Public Review Draft

Linking Land Use and Lake Erie:
A Planning Framework for Achieving Balanced Growth in the Ohio Lake Erie Watershed

Report and Recommendations
of the Ohio Lake Erie Balanced Growth Blue Ribbon Task Force,
Ohio Lake Erie Commission

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Executive summary

Balanced Growth is a strategy to protect and restore Lake Erie and its watersheds to assure long-term economic competitiveness, ecological health, and quality of life.

This report recommends a voluntary, incentive-based program for balanced growth in the Ohio Lake Erie basin. It calls for the creation of a planning framework that includes:

- A new focus on land use and development planning in the major river tributary watersheds of Lake Erie. The goal is to begin to link land-use planning to the health of watersheds.
- The creation of Watershed Planning Partnerships composed of local governments, planning agencies, nonprofit organizations, and other parties in each watershed. Participation in these partnerships would be voluntary but encouraged by incentives.
- The locally determined designation of Priority Conservation Areas and Priority Development Areas in each watershed.
- The development of suggested model regulations to help promote best local land use practices that minimize impacts on water quality.
- The alignment of state policies, incentives, and other resources to support watershed planning and implementation.

This framework follows from the recommendations and the "10 Guiding Principles" of the *Lake Erie Protection & Restoration Plan*. And it builds on many existing watershed initiatives that have received broad community support and will allow the state to promote many other important objectives related to economic competitiveness and quality of life.

Rationale for balanced growth and this initiative

- Lake Erie is Ohio's greatest natural resource and provides tremendous natural and economic benefits to all Ohioans. It truly is a resource of global significance. As part of the Great Lakes, it is part of an interconnected, natural system with one-fifth of the world's surface freshwater and many rare ecosystems. These lakes have also been the source of one of the world's leading economies.
- The citizens of Ohio are stewards of this valuable resource. They must work together in their own communities, and in cooperation with other communities throughout the Great Lakes basin, to protect the health of the lake and its ability to sustain economic prosperity in the 21st century.

- Recognizing the critical link between land use and water quality, the *Lake Erie Protection and Restoration Plan* called for a Balanced Growth Task Force to recommend ways that the State of Ohio can promote sustainable patterns of development.

Planning by watersheds

- The major river watersheds of Ohio's Lake Erie Basin are appropriate geographic areas for effective land-use planning that addresses growth and development issues transcending county, municipal, and township boundaries, as well as local issues.
- The concept of watershed-scale planning is becoming an accepted approach in Ohio. Indeed, noteworthy collaborations are occurring in watersheds throughout the Lake Erie watershed and the rest of the state. Many local government activities already address watershed issues.

Watershed Balanced Growth Plans

- A Watershed Balanced Growth Plan is a framework for coordinated, local decision-making about how growth and conservation should be promoted by local and state policies and investments in the context of watersheds.
- The process should be locally driven and voluntary. The state should offer incentives for participation.
- The main feature of watershed balanced growth plans should be the designation of Priority Conservation Areas (PCAs) and Priority Development Areas (PDAs). Watershed plans are not comprehensive plans.
- PCAs are locally designated areas for protection and restoration. They may be critically important ecological, recreational, heritage, agricultural, and public access areas that are significant for their contribution to Lake Erie water quality and general quality of life.
- PDAs are locally designated areas where growth and/or redevelopment is to be especially encouraged in order to maximize development potential, maximize the efficient use of infrastructure, promote the revitalization of existing cities and towns, and contribute to the restoration of Lake Erie.

Watershed Planning Partnerships

- Watershed Balanced Growth Plans should be developed by local Watershed Planning Partnerships.
- The partnerships should be a local effort that, depending on the watershed, can be organized in flexible ways to respond to local conditions, existing planning structures, and available resources. Their work should be open, inclusive, and focused on consensus-building. Public education and involvement will be important parts of the

process.

- The partnerships can be composed of representatives of local governments, planning agencies, councils of governments, special purpose authorities (such as metropolitan planning organizations, sewer districts, or transit authorities), or non-governmental organizations (such as watershed organizations, chambers of commerce, or land trusts).
- To assist with coordination and provide state-level input, state agency representatives should participate in the planning process as advisors.
- For staff support, the partnerships can contract with existing planning agencies, universities, nonprofit organizations, or other private consultants.
- To assure the implementation of plans, the partnerships must demonstrate the support of local governments with land-use planning and implementation authority.

Local government roles

- Since local governments can influence land use in Ohio, it is vital that they be strongly involved in the Watershed Planning Partnerships. Local governments are townships, villages, cities, and counties.
- Local governments will be encouraged to participate in the watershed planning process and help identify priority conservation and development areas.
- Once a Watershed Balanced Growth plan has been approved, local governments in the watershed will be encouraged to: (a) update and amend their existing land-use plans to reflect the watershed plan and establish consistency; (b) if no comprehensive or master land-use plans exist, develop such plans to the extent necessary to support implementation of the watershed plan; (c) adopt local ordinances/resolutions based on the guidance for applicable best practices and models recommended by the Lake Erie Balanced Growth Task Force; (d) direct local capital expenditures to support the Priority Conservation Areas and Priority Development Areas in the watershed plan, as opportunities arise during the expansions or maintenance of existing infrastructure.

State roles

- The task force recommends that the State of Ohio support both the development of watershed-based plans for balanced growth and the implementation of such plans by special strategic initiatives and in the conduct of its regular activities.
- State support for balanced growth planning should include information, guidance, financial assistance, technical assistance, and public education. The Lake Erie Commission should begin the balanced growth planning process by promoting pilot planning

projects in at least two watersheds

- To support implementation of watershed plans, the state should develop a Lake Erie Balanced Growth Strategy that should describe how state programs, policies, and incentives will be aligned with local efforts to focus development efforts in PDAs and promote successful conservation efforts in PCAs.
- The state also should keep up to date the suggested best practices and model ordinances/resolutions for minimizing development impacts on water quality that are contained in the accompanying Balanced Growth document entitled *Best Local Land Use Practices.*

Measuring success

- Taking into account the unique character of different watersheds, the Lake Erie Commission should measure the progress of the Balanced Growth Program with the following three sets of indicators: programmatic successes, measures of actual changes in land-use, and actual improvements in water quality and habitat in the watershed.

Recommended implementation steps

In summary, the Lake Erie Balanced Growth Task Force recommends a number of specific implementation steps by the state (see Section 8 for details):

- Establish a Balanced Growth technical advisory committee to the Lake Erie Commission.
- Develop an Ohio Lake Erie Balanced Growth Strategy that describes the incentives and policies with which state agencies will promote balanced growth in the context of locally determined plans.
- Develop a public outreach and education program to explain the benefits of watershed-based planning and balanced growth.
- Initiate and support Balanced Growth Plan development, starting with at least two pilot projects.
- Monitor progress and adjust the program as needed.

Overall, balanced growth is in the long-term interest of Ohio. By linking land-use planning with the health of watersheds, the state will also be promoting other important objectives related to economic competitiveness and quality of life, including:

- Sustaining natural systems in the Lake Erie Basin, as well as restoring what has been degraded.
- Providing consistency and predictability for development decisions, thus enabling more cost-effective development.
- Encouraging the reuse and redevelopment of urban lands.
- Maximizing the efficient utilization of infrastructure.
- Conserving farmland.
- Providing open space and recreational opportunities.
- Promoting compact development patterns that build on the unique

qualities of communities.

- Helping local governments plan for economic development opportunities and streamline decision-making processes.
- Promoting greater transportation choices for communities.
- Providing consistency and predictability for development decisions, thus enabling more cost-effective development.

These recommendations will help move Ohio in a new direction in its thinking about growth and development. They will: raise the stewardship of Lake Erie to a higher level; promote new forms of regional cooperation; and help everyone in the state envision how, in the 21st century, the restoration of natural resources will be an essential part of Ohio's progress.

10 Guiding Principles for a Sustainable Lake Erie Watershed

Attaining a living equilibrium between a strong, diversified economy and a healthy Lake Erie ecosystem

Activities in the Ohio Lake Erie watershed should:

1. Maximize investment in existing core urban areas, transportation, and infrastructure networks to enhance the economic vitality of existing communities.

2. Minimize the conversion of green space and the loss of critical habitat areas, farmland, forest and open spaces.

3. Limit any net increase in the loading of pollutants or transfer of pollution leading from one medium to another.

4. To the extent feasible, protect and restore the natural hydrology of the watershed and flow characteristics of its streams, tributaries, and wetlands.

5. Restore the physical habitat and chemical water quality of the watershed to protect and restore diverse and thriving plant communities and preserve rare and endangered species.

6. Encourage the inclusion of all economic and environmental factors into cost / benefit accounting in land use and development decisions.

7. Avoid development decisions that shift economic benefits or environmental burdens from one location to the other.

8. Establish and maintain a safe, efficient, and accessible transportation system that integrates highway, rail, air, transit, water, and pedestrian networks to foster economic growth and personal travel.

9. Encourage that all new development and redevelopment initiatives address the need to protect and preserve access to historic, cultural, and scenic resources.

10. Promote public access to and enjoyment of our natural resources for all Ohioans.

From the *Lake Erie Protection & Restoration Plan*, 2000

1. Need for a Lake Erie Balanced Growth Program

Balanced Growth is a strategy to protect and restore Lake Erie and its watersheds to assure long-term economic competitiveness, ecological health, and quality of life.

Lake Erie is Ohio's greatest natural resource and provides tremendous natural and economic benefits to all Ohioans. It truly is a resource of global significance. As part of the Great Lakes, it is part of an interconnected, natural system with one fifth of the world's surface freshwater and many rare ecosystems. These lakes have also been the source of one of the world's leading economies.

The citizens of Ohio are stewards of this valuable resource. To protect the health of the lake and its ability to sustain economic prosperity in the 21st century, they must work together in their own communities and in cooperation with other communities throughout the Great Lakes Basin.

1.1 The challenge of stewardship

The practice of stewardship is complex. It means balancing the different interests of those who use Lake Erie in different ways—shoreline property owners, wildlife, industry, boaters, developers, bird watchers, anglers, viewers of sunsets, and everyone who drinks and uses the water. Stewardship grows even more complex when one considers how people and development affect the lake, not just along the shore but throughout the Lake Erie Basin.

In the past 30 years, Ohioans have increasingly understood the importance of the environment in general, and Lake Erie in particular, as the foundation for long-term economic prosperity and quality of life. The stewardship commitment has included:

- Communities and industries investing billions of dollars to upgrade wastewater treatment facilities and adopt pollution prevention technologies.
- Phosphorus reductions from detergent bans and agricultural runoff reduction programs.
- Citizen initiatives throughout the Lake Erie Basin to protect rivers and streams.

In part, these actions were prompted by federal responsibilities under the Clean Water Act or international responsibilities under the Great Lakes Water Quality

Agreement with Canada. But the citizens of Ohio have recognized the value of investments in clean water and have consistently supported these actions. As a result, Ohio cities along the shore of Lake Erie are now embracing their waterfronts and providing greater public access to the lake and its tributaries. And Lake Erie tourism and sport fishing have become major industries.

