



CHARACTERISTICS AND ENVIRONMENTAL BENEFITS OF NATURAL RESOURCES CONSERVATION SERVICE INITIATIVES

The Natural Resources Conservation Service (NRCS) has made strides at targeting program funds to specific natural resource issues through landscape initiatives. These landscape initiatives have specific geographic boundaries that assist with concentrating resources where the biggest positive impact and increased efficiency can be realized. Initiatives displayed are Great Lakes Restoration Initiative, Lesser Prairie-Chicken Initiative, Longleaf Pine Initiative, Mississippi River Basin Initiative, and Sage Grouse Initiative. The goal of this fact sheet is to summarize the purpose, scope, program activity, and environmental benefits of each initiative. This fact sheet includes activity in the following programs which are: Conservation Stewardship Program, Environmental Quality Incentives Program, and Wildlife Habitat Incentive Program.

Source for NRCS program data: NRCS ProTracts as of 10/2013, official end-of-year file.

Note 1: Data represents fiscal years 2010 to 2013.

GREAT LAKES RESTORATION INITIATIVE

PURPOSE – Protect & restore priority watersheds in the Great Lakes Basin.

SCOPE – IL, IN, MI, MN, NY, OH, PA, WI.

ACTIVITIES THAT SUPPORT ECOSYSTEM - Contracts enrolled-1,219, acres enrolled-243,349, financial assistance obligations-\$46.9 million. Nutrient management practice is the most popular. It was planned or applied nearly 1,300 times on more than 325,000 acres from fiscal year 2010 to 2013. Practice counts & acres are higher than the contract count and acres because a practice can be repeated annually within the same contract.

PROBLEM STATEMENT - What are the relations between conservation practices and stream fish communities? Where should practices be placed on the landscape to maximize the return on investment?

STUDY/MODEL INFORMATION – Conservation Effects Assessment Project-Great Lakes Phase 2 Final Report-Assessing the Costs & Benefits of Conservation Practices to Restoring Biological Integrity in Agricultural Watersheds. (The Nature Conservancy, Michigan State University, and NRCS, 2013, Scott P. Sowa and Matthew Herbert).

RESULTS - Soil and Water Assessment Tool (SWAT) model output was used to assess fish community condition in four watersheds of Saginaw Bay basin in Michigan. Results show extreme uneven distribution of various species concentrations under both current and historic conditions. Compared to less disturbed sub-watersheds and fish populations (e.g., Rifle), sub-watersheds with greater amounts of row crop agriculture (e.g., Pigeon) require greater conservation treatment of nonpoint sources. Strategic placement of practices can reduce costs associated with implementing practices needed so that fish communities are no longer limited by 25% or more.

CONCLUSION - The Cass River Implementation Pilot Project showcases how the results from this approach is actively influencing targeting, outreach and implementation decisions and expectations at the local level.

MISSISSIPPI RIVER BASIN INITIATIVE

PURPOSE – Improve water quality; maintain or improve agricultural productivity.

SCOPE - AR, IL, IN, IA, KY, LA, MN, MS, MO, OH, SD, TN, and WI.

ACTIVITIES THAT SUPPORT ECOSYSTEM - Contracts enrolled-4,625, acres enrolled-959,922, financial assistance obligations-\$175.2 million. Nutrient management practice is the most popular. It was planned or applied nearly 4,900 times on more than 665,000 acres from fiscal year 2010 to 2013. Practice counts and associated acres are higher than the contract count and associated acres because a practice can be repeated annually within the same contract.

PROBLEM STATEMENT - Is the Mississippi River Basin Initiative more effective than the Environmental Quality Incentives Program?

STUDY/MODEL INFORMATION - Estimates effectiveness of the Mississippi River Basin Initiative were derived by modeling edge-of-field results on nearly 33 million acres of cultivated cropland within the Mississippi River Basin, using models in the Conservation Effects Assessment Project. (Natural Resources Conservation Service, 2011, Daryl Lund).

RESULTS – The Mississippi River Basin Initiative reduced sediment by 21 million tons, which is 1.7 times more effective per acre than the Environmental Quality Incentives program. The Mississippi River Basin Initiative reduced nitrogen by 277 million pounds, 1.3 times more effective per acre than the Environmental Quality Incentives program. The Mississippi River Basin Initiative reduced phosphorus by 55 million pounds, 1.4 times more effective per acre than the Environmental Quality Incentives program.

SUMMARY - Based on Conservation Effects Assessment Project model results, the Mississippi River Basin Initiative is more effective at improving water quality and improving agricultural production compared to the Environmental Quality Incentives program. Reducing nitrogen and phosphorus run-off is a production & economic benefit to farmers. Water quality improvement is a benefit to the general public and aquatic life and meets the purpose of the initiative.

SAGE-GROUSE INITIATIVE

PURPOSE - Conserve Sage-Grouse species and habitat; promote grazing lands with sustainable ranching.

