



A Presentation to the  
SRS Citizens Advisory Board  
Facilities Disposition and Site Remediation Committee

# Annual Integrator Operable Unit (IOU) Program Update

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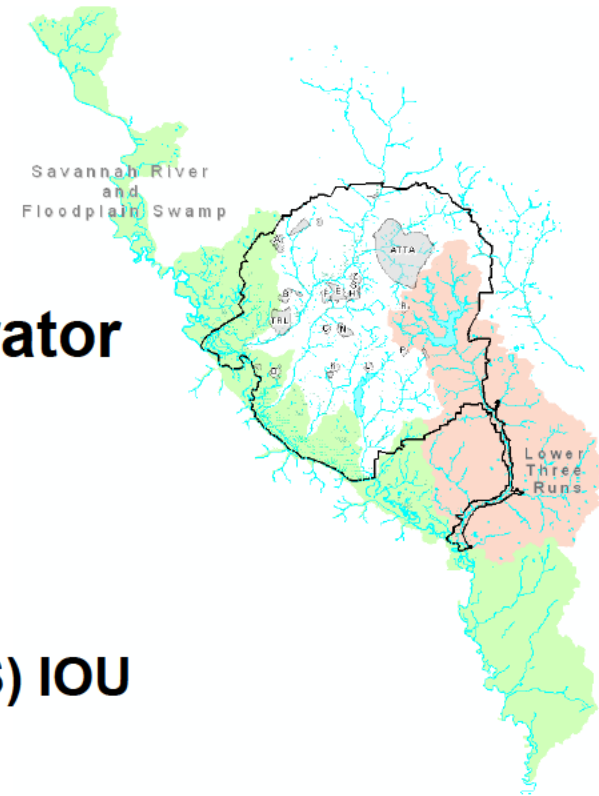
**October 30, 2012**





