DELMARVA CONSERVATION CORRIDOR
The Northampton County (VA) Plan

Preamble.

Background. Northampton County, at the Southern Tip of the Delmarva peninsula, is a rare complex of highly productive farmlands, diverse forests, and pristine wetlands surrounded by the Chesapeake Bay and the Atlantic Ocean. The county's location and unique mix of aquatic and terrestrial habitats make it one of the most biologically important and diverse sites along the Atlantic Seaboard. It is one of the finest reservoirs of natural resources in the nation.

Northampton's rich soils and long growing season make it Virginia's primary source of commercially grown farm produce. Its seaside tidal marshes and pristine barrier islands have no remaining rival on the Atlantic coast and have been designated as a "Biosphere Reserve" by the United Nations. Its bayside tidal creeks remain a relatively healthy part of the Chesapeake Bay ecosystem and are the foundation of a massive cultured clam and natural seafood industry. While the County remains a source of agricultural bounty, it also continues to host more migratory birds, both waterfowl and neotropical songbirds, than any other region on the Atlantic seaboard, and it has become a mecca for people seeking a quality outdoor experience.

Only an hour's drive from most of the 1.6 million people of the Hampton Roads metropolitan area and less than a day's drive from 40% of the nation's population, this natural wealth and agricultural abundance is being put at risk by rapidly escalating real estate speculation and residential growth. Such rapid growth has potentially severe adverse impacts on the natural assets of the county, its agricultural economy and on many of its current residents. In just a few years, land transfers have risen from a few dozen a year to a thousand a year and the number continues to escalate. Recorded real estate transactions in 2002 reached an unprecedented $100 million.

Many potentially adverse consequences to natural resources, the agricultural economy and current Northampton residents may flow from such rapid change:

> **Conversion of productive farmland** to residential development will threaten the agricultural economy and diminish the much-admired historic and rural character of the county.
>
> **Increased pollution and sedimentation** in Bayside and seaside creeks will adversely impact water quality and threaten both the clam aquaculture industry and water-related recreational and tourist industry.

Decline in critical migratory bird habitat will threaten what ornithologists characterize as one of the most important avian migration funnels in North America, which is also a valuable source of recreation-based economic activity.

Reduced recharge of the County's sole source groundwater aquifer, which already has only limited capacity to meet existing residential, agricultural, and industrial needs will increase potential water problems.

Degradation of watersheds important to Chesapeake Bay tributaries will threaten water quality at a time when the Commonwealth is committed by the Chesapeake Bay 2000 Agreement to improve water quality and preserve shorelines.

Local low and middle income residents will be displaced from their homes and from the opportunity to acquire affordable homes.

Our Vision for 2030. Within the historic context described and the increasing pressures of modern growth upon the County, we confirm the following "vision" for the community:

In 2030, Northampton remains a rural county which has experienced substantial growth in population. Commercial and residential development have occurred in designated development areas around towns and villages while large areas of farmland and woodland remain relatively undisturbed. The Cape Charles/Cheriton area and the Exmore/ Nassawadox area have become vibrant, full-service towns. Little agricultural land outside of planned development areas has been converted to other uses. The natural resources of the County remain abundant and productive. Substantial blocks of farm and wood lands remain intact, and meaningful, biologically important corridors of wildlife habitat are preserved. Groundwater and tidal water quality remain high. The rich soils and long growing season continue to support family farms and production agriculture which produce an abundance of crops. There is a thriving, profitable agricultural economy, seafood and tourist industry.

The Plan.

Declared Policy and Mission. In order to achieve our Vision, it shall be the declared policy and intent of the Board of Supervisors of Northampton County to:

> Support economically viable family farms and production agriculture through the preservation of significant blocks of undeveloped farmland framed by stands of woodlands.
>
> Support viable habitat for a wide range of wildlife through the preservation of significant areas of undeveloped woodlands and shorelines.

Goals. The Northampton Corridor Plan adopts the following goals to support the agricultural, silvicultural and aquaculture industries:

1. **Promote responsible, sustainable economic profitability.**

2. **Stimulate new business opportunities.**

3. **Encourage economic diversity.**

4. **Protect and conserve fish and wildlife resources and their natural habitats.**

Objectives. Each goal of the Northampton Plan will have specific objectives to be reached through several strategies.

