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Integrating ambient toxicity testing with ecological monitoring on the Oak Ridge Reservation Kszos, L. A., A. J. Stewart, G. W. Morris, and B. K. Konetsky, Oak Ridge National Laboratory¹, Oak Ridge, TN. Ambient toxicity monitoring on the Department of Energy's Oak Ridge Reservation has been an integral part of several Biological Monitoring Programs since the mid-1980's. Our original strategy matched those of the other ecological components: frequent monitoring at many sites. As many as 12 receiving streams, some with as many as ten sites were assessed routinely for ambient toxicity and water-quality conditions. Site locations were typically matched with those for fish and benthic invertebrate community studies. Ambient toxicity tests were conducted according to EPA-approved procedures using fathead minnow larvae and/or *Ceriodaphnia*. Over time, some chemicals that were acutely toxic, e.g., chlorine, were identified and their discharge reduced or eliminated. In addition, the importance of "diagnostic" testing was documented by identifying the contributions of nickel, zinc, and dissolved salts to chronic toxicity. With the elimination of most chemicals causing acute toxicity, water from most sites was non-toxic to *Ceriodaphnia* or fathead minnows. Several years of continued monitoring which documented the absence of acute or chronic toxicity were valuable in showing water quality had improved and the potential for recovery in aquatic communities had increased. In one stream, short-term improvements in water quality following a remedial action were documented but continued monitoring showed a subsequent decline in water quality. The toxicity test results also correlated well with recovery and subsequent decline in the fish communities.

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