

Chapter 7: Lower One Subwatershed Action Plan

Developing this Subwatershed Action Plan has been an iterative and inclusive process. After discussing river threats and challenges and developing subwatershed goals, the Lower One Subwatershed Advisory Group began looking at what actions could improve river quality in the subwatershed. The Management Alternatives Menu (Appendix C) was created as a group effort to identify a variety of Best Management Practices (BMPs) for managing stormwater in the various urban and rural communities represented in the geographic area. This “menu” was then used as a planning tool as communities met internally to discuss which BMPs were most appropriate and feasible for their community. From this exercise, individual SWAG members began developing community-based Action Plans, or Stormwater Pollution Prevention Initiatives (SWPPIs) which are a required component for the Michigan Voluntary General Stormwater Permit. These individual Action Plans were then discussed within monthly SWAG meetings to compare actions, find gaps and combine similar efforts within the subwatershed. The results of this process are both the individual community and agency SWPPIs, which include tasks, timelines, and methods for measuring progress, and the Subwatershed Action Plan summarized in **Table 7.1** below.

It should be noted that the majority of the actions listed below have either already been implemented and will continue or will be implemented within the first five years of implementing community and agency SWPPIs (by 2005), which is defined for the purposes of this management plan as the short term. In the long term, ongoing programs will be reviewed for effectiveness and modified if necessary, and structural projects will be maintained on a regular basis. These efforts with estimated timelines and estimated costs are fully outlined in community and agency SWPPIs. Actions are listed under the long term goals and objectives that they address. See the Summary of Ongoing and Proposed Actions (**Table 7.1**) at the end of this chapter for a summary of communities and agencies in the subwatershed and the types of actions that they are planning to commit to for the short and long term.

Long Term Goal 1: Reduce flow variability.

Objective 1.A. Develop water resource protection and management ordinances to manage peak flow rates.

7.1 Storm Water Management Ordinances: Increasing development in the subwatershed and the negative impacts of stormwater due to land use changes is of great concern. Increased impervious surfaces, increase of non-point source pollutants and loss of natural features to slow and filter pollutants, if not controlled, will lead to further degradation of the subwatershed’s water resources. To mitigate these impacts, Washtenaw County, Wayne County and some communities such as Canton Township, have developed and adopted Storm Water Management Ordinances that control both the quantity and quality of stormwater that is permitted to leave a developed site. Many communities within these counties either have adopted the ordinance or are considering adopting at the local level. Communities in the western and northern headwaters communities that are experiencing high growth pressures are especially interested in this approach to protecting high quality waters. For example, Salem Township has developed an aggressive model local stormwater ordinance that requires developers and planners to design sites that do not exceed predevelopment stormwater flow rates, volumes or nutrient loading.

7.2 Other Water Resource Protection Ordinances: Protecting existing natural features in the subwatershed is a key goal, especially in less developed communities. Wetlands, woodlands and the riparian corridor are key areas to protect. Local communities are developing, sharing and adopting ordinances that reflect the community’s desire to accommodate planned growth while protecting natural resources and their hydrologic and water quality function. Superior Township has adopted an aggressive wetland protection ordinance that gives the Township authority to

regulate and restrict actions in wetlands of any size. Superior Township has instituted a local Wetland Board that meets regularly to review site plans and supervise wetland protection in the community. Salem Township is working with the Washtenaw County Drain Commissioner to develop a model Natural Features Setback ordinance that protects the vegetated buffer along watercourses and wetlands. Canton Township has revised their zoning ordinance to include a wetland and watercourse setback provision to protect these water resources buffer areas. Van Buren Township is committed to developing and adopting a comprehensive natural features ordinance that would include new regulations for wetlands, woodlands, buffers, and other natural features of importance to the community.

Objective 1.B. Study and implement BMPs for low impact development for undeveloped areas.

7.3 Ongoing Education for Land Use Decision Makers: Many communities, such as Salem and Van Buren, are planning on developing and distributing stormwater BMP “guidebooks” to complement regulations with recommended BMPs for site designers/planners. This will aid in site planning decisions about which BMP (porous pavement, constructed wetlands, infiltration basins, wet ponds, etc.) should be utilized to meet or exceed the community storm water regulations or priorities. In conjunction with a storm water ordinance, storm water standards and easy-to-understand check lists to meet or exceed storm water requirements will be designed and distributed to decision makers so that ordinances can be easily translated into day-to-day practice and site-specific recommendations. Canton Township’s Watershed Management Strategy is a good example of this effort. Also, many communities are finding ways to incorporate an annual stormwater workshop or presentation for local boards and councils and planning commissioners so that water quality and planning issues remain linked and in high priority. For example, the Washtenaw County Drain Commissioner’s Office offers its communities these presentations upon request. This ongoing effort will increase local officials’ understanding of the issues as well as how their responsibilities can contribute to the protection of local creeks and the river.

Objective 1.C. Study and implement BMP programs for developed areas.