For Goal #1: Promote responsible, sustainable economic profitability.

The Objectives Are:

1. **Preserve prime agricultural and forest lands from conversion to other uses.**
   Strategies:
   a. Develop a Northampton farmland preservation program/purchase of development rights (PDR) program using the model program being developed by the State of Virginia, or other appropriate models.

   b. Lobby for dedicated funding sources to implement existing State of Virginia land preservation programs and federal land preservation programs.

c. Seek land preservation funds from private sources.

d. Adopt use-value assessment.

2. **Develop a program of Production Practice Incentives to meet local agricultural needs.**

For Goal #2: Stimulate new business opportunities.

The Objectives Are:

1. **Maintain local technical support for agriculture and seafood industries.**
   Strategies:
   a. Pursue stable funding for the Virginia Tech Agricultural Experiment Station.

   b. Pursue stable funding for the Wachapreague VIMS laboratory.

2. **Develop "value added" enterprises.**
   Strategies:
   a. Work with local entrepreneurs to develop product ideas.

   b. Support development of manual skill, business skill and entrepreneurial training programs at the Eastern Shore Community College.

3. **Work regionally and with other states to develop a bio-fuel production facility.**

For Goal #3: Encourage economic diversity.

The Objectives Are:

1. **Maintain adequate infrastructure to support and promote diverse and viable family owned farms and local aquaculture operations.**
   Strategies:

   a. Support expansion of the local Farmers Market.

   b. Support the development of a Seafood Market.

2. **Encourage growers to work with representatives of the Virginia Department of Agriculture and Consumer Services (VDACS) to include innovative marketing programs such as "Virginia's Finest," "Virginia Grown" and "Shore to Store" in their marketing strategies.**

3. **Encourage growers to work with VDACS, the Virginia Cooperative Extension Service, and the US Department of Agriculture (USDA) to develop risk management strategies for their businesses.**

4. **Work with Virginia Cooperative Extension and VDACS to develop and market value-added products.**

For Goal #4: Protect and conserve fish and wildlife resources and their natural habitats.

The Objectives Are:

1. **Support incentive and education based implementation of environmentally sound agricultural practices.**
   Strategies:

   a. Pursue stable funding for the Virginia Department of Conservation and Recreation (DCR) Best Management Practices (BMP) cost share program.

   b. Continue to support the Virginia Tech Extension Service's continuing educational programs for farmers at the Eastern Shore Agricultural Experiment Station that provide information on new agricultural practices and technologies.

2. **Maintain high groundwater and surface water quality standards.**
   Strategies:

   a. Provide economic incentives for local farmers to voluntarily implement sound practices that maintain high groundwater and surface water quality.

   b. Promote the planting of additional riparian buffers on private and public lands through such programs as the Conservation Reserve Enhancement Program (CREP) and the Environmental Quality Incentive Program (EQIP).

c. Assist development and enactment of sound ordinances designed to maximize groundwater recharge within the county.

3. **Conserve fish, wildlife and other biological resources and their habitats through education and incentive based programs.**
Strategies:

a. Develop economic incentives that encourage the voluntary protection of unique habitats, which support rare and at-risk species.

b. Promote a certification program for the ecotourism, hunting and fishing industries, which would serve as an additional economic incentive for the community to conserve open space, farmlands, wetlands, forests, and fish and wildlife resources.

c. Support development of a program to control terrestrial and aquatic invasive species and promote economic incentives for landowners to voluntarily plant native vegetation on their properties.

d. Promote the connectivity of undeveloped habitats such as forests, grasslands, and wetlands.

4. **Promote a sustainable aquaculture industry.**
Strategies:

a. Work with representatives of the aquaculture industry to solve problems of the industry.

b. Support measures to prevent the introduction of unwanted diseases and pest organisms in state waters and to maintain healthy genetic diversity among shellfish stocks to further reduce risks from disease.

