

SCOPE

The Environment Goal addresses a variety of issues regarding the impact of the environment on human activity and the impact of human activity on the environment. These impacts are obvious at times, such as when a forested tract is cleared, and subtle at other times, such as when groundwater is contaminated by leaking underground storage tanks. The identification and minimization of potential impacts from human activity are important aims of the Environment Goal.

KEY CONCEPTS

The Environment Goal seeks to: a) manage impacts of human activity on the environment, b) conserve natural resources to maintain a stable and healthy eco-system, and c) protect public health and safety. Achieving these aims is clearly a challenge for planning and development and in the daily lives of residents and workers. However, the Refinement recognizes the importance of good planning as a means to mitigate negative cumulative impacts of human activity on the environment.

Awareness and understanding of the environment have increased dramatically since the approval of the 1969 General Plan Update. Today, there is a better understanding of how the environment affects human health, how human behavior affects the environment, and how the quality of air, land, and water affect each other. Although a great deal is known, there is still the need to learn more, to monitor conditions to increase understanding of these complex issues, and to be more environmentally sensitive.

ENVIRONMENT

CHANGES FROM THE 1969 GENERAL PLAN UPDATE

The 1969 General Plan Update addressed environmental issues under the Environment Goal and the Conservation Goal. The 1969 objectives and guidelines also included topics such as the preservation of historic buildings and places, which are now covered in other goals in this General Plan Refinement.

The 1969 General Plan Update used the word “environment” in a more general sense than this Refinement does. Included in its possible meanings were natural resources, historic preservation, aesthetic concerns, community design, and orderly growth. The guidelines related to these subjects have been included in other goals. This Refinement refers to “environment” as natural resources and processes, such as water, air, trees, wildlife,

and flooding. In addition, this goal includes the provision of water and sewer service, hazardous materials, and solid waste disposal, which are designed to protect human and environmental health.

A number of new subject areas are addressed under the Environment Goal. The new topics include environmental stewardship, wetland protection, biodiversity, tree preservation, hazardous materials, and energy conservation. In addition, greater emphasis has been placed on stormwater management to reflect its increased importance in the development process. Environmental stewardship focuses on the need to be more aware of the implications of actions on the environment and to take action to care for the environment. The environmental context in which land use decisions are made has changed since 1969 and will continue to change in the

Lake Needwood.



future. The early 1970s were landmark years for federal environmental legislation, which prompted both the State and local governments to take additional actions to protect and clean up the environment. The 1970 Clean Air Act (amended in 1990), the 1970 National Environmental Policy Act, the 1973 Clean Water Act (amended in 1977), and the 1973 Endangered Species Act are part of the federal environmental programs framework. Federal legislation such as the far-reaching Intermodal Surface Transportation Efficiency Act (ISTEA) and the 1990 Clean Air Act amendments has further defined the nation's environmental goals in the 1990s. State and County environmental programs have increased, through legislation such as the Maryland Economic Development, Resource Protection, and Planning Act of 1992. Resulting programs strengthen the protection of the Chesapeake Bay, Potomac and Patuxent Rivers, wetlands, tree cover, and other sensitive environmental features.

Wetland protection has become an increasingly important concern in environmental protection since the 1969 General Plan Update. The role of wetlands in maintaining water quality and wildlife habitat has been acknowledged and protected by the adoption of County, State, and federal regulations.

As areas urbanize and suburbanize, the natural balance of plant and animal life can be disrupted and certain species displaced. The concept of maintaining biodiversity in the County acknowledges the value of retaining a self-sustaining variety of plant and animal life.

The preservation and replacement of the County's forests have become a more important issue. The County was initially deforested in the 19th century as agriculture spread; subsequently, forested lands had increased by the mid-1960s. More recently, suburbanization has reduced the amount of forested land to what it was during the 19th century. The County currently has one of the lowest amounts of forest cover in the Washington Metropolitan Statistical Area. This is due to suburbanization and agricultural use. Recent efforts to preserve trees have included new requirements on the preservation of existing stands of trees and the inclusion of trees along all new roads.

Hazardous materials are used on a daily basis

throughout the County by businesses, government installations, and individuals. Their proper use, storage, and disposal have become an increasing concern in protecting human and environmental safety.

The conservation of energy is a much greater concern now than it was in 1969. Since then, the world experienced an "oil crisis" in both 1973 and 1979. Each of these highlighted the dependence on non-renewable sources of energy. Controlling energy usage now plays an important role in meeting clean air standards. In 1969, the General Plan Update focused on the aesthetics of clean air as it relates to enjoying life and property. This Refinement focuses on the need to clean the County's air to protect public health as well.