7.4 Retrofitting Existing Detention Systems: The more urbanized areas of the subwatershed, such as Canton and Plymouth Townships, improve and retrofit built detention basins for greater stormwater flow control as well as water quality improvement. Retrofitting basins may be in the form of a simple outlet structure modification, or may be a conversion to a wetland system from a pond. Communities have done or will undertake an inventory and study of existing basins before retrofitting.

7.5 Storm Water Standards for Redevelopment: In addition to setting standards for new development, many of the subwatershed’s more urbanized communities have or will develop appropriate and feasible storm water standards or guidelines for redevelopment projects. This may range from requiring oil/grit separators in catch basins to the creation of new detention if imperviousness is added to the site.

7.6 Streambank Stabilization projects: In areas where upstream flow can be controlled and/or reduced, Canton will study areas for vegetative and/or structural streambank stabilization to assist in dissipating flow energy within the channel as well as increasing water quality, aesthetics and wildlife habitat. Canton Township, and possibly other communities such as Salem Township in the Johnson Creek, will commit to inventorying local creeks, drains and the river to identify lengths of streambank that are in need of stabilization. Inventories will include prioritization and implementation of vegetative and structural stabilization methods that will also improve riparian terrestrial and aquatic habitat. It is important to note that many of these creeks are located on private property and it may not always be feasible to conduct these types of projects if the property owner does not grant permission.

7.7 Log Jam Inventory and Management: Canton is proposing to inventory their local tributaries and the river to identify problem log jams acting as restrictors to flow leading to flooding problems and to remove these impairments while maintaining some woody debris to serve as habitat structure. Friends of the Rouge is working with the Michigan Department of Natural Resources to develop educational videos on how to remove log jams without removing key habitat. This video will be used to train local field staff in this work. This work will be coordinated with streambank stabilization and improvement considerations so that woody and other debris acting as habitat or positively stabilizing slopes will be modified to benefit flow as well as habitat.

7.8 Rain Barrel Demonstration projects: A Friends of the Rouge/RPO residential rain barrel study located in Dearborn will help guide communities as to the effectiveness of this voluntary BMP in local neighborhoods. However, even if the flow mitigation benefits are low, some communities agree that a rain barrel project, assisted by the community or other organization, is worth supporting if only for public awareness and involvement purposes. Ypsilanti Township is considering implementing such a demonstration project.

7.9 Wetland Restoration: Based on findings from the Lower One Wetland Resource Protection Plan (to be produced in March, 2001), there are opportunities in the subwatershed for restoration of wetland areas. Certain communities that may need to utilize the stormwater capacity of a restored wetland area, may study this potential restored wetland function. In Wayne County, restored wetlands may be considered for the Wayne County Wetland Bank. Also, in a report by the Southeast Michigan Land Conservancy, "Stormwater Management in Headwaters: Identifying Sites for Conservation Easements"⁶⁵, almost 1000 acres of land in Superior Township was identified adjacent to Fowler Creek as having high wetland restoration potential. Restoring some of these acres may be investigated.

Long Term Goal 2: Reduce nutrient loading.

Objective 2.A. Develop ordinances for reducing nutrient loading.

Storm Water Management Ordinances: As described above.

Other Water Resource Protection Ordinances: As described above.

Ongoing Education for Land Use Decision Makers: As described above.

7.10 Local Fertilizer Ordinances:

To supplement public education and involvement programs, certain communities may propose the development and adoption of a local fertilizer application ordinance to regulate the concentration of nutrients (primarily phosphorus) that land owners as well as commercial lawn care companies place on lawns. West Bloomfield Township has implemented a Fertilizer Ordinance to protect local lakes and theirs serves as a model for the Rouge River watershed communities. Communities in the subwatershed will most likely implement education programs and evaluate their effectiveness before instituting an ordinance. Canton will investigate combining an ordinance with an education program.

7.11 On-Site Sewage Disposal System Ordinances:

Both Washtenaw and Wayne Counties will be working with local communities to implement their new OSDS Time of Sale Inspection Ordinances, which require septic system inspection and correction for failure at the time of property sale. All communities, through their Illicit Discharge Elimination Plans have developed complaint systems so that failing OSDS can be identified locally and then, in most cases, reported to county health departments for correction.

⁶⁵ "Stormwater Management in Headwaters: Identifying Sites for Conservation Easements", Charter Township of Superior, Washtenaw County, Michigan. Wayne County Rouge Program Office and the Southeast Michigan Land Conservancy. October, 1998.

7.12 Revising Local Weed Ordinances: Some local communities believe that one method of decreasing over-fertilization problems for lawns is to encourage the reduction of lawns themselves. Natural or native vegetation does not need the intense maintenance, such as irrigation and fertilization, as lawn does and thus can offer an often cost-effective alternative for commercial and residential property owners. Some local weed ordinances prevent natural or native landscapes due to plant heights that may exceed limits (often no taller than 12"-16"). Canton Township will be reviewing these weed ordinances under the zoning ordinance to find ways to encourage natural landscapes while meeting the general intent of the weed ordinance.