Many challenges remain, however. According to the Ohio Lake Erie Commission's *Lake Erie Protection & Restoration Plan* (2000), serious problems still exist that diminish the health of the Lake Erie ecosystem and limit the benefits of the lake to the people of Ohio:

- Of the 11,649 square mile area comprising the Ohio Lake Erie watershed, over 78% has been altered from its original state, leaving only 22 percent relatively intact as forest cover or wetlands. This poses severe challenges for sustaining a healthy ecosystem.
- More than 90% of the original Lake Erie coastal marshlands have been filled or converted to other uses.
- None of Ohio's 12 major Lake Erie tributaries are rated "excellent" by the state's index of habitat quality; only two are considered in "good" condition; four are rated only "fair;" and six are ranked "poor."
- Most of the lake's shoreline areas cannot support healthy biological communities.
- On average, some 1.5 million tons of sediment are transported every year down the lake's four major Ohio tributaries (Maumee, Sandusky, Cuyahoga, and Grand rivers). This is three times more sediment loading than the limit for detrimental impacts.
- Although vastly improved from the 1960s and 1970s, Ohio's Lake Erie beaches are still under a "No Swimming" advisory some 20% of the summer due to near-shore bacterial contamination.
- Toxic chemicals continue to enter the lake's food chain from waste dumps and contaminated sediments in industrial areas, as well as from urban and agricultural runoff.

As a result of these ongoing problems, Ohio is not realizing the full benefits of its investments in clean water. Economic development and recreational opportunities are reduced. Communities are incurring additional costs for flood control, dredging, water treatment, infrastructure, and hazard mitigation. Citizens experience lingering concerns about the health effects of eating Lake Erie fish and swimming at Lake Erie beaches.

Thus, it has become clear that further protection of natural systems associated with Lake Erie (riparian areas, floodplains, wetlands, streams, and rivers) and the important functions they provide is essential to the health, safety, and future quality of life of all Ohioans.

1.2 The health of the lake depends on land use in the watershed

The problems listed above do not simply originate from a factory effluent pipe. They originate with the way land is used throughout the Lake Erie watershed. The problems can often be initiated by the *location* of development within the Lake Erie watershed (i.e., development that does not take advantage of existing infrastructure and urban services, creates additional costs, and degrades natural systems) and the *design* of the development (development that creates impervious surfaces and greater amounts of stormwater runoff pollution from roads, parking lots, rooftops, and lawns, or that increases runoff from agricultural fields).

As the *Lake Erie Protection & Restoration Plan* concludes, "the development of northern Ohio often occurred without fully understanding or anticipating the impact this development would have on the natural and social environment." Thousands of individual decisions by communities accumulated to create this situation. There has been no framework for individuals and communities to come together to plan for their future and consider the cumulative impact of their development decisions on the health of watersheds. This report describes such a framework—a framework that will help communities plan more effectively for the location and design of development. Such an effort will help restore Lake Erie and all of its benefits.

1.3 The Balanced Growth Task Force

In 2000, the Ohio Lake Erie Commission released the *Lake Erie Protection & Restoration Plan* which provides a comprehensive set of recommendations for the State of Ohio and its partners to improve the quality of Lake Erie as a resource for all Ohioans. A significant conclusion of the plan was that land-use trends in the basin are a major factor preventing the full restoration of the lake. Consequently, the plan recommended that the Lake Erie Commission appoint a Balanced Growth Blue Ribbon Task Force. The task force was appointed in October 2001 and was charged with:

- Recommending strategies that will balance the protection of the Lake Erie watershed with continued economic growth.
- Finding ways the state can integrate balanced growth principles into its decision-making processes.
- Researching the best practices from around the country and recommending innovative ideas for Ohio.
- Being inclusive and seeking out diverse opinions.
- Developing a voluntary, incentive-based program—not a new regulatory program. The new program would not limit property rights, interfere with local control of land use decisions, or create unfunded mandates.
- Making recommendations that are practical, realistic, and do not

require new funding sources.

The task force members represented a wide range of constituencies, including property owners, government officials, business leaders, conservationists, academia, agriculture, and other stakeholder groups (see list of members in Appendix A). The work of the task force was coordinated by the Ohio Lake Erie Commission, a state agency created by statute for the purposes of preserving Lake Erie's natural resources, protecting the quality of waters and ecosystem, promoting economic development, and coordinating state policy regarding Lake Erie and the Great Lakes. The commission members are the directors of the departments of Agriculture, Development, Health, Natural Resources, and Transportation and the Ohio Environmental Protection Agency. Staff support was provided by the Ohio Lake Erie Commission Office and consultants.

Throughout 2002 and 2003, the Balanced Growth Task Force members met mostly as three work groups: State Policy and Funding, Regional Planning and Incentives, and Model Zoning. The groups assembled a great deal of information about land use and planning practices in Ohio and other states (see comparison matrix on the Lake Erie Commission website, www.epa.state.oh.us/oleo). And, the groups sought out the advice of experts from around Ohio and the nation.

1.4 Innovative recommendations for promoting balanced growth

This report summarizes the task force's conclusions and recommendations. A primary recommendation is the establishment of an innovative planning framework that includes:

- A new focus on land use and development planning in the major river tributary watersheds of Lake Erie, with a goal to begin to link land use planning to the health of watersheds.
- Watershed Planning Partnerships composed of local governments, planning agencies, nonprofit organizations, and other parties in each watershed. Participation in these partnerships would be voluntary but encouraged by incentives.
- The local designation of Priority Conservation Areas and Priority Development Areas in each watershed.
- The development of suggested model regulations to help promote development practices that minimize impacts on water quality.
- The alignment of state policies, incentives, and other resources to support watershed planning and implementation, and to respect the Priority Conservation Areas and Priority Development Areas in each watershed.

This framework builds on existing watershed initiatives that have received broad community support (see Section 2.1). The framework presented here also complements new strategies for economic revitalization that are focused on

quality of life. Balanced growth includes revitalizing urbanized areas, promoting efficient development, and protecting natural areas—all of which are quality-of-life strategies that are key to the retention and attraction of an educated workforce. In addition, clean freshwater in Lake Erie is in itself an attraction for many people.

Overall, balanced growth is in the long-term interest of Ohio. By linking land-use planning with the health of watersheds, the state will also be promoting other important objectives related to economic competitiveness and quality of life, including:

- Sustaining natural systems in the Lake Erie basin, as well as restoring what has been degraded.
- Encouraging the reuse and redevelopment of urban lands.
- Maximizing the efficient use of infrastructure.
- Conserving farmland.
- Providing open space and recreational opportunities.
- Promoting compact development patterns that build on the unique qualities of communities.
- Helping local governments plan for economic development opportunities and streamlined decision-making processes.
- Promoting greater transportation choices for communities.
- Providing consistency and predictability for private and public development decisions, thus enabling more cost-effective development.

These recommendations will help move Ohio in a new direction in its thinking about growth and development. They will raise the stewardship of Lake Erie to a higher level; promote new forms of regional cooperation; and will help everyone in the state envision how, in the 21st century, the restoration of natural resources will be an essential part of Ohio's progress.

2. Getting the geography right: Planning by watersheds

Ohio is a home-rule state, and there is substantial support for control of land-use decisions at the local level of government. It is important for decisions to be made by the local officials who represent the people who will be directly affected by the outcomes of those decisions.

Local officials recognize that some of their most pressing issues—economic development, housing supply, transportation, environmental quality—often have a larger regional dimension. When hundreds of local governments each plan independently, they are impacted by and are impacting similar regional issues. By transcending their political fragmentation and collaborating at a larger geographic scale, more effective local solutions can be realized.

For the Lake Erie Balanced Growth Task Force, finding the right *scale* was a major topic of discussion. As the Lake Erie Basin is itself a watershed and the overall goal was to protect and restore Lake Erie, the task force concluded that watersheds are appropriate planning units. A watershed is an area of land from which surface water drains into a common outlet, such as a river, lake, or wetland.

A watershed focus made sense for a number of reasons:

- The major river watersheds of Ohio's Lake Erie Basin (see Figure 1) are appropriate geographic areas for effective land use planning that addresses growth and development issues transcending county, municipal, and township boundaries, and to address local issues within the context of the unique character of places.
- From a scientific and engineering standpoint, a watershed is the functional unit of geography that one must consider when planning for water quality and the health of aquatic ecosystems.
- It is important to link land-use planning to the health of whole watersheds. This is the only way to begin to address the cumulative impacts of local land use decisions.
- Federal stormwater regulations are prompting more communities to address their impacts to the watersheds in which they are situated.

2.1 Building on existing watershed programs

The concept of watershed-scale planning is becoming an accepted approach in Ohio. Indeed, noteworthy collaborations are occurring in watersheds throughout the Lake Erie watershed and the rest of the state.

For instance, 28 watersheds in Ohio have watershed coordinators funded through the 319 program (Section 319 of the Clean Water Act). These coordinators are responsible for guiding the development of watershed action plans to identify pollutants and their sources and to develop effective solutions to these problems.

Another form of watershed-based planning can be found in Remedial Action Plans (RAPs). These are part of U.S.-Canadian efforts to clean up polluted areas around the Great Lakes. Ohio has four RAPs focusing on restoring areas of the Maumee, Black, Cuyahoga, and Ashtabula rivers. Each RAP involves a broad range of stakeholders to identify problems and recommend actions to restore beneficial uses of the rivers.

There are also inspiring examples of nonprofit organizations leading watershed planning efforts. One such example is the Chagrin River Watershed Partners, a nonprofit organization whose members are local governments in the watershed. Realizing that everyone's quality of life depends on the quality of the river and that development practices upstream have a big effect on communities downstream, they are working together to do a better job managing growth.

Adding the dimension of land-use planning to existing watershed programs

With federal funding provided under Section 319 of the Clean Water Act, the Ohio EPA and Ohio Department of Natural Resources administer a program to correct impairments to surface water and groundwater resources from nonpoint source pollution. In recent years the 319 program has funded watershed coordinators in 28 Ohio watersheds. The coordinators are working with community representatives to develop Watershed Action Plans that address all the sources and threats to water quality.

These Watershed Action Plans are similar to Balanced Growth Plans in a number of ways. Both are focused on the health of watersheds, and both must involve a diversity of local stakeholders in planning and implementation.

However, the Balanced Growth Plans recommended in this report will be different in a key respect. By calling for the local designation of Priority Conservation Areas and Priority Development Areas, they will emphasize the land-use planning component of watershed protection.

Thus, Balanced Growth Plans will complement the efforts of the 319 program—and will add an important dimension of land-use planning. This is in keeping with the growing understanding that the location of development in a watershed has a major impact on water quality.

