

## 2015 Conservation Innovation Grant Awards

### Wildlife

**Iowa State University** (\$760,897) – purposes to develop and stimulate the adoption of innovative approaches to monarch butterfly conservation while focusing on developing methods appropriate for use in the agriculturally-intensive Midwestern U.S. corn and soybean production regions.

**Texas Tech University** (\$380,579) – proposes to integrate basic information on pollinator-plant associations, habitat requirements and applied conservation practices to facilitate technology transfer across the southern High Plains region and beyond.

### Economics

**Farm Foundation** (\$685,990) – proposes to collect, analyze and disseminate site-specific soil health and economic information related to cover crops and no-till from a pilot project to producers interested in adopting these soil health improving practices.

### Air Quality/Energy

**J.C. Ramsdell Enviro Services, Inc.** (\$619,753) – proposes to demonstrate an innovative and more cost-effective version of a plug flow anaerobic digester constructed using geomembrane material instead of concrete.

### Energy Conservation

**Bering Straits Native Corporation** (\$112,181) – proposes to develop a geothermal resource able to sustain a greenhouse operation for fresh, local produce that can: lessen supply chain risks; pilot a market garden model to enhance the regional economy; provide better food security in rural Alaska; and reduce the use of fossil fuels to provide for these rural communities.

### Nutrient Management

**Maryland Department of Agriculture** (\$527,166) – proposes to demonstrate innovative manure treatment systems capable of removal greater than 90 percent of the total phosphorus from the manure effluent while conserving the manure nitrogen.

**Whatcom Conservation District** (\$529,376) – proposes to develop a manure Application Risk Management System that uses the principles of the Nutrient Management Standard (590) and the '4R's of Nutrient Management' to address surface runoff and leaching risk at a precipitation zone and field level.

**Washington State University** (\$500,000) – proposes to evaluate the agronomic, soil health and food safety efficacy of dairy manure derived fertilizers in raspberry and blueberry cropping systems.

## Outreach Projects

**World Farmers (\$425,721)** – proposes to assist refugee and immigrant farmers at the Flats Mentor Farm to develop conservation plans and provide training to understand and address risk assessment (flooding), adequate pollination of crops and the relationship to conservation practices.

**The Pennsylvania State University (\$143,648)** – proposes to assist forestland landownerers to address biological risks relating to forest regeneration by removing barriers to adopting active forest management.

**Minnesota Food Association (\$361,930)** – proposes to transfer proven conservation technologies used in organic systems to historically underserved producers in Minnesota and Wisconsin, and assist those producers with implementing conservation practices by addressing land tenure issues and accessing NRCS programs.

**Maine Organic Farmers and Gardeners Association (\$56,400)** – proposes to assist minority producers to overcome barriers that prevent beginning farmers from participating in conservation programs through a peer-to-peer learning model.

**Nuestras Raices (\$811,148)** – proposes to collaborate in compiling environmentally sound growing practices and develop a language and culturally-appropriate training program to support the production of Caribbean Latino specialty crops in the Northeast.

**First Nations Development Institute (\$83,525)** – proposes to build the organizational capacity of a Native conservation association and the individual capacity of Native farmers and ranchers who are primarily in Arizona in a culturally-appropriate and -sensitive manner that will increase Native control of Native assets of natural resources and of a Native community-based organization.

**Agriculture and Land-Based Training Association (\$105,236)** – proposes to provide direct outreach and technology transfer to Historically Underserved Producers (HUPs) in Monterey, Santa Cruz and San Benito counties that increase adoption of winter cover cropping with efficacy in terms of farm productivity, conservation and profits.

**Oklahoma Black Historical Research Project (\$702,287)** – proposes to improve equipment to mechanically remove eastern red cedar trees, establish a grass management plan to prevent red cedar from returning, access the value of the trees and of mechanical removal over alternate methods, and use the wood as a product to offset some of the producer's expenses – creating an added-value process to benefit producers.

## Soil Health

**North Carolina State University** (\$998,469) – proposes to deploy web-based interactive tools and market through state extension offices to demonstrate how cover crop management timing impacts soil and water budgets – and nitrogen availability – based on historical weather data, soil type, growth stage and species. They propose deploying these tools in a multi-state program where water and nitrogen availability become major drivers of cover crop adoption.

**The Samuel Roberts Noble Foundation** (\$155,975) – proposes to demonstrate and quantify the effects of summer cover crops on clean-till and no-till winter pastures under grazing. The project will assess the impacts of adding cover crops on pasture forage production and soil properties and will quantify the economics of stocker cattle production using these alternative management systems relative to current management systems.