Objective 2.B. Develop education, incentive, and public stewardship programs promoting source control and treatment of nutrients.

7.13 Lawn Care Behavior Change Programs: Controlling the phosphorus loading to creeks, the river and impoundments are a priority in the subwatershed. Most communities will be implementing a combination of several methods to encourage the public to reduce their fertilizer use on their lawns as this has been cited as a major source of phosphorus in urban areas. Wayne County has proposed a point of sale marketing and education program where fertilizer purchasers will be informed through literature, signs and/or on-product stickers indicating which fertilizers are "river-friendly". Communities will assist in this effort. In addition, many communities will be more actively promoting Wayne and Washtenaw County MSU Extension services for testing the existing nutrient content of soils. Through this program, homeowners can have scientific information to guide them in selecting the best fertilizer for their particular lawn. All communities, through their Public Education Plans, have committed to regular, seasonal public education in the form of newsletter articles, tip cards, or other media to repeat fertilizer messages to the public. Superior Township has instituted a separate watershed newsletter for township residents. Many communities in the subwatershed are interested in providing Lawn Care Workshops on an annual basis.

7.14 Septic System Maintenance Programs: In communities where septic systems still exist, educational messages will be fed through newsletters as well as Washtenaw County's "Rural Living Guidebook", which includes tips on this issue as well as other river-friendly management practices. Most communities have requirements that failing systems must be connected to the septic system if one is accessible.

7.15 Animal/Pet Waste Management Programs: These programs, although very different in each community, will deal with source reduction of bacteria as well as nutrient sources in the subwatershed. In rural areas such as Salem and Superior Township where local horse and livestock farms still exist, the local community will commit to working more closely with the Michigan Department of Agriculture and existing MSU Extension programs such as Farm-A-Syst and state recommended Generally Accepted Agricultural Management Practices (GAAMPs) to encourage proper manure and nutrient management on site. In more developed communities, programs to reduce pet and waterfowl waste include a border collie roundup program at Canton golf courses to reduce Canadian geese populations, detention basin vegetation recommendations to plant taller native vegetation to deter geese, as well as a program in Canton to locate plastic refuse baggies on posts with educational signs near waste receptacles in areas where residents may walk their dogs.

Objective 2.C. Study and implement BMP programs or projects for developed and undeveloped areas for source control and treatment of nutrients.

Retrofitting Existing Detention Systems: As described above.

7.16 Detention Basin Maintenance Programs: Most of the communities in the subwatershed have or will have detention basins that need to be maintained for the life of the pond, usually by the private property owner or manager. In order for basins to function effectively for water quality,

there needs to be management accountability. For some communities, as in Canton Township, this will mean regular education of the Homeowners Associations and neighborhoods. Canton is planning an annual or bi-annual workshop that will provide a focus on management options for detention basins such as reducing fertilizer and irrigation, buffer plantings, emergent and submerged vegetation, pest insect control, and other issues. Canton will be developing a traveling slide show presentation for Homeowners Associations that can be made upon request throughout the year. In addition to these efforts, Washtenaw County's "Homeowners Association Handbook" includes recommendations for pond maintenance.

7.17 Golf Course Nutrient Management: There are several golf courses within the subwatershed, some of which are public courses. With intensive turf management programs, these areas are suspected as large sources of phosphorus loading. Canton Township will evaluate current golf course operations from a stormwater management perspective.. Improvements will explore turf management, watercourse and wetland buffers, as well as detention basin maintenance and buffer vegetation.

7.18 Street Sweeping and Catch Basin Cleaning: Research has shown that streets in urban areas are large contributors of phosphorus and sediment to water resources. Most communities, county road commissions and MDOT have at least a basic semi-annual street sweeping program for paved roads. Although many local communities do not have jurisdiction for public roads, Canton and other communities with paved roads are committed to researching a more aggressive street sweeping program and/or catch basin cleaning program to pick up finer sediments and debris that may reach surface waters. Four communities in the Rouge watershed, Redford Township, Dearborn Heights, Garden City and Livonia, are currently conducting studies of street sweeping and catch basin cleaning efforts to determine if more powerful equipment and/or more frequent cleaning schedules have a significant impact on sediment and debris removal. These results will be used by Lower One subwatershed communities to determine changes in current practices. Also, some communities will investigate the possibilities for encouraging the management/sweeping of private roads, especially in subdivisions, to control sedimentation. Communities with roads under the jurisdiction of the county road commission will work with the commission to enhance maintenance for stormwater, especially to control soil erosion and sedimentation from the many dirt roads in the area. The Washtenaw County Road Commission will continue to install and maintain check dams in grassed swales to filter sediments and nutrients from road runoff.

Long Term Goal 3: Reduce soil erosion and sedimentation.

Objective 3.A. Develop or revise ordinances to prevent, minimize and reduce soil erosion and sedimentation, especially from construction sites.