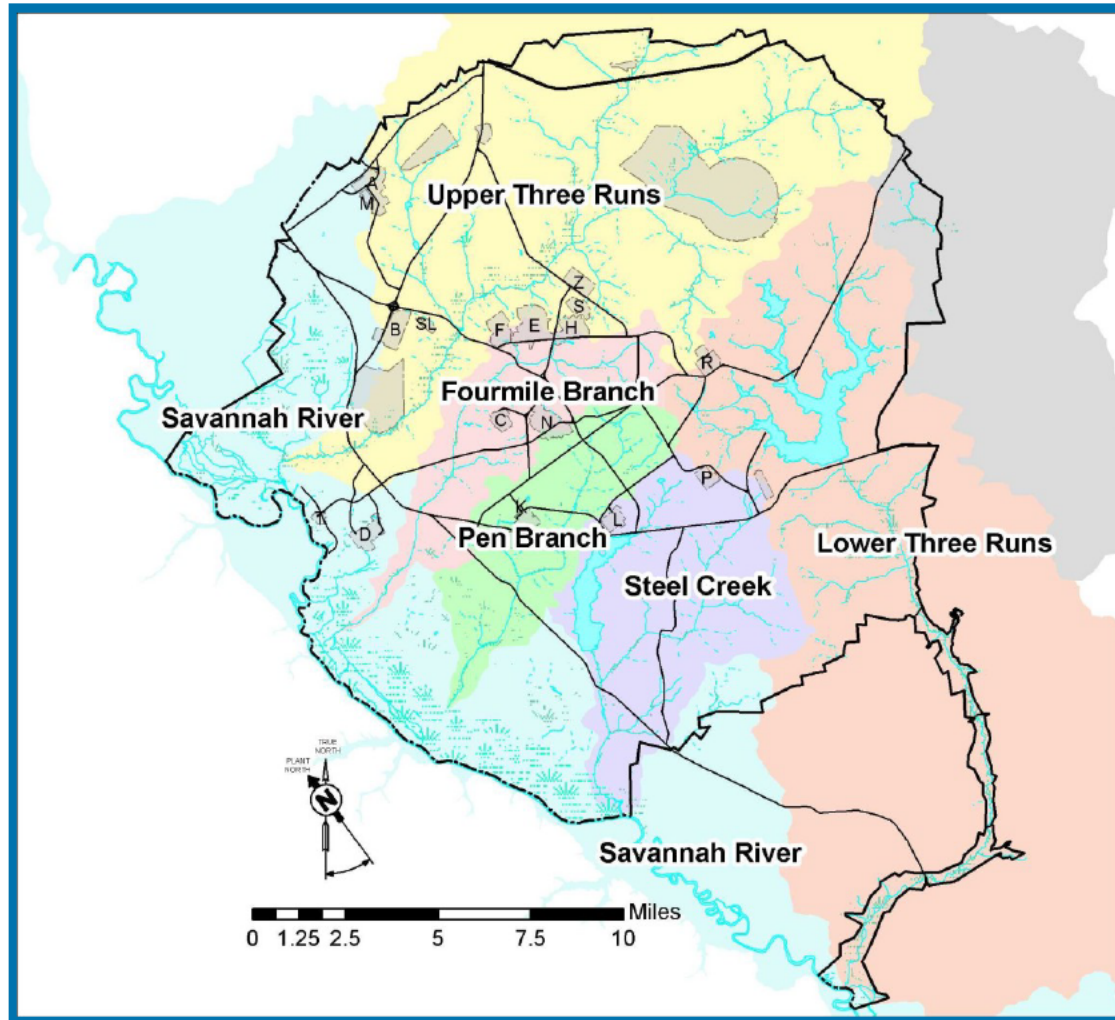
## Purpose

- Provide brief description of the Integrator Operable Unit (IOU) Program
- Present an update on:
  - Savannah River/Floodplain Swamp (SRFS) IOU
  - Lower Three Runs (LTR) IOU
- Path Forward for the IOU Program





## IOU Program



- **SRS streams added to the Federal Facility Agreement (FFA) in FY 1997**
- **IOU includes surface water, sediment, and biota (plants and animals)**





## IOU Purpose

- **Evaluate contaminants in SRS stream systems**
  - Evaluate human health risk in stream corridors
  - Assess the health of the stream system
  - Monitor contaminant levels based on IOU and other data
- **Determine whether early cleanup actions are needed**
- **Final IOU decision is made upon completing Operable Unit actions**





# Human Health and Ecological Screening

- **IOU Phase II Receptors**

- **Human Health**

- **On-site Worker**
    - **Adolescent Trespasser**
    - **Potential Resident**
    - **Fisherman (subsistence level - *meat consumption only from fish*)**
    - **Recreational Hunter**

