



**Watershed Restoration
Action Strategy**

April 2002

MIDDLE CHESTER RIVER
Watershed Restoration Action Strategies

The Kent County Department of Planning and Zoning would like to thank the following people who participated in the development of the Middle Chester River Watershed Restoration Action Strategy:

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MIDDLE CHESTER RIVER

Watershed Restoration Action Strategies

Tackling Middle Chester Water Quality

In the winter of 1999, the Maryland Department of Natural Resources invited Maryland Counties to participate in an initiative to develop and implement restoration action strategies for certain watersheds identified in the Clean Water Action Plan. These strategies developed with citizens, businesses, the agricultural community, and non-profit groups will serve as a blue print for restoring and maintaining the watershed's key environmental resources, including water quality and aquatic and terrestrial resources.

The Maryland Clean Water Action Plan identified four watersheds in Kent County that are in need of restoration: Langford Creek, Sassafras River, Stillpond - Fairlee, and Middle Chester River. The Middle Chester, because of its diverse nature, provides a unique opportunity to develop both urban, suburban, and rural best management practices. These diverse practices can serve as a model to other impaired waterways in the region. Besides several small, unnamed creeks, the watershed includes the urban and suburban influences of Chestertown on Radcliffe Creek; the agricultural influences on Morgan Creek; and the approximately 25-acre eutrophic Urieville Lake. Kent County recognizes that the quality of life its citizens enjoy and its economic prosperity is directly linked to the quality of its rivers and particularly to the Middle Chester Watershed.

Purpose

The purpose of these action strategies is to develop a plan to improve the water quality of the Middle Chester so that the watershed is removed from the list of impaired waters. The Plan places particular emphasis on Urieville Lake, Morgan and Radcliffe

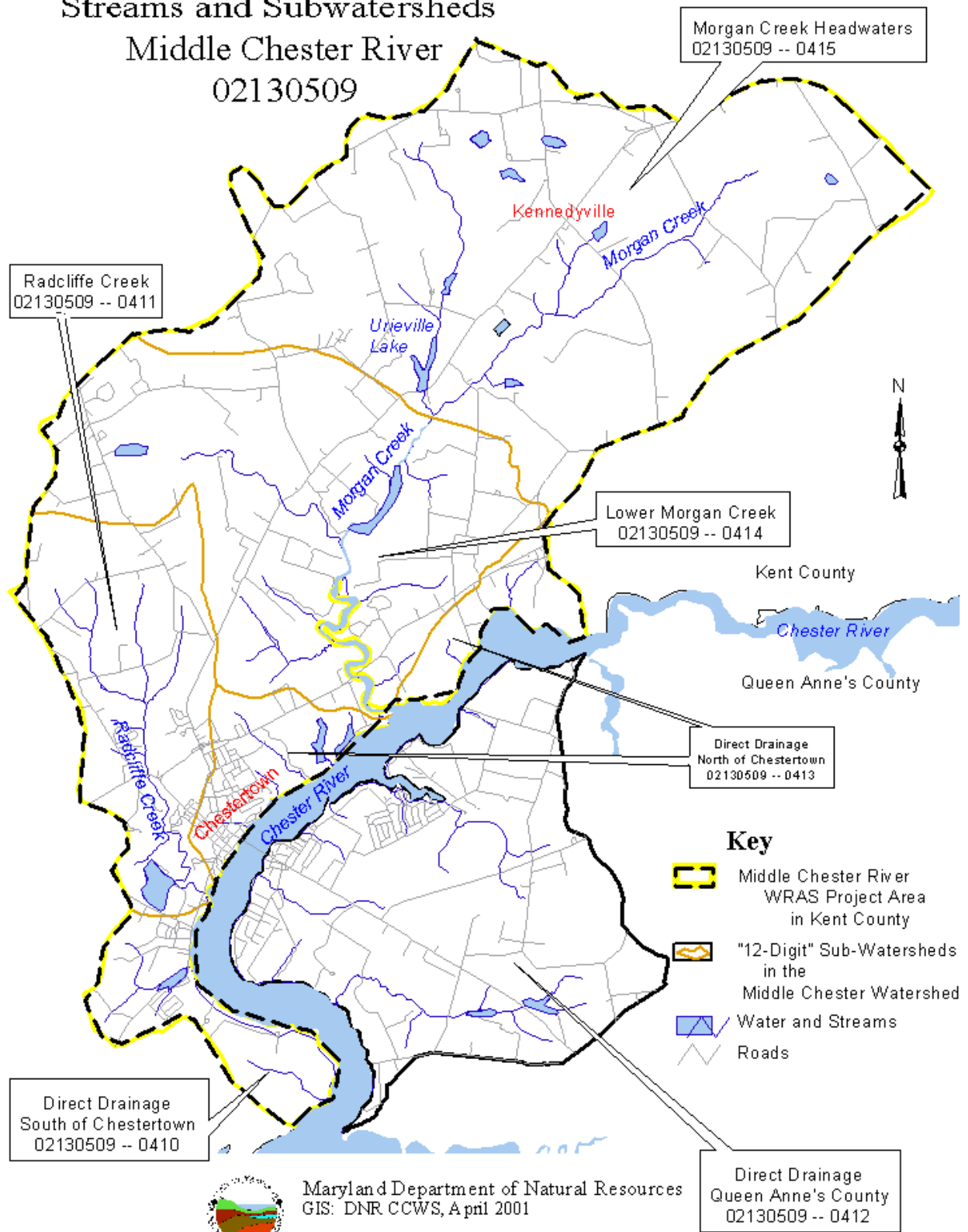
Creeks. It is also a long term goal to return these waters to a point where submerged aquatic vegetation and other important fish and wildlife habitats can be supported and restored. These strategies developed with citizens, businesses, the agricultural community, and non-profit groups will serve as a blueprint for restoring and maintaining the watershed's key environmental resources, including water quality and aquatic and terrestrial resources.

