

# Agenda for Restoration and Protection of Natural Drainage Systems

Natural drainage systems that include networks of meandering streams, wetlands, riparian buffers, vegetated floodplains, forests, and grasslands offer a host of benefits to local communities, provide in-stream and terrestrial habitat, support native species, and improve the quality of local waterways and Lake Erie. Wetlands, forests, and other vegetated areas slow surface runoff and stream flow and concurrently reduce erosion and filter contaminants from runoff. Natural floodplains and floodways are important for the storage and conveyance of water from large rain events and serve an important role in preventing property damage and relieving burdens on engineered drainage systems.

Through on-going stream monitoring and assessment, Ohio EPA has identified degradation of natural drainage systems as one of the top causes of impairment to local streams in northwest Ohio. Through the process of urban, suburban, and agricultural development, many benefits of these natural drainage features have been degraded or eliminated. In urbanized areas, pavement, roofs, and other impervious surfaces increase the volume and velocity of runoff during rain events and load waterways with pollutants (e.g., sediment, nutrients, metals, organics, and hydrocarbons). In our region's rural areas, the historic and ongoing drainage of swampland and forest through tile drainage and ditches have allowed for a robust agricultural economy while simultaneously accelerating the flow of sediment, nutrients, and other pollutants to local streams, rivers, and Lake Erie.

Some natural drainage benefit can be restored by protecting remaining riparian areas, floodplains, wetlands, forests, and grasslands while investing funds to strategically restore and enhance these features in areas where their natural functionality has been lost. On a smaller scale, green infrastructure practices that emphasize infiltration, evapotranspiration, and rain water reuse can be implemented at the time of development or as retrofits to restore or mimic natural systems. Restoring the function of natural drainage systems will require an integrated approach that leans on changes to policies, practices, and funding mechanisms.

## Recommended Policies for the Restoration and Protection of Natural Drainage Systems

### *Federal and State*

- Ohio EPA should use the Construction General Permit to require stormwater infiltration on all new construction and redevelopment of more than one acre.

### *Regional*

- Integrate balanced growth and low-impact development principles into the TMACOG Long Range Transportation Plan.
- Support public acquisition or establish permanent easement of riparian areas, by voluntary decision of willing property owners, and provide compensation for loss of property.
- Local governments should review and update codes and ordinances to remove barriers to green infrastructure implementation and protection of natural areas that provide stormwater management services.
- County engineers, drain commissioners, and drainage boards should consider implementing ditch maintenance practices that reduce sediment and pollutant transport downstream while maintaining the drainage required for protection of property and agricultural production.
- Educate and engage local governments, foundations, businesses, non-profits, and neighborhoods to promote the incorporation of green infrastructure into landscape design.
- Support watershed-wide collaboration to identify green infrastructure and natural drainage system restoration projects to meet western Lake Erie water quality goals.

### *Funding*

- Promote the use of stormwater utilities to fund green infrastructure improvements, long-term maintenance, and public education and engagement programs.
- Promote wetland mitigation and stormwater banking to offset impacts made through development and land conversion.
- Support funding for watershed-based planning with measurable goals and strategies for green infrastructure and natural drainage system restoration projects that address causes and sources of watershed impairment.
- Support funding for ongoing and regular updates to "9-element" watershed plans to ensure timely planning of green infrastructure and natural drainage system restoration projects.
- Support funding for the implementation of green infrastructure and natural drainage system restoration projects that are recommended in the watershed plans or that advance the goals of water quality improvement plans.