In addition, the State of Ohio also has existing programs and funding mechanisms, such as the Lake Erie Protection Fund, to promote watershed studies and planning. The state is already a leader in developing methodologies for assessing the health of watersheds. These include survey methods and indices for measuring the biological integrity (i.e., the health of fish and invertebrates) of streams and other aspects of stream quality developed by the Ohio Environmental Protection Agency. Extensive sampling data exist on the quality of Ohio rivers and streams.

Many other examples of watershed-based initiatives could be mentioned (see Appendix B), including those of Soil and Water Conservation Districts, watershed conservancy districts, or nongovernmental organizations. The important point is that the Lake Erie Balanced Growth Program complements existing programs and can build on all these collaborative efforts.

2.2 Identifying the Lake Erie Balanced Growth Planning Watersheds

For the purposes of this program, the Ohio Lake Erie Commission, in consultation with appropriate state agencies, local elected officials, and other local stakeholders, should identify appropriate major watershed planning areas. These should be based on watershed areas that are large enough so that land use patterns have significant impact on Lake Erie water quality.

In deciding upon the final delineation of the Balanced Growth Watersheds, the commission should take into account the following criteria:

- Natural hydrological features.
- Patterns of urban and rural development.
- Distribution of population.
- Preferences of affected local governments.
- Interrelatedness of social, economic, and environmental problems.
- Boundaries of existing watershed planning entities.
- Historic, scenic, and natural resources (living and non-living).

3. Watershed Balanced Growth Plans

Once the Balanced Growth Task Force decided to focus on major river watersheds as the right scale for planning, it sought to develop a planning framework that would encourage local governments to think and act at a watershed scale, yet not interfere with local land-use control or create unfunded mandates. The framework also had to identify opportunities for state government to support planning and implementation.

The recommendation is for local governments to come together within watersheds to create Watershed Balanced Growth Plans. *A Watershed Balanced Growth Plan is a framework for coordinated, regional decision-making about how growth and conservation should be promoted by local and state policies and investments in the context of watersheds*. The process will be voluntary, and the state should offer incentives for participation.

3.1 Content of Watershed Balanced Growth Plans

Watershed Balanced Growth Plans will not replace the comprehensive plans that many communities create, although they may augment such plans. They will be limited to the designation of two primary features: "Priority Conservation Areas" and "Priority Development Areas." These areas should delineate where local communities, planning together as a watershed, want to emphasize conservation and growth. It is expected that the Balanced Growth Plans will draw upon existing local land-use plans, as well as other plans such as those prepared for river protection, the promotion of economic development, and the identification of wastewater treatment service areas.

The two priority areas should be identified based on measurable criteria that affect the watershed and Lake Erie. Once designated and agreed upon by state and local entities, these priority areas should be taken into consideration when implementing state programs, investments, and incentives that influence the location of conservation or development initiatives. It is hoped that local land-use plans will also be adapted to conform to the watershed plans.

The Watershed Balanced Growth Plans should provide for, address, and include, but need not be limited, to the following:

- A specific statement of how the Watershed Balanced Growth Plan will help achieve the goals and objectives of the *Lake Erie Protection & Restoration Plan*, while promoting economic development and quality

of life in the watershed.

- The identification of Priority Conservation Areas within the watershed to protect critically important ecological, recreational, agricultural, heritage, public access, and other critical areas.
- The identification of Priority Development Areas within the watershed, which will be locally designated areas where growth and/or redevelopment should be especially promoted.
- Documentation that justifies the designation of any Priority Development Area and Priority Conservation Area.

3.2 Preparation of Watershed Balanced Growth Plans

Watershed Balanced Growth Plans will be developed by Watershed Planning Partnerships, the formation of which is described below in Section 4.

In preparing its watershed plan, the partnership should seek to harmonize the needs of the watershed as a whole with the adopted plans of local governments, adopted functional plans of other governmental agencies in the watershed, and the adopted plans of the basin. The partnership also is encouraged to consider and incorporate existing studies or undertake supporting studies that will provide the information base necessary for sound decision-making concerning future development and conservation. The following are topics to be considered that will help partnerships identify special needs and opportunities for development and conservation in their watershed:

- Population and population distribution in the watershed and local governments within the watershed, which may include analysis by age, household size, education level, income, employment, or other appropriate characteristics.
- Natural resources, inventories, and assessments which may include air, water, open spaces, public access, scenic corridors and viewsheds, forests, soils, rivers, and other waters, shorelines, fisheries, wildlife, and minerals.
- The amount, type, intensity or density, and general location within the watershed of various types of land uses and projections of land uses for the watershed and for local governments located in the watershed.
- The economy of the watershed, which may include amount, type, general location and distribution of commerce and industry within the watershed, the location of watershed employment centers, and which may include analyses of trends and projections of economic activity.
- Amount, type, quality, affordability, and geographic distribution of housing among local government units in the watershed.
- General location and extent of existing or currently planned major transportation facilities of all modes, and utility, educational, recreational, cultural, and other facilities of basinwide or watershed significance.

- Geology, ecology, and other physical factors of the watershed, including land areas in the watershed subject to natural hazards.
- The identification of features of significant statewide or watershed architectural, scenic, cultural, historical, or archaeological interest.
- Amount, type, location, and quality of agricultural lands.

The Balanced Growth Plans should be updated at least every five years, or when local comprehensive plans are being significantly revised.

3.3 Priority Conservation Areas

Priority Conservation Areas (PCAs) are locally designated areas targeted for protection and restoration. They may be critically important ecological, recreational, heritage, agricultural, and/or public access areas that are significant for their contribution to Lake Erie water quality and the region's general quality of life. A Watershed Planning Partnership, in consultation with local and state governments, may designate PCAs to be part of a Balanced Growth Plan.

The purpose of identifying PCAs is to:

- Protect the ecological health of the watershed and tributaries.
- Provide a process by which areas containing environmental, natural, historic, or archaeological features of critical watershed concern may be identified and protected from substantial deterioration or loss.
- Provide procedures by which areas of critical watershed concern may be designated.
- Protect and enhance public health, safety, and welfare.
- Guide state programs, policies, and investments that influence the location of conservation and/or development.

Models for Priority Conservation Areas

Throughout the Ohio Lake Erie Basin, communities are already working to conserve special places. For example, communities in the Chagrin River watershed have adopted stream setback ordinances to protect their stream corridor. The City of Twinsburg has purchased land to create a greenway along Tinkers Creek, a tributary of the Cuyahoga River. And communities and organizations in the Toledo area have cooperated to protect the rare habitats of the Oak Openings area, including efforts to restore marginal farmland to original habitat.

Balanced Growth Plans will provide a framework that will allow communities to come together at the watershed scale and more effectively conserve and restore such special places—places that impact Lake Erie water quality and enhance quality of life.

The Watershed Planning Partnership will designate specific areas within the watershed as PCAs. Guidance for selecting PCAs can include:

- Whether the ecological value of the area, as determined by the biological and physical components of the environmental system, is of substantial watershed or basinwide significance.
- Whether the ecological functions provided by the area (such as flood control, water purification, and groundwater recharge) are of substantial watershed or basinwide significance.

- Whether the area is susceptible to significant natural hazards, including, but not limited to, fires, floods, earthquakes, landslides, erosion, and droughts that would affect existing or planned development within it.
- Whether the area contains designated critical habitat of any state or federal designated threatened or endangered plant or animal species, or other species of special state concern.
- Whether the area contains a unique, ecologically sensitive, or valuable ecosystem or combination of ecosystems with plant and animal communities whose loss or decline would negatively affect biodiversity at the watershed, state, or national scale.
- Whether the area offers significant local recreational or quality of life benefits while also contributing to ecological objectives.
- Whether the area offers opportunities for ecological restoration in urban areas.

Thus, a PCA may be an area containing or having significant impact (or potential positive impact) upon environmental or natural resources of local, watershed, or statewide importance. Such areas may include parks, forests, wildlife refuges, wilderness areas, scenic areas, aquatic preserves, areas of critical habitat for federally and/or state-designated endangered or threatened species, rivers, frequently flooded areas, lakes, estuaries, aquifer recharge areas, geologically hazardous areas, prime farmland, coastal and riparian lands, recreation areas, and other environmentally sensitive areas in the watershed. The development of these areas could cause substantial deterioration or loss of such resources or result in a substantial threat to the public health, safety, or welfare.

3.4 Priority Development Areas

Priority Development Areas (PDAs) are locally designated areas where growth and/or redevelopment is to be especially encouraged in order to maximize development potential, maximize the efficient use of infrastructure, promote the revitalization of existing cities and towns, and contribute to the restoration of Lake Erie. A Watershed Planning Partnership, in consultation with state and local governments, may designate PDAs to be a part of a balanced growth plan.

The purpose of identifying PDAs is to:

- Provide a process whereby a Watershed Planning Partnership and the local governments within its planning jurisdiction may coordinate the location and extent of future development in a mutually efficient and complementary manner.
- Encourage a pattern of efficient and contiguous development.
- Reduce the costs of providing urban services.
- Encourage preservation and adaptive reuse of urban infrastructure.
- Protect agricultural and forest lands, scenic areas, and other natural resources.
- Identify areas where urban services are being or will be provided.

- Encourage growth where infrastructure capacity is available or committed to be available in the future.
- Guide state programs, policies, and investments that influence the location of conservation and/or development.

It should be emphasized that the designation of a PDA does not restrict development elsewhere in a watershed. It only identifies an area where additional state incentives will be made available to encourage development identified by local priorities.

A Watershed Planning Partnership should consider the following guidelines when designating PDAs:

- Land areas that are already characterized by urban growth and that have adequate existing urban services.
- Existing urban areas that can be redeveloped.
- Land areas primarily characterized by urban growth that are or will be served adequately by a combination of existing and future urban services provided by public or private entities.
- Other areas where growth will be encouraged and that can be served by future urban services in an efficient manner.
- The co-location of activities that are complementary to quality of life, such as proximity to natural areas, the interconnection of recreational corridors, and alternative transportation systems.

Models for Priority Development Areas

The designation of Priority Development Areas will help communities in a watershed achieve a consensus on prioritizing the location of development The state will recognize the priorities in its planning initiatives and support such development though special incentives.

This is already being done on a limited basis. For instance, several communities in Cuyahoga County are cooperating to develop the Chagrin Highlands site, which has excellent highway access from I-271. And communities are working with the state to redevelop brownfield sites in the harbor of Lorain, Toledo waterfront and along the Grand River in Lake County.

The Balanced Growth planning process will enhance a region's ability to prioritize and take advantage of prime growth opportunities.

4. Watershed Planning Partnerships

Watershed Balanced Growth Plans will be developed by local Watershed Planning Partnerships. The partnerships should be a regional effort that, depending on the watershed, can be organized in flexible ways to respond to local conditions, existing planning structures, and available resources. Their work should be open, inclusive, and focused on consensus-building. Public education and involvement will be important parts of the process.