- **Ecological**

- **Benchmark screening and biological data**

***Human Health Screening Levels***

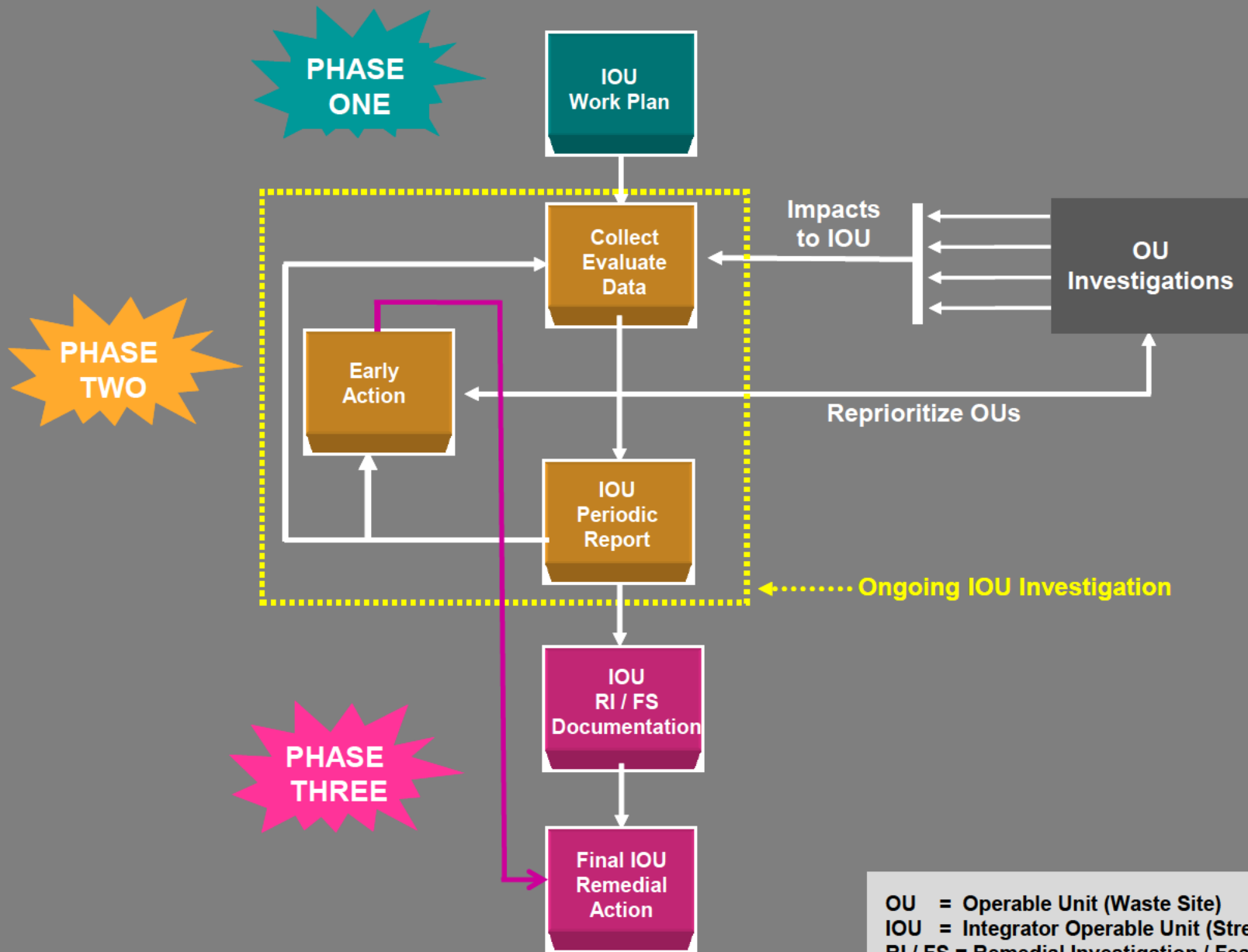
*1 in 10,000 **cancer** risk level ( $10^{-4}$ )*

*- or -*

*3 x greater than **non-cancer** threshold  
(Hazard Quotient = 3)*



# IOU Program



OU = Operable Unit (Waste Site)  
IOU = Integrator Operable Unit (Stream & River)  
RI / FS = Remedial Investigation / Feasibility Study

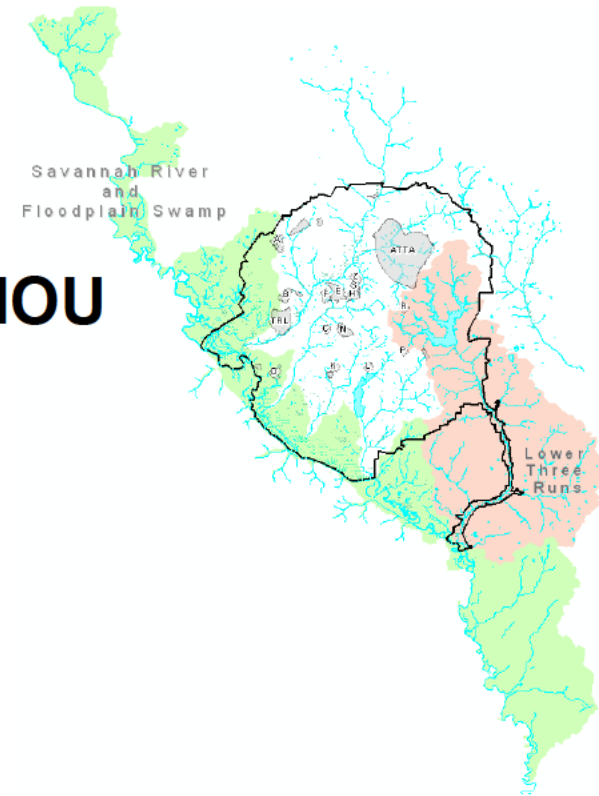
# Program Involvement (Savannah River Site-Department of Energy)