7.19 Soil Erosion and Sedimentation Control (SESC) Ordinances: Most communities rely on counties for SESC regulation, inspection and enforcement. Counties, and communities, that have jurisdiction over SESC regulation and inspection either already have or are revising or developing new SESC ordinances to control soil erosion, especially from construction sites. These ordinances should limit the soil exposed during development or redevelopment, limit the rate at which water is transported across the exposed land, and allow for on-site capture of the sediment prior to discharging water from the site. Washtenaw County and Ypsilanti Township both have model SESC ordinances for the Rouge.

7.20 Natural Features Setback Ordinance: Salem Township is working with the Washtenaw County Drain Commissioner's office and the Michigan Environmental Council to develop a model Natural Features Setback ordinance that protects the vegetated buffer along watercourses and wetlands. Protecting the riparian corridor in this manner will help prevent streambank erosion as well as filter sediments carried in stormwater runoff. Based on the success of this model, other subwatershed communities will consider adopting a similar ordinance.

Objective 3.B. Implement BMPs for effective soil erosion and sedimentation prevention and mitigation, addressing both upland sources as well as sources from streambank erosion.

Streambank Stabilization: As described above.

7.21 Study/Recommend new innovative SESC techniques: In developing communities, such as Van Buren Township, there is an interest in studying and implementing innovative SESC practices that go beyond the silt fence and sedimentation basin. In mostly developed communities, such as Canton Township, there is a commitment to researching, and including in standards, innovative underground BMPs that serve as “ultra-urban” filters for sediments and other stormwater pollutants.

7.22 Encourage Agricultural BMPs: For communities with active farming, livestock, and horse farms, work with Natural Resources Conservation Service (NRCS) and Michigan Department of Agriculture (MDA) to understand generally accepted agricultural management practices (GAAMPs) and how the community can assist in water quality efforts. Results and lessons learned from the Rouge Program Office and Natural Resource Conservation Service study of “Abatement of Agricultural Runoff” in the Rouge headwaters will be used to move forward. This will be applicable in Salem, Superior and parts of Van Buren Townships.

Street Sweeping and Catch Basin Cleaning: As described above.

Objective 3.C. Improve soil erosion and sedimentation control inspection and enforcement, as well as education for parties responsible.

7.23 Improvement of Inspection and Enforcement Practices: Counties, in most cases, are the jurisdiction responsible for SESC inspection and enforcement. These counties are often cited, however, as being understaffed for this purpose given the rate of construction and development in many communities. Communities concerned about the Lack of more frequent and reliable inspection and enforcement will work with counties to improve this service if feasible and cost effective. More enforcement is critical to meeting this goal.

7.24 SESC Education: To improve the process for preventing SESC, communities are considering ongoing education for planning departments and commissioners so that SESC practices are considered as an integrated part of the site planning and design process. Communities are also interested in educating local developers as well as community staff, especially building inspectors, about proper SESC practices. An educational video created by the City of Farmington Hills as an RPO grant project (the Pebble Creek Erosion and Sedimentation Control Project⁶⁶) may be used to serve as an educational tool for these audiences.

Long Term Goal 4: Protect and mitigate the loss of natural features.

Objective 4.A. Develop natural features inventories and/or assessments to determine plans for preservation and/or restoration of natural features.

7.25 Conduct Natural Features Inventory or Assessments: Communities, especially those within the rural fringe, will conduct or review local and county natural features inventories and assessments, such as the Lower One Subwatershed Wetland Resource Protection Plan, to assess areas of priority for preservation and/or restoration. As pieces of land are identified for preservation or protection, methods of securing protection will be explored. Salem and Superior Townships, for example, are committed to working more closely with area land trusts and conservancies to identify key areas and work toward funding for purchase of easement or

⁶⁶ Rouge Program Office Community Project, City of Farmington Hills, 10/05/98, 36+ pgs, Order Number: CP-SP10-02.00

property. These communities, with remaining but threatened agricultural land, may also investigate opportunities for Purchase of Development Rights (PDR) programs offered by the state. In developing a new Natural Features Ordinance, Van Buren Township will be conducting a natural features inventory to identify key areas for protection.

7.26 Develop Restoration Plans and Programs: Most communities are focusing on the restoration of the riparian corridor, which is a priority area for protection and improvement in the headwaters. Canton Township is committed to ongoing streambank stabilization projects, which will include re-vegetation of riparian land and habitat improvement as well as strengthening banks to reduce erosion. Other communities are committed to working with riparian landowners to encourage the voluntary conversion of streamside lawn to more natural vegetation to support habitat and water quality. The subwatershed will encourage ongoing restoration programs such as the Washtenaw County Road Commission's work with Pheasants Forever to establish roadside natural plantings to increase wildlife habitat and stormwater benefits. Some communities may use the Lower One Wetland Resource Protection Plan to identify areas for wetland restoration.

Objective 4.B. Develop ordinances for managing natural features to benefit stormwater quality and quantity.

