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Projects

Evaluation of a Method to Detect *Leptospira* in Water: Preliminary Results from a Regional Collaboration

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Detecting leptospire in environmental waters is technically difficult. Although independent studies have had success with DNA-based tests and selective culturing, the general performance of these procedures have not been evaluated, and no standardized protocol exists. Effective management approaches require environmental testing to identify and monitor contaminated waters. This is of special importance for American Samoa, where the disease is still new and the full impact may not yet be felt.

The objective of this work is to evaluate a proposed water testing protocol for *Leptospira*. The method involves sampling large volumes of stream water, purifying leptospire from the sample using a concentrating procedure, and applying a molecular test to detect the presence of spirochetes in the concentrated sample. The first phase of work compares three isolation/concentration procedures including centrifugation, single and nested filtration. The molecular-based test will utilize the Polymerase Chain Reaction test, PCR, to detect the presence of pathogenic leptospire in the purified product. Benchwork is ongoing, and preliminary results show *Leptospira* are able to pass through a membrane of 0.2um in low frequencies, and they often bind to organic-based filters like NitroCellulose. Click on [Detecting Leptospira in Water: Evaluation of a Proposed Method](#) to link to Ms. Hawkins master's defense presentation in PDF format.

Poster presented at the 2007 National Water Quality Conference
 (Click on poster for larger view in a PDF format)

