

**ACTION REQUIRED BY: SEPTEMBER 16, 2010**  
**TO: Todd Peplin @ todd.peplin@or.usda.gov**

**ACTION REQUESTED:** OTAC review and recommendation to the NRCS Conservation Innovative Grants, state component national resource sub-categories.

Under CIG state component, up to 5% of the state's Environmental Quality Incentives Program (EQIP) financial assistance funds are used to award competitive grants to non-Federal governmental or nongovernmental organizations, Tribes, or individuals. CIG enables NRCS to work with other public and private entities and individuals to accelerate transfer and adoption of promising technologies and approaches to address some of Oregon's most pressing natural resource concerns.

Attached to this document are the State Resource Concern Categories with associated sub-categories that OTAC considered important to solicit innovative technologies/methods to address resource issues in Oregon. These resource concerns and sub-categories are submitted to OTAC for concurrence as a recommendation to the NRCS state conservationist.



## **D. STATE COMPONENT CIG CATEGORY**

For Fiscal Year 2010, one category, the State Resource Concern Category, will be offered in Oregon. This category may include applications that focus on Market-based Approaches, Ecosystem Services, Environmental Credit Trading, or related conservation approaches and tools. Beginning or Socially Disadvantaged farmers or ranchers or eligible entities servicing Beginning or Socially Disadvantaged farmers or ranchers are encouraged to submit application(s), and will receive special consideration in the selection process. Additionally, proposals must identify the most appropriate resource concern subcategory and subtopic, listed below, for their proposal.

### **1. State Resource Concern Category**

#### ***i. Energy Subcategory***

The objective of this sub-category is to implement new technologies and/or approaches to conserve energy and/or produce renewable energy, while sustaining agricultural and forest productivity. Possible subtopics include:

- Innovative tools to estimate the energy and fossil fuel implications of cropland agronomic practices. May be based either on extending and validating the NRCS Cropland Energy Estimator prototype or developing a new tool;
- Innovative on-farm energy conservation technologies;
- Innovative on-farm applications of renewable energy production technologies to displace fossil fuel energy;
- Sustainable biomass production, harvest, and handling technologies; or
- Use of new technologies for cellulosic ethanol production.

#### ***ii. Climate Change Mitigation and Adaptation Subcategory***

The objective of this sub-category is to demonstrate the capabilities of agricultural and forest conservation systems to reduce greenhouse gas emissions, increase carbon sequestration (both soil and vegetation), and maintain high levels of food and fiber production in the face of changing temperature and precipitation regimes. Possible subtopics include:

- Emerging soil and plant management systems to maintain productivity with a changing climate;
- Conservation planning approaches that integrate agronomic or forestry knowledge with climate and weather information in order to assist farms with adapting to changing climate patterns;
- New technologies for measuring soil carbon on forest stands, specialty crops or on organic farms;
- Technologies for recycling nitrogen and/or bio-energy to enhance soil quality and carbon sequestration and/or bio-energy production;
- Demonstrate innovative approaches to decrease atmospheric concentrations of greenhouse gases by increasing carbon sequestration (e.g., increasing soil carbon);
- Innovative greenhouse gas reduction technologies; or
- Innovative technologies or methods that assist growers to comprehensively inventory on farm greenhouse gas emissions.

### ***iii. Soil Quality Subcategory***

The objective of this subcategory is to implement new technologies, methods or market-based approaches to maintain, restore, or enhance soil resources associated with agricultural and forest land uses while sustaining productivity. Possible subtopics include:

- Technologies and methods (e.g. carbon fractions, enzymes, other) for early prediction of soil quality degradation;
- New and innovative methods to improve soil tilth and soil quality related to maintained or improved productivity; or
- Innovative approaches or methods to aid land management decisions to enhance soil quality.