Creating the Strategies

The Middle Chester Watershed Steering Committee has prepared these strategies to guide local and regional initiatives aimed at improving conditions and conserving resources in the 29,600-acre watershed. The strategies offer a vision and goals for the watershed's future, a toolkit of strategies, and an implementation plan. The Committee identified a variety of activities so that all residents, whether they live in a town or village, subdivision, or farm, can contribute to the improvement of the watershed.

The Middle Chester Watershed Steering Committee is a unique partnership between state and local governments, the Kent Natural Resources Conservation District, the Upper Eastern Shore Tributary Strategy Team, the Chester River Association, the Kent and Queen Anne's Forestry Board, and the residents of the watershed. Active community involvement was a central feature of the planning process with county staff meeting with community and conservation organizations, interviews with key stakeholders, briefings with public officials, and outreach to the residents of the watershed. Grants from the Chesapeake Bay Trust and the Coastal Zone Management Program funded, in part, these planning activities.

Streams and Subwatersheds Middle Chester River 02130509



Maryland Department of Natural Resources
GIS: DNR CCWS, April 2001

A Profile of the Chester

The Kent County portion of the Middle Chester watershed consists of several small, unnamed streams draining directly to the Chester River and two larger diverse watersheds – Radcliffe and Morgan Creeks. Urieville Lake is within the Morgan Creek watershed. Approximately 29,600 acres are in the Kent County portion of the watershed.

Chestertown is in the Radcliffe Creek watershed, which is the smaller and more developed watershed. This subwatershed drains approximately 4,030 acres. Since significant growth is planned for the Radcliffe Creek watershed, the strategies will identify measures that counterbalance the effects of growth on stream quality.

Agricultural uses predominate the Morgan Creek watershed although several small villages and two industrial areas are in the watershed. The Morgan Creek watershed drains approximately 22,000 acres. Some of the County’s most productive farmland is within this watershed.