INTERRELATIONSHIP WITH OTHER GOALS

Land Use

A number of environmental concerns are reflected in the Land Use Goal. One of these is the need to balance the protection of land in urbanized areas for natural ecosystems with the need for compact communities. Another is the continued usage of water and sewer service and other government services as a means to discourage development in certain portions of the County.

Housing

The recommended Housing Goal, objectives, and strategies advocate the use of flexible design standards and the concentration of development to minimize environmental impacts. Current regulations have been designed, in part, to generally allow for the protection of environmentally sensitive areas while maintaining the number of potential dwelling units permitted on individual properties.

Economic Activity

The recommended Economic Activity Goal, objectives,

and strategies address environmental concepts, such as the concentration of development and the management of the County's resources to facilitate economic vitality and quality of life. This recognizes that environmental quality is important for business and residents. The environmental impacts of economic activity are addressed in the land use, transportation, and environmental sections.

Transportation

The provision of transportation facilities and environmental protection are often considered mutually exclusive. They need not be. The Transportation Goal recommends that degradation of the overall quality of the air, land, and water should be limited when transportation facilities are constructed. In addition, the Transportation Goal recommends the increased usage of and sensitivity to the planning of non-automobile transportation facilities, including sidewalks, bikeways, and transit facilities. Increased awareness of the environmental impacts of the County's transportation system is an important step in resolving the air quality problems facing the region.

Community Identity and Design

The Environment Goal seeks to protect natural resources, while the Community Identity and Design Goal seeks to integrate some of these natural features into communities to provide focal points, character, and improved aesthetic surroundings. One of the balances that must be reached is how to integrate these natural features with development without destroying them. These features can include streams, significant trees, and scenic views.

Regionalism

Many of the environmental challenges facing the County are of a regional nature and require coordinated and complementary solutions by all contributing jurisdictions. On issues such as air quality, the geographic extent of the areas of non-attainment identified by the 1990 Clean Air Act Amendment extends beyond the Washington, D.C. metropolitan area and includes 12 states

and the District of Columbia in an area now referred to as the Northeast Ozone Transport Region. Ozone creating emissions in Virginia affect the County's air quality, which in turn affects Baltimore's air quality, eventually resulting in high ozone levels in Maine. Within the Washington, D.C. region, air quality is addressed by the Metropolitan Washington Air Quality Committee. While Montgomery County may be able to do its part on its own, this alone would not solve the County's air quality problems, nor those of its neighbors. The success of efforts to ensure clean air is clearly dependent on regional cooperation.

Other environmental efforts that are at a regional scale include the Chesapeake Bay clean-up, which is affected by six states from Virginia to New York, and the Potomac and Anacostia rivers clean-up efforts.

Compliance with the Maryland Planning Act of 1992

The Environment Goal responds directly to Vision 2 of the Maryland Planning Act, which requires that sensitive areas be protected, and to the Act's requirement for a "sensitive areas element" in comprehensive plans. It responds to the protection of sensitive areas by providing strategies to encourage public and private protection and restoration of the environment and natural resources. It also recommends reduction in resource consumption, and the protection of natural resources through identification, public acquisition, conservation easements, public education, and citizen involvement. In addition, Objectives 3, 4, 5, and 6, which relate to water quality and plant and animal diversity, address stewardship of the Chesapeake Bay (Vision 4). As steward of Montgomery County's water resources, which eventually flow into the Chesapeake Bay, Montgomery County will fulfill its role as steward of the Bay itself.

GOALS, OBJECTIVES & STRATEGIES

Conserve and protect natural resources to provide a healthy and beautiful environment for present and future generations. Manage the impacts of human activity on our natural resources in a balanced manner to sustain human, plant, and animal life.

OBJECTIVE 1

Promote an awareness of environmental issues and instill a commitment to environmental stewardship.

Strategies

- A. Encourage public and private efforts to conserve, protect, and restore the environment and natural resources.
- B. Encourage environmentally prudent behavior in individual decisions on consumption; travel; yard maintenance; location of homes, work, and other activities; and resource management.

OBJECTIVE 2

Preserve natural areas and features that are ecologically unusual, environmentally sensitive, or possess outstanding natural beauty.

Strategies

- A. Protect natural resources through identification, public acquisition, conservation easements, public education, citizen involvement, and private conservation efforts.
- B. Connect parks and conservation areas to form an open space and conservation-oriented greenway system.
- C. Require open space dedications in new subdivisions that maximize protection of stream valleys and other sensitive environmental features.
- D. Ensure that development guidelines are reviewed periodically to make certain that they are environmentally sensitive and reflect current technologies and knowledge of the environment.

- E. Limit construction on soils and slopes not suited for development.

