Testimony of John E. Hall
The Benefits and Challenges of Ecosystem Management through Sustainable Agriculture: Delmarva Peninsula as an Example

The Delmarva Peninsula supports economically viable agriculture, forestry and fisheries and is composed of healthy terrestrial and aquatic environments, with biological diversity and abundance. These attributes nurture communities with a strong economic and cultural base.

However, the economic viability of traditional activities of farming and fishing continues to be uncertain. For fishing low stock levels caused by a host of environmental issues and the resulting catch limitations are the principal responsible factors. For farming the major responsible factors are low commodity prices, high land cost, and high production costs relative to foreign and low-cost domestic producers. Identity of future important farm crops and products are uncertain. The current principal products (poultry and grain) are under considerable competitive pressure, but more profitable alternatives are not yet evident.

Wetlands, soils, suburban growth, traffic congestion, sprawl.

The farms and forestlands in the Chesapeake Bay watershed are excellent pollution filters and wildlife habitats while also providing economic and quality of life benefits for citizens and communities. This green open space provides crucial ecological services, such as flood protection and reduction of air and water pollution. It protects public drinking water supplies, reduces the impacts of storm water runoff, and reduces the degradation of streams, rivers and the Chesapeake Bay while providing vital habitat for a broad variety of mammals, birds, and fish species (some of which are rare, threatened, or endangered). At the same time, the region's working farmland provides a direct supply of fresh farm products and yields direct economic benefits in rural communities, as well as helps to define the overall sense of place.

But these resources are at significant risk in the region due to a lack of a comprehensive region-wide plan and inadequate local policies, according to a newly released study by the Chesapeake Bay Foundation and the American Farmland Trust (AFT). This interconnected green network of farm and forestland throughout the region won't last. We need to act now to permanently protect this resource for the future. We know how to do it, but we must coordinate the work across jurisdictions. We need a regional effort to protect a regional asset. Permanently conserving a band of open space is critically important to the future of the Chesapeake Bay region.

Agriculture remains the preferred land use for the Chesapeake Bay watershed, it is especially preferred when considering land development pressures. As farm families live in and produce products from their surrounding environment, it is in their natural self-interest to sustain land and other environmental resources. Well-managed farmland shelters wildlife, supplies scenic open space and helps filter impurities from air and water. A moderate amount of forested land in the region is currently growing harvestable timber, Christmas trees, and nursery stock. There are also large blocks of contiguous forest, some public and some private, which provide high quality habitat for "forest-interior-dwelling" migratory bird species, while helping to clean the air and filter rain water. Finally, the "green infrastructure" of farms, forests, river and stream corridors, and wetlands also helps to shape and define the region's developed and growth areas. It makes no sense to develop our best land—we have a responsibility to protect this most valuable resource for future generations.

Smart Growth

After two centuries of steady population growth, the region's remaining network of farm and forestland still enriches our quality of life in many ways. But the region's population is growing quickly, sprawling out into predominantly rural areas, causing air and water pollution, traffic congestion, increased demand for public services and an obvious loss of open space, such as farmland. We cannot save the streams, the rivers, the Bay or the wildlife habitats around them if we continue to lose tens of thousands of acres of these natural filters annually to poorly planned development The science is clear: in stream watersheds where the

acreage of impervious surfaces--rooftops, roadways, and parking lots--exceeds ten percent of the total area, we are beginning to lose the water quality that is essential to the waterways' health. Add enough damaged streams, and an entire river system suffers, all the way to the Chesapeake Bay. The easiest land to develop is often farmland closest to the areas of fastest growth. Unfortunately, this land may be the most productive and most valuable from environmental, cultural, and economic perspectives if managed well.

A study completed by the American Farmland Trust (AFT) found that scattered or sprawl development, which many regions across the United States, including the Delmarva Peninsula, are experiencing causes air and water pollution, traffic congestion, increased demand for public services and an obvious loss of open space, such as farmland. According to the Maryland Department of Assessment and Taxation, the Mid-Upper Shore lost almost 52,000 acres of farmland between 1980 and 2000. This major loss of land made Maryland's Mid-Atlantic Coastal Plain region one of the most threatened agricultural areas in the United States, according to the AFT.