# IOU Schedule

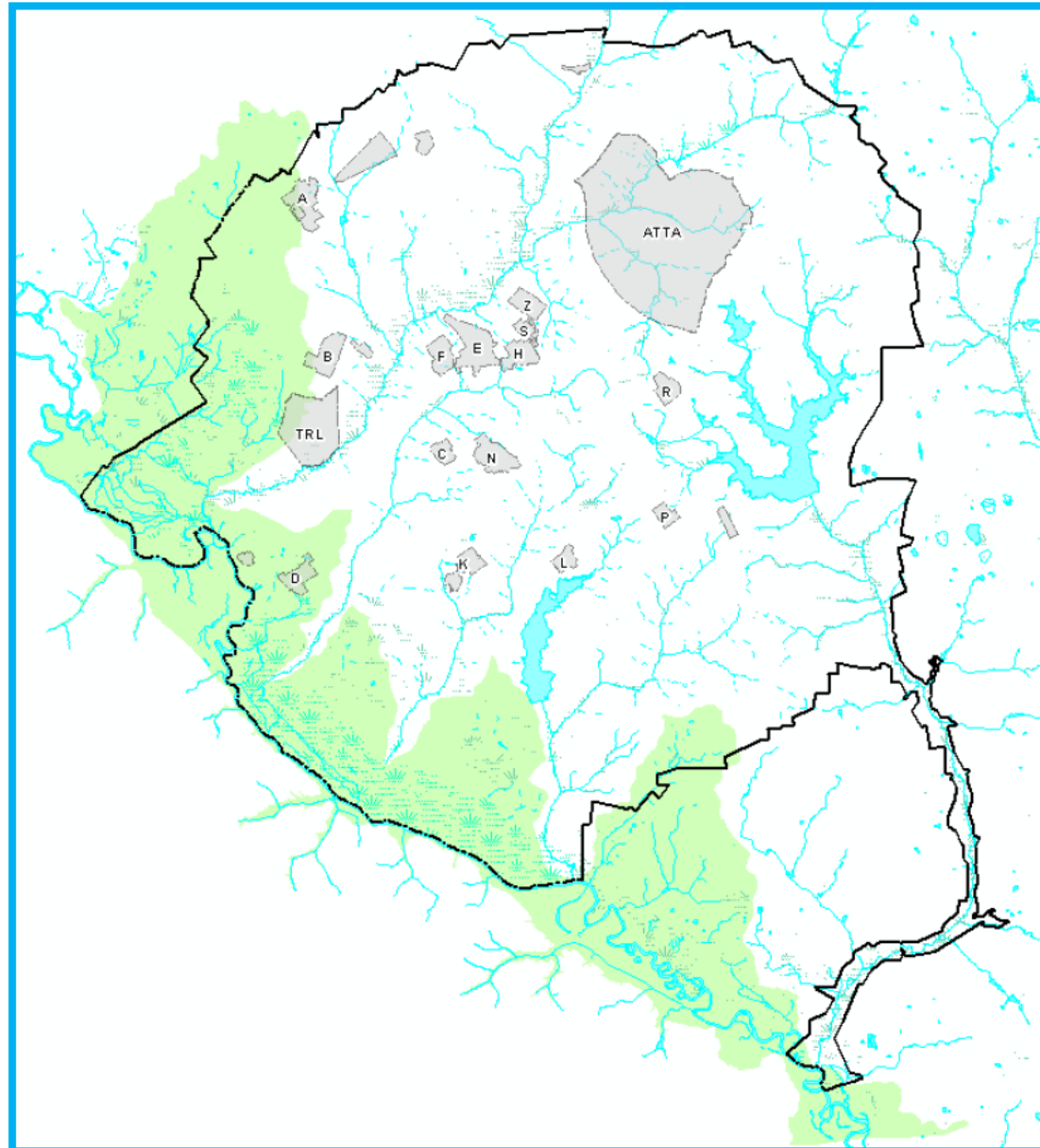
- **Savannah River/Floodplain Swamp IOU**
  - Phase II began May 2001
  - Phase III December 2024
  - Record of Decision March 2028
- **Lower Three Runs**
  - Phase II began November 2001
  - Phase III March 2013
  - Record of Decision March 2020