OBJECTIVE 3

Protect and improve water quality.

Strategies

- A. Implement a comprehensive surface and ground water quality monitoring program.
- B. Limit impacts on water quality by designating compatible land uses near water resources.
- C. Identify and protect recharge areas for aquifers, individual wells, headwater springs, and seeps through land use and innovative control techniques.
- D. Control potentially harmful discharges of point and non-point source pollutants to protect water quality through land use policies.
- E. Manage activities in the Potomac and Patuxent river basins above water supply intakes to prevent pollution that might endanger the region's water supply.
- F. Prevent or mitigate thermal pollution that may be harmful to aquatic life and the general ecology of the County's waters through land use policies.
- G. Control runoff and flooding by minimizing impervious surfaces.
- H. Continue and improve soil conservation.
- I. Require and enforce sediment control during public and private development.

OBJECTIVE 4

Conserve County waterways, wetlands, and sensitive parts of stream valleys to minimize flooding, pollution, sedimentation, and damage to the ecology and to preserve natural beauty and open space.

Strategies

- A. Identify and protect wetlands and other sensitive parts of watersheds.
- B. Continue parkland acquisition in key stream valleys.
- C. Limit the potential damage to life and property from flooding.

goals, objectives and strategies

- D. Prohibit development too close to streams, in the 100-year ultimate floodplain, and in flooding danger reach areas of dams, unless no feasible alternative is available.
- E. Maintain the natural character of drainage areas in the immediate vicinity of streams, rivers, and lakes.
- F. Plant and retain trees and other vegetation near streams.
- G. Minimize impacts from construction and operation of public and private facilities located in stream valleys, buffers, and floodplains; first priority should be given to preserving natural areas (avoidance), second priority to mitigation, and third priority to replacement with functional equivalents.
- H. Develop programs to rehabilitate damaged streams and then to maintain them.
- I. Mandate “no net loss” of wetlands.

OBJECTIVE 5

Maintain water quality and minimize the impacts of sedimentation and erosion through a comprehensive stormwater management program.

Strategies

- A. Encourage the use of techniques to minimize the need for structural stormwater management facilities, particularly in areas that are not already adequately served.
- B. Encourage the use of vegetated swales or other appropriate techniques, wherever practical, rather than enclosed pipes or concrete swales to carry stormwater runoff, to maximize infiltration and to minimize water velocity and erosion.
- C. Use redundant stormwater management facilities to minimize the impact of new development on water quality.
- D. Require the use of Best Management Practices and stormwater management facilities, with particular emphasis during construction and in agricultural areas, and limit waivers where on-site controls are feasible, practical, and appropriate.
- E. Ensure stormwater management adequate to treat water quantity, temperature, sediment loadings, and

concentrated pollutants from surface runoff.

- F. Develop a County-wide maintenance program for public stormwater management facilities and require private maintenance of private facilities.

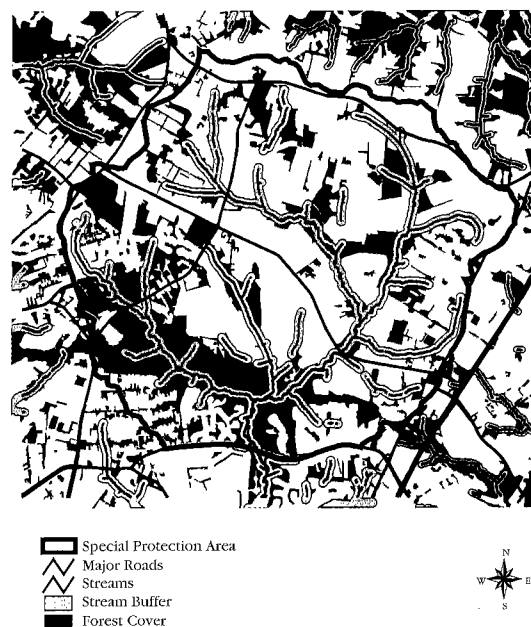
OBJECTIVE 6

Preserve and enhance a diversity of plant and animal species in self-sustaining concentrations.

Strategies

- A. Determine and protect the land and water masses and linkages necessary to support a diversity of species in self-sustaining concentrations.
- B. Identify areas that have the most species needing protection.
- C. Plan a system of parks, conservation areas, subdivision open space, and easements to support a diversity of species in self-sustaining concentrations.
- D. Ensure protection of environmentally sensitive habitats and unbuildable land through the master plan and development review process.
- E. Minimize forest fragmentation to protect habitat continuity.

FIGURE 15 The Paint Branch Special Protection Area



OBJECTIVE 7

Protect and improve air quality.