7.27 Wetlands, Woodlands/Tree Replacement, Natural Features Setback, and Zoning Ordinances: Communities in the subwatershed have various provisions for some or all of these regulations. Most communities are committed to reviewing and revising existing ordinances or developing/adopting new ordinances to reflect this goal in their community. Communities with the most existing natural features are setting models and standards that reflect their concern for the planned preservation of these systems, such as Salem's Natural Features Setback Ordinance and Van Buren's Natural Features Ordinance currently under development. When ordinances and regulations are added or changed, planning commissions, departments and local officials will be educated about their role in using these ordinances to protect natural features and water quality in the community.

7.28 Encourage Conservation Easements to protect natural features: Communities in the rural western portion of the subwatershed will continue to encourage private landowners to obtain conservation easements that would protect the land in its natural state in perpetuity, thereby protecting the high water quality in the headwaters of the Rouge. Superior Township is committed to this process and has established a plan to identify sensitive lands that are under the greatest threat of development and hold the most value from a natural resource perspective. The Township's plan, "Stormwater Management in Headwaters: Identifying Sites for Conservation Easements" (October, 1998), prepared by the Southeast Michigan Land Conservancy, developed criteria for and a map of these sensitive lands that are integrated into the community's planning process. A meeting was held of those landowners whose land was identified on this map. Landowners were provided information and resources about the benefits of conservation easements as well as purchase of development rights. This effort to educate and provide resources to landowners will be continued.

Long Term Goal 5: Increase opportunities passive and active recreational uses.

Objective 5.A. Eliminate/correct sources of bacteria that are harmful to public health and that limit river use, including illicit connections, failing septic systems and other sources.

7.29 Continue Programs to Eliminate Sources of Bacteria that prevent desired recreational activities: So that local watercourses can strive to meet the designated use of partial body contact recreation, and certain appropriate portions of the river can strive to meet the designated use of total body contact recreation between May 1 and October 31, communities and counties

are committed to continuing aggressive programs already in place, as well as implementing new programs, to control and eliminate sources of bacteria and nutrients in the subwatershed. These programs include OSDS inspection ordinances and maintenance education programs, as well as Illicit Discharge Elimination Plan implementation, inspection of outfalls, investigations of complaints and correction of illicit discharges.

Objective 5.B. Identify key areas to protect and plan for recreational and interpretive opportunities in appropriate communities, especially along the river.

7.30 Identify and prioritize key potential recreational areas and desired activities: This may be done on a community, county and a subwatershed level. Riparian areas will be of major interest in terms of protecting the corridor and creating new public access to local creeks and the Rouge River, as well as linking greenways for both human recreation and protecting wildlife corridors. Wayne County communities are committed to working with Wayne County Parks Department to prioritize areas and create local recreational opportunities in the Rouge headwaters. Salem and Superior Townships will work closely with the Washtenaw County Parks and Recreation Greenways Initiative to plan for recreational and wildlife corridors in these communities. Communities, such as Canton Township are also investigating passive recreational/educational opportunities that can be facilitated in local wetlands, especially those located near schools.

Objective 5.C. Develop or restore recreational uses - such as fishing, canoeing, hiking, biking - where feasible, appropriate and desired, especially along the river and certain creeks.

7.31 Improve aesthetics of river: In order to attract the public to the river and increase stewardship and awareness, communities recognize that river aesthetics need to improve. Many programs mentioned under other goals will work toward this effort, including the control of soil erosion and sedimentation, the re-vegetation of the riparian corridor, and the elimination of bacterial sources such as failing OSDS, illicit connections and pet and animal waste.

7.32 Improve potential for a recreational warm water fishery in the Lower Rouge River: Currently, the fishery is good in the Lower One subwatershed and if water quality continues to be improved, there is a possibility of restoring a recreational warm water fishery in this waterbody. Programs in all communities to reduce peak flows, reduce nutrient and sediment loading, and increase habitat may allow fish stocking to be considered by state agencies. A recreational fishery in combination with increased visibility of and access to the Lower Rouge River in Canton could lead to greater public awareness and stewardship of the river.

Long Term Goal 6: Improve water quality, water quantity and biological monitoring in the subwatershed to measure progress.

Objective 6.A. Review existing and historical monitoring; identify and secure additional long-term monitoring needs.

7.33 Work with MDEQ and RPO to review existing monitoring programs: Communities and agencies, through the SWAG as well as through the Rouge Watershed Steering Committee, will work with the MDEQ and the RPO to coordinate these two existing monitoring programs. MDEQ monitors several locations within the subwatershed for benthic macroinvertebrates (aquatic insects), fish and habitat. The RPO monitors mostly dissolved oxygen (DO), temperature, and E. coli bacteria at few locations within the subwatershed.

7.34 Identify specific desired uses to direct monitoring: As a subwatershed, identify more specific desired uses for the river and tributaries (such as fishing, wading, aesthetics, canoeing, etc.), in order to develop the parameters for a comprehensive monitoring program to determine what community actions can make these uses possible.