**Cornell University** (\$375,235) – proposes to expand the composition and enhance the utility of the Cornell Soil Health Test (CHST) into a Comprehensive Soil Health Test applicable on a national scale with regional usability. Project collaborators will identify and test additional regionally based indicators that will be incorporated into the existing CHST as appropriate. The utility and applicability of the new test(s) will be demonstrated through individual on-farm assessments, and results will be widely disseminated through traditional written materials, web-based products and workshops for technical professionals and producers.

**Colorado State University and Kansas State University** (\$995,492) – proposes to demonstrate and quantify the impacts of soil-health improving management practices including cover crops, crop rotations, and reduced tillage on a range of soil properties and processes – including nutrient cycling and soil water availability in the semi-arid environments of the western Great Plains. On-farm demonstration sites and comparison studies will be established in eastern Colorado, western Kansas and western Nebraska to show farmers how these management practices can be successfully adopted in these environments.

**Regents of the University of Minnesota** (\$399,556) – proposes to demonstrate how farmers can apply inter-seeded cover crop planting and management technologies to reduce nitrate nitrogen losses in annual corn cropping systems in the upper Midwest. This project will demonstrate multiple alternatives including early establishment of cover crops through inter-seeding, as well as the incorporation of potentially income-producing winter annual oil-seed crops into existing cropping systems in the upper Midwest.

## Water Quantity

**Oklahoma State University** (\$772,029) – proposes to create and disseminate educational material –such as fact sheets, video clips, radio podcasts, etc. – on different types of sensors for agricultural irrigation management through the network of county extension educators, conservation district personnel, NRCS personnel, crop consultants and producers. In addition, they aim to establish demonstration sites at several eligible producers' farms and hold field days to provide hands-on training for different aspects of sensor-based technologies – from site selection to proper installation and data interpretation.

## Greenhouse Gas Markets

**Chesapeake Bay Foundation (\$491,070)**—proposes to expand the use of management intensive grazing in the Chesapeake Bay watershed, enrolling at least 35 farmers to transition 1,400 acres of farmland to rotation grazing. CBF will quantify the nutrient and greenhouse gas benefits associated with the transition and explore opportunities for producers to participate in water quality trading and greenhouse gas markets.

**Climate Action Reserve (CAR) (\$311,636)**—proposes to build on its recently developed avoided conversion of grassland protocol. In partnership with Environmental Defense Fund, the Climate Trust and others, CAR will develop a streamlined approach to lower barriers to entry for landowners – resulting in an initial pilot project generating substantial carbon credits.

**Climate Action Reserve (\$109,014)**—proposes to increase participation in carbon markets by small forest landowners, through development a standardized forestland carbon forestry methodology and automated computer application that will streamline and simplify the development and submission of forest carbon offset projects.

**Ducks Unlimited (\$219,073)**—proposes to scale up DU’s 2011 avoided conversion of grassland project that culminated in the 2014 purchase by Chevrolet of carbon credits from ranchers in North Dakota. DU will refine the American Carbon Registry protocol to streamline it for producers and will use the refined protocol to model the carbon credits for 16,000 acres in its portfolio – investing in new contracts on approximately 10,000 acres.

**Ducks Unlimited (\$68,452)**—proposes to explore development of a greenhouse gas protocol for restored or avoided drainage of wetlands in agricultural landscapes. The generation of greenhouse gas credits from the avoided conversion of wetlands could help reduce incentives for wetland drainage by creating value for the ecosystem services wetlands provide.

**Environmental Defense Fund (\$960,101)**—proposes to build on its strong relationships with United Suppliers, the Almond Board of California and farmer networks to create a large scale pilot generating the first aggregated nutrient management greenhouse gas credit project. This project will demonstrate how growers implementing enhanced nitrogen management processes on annual and perennial crops can participate in carbon markets. It sets the stage for significant reductions in nitrogen fertilizer pollution – a win for the environment *and* for growers’ bottom lines.

**Indian Land Tenure (\$295,067)**—proposes to increase engagement and participation of Indian Tribes in greenhouse gas markets. ILT will adapt greenhouse gas protocols to address Tribal issues and complete pilot projects that generate carbon credits for sale in greenhouse gas markets.

**The Nature Conservancy (\$498,477)** —proposes to demonstrate the potential of carbon markets as a viable financial instrument. TNC will enroll 50,000 acres of rangeland in North and South Dakota into a carbon offset program that offers permanent protection and the generation of approximately 750,000 tons of carbon offsets. These offsets will be sold on the voluntary market and net revenues will be used for additional conservation in the Prairie Pothole Region.