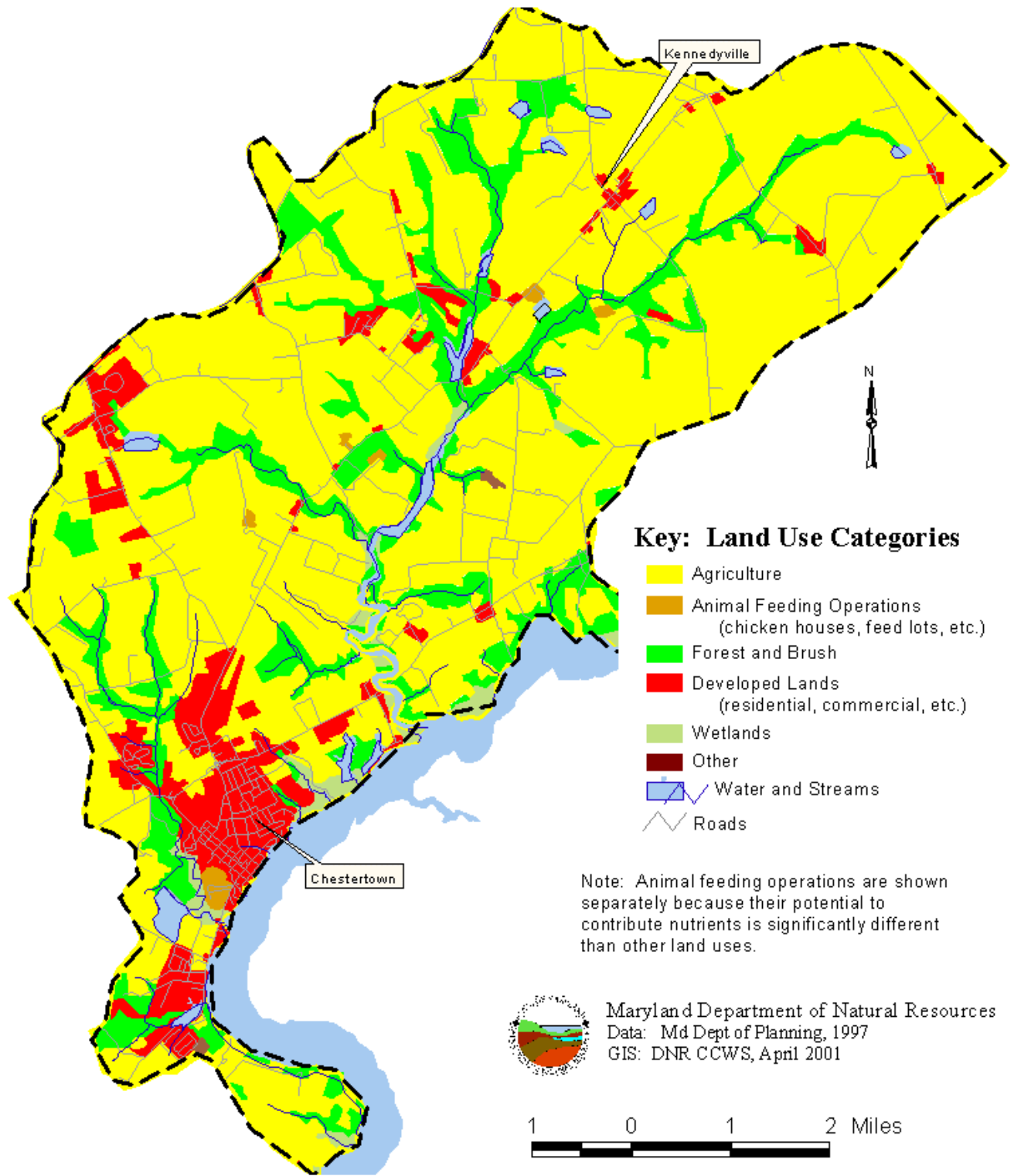
Since the spring of 2000, the Steering Committee has been working with the Maryland Department of Natural Resources to develop a profile of the Middle Chester Watershed. The profile is a compilation of existing water quality and habitat data. It is intended to be a starting point supplemented by other water quality surveys and stream assessments. The profile will be maintained as a living document that is updated as the watershed is monitored and conditions change. The following is a brief summary of the general conditions of the watershed. The complete profile is available at the Kent County Public Library, Kent County Department of Planning & Zoning and the Maryland Department of Natural Resources “Surf Your Watershed” webpage (www.dnr.state.md.us/watersheds/surf/index.html).



1997 Land Use

Category	Description	1997 Acres
Agriculture	Cropland, Pasture, Ag. Buildings	22,360
Forest	All woodlands and brush	4,272
Urban	All developed acres	2,461
Wetlands	Tidal and Emergent	506
Other	Gravel Pits & other bare ground	26
Total (Excluding open water)		29,625

1997 Generalized Land Use Middle Chester Watershed



Water Quality

Water quality in the Middle Chester is generally poor. However, several water quality parameters, including water clarity, algae, and phosphorus, show a recent trend toward improvement. Water clarity in the Chester River main stem in the vicinity of the Middle Chester was the worst of any of the Bay's tidal segments during the 1992-1997 time frame. This condition means that submerged aquatic vegetation (SAV) cannot grow unless the water clarity is improved.

Dissolved oxygen (DO) shows a range of conditions. In the river, DO consistently meets or exceeds the water quality standard. However, the limited sampling of nontidal streams shows a level of DO in the summer that stresses or eliminates some aquatic life. Urieville Lake shows extremely low DO concentrations, levels at which many species of aquatic life cannot survive.

Six permitted surface water discharges and two permitted groundwater discharges have been approved by the Maryland Department of the Environment in the Middle Chester. These include the wastewater treatment plants in Chestertown, Kennedyville, and Worton-Butlertown. Chestertown has agreed to upgrade its plant with Biological Nutrient Removal (BNR) technology to reduce nutrient levels in the plant's discharge. The greatest benefit of using this technology is the reduction of total nitrogen in the effluent.

Water Quality Parameters

Parameter	Status - 1997 to 1999 Data	Trend 1985 to 1999
Total Nitrogen	Poor	No Trend
Total Phosphorus	Poor	Improving (29%)
Algae: Abundance	Poor	Improving (22%)
Dissolved Oxygen (Summer, Bottom Waters)	Poor	No Trend
Water Clarity	Poor	Improving (53%)
Suspended Solids: Total	Poor	No Trend



Land Use

The Maryland Department of Natural Resources has developed a series of indicators that can be used to gauge the effects of land use on water quality, including the total amount of impervious surfaces and population density which are both indicators of development, as well as wetland loss and soil erodibility.

The soil erodibility indicator accounts for the natural conditions of the land but not for the management of the land. Many best management practices are in effect in the Middle Chester watershed. Although most farms in the watershed employ best management practices, the restoration strategies present an opportunity to implement comprehensive management plans on all farms and to help farmers incorporate precision farming.

The historic wetland loss estimate is based on the assumption that all the hydric soils in the watershed (approximately 13,000 acres) were once all wetlands. The large amount of hydric soil in the watershed indicates great potential for wetland creation and restoration. Strategic replacement of wetlands can significantly improve the natural functions of wetlands and the overall water quality of the watershed.