7.3.5 If necessary, establish additional long-term monitoring program: If the existing monitoring programs of the MDEQ and RPO are found to be inadequate for the subwatershed's needs, the subwatershed or the whole watershed will work together to consider how to implement and fund the monitoring program that is needed. The following chapter sets forth a recommended long-term, in-stream monitoring program that if implemented fully, would measure water quality, quantity, biological health, as well as aesthetics and recreational use. Through the use of this recommended plan and their SWPPIs, the SWAG communities and agencies will review, revise and implement this monitoring program as new data is gathered and understood.

Long Term Goal 7: Increase public understanding of their role in protecting water quality.

Objective 7. A. Develop and/or promote existing public involvement programs (workshops, events, etc.) to improve the public's understanding of their role in protecting water quality.

7.36 Ongoing Events and Stewardship/Involvement Activities: In general, communities and agencies will continue to implement their Public Education Plans, in addition to new programs. Some of these existing and new programs include Canton Township's Liberty Fest, support of FOTR's Frog and Toad survey and in-school Rouge Education Project work, community supported Lawn Care Workshops conducted annually throughout the subwatershed, the Wayne County point of sale marketing for river-friendly lawn care, Washtenaw County's Community Partners for Clean Streams and Environmental Awards program for river-friendly businesses, Washtenaw County's Adopt a Catch Basin program, Salem's initiative to begin regular Town Hall Meeting formats to discuss water quality and other relevant information, utilizing Household Hazardous Waste collection days as an educational opportunity with booths/surveys/etc., and Canton will continue their successful presentations of the EnviroScape watershed model to local schools upon request. Also, Ypsilanti Township will begin to institute a neighborhood rain barrel demonstration project, based on findings from the FOTR pilot project in Dearborn.

7.37 Support of local Creek Protection Groups: Canton will continue supporting the efforts, if desired by the group, of the established Canton's River Environmental Excellence Committee (CREEC) citizen's group. This group has been meeting bi-monthly to assist in the development of this Subwatershed Management Plan and is comprised of many diverse citizens concerned about water quality in their community.

Objective 7.B. Develop and/or continue Information and Education programs (brochures, newsletters, etc.) to disseminate water quality messages to the public.

7.38 Developing and Disseminating Written Materials and utilizing other Media: Within and in addition to components of community and agency Public Education Plans, continued and new public education initiatives include newsletter articles, tip cards, citizen guidebooks (Washtenaw County's Rural Living and Homeowners Association Handbooks), Cable TV talk shows and running of videos, Washtenaw County's weekly public radio show "Issues of the Environment", continuing to update the subwatershed page of the rougeriver.com website and advertising the address in written pieces, continuing to place educational displays at public places such as libraries and city/township halls, and developing interpretive signage in public parks, and signs at road/tributary crossings and upon entering the watershed to create awareness/visibility and educate citizens about water quality issues.

Ongoing Education for Land Use Decision Makers: As described above.

Long Term Goal 8: Integrate stormwater management in planning and land use approval process.

Objective 8.A. Develop water resource ordinances, site plan review processes, education and incentive programs to encourage stormwater management in planning.

Wetlands, Woodlands/Tree Replacement, Natural Features Setback, and Zoning Ordinances: As described above.

Support of local Creek Protection Groups: As described above.

Objective 8.B. Develop plans/programs for ongoing education about stormwater management tools for local officials, planning commissioners and others.

Ongoing Education for Land Use Decision Makers: As described above as well as institute annual or regular joint planning commission and board/council meetings as a subwatershed so that communities understand the watershed partnership and how they can benefit from working together.

7.39 Develop Ordinance/Incentive explanations/handbook: Some communities feel that a developer/planner is more likely to comply with local resource protection ordinances and take advantage of incentives if they can easily understand these requirements and options. Canton Township's Watershed Management Strategy is a good example of an easy-to-follow explanation of their stormwater requirements as well as examples and illustrations; they are committed to updating this guidebook regularly. Salem Township is also planning a similar guidebook and/or checklist of ordinance requirements for developers as well as planning commissioners.

Long Term Goal 9: Establish financial and institutional arrangements for the fulfillment of the management plan.

Objective 9.A. Develop creative financing programs to support local stormwater management systems.

7.40 Develop Local Financial Arrangements: Most communities and agencies, as they have begun implementing new and enhanced programs for stormwater management, have realized the Lack of creative funding mechanisms, especially for the maintenance of privately owned and managed stormwater BMPs such as private roads, private storm sewers and detention ponds. Some communities are implementing or investigating fees for builders/developers for pond and street maintenance. Communities are also becoming more involved in state and federal grant programs to implement stormwater management programs, although these are temporary solutions and are often difficult to administer.

7.41 Explore Lack of New Staffing: To meet the additional work that communities and agencies will take on as this plan is implemented, many will be considering hiring and/or contracting additional staff. Communities may decide that in order to do the work listed in their local Storm Water Pollution Prevention Initiatives (SWPPIs), they will need to hire either an Education/Communications Director to develop, implement and measure the effectiveness of public education programs or an Environmental/Stormwater Coordinator to oversee ordinance compliance and revision, natural features protection and other related activities. Some communities may investigate staff sharing for this purpose.

