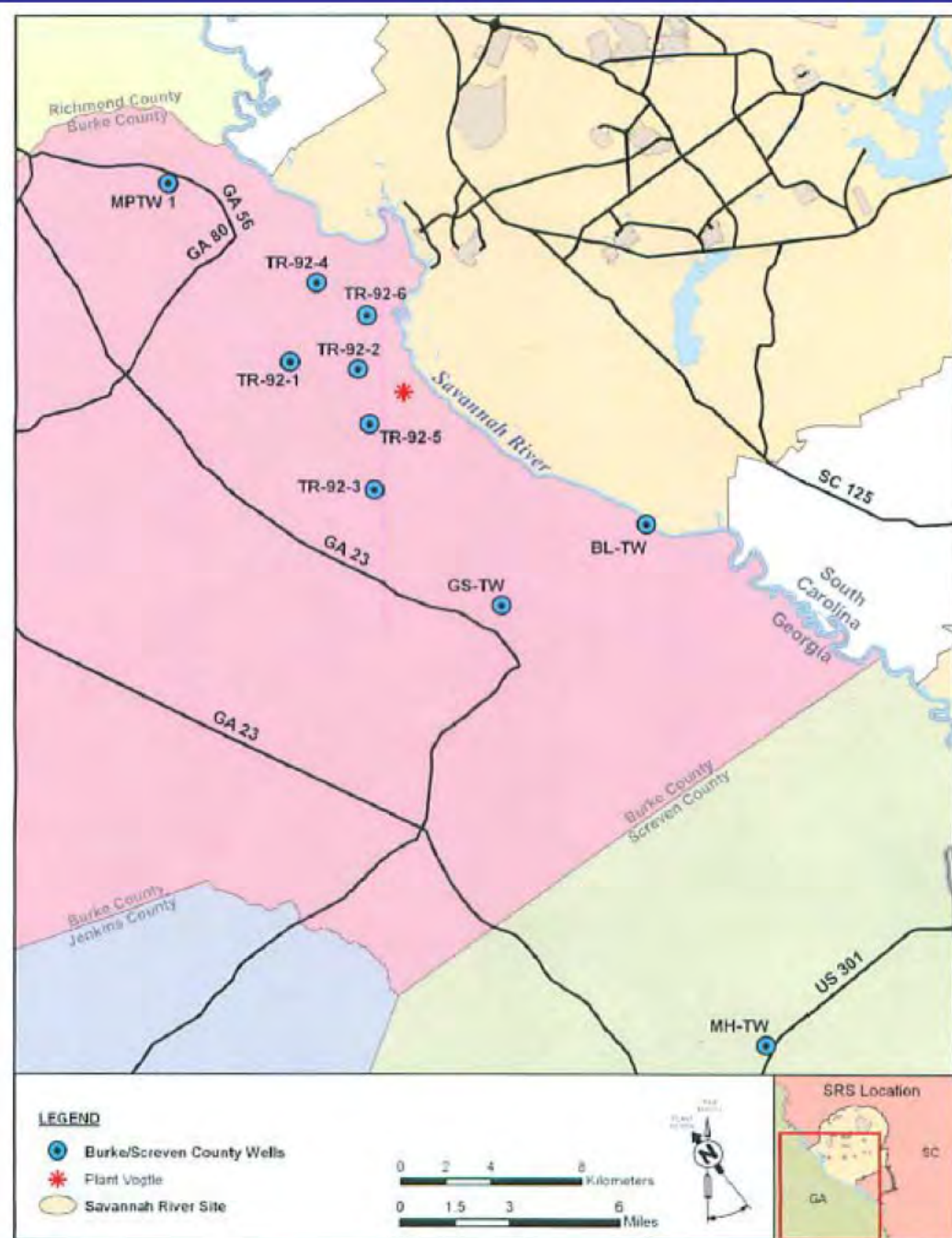
Radiological Air Surveillance Locations



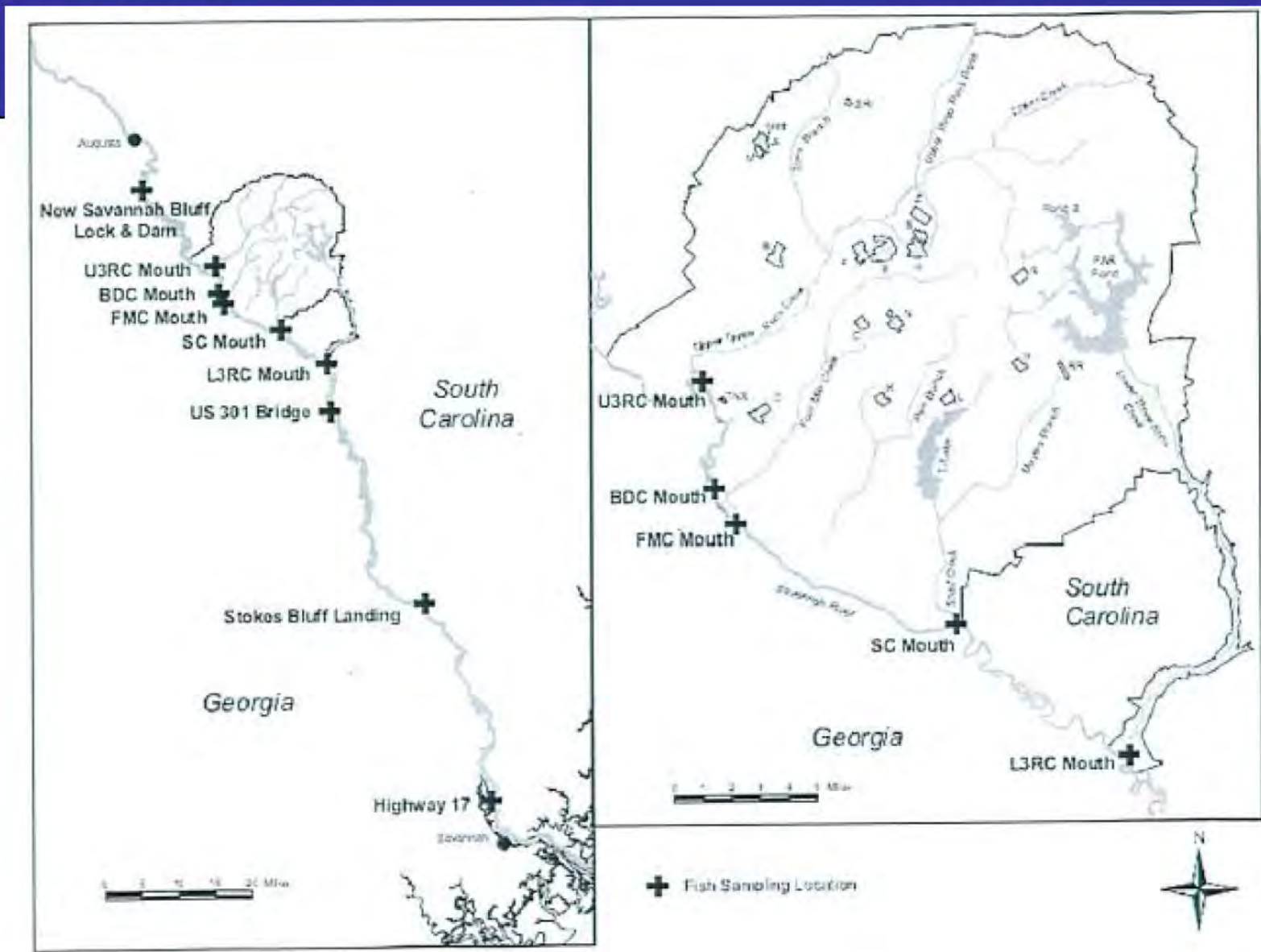
Drinking Water Surveillance Locations



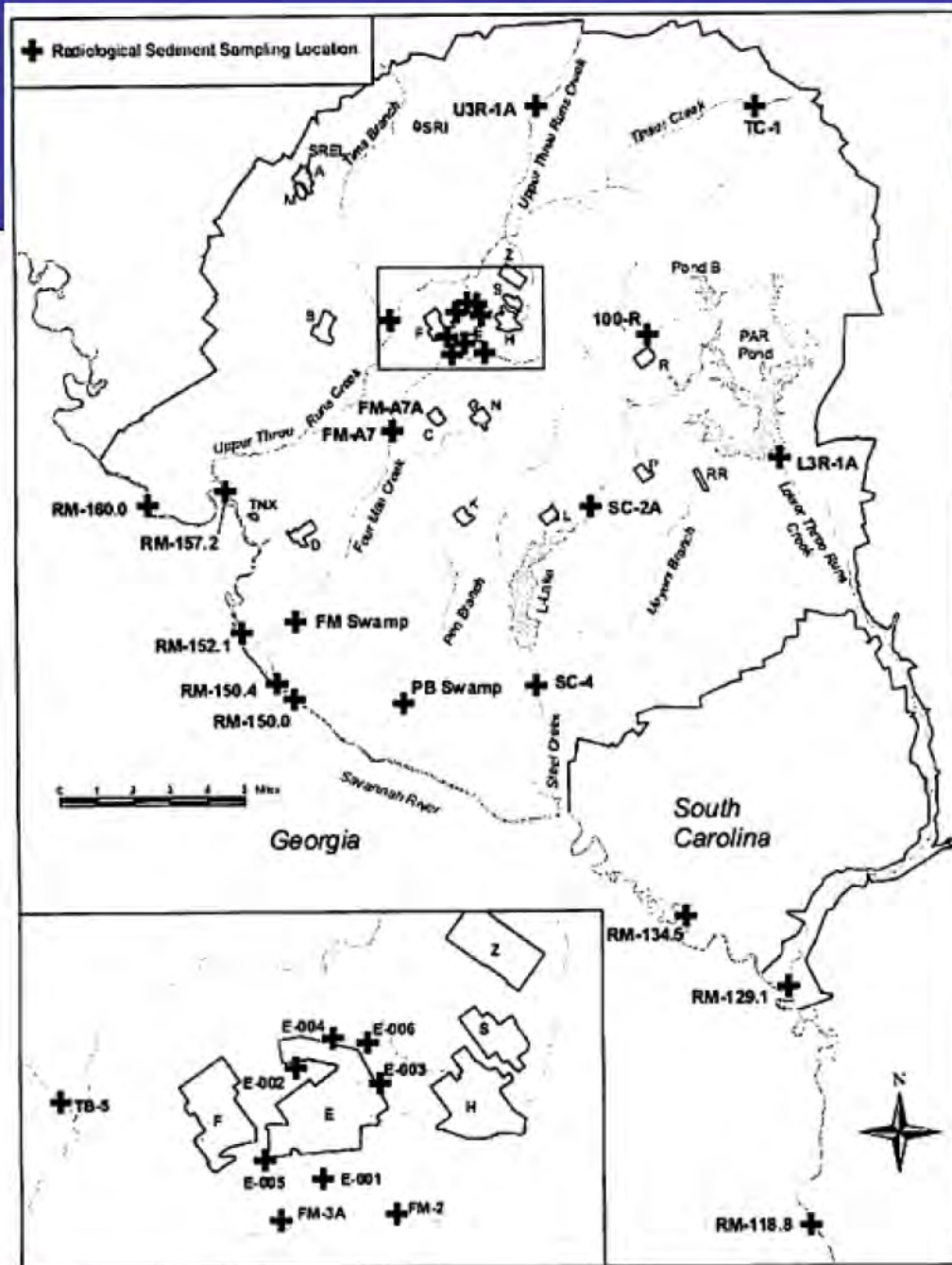
Ground Water



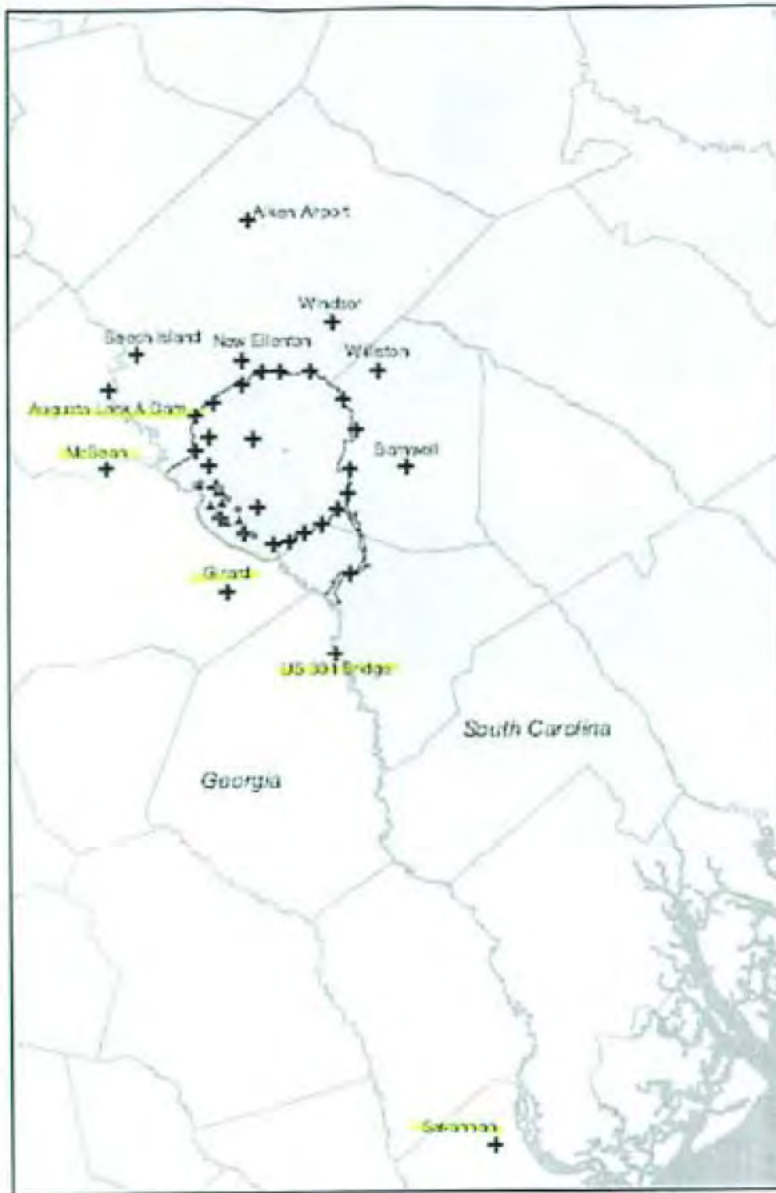
Fish Sampling



Sediment Sampling

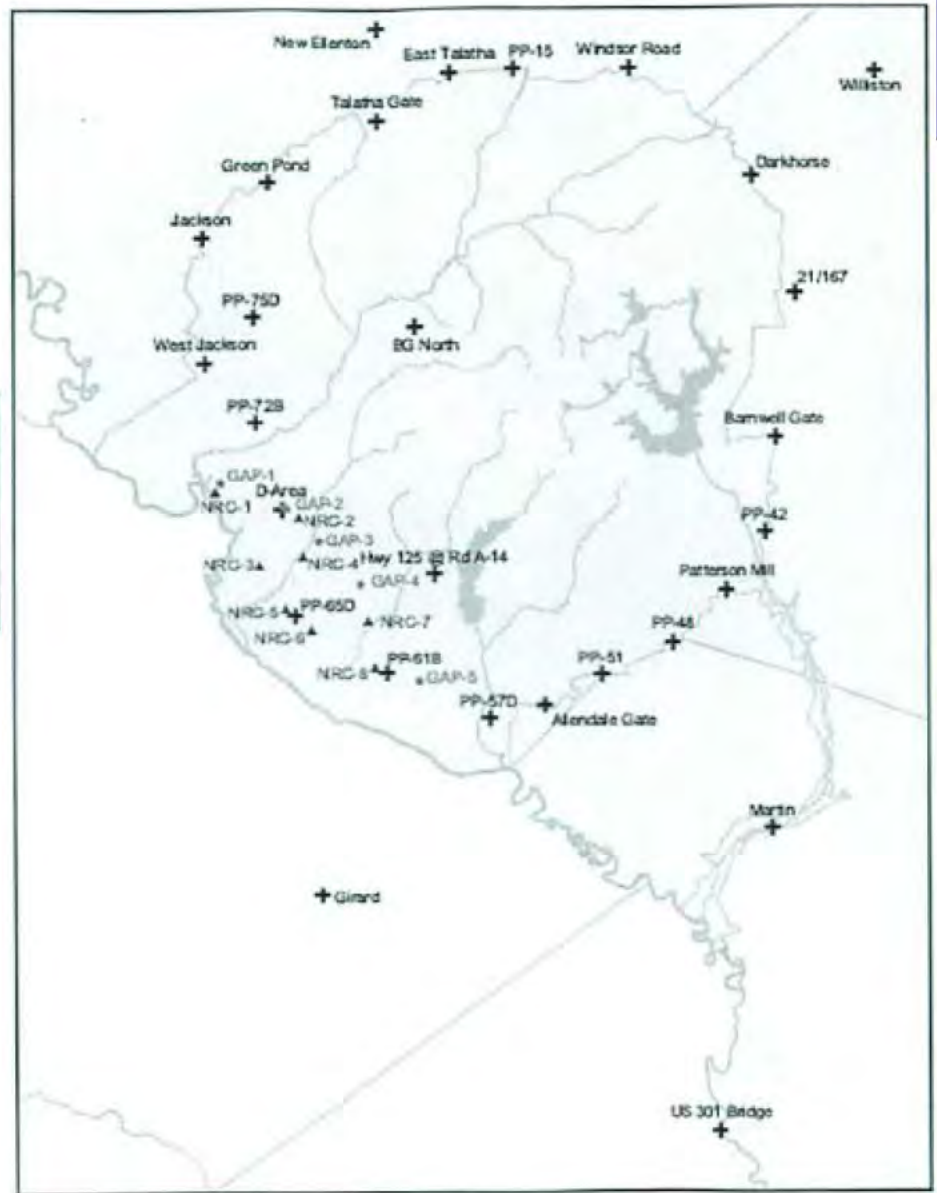


TLD Monitoring



SRS
TLD
Monitoring
Locations

- + TLD
- ▲ NRC
- GAP



Proposed SRS Changes Under Consideration for Improving Communicating Environmental Monitoring Information

- **Proposed revisions under consideration for future Annual Site Environmental Report and Summary**
 - **Improve the quality of the maps used in the report.**
 - **Include a section to address monitoring and sampling in Georgia and South Carolina.**