Northampton County

Budgetary Request

for the

Delmarva Conservation Corridor Plan

Passed by the Northampton County Board of Supervisors on June 9, 2003

1) Farmland Protection Program: Purchase of Development Rights

A) Northampton County's Comprehensive Plan establishes the protection of productive farmland as a top priority for local public policy and governmental action and as a foundation for a strong rural community, a healthy environment and a thriving economy. The County's goals, as stated in the Delmarva Conservation Corridor Plan approved by the Board of Supervisors, are being achieved in part by the establishment of a Purchase of Development Rights (PDR) program. Currently the County is organizing a committee to enact a PDR program that will: 1) equitably prioritize sites that qualify for the program; 2) define clearly for the public why those sites are critical to the welfare of the County; 3) establish effective standards, criteria and a fair, transparent process to implement the program; and 4) devise an appropriate system for utilizing and leveraging local, state and federal resources to fund the program. Farmland protection is also seen by the County as a productive avenue for achieving related goals such as preservation of ground water recharge, open space, wildlife and other resources deemed appropriate by the Board. It is strictly a voluntary program designed to benefit the County, its citizens and landowners. The following five year budget reflects the requirements to plan and implement the PDR program to achieve Northampton County's farmland protection goals as outlined in the Delmarva Conservation Corridor Plan. Matching funds would come from existing salaries, benefits, overhead, equipment and facilities of county and participating agencies, as well as cooperating organizations. In addition, cash and donated easements will be used.

1) Development of standards, criteria, priorities and process to plan and implement the County PDR program (1st year):
- Federal Funds: $50,000
- Match: $50,000

2) Dedicated County staff person to create program (1st year) and supervise implementation (2nd-5th years) @ $130,000/yr:
- Federal Funds: $325,000 ($65,000/yr)
- Match: $325,000 ($65,000/yr)

3) Education and Outreach initiative to inform general public and solicit PDR applications by farmers and landowners (1st-3rd years):
- Federal Funds: $45,000 ($15,000/yr)
- Match: $45,000 ($15,000/yr)

4) Purchase of Development Rights @ $10-million/yr for five years:
- Federal Funds: $25,000,000 ($5-million/yr)
- Match: $25,000,000 ($5-million/yr)

Total Federal Funds (5 yrs): $25,420,000.00

2) Environmental Quality Enhancement Program (EQIP)/ State Best Management Programs (BMPs)

A) The current federal ranking system weighs heavily on steep slopes with potential erosion problems, which in turn is detrimental to water quality. Water quality is of great importance to Virginia's Eastern Shore Peninsula, even in the absence of slope, as it makes up 25% of Virginia's shoreline and 47% of it's salt marshes, all in a two county area. These two counties, Northampton and Accomack, with a limited sole source deep-water aquifer are a primary source of commercially grown farm products for Virginia that had a documented value of $43 million in 1997, which has increased in value annually.

For the reasons stated, Northampton County, under the Delmarva Conservation Corridor effort, request that water quality, regardless of slope, be a priority in the ranking process for EQIP.

B) Irrigation systems and drainage management practices improve economic viability, conserve water use from the sole source aquifer, and optimize the use of nutrients when coupled with nutrient management plans.

For the reasons stated, Northampton County, under the Delmarva Conservation Corridor effort, requests that irrigation systems and drainage management practices under the EQIP program would become a prioritization in a designated project area for Northampton County. The County requests $850,000.00 in annual funding, for each of the five years, to cost share up to 75% for irrigation and drainage management systems within this designated project area. This is an existing program that would not require match.

Total Federal Funds (5 yrs): $4,250,000.00

C) The Eastern Shore of Virginia has been without a Natural Resource Conservation Service (NRCS) Technician for approximately two years, inhibiting current workloads. When A and B above have been authorized, the influx of work will require, at a minimum, one NRCS technician at $50,000.00 per year for each of the five years.

Total Federal Funds (5 yrs): $ 250,000.00

D) At the state level, the three tiered cover crop portion of the Commonwealth's Best Management Practice (BMP) program, which addresses the reduction of wind and water erosion, the mitigation of nutrients leached into groundwater, creation of a mulch for no till cultivation, and nitrogen fixation of legume cover to reduce commercial fertilizer applications, has always had a highly successful participation level. State funding for the BMP programs has dropped significantly over the past 2 years, with funding for the

upcoming fiscal year being uncertain. Northampton County, recognizing the importance of cover crop in its overall water quality efforts, requests $45,000.00 annually, for each of the five years, to fund over 2,000 acres of various cover crops based on averages from the 2001 and 2002 cover crop sign up. The most recent years of state cover crop money will be combined with future dedicated funds for match.