4.1 Composition

The partnerships can be composed of representatives of local governments, planning agencies, councils of governments, special purpose authorities (such as metropolitan planning organizations, sewer districts, or transit authorities), or non-governmental organizations (such as watershed organizations, chambers of commerce, or land trusts). To assist with coordination and provide state-level input, state agency representatives must participate in the planning process as advisors. For staff support, the partnerships can contract with existing planning agencies, universities, nonprofit organizations, or private consultants.

To assure the implementation of plans, the partnerships must demonstrate the support of local governments with land-use planning and implementation authority. As a demonstration of such support, the partnerships should seek to have representation from local governments:

- Representing a significant geographic land area of the watershed; and
- Representing a significant percentage of local governments in the watershed; and
- Representing a significant proportion of the population of the watershed.

The task force recommends that "significant" in this case means at least 75%.

The partnerships also should seek to have a diverse group of nongovernmental organizations and other applicable watershed interests represented. Partnerships are encouraged to draw upon the experience of existing watershed-level initiatives that are proving successful.

4.2 Benefits of participation

Participation in Watershed Planning Partnerships will be voluntary. Participating communities will realize the following benefits:

- They will gain access to extra state incentives made available to PCAs and PDAs.

- They will influence the designation of PCAs and PDAs.
- They will gain greater ability to manage development because their local plans will be supported by technical studies, information, and data, and they will be coordinated with a larger regional planning effort.
- They will have greater access to planning information and knowledge about their community's future.
- They will help make themselves and communities throughout the watershed more competitive by creating a higher quality of life and by making development decisions more predictable.
- They will have access to tools and technical assistance to improve planning and reduce infrastructure costs.

5. Local government roles

Since local governments have the greatest influence over land use in Ohio, it is vital that they be strongly involved in the Watershed Planning Partnerships. For these purposes, "local governments" are meant to include townships, villages, cities, and counties.
Local governments will have important roles related to both planning and implementation:

- Planning role—Local governments will be encouraged to participate in the watershed planning process. They should identify development and conservation areas that they want to bring forth in the planning process at the watershed level, and they should provide data about their jurisdiction and technical planning assistance in their role as watershed partners.
- Implementation role—Once a Watershed Balanced Growth Plan has been approved, local governments in the watershed should: (a) update and amend their existing land-use plans to reflect the watershed plan and establish consistency; (b) if no comprehensive or master land-use plans exist, develop such plans to the extent necessary to support implementation of the watershed plan; (c) adopt local ordinances/resolutions based on the guidance for applicable best practices and models recommended by the Lake Erie Balanced Growth Task Force; (d) direct local capital expenditures to support the PCAs and PDAs in the watershed plan, as opportunities arise during the expansions or maintenance of existing infrastructure.

In addition, other local governmental organizations—such as special districts and authorities, planning commissions, or regional councils—can participate in the partnerships because of the technical assistance, resources, and implementation capacity they can provide. In some watersheds, it may be appropriate for an existing organization of local governments to take the lead in organizing the watershed planning partnership.

5.1 Local coordination

In designating any PCAs or PDAs, each Watershed Planning Partnership should use the following procedures and seek to work cooperatively and achieve consensus among local governments:

- The partnership should consult with and involve local governments located within its planning jurisdiction concerning the designation of

PCAs and PDAs and should ensure early and continuous public participation in the designation process.

- Each local government may propose to the partnership the designation of a PDA that would include the area within its jurisdictional boundary not otherwise designated as a PCA, and that may include additional unincorporated areas contiguous to its municipal boundary (with county and township consultation).
- The partnership should attempt to reach agreement with each local government located within its planning jurisdiction on the location and size of the PCAs and PDAs.

6. State roles

As a home-rule state, Ohio does not assume a direct role in land-use planning. It does, however, influence the location of development in many ways—through infrastructure investments, economic development incentives, tax policies, and other policies and programs—although its influence often is not well coordinated.

As a result of its participation in promoting the *Lake Erie Protection & Restoration Plan,* the state has developed an over-arching state strategy for the restoration of Lake Erie—a strategy that focuses on the need for balanced growth. This is significant because the state can provide the necessary encouragement for local governments to overcome political fragmentation and collaborate on larger, regional planning issues.

Therefore, the task force recommends that the State of Ohio support both the development of watershed-based plans for balanced growth and the implementation of such plans by special strategic initiatives and in the conduct of its regular activities.

6.1 State support for balanced growth planning

In order to assure the success of Watershed Planning Partnerships, the state should support the partnerships by providing leadership and tangible assistance for planning work. This support should include:

- Creating the framework—The Lake Erie Commission should provide information on the protection and restoration goals for the Lake Erie basin (this could involve performance standards for water quality and ecosystems, the objectives of the Balanced Growth program, and guidance for creating Watershed Planning Partnerships). If requested, the commission also should provide technical assistance and facilitation to assist local governments in the formation of the partnerships.
- Financial assistance for planning—The state should provide financial assistance for watershed planning. Sources could include the Lake Erie Protection Fund and other state programs. The state should also help the partnerships obtain grants from private foundations, corporations, and other sources. (See Appendix C for other watershed funding programs.)
- Technical assistance for planning—The Lake Erie Commission should develop a balanced growth planning toolkit that will assist local planning partnerships. This toolkit should include assistance on how to

do watershed planning, suggested methodologies for designating PCAs and PDAs (such as methodologies for land use suitability analysis), and a GIS-based decision support system. The system should help citizens and planners evaluate the impacts of different conservation and development scenarios, and it should provide appropriate data sets for watersheds throughout the basin so that decisions can be made in a consistent way. The Lake Erie Commission should also organize a technical support network of state agency staff and other experts to assist the planning process. The support network should identify local and regional planning resources and information that can assist the partnerships.

- Public education—Recognizing that public education on both watershed planning and balanced growth concepts is needed, the Lake Erie Commission should coordinate with existing watershed education programs in the Lake Erie Basin and help develop new education resources so that they educate and involve citizens and public officials in the Balanced Growth Program. The educational efforts should emphasize the linkages between land-use development and the health of Lake Erie. Task force members recommend the following:
  - The Lake Erie Commission should develop an orientation session to explain the Balanced Growth Program to people interested in participating in Watershed Planning Partnerships.
  - The Lake Erie Commission should coordinate with state agencies, such as ODNR, OEPA, OSU Extension, and nonprofit organizations, which already have watershed education programs and information networks. The commission should work with these agencies to assure that balanced growth concepts are integrated into these programs and networks.
  - The public education effort should include a set of materials (such as fact sheets and Web resources) to communicate the benefits of the Balanced Growth program and watershed planning to various audiences. In conjunction with other agencies, a special emphasis should be on educating government officials about hydrologic principles and how changes in land use that increase impervious cover alter the watershed hydrologic regime, impact the natural resource base, and increase the cost of government services.
  - The state should conduct special outreach to organizations of local government officials (including planning commission and zoning commission members), planning, design, and development professionals to expand awareness of balanced growth principles. Wherever possible, the state should encourage that balanced growth principles be included in continuing education programs aimed at local government officials, planners, realtors, builders, attorneys, etc.
- Plan endorsement— The Lake Erie Commission should review and endorse watershed plans. This review should consider whether the plan addresses the goals of the *Lake Erie Protection & Restoration Plan*, whether the plan identifies PCAs and PDAs, whether the planning

process was open and inclusive, whether the process had adequate local representation, whether the process included coordination with state agencies, and whether the plan achieved local consensus.

6.1.1 Pilot projects

To test the concepts recommended in this report, the task force recommends that the Lake Erie Commission begin the Balanced Growth planning process by promoting pilot projects in at least two watersheds. These would be chosen to demonstrate possible organizational options and planning approaches. The lessons learned in these pilots could then be applied to the rest of the watersheds in the Lake Erie basin.

Pilots will also allow for development and testing of the decision-support system needed to assist local planning partnerships in the designation of PCAs and PDAs.

6.2 State support for watershed plan implementation

The task force recommends a strategy for promoting balanced growth in the Ohio Lake Erie Basin and urges the state to begin implementing that strategy by supporting locally developed watershed plans. The goal is to align state programs and incentives with locally determined balanced growth strategies that promote the protection and restoration of Lake Erie.

Within one year of the adoption of this report, the State of Ohio should develop a Lake Erie Balanced Growth Strategy. The strategy should be prepared by the Ohio Lake Erie Commission and representatives of state agencies.

The strategy should be based on a thorough review of existing state policies and programs that influence the location of land development and conservation. And it should determine how such policies and programs should be aligned to support the vision of balanced growth articulated by the 10 Guiding Principles of the *Lake Erie Protection & Restoration Plan*. Specifically, the state strategy should describe how the state will support local efforts by Watershed Planning Partnerships to focus development efforts in PDAs and promote successful conservation efforts in PCAs.

This will require each state agency on the Lake Erie Commission to identify internal staff resources to complete a review and inventory of policies and programs pertaining to development and conservation. It is suggested that an inter-agency work group be formed to do this. The internal review should produce recommendations within each agency for opportunities to support balanced growth. This information will be provided to the Lake Erie Commission, which will then work with agency staff to determine the specifics of the incentive program and to identify the necessary modification to state programs and policies.

It is suggested that the commission appoint a technical advisory committee to assist this work. The advisory committee should assist with the identification of planning resources and implementation incentives, identification of state policy changes, selection of pilot plans, development of measurements of success, and review of the Balanced Growth Program. The advisory committee should be a working committee composed of citizens who have special expertise in watershed planning, infrastructure, and land-use issues.

The Lake Erie Commission should issue periodic updates to the public on the progress of the state strategy. The state also should continue to provide funding assistance to the Watershed Planning Partnerships throughout the implementation phase.

Potential state incentives

A key component of this strategy is that, where possible, the state should align policies, programs, and incentives to support the implementation of locally designated Priority Conservation Areas and Priority Development Areas. There will be numerous ways for the state to be helpful.

For example, the Clean Ohio Fund could offer special incentives for brownfield redevelopment projects in Priority Development Areas, and the program could encourage the local councils that select open space projects to give special consideration to projects in Priority Conservation Areas. The Ohio EPA could utilize the Water Pollution Control Loan fund and Water Resource Restoration Sponsor Program to support the PDA and PCA designations. Each agency will be asked to look for opportunities to support locally designated areas. These incentives will then be presented as tools to achieve balanced growth objectives.

6.2.1 Additional state assistance for implementation

In addition to supporting local decisions about the *location* of growth, the state should supply guidance on best local practices for minimizing development impacts on water quality wherever the expansion of developed areas occurs. This would include a set of model zoning ordinances/resolutions recommended for voluntary adoption by local communities **(see Linking Land Use and Lake Erie: Best Local Land Use Practices)**. The task force did extensive research on best practices and created models customized for Ohio. The models address the following issues:

- **Stormwater and aquatic area protection:** Includes stormwater management, erosion and sediment control, and protection of riparian areas, floodplains, and wetlands. Zoning measures to reduce stormwater impacts and protect aquatic areas can show a direct saving of community dollars from managing stormwater and floods.
- **Coastal protection:** Assure that local governments encourage and require adherence to the state and federal regulations. Local governments may also wish to regulate waterfront development in terms of location and design to lessen other impacts on the community waterfront.
- **Meadow protection:** In conservation developments and large private lots, meadow protection can generally improve the environment, especially water quality. Since lawns often cover

an area compacted during construction or by traffic over time, their runoff is similar to that of many paved areas. By contrast, a natural meadow area absorbs a large percentage of the water that falls on it, filters it before it runs into local waterways, and supports a large diversity of wildlife.