 - **Communicate information on where monitoring is conducted in the local communities.**



Conclusions

- The radiological doses from SRS operations have been 0.21 mrem or lower during the past ten years.
 - The DOE Public Dose Standard in 100 mrem/year.
 - Individuals receive natural doses of 360 mrem/year.
- SRS conducts a comprehensive environmental monitoring program in both states, Georgia and South Carolina.
- The SRS environmental monitoring program is reviewed annually to ensure adequate monitoring is conducted to quantify the impacts, if any, of SRS operations on the public and the environment.
- Independent Public Health Assessments conducted by the ATSDR have not identified any health hazards to the public resulting from SRS operations.



SRS ENVIRONMENTAL MONITORING PROGRAM CONTACTS

DOE-SR

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BACKUP SLIDES



GEORGIA GRANT CHRONOLOGY

- In 2001, based on an agreement between DOE Secretary Bill Richardson and Georgia Governor Roy Barnes, DOE established a three-year grant (\$1,856,568) to the Georgia Department of Natural Resources (GDNR) to offset the costs of start-up of their Augusta office for environmental monitoring associated with DOE/SRS missions.
- In 2004, DOE extended the grant and provided an additional \$300, 000 to provide GDNR additional time to arrange for alternate non-DOE funding for any monitoring conducted by Georgia after 2004.