# Savannah River and Floodplain Swamp IOU



 = SRFS Subunits

 = Stream

SRFS = Savannah River and Floodplain Swamp



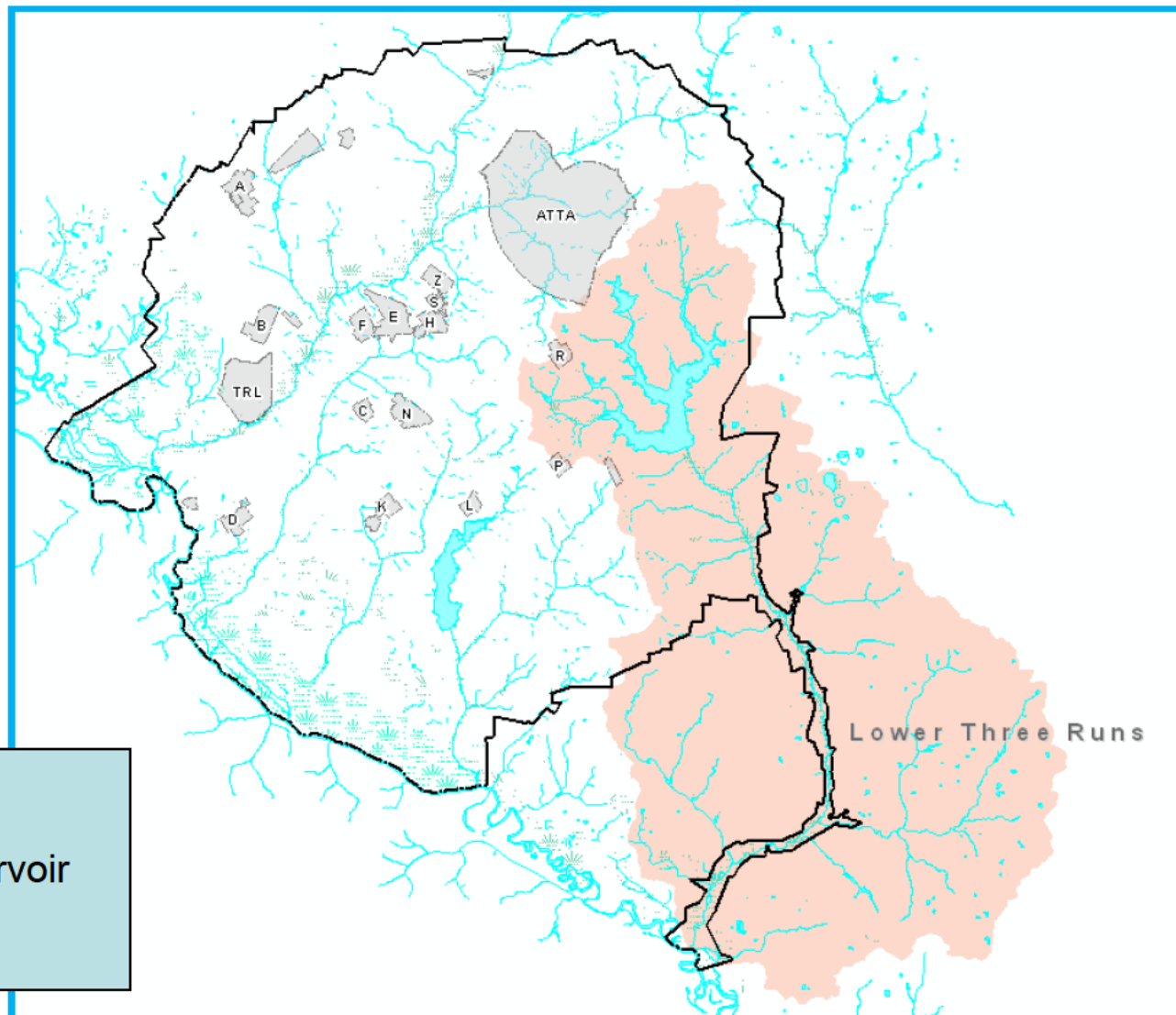
## Status (Savannah River/Floodplain Swamp IOU)