The task force also developed guidance documents for other best local practices as a source of technical assistance to local governments interested in pursuing their growth and development objectives:

- **Conservation development:** This most often applies to residential development where the homes normally permitted on a parcel are grouped together on small lots, while a sizeable proportion of the property – at least 40% – is set aside as open space. The open space serves as a buffer to protect vegetation, streams, wetlands, and floodplains on the property and to help manage the site's stormwater. In such developments, the developer realizes a premium on house sales since the results are high quality and meet an underserved market.
- **Compact development:** Compact development requires fewer roads and therefore creates less impervious surfaces. It allows for efficient use of infrastructure, including stormwater management systems, as well as a wide range of cost-effective transportation options. Compact development helps conserve the open space and natural resources that enhance a development. In addition, it improves the business efficiency and the quality of neighborhoods.
- **Source water protection:** Source water protection addresses what local governments can do to protect their drinking water from point and nonpoint source pollution. Under Ohio's Source Water Assessment and Protection Program, the Ohio EPA is assessing about 6,000 ground water systems and 150 surface water systems. It will provide information on how to protect these critical water resources. Individual communities may wish to adopt their own source water protection ordinance, identifying protection zones, uses in the zones, and other measures.
- **Agricultural lands protection:** Agricultural preservation addresses one of Ohio's largest industries and its contribution to the quantity and quality of water entering local waterways. Agricultural land preservation also can help focus new development on compact growth areas where infrastructure already exists and can be easily expanded, and where stormwater impacts can better be managed. It improves the recharge of groundwater sources, leading to better quality and quantity of drinking water for communities in the watershed.
- **Woodland protection:** Woodland protection in developing areas is critical to environmental quality and community character. Woodlands perform important water and land

management services: they absorb and filter runoff, cool land and water bodies, process air pollutants, provide habitat for a variety of wildlife, and enhance property values significantly, compared to open, non-wooded sites.

- **Scenic protection:** Scenic protection of views and other open space can increase recreational opportunities and improve economic growth. Nature-based tourism is one of the most promising industries for growing local economies.
- **Historic preservation:** Historic preservation can increase property values as much as 20% and often leads to reinvestment in the community. Preserved sites can also increase tourism and employment opportunities by attracting visitors with an interest in exploring Lake Erie's heritage and culture. The reuse of buildings in historical areas also reduces community expense for new infrastructure.
- **Steep slopes protection:** Protection of steep slopes from development can reduce uncontrolled stormwater flows, dangerous erosion, and flooding.
- **Transfer of development rights (TDR):** Transfer of development rights, if designed properly in Ohio, would allow development in rural areas to be transferred to more compact development areas in more urbanized areas, while maintaining the value of land in rural areas. Such transfers would encourage balanced growth and retain the quality of life and watersheds in more rural areas, while enhancing the vibrancy of urbanized sites.
- **Brownfields redevelopment:** Brownfields redevelopment encourages the cleanup and reuse of brownfield sites, polluted areas of land. The program allows a community to redevelop its contaminated sites for new uses, in areas with existing highways and other services, while cleaning up these former industrial properties that may leach pollutants into surrounding waterways and Lake Erie.
- **Access management:** Access management combines roadway engineering with land-use planning. It gives local governments a means for maintaining intended service levels for different kinds of roads, reducing traffic congestion and travel delay, enhancing safety, and coordinating land-use and transportation decisions.

The task force recommends that the Lake Erie commission keep these models and the guidance documents current and up to date.

In addition, the task force prepared recommendations for consideration by local governments as they undertake local comprehensive planning. The task force recommends that local governments use comprehensive

planning as the basis for making decisions about the community's future that could be furthered by the use of the above model regulations.

7. Sustaining the progress: On-going roles for watershed partnerships and the Lake Erie Commission

It is anticipated that the Watershed Planning Partnerships will continue to function after their plans are complete and that they will:

- Promote and monitor plan implementation.
- Provide guidance and assistance to local communities.
- Advise the Lake Erie Commission of significant problems/issues arising during implementation.

The Lake Erie Commission also should have a number of ongoing roles to:

- Monitor the implementation of watershed plans.
- Assess progress toward Balanced Growth goals and develop performance standards to measure such progress.
- Track progress toward Lake Erie restoration goals using indicators from the Lake Erie Quality Index (see Measurements section 7.1 below).
- Support the state's balanced growth strategy technical advisory committee.
- Recognize successes and innovative projects through a Lake Erie Lighthouse Awards program.
- Continue to coordinate outreach and public education about balanced growth.
- Study unresolved issues.

7.1 Measurements of success

Taking into account the unique character of different watersheds, the Lake Erie Commission should measure the progress of the balanced growth program with the following three sets of indicators:

<u>Programmatic indicators</u>

- Extent of watershed plans—a measure of the total number of watershed plans under development, completed, or endorsed.
- Implementation steps—a measure of what is being done to implement PCAs and PDAs. These steps may differ for each watershed. Possible examples include: changes in zoning, changes in comprehensive plans or development of new comprehensive plans, changes in subdivision regulations, or other cooperative agreements (such as creative tax-base sharing arrangements).
- Shifts in state investment patterns to correspond to conservation and development priorities identified by balanced growth plans.

Land use changes (measures of whether PCAs and PDAs are affecting development patterns)

- Rate of land conversion within PCAs and PDAs (rate should be greater in PDAs).
- Density of infrastructure (sewer, housing, roads, etc. should be greater in PDAs).
- Rate of change in impervious cover and resulting problems with increased stormwater runoff.
- Increased property values and tax base in PDAs and around PCAs.

Changes in Lake Erie Quality Index and goals of plans for Total Maximum Daily Loads

- Water quality improvements (achieve applicable water quality standards).
- Increased habitat benefits for aquatic, riparian, and upland areas.

8. Recommended implementation steps

This report recommends a voluntary, incentive-based program for balanced growth in the Ohio Lake Erie basin. It calls for the creation of a planning framework that includes:

- A new focus on land use and development planning in the major river tributary watersheds of Lake Erie. The goal is to begin to link land-use planning to the health of watersheds.
- The creation of Watershed Planning Partnerships comprised of local governments, planning agencies, nonprofit organizations and other parties in each watershed. Participation in these partnerships would be voluntary but encouraged by incentives.
- The locally determined designation of Priority Conservation Areas and Priority Development Areas in each watershed.
- The development of suggested model ordinances and zoning codes to help promote development practices that minimize impacts on water quality.
- The alignment of state policies, incentives, and other resources to support watershed planning and implementation.

This framework builds on and enhances many existing watershed initiatives that have received broad community support and will allow the state to promote many other important objectives related to economic competitiveness and quality of life

To implement this framework, the task force recommends the following specific tasks:

<u>Establish a Balanced Growth technical advisory committee to the Lake Erie Commission</u>

- Within 90 days of the adoption of the task force recommendations, the Lake Erie Commission should appoint a Balanced Growth technical advisory committee to assist the commission in the overall implementation of the task force recommendations.

<u>Develop the Ohio Lake Erie Balanced Growth Strategy</u>

- Within 90 days of the adoption of the task force recommendations, the Lake Erie Commission should convene representatives of the state agencies to identify internal staff resources to complete a review and inventory of policies and programs pertaining to development and conservation. This internal review should produce recommendations within each agency for opportunities to support balanced growth.

- This information should be provided to the Lake Erie Commission and the Balanced Growth technical advisory committee within nine months, and both should then work with staff of state agencies to determine the specifics of the incentive program and to identify the necessary initial modifications to state programs and policies. The development of this state strategy should be completed within one year.
- Within 90 days of the adoption of the task force recommendations, the Lake Erie Commission should identify funding sources to support balanced growth planning and implementation.

Develop public outreach and education program

- Develop fact sheets/materials and related educational programs to explain the benefits of watershed-based planning and balanced growth. Within the first year, the Lake Erie Commission should take the lead in identifying existing materials and developing new ones as needed.
- Building on existing programs, the Lake Erie Commission should develop and implement watershed-based balanced growth training for public officials.

Initiate and support Balanced Growth Plan development

- Within the first year, the Lake Erie Commission should select and fund at least two watersheds for pilot balanced growth planning initiatives.
- The Lake Erie Commission should coordinate state support and assistance to watershed planning partnerships for pilot initiatives. This support should include a watershed planning toolkit, a decision support system, and a support network of state agency staff and other experts.
- Within six months, the Lake Erie Commission should disseminate information on best local practices (Model Zoning and Guidance) for balanced growth through fact sheets, Web resources, and the publication of the task force's recommended practices.
- The task force recommends the adoption of enabling legislation for the transfer of development rights (TDR) among communities within a watershed.
- Recognizing that the balanced growth plans called for in this report are not comprehensive plans, support the development of comprehensive land-use plans by all communities in the Lake Erie basin.

Monitor progress and adjust program as needed

Working with the technical advisory committee, the Lake Erie Commission should:

- Within the first year, refine methods of measuring the success of balanced growth planning, using programmatic indicators, indicators of actual land-use change and cost savings, and indicators of ecological health.
- On an on-going basis, collect data and monitor the progress of the Balanced Growth program and pilot initiatives. Report progress to the public.

- Promote research on the linkages between land-use planning and watershed quality.
- Based on the progress of the pilot initiatives, expand the program to other Lake Erie watersheds as appropriate.
- Implement a Lake Erie Lighthouse Awards program to recognize innovative projects and community programs that advance balanced growth.
- Recommend needed changes to the Balanced Growth program.