- In 2006, GDNR submitted an unsolicited proposal to DOE for \$700K in financial assistance for environmental monitoring in 2007. DOE declined the GDNR request, because it did not meet the “unique and innovative” criteria required of an unsolicited proposal.



GEORGIA GRANT CHRONOLOGY

- In April 2010, DOE-SR invited GDNR to submit a grant proposal for environmental monitoring. Subsequently, GDNR submitted a proposal requesting \$8.3 Million over five years, which was significantly higher than the previous grant (\$2.2 Million over four years).
 - DOE reviewed the grant proposal and attempted to help GDNR revise the proposal to achieve a reasonable scope and cost. These negotiations became protracted over the next year and a half.
 - In the interim, DOE annual budgets became increasingly austere and were punctuated by repeated Continuing Resolutions, which prevented any “new starts,” including any new grants.
- In FY 2012, reduced budget realities prompted DOE and GDNR to cease pursuing any new grant.



GEORGIA GRANT SCOPE

- **The GDNR radiological monitoring focused on SRS waterborne releases and pathways, and to a lesser extent on airborne pathways. Greatest monitoring emphasis was placed on an area approximately 1-5 miles wide along the Georgia side of the Savannah River from Augusta to Savannah.**
- **Sampling was conducted on surface water, sediments, crops, milk, fish, soil, vegetation, thermoluminescent dosimeters, and groundwater.**
- **The grant also supported GDNR's participation in regional data-sharing meetings.**