Of the 138 watersheds in Maryland, the Middle Chester is among those with the least impervious surface, the lowest population density, the least wetland loss, and the highest soil erodibility.

Land Use Indicators

Landscape Indicator	Finding	Rank	Bench Mark
Impervious Surfaces	3.7% of watershed is impervious	Pass	Of the 138 watersheds in Maryland, the Middle Chester is among the watersheds with the least impervious surface
Population Density	0.11 people per acre	Pass	Of the 138 watersheds in Maryland, the Middle Chester is among the watersheds with the lowest population density
Historic Wetland Loss Density (Estimate)	13,226 acres	Pass	Of the 138 watersheds in Maryland, the Middle Chester is among the watersheds with the least wetland loss
Soil Erodibility	0.30 value per acre	Fail	Of the 138 watersheds in Maryland, the Middle Chester is among those with the highest soil erodibility. (Soil erodibility is a natural condition)

Living Resources

Aquatic resources are sensitive, in varying degrees, to changes in water quality and aquatic habitat, which is why the status of selected species can be used to gauge local conditions. Improvements in living resources offer opportunities to gauge progress. Compared with other watersheds in Maryland, the Middle Chester watershed exhibits poor conditions for submerged aquatic vegetation and bottom dwelling organisms. The 1998 Maryland Clean Water Action Plan listed the following indicators for the Middle Chester Watershed.



Living Resources Indicators

Living Resources Indicator	Score	Rank	Bench Mark
SAV Abundance Index	1.00	Fail	Scale of 1 (worst) to 10 (best)
SAV Habitat Index	3.00	Fail	Scale of 1 (worst) to 10 (best)
Nontidal Benthic Index of Biotic Integrity - "Bottom Dwelling Bugs"	3.59	Fail	Scale of 1 (worst) to 10 (best) An index less than 6 indicates that benthic organisms are significantly stressed by local conditions
Nontidal Fish Index of Biotic Integrity	7.50	Pass	Streams scoring less than 6 were designated in need of restoration. Streams scoring 8 or above were designated in need of protection
Nontidal In-stream Habitat Index	3.89	Pass	Of the 138 watersheds in Maryland, the 34 with the lowest index received a rank of fail and were designated in need of restoration. The top 34 were designated in need of protection

Vision and Goals

Kent County recognizes the importance of developing a series of indicators to measure the success of the program. Although these indicators may measure the success of individual programs such as acres planted or citizens contacted, the health and vitality of the watershed's living resources will be the ultimate indicator of the Plan's success.

Four primary considerations guided planning for the Middle Chester watershed:

- 1) The County's long term goal of restoring the watershed to a point where aquatic and terrestrial organisms can thrive;
- 2) The removal of the watershed from the impaired list;
- 3) Agriculture remaining a strong presence in the watershed;
- 4) Significant growth occurring in some portions of the watershed.

The plan also seeks to set realistic goals based on a historical perspective. This watershed plan strives to strike a careful balance between improving and conserving sensitive resources with the economic realities of agriculture and growth management.

In developing the strategies, the Steering Committee identified several goals to guide the development and implementation of the strategies. These goals include:

- Achieve and maintain the water quality necessary to support the watershed's aquatic living resources.
- Preserve, protect, and restore those habitats and natural areas that are vital to the living resources of the watershed.
- Support agriculture as a business and a way of life including the protection and preservation of agriculture and forest lands and the continued promotion of sound agricultural and forest management practices.
- Promote sound development practices in the designated growth areas of Chestertown, Worton, and Kennedyville.
- Develop advocates for the health of the Middle Chester
- Address the water quality issues in Urieville Lake.

Restoration of the Watershed

In preparing the strategies, the Committee studied a wide range of restoration programs, efforts, and tools aimed at the conservation and restoration of the watershed. The following general factors were considered in the evaluation of potential strategies and tools:

- Effectiveness in meeting the overall goals for the restoration of the watershed.
- Compatibility with local programs, initiatives, and policies.
- Capacity of the partners to carry out strategies
- Appropriateness given local sensitivities concerning the use of private lands.

Upon careful review, the Committee agreed that the strategies should focus on five general areas:

- 1) Agriculture and Forest Best Management Practices,
- 2) Sound development practices including homeowner best management practices,
- 3) Improved water quality at Urieville Lake,
- 4) Stream and habitat restoration, and
- 5) Other initiatives for developing advocates for the Middle Chester.

Outreach, education, tracking, and continued water quality monitoring have a role in each of these areas.

➤ Agriculture and Forest Strategies ➤

Kent County is committed to the support of agriculture and forestry as a business and way of life. Some of the region's most productive farmland is within the Middle Chester Watershed. In many areas farmland is viewed as an interim use or open space that merely adds to the rural character of the area. In Kent County, and in the Middle Chester watershed in particular, agriculture is viewed as a permanent and preferred land use. The strategies developed for agricultural and forest lands are designed to be compatible with the idea that agriculture is an important business in the watershed. Working with the agricultural community to maintain a strong agricultural presence while promoting sustainable best management practices is key to the restoration of the watershed.

