

# IMPERVIOUSNESS

## A Position Statement of the Michigan Water Environment Association (MWEA)

The membership of the MWEA has continued to demonstrate its concern for the waters of Michigan by conscientiously meeting or exceeding regulatory requirements for point source controls. However, non-point source (NPS) pollution is now seen as the greatest single threat to the waters of Michigan and the United States. Across the nation the focus of water quality protection efforts is shifting away from the success of end-of-pipe controls towards a watershed approach and effective control of NPS pollution. Increasing amounts of impervious surfaces are among the major contributors to urban and suburban NPS degradation of water resources. The Michigan Water Environment Association encourages rational policies to effectively manage imperviousness and control NPS pollution in a watershed management context.

### Impacts of imperviousness

As urbanization spreads, streets, driveways, parking lots, sidewalks, and structures drastically change land cover. Surfaces become much more impervious – they are not easily penetrated by water. The hard surface can lead to major environmental degradation, especially to water resources. The quantity and speed of precipitation runoff increases, contributing to a variety of problems:

- Increased peak flows in streams during and after precipitation events, contributing to flooding, stream bank erosion, and habitat destruction.
- Decreased stream flows between precipitation events, contributing to habitat destruction and unnatural water temperature increases.
- Interference with groundwater recharge, leading to threatened water supplies and further decreases in between-storm stream flow.
- Increased soil erosion and increased sedimentation in surface waters.
- Greater direct delivery of toxics, nutrients, and solids to surface waters.

### Benefits of impervious area management

The Michigan Water Environment Association advocates well-planned and reasonable efforts to manage imperviousness and combat NPS pollution. Localities are encouraged to consider the adoption of sound environmental management principles, such as watershed-based planning and management, pollution prevention, flexible site design, innovative storm water system design and maintenance, and extensive public education.

Application of these principles can contribute to:

- Water supply protection
- Reduced flooding
- Preservation of recreational opportunities
- Ecosystem protection
- Creation of wildlife habitat
- Reduced dredging and restoration costs
- Protected and increased property values
- Protection of groundwater recharge
- Stabilized stream banks
- Community sustainability

### Potential actions to realize benefits

The Michigan Water Environment Association encourages local and state governments to consider the following actions, which may help realize some of the benefits of impervious area management:

- Assessing the extent and location of impervious surfaces within watersheds and their impact on surface waters and aquatic ecosystems.
- Re-evaluating ordinances, regulations, plans, policies, zoning codes, and street and site design standards that directly and indirectly affect the quantity and location of impervious surfaces on the landscape.
- Examining changes that might lessen impervious surface area in new and redeveloped areas.
- Seeking opportunities to retrofit protections for water in already developed landscapes, and seeking opportunities to redevelop urban sites in more sustainable ways.
- Allowing flexibility in urban development and avoid rigid, one-size-fits-all approaches to designing sites and streets, while balancing the inter-related issues of storm water detention, road widths, off-street parking, and safety.
- Assessing the political, legal, and scientific feasibility of targeting watersheds, land uses, or zoning classifications for reductions of imperviousness.
- Creating mechanisms for setting and achieving environmental planning goals.
- Weighing imperviousness reduction and water quality protection in the context of other, often-competing planning objectives.
- Applying, where economically and technically feasible, state-of-the-art storm water management practices to effectively manage the inevitable increase in imperviousness associated with continued development.

*(Approved by MWEA Board of Directors – 1999.)*