Studies conducted in the last 30 years have shown that the Chesapeake Bay's health has severely declined. Run-off from residential and commercial developments built close to the Bay increase water pollution. According to reports by the Maryland Sea Grant and other organizations, the Chesapeake Bay is facing the negative effects of sprawl development, which have led to degraded water quality and loss of healthy habitat that filters run-off before it enters the Bay. Protecting land from development combats this trend.

Efforts must be made to direct new growth and infill around existing towns and villages that can offer protective infrastructure such as municipal water and sewer service that will ultimately protect our waterways and water supply.

Although farming, fishing and forestry have traditionally formed the base of our local economy, sprawl development is not only causing loss of land, but loss of these types of jobs. Between 1982-1997, the Delmarva Peninsula lost nearly 82,000 acres of farmland to development and the six Mid-Upper Shore Counties lost almost 1,430 agricultural-related jobs during these years, according to another study by AFT.

Delmarva contains some of the best farmland on the East Coast; it produces corn, soybeans, and wheat as its principal farm crop products. Currently, almost all of these feed grains are sold to a commodity market, with most being used for animal feed. In a rapidly changing market, losses in local buying competition and other factors have reduced the premiums received by farmers. Commodity grain prices are not expected to rise in the foreseeable future. Compounding this is the fact that third world countries continue to provide formidable competition, thereby driving prices even lower. Farm Credit data drawn from area farmers also shows a formidable challenge, indicating cash grains have showed a negative cash flow for eight out of the past 11 years. Data indicate that Delmarva farmers are experiencing negative cash flows and many farmers are leaving the industry altogether. Farmers in this position are forced to sell of large tracts of land, which quickly become housing development lots. In Queen Anne's County, MD, alone last year, over 2,000 new home sites were approved by the County Planning Office. The traditional focus by farmers on production quantity, as opposed to quality, must be reversed to ensure a sustainable and more profitable agricultural industry.

We must put sustainable agriculture at the top of any economic development plan, and we must foster new ideas and open up new markets. Chesapeake Fields Institute was created to do just this.

Chesapeake Fields Institute (CFI) is a 501(c)(3) non-profit organization seeking value-added markets for family farmers in the Delmarva area to preserve both the farmer and the farmland. Valued-added is receiving the increase in dollars of a product as it moves toward the consumer, in other words, the farmer needs to become the "middle-man" by owning the processing plant and controlling the marketing of the product. CFI has selected identity preserved (IP) grains as its first value-added enterprise. IP requires growers to plant, harvest and process grain crops and to keep them segregated at all times. All inputs are recorded and printed on the CFI label that accompanies the product to the customer. Based on completed feasibility studies, CFI has selected three value-added projects to develop using IP grain: seed cleaning and conditioning, an Artisan bread bakery and soy snack foods. CFI plans to begin construction of an agriculture business park to house these projects; a footprint has been created for the business park and if all goals are reached, it has the potential to employ 180 people and impact over 30,000 acres. Both farmer and non-farmer investors will be solicited; it is felt non-farm investors will participate because they value and want to preserve the "sense of place" Delmarva offers.

The primary long-term outcome of CFI is to assist Delmarva farmers in finding, accessing, and transitioning to the production of sustainable agricultural products for profitable regional niche markets. CFI is working to provide alternatives that can positively impact approximately ten percent of the target geographical region's farmland - roughly 30,000 acres in a three-county area.

CFI has already aggressively countered the discouraging outlook for agriculture on the Eastern Shore. In the past three years, CFI has commissioned and completed eight significant studies to identify niche grain and oilseed markets and to examine the feasibility of creating an infrastructure on the Eastern Shore of Maryland designed for education, research, and manufacturing of identity preserved crop products; received nearly $800,000 in federal, state, and private grant funds and individual donations toward achieving research, marketing, and education goals; secured growing contracts for local farmers to produce a specialized soybean attractive to Asian markets and yielded a greater per bushel profit for the past two growing seasons; and established a for-profit Limited Liability Corporation called Chesapeake Fields Farmers, LLC (CFF), with a purpose to manage the economics of a farming cooperative created to increase profitability.