Preserve Important Agricultural Lands

Kent County will focus its efforts to promote participation in land preservation programs, such as the Maryland Agricultural Land Preservation Foundation (MALPF), to properties in the watershed and will investigate other programs for agricultural preservation. In 2001, the Kent County Agricultural Advisory Commission identified those agricultural lands in the watershed that are essential for the continuation of agriculture in Kent County. As of February 2002, 18.5 percent of the agricultural lands in the watershed are protected – 2,754 acres are under easement and another 2,309 acres are in MALPF Districts. By 2020, the County will seek to have at least 50% of the farms identified as essential to the continuance of agriculture, or approximately 13,400 acres, under easement, in a district or preserved by other means. To accomplish this goal, the County and its partners must reach out to property owners and promote the advantages of participating in the program.

Lead Agency:	Kent County Department of Planning and Zoning
Cooperators:	Kent Soil and Water Conservation District Eastern Shore Land Conservancy Maryland Agricultural Land Preservation Foundation
Time Frame:	Ongoing
Costs:	\$1500 to \$2000 per acre Outreach, Program Administration, and Other - \$2000 per year

landowners, farmers, and the community through tours throughout the day. If applicable, other agencies, such as the Kent County Forestry Board, will demonstrate buffer planting, forestry best management practices, wetland restoration, and stream restoration.

Lead Agency:	Kent Soil and Water Conservation District
Cooperators:	LICA Kent County Forestry Board Kent County Department of Planning and Zoning Upper Eastern Shore Tributary Strategy Team Kent County Cooperative Extension Service
Time Frame:	Spring 2003
Costs:	Will vary according to the practices installed

Develop Comprehensive Farm Management Plans

The Kent Soil and Water Conservation District will promote sound management of agricultural and forest lands by developing and updating comprehensive management plans for all farms in the watershed. Although most farms in the watershed employ best management practices, the strategies represent an opportunity to implement comprehensive management and to update existing practices on all farms. Comprehensive management means coordinated nutrient and erosion control practices. Additional funding is necessary to provide technical assistance in preparing the plans and cost share for implementing the plans.

Promote Conservation Programs

The Kent Soil and Water Conservation District will encourage participation in the Conservation Reserve Program and Conservation Reserve and Enhancement Program. In addition, the partners will keep abreast of new incentive programs designed to promote sustainable agriculture and forestry. When these programs become available, the partners will promote the watershed as a potential demonstration area.

Lead Agency:	Kent Soil and Water Conservation District
Cooperators:	Kent County Cooperative Extension Service
Time Frame:	Ongoing

Lead Agency:	Kent Soil and Water Conservation District
Cooperators:	Kent County Forestry Board Kent County Department of Planning and Zoning Chester River Association
Time Frame:	Ongoing

Hold an Agricultural and Habitat Restoration Field Day

The Kent Soil and Water Conservation District will invite local farmers, landowners, and land improvement contractors to an agricultural and habitat restoration field day. After soliciting a cooperating farmer in the watershed, the District will design best management practices, which the Land Improvement Contractors Association (LICA) will install during a demonstration field day. New and proven practices will be introduced to contractors,

Promote Precision Farming

Members of the steering committee will meet with the agricultural community and agricultural support businesses to see what types of assistance, if any, are necessary to help farmers incorporate precision farming. Precision farming combines the use of

GPS, field soil testing, and yield monitoring to precisely apply fertilizer to crops at a rate appropriate to the crop and soil productivity. This technology, while extremely expensive, has the potential to reduce the amount of excess nutrients leaving agricultural fields.

Lead Agency:	Kent Soil and Water Conservation District
Cooperators:	Kent County Forestry Board Kent County Department of Planning and Zoning Chester River Association Kent County Cooperative Extension Service
Time Frame:	Ongoing

Encourage Sustainable Woodland and Forest Practices

The Kent County Forestry Board and the Kent and Queen Anne’s Foresters will work with landowners to develop forest management and harvest practices that maintain sustainable yields of forest products. These organizations will encourage landowners to develop forest management plans that address both a continuing forest industry and improved wildlife habitat. Where appropriate, these organizations will work with the Coverts Project which has a goal of managing forest for improved wildlife habitat and diversity.

Lead Agency:	Kent and Queens Anne’s Forestry Division
Cooperators:	Kent County Forestry Board Kent Soil and Water Conservation District Kent County Department of Planning and Zoning
Time Frame:	Ongoing

Increase the Acreage of Forest and Riparian Buffers

The Kent County Forestry Board will work with landowners in the watershed to plant riparian buffers and expand existing forest with a goal of creating five acres of new forest and buffers every year for the next 5 years.

