Click Here to View Previous Section

Return to Table of Contents

Conclusions

(1) Limited sampling of fish from the lower Woonasquatucket River indicates the presence of dioxin and other contaminants in fish at levels of public health concern.

(2) Microbiological contamination in the river poses a potential public health hazard for recreational use of the river.

(3) The concentrations of dioxin and other contaminants detected in sediment from the Woonasquatucket River do not pose a public health hazard.

(4) The concentrations of dioxin detected in surface soils from the Lee Romano Ballfield, the North Providence Boys and Girls Club, and the Early Years Learning Center do not pose a public health hazard.

(5) Elevated levels of dioxin were detected in surface soil/sediment from the wetlands and flood plain areas around Centredale Manor. Occasional contact with these areas, as could occur for children who walk through or play in these areas, would not pose a significant health risk. However, if land use changes, or if frequent, prolonged contact occurs, then exposures of health concern could result.

(6) Recent testing of drinking water wells near Centredale Manor did not detect dioxin or other contaminants in excess of drinking water regulations.

Recommendations

(1) Continue the RI DOH Fishing Advisory for the Woonasquatucket River and disseminate the advisory to non-English speaking people.

(2) Avoid swimming and other activities that could result in ingestion of water from the Woonasquatucket River because of possible bacteriological contamination.

(3) Characterize the extent of dioxin contamination around Centredale Manor and other areas subject to deposition of contaminated river sediments.

(4) Prevent further off-site migration of dioxin contaminated soil and sediment from the Centredale Manor property.

(5) Prevent access to and/or remediate surface soil dioxin concentrations that exceed 1 part per billion in residential, recreational, or other areas that could be frequently accessed.

(6) Implement a program of community and health professional education to provide the public with accurate information on the risks posed by environmental contamination and how to minimize exposures.

References

(1) Ann-Marie Burke, U. S. Environmental Protection Agency; Human Health Risk Screening Analysis for a Subsistence Fisherman in the Woonasquatucket River, Providence, RI; October 8, 1996.

(2) Steve Stodola, U.S. Environmental Protection Agency - Region I; Memorandum: Confirmation of TCDD in samples from the Woonasquatucket River; September 27, 1996.

(3) U. S. Environmental Protection Agency; Woonasquatucket River Sediment/Water Quality Analysis; July 31, 1998.

(4) ATSDR; Case Studies in Environmental Medicine: Dioxin Toxicity; June 1990.

(5) Kyle Steenland, Laurie Piacitelli, James Deddens, et al.; Cancer, Heart Disease, and Diabetes in Workers Exposed to 2,3,7,8-Tetrachlorodibenzo-p-dioxin; J Nat Cancer Inst.; **91**(9) 779-786 (1999).

(6) ATSDR; Toxicological Profile for Chlorinated Dibenzo-p-Dioxins (update); December 1998.

(7) U. S. Environmental Protection Agency; Review Draft; Health Assessment Document for 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Related Compounds; Volumes 1 and 2; June 1994.

(8) U. S. Environmental Protection Agency; Estimating Exposure to Dioxin-Like Compounds, Volume II: Properties, Sources, Occurrence and Background Exposures; Review Draft; June 1994.

(9) Food and Drug Administration; Talk Paper: Dioxin in Fish; August 28, 1981.

(10) H. Shu, P. Teitelbaum, A. S. Webb, et al.; Bioavailability of Soil-Bound TCDD: Dermal Bioavailability in the Rat; Fundamental and Applied Toxicology **10**, 335-343 (1988).

(11) Ann-Marie Burke, U. S. Environmental Protection Agency; Human Health Risk Screening Analysis for a Recreational Exposure to Sediments in the Woonasquatucket River, Providence, RI; February 24, 1998.