- **Periodic Report 3 submitted May 2012**
- **Human Health Evaluation**
  - No early actions are warranted
  - **Game Medium (Deer/Hog)**
    - Finalized a background value for cesium-137 (25.47 pCi/g)
    - Documented the approach for evaluating data (site monitoring continues)
  - Continue to evaluate data and provide periodic reports





# Lower Three Runs IOU



-  = Stream
-  = Pond/Reservoir
-  = Watershed



## **Status** (Lower Three Runs IOU)

- **Intensive characterization effort was conducted in 2009/2011**
- **Periodic Report 4 submitted March 2012**
- **Ecological Evaluation**
  - **No early actions were warranted**
  - **No additional data needs were identified**





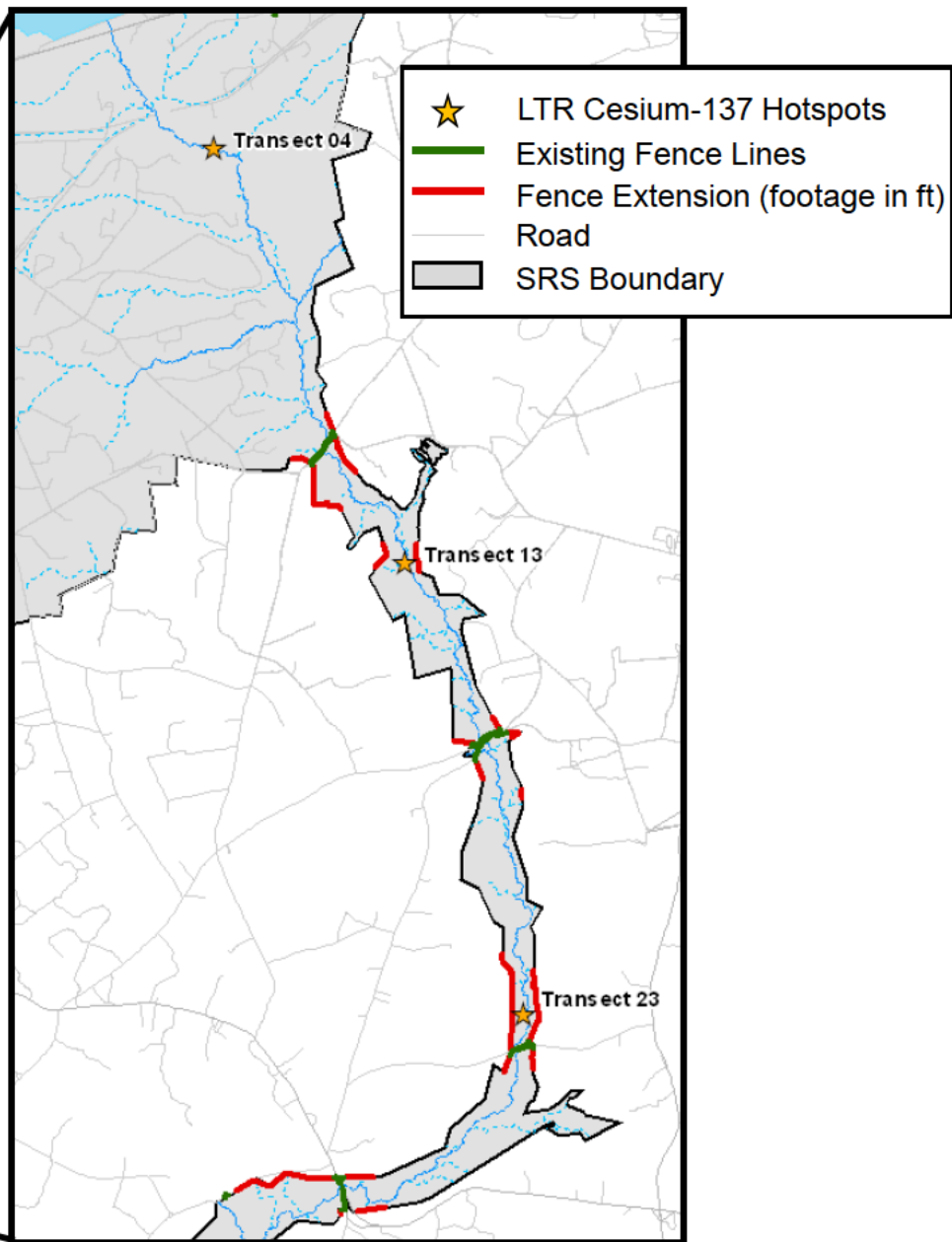
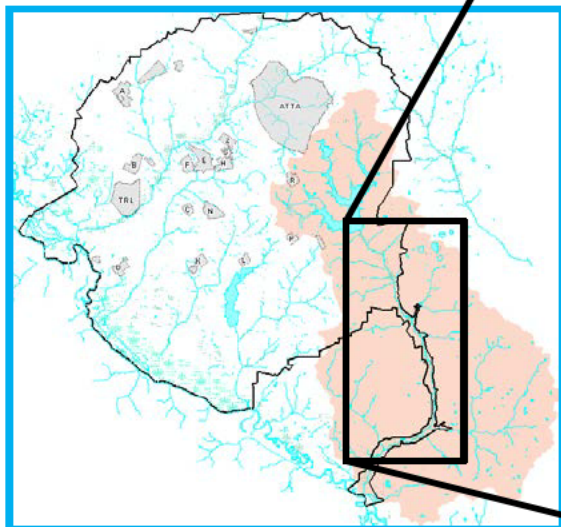
## Status (Lower Three Runs IOU)