Total Federal Funds (5 yrs): $225,000.00

3) Value Added Enterprises (Development and Expansion of Cooperative Markets and Production Businesses to Diversify Revenue Opportunities from Working Lands)

A) The Virginia Department of Agriculture and Consumer Services and the Virginia Farm Market Board established the Eastern Shore Farmers Market nine years ago to serve as a regional wholesale distribution facility for Eastern Shore agricultural products. It has been extremely successful in its mission, having handled over 6.3 million packages in its history with a total value of approximately $52 million Dollars. The facility has been fully occupied since it's conception, and in 2003 will allow one firm, who wanted to rent space in the facility, to operate in a corner of the parking lot. In addition, several other individuals and companies have inquired about renting space at the Farmers Market, according to Jim Stern, General Manager of both the Farmers Market and the Eastern Shore Marketing Cooperative, Inc. Northampton County is asking that the state's 2.5 million initial investment be matched to expand the facility to meet current demands.

Total Federal Funds (5 yrs): $2,500,000.00

B) The need for a wholesale seafood market on Virginia's Eastern Shore has been well documented for a number of years. In late 2000 a study commissioned by Virginia stated that" the Commonwealth proposed to establish a centralized, modern facility for freezing and storing fresh seafood products at the site of the Eastern Shore Farmers' Market. This facility will encourage the further development of one of Virginia's natural resources, its fisheries, as well as expanding statewide and regional markets for these products." Jim Stern, General Manager of both the Farmers Market and the Eastern Shore Marketing Cooperative, Inc. has received several inquiries from individuals and companies wanting to rent space in the seafood market facility even though construction has yet to even be scheduled. The need has been established and the designs have been created. Funding is now needed, in the first year, to bring to fruition this much-needed facility. Current efforts are underway to partially fund this project through state bonds. Local grants and state funds would be sought for any additionally needed match. $5,000,000.00 is needed for the construction of this facility, half of which would be requested in the first year:

Total Federal Funds (5 yrs): $2,500,000.00

C) The primary focus of the Eastern Shore Agricultural Research and Extension Center (AREC), a part of Virginia Tech, the Land Grant Institution in Virginia, has always been to

support the major vegetable production area of Virginia through research and Extension activities. The research done at this station plays a major role in vegetable recommendations to the locality and throughout the state of Virginia as well as surrounding states. Six full-time faculty enable the sustainability of production in the areas of soil fertility, plant nutrient management, horticulture, entomology, plant pathology, and weed science. An additional agricultural engineer faculty position is needed to address water quality, research and extension. Research also addresses the rotational crops of importance to the region, such as plasticulture, and possible alternative crops with potential economic significance. In addition to the economic significance of the research at the station, several master and doctorate degrees have been achieved at the Eastern Shore AREC.

In addition to faculty, staff has historically included a team of research supervisors, a farm manager, two administrative secretaries, farm laborers, a mechanic, and a custodian.

In 1985, 6 faculty and 15 staff were employed at the Eastern Shore AREC. As a result of these not being replaced after retirements and deaths, only 4 faculty and 7.5 staff are currently employed, thus reducing by nearly 50% the salaried personnel at this Station compared with earlier years. This, combined with State budget cuts resulting in deep cuts to the Eastern Shore AREC operating budget of approximately 47% below the level of two years ago, has crippled the efficacy of the Station which in turn will have devastating effects in years to come for the local and state farming community. It is for this urgent reason that Northampton County requests $75,000.00 in the first year for start up support for faculty, $75,000.00 in each of the five years for operating funds and $512,250.00 in each of the five years for faculty and staff. Match will be provided by the dedicated funds, coming from state sources, which currently fund the station.

