

---

## **Executive Summary – Program Management Plan, Ecological Study of the South River, Virginia and a Segment of the South Fork Shenandoah River, Virginia.**

This document sets forth an overall plan for a multi-year, watershed-level ecological study of the South River, Virginia, and upper segment of the South Fork Shenandoah River, Virginia. The elements of this plan stem from a settlement (*Civ. Action No. 5:05-cv-30013*) reached in June 2005 among E.I. du Pont de Nemours and Company, the Natural Resources Defense Council, and the Sierra Club (Virginia Chapter). While this plan sets forth the overall elements of the ecological study, specific work plans will also be prepared and provided to address specific portions of the field and laboratory investigations. Those detailed work plans are not included in this program management plan.

The ecological study will be conducted in two phases and require a total of approximately six years to complete. Most, if not all of the proposed work, will comport with work already underway through the South River Science Team (SRST), or that sponsored by state or federal groups. It is expected that this parallel work will provide a substantial underpinning for this ecological study. As a result of the agreement among DuPont, NRDC and Sierra Club, the SRST and its panel of mercury experts will be given frequent opportunities to confer on the design, implementation and analysis of data stemming from this proposed ecological study.

Phase I will continue approximately two years and will focus on collecting appropriate biological, chemical, and physical data necessary to define the primary study area and suitable reference areas. As noted earlier, data collected previously by SRST may provide data sufficient in quality and quantity to satisfy some elements of Phase I. The

---

information collected in Phase I, coupled with the SRST data will also help identify those areas within the primary study area where mercury enters the aquatic and terrestrial environments and becomes bioavailable to various ecological receptors. These points of mercury loading, to the extent they exist as defined points, will become those areas where Phase II of the ecological study will focus.

Phase II of the ecological study will require an additional three to four years and focus on identifying the fate and effects of mercury within the aquatic and riparian environments and food webs. Biological and toxicological data, coupled with results of Phase I, should allow a more thorough understanding of how mercury is entering the aquatic environment, how / why it is currently expressed in biological tissues, and potential impacts associated with mercury exposures. Key elements of Phase II will be the study of potential impacts on benthic community composition and abundance (e.g. Sediment Triad), uptake and distribution of bioavailable mercury in the aquatic and riparian food web, and exposure and effects in higher trophic level species (e.g. piscivorous birds).

All aspects of Phases I and II will be conducted under the immediate oversight of a Project Manager, who reports directly to a DuPont Project Director. All data collected during this study will be maintained in a central repository, and made available either in hardcopy or electronic format to NRDC / Sierra Club, SRST, US EPA, and US FWS. Lay-audience materials may also be developed so that the local communities and other interested stakeholders are kept abreast of the study progress and results.

---

At the culmination of the five to six year study period, or sooner should sufficient data and understanding warrant, this and other information will be used to guide a decision as to the need for remedial or restorative actions provided they are safe, effective, and necessary to help reduce mercury availability in the South River and a segment of the South Fork Shenandoah River.

---

---