Lead Agency:	Kent and Queens Anne’s Forestry Division
Cooperators:	Kent County Forestry Board Kent Soil and Water Conservation District Kent County Department of Planning and Zoning
Time Frame:	Ongoing
Costs:	\$750 per acre

Development and Homeowner Strategies

Significant growth is planned for portions of the watershed particularly in and around Chestertown. Members of the Steering Committee acknowledge that this growth can only be sustainable if developers and the county work together to promote sound, environmentally-sensitive development practices. Much of the County’s existing population live in the Radcliffe Creek watershed. Therefore, homeowner education illustrating how individual actions affect the watershed is essential. Public access to the creeks and streams should be improved so that the connection between individual actions and water quality are visible to the residents of the area and the residents feel a sense of pride and responsibility for the waterways. As the County and Town continue to grow, closely monitoring the amount of impervious surfaces in the subwatershed and implementing practices to mitigate the impact of increasing percentages of impervious surfaces are necessary if these strategies are to be successful.

Encourage Conservation Subdivision

Kent County will review its ordinances to encourage or offer incentives to developers to use

conservation subdivision techniques when creating new subdivisions in designated growth areas. Conservation subdivision simply rearranges the development on a parcel as it is planned so that one-half or more of the parcel remains in open space. This design technique not only uses low impact development measures but also contributes significantly to the corridor and buffer goals of this strategy. In the long term, conservation subdivision design can protect blocks and corridors of open space, reduce the amount of impervious surfaces, and reduce the impact of future growth on the watershed.

Lead Agency:	Kent County Department of Planning and Zoning
Cooperators:	Kent County Developers
Time Frame:	Spring 2003

Increase Public Access – Radcliffe Creek Trail System

Chestertown has recently completed a pedestrian trail plan that crosses and is adjacent to Radcliffe Creek. This trail system will focus attention on the Creek, which runs through the Town but receives little attention. Public access to the Creek will directly connect the citizens of Chestertown to the Middle Chester Watershed

Lead Agency:	Town of Chestertown
Cooperators:	Kent County Chestertown Waterfront and Parks and Recreation Committee
Time Frame:	Ongoing
Costs:	\$1,000,000



Encourage Infill Development

Infill development refers to new development in existing communities on vacant, bypassed, or underutilized land where infrastructure is already in place. Infill also includes the redevelopment of lots in existing communities. By filling the gaps in existing communities, infill plays a critical role in achieving community revitalization, resource and land conservation, and alternatives to sprawl. Kent County and Chestertown will review their ordinances, plans, and policies and if necessary incorporate language that helps to facilitate infill development.

Lead Agency:	Kent County Department of Planning and Zoning Chestertown Planning Commission
Cooperators:	Kent County Developers
Time Frame:	Spring 2003

Monitor Impervious Surfaces & Develop Mitigation Strategies

Currently about 6.6 percent of the land within the Radcliffe Creek Subwatershed is impervious. Growth pressures in the watershed are expected to increase as Chestertown is the County's largest town, and largest growth area. Assuming that all properties are developed at the maximum density permitted under current zoning the percentage of impervious surfaces will increase to 15 percent. Given this potential increase in impervious surfaces, it is important to identify and implement measures to reduce the amount of impervious surfaces. Development and homeowner best management practices such as infill, conservation subdivision, septic maintenance, limited clearing and grading, homeowner education concerning fertilizer use, smaller parking lots, enhanced stormwater treatment practices, and increased vegetated buffers help to mitigate the impact in the increase in impervious surfaces.

Lead Agency:	Kent County Department of Planning and Zoning Town of Chestertown
Cooperators:	Kent County Citizens, Homeowners, Builders, and Developers Kent County Forestry Board Chester River Association Upper Eastern Shore Tributary Strategy Team
Time Frame:	Ongoing

Continue Landowner Outreach

Kent County recognizes that the cumulative benefit from individual actions can contribute to the health and well-being of neighborhood streams and rivers. Kent County will develop an information packet concerning bayscapes and planting of native species; calculation of fertilizer use; septic system maintenance; water leakage test kits, and soil test kits. These information packets will be distributed with building permits in the watershed.

Lead Agency:	Kent County Department of Planning and Zoning
Cooperators:	Chesapeake Bay Trust
Time Frame:	Ongoing
Costs:	\$9,000

Promote Stormwater Retrofits

Kent County and its partners will review existing stormwater management facilities and practices and investigate innovative methods to retrofit these facilities to include enhanced water quality benefits.

Lead Agency:	Kent County Department of Planning and Zoning
Cooperators:	Kent County Forestry Board Kent Soil and Water Conservation District
Time Frame:	Ongoing
Costs:	Unknown

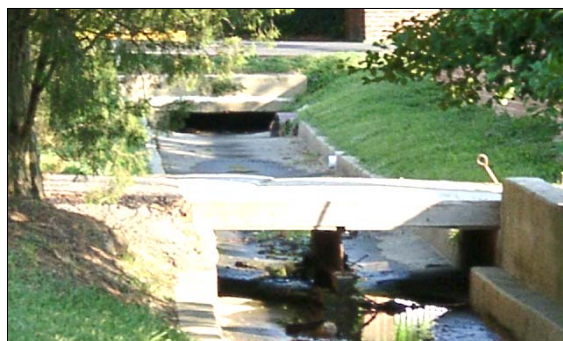
Promote Boating Best Management Practices