Objective 9.B. Continue involvement with the Rouge River Advisory Council (RRAC) and the Rouge River Steering Committee as advisory and decision-making bodies to guide watershed-wide decisions so that standards, ideas, programs are shared.

7.42 Determine entity to produce and coordinate technical watershed-wide information: In the long term, the technical work provided by the Rouge Program Office under the Rouge River National Wet Weather Demonstration Project will be phased out. Thus, Rouge River Watershed communities and agencies will need to identify what entity will conduct certain technical work to coordinate and measure efforts across the watershed. For example, the subwatershed recognizes that there should be one coordinated entity to implement a long-term watershed-wide monitoring program for the Rouge. The watershed communities and agencies will need to work together to agree on how to manage this kind of work for the long term.

Long Term Goal 10: Enforce action plans and increase accountability for stormwater management.

Objective 10.A. Develop and implement enforceable Storm Water Pollution Prevention Initiatives (SWPPIs), acceptable to regulatory agencies as well as local communities and agencies.

7.43 Continue involvement in the Michigan Voluntary General Storm Water Permit program: This continued involvement includes the annual review and revision, if needed, of the Subwatershed Management Plan and the SWPPI for as long as the community or agency holds a permit.

Objective 10.B. Develop and adopt water resource protection ordinances that are enforceable.

7.44 Enhance ordinance compliance, inspection and enforcement procedures: For all water resource protection and management ordinances on the community and county level, work to enhance the ability of the staff responsible for enforcement. Provide education and assistance for developers, site planners and site plan reviewers, planning commissioners, SESC inspection officers, and other relevant staff so that ordinance requirements are understood and applied in the planning process as well as enforced during development and maintenance. Where there is a Lack of additional staff and/or tools to meet compliance and enforcement needs, investigate opportunities for increasing staff or creating partnerships. A good example of this process is Wayne County's new Civil Infractions Ordinance, which enables on site ticketing of violators of the County's new Storm Water Ordinance.

Table 7.1: Summary of Ongoing and Proposed Actions Lower One Subwatershed Advisory Group Members											
#	Actions (note: specifics are listed within each individual SWPPI ⁶⁷)	SWAG Goals Addressed	Canton Community	Plymouth Township	Salem Township	Superior Township	Van Buren Township	Ypsilanti Township	Washtenaw County	Wash. Co. Road Commission	Wayne County
1	Stormwater Management Ordinance	1-3, 8, 10	E/P	E	E	NP	P	P	E/P	NA	E
2	Other Water Resource Protection Ordinances	1-5, 8, 10	E/P	NP	E/P	E/P	P	E/P	E/P	NA	E
3	Education for Land Use Decision Makers	7, 8, 10	E/P	P	E/P	NP	P	E/P	E/P	NA	E/P
4	Retrofitting Existing Detention Systems	1-3, 7	P	P	NA	NA	NP	NA	NA	NA	NA
5	Stormwater Standards for Redevelopment	1-3, 8, 10	P	P	NA	NA	P	Co. Std.	E/P	E	E
6	Streambank Stabilization Projects	2-3, 4	P	P	E/P	NA	Co. Std	NA	NP	NA	E/P
7	Log Jam Inventory and Management	1, 5	E/P	NA	NP	NA	NA	NA	E/P	NA	E/P
8	Rain Barrel Demonstration	1, 7	*	NA	NP	NA	NP	P	NP	NA	NA

⁶⁷ Note: As part of the requirements of the Michigan General Storm Water Permit, the communities and agencies represented here are developing a Storm Water Pollution Prevention Initiative (SWPPI) outlining specific actions. The action items listed here have been developed using drafts of these SWPPIs and so may change in the future



#	Projects Actions (note: specifics are listed within each individual SWPPI)	SWAG Goals Addressed	Canton Community	Plymouth Township	Salem Township	Superior Township	Van Buren Township	Ypsilanti Township	Washtenaw County	Wash. Co. Road Commission	Wayne County
9	Wetland/ natural area restoration	1-5	*	NA	P	NA	P	P	NP	NA	E/P
10	Local Fertilizer Ordinance	2, 7, 10	*	NP	NP	NP	NP	P	NA	NA	NA
11	On-Site Sewage Disposal System Ordinance	5, 10	Co. Std.	Co. Std	Co.Std.	Co. Std.	Co. Std.	Co. Std.	E/P	NA	E
12	Revising Local Weed Ordinances	1-4, 7, 10	*	NP	NA	NA	P	E	NA	NA	NA
13	Lawn Care Behavior Change Programs	3, 7	E/P	P	P	P	P	P	E/P	NA	E/P
14	Septic System Maintenance Programs	5,7	NA	Co. Std	Co. Std	P	Co. Std.	E/P	E/P	NA	E/P
15	Animal/pet Waste Management Programs	5, 7	P	NP	E/P	P	NP	E/P	NP	NA	E
16	Detention Basin Maintenance Programs	1-4, 7	E/P	P	NA	NA	P	NA	E/	NA	E/P
17	Golf Course Nutrient management	2-5, 7	P	NP	E/P	NA	NA	P	NA	NA	E
18	Street Sweeping and Catch Basin Cleaning	2, 3	E/P	NA	NA	NA	NA	E/P	NA	E	E
19	Soil Erosion and Sedimentation Control Ordinances	3, 8, 10	Co. Std.	Co. Std	Co. Std.	Co. Std.	Co. Std.	E	E/P	NA	E
20	Natural Features Setback Ordinance	1-4, 8, 10	E	NP	P	E	P	E/P	NA	NA	NA
21	Study/Recommend new SESC Techniques	3, 10	NP	NP	Co. Std.	Co. Std.	Co. Std.	E/P	P	NA	E
22	Encourage Agricultural BMPs	2, 3, 7, 10	NA	NA	P	P	NA	NA	NA	NA	NA
23	Improvement of	3, 10	Co. Std.	Co. Std.	Co. Std.,	Co. Std., P	Co. Std.	Co. Std.,	Co. Std.,	NA	P