SCOPE - CA, CO, ID, MT, NV, ND, OR, SD, UT, WA, WY.

ACTIVITIES THAT SUPPORT ECOSYSTEM - Contracts enrolled-743, acres enrolled-3.3 million, financial assistance obligations-\$79.2 million. Brush management practice is the most popular. It was planned or applied nearly 1,800 times on more than 308,000 acres from fiscal year 2010 to 2013. Practice counts and associated acres are higher than the contract count and associated acres because a practice can be repeated annually within the same contract.

PROBLEM STATEMENT - How much juniper and other conifer tree invasion is detrimental to the Sage-Grouse population; what size and tree patterns impact Sage-Grouse leks (mating area) activity?

STUDY/MODEL INFORMATION – Science to Solutions-Conifer Removal Restores Sage Grouse Habitat. (The Nature Conservancy, Univ. of Idaho, and the Sage-Grouse Initiative, 2014, Dr. Sharon Baruch-Mordo).

RESULTS - No active leks (mating area) where conifer trees covered more than 4 percent of land area. Spatial observation revealed that leks were more likely to be active in areas where trees were clustered, and large clear patches of sagebrush remained. Study also determined that large scale conifer removal at early stages is within reach of public investment, and for the active public-private partnerships.

CONCLUSION – Most effective approach for conifer treatment is to target early encroachment stands (Phase I and II) before the understory sagebrush community is lost and birds abandon breeding areas.

REGULATORY BENEFIT TO PROGRAM PARTICIPANTS - Thirty year regulatory assurance under the Endangered Species Act to ranchers that participate.

LESSER PRAIRIE-CHICKEN INITIATIVE

PURPOSE - Conserve the Lesser Prairie-Chicken species and habitat; promote grazing lands with sustainable ranching.

SCOPE - CO, KS, NM, OK, and TX.

ACTIVITIES THAT SUPPORT ECOSYSTEM - Contracts enrolled-691, acres enrolled-1.1 million, financial assistance obligations-\$27.3 million. Brush management practice is the most popular. It was planned or applied more than 800 times on more than 202,000 acres from fiscal year 2010 to 2013. Practice counts and associated acres are higher than the contract count and associated acres because a practice can be repeated annually within the same contract.

STUDY/MODEL INFORMATION – Field level vegetation monitoring of initiative contracts to assess the effect of NRCS conservation work on vegetative conditions. (Natural Resources Conservation Service, 2012, Jon Ungerer and Christian Hagen).

RESULTS – Preliminary results show that most grass types or eco-regions have canopy that is suitable for the Lesser Prairie-Chicken, with a minimal canopy percent cover of 60 percent. The four eco-regions, or grass types monitored and their canopy percentages are as follows: Sand Shinnery Oak (low 50% to low 60%), Sand Sagebrush (low 60%), Mixed grass (80%), and Short grass (high 50% to low 70%).

SUMMARY – In general, NRCS conservation work with this initiative is providing a suitable habitat for the species, with the mixed grass and short grass showing the highest canopy cover.

REGULATORY BENEFIT TO PROGRAM PARTICIPANTS - Conservation measures identified in the Biological Opinion between U.S. Fish and Wildlife Service and Natural Resources Conservation Service will ensure landowners are in compliance with the Endangered Species Act.

LONGLEAF PINE INITIATIVE

PURPOSE - Protect, enhance, or restore Longleaf pines in the natural geographic range of the tree.

SCOPE - AL, FL, GA, LA, MS, NC, SC, TX, and VA.

ACTIVITIES THAT SUPPORT ECOSYSTEM - Contracts enrolled-2,329, acres enrolled-186,521, financial assistance obligations-\$33.6 million. Tree and shrub site preparation practice is the most popular. It was planned or applied nearly 2,500 times on more than 164,000 acres from fiscal year 2010 to 2013. Practice counts and associated acres are higher than the contract count and associated acres because a practice can be repeated annually within the same contract.

ENVIRONMENTAL BENEFIT OF LONGLEAF PINE - Longleaf forests are home to 100 bird species, 36 mammal species, and 170 reptiles & amphibian species. U.S. Fish & Wildlife Service has listed 29 species as threatened or endangered, such as the Red-cockaded Woodpecker and Gopher Tortoise.

BENEFIT TO PROGRAM PARTICIPANTS - Longleaf pines are more fire resistant compared to other trees. Prescribed burning is beneficial to the tree and its ecosystem. Longleaf pines provide a reduced risk of damage to pine beetles, disease, and windstorms. Longleaf pines produce wood that is denser and stronger compared to other pines, improving marketability.

Source: NRCS ProTracts as of October 2013, official end-of-year file; Note 1: Data represents fiscal years 2010 to 2013; Note 2: Easement initiative program and financial data isn't included; Note 3: State list are as of October 2013.

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