Appendix A
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Updated September 2003

Appendix B

Watershed groups currently active within Ohio's 35 counties* that lie within the Lake Erie watershed

Key: Group: water body (-ies) / watershed
Counties

Alliance for Watershed Action and Riparian Easements: Mahoning River watershed
Ashtabula, Portage, Stark

Ashtabula River Remedial Action Program: Lower Ashtabula River
Ashtabula

Black River Remedial Action Program: Black River, French Creek, Wellington Creek, Charlemont Creek, Plum Creek
Ashland, Erie, Cuyahoga, Lorain, Medina

Black Swamp Conservancy: Black Swamp
Wood, Lucas, Fulton, Henry, Sandusky, Ottawa, Hancock, Seneca, Putnam, Paulding, Defiance, Williams

Chagrin River Watershed Partners: Chagrin River
Cuyahoga, Summit, Geauga, Portage

Citizens Speak Out: Black River
Lorain

Citizens Opposed to Ruining the Environment: Cuyahoga River & tributaries
Summit

Cuyahoga River Remedial Action Program: Cuyahoga River, Big Creek; supports efforts in West Creek, Yellow Creek, Mudbrook, Pond Brook, Chippewa Creek, Tinkers Creek
Cuyahoga, Geauga, Portage, & Summit

Cuyahoga Soil & Water Conservation District: Euclid Creek, Rocky River watershed
Cuyahoga

Doan Brook Watershed Partnership: Doan Brook
Cuyahoga

Duck and Otter Creeks Partnership: Duck & Otter Creeks
Lucas, Wood

Firelands Land Conservancy Watershed: Rocky River, Black River Vermilion River, and Huron River watersheds
Cuyahoga, Erie, Lorain, & Huron

Friends of Arcola Creek: Arcola Creek & estuary
Lake

Friends of the Crooked River: Cuyahoga River
Cuyahoga, Geauga, Portage, Summit

Friends of Euclid Creek: Euclid Creek
Cuyahoga

Friends of the Great Miami River: Great Miami River
Shelby (Outside counties: Darke, Union, Champaign, Clark, Hamilton, Butler, Preble, Montgomery)

Friends of Wetlands: n/a
Lorain

Grand Lake St. Marys Watershed Project: Grand Lake St. Marys
Mercer, Auglaize

Grand River Advisory Council: Grand River
Ashtabula

Grand River Partners, Inc.: Grand River
Lake, Ashtabula, Geauga, Portage, (Outside county: Trumbull)

Indian Lake Watershed Project: Indian Lake
Logan, Harden, Auglaize

Kellogg Creek Conservancy: Kellogg Creek
Lake

Lake Soil & Water Conservation District: Arcola Creek, Chagrin River, Grand River, and Chagrin & Grand tributaries
Lake

Loramie Valley Alliance: Loramie Creek Watershed
Shelby, Mercer, Auglaize (Outside county: Darke)

Mahoning River Consortium: Mahoning River
Trumbull (Outside county: Mahoning)

Maumee Remedial Action Program: Lower Maumee, Ottawa, and Toussaint Rivers; Swan, Cedar, Crane, Turtle, Packer Creeks
Lucas, Wood, Ottawa

Medina Summit Land Conservancy: Black, Cuyahoga, Rocky, & Tuscarawas Rivers & Killbuck Creek
Medina & Summit

Media Soil & Water Conservation District: Black River, Chippewa Creek, Cuyahoga River, Rocky River, & Yellow Creek
Medina

Miami Conservancy: Great Miami River watershed
Shelby (Outside counties: Miami, Preble, Clark, Greene, Montgomery, Warren, Butler, Hamilton)

The Nature Center at Shaker Lakes Doan Brook Project: Doan Brook
Cuyahoga

North Central Ohio Land Conservancy, Inc.
Richland, Huron, Sandusky, Wyandot, Ashland (Outside county: Knox)

Ohio Coastal Resource Management Project: Lake Erie
Ashtabula, Cuyahoga, Erie, Lake, Lorain, Lucas, Ottawa, Sandusky, Wood

Ohio Lake Management Association:
All lakes and watersheds in the Lake Erie Basin
All 35 Lake Erie Watershed counties* (Outside counties: remaining Ohio counties)

Ottawa River Coalition: Ottawa River watershed
Allen, Hardin, Auglaize, Putnam

Ottawa River Kleanup Association: Ottawa River, Ten Mile Creek
Lucas

Penn Ohio Watershed Association: Pymatuning Creek, Pymatuning Lake,
Ashtabula, Trumbull

Pond Brook Watershed Initiative: Cuyahoga River
Cuyahoga, Geauga, Summit, Portage

Portage River Basin Council: Portage & Little Portage Rivers; Rocky Ford, Needles, Rader, Bull, Sugar, Wolf, & Lacarpe Creeks
Hancock, Wood, Seneca, Sandusky, Ottawa

Sandusky River Watershed Coalition: Sandusky River
Sandusky, Seneca, Wyandot, Crawford

Sandusky Scenic River Advisory Council: Sandusky River
Seneca, Wyandot

Seventh Generation: Black River
Lorain

St. Joseph River Watershed Initiative: St. Joseph River
Williams

Sugar Creek Protection Society: Sugar Creek, Portage River
Wood, Sandusky, Ottawa

Tinkers Creek Land Conservancy: Tinkers Creek
Cuyahoga, Geauga, Portage, Summit

Tri-C Big Creek Watershed Project: Big Creek
Cuyahoga

Upper Cuyahoga Association: Upper Cuyahoga River
Portage

Upper Cuyahoga River Watershed Task Force: Upper Cuyahoga River
Geauga, Portage

Upper Great Miami Watershed Project: Upper Great Miami River
Shelby (Outside county: Logan)

Upper Scioto River Watershed Project: Scioto
Allen, Auglaize, Crawford, Hardin, Marion, Wyandot, Mercer (Outside counties: Delaware, Logan, Union, Darke)

Wabash Watershed Alliance: Wabash
Mercer (Outside county: Darke)

West Creek Preservation Committee: West Creek tributary of the Cuyahoga River
Cuyahoga

*The 35 Lake Erie Basin counties: Allen, Ashland, Ashtabula, Auglaize, Crawford, Cuyahoga, Defiance, Erie, Fulton, Geauga, Hancock, Hardin, Henry, Huron, Lake, Lorain, Lucas, Marion, Medina, Mercer, Ottawa, Paulding, Portage, Putnam, Richland, Sandusky, Seneca, Shelby, Stark, Summit, Trumbull, Van Wert, Williams, Wood, Wyandot

Source: Ohio Watershed Network (http://ohiowatersheds.osu.edu/wgp_all.php) and the Ohio Environmental Council (http://www.theoec.org/cwater_comshed_neow_list.html)

Appendix C

Selected resources for watershed planning and restoration

Ohio Programs

A. Ohio's Watershed Planning Coordinator Grants Program: Started in 2000, this program provides salary and fringe (on a declining scale) to local governments and nonprofits to support watershed coordinators. They work with local stakeholders to develop a comprehensive watershed plan to restore and maintain the chemical, physical, and biological integrity of stream segments within the watershed. They also help local watershed groups to implement resource-focused education/information programs in the watershed and work to make the water resource group more permanent. The program emphasizes education, technical assistance, financial incentives, and voluntary actions, as opposed to regulatory mandates or permits.

Funding is provided by Ohio Department of Natural Resource's Division of Soil and Water Conservation, the Division of Mineral Resources Management, the Ohio Coastal Management Program; and the Ohio Environmental Protection Agency's Section 319 of the Clean Water Act Program. The Watershed Coordinators Program is supported by the Ohio State University's "Ohio Watershed Network," which has three components: (1) a website containing information about specific watersheds and an overview of the watershed movement in Ohio; (2) a watershed list serve that currently has over 300
subscribers; (3) the Ohio Watershed Academy, a 7-month Internet-based training program on watershed planning and implementation.

(See: http://ohiowatersheds.osu.edu/ and
http://www.dnr.state.oh.us/soilandwater/docs/RFP%20TransmittalFebruary2002.pdf) (Source: "Watershed Programs," Ohio Department of Natural Resources, Division of Soil and Water Conservation, Rosida Porter, Watershed Coordinator, 614-265-6647, and *A Guide to Developing Local Watershed Action Plans in Ohio*, State of Ohio Environmental Protection Agency, Division of Surface Water, June 1997, http://www.epa,state.oh.us/dsw/nps/guide.html.)

B. Clean Water State Revolving Fund Loans: Provides funds for low-interest loans to communities, individuals, and others for water-quality improvement activities. Traditionally the funds have been used for wastewater treatment facilities; however, loans are used increasingly for other water quality management activities including nonpoint source and estuary projects. **The Water Resource Restoration Sponsorship Program:** This program funds implementation of endorsed watershed plans and Total Maximum Daily Load (TMDL) restoration scenarios, as well as statewide projects. A total of $15 million will be available in 2004, divided equally among watershed plans, TMDL restoration, and state projects. (See:
http://www.epa.state.oh.us/defa/index.html)

C. Drinking Water State Revolving Fund Set-Asides: Up to 31% of the capitalization grant may be used for set-aside activities, e.g., loans for land acquisition and/or easements for source water protection or implementation of source water protection measures, or direct assistance for wellhead protection programs.

D. Ohio Coastal Management Program: The Ohio Coastal Management Program integrates management of Ohio's Lake Erie coastal area to preserve, protect, develop, restore, and enhance its valuable and often vulnerable resources. The Program is a cooperative action of the state and its political subdivisions to manage coastal resources and foster their sustainable use for the benefit of the state's citizens. The Ohio Coastal Management Law (O.R.C. Chapter 1506) designated the Ohio Department of Natural Resources (ODNR) as the lead agency to develop and implement this program. The 19-member Coastal Resources Advisory Council represents a broad range of interests, experience, and knowledge related to the management, use, conservation, and development of the coastal area. (See: http://www.ocrm.nos.noaa.gov/czm/czmohio.html)
The Program manages a grants program totaling $888,000 (2003) for groups to undertake coastal restoration and water quality improvement projects in the Ohio Lake Erie coastal area and drainage basin. Funding is available through the Ohio Department of Natural Resources, Office of Coastal Management. (See: http://www.dnr.state.oh.us/coastal/03coastalgrants.htm)

E. The Clean Ohio Fund: Proposed by Governor Bob Taft in his 2000 State of the State address and approved by the public in November 2000, the Fund is a $400 million bond program to preserve natural areas ($150M) and farmland ($25M), protect public health ($25M), create outdoor recreational opportunities ($25M), and revitalize urban areas by returning contaminated properties to productive use ($175M). (See: http://www.dnr.state.oh.us/cleanohiofund/default.htm)

F. Ohio Sea Grant Program: The Ohio Sea Grant College Program uses research, education, and outreach to enhance use and improve management of the U.S.'s ocean, coastal, and Great Lakes resources. Its activities focus on these areas: coastal business retention and expansion/development; tourism, recreation, and convention marketing; research and analysis; water quality; nonindigenous species; seafood safety; aquaculture and commercial fishing. (See: http://lake.osu.edu/seagrt/seagrt.htm)

G. Ohio EPA's Source Water Assessment and Protection Program: Makes available to watershed coordinators Geographic Information System data or maps of public water supply wells, drinking water protection areas, sole source aquifers, karst regions, potential contaminant sources, and basic geologic information. (See: Heather.Raymond@epa.state.oh.us)

H. Orphan Well Program: Provides grants to landowners with orphaned oil or gas wells on their property. Owners apply for grants to plug the wells, with awards made on the basis of health or safety or environmental hazard, as determined by Ohio Department of Natural Resources. (See: david.hodges@dnr.state.oh.us)

I. Coastal Nonpoint Pollution Control Program: Ohio's 262 miles of Lake Erie shoreline is a source of wealth and vitality for residents and visitors. Forty-one percent of Ohio's citizens live within the Lake Erie basin and reap many natural, scenic, and economic benefits daily. Lake Erie has become one of Ohio's most popular visitor destinations. The Ohio Department of Development estimates that the shoreline brings more than $2.5 billion per year in travel revenue to the state's economy, representing one-third of the state's travel revenue. As such, the Lake Erie shoreline is an asset to protect and improve.