#	Actions (note: specifics are listed within each individual SWPPI)	SWAG Goals Addressed	Canton Community	Plymouth Township	Salem Township	Superior Township	Van Buren Township	Ypsilanti Township	Washtenaw County	Wash. Co. Road Commission	Wayne County
	SESC Inspection and Enforcement Practices		E/P		P			E	E/P		
24	Soil Erosion and Sedimentation Control Education	3, 7, 8, 10	Co. Std.	P	P	P	Co. Std.	E/P	E/P	E	E/P
25	Conduct Natural Features Inventory or Assessments	4, 5, 8, 10	E/P	NA	E/P	E	E/P	E/P	E	NA	NA
26	Develop Restoration Plans and Programs	1-5	P	NP	E/P	NA	NP	NA	E	E	E/P
27	Review Wetlands, Woodlands/Tree Replacement, Natural Features Setback and Zoning Ordinances	4, 10	P	P	E/P	P	E/P	E/P	NA	NA	NA
28	Encourage Conservation Easements to protect Natural Features	4, 5, 7, 9	E/P	NP	E/P	P	P	E/P	E/P	NA	NA
29	Identify and Prioritize key potential recreational areas and activities	4,5	P	NP	Co. Std.	?	P	NA	E	NA	?
30	Continue Programs to Eliminate Sources of Bacteria that prevent desired recreational activities	5,10	E/P	E/P	E/P	E/P	E/P	E/P	E/P	NA	E/P
31	Improve aesthetics of river	4, 5, 7	E/P	NA	P	NA	NA	NA	E/P	NA	?
32	Improve potential for a recreational warm water fishery	5, 7	E/P	NA	NA	P	NA	NA	E/P	NA	E/P

#	Actions (note: specifics are listed within each individual SWPPI)	SWAG Goals Addressed	Canton Community	Plymouth Township	Salem Township	Superior Township	Van Buren Township	Ypsilanti Township	Washtenaw County	Wash. Co. Road Commission	Wayne County
33	Work with MDEQ and RPO to review existing monitoring programsP	6, 10	P	P	P	P	P	P	P	P	P
34	Identify specific desired uses to direct monitoring	5, 6	P	P	P	P	P	P	P	NA	P
35	If necessary, establish additional long-term monitoring program	6, 9, 10	P	P	P	P	P	P	P	NA	P
36	Ongoing Events and Stewardship and Involvement Activities	6, 7	E/P	P	E/P	P	P	E/P	E/P	E/P	E/P
37	Support of local Creek/Lake Protection Groups	7, 9	E/P	P	P	NA		NA	NA	NA	E/P
38	Developing and Disseminating Written Materials and utilizing other Media	7	E/P	E/P	E/P	E/P	E/P	E/P	E/P	E/P	E/P
39	Develop Ordinance and Incentive explanations handbook	7, 8, 10	E/P	NP	P	P	P	E	E/P	NA	P
40	Develop Local Financial Arrangements	9	E	NP	P	?	P	P	E/P	NA	P
41	Explore Lack of New Staffing	9, 10	P	NP	P	P	E	E	NA	NA	P
42	Determine entity to produce and coordinate technical	9	P	P	P	P	P	P	P	NA	P

	watershed-wide information										
#	Actions (note: specifics are listed within each individual SWPPI)	SWAG Goals Addressed	Canton Community	Plymouth Township	Salem Township	Superior Township	Van Buren Township	Ypsilanti Township	Washtenaw County	Wash. Co. Road Commission	Wayne County
43	Continue involvement in the General Storm Water Permit program	9, 10	P	P	P	P	P	P	P	P	P
44	Enhance ordinance compliance, inspection and enforcement procedures	8, 9, 10	P	P	P	P	P	P	P	NA	P
45	Geographic Information Systems projects	8,10	E/P	E	E/P	E	E/P	E	E/P	P	E/P