### ***iv. Water Quality Subcategory***

The objective of this natural resource concern is to implement new technologies, methods or market based approaches to maintain, restore, or enhance water quality resources associated with agricultural and forest land uses while sustaining productivity. Possible subtopics include:

- Technologies that support “farmer-friendly” recordkeeping software for complex systems, including quantification of nutrients applied by crop and field, state of manure and/or inorganic form, dates, irrigation data, and runoff water quality;
- Innovative approaches to animal manure or poultry litter management systems to reduce nutrient loading to ground and/or surface water;
- Technology or methods to determine balanced and cost-effective nutrient management systems using fertility inputs commonly used in organic farming operations;
- New methods/technologies to reduce water use on dairy operations;
- Technology or methods to determine the proper crops and sequence of crops to maximize the nutrient cycling of crop nutrients on organic farming operations;
- Technologies or methods that identify integrated management strategies that specifically suppress or minimize targeted pests on organic farming operations, such that the use of approved pest management inputs is reduced and used in a manner that protects ground and/or surface water; or
- Innovative approaches to management, application and/or treatment of manure.

### ***v. Plant Health/Vigor Subcategory***

The objective of this subcategory is to develop and/or implement new technologies, methods or market-based approaches to maintain, restore, or enhance plant health and vigor on forest, crop, hay, vineyard/orchard, pasture and range lands while sustaining productivity. Possible subtopics include:

#### Forest lands

- Innovative methods or technologies in fire management on forest land;
- Innovative approaches to improving water and air quality while maintaining forest health and productivity, including invasive species management;
- Development of techniques and methods to improve forest establishment and reduce tree mortality;

- Ways to encourage economically viable markets for secondary forest products to improve forest stand condition; or
- Implement new and innovative technologies to restore and/or enhance at-risk forest ecosystems.

#### Grazing lands

- New and innovative approaches and methods to reduce the effects of pests and diseases on grazing land quality, health, and productivity; or
- Innovative conservation practices and systems to improve forage use and restore lands for grazing opportunities at sustainable production levels, including invasive species management:
  - Low-input approaches to increasing forage production; or
  - Alternative grasses or forages for livestock; production that improve or enhance resource conservation.

#### Crop lands

- Demonstration of conservation practices and systems that are effective for organic crops and livestock/poultry production;
- Development of production techniques and markets for alternative crops with conservation benefits that have multiple uses (oil seed crops can be used for fuel, cosmetics, food, industry); or
- Technology or methods that identify crops and cropping sequences that specifically suppress or minimize targeted pests and their life cycles on organic farming operations.

#### ***vi. Air Quality Subcategory***

The objective of this subcategory is to implement new technologies, methods, or market-based approaches to restore or enhance air quality through agricultural, rangeland, and forestry practices while sustaining or improving productivity. Possible subtopics include:

- Innovative approaches or technologies for capturing or filtering forest or agricultural primary and precursor emissions of particulates, odors, reactive nitrogen, volatile organic compounds, to limit on-site and/or off-site effects from emissions;
- Identify management practices for air quality and atmospheric change concerns for animal operations and quantify the effects of the practices on all applicable resource concerns; or
- On-farm demonstration and development of new technologies to address agricultural air emissions or air temperature control.

#### ***vii. Wildlife Habitat Subcategory***

The objective of this subcategory is to implement new technologies, methods or market-based approaches for environmentally sound wildlife habitat management while sustaining agricultural and forest productivity. Possible subtopics include:

- Methods or approaches for encouraging landowner adoption of practices that benefit at-risk species working to prevent the listing of species under the Endangered Species Act;

- Demonstration of Beneficial Insect Habitat for Pest Control- need technology to determine the amount (acres) of habitat required to provide adequate pest control, matching plant species to attract desirable beneficial insect species, and managing habitat to provide pest control during the cropping season;
- New technologies, methods or innovations that reduce or prevent mortality and sustain or enhance populations of T&E or At-risk species; or
- Innovative Methods or approaches in determining habitat needs, special requirements, and/or resource impacts for T&E, Candidate, or At-risk species.

•  
***viii. Animal Health and Management Subcategory***

The objective of this subcategory is to implement new technologies, methods or market-based approaches for environmentally sound management of livestock while sustaining agricultural and forest productivity. Possible subtopics include:

- Market-based methods to promote use of agriculture/livestock waste to make it a marketable product, including group collection methods and market/product identification;
- Innovative method or technologies to promote water development or storage to facilitate grazing and forage management;
- Innovative technologies for composting deceased animals which include testing of nutrients and pathogens for land application; or
- Innovative technologies to promote high efficient management for livestock grazing.