The Program plan was developed by the Ohio DNR and Ohio EPA, with funding from the National Oceanic and Atmospheric Administration. (See: http://www.ohiodnr.com/soilandwater/coastalnonpointprogram.htm)

J. Urban Streams Program: The Urban Streams Program was developed in 1997 after the Lake Erie Coastal Strategic Management Plan listed urbanization as the "most rapidly increasing threat" to the watershed. The program provides grants to seven coastal Soil and Water Conservation Districts to create either a full- or part-time position to "initiate projects aimed at restoring, improving, or protecting urban streams and waterways." (See: John.Mathews@dnr.state.oh.us.)

K. Grasslands Restoration: Pastures-to-Prairies Program: Funds prairie restoration projects on private land in Ohio. Projects include the purchase of native warm-season grass seed and forbs, herbicide to control weeds, and rental equipment to plant seed. Eligible landowners can receive 25 percent cost-share for grassland restoration if they agree to a 10-year maintenance agreement. A minimum of 10 acres is required, and sites are scored based on size and location. (See: http://www.dnr.state.oh.us/grants.htm)

L. Lake Erie Protection Fund: In 1990 the Ohio legislature established the Lake Erie Protection Fund that is overseen by the Ohio Lake Erie Commission. The funds are used to help Ohio protect and enhance its greatest natural resource, Lake Erie. The Fund makes grants to projects that research, monitor, demonstrate, and educate about the Lake, its shoreline, or its watershed. (See: http://www.epa.state.oh.us/oleo/Grant/grants.htm)

Federal programs

A. Great Lakes Program, EPA: Funds awarded to monitor Great Lakes ecosystem indicators, provide public access to Great Lakes data, help communities address contaminated sediments, support local protection and restoration activities, promote pollution prevention, and provide assistance to implement community-based Remedial Action Plans and for Lakewide Management Plans.

B. Nonpoint (319) Source Implementation Grants: Provides grants to states and tribes to implement nonpoint source projects and programs. These include Best Management Practices installations to manage animal wastes and sediment, pesticide and fertilizer control, stream bank restoration, lake protection/restoration, septic system restoration, and management, etc.

C. Tribal Drinking Water Capacity Building/Source Water Protection Grants: Funds to increase tribal capacity to provide safe drinking water, and to prevent tribal sources of drinking water from contamination. Eligible projects might include source water assessments, source water protection programs, and projects to improve a drinking water system's technical, financial, and managerial capacity.

D. Water Pollution Control (106) Program Support: Provides grants to states, tribes, and interstate water pollution control agencies to abate and prevent surface and groundwater pollution from point and nonpoint sources. Eligible activities include water quality planning, monitoring, permitting, surveillance, enforcement, advice and assistance to local agencies, etc., to establish and maintain water pollution control programs.

E. Water Quality Cooperative Agreements (104(b)(3) Grants): Provides grants to support innovative demonstration projects for addressing storm water, combined sewer overflows, sludge, pretreatment, mining, animal feeding operations, and other sources relating to the National Pollutant Discharge Elimination System program. Grants cover research, investigations, experiments, training, surveys, and studies related to the causes, effects, and prevention of pollution.

F. Watershed Assistance Grants: Build cooperative agreements among nonprofits and other eligible entities to support watershed partnerships and long-term effectiveness. Funding then supports organizational development and capacity-building for watershed partnerships with a wide membership. Grants will be furnished to a pool of applicants, which are diverse in terms of geography, watershed issues, the type of partnership, and approaches.

G. Conservation Security Program: A voluntary program managed by the Natural Resources Conservation Service to provide payments to farmers/producers who already are practicing good stewardship on agricultural lands and incentives for those who want to do more.

H. Environmental Quality Incentives Program: A voluntary, locally-led program managed by the Natural Resources Conservation Service that provides technical education and financial assistance to farmers and ranchers who establish conservation practices and systems to address soil, water, and related natural resource problems. Cost-sharing and incentive payments are provided through 5- to 10-year contracts to help producers comply with environmental laws and regulations, including those for clean water.

I. Farmland Protection Program: Provides matching funds to existing farmland protection programs to purchase conservation easements. Eligible property includes farm or ranch lands that have prime, unique, statewide, or locally important soil and includes all cropland, rangeland, grassland, pasture land, incidental forest land, or wetlands.

J. Natural Resources Conservation Foundation: Funding comes from private donations or grants from individuals, corporations, businesses, and nonprofit organizations and agencies. The Foundation has the authority to enter into cooperative agreements and contracts with federal, state, tribal, and local agencies and organizations and to grant monies for conservation activities to protect natural resources on private lands.

K. Rural Utilities Service Water and Waste Disposal Loans and Grants: Provide assistance for water and waste disposal facilities to low income rural communities where residents face significant health risks. Project grants and direct loans are available for local governments, Indian tribes, U.S. Territories, nonprofit associations, state governments, and others.

L. Sustainable Agriculture Research and Education Program: Provides grants to advance farming systems that are more profitable and environmentally sound. It funds scientific research and education to reduce the use of chemical pesticides, to improve management of on-farm resources, to optimize conservation practices, and to promote partnership activities. Research and education projects are conducted by interdisciplinary research teams to include farmers as participants.

M. Watershed Processes and Water Resources Program: Sponsors research that addresses two areas: (1) understanding fundamental processes controlling source areas, the flow pathways of water, and the fate of water, sediment, and organisms within forest, rangeland, and agricultural

environments as influenced by watershed characteristics; and (2) developing appropriate technology and management practices for improving the effective use of water and water quality for agricultural and forestry production.

N. Watershed Protection and Flood Prevention Program: The "Watershed," or PL 566, program provides technical and financial assistance for water resource challenges on a watershed basis. Eligible projects relate to flood mitigation, water supply, water quality, erosion and sediment control, wetland creation and restoration, fish and wildlife habitat enhancement, and public recreation.

O. Wildlife Habitat Incentives Program: A voluntary program to develop and improve wildlife habitat primarily on private land. It provides both technical assistance and up to 75% cost-sharing to establish and improve fish and wildlife habitat.

P. Acid Mine Drainage Reclamation Program: Designed to support the efforts of local nonprofit organizations, especially watershed groups, to complete construction projects to clean streams impacted by acid mine drainage. Community watershed groups, nonprofit groups, and conservation districts are eligible.

Q. Land and Water Conservation Fund: Uses offshore oil leasing revenues to support grants to states and local units of government to acquire and develop state and local park and recreation areas that guarantee public use in perpetuity.

R. Landowner Incentive Program (non-tribal): Provides matching grants to states, territories, and the District of Columbia to establish or supplement landowner incentive programs. Includes technical and financial assistance to landowners for projects that protect or restore habitats, such as removal of exotic plants, changes in grazing practices, in-stream structural improvements, road closures, and conservation easements.

S. Partners for Fish and Wildlife Program: Since 1987, the program has partnered with more than 28,725 landowners to restore over 639,000 acres of wetlands; 1,070,000 acres of prairie, native grassland, and other upland habitats; and 4,740 miles of in-stream aquatic and riparian habitat. In addition, the program has reopened more than 300 miles of stream habitat for fish and other species by removing barriers to passage.

T. National Oceanic and Atmospheric Administration's Community-Based Restoration Program: The Administration, under Section 306 of the Coastal Zone Management Act, approves state Coastal Zone Management Programs (Ohio has one) to control sources of nonpoint pollution which impact coastal water quality. The Program provides funds for small-scale, locally driven habitat restoration projects that foster natural resource stewardship within communities. It seeks to bring together diverse partners to implement habitat restoration projects to benefit living marine resources. Partnerships are sought at the national and local level to contribute funding, land, technical assistance, workforce support, or other in-kind services.

U. Transportation Equity Act for the 21st Century Funding Programs: These fund numerous programs such as the Surface Transportation Program and the National Highway System. States may spend up to 20% of their Surface Transportation Program dollars for restoration and pollution abatement projects. Each state may also set aside 10 percent of their Surface

Transportation Program funds for transportation enhancement projects, including conservation easements, wetland mitigation, and pollution abatement.

(Source for III A through W: "Funding for Source Water Protection Activities, Federal Funding Examples", EPA's Catalog of Federal Funding Sources for Watershed Protection, http://www.epa.gov/watershedfunding.)

Other sources

Great Lakes Aquatic Habitat Network & Fund: This program assists nonprofit, non-governmental grassroots organizations and community groups with small grants of up to $3,500 to improve the prospects of wetlands, rivers, lakes, and nearshore areas, with funding from the C. S. Mott Foundation. (See: http://www.glhabitat.org/)

Appendix D

Additional resources and background documents

In addition to this report, the Lake Erie Balanced Growth Task Force produced the document *Best Practices for the Ohio Lake Erie Watershed: Model Ordinances & Guidance.* This is available on the Ohio Lake Erie Office Web site at www.epa.state.oh.us/oleo.

The task force also produced a number of background documents, including a matrix that provides a useful summary of the land use planning systems of Ohio in comparison with other states. This matrix is also available on the Ohio Lake Erie Office site.

Appendix E

Glossary

Balanced Growth: In this report, Balanced Growth is a strategy to protect and restore Lake Erie and its watersheds to assure long-term economic competitiveness, ecological health, and quality of life.

Best Management Practices: Management practices (such as nutrient management) or structural practices (such as terraces) designed to reduce the quantities of pollutants, such as sediment, nitrogen, phosphorous, and animal wastes washed by rain and snow melt from land into nearby receiving waters, such as lakes, creeks, streams, rivers, estuaries, and ground water. (*A Guide to Developing Local Watershed Action Plans in Ohio*, OEPA, Division of Surface Water, p. 47; see http://www.epa.state.oh.us/dsw/nps/wsguide.pdf)

Brownfields: Lands contaminated by spills or leaks of either hazardous materials or petroleum. Ohio's Voluntary Action Program focuses on restoring brownfields, thereby retaining jobs for inner cities, and slowing industrial development of farmland and sensitive natural areas. (Ohio EPA, *Voluntary Action Program,* No. 1; see http:www.epa.state.oh.us/derr/factsheets/fact1.html)

Biological Diversity (Biodiversity): The variety of flora and fauna in a particular place. Generally, greater variety indicates a healthier environment. (*A Guide to Developing Local Watershed Action Plans in Ohio*, OEPA, Division of Surface Water, p. 47; see http://www.epa.state.oh.us/dsw/nps/wsguide.pdf)

Comprehensive Plans: As well as "Future Land Use Plans" and "Master Plans," these terms are three of many used to describe a plan prepared by a planning commission to guide future land use and infrastructure decisions in the community according to the procedures and requirements of the applicable planning enabling act. These plans usually include analysis, recommendations, and proposals for the community's population, economy, housing, transportation, community facilities, services, protection of natural resources, hazard mitigation and future land use. (See Ohio Revised Code, Chapter 713, see also the Balanced Growth Initiative's Model Zoning Work Group's "Recommendations for Local Comprehensive Planning.")