- **Human Health Evaluation**
  - **Three discernible areas of cesium-137 contamination above our action level were identified below PAR Dam in wetland soils**
  - **Early Action was taken and completed in 2012**
    - **Removal of contaminated sediment/soil**
    - **Additional fencing**
    - **Placement of additional warning and no trespassing signs**





# Location of Cesium-137 Hotspots and Fence Extensions





## Fence Installation





## Signs and Fencing







## Removal of Contaminated Sediment/Soil





## Removal of Sediment/Soil Complete





## Natural Re-Vegetation





## Status (Lower Three Runs IOU)

- **Removal Action**
  - **Included involvement from property owners/DOE neighbors**
  - **Field walk down was conducted August 21, 2012 with DOE, EPA, SCDHEC confirming completion of the removal action**
  - **The “Removal Action Report” will document completion of the removal action**



# IOU Path Forward

IOU	Remedial Investigation Work Plan Approved	Most Recent Periodic Report	Next Milestone
Upper Three Runs	May 2003	PR 3 Approved May 2012	PR 4 Rev. 0 Due August 2016
Fourmile Branch	March 2002	PR 4 Approved June 2012	PR 5 Rev. 0 Due November 2017
Pen Branch IOU	November 2002	PR 3 Approved January 2011	PR 4 Rev. 0 Due July 2015
Steel Creek	September 2000	PR 4 Approved May 2010	PR 5 Rev. 0 Due August 2013
Lower Three Runs	March 2002	PR 4 Rev. 0 Submitted March 2012	Phase III RI/BRA July 2017
Savannah River / Floodplain Swamp	May 2003	PR 3 Rev. 0 Submitted May 2012	PR 4 Rev. 0 Due February 2017