

EXAMPLE 7 CONSERVATION MANAGEMENT SYSTEM GUIDANCE DOCUMENT

LOCATION (MLRA AND NRD): Upper Republican NRD, MLRA 72

RESOURCE SETTING: area is a ground water management area with a limit of water that can be pump an average of 14.5 inches per year over a 5 year period. Irrigated cropland. Water Source: Groundwater (High Plains and Ogallala Aquifer), 300-800 gpm. Crops: Corn, Field Beans, and Wheat; Soil textures: loamy fine sand, fine sand, sand. All soil map units. Annual precipitation: 16-18 inches, moisture lacking in summer during peak ET, rainfall often comes in short and intense spring and early summer storms. Wildlife: Potential for pheasant, grouse, deer and nongame wildlife.

BENCHMARK RESOURCE PROBLEMS (EXISTING CONDITIONS)

Soil:	Wind erosion reducing soil productivity and causing on and off site deposition on sandy soils.
Water:	Depletion of aquifer.
Air:	Airborne sediment on sandy fields.
Plants:	Plants are damaged by wind erosion on sandier soils.
Animals:	Lack of food cover and shelter for upland wildlife.
Human:	Interested in water conservation but is concerned that lower yields will result and reduce profit.

CONSERVATION MANAGEMENT SYSTEM (list practices to be applied and maintained and where they are applicable)

Planned Practices	Practice Description
328 Crop Rotation	Corn, Field Beans, Wheat
329B Residue Management Mulch-till	Plant field beans into mulch corn stubble
329A No-Till	No-Till Corn into Wheat Stubble and Wheat into Field Beans
430 Irrigation Pipeline	Provide Water to Pivot Point
442 Irrigation System Sprinkler	Existing medium pressure pivot converted to low pressure pivot
449 Irrigation Water Management	Install water meter, use irrigation scheduling, check soil moisture using the feel method or soil moisture blocks
590 Nutrient Management	Nutrients applied in accordance with soil test, realistic yields Nitrogen is supplemented during the season through the center pivot
595 Pest Management	Under ICM by a crop scout

RESULTS OF MANAGEMENT ACTIONS

MANAGEMENT ACTIONS	RESULTS OF MANAGEMENT ACTIONS
Convert from continuous corn to corn-field beans-wheat rotation	Conserve soil moisture, reduce moisture loss, reduce herbicide and fertilizer use, reduced weed pressure, less irrigation water needed
Soil testing and following University of Nebraska recommendation	Reduce fertilizer costs, improve yields on some areas, additional management time needed, reduce leaching of nitrates
Irrigation water management	Maximize use and efficiency of allotted irrigation water

Convert to low pressure pivot	Reduced irrigation energy costs, improved irrigation efficiency, cost of adapting well and buying new nozzles
Provide Nitrogen through center pivot	Improve Nitrogen use efficiency, reduce off-season losses of Nitrogen, reduced Nitrate leaching, improved crop yields, better timing for fertilizer application
Use of a crop scout and following Integrated Pest Management Plan	Apply pesticides only when it is economical, increased profit, reduce risk of pesticide losses to the environment
Provide Nitrogen through center pivot	Improve Nitrogen use efficiency, reduce off-season losses of Nitrogen, reduced Nitrate leaching, improved crop yields, better timing for fertilizer application

QUALITY CRITERIA DOCUMENTATION

RESOURCE CONCERN (refer to Section III quality Criteria and Exhibit 1 of NPPH for a list of concerns)	BEFORE CONDITIONS	AFTER CONDITIONS (refer to Section III quality criteria for more guidance)	QUALITY CRITERIA MET (Y or N)
Soil Erosion Wind	10 Tons/Acre/Year	5 tons or less	Y
Water Management (Irrigated land)	65% efficiency using FIRS	85% efficiency using FIRS	Y
Ground Water Contamination Pesticides	Medium to High risk of Pesticide loss using Win-PST	Low Risk with Win-PST evaluation or Medium Risk with mitigation applied per 595 standard	Y
Ground Water Quality Nitrate leaching	Medium risk rating using Nitrogen leaching index in 590 Nutrient Management Standard and does not meet the criteria in 449 Irrigation Water Management Standard	Low risk rating using Nitrogen leaching index in 590 standard and meets criteria in 449 Irrigation Water Management Standard	Y
Wildlife Habitat	Less than a 0.5 Index rating	0.5 or greater Index rating	Y