CFI has identified potential niche markets as the result of a preliminary market feasibility study and seven other studies specific to growing soybeans, wheat varieties, popcorn, and flaxseed. The results of these studies are being communicated to area farmers in an effort to build support for inevitable crop production changes. Value-added options resulting from existing and proposed research may include an identity-preserved zone (IPZ), organic food products, and specialized varieties of nutritionally favorable products. The previous work has led to contracts from Japan to grow 500 acres of natto soybeans two years ago (at an .80 per bushel premium) and 1,500 acres during the last growing season (800 actually grown due to the wet season- at a .90 per bushel premium). China has indicated an interest in 18,000 acres of Natto soybeans.

If our farmers are going to become profitable, and if the Chesapeake Bay watershed land is to be preserved through a sustainable agricultural community, then value-added products and new markets must continued to be identified and utilized. Furthermore, public education must be strengthened to significantly raise awareness about farming as a preferred land use and as a viable source of local healthy food (rather than feed). Additionally, our farmers must be educated in a way that builds their capacity to access and utilize these markets and in ways that preserve their lands. The preservation of agricultural land through increased profitability will have an immeasurable positive impact on the Chesapeake Bay watershed region, its water supply, its wildlife and other natural resources.

But CFI also has very important educational goals with the vision of creating a national agriculture education center that will help overcome the public's disconnect regarding where its food comes from and that will strengthen the idea that agriculture is the best use of our land. Teaching citizens where food comes from has always been a goal of CFI. It has always recognized a need to educate its communities, its citizens, and its future leaders about the importance and value of preserving and investing in America's existing farmlands. CFI remains firm in this commitment: Agriculture cannot be sustainable unless people understand its importance.

There is a need to create agriculturally literate citizens who have a basic understanding of our food and fiber system, its history and current economic, social and environmental sig¬nificance and equip them with enough knowledge of nutrition to make informed personal choices about diet and health. An agriculturally literate populace might also ensure that citizens would make intelligent decisions concerning policies that benefit agricul¬ture. A basic knowledge of agriculture is especially important where agriculture is a major industry in a state and the lack of agricultural knowledge and experience impedes agriculture's economic development.

Delmarva is an ideal location for the education center; it is one of the last farming areas on the East Coast located just ninety minutes from both Washington and Philadelphia and sixty minutes from Baltimore—and within an overnight drive of 60 million consumers. This is one-third of the nation's consumers! This location is extremely convenient for international visitors to the nations' capital, who are often potential customers, to learn about our agriculture products. Looking into the future, it would be ideal if this center became a prototype for other such centers to be built in other locations through out America---every citizen needs to learn how important food production is and the role farmers have in it.

The profitability (or, minimally, the ability to break even financially) for small-scale traditional agriculture, as opposed to modern, large-scale agribusiness, is one of the driving forces for the future of the Delmarva Peninsula and for Conservation Corridor creation. Today in the United States farm operation provides

employment for only a tiny fraction of the work force. However, for many of those who are engaged in farming, the work is meaningful, satisfying, and central to their lives. Thus many farmers will continue farming in the face of low economic returns from hard physical work as long as it is possible to support themselves and their families. For farmers in this category quitting farming and selling their land to developers cannot be a decision based on dispassionate economic analysis; rather it is based on much more personal considerations of values and life-goals. Even the departure of farmers who are not owners of the land they farm will depress the farmland rental market and increase the farmland sales to developers. While some farmland will always change ownership through open market transactions, the amount available for purchase by development interests will be relatively small as long as farming is at least minimally viable economically.

The Delmarva Conservation Corridor will enable the practice of agriculture, forestry and fishing on Delmarva in ways that promote economic profitability, sustainability, and social responsibility. It will contribute to the restoration and sustainable development of fisheries resources on and surrounding the Delmarva Peninsula while it conserves habitats throughout the region to support a diversity and healthy abundance of plant and animal species while protecting the water supply. It will create new business opportunities in resourced based areas on Delmarva. It will contribute to well defined, prosperous, diversified and sustainable communities on the Delmarva Peninsula and it will be implemented in ways, which are voluntary, that respect private property rights and do not adversely affect non-participants.