Although the impact of discharges or wastes from boating and boatyards represents a relatively minor, though highly visible, impact on the watershed as a whole, boat discharges in areas where boats tend to congregate have the potential to exacerbate nutrient enrichment problems. On the Kent County side of the Middle Chester River, there are two marinas, the college dock, and the country club dock. Many additional boats are moored or docked at private residences in the watershed, and Chestertown is a popular destination for the many boats the cruise

Reduce Nutrients from Wastewater Treatment Plants

Of the six permitted surface water discharges and two permitted groundwater discharges in the Middle Chester, three are for the wastewater treatment plants in Chestertown, Kennedyville, and Worton-Butlertown. Chestertown has agreed to upgrade its plant with Biological Nutrient Removal (BNR) technology to reduce nutrient levels in the plant's discharge. The greatest benefit of using this technology is the reduction of total nitrogen in the effluent. While it is not financially feasible to incorporate BNR at the smaller treatment plants. The Committee will keep abreast of new technology and encourage these smaller plants to look for innovative ways to reduce the nutrients from the effluent.

Lead Agency:	Town of Chestertown Kent County Department of Water and Wastewater
Cooperators:	Maryland Department of the Environment
Time Frame:	Chestertown BNR - 2003
Costs:	Chestertown BNR - \$1,500,000



throughout the Bay during the spring, summer and fall. Therefore, the Committee agreed that boating contributions to the water quality challenges of the watershed should be targeted and reduced as much as possible by:

- Increasing programs for solid and hazardous waste collection.
- Encouraging marinas and boatyards to adopt practices identified in the Maryland Clean Marina Program.
- Providing adequate pumpout facilities.
- Providing broad-based education concerning the effects of overboard discharge, the location, use, and utility of pumpout stations, and the potential impact of other boating related pollutants.
- Encouraging marinas, community piers, and other boating facilities to adopt policies that prohibit overboard discharge where boats are moored or docked.

Lead Agency:	Kent County Department of Planning and Zoning Town of Chestertown
Cooperators:	Kent County Citizens, Boat Owners, and Local Boating Facilities Chester River Association Upper Eastern Shore Tributary Strategy Team
Time Frame:	Ongoing

➤ Urieville Lake Strategies ➤

Urieville Lake is a small Y-shaped lake near Kennedyville and lies on Morgan Creek. The lake, which is owned by the Maryland Department of Natural Resources, was constructed prior to the Revolutionary War and originally served as a mill pond. The dam at Urieville Lake designates the dividing line between tidal and nontidal waters in Morgan Creek. A TMDL for Urieville Lake was completed in 1999.

The TMDL for Urieville Lake and the Middle Chester Watershed Characterization identify Urieville Lake as a priority for restoration. The lake is impacted by a high sediment load, which has resulted in excessive sedimentation of the reservoir. The lake also experiences regular seasonal nuisance algae blooms, excessive plant growth, and foul odors. Regular fish kills at the lake are attributed to low dissolved oxygen. The water quality of Urieville Lake has a direct and significant affect on the overall water quality of Morgan Creek and the Middle Chester.

While many concerned citizens and agencies have vowed to correct the problems at Urieville Lake, suggested solutions have proven controversial or cost prohibitive. To resolve these issues, the Steering Committee proposes a three-step approach:

- 1) Conduct a stream survey of the tributaries to the Lake;
- 2) Hold a series of forums to provide an in depth review of the problems of the lake and provide facilitation to reach a consensus-based restoration plan for the Lake; and
- 3) Seek funding to correct the problems found in the stream survey and to implement the restoration plan.



Conduct a Stream Survey

The Kent Soil and Water Conservation District and Washington College propose to walk the streams in the Urieville Lake watershed. Staff of the District and students will identify areas for improvement and opportunities to plant additional riparian buffers.

Lead Agency:	Kent Soil and Water Conservation District
Cooperators:	Washington College Center for the Environment and Society Upper Eastern Shore Tributary Strategy Team Kent County Department of Planning and Zoning
Time Frame:	February 2002 - July 2002
Costs:	\$20,000

Hold Watershed Forums

Kent County and its partners will hold a series of forums concerning Urieville Lake. Topics may include an in-depth review of problems and solutions by the scientific community, and a history of the lake. The initial forums will provide the background necessary to develop a detailed consensus-based restoration plan for the lake at the final facilitated meeting.

Lead Agency:	Kent County Department of Planning and Zoning
Cooperators:	Kent Soil and Water Conservation District Washington College Center for the Environment and Society Upper Eastern Shore Tributary Strategy Team Chester River Association Maryland Department of Natural Resources Maryland Nonpoint Source Program
Time Frame:	May 2002 - December 2002
Costs:	\$10,000

Implement the Restoration Strategy

Once a restoration plan has been developed, the partners will look for means to implement the plan.

