

Action Plan for Healthy Beaches

The Watershed Center of Grand Traverse Bay

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The Watershed Center of Grand Traverse Bay is presenting this plan to reduce health threats and related beach advisories associated with high E. Coli readings. The quality of life in the Grand Traverse Region and the health of the local economy are inextricably linked to the health of our water resources.

The Watershed Center operates a beach testing program in the summer months in conjunction with the Grand Traverse County Health Department. When high E. Coli levels are detected at a beach, the health department issues public advisories to avoid contact with the water at that beach.

The history of E. Coli testing at Traverse City beaches indicates that high E. Coli levels are associated with heavy rainfalls following dry periods, resulting in a flushing of the stormwater system into the Bay. High E. Coli levels are also associated with days of strong onshore winds that stir up the near shore sediment and sand on beaches.

Action Plan

The Watershed Center is proposing a series of actions to reduce the levels of E. Coli at area beaches. These actions are being proposed in three phases. Phase 1 involves immediate steps such as ordinance development, public education and behavior change. Phase 2 involves conducting a detailed sanitary survey and source tracking study. Phase 3 involves implementing additional stormwater controls once the sources of contamination are more accurately defined.

Phase 1. Ordinances, Public Education and Behavior Change
Timeline: Now through Spring 2008

Ordinances

The municipalities around the southern end of Grand Traverse Bay (Traverse City, Elmwood Township and East Bay Township) should consider adopting certain ordinances to help alleviate the direct flow of bacteria into the Bay. One example would be adopting an ordinance prohibiting the feeding of waterfowl in public places. Feeding encourages the concentration of animals in the area. Droppings from ducks, geese and seagulls that then wash into the Bay and its tributaries, contribute to the problem.

Another example would be ordinances requiring pet owners to pick up after their dogs along beaches or public spaces adjacent to waterways. If such ordinances are already in place, we would work with local officials to improve enforcement.

Regulations should also be explored pertaining to boats anchored off public beaches. For example, in recent years the number of boats anchoring for long periods of time off the beaches in Traverse City has significantly increased. There is concern that some of these boaters are dumping septic waste into the Bay. We must clarify any jurisdictional issues related to authority over boats anchored on the Great Lakes, and address the public health concerns created if and when septic waste washes up on municipal beaches.

Public Education and Behavior Change

While adopting and enforcing ordinances such as those described above is important, it is more important to educate the public about how certain activities (not feeding waterfowl, picking up after dogs) benefits water quality and public health. Ordinances can sometimes be difficult to enforce. When people understand that positive actions on their part can have positive effects on water quality, then the need for enforcement is obviously lessened.

A public education and marketing campaign should be implemented consisting of advertising in the media, as well signage at public parks, beaches and trails. Signage would include rack cards that a person can take with them or give to another person to explain the issue. Behavior change can also be encouraged by placing “doggie bag” dispensers at parks, beaches and trails along with signage.

There is also concern that cleaning practices at marinas (washing waterfowl droppings into the water) could increase contaminants entering the Bay. These practices should be examined to determine if better management practices and cleaning equipment are available. Similarly, street cleaning practices and technologies should also be examined to determine their effects on contaminants entering the stormwater system.

Behavior change should not be limited to human behavior. Ducks, geese and seagulls congregate in certain areas due to humans feeding them. Stopping waterfowl feeding will help this situation, but border collies should also be employed to chase away waterfowl from these areas. This has been a proven humane method at beaches in other cities, as well as at golf courses and airports. A well-planned and executed border collie program can change the behavior of waterfowl so that they congregate elsewhere.

The cost of Phase 1 is estimated to be between \$70,000 - \$100,000.

Phase 2. Sanitary Survey and Source Tracking
Timeline: Spring through Summer 2008

The City of Traverse City has already prepared an excellent inventory of its stormwater system. A more detailed sanitary survey should also be conducted to determine if there are any illegal outfalls/drain pipes into the Bay or the Boardman River. For example, all pipes emptying into the Boardman River should be located and their upstream sources should be identified and remedied if necessary.

Additionally, a source tracking study should be conducted. Source tracking involves taking E. Coli samples farther upstream in the stormwater system, coupled with other tests to determine if an illegal sewer hookup might be in that stormwater system. This additional testing could include DNA testing to determine if a human source is present, or it could also include testing for other chemicals or pharmaceuticals that would be unique to human consumption (e.g., certain drugs such as epileptic or diabetic drugs).

A more detailed sanitary survey and source tracking study would also help direct future public investment in stormwater improvements.

The cost of Phase 2 is estimated to be between \$65,000 - \$85,000

Phase 3. Additional Stormwater Improvements
Timeline: Examining new technologies: Current and ongoing
Installing new control systems: Fall 2008 and beyond

Significant stormwater control investments were made by the City of Traverse City in the summer of 2007. State funds obtained by The Watershed Center were matched by funds obtained by the City to install seven oil/grit separators at six different locations in the City. Additions of anti-microbial sponges that could potentially reduce bacteria are being explored for these new separators.

Stormwater controls are a rapidly evolving technology. We are actively exploring new technologies to determine if they would be effective for local applications.

We are also actively exploring controls and techniques that have been proven successful in other communities. For example, the City of Racine Wisconsin has significantly reduced the number of beach advisories due to programs implemented there. One stormwater rehabilitation project there resulted in a 66% reduction in bacteria in the effluent water.

These new and existing technologies should be analyzed and appropriate technologies in Traverse City and bordering townships should then be implemented.

The cost of Phase 3 is more difficult to immediately estimate than the first two phases. Specific investments have not been identified at this time and are difficult to project accurately prior to completing the sanitary survey and source tracking in Phase 2. However recent demonstration projects by the City of Traverse City ranged from \$50,000 to \$80,000 each. With approximately 100 stormwater outfalls in the City, an estimated future investment of \$5 million to \$8 million would be needed to implement water quality projects.

Conclusion

This plan presents a progression of activities that allows the Grand Traverse Bay community to begin action immediately, to educate the public on positive steps that can be taken to improve water quality, and to examine and more accurately determine sources of E. Coli in order to more efficiently direct future capital investments in stormwater control.

The Watershed Center will be presenting and discussing this plan with the public and local units of government. The Center considers this a community document and welcomes comments and suggestions to improve this plan to protect the water quality upon which this region depends.

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