Total Federal Funds (5 yrs): $3,011,250.00

D) The Virginia Institute of Marine Science's Eastern Shore Laboratory (ESL) is an integral part of the continuing development of shellfish aquaculture on the Delmarva Peninsula. Since it was founded in 1960, the ESL has played a central role in the development of the hard clam aquaculture industry which now ranks third in farm gate value among crops grown on Virginia's Eastern Shore, approximately $35 million annually. The laboratory continues to support the industry through research, training and extension. Research at the ESL has also led to the development of techniques currently being used for culturing oysters and scallops in the region. Ongoing selective breeding programs for clams and oysters conducted on the Eastern Shore are providing much needed improvements in disease resistance and growth characteristics. Over the past few years researchers at the ESL have also conducted studies on non-indigenous oyster species to evaluate both the potential and risks associated with their use in aquaculture. Other research projects at the laboratory are focusing on ensuring the ecological sustainability of shellfish aquaculture through evaluating its interactions with water quality, other marine organisms and feeding activity by migratory shorebirds. As human population growth continues on the lower Delmarva Peninsula, development pressures occur not only on traditionally

agricultural lands, but also on the adjacent shallow waters that support a valuable shellfish aquaculture industry. Improving aquaculture techniques, increasing the number of species that are cultured, and developing and implementing sustainable farming practices will all be required to ensure that the industry remains a vibrant, healthy part of the economy.

Recent state budget cuts are jeopardizing several of these research programs on which the shellfish aquaculture industry on the Eastern Shore depends. We are seeking support to offset some of these cuts and to expand research programs to better serve this industry. Specifically, retention of highly trained personnel who operate the research hatchery at the ESL and others who run the field research projects are crucial to the laboratory's ability to conduct research and outreach in support of the aquaculture industry. Northampton County requests $150,968.00 in each of the five years to support a Sr. Marine Scientist and Hatchery Manager, Hatchery Technicians, Field Research Technicians, research supplies and vessel costs. Matching funds will be achieved through dedicated state funds to Virginia Institute of Marine Science's Eastern Shore Laboratory.

Total Federal Funds (5 yrs): $ 754,840.00

E) The "Virginia Grown" promotion program has been successful in promoting Virginia agricultural products for the past several years. It targets all potential buyers, from chain stores and roadside markets to the ultimate consumer. It identifies and highlights local produce using mass media advertising, buyer tours, trade show attendance, and a "Virginia Grown" video that is shown in conjunction with trade shows and buyer calls. Northampton County requests $5,000.00 in each of the five years to support continuation of this valuable work. Matching funds will be achieved through cash and dedicated state funds to the Virginia Department of Agriculture and Consumer Services office in Onley, Virginia.

Total Federal Funds (5 yrs.): $ 25,000.00

F) Risk Management is one of the most important components of a successful farm operation. Northampton County considers this a priority and will encourage growers to work with Virginia Department of Agriculture, the Northampton County Agricultural Extension Agent, and USDA to utilize a variety of risk management tools. Northampton requests $5,000.00 in each of the five years, with match being provided by currently dedicated state and local funds.

Total Federal Funds (5 yrs.): $ 25,000.00

G) Providing information about crops and programs to limited resource farmers is essential to their success. The success of these small family farms in turn determines the success of a rural community. Northampton County will educate and encourage growers to work with the Northampton County Extension Agent, Virginia Department of Agriculture and

Consumer Services, and USDA to take advantage of programs that are designed to help them succeed. Northampton County felt the importance of limited resource farmers warranted a separate action item. The actual budget request for this item, however, is included in item H below.

H) Northampton County Cooperative Extension continues to provide research-based, educational information to area agricultural producers and homeowners. Extension budget and state funding reductions have limited the implementation of these programs. Additional funding will not only provide for more effective use of these programs but will enable Northampton Extension to explore other alternative cropping systems, crops and marketing systems. To implement these programs, Northampton County requests $250,000.00 in each of the five years for operating funds for research into production and market development of specialty crops, aquaculture programs, alternative crop production and more efficient production systems for existing crops. In addition one full time agricultural clerical position will be included and one full time position will be implemented for the Johnsongrass-Gypsy Moth program co-ordination, with additional responsibilities in the areas of development of ag-tourism, specialty crop marketing, and aquaculture programs. Another position would be added with responsibilities associated with conducting agricultural youth programs in local schools through the 4-H organization. Match will be provided by the dedicated funds, coming from state sources, which currently fund Northampton County Cooperative Extension. Additionally a request will be made for additional matching funds of $25,000.00 from the Northampton County Board of Supervisors.