Lead Agency:	Kent Soil and Water Conservation District
Cooperators:	Kent County Department of Planning and Zoning Washington College Center for the Environment and Society Upper Eastern Shore Tributary Strategy Team Chester River Association
Time Frame:	Unknown

Stream and Habitat Restoration

The steering committee recognizes the interconnectedness between the natural systems of the watershed and its water quality. Stream and habitat restoration provides opportunities for early, tangible, and visible results. Stream restoration, innovative erosion control, wetland restoration, and the planting of forest and buffers are not only effective means to reduce nutrient loads in the watershed but to improve habitat for living resources. Areas of restoration and creation have the potential to become demonstration sites for other areas in the region.

Target Areas for Stream and Habitat Restoration

The Committee's efforts will focus on the following:

- Starting with the first order streams continue the Stream Corridor Assessment for Radcliffe and Morgan Creeks.
- Prioritize issues identified in the Stream Corridor Assessment.
- Work with property owners to enhance habitat.
- Identify opportunities to increase buffers and restore or create new wetlands in the area of special concern on Morgan Creek.

Lead Agency:	Kent Soil and Water Conservation District
Cooperators:	Kent County Department of Planning and Zoning Washington College Center for the Environment and Society Upper Eastern Shore Tributary Strategy Team Chester River Association Kent County Forestry Board
Time Frame:	Ongoing

🌀 Other Initiatives for Developing 🌀 Advocates for the Middle Chester

Chester Riverkeeper

Local volunteers have spent at least 15 years improving habitat, monitoring water quality, and providing education about the river to local citizens. Now the Chester River Association proposes to bring a full time Riverkeeper to the Chester. A Riverkeeper will be the eyes and ears on the river providing a clearer sense of where to focus volunteer efforts. The Chester Riverkeeper will play a major role in seeing that the goals of this watershed restoration action plan are fulfilled. Not only will the Riverkeeper become a strong advocate for the Middle Chester Watershed, the Riverkeeper will bring resource information to the fore, encourage habitat restoration and water quality monitoring, and attract technical assistance to those working at the grassroots level.

Lead Agency:	Chester River Association
Cooperators:	Kent County Department of Planning and Zoning Washington College Center for the Environment and Society
Time Frame:	Ongoing
Costs:	\$200,000 start up

Continue and Expand Water Quality Monitoring

The Chester Testers will expand their monitoring activities upstream into the creeks of the watershed. The Steering Committee will continue to encourage biological monitoring of the watershed and take advantage of the various monitoring programs offered by the Maryland Department of Natural Resources.

Lead Agency:	Chester River Association Maryland Department of Natural Resources
Cooperators:	Kent County Department of Planning and Zoning Washington College Center for the Environment and Society Upper Eastern Shore Tributary Strategy Team
Time Frame:	Ongoing

Special Events

Kent County and its partners will work with various community and civic organizations to hold special events that highlight the Middle Chester watershed. These events such as the Great Pumpkin Party and Lions Club “Paddle for Sight” will focus attention on the watershed.

Lead Agency:	Kent County Department of Planning and Zoning
Cooperators:	Kent Soil and Water Conservation District Washington College Center for the Environment and Society Upper Eastern Shore Tributary Strategy Team Chester River Association Maryland Department of Natural Resources Maryland Nonpoint Source Program
Time Frame:	Ongoing

Implementing the Plan

Implementing the watershed restoration action plan is an ambitious undertaking that will involve orchestrating the actions of many individuals, organizations, and public agencies. The Committee reviewed the list of strategies and identified its top priorities. Factors used to guide the consideration of alternatives included the following:

- ☞ Potential to improve the watershed's water quality and aquatic and terrestrial resources.
- ☞ Potential to provide early, visible, tangible results.
- ☞ Potential to leverage other investments in the watershed.
- ☞ The capacity of Kent County and its partners to undertake and complete the projects.

A summary of the Committee's work program follows.

Year 1 Projects and Initiatives

- ☞ *Bring a Riverkeeper to the Chester River*
- ☞ *Conduct a stream survey of the tributaries to Urieville Lake*
- ☞ *Conduct the Urieville Lake Forums*
- ☞ *Implement BNR at the Chestertown Treatment Plant*
- ☞ *Encourage Conservation Subdivision and infill*
- ☞ *Work with landowners to plant forests, riparian buffers, wetlands and other habitat and implement best management practices*
- ☞ *Begin Stream Monitoring*

Year 2 Projects and Initiatives

- ☞ *Conduct the LICA Field Day*
- ☞ *Develop a Middle Chester watershed information packet to be presented with new building permits in the watershed*
- ☞ *Continue with Urieville Lake Project*
- ☞ *Continue Stream Survey*
- ☞ *Prioritize and implement restoration needs identified in stream surveys*
- ☞ *Seek funding for the construction of the Radcliffe Creek Trail System*

Year 3 Projects and Initiatives

- ☞ *Encourage comprehensive farm plans*
- ☞ *Develop materials to increase participation in farmland preservation programs*
- ☞ *Continue with Urieville Lake Project*

Year 4 and Beyond

- ☞ *Continue Stream Survey*
- ☞ *Prioritize and implement restoration needs identified in stream surveys*