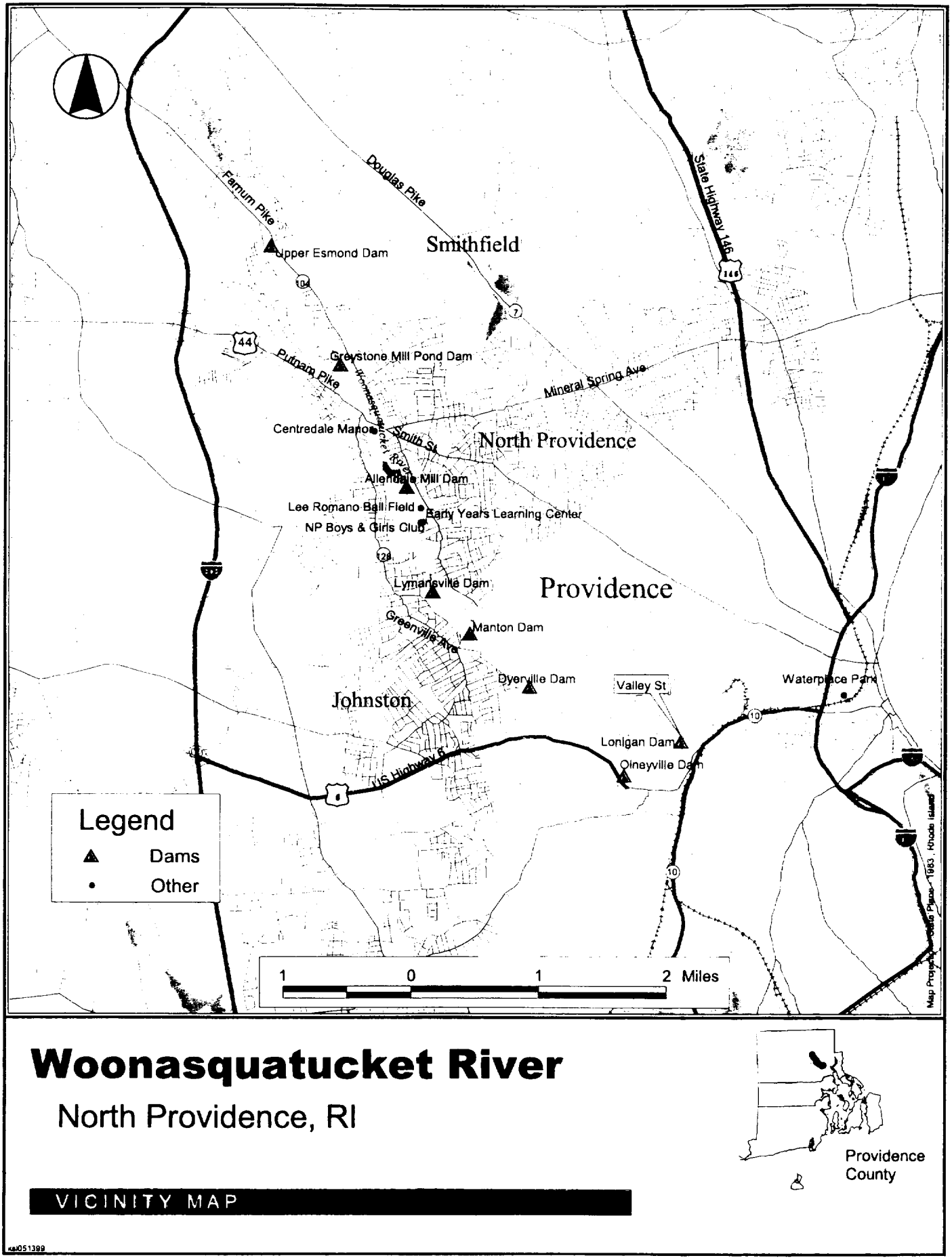
(12) Anthony P. DeCaprio et al; Acute Toxicity in the Guinea Pig and in vitro "dioxin-like activity of the environmental contaminant 1,2,4,5,7,8-hexachloro(9H)xanthene; J. Toxicol. Environ. Health **20** 241-248 (1987).

(13) Rhode Island Department of Environmental Management; Draft Final Report: Providence and Seekonk River Fecal Coliform Monitoring 1997 - 1998; March 18, 1999.

(14) C. E. Orazio, S. Kapila, R.K. Puri, et al.; Persistence of chlorinated dioxins and furans in the soil environment; Chemosphere **25** (Nos.7-10) 1469-1474 (1992).

Figure 1 - GIS map of Woonasquatucket River

Figure 1



Click Here to View Next Section

Original includes color coding.

Click Here to View Document in Color