

160 Natural Resources and Stewardship

Statement of Issues:

Constraints of farm production systems and communities are prerequisite for sound environmental stewardship. Inappropriate management can lead to potential environmental degradation. To maintain economic viability of agricultural operations there will be an increased need to ensure environmental stewardship. Environmental consequences are especially pertinent to nitrogen, phosphorus, carbon, sulfur, and residue, with respect to land, water, and air. These consequences are especially important considering the emerging bioeconomy and new industry issues. With the emphasis on harvesting crop residue to provide feedstock for cellulosic ethanol, the potential for erosion and nutrient loss increases. Pollutant loadings, in general, are a primary concern at state and federal levels.

Uncertainties of health impacts and nuisance related to exposure to agricultural odors and emission of other gases are a prominent concern in rural parts of Iowa. Odor along with nitrogen (NH_3 , NO_x , N_2O), methane, and hydrogen sulfide are most pertinent to air resources. Wildlife and fish conservation, energy utilization, and community water issues (quality and quantity) are part of our natural resources that merit protection. The potential increase of perennial crops could impact wild habitat in many ways. Development of strategies to address utilization and preservation of these natural resources and education on the issues surrounding adverse consequences will help Iowans better understand and practice environmental stewardship.

Performance Goals:

- Address air and water quality along with other environmental issues of Iowa through programming targeted at producers, citizens, public health officials, and regulators.
- Increase the adoption of conservation practices that control surface water runoff and associated soil erosion and phosphorus export.
- Increase the adoption of practices that reduce nitrate export from subsurface drainage.
- Increase the understanding of water quality issues and problems associated with poor stewardship practices.
- Increase the understanding of water quantity issues related to emerging industries in the bioeconomy.
- Increase the use of indices and diagnostic tools along with other performance measures to document progress toward improved nutrient management.
- Identify site-specific strategies and facilitate the implementation of these strategies to improve air quality and address related concerns.
- Increase the adoption of practices that reduce impacts to air resources.
- Understand and evaluate the economic impact of management of natural resources.
- Change the attitudes and practices of how Iowans use and protect natural resources including woodlands, wildlife, energy, and community resources.
- Increase the adoption of energy conservation practices by crop farmers, livestock producers, and homeowners.

Output Indicators (Activities):

- Curriculum for each targeted group, fact sheets, and web-accessible tools for decision making.
- Targeted programming to address policy issues as they arise including response to public comment documents, development of hard copy materials and resources for regulators and policymakers.
- Produce, update or revise handbooks, newsletters, and bulletins as appropriate.
- Hold workshops, field days, farm/field visits, and satellite and web-based sessions as appropriate.
- Develop strategies and programs to increase community (citizen) involvement.
- Develop and execute educational programs about the Conservation Security Program (CSP).
- Develop and execute educational programs about indices and diagnostic tools (e.g. PIndex) that can be used to improve nutrient management.
- Develop and execute educational programs on methods to conserve energy.
- Develop educational programs to preserve environmental benefits of the Conservation Reserve Program (CRP) and other conservation programs when the programs change.

Outcome Indicators (Impact):

161 – Adoption and implementation of conservation practices: Number of producers that participate in programming directly focused on increasing the adoption and implementation of conservation practices.

162 – Nitrate reduction from subsurface drainage: Number of producers that participate in programming directly focused on adoption of practices that reduce nitrate export from subsurface drainage.

163 – Water quality: Number of landowners participating in programs to increase their understanding of water quality issues and related adverse consequences following poor stewardship practices.

164 – Utilization of nutrient management indices and tools: Number of producers that participate in programming directly focused on utilization of indices (P-index) and diagnostic tools (late spring nitrate test, stalk nitrate test) along with other performance measures to document progress toward improved nutrient management.

165 – Air quality: Number of producers that participate in programming directly focused on increasing the number of livestock production sites that adopt practices that reduce impacts to air resources.

166 – Woodland, wildlife, fisheries, and community resource conservation: Number of Iowans that participate in programming directly focused on the adoption of practices that protect natural resources including woodlands, wildlife, energy, and community resources.

167 – Energy conservation: Number of Iowans that participate in programming directly focused on increasing the adoption of energy conservation practices.

168 – Water quantity: Number of Iowans that participate in programs focused on community water quantity issues.

Target Audiences:

Crop and livestock producers

Private citizens

Public health officials

State agencies

Conservation planners

Landowners

Homeowners

Team Point of Contact:

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