

**Project Completion Report:**  
Muslyumovo Radioactive Sludge



- Project Details:**

<b>Location:</b>	Muslyumovo, Republic of Tartarstan,
<b>Contaminant:</b>	Radioactive waste
<b>Project Duration:</b>	May 2005-December 2005
<b>Project Cost:</b>	\$15,000
<b>Implementing Partners</b>	Chelyabinsk City Ecological-Educational Pubic Organization
<b>Other Partners:</b>	



- **Background and Scope:**

In 1949, the Soviet Union funded the Mayak plant intended for the manufacturing of weapon's grade plutonium in Chelyabinsk, in the Southern Urals. All liquid waste products were dumped directly into the Techa river, and eventually high levels of radioactive waste settled along the riverbed. In 1952, 70% of the inhabitants of nearby village Metlino suffered from leukemia, and authorities finally made an appeal to rectify the situation. Resettlement of almost 100,000 people lasted until 1961, the river was dammed in two places, and waste was redirected towards lake Karachaj. Inexplicably, however, every 50 km one village was left behind. This has proven a poor decision, as the plant is to blame for two other nuclear disasters: the explosion of radioactive waste tanks in 1957, and the effects of nuclear fallout from the bottom of lake Karachaj in 1967.

The first of these villages is Muslyumovo, population 2,500. Because the riverbanks confirm high levels of radioactive pollution, the population undergoes chronic exposure and every fourth child is born with some form of genetic mutation. The population is aware of the radiation, but likely doesn't understand its full implications, as the water is used for drinking, bathing, fishing, and irrigation.

- **Project Metrics and Results:**

The goals of this project were as follows:

1. to minimize exposure to the radioactive soil lining the Techa riverbank
  - a. remove the contaminated soil from the banks
  - b. replace the soil with a layer of shattered stone and pebbles
  - c. make the riverbank inaccessible to people and their livestock
  - d. Prevent congestion of fish populations in the deeper parts of the river near Muslyumovo
2. to involve administration of various levels in rehabilitating the banks of the river
  - a. conduct independent research on the experimental site detailed above
  - b. obtain an agreement from the Chelyabinsk Region Administration to go ahead with the joint project

The background radiation at the site was 199 mcr/hour and 12 mcr/hour after the soil was excavated. Other activities included the removal of grasses where geese and other animals were grazing, covering up whirlpools where fish accumulated, and the elimination of bathing access and making the area inconvenient for travel and walking. All of these effects decreased exposure to radiation.