Strategies

- A. Attain federal air quality standards.
- B. Promote improved air quality through land use planning and regulation; where possible, consider the effects of land use proposals on air quality.
- C. Identify land use policies that support environmentally preferable travel alternatives.
- D. Develop land use policies to save energy and improve energy conservation.

OBJECTIVE 8

Increase and conserve the County's forests and trees.

Strategies

- A. Identify and designate forest preservation and tree planting areas.
- B. Ensure forestland conservation, tree planting, and related maintenance in all new development.
- C. Provide for increased tree cover and maintenance in urban and suburban areas and along transportation rights-of-way.
- D. Encourage private and public landowners to protect existing trees and to plant additional environmentally appropriate and native trees on their properties.

OBJECTIVE 9

Provide an adequate, self-sufficient, well-monitored, and ecologically sound system for the management of Montgomery County's solid wastes.

Strategies

- A. Provide appropriate industrially zoned land necessary to support present and future waste management facilities, including local recycling.
- B. Consider land use implications when developing a comprehensive solid waste management program.
- C. Minimize the environmental and other negative

impacts of facilities that handle waste products through proper siting and design.

- D. Explore source reduction of waste through means such as charging collection fees in proportion to the amount of trash produced.
- E. Increase and promote the public and private use of recycled goods so that the amount of land devoted to landfills is minimized.
- F. Cooperate with neighboring jurisdictions in devising regional waste management strategies so that land use efficient solutions to waste management can be achieved.

OBJECTIVE 10

Protect residents and workers from unacceptable noise levels.

Strategies

- A. Recommend noise-compatible land uses in areas where noise levels are unacceptable for certain land uses.
- B. Minimize noise impacts on new development through noise reduction techniques in site design, such as the strategic location of noise tolerant land uses, building location, and orientation.
- C. Encourage protection of existing development from unacceptable noise through noise walls, berms, or other techniques.

OBJECTIVE 11

Provide and maintain high quality water and sewerage systems with minimal environmental impacts, constructed in advance of or in conjunction with development in a cost effective manner.

Strategies

- A. Coordinate and stage the extension of community water and sewer service through the Ten-Year Water and Sewerage Plan consistent with the master plan and sectional map amendment process.

goals, objectives and strategies

- B. Coordinate water and sewer extensions with other public facilities.
- C. Locate and design water and sewage transmission lines, pumping stations, and other facilities to minimize environmental and odoriferous impacts and provide visual screening.
- D. Address existing health problems in areas outside the Ten-Year Water and Sewerage Plan service area through local community water and sewer systems or other techniques.
- E. Designate controlled access water and sewer mains in selected areas to facilitate master planned development or to address existing public health problems.
- F. Acquire sufficient land for future water storage, water treatment, sewage treatment facilities, buffers, and sludge disposition and processing.
- G. Ensure a sufficient emergency supply of water by providing land for lakes or other storage facilities.
- H. Designate land use patterns that minimize impacts on watersheds and, where possible, reduce the need for additional sewage pumping stations.
- I. Encourage landscaping with native and drought resistant plants to conserve water.
- J. Review size, location, and environment and fiscal impacts of sewer and water facilities in connection with land use decisions in master plans.

OBJECTIVE 12

Minimize the adverse effects of public utilities on the environment and on public health and safety.

Strategies

- A. Maximize the use of common rights-of-way for utility and transportation systems wherever feasible.
- B. Ensure that new utilities are installed underground as required by the Maryland Public Service Commission.
- C. Develop a plan in cooperation with the Maryland Public Service Commission to convert overhead utility lines to underground installation where feasible.

- D. Ensure reliable utility service by minimizing potential disruptions from natural events and human interference through protective measures such as the proper location of transmission facilities.
- E. Minimize the impact of sewer and water lines on streams.

OBJECTIVE 13

Promote the efficient use of energy and plan for the County's long-term energy needs.

Strategies

- A. Encourage the location of housing, employment, and shopping in proximity to each other and to transit facilities and services to reduce travel distances and promote energy conservation.
- B. Consider energy conservation practices during master plan, subdivision, site plan, and mandatory referral review.
- C. Encourage environmentally preferable alternatives to fossil fuel consumption such as solar power.
- D. Promote the development of facilities that encourage cycling, walking, and the use of transit and other high occupancy vehicles.

OBJECTIVE 14

Provide for the wise use of mineral resources and protect life and property from associated hazards.

Strategies

- A. Locate and plan for possible extraction of marketable mineral resources.
- B. Ensure that extraction of mineral resources is compatible with neighboring land uses and that adequate operating controls are provided.
- C. Require adequate buffering between extraction operations and their neighboring land uses.
- D. Require the restoration or adaptive reuse of extraction sites.