

EVALUATION OF ALTERNATIVE APPROACHES (J. Kinzelman and H. Wirick)

- d) **By 2010, “good water quality” (as defined by USEPA standards for bathing water quality) will be achieved 90 to 95% of available bathing or swimming days within a given bathing season (USEPA Great Lakes Strategy 2010) by reducing bacterial contamination of Great Lakes surface water through detection and remediation of contamination sources and the inception of basin-wide best management practices.**

- w) **Assist USEPA in revising its monitoring guidelines to improve protection of public health.**

Alternatives to reduce bathing water quality failures:

ALTERNATIVE 1 – CONDUCT SANITARY SURVEYS

Description of alternative:

Comprehensive sanitary surveys should be conducted at all Great Lakes beaches so that best management practices based on relative inputs unique to each site can be developed and implemented. A sanitary survey provides a tool for municipalities to systematically assess the beach environment. It generally includes an assessment of facilities and usage (frequency and type) but also quantifies beach areas with regard to their physical characteristics. A systematic assessment of areas immediate to and surrounding the beach will aid in determining what conditions exist that may adversely impact surface water quality. Identification of contamination sources will aid in the development of targeted remediation efforts.

Cost/Feasibility Considerations:

- In order to assess the impact of such a tool a standardized form would need to be developed. There are several examples of this type of tool that could be used as a reference [USEPA #815-R-99-016 (4/99), WHO, and some local Great Lakes communities].
- Staff would need to be secured and/or trained.
- Sanitary surveys may need to be repeated to assess environmental changes – maybe annually.

Advantages/Disadvantages:

- A standardized assessment tool would allow for the determination of relative inputs of contamination basin-wide. This information could be used to assess common factors impacting a majority of beach areas within the Great Lakes as well as providing knowledge into unique factors impacting specific locations. This information could then be used to standardize best management practices relating to beaches.

- Uniformity in assessing conditions would need to take place in order for this tool to provide usable results. This could involve some costs as a workshop may be necessary to uniformly train personnel.

ALTERNATIVE 2: IMPLEMENT PILOT PROJECTS

Description of alternative:

Implement pilot projects to identify pollution sources at Great Lakes beaches which will allow managers to develop plans for the reduction or elimination of these sources of contamination.

Cost/Feasibility Considerations:

- Funding for source identification pilot projects.
- Funding for remediation projects.
- Costs to train staff to conduct source identification and remediation projects.

Advantages/Disadvantages:

- Will provide information on pollution sources that are contributing to water quality standards exceedances at beaches and steps needed to provide better protection of public health.
- Findings/solutions may be applicable at other Great Lakes beaches.
- There are several source identification projects going on along the Great Lakes; can collaborate with other beach managers for ideas on what works.
- Workshops are available to train staff on identifying beach contamination sources.
- Can use information to develop a predictive model for high bacteria counts at beaches.
- Need to secure funding sources to implement source identification and remediation projects as well as to train staff.
- Difficulty in pin-pointing contributing sources.
- Resource intensive.

ALTERNATIVE 3 - CONDUCT PUBLIC EDUCATION CAMPAIGNS

Description of alternative:

Encourage the public to become stakeholders in the improvement of Great Lakes water quality. Poor personal practices at the homeowner and small business level can contribute to the overall chemical and bacterial contamination of the Great Lakes. Water quality would be improved through educational initiatives encouraging proper waste disposal (including pet waste), disconnection of downspouts to the sewer system, reducing or eliminating the application of fertilizers and pesticides to lawns, the use of native plants, and the use of environmentally friendly household products.

Cost/Feasibility Considerations:

- Development and distribution of educational multilingual brochures, holding community workshops, issuing press releases or other media pieces would require a funding source.
- Would need to provide incentives to local grocery and hardware stores to supply environmentally-sound products.

Advantages/Disadvantages:

- Activities would require citizens to “buy in” to the idea in order to commit to lifestyle changes.
- Materials would be transferable.

ALTERNATIVE 4– USE OF A BEACH CLASSIFICATION SCHEME

Description of alternative:

In 1999, the USEPA and WHO jointly hosted a meeting in Annapolis, Maryland, to develop a health –risk based approach to monitoring recreational waters. The approach includes employment of a beach classification scheme in addition to compliance monitoring based on bacterial indicators to assess health risk (EU, Australia/New Zealand, WHO). In a classification scheme, a beach is assigned to a class (very poor, poor, fair, good, excellent) based upon health risk. The regulation of recreational waters in this manner would better reflect health risk and provide enhanced scope for effective management intervention. By enabling beach managers to respond to sporadic or limited areas of pollution, and to upgrade a beach’s classification, it provides a significant incentive to local management actions as well as to pollution abatement. A large number of factors can influence the condition of a given beach. A classification system reflects this, and allows regulators to invoke mitigating approaches for beach management.

Cost/Feasibility Considerations:

- Costs to study the relationships between factors that affect beach water quality and the ability of monitoring schemes to detect these changes.
- Funding pilot studies to evaluate the approach.

Advantages/Disadvantages:

- The approach requires substantial testing.
- Field testing would need to be amended to take into account local circumstances.
- Information concerning the existence of sources of contamination and their likely influence upon recreational water quality could provide a robust and rapid means to increase the reliability of the overall assessment.