Cumulative Impacts: " . . . the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time . . ." (Ohio EPA, Division of Surface Water, Laws and Rules; see http://www.epa.state.oh.us/dsw/rules/01-50.pdf)

Geographic Information System (GIS): A computerized method of mapping and analyzing soils, parcels, roads, waterways, sewer lines, buildings, zoning districts, and other geographically-referenced information.

Home-rule: Home Rule Charter for counties, Home Rule Authority for villages and cities, and Limited Home Rule Authority for townships is allowed under Ohio law. This gives local governments more authority and discretion in governing their jurisdictions than the General Law. (Ohio Revised Code 504; see http://www.orc.avy.com)

Impervious Cover: Impervious cover can be defined as any land cover that prevents the infiltration of water into the soil. Examples are roads, parking lots, sidewalks, rooftops, and other impermeable surfaces in urbanized areas. Imperviousness is a useful indicator to measure the effect of land development on water resource quality. (*A Guide to Developing Local Watershed Action Plans in Ohio*, p. 27.)

Lake Erie Protection Fund: In 1990, Substitute House Bill 804 was signed into law establishing the Lake Erie Protection Fund. The intended use of these funds is to award grants that will help the State of Ohio protect its greatest natural resource – Lake Erie. This is accomplished through research, monitoring, demonstration, and education projects concerning Lake Erie, its shoreline and watershed. Of particular interest to the Lake Erie Protection Fund are projects which further the objectives of Ohio's state, national, and international plans and commitments. Presently, the Lake Erie Protection Fund is supported through revenue generated by the Lake Erie License Plate Program, *Erie ... Our Great Lake* credit card program, donations, and bequests. The Fund is administered by the Lake Erie Commission. (Ohio Lake Erie Commission web site; see http://www.epa.state.oh.us/oleo/Grant/smgrant/2004/04smgrant.pdf, p. 4)

Local Control: In Ohio, control of land use is governed by local governments.

Model Ordinances: An ordinance is an act of a local legislature in a municipality or village taken pursuant to authority specifically delegated to local governments by the state legislature. In Ohio's counties and townships, the equivalent of an ordinance is a resolution. Model ordinances and resolutions provide templates for other communities to use in drafting their own wording for local legislation.

Nonpoint Source (NPS) Pollution: ". . . nonpoint source pollution is the introduction of impurities into a surface-water body or an aquifer, usually through a non-direct route and from sources that are 'diffuse' in nature. Discharges from nonpoint sources are usually intermittent, associated with a rainfall or snowmelt event, and occur less frequently and for shorter periods of time than do point source discharges. Nonpoint sources of pollution are often difficult to identify, isolate and control. Examples include: automobile emissions, road dirt and grit, and runoff from parking lots; runoff and leachate from agricultural fields, barnyards, feedlots, lawns, home gardens, and failing on-site wastewater treatment systems; and runoff and leachate from construction, mining and logging operations." ("Nonpoint Source Pollution: Water Primer," Ohio State University Extension Fact Sheet, 590 Woody Hayes Dr., Columbus, OH 43210, pp.1-2; see http://ohioline.osu.edu/aex-fact/0465.html

Nutrient Runoff: Phosphorous and nitrate bind to soils and are thereby transported with eroding soils. Synthetic fertilizers or manures applied to undeveloped cropland can wash off into streams and rivers, particularly when applied just prior to a large rain event. (*A Guide to Developing Local Watershed Action Plans in Ohio*, p. 48.)

Ohio Lake Erie Commission: The Ohio Lake Erie Commission is a State of Ohio Agency created for the purposes of preserving Lake Erie's natural resources, protecting the quality of waters and ecosystem, and promoting economic development. The Commission is comprised of the Directors of the Ohio Department of Natural Resources, Ohio Environmental Protection Agency, and the Departments of Agriculture, Development, Health, and Transportation. The Commission maintains a staff, located in Toledo, Ohio. The staff administers the business of the

Commission and executes many Lake Erie Commission programs such as the Lake Erie Protection Fund, Ohio's Coastweeks Program, Lake Erie License Plate Sales program, and the *Lake Erie Quality Index*. The Lake Erie Commission meets quarterly and the meetings are open to the public. (Lake Erie Commission, *Lake Erie Protection & Restoration Plan*, Ohio Lake Erie Commission 2000, "Our Mission," p. 1.)

Ohio Lake Erie Watershed: The Ohio Lake Erie Watershed encompasses 11,649 square miles in 35 of Ohio's 88 counties, draining water from 12 major tributaries, into the 4th largest of the Great lakes, and the 12th largest (area) lake in the world. The area is shown on the maps in the frontispiece of this report. (Ohio Department of Natural Resources, "Lake Erie Facts," p. 1.; see www.ohiodnr.com/geosurvey/lakeerie/lefact.htm)

Ordinance: Generically, an ordinance is a law. A "code of ordinances" would include the zoning code of a municipality. Called a "resolution" by townships and counties. (Ohio Constitution, Articles 2, 13, and 18; see http://www.legislature.state.oh.us/constitution.cfm?Part=2)

Point Pollution (Point Source Pollution): ". . . point source pollution is the introduction of an impurity into a surface-water body or aquifer. . . the point source impurity enters the water resource at an easily identifiable, distinct location though a direct route. Discharges from point sources of pollution often are continuous and easier to identify and measure compared to Nonpoint Source Pollution discharges. Because of these properties, point sources are somewhat easier to control, although control measures are usually more expensive compared to NPS controls. . . . Examples of point sources include: industrial plants, commercial businesses and wastewater treatment plants. Point source pollutants are usually municipal or industrial wastes, but are not limited to these." ("Nonpoint Source Pollution: Water Primer," Ohio State University Extension Fact Sheet, 590 Woody Hayes Dr., Columbus, OH 43210, p. 2; see http://ohioline.osu.edu/aex-fact/0465.html)

Prime Farmland: "Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. It must also be available for these uses. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding." (Natural Resources Conservation Service, U. S. Department of Agriculture web site; see http://www.nrcs.usda.gov/technical/land/meta/m2350.html)

Priority Conservation Areas: In this report, Priority Conservation Areas are locally designated areas for protection and restoration. They may be critically important ecological, recreational, heritage, agricultural, and public access areas that are significant for their contribution to Lake Erie water quality and general quality of life. A Watershed Planning Partnership, in consultation with local and state governments, may designate Priority Conservation Areas to be part of a watershed plan.

Priority Development Areas: In this report, Priority Development Areas are locally designated areas where growth and/or redevelopment is to be especially promoted in order to maximize development potential, maximize the efficient use of infrastructure, promote the revitalization of existing cities and towns, and contribute to the restoration of Lake Erie. A Watershed Planning Partnership, in consultation with state and local governments, may designate Priority Development Areas to be part of a watershed plan.

Remedial Action Plans: Established by the Great Lakes Water Quality Agreement with the goal of addressing coordinated cleanup of the worst remaining polluted areas of the Great Lakes. The International Joint Commission, a binational organization of the U.S. and Canada, identified 43 areas of concern in the Great Lakes Basin. These areas were targeted for grassroots community cleanup projects. In Ohio, there are ongoing Remedial Action Plans on the Ashtabula, Cuyahoga, Black, and Maumee rivers. (*A Guide to Developing Local Watershed Action Plans in Ohio*, p. 48.)

Resolutions: See **Ordinance**

Riparian Ecosystems: "Riparian ecosystems are ecosystems with a high water table because of proximity to an aquatic ecosystem or subsurface water. They usually occur as a zone between aquatic and upland ecosystems but have distinct vegetation and soil characteristics. They are uniquely characterized by the combination of high species diversity, high species density, and high productivity. (Mitsch, William J. Wetlands)" ("Glossary of Terms for Clean Ohio Conservation Fund Application and Methodology," Ohio Public Works Commission, October 2001, p. 5; see http://www.co.summit.oh.us/executive/pdfs/ClnOhGloss03.pdf)

Smart Growth: See **Balanced Growth**. In other states, the thinking about the location, design of development, and the conservation of natural resources has gone under the label of "smart growth."

Stormwater Management: Under the National Pollution Discharge Elimination System (NPDES) Phase II, small municipalities and small construction sites previously exempt under NPDES Phase I, are now required to develop and implement storm water management programs. Phase II calls for six "Minimum Control Measures": Public Education and Outreach Program, Public Involvement and Participation, Elimination of Illicit Discharges to separate storm sewer systems, Construction Site Storm Water Runoff Ordinance, Post-Construction Storm Water Management Ordinance, Pollution Prevention, and Good Housekeeping.

Total Maximum Daily Loads (TMDL): Consist of wasteload allocations and load allocations. Wasteload allocations determine the amount of pollutants that can be discharged from point sources without violating water quality standards. Load allocations consider nonpoint sources of pollution. Historically, Total Maximum Daily Loads have focused on reducing loads of pollutants from point sources. (*A Guide to Developing Local Watershed Action Plans in Ohio*, p. 48.)

Transfer of Development Rights (TDR): A land-use tool used in some states, such as Maryland, to guide development away from threatened resources, such as farmland, and toward areas that can accommodate growth. Based on a land owner's bundle of property rights to use, sell, and lease those rights separately, each parcel of land is assigned a specific number of development rights which then can be sold, just like the deed to a property. The buyer can add these acquired "rights" to existing development rights in a designated growth area. From this exchange, the

"sender" realizes payment for the development rights; the land is precluded from future development in perpetuity; and the "receiver" can construct more residential units than the maximum permitted by the growth area's base zone.

Unincorporated: Townships are unincorporated areas – there are 1,373 in Ohio. Municipalities (villages and cities) are incorporated, that is, formed into a legal corporation.

Watershed Balanced Growth Plan: This report recommends that local governments come together within watersheds to create Watershed Balanced Growth Plans. A watershed plan is a framework for coordinated, regional decision-making about how growth and conservation should be promoted by state policies and investments in the context of watersheds. The process is meant to be voluntary, although the state will offer incentives for participation.

Watershed Planning Partnerships: Watershed Planning Partnerships develop Watershed Balanced Growth Plans. The partnerships will be regional entities that, depending on the watershed, can be organized in flexible ways to respond to local conditions and available resources. Their work should be open, inclusive, and focused on consensus-building. The Partnerships can be composed of representatives of local governments, planning agencies, councils of governments, special purpose authorities (such as metropolitan planning organizations, sewer districts, or transit authorities), or non-government organizations (such as watershed organizations, chambers of commerce, or land trusts).