Total Federal Funds (5 yrs.): $1,250,000.00

I) The Eastern Shore Soil and Water Conservation District has historically played a role in taking available technical, financial, and educational resources, whatever their source, and coordinating them in order to meet the needs of the local land user for conservation of soil, water and related resources. The District has the ability to reach audiences not directly involved in the agriculture community such as youth, local landowners and citizens groups. It often plays the much-needed role of educational mitigation between agricultural and non-agricultural groups. To effectively accomplish the needs of this multiple arena task an additional Educational Conservation / Technical Planner would be needed at $40,000.00 per each of the five years. Match will be provided by the dedicated funds, coming from state sources, which currently fund the Eastern Shore Soil and Water Conservation District.

Total Federal Funds (5 yrs): $ 200,000.00

4) Bioenergy Initiatives

A) Biodiesel has been noted as giant step in decreasing emissions and lowering the nations dependency on foreign oil, all while creating a potential market boom for a renewable crop grown in great quantity on American soil. With a goal of having every farmer in Northampton County change to a Biodiesel product, $10,000.00 per each of the five years would allow the current price differentiation of 5 cents per gallon to be covered for

200,000 gallons per year. Northampton County request $5,000.00 annually in each of the five years to reach the stated goal. Match will be provided by state and local grant sources.

Total Federal Funds (5 yrs): $ 25,000.00

B) Northampton County supports the Maryland effort in the development and building of an ethanol production plant as it has the potential to provide an expanded market opportunity in hulless small grains. Local field demonstrations, field tests and educational promotions need to occur in order to prepare Northampton County growers for production for these types of crops. This would require $5,000.00 for each of the first two years:

Total Federal Funds (5 yrs): $ 10,000.00

C) The Eastern Shore faces the challenge of maintaining adequate future landfill capacity for solid waste generated by residents, businesses, agriculture, and other rural enterprises. Northampton County recently closed its landfill and has negotiated a term agreement with Accomack County to accept municipal solid waste, which it will now collect at dedicated transfer stations. Among the rural wastes that are disposed of in landfills are plastic from vegetable row crop cultivation. This material is slow to decompose, and does not compact easily.

Up until now, most trash to energy processes relied on incineration, and required a market for steam-generated electricity to be economically viable. Using a much different process, commercial scale thermal depolymerization was initiated at ConAgra Foods' Butterball Turkey plant in Carthage, Missouri. At a cost of $20 million, the capacity of this plant is 2000 tons of turkey-processing waste every 24 hours. However, this same technology can handle any carbon-based feedstock, which makes it more versatile than other solid-to-liquid bio-fuel processes. Besides meat processing or agricultural wastes, it can convert tires, plastics, municipal garbage, sewage sludge, or any organic material into high-quality oil, clean-burning gas or minerals. In the case of ConAgra, the plant will process turkey feathers, bones, skin, blood, fat and guts, grind them to a slurry and process them into light (carbon chains no longer than C-18) oil, which is somewhere between fuel oil and gasoline. Both private and federal partners have invested in a successful demonstration of the process at Philadelphia's Naval Business Center by Changing World Technologies. An article featuring this technology appeared in Discover Magazine in May 2003 and is attached.

To determine the economic feasibility of this process for utilizing the regularly generated waste streams in Northampton, and possibly Accomack County in the future, a study is proposed which will examine the waste composition that could be captured and processed, and estimate fuel production from the range of wastes generated. If economically and financially competitive with the cost of landfill disposal in the two counties, a processing plant could provide multiple environmental benefits, reducing the

land requirements for waste disposal and providing a regular supply of locally produced fuel products for use in vehicles, manufacturing, or other large energy-using processes. The study will also look at possible locations for such a facility, such as the Sustainable Technologies Industrial Park, in Northampton County.

The cost for conducting this study is estimated at $200,000, with the request for Federal funding in year one of $100,000. Part of the output of the study will be the identification of commercial, non-Federal partners if the process is economically viable. It is conceivable that no direct Federal grants would be required to construct a plant, which could produce marketable fuel products. For this reason no out-year requests for Federal funding are shown in this submission.

Total Federal Funds (5 yrs): $ 100,000.00

Northampton County Total Federal Funding Requested (5 yrs): $40,546,090.00