**White River Irrigation District (\$927,000)**—proposes to form a farmer-owned and farmer-directed environmental stewardship co-op to promote resource conservation and sustainable agriculture

methods for rice production in the Mid-South. With an initial focus on methane emissions reductions, the co-op will create, aggregate, and market carbon offsets and pursue verification and certification of rice conservation activities for sustainable branding opportunities.

### **Water Quality Trading**

**Conservation Marketplace Midwest (\$243,933)**—proposes to develop and pilot a Field Stewards program, an innovative conservation credit system designed to allow companies in the food industry to buy “offsets” for water quality and agricultural conservation. Through the purchase of certification credits, food companies can demonstrate sustainability to their customers without having to create a new chain-of-custody supply chain for agricultural commodities, keeping costs low for retailers and the consumer.

**Electric Power Research Institute (\$300,000)**—proposes to develop and execute, for the first time, trades of “stacked” ecosystem services for water quality and greenhouse gas emissions reduction credits. EPRI administers the Ohio River Basin nutrient trading program – the only multi-state trading program in the country.

**Great Lakes Commission (\$400,000)**— substantial water quality issues plague the Western Lake Erie Basin (WLEB), leading to harmful algal blooms each summer in Lake Erie. The Great Lakes Commission proposes to develop a framework for water quality trading in the WLEB.

**Iowa League of Cities (\$700,000)**—proposes to develop a framework for water quality trading in Iowa to support the state’s Nutrient Reduction Strategy.

**National Association of Conservation Districts (\$116,725)**—proposes to develop guidance materials and engage in outreach and training to increase participation of soil and water conservation districts in nutrient trading programs. In many water-quality trading programs, district employees are the conservation experts interacting with agricultural producers – generating credits from the installation of conservation practices.

**Virginia Tech University (\$285,729)**—proposes to develop the information and tools required to incorporate agroforestry into Virginia’s nutrient trading program, which currently depends on the retirement of marginal agricultural lands for credit generation. In December 2014, USDA, EPA and the State of Virginia celebrated a first-of-its-kind transaction when the Virginia Department of Transportation purchased phosphorous credits generated by a Virginia farmer.

### **Conservation Finance**

**American Farmland Trust (AFT) (\$306,118)**—proposes to establish a pollinator habitat credit program in Michigan. AFT will engage at least 15 business entities to fund the establishment of pollinator habitat through this ‘Payment for Ecosystem Services’ program.

**EcoTrust (\$528,000)**—proposes to test a ‘Forest Bank’ model to channel private investment capital for forest management and landscape-level conservation across the Swinomish Indian Reservation.

**Island Press-Center for Resource Economics (\$487,000)**—proposes establishment of a ‘Conservation Finance Roundtable’ to support implementation of the cohort of conservation finance CIG projects. The Roundtable will also explore models and mechanisms for conservation finance projects, and provide program and policy recommendations to NRCS.

**Partners for Western Conservation (\$279,400)**—proposes, with partners including Colorado Cattlemen’s Association and the states of Nevada and Utah, to develop a pay-for-success investment instrument for wildlife habitat and water quality conservation. The state of Nevada will pilot the instrument as part of its efforts to conserve greater sage-grouse habitat.

**Terra Global Capital, LLC (\$730,647)**—proposes to improve the viability of greenhouse gas markets for range and pasture lands through a variety of activities across five states (CA, OR, WA, TX, HI). Development of a comprehensive range and pasture land greenhouse gas protocol through Climate Action Reserve is a key deliverable.

**The Climate Trust (\$1,000,000)**—proposes to establish the Working Lands Carbon Facility, an entity designed to attract private capital to invest in agricultural systems that value and generate carbon credits. \$4 million in private capital will be invested in agricultural and forestry projects that reduce greenhouse gas emissions and sequester carbon through proven conservation practices.

**Vital Farmland LP (\$260,398)** —proposes to develop tools and metrics to evaluate ecosystem services generated on sustainably farmed agricultural lands, in service of catalyzing impact investments in sustainable agriculture. Farmland LP is an investment group that purchases farmland and transitions it to organic production.

**World Resources Institute (\$500,000)**—proposes to develop the frameworks and partnerships needed to stimulate the issuance of green bonds, and other innovative financing mechanisms, for natural infrastructure. This project connects investors, utilities, water-dependent companies, municipalities, EQIP eligible landowners, and environmental groups to build replicable templates and processes that unlock private sector financing for conservation, restoration and enhanced stewardship on America’s farms, forests and ranches.