

# Green Lands, Blue Waters

## Project Description Document

### October 2004

#### **Initiative Mission and Vision**

Green Lands, Blue Waters is a long-term comprehensive effort whose mission is to support development of and transition to a new generation of agricultural systems in the Mississippi River Basin that integrate more perennial plants and other continuous living cover into the agricultural landscape.

**Continuous Living Cover systems** are agricultural cropping and livestock production systems that maintain continuous living cover throughout the year, and their supporting infrastructure from field to processing to market to consumption. This includes those based on perennial plants such as trees, shrubs, grasses, and legumes, as well as annual plants grown in combination, such as the use of cover crops in row crops.

The vision is to improve water quality in the Mississippi River Basin, increase economic options and profitability for farmers, improve wildlife habitat, reduce flooding potential, strengthen vitality and quality of life of rural communities, and enhance human health.

#### **Underlying Strategies**

**Involve diverse stakeholders:** The issues to be addressed are complex, interrelated, occur at multiple scales, and are too large to be effectively addressed by any single entity. The initiative recognizes the importance of bringing together diverse partners, including farmers, business interests, and governmental and non-governmental agencies.

**Engage land-grant institutions:** The initiative is unique in its approach of engaging and leveraging the considerable public resources represented in the Mississippi River Basin's land-grant institutions.

**Organize at the watershed, state, and Basin levels:** Keeping the initiative connected to on-the-ground activities at the watershed level while staying focused on the Basin-wide strategy will be critical in attaining systems change.

**Target for maximum impact:** Targeting a portion the most environmentally sensitive agricultural lands will maximize the environmental benefit.

**Develop supporting infrastructure:** Market, financial, technical, social, human, and policy infrastructure is necessary to support development and adoption of new agricultural systems.

**Imbed concept in mainstream thought:** Fundamentally changing long-standing agricultural systems will require that increased use of perennial plants and annual cover crops be widely accepted and supported.

**Rely on voluntary approaches:** Adoption of new agricultural systems will require that the changes are voluntary and occur because they serve the best interest of farmers and other stakeholders.

### Objectives

The primary objective is to **develop and promote profitable enterprises** based on the products of continuous living cover systems. To achieve this objective Green Lands, Blue Waters will:

- **Build capacity of stakeholders**, including scientists and farmers, farm advisors, extension educators, input suppliers, bankers, processors, NGO personnel, civic leaders, faith leaders, and others, regarding continuous living cover systems.
- **Significantly expand the knowledge base** regarding perennial crops and the use of cover crops in annual systems and their environmental, economic, and health impacts and potential of these continuous living cover systems.
- **Coordinate** and build on related new and existing research, education, and implementation activities in the Mississippi River Basin.
- **Heighten visibility** of and focus on continuous living cover systems.
- **Identify and promote policy changes** needed to encourage and support adoption of perennial crops and increase the use of cover crops in annual crop systems.

### Values

The following values guide the work of Green Lands, Blue Waters.

- **Interconnected issues:** The issues surrounding agricultural systems are complex and interconnected and landscape, human, and animal health are inextricably linked.
- **Integrated approach:** Problem solving is needed that integrates multiple disciplines and perspectives, policy, economics and other relevant contexts.
- **Equal partners:** Each stakeholder, whether individual or group, has opportunity to provide input that will be considered and respected, and to benefit from the initiative's programs.
- **Public good:** Actions, programs, outcomes, and benefits must be carried out for the benefit and ownership of the general public.
- **High quality standards:** Initiative activities meet the highest criteria of review and evaluation by peers and stakeholders.

### Activities

- **Enterprise Research:** Evaluate and develop new plant material selections along with associated production, harvesting, and processing technologies to meet market needs; discover and develop new uses for products of continuous living cover systems; devise cropping systems to meet multiple goals-economic, environmental, human health and social.
- **Market development:** Develop new and strengthen existing markets for products of perennial crops.

- **Learning groups:** Develop learning groups of stakeholders in key watersheds in participating Upper Basin states. Learning groups provide a forum for learning, innovation, and integration of different types of knowledge among stakeholders. The learning groups will identify the most promising continuous living cover systems, help design and carry out research and demonstrations, identify barriers to the adoption of perennial crops and the use of cover crops in annual crop systems and propose effective means to remove them, and evaluate related Federal farm policy.
- **Outreach:** Support implementation of existing and new continuous living cover systems and their corresponding practices by transferring knowledge, providing necessary contacts, and advocating on behalf of the adopters.
- **Assessment:** Develop indices and measure the environmental outcomes on water quality, wildlife habitat, flood control, and nutrient cycling in local watersheds, the Mississippi River and the Gulf of Mexico; social and economic outcomes at the farm level and beyond; human health impacts related to changes in water quality, chemical exposure, healthy foods, and health supplements; and changes in stakeholder perception and action related to the concept of continuous living cover.

### **Partners, Structure, and Administration**

**Multi-state consortium:** Consisting of land-grant institutions in the Mississippi River Basin, agricultural and non-profit organizations, and governmental agencies active in the Basin, the purpose of this consortium is to support and advance the Green Lands, Blue Waters initiative. This includes integrating and coordinating the collective strengths and unique capabilities of its partners, raising the awareness and understanding of the initiative and of related issues in the Basin, attracting financial support for the initiative, and working with and through its partners to develop and fund new, proactive research, education, and implementation programs in the Mississippi Basin. The consortium will also be responsible for planning, monitoring, and budget oversight for the overall initiative.

**State Coordinating Committees:** Each participating state will have a state coordinating committee made up of farmers, representatives from the learning groups and the multi-state consortium, and from the university, NGO, and governmental organizations within the state. Each state coordinating committee will be responsible for planning, implementing, and monitoring project activities in that state, and for linking the local watershed learning groups with the Basin-level consortium.

## **Examples of Ten-Year Outcomes**

### Enterprise Development:

- New economically viable cropping options for continuous living cover systems, including new perennial crops and cover crops for use with annual crops.
- New commercial products from perennial crops.
- Expanded market opportunities for products derived from continuous living cover systems.

### Implementation:

- Significant adoption of continuous living cover systems in the Upper Basin.

### Ecological:

- Improved nutrient management at the farm level.
- Reduced number of impaired waters in the watersheds.
- Improved base flow of water at the watershed level.
- Reduced nitrogen loading from agricultural production at the watershed level by 30%.
- Increased migratory waterfowl and neo-tropical songbird populations at the watershed level by 30% or more.
- Shrinkage of the hypoxic zone in the northern Gulf of Mexico from its 2002 level and reduced impacts of nutrification on coastal food webs.

## **Budget**

The anticipated total budget of the initiative is on the scale of \$105 million over ten years. These dollars will support the work outlined above and do not include funding for farm incentive payments. Funding will be secured from a variety of public and private sources, with a significant portion of total dollars coming from private foundations.

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