Rushing Rivers Site
Five-Year Review Fact Sheet
EXAMPLE

What is a Five-year Review?

The purpose of a five-year review is to determine if remedies at a site are/remain protective of human health and the environment. If any issues that affect protectiveness are found during the five-year review, recommendations are made to address them. The report addresses three major questions:

- Is the remedy functioning as intended?
- Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?
- Has any other information surfaced that could affect the protectiveness of the remedy?

Site Chronology

1987–T-17 shuts down: T-17 (now the Science Technology Park) was a gaseous diffusion plant created to enrich uranium.

1989–National Priorities List (NPL) Listing: RRS placed on NPL and identified as needing a long-term cleanup plan.

1992–Federal Facility Agreement (FFA) established: The DOE, EPA, and State Department of Environment and Conservation (DEC) agree to coordinate efforts to achieve cleanup objectives at RRS.

1995– First Record of Decision (ROD) Documents: ROD for two major RRS watersheds.

2001–First Reservation-wide Five Year Review is completed.

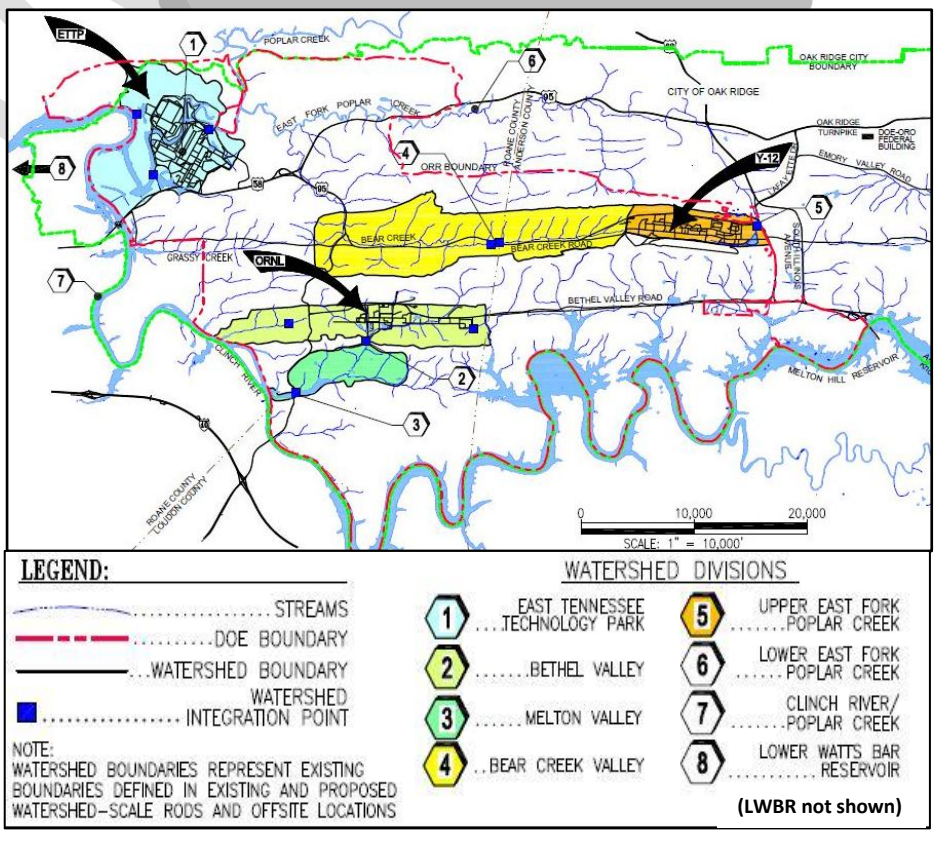
2006–Second Reservation-wide Five Year Review is completed.

Site History

Rushing Rivers Site (RRS) is located in Yourtown, State approximately 25 miles east of Cityville, State. Most of the nearly 35,000 acre property lies within the corporate limits of the city of Yourtown. The RRS is bordered by the Rushing River to the south and west, and the residential section of the city of Yourtown to the north. There are three major DOE instillations on site: Research National Laboratory, Science Technology Park, and the Freedom National Security Complex. These facilities, their associated watersheds, and the areas downstream of the facilities make up over fifty operable units (OUs) on the RRS and surrounding areas. Since 1989, over 66 remedial and removal actions have been identified; many are complete, and others are ongoing or yet to be started.

The RRS was established during World War II as part of the Manhattan Project to help produce the first nuclear weapons. That work and subsequent activities have involved, and continue to involve, the use of radiological and hazardous materials, including metals, polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and volatile organic chemicals (VOCs).

Site Map



Major Developments Since the Last Five-Year Review

- **OU 30/DOE title:** Increased strontium (^{90}Sr) fluxes into the BV watershed were addressed through extensive removal of contaminated soil at the Corehole 8 Plume and Solid Waste Storage Area (SWSA) 3, the presumed source of the non-point discharge. SWSA 3 capping was initiated in 2010 along with installation of additional extraction wells to capture the Corehole 8 Plume.
- **OU 29/ DOE title:** In 2007, cleanout activities of four MV weirs were completed. The cleanouts were initiated due to noted imbalances in the flow of ^{90}Sr, tritium (^{3}H), and cesium (^{137}Cs). After weir cleanout, new data were gathered and reported in the 2008 Remediation Effectiveness Report.
- **OU 32/ DOE title**: Performance monitoring for two former waste disposal units, the B&B, has shown that annual uranium flux remained below the goal of 4.3 kg/year for two consecutive years.

Issues, Follow-up Actions, and Schedule Dates

- **Mercury concentrations exceed levels considered safe for aquatic life at OU 28 /DOE title:** Mercury (Hg) concentrations at Station 17 are above the 200 parts per trillion (ppt) performance goal, and Hg concentrations in fish have not changed significantly. High Hg bioaccumulation in the food chain poses an unacceptable risk to fish and fish-eating birds. A Mercury Mitigation Strategy, including a Mercury Water Treatment System at Outfall 163, which is the major contributor of mercury to the UEFPC headwaters, will begin in September 2013. Institutional controls are currently in place to prevent human exposure.
- **Cadmium and Uranium concentrations are above acceptable levels at OU 32/DOE title:** Cadmium levels currently exceed Ambient Water Quality Criteria, and the OU is not protective of aquatic life. Uranium concentrations remain above acceptable levels for residential and industrial areas. However, there is no current unacceptable human exposure, and institutional controls are in place to prevent human exposure. A new action plan was submitted in July 2012 and will be evaluated in 2013.
- **Changes in risk methods, toxicity factors, and contaminants of concern at OUs 30, 32, 28 and 15/DOE title:** Watershed toxicity factors, risk methods, and contaminants of concern used at the time of remedy selection have since changed for actions currently in progress. For example, the cancer slope factors for ^{137}Cs in soil and ^{90}Sr in soil and water are now more potent than those at the time of the remedial investigation at OU 30/DOE title. Remediation levels will be updated prior to taking additional response actions.

Protectiveness Summary

OU - 28, 32	• Not Protective
OU - 15, 30	• Will be protective
OU 35	• Protective in the short term
OU 10	• Protectiveness deferred

Of the 24 OUs reviewed in the 2011 FYR all remedies and removal actions at the remaining 18 OUs were found to be Protective of human health and the environment.

Next Five Year Review	• 2017

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Visit www.rushingrivers.doe.gov/info_cntr to request access to all publicly available RRS documentation, including the complete 2011 five-year review.

State Seal