Draft Kulm Wetland Management District Habitat Management Plan

Kulm Wetland Management District
North Dakota

October 2014

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CITATION for this document:

U.S. Fish and Wildlife Service. 2014. Draft habitat management plan, Kulm Wetland Management District. Kulm, ND: U.S. Department of the Interior, Fish and Wildlife Service, Mountain-Prairie Region. 192 p.

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Summary

The U.S. Fish and Wildlife Service (Service) has selected strategic habitat conservation (SHC) as our business model for conservation which requires that conservation delivery be focused at the landscape level, along with resource allocation, in areas that will have the greatest conservation benefit to priority trust species. The need for efficient conservation delivery has never been greater because of recent acceleration in wetland drainage and conversion of grasslands for agricultural purposes throughout the Prairie Pothole Region (PPR; Stephens et al. 2008, Fargione et al. 2009, Oslund et al. 2010, Doherty et al. 2013, Johnston 2013, Wright and Wimberley 2013, Johnston 2014). Staff at Kulm Wetland Management District (District) have prepared an SHC-based Habitat Management Plan (HMP), a step-down management plan from the North Dakota Comprehensive Conservation Plan (CCP; USFWS 2008a), to direct conservation delivery in landscapes that can support the highest biological outcomes for priority migratory bird species such as breeding waterfowl (*Anas* spp.). The District primarily protects wetland and grassland habitat in perpetuity on 126,519 acres of wetland easements and 61,029 acres of grassland easements and on 45,302 acres of fee-title waterfowl production areas (WPAs; N = 201). This HMP uses the best available science including empirical species–habitat relationship abundance models to link conservation of priority species at the scale of Kulm WMD to the conservation of their populations within the North Dakota, South Dakota, and northeast Montana portions of the United States PPR. This HMP would be implemented through 2022 (≈9 years) when the next revision of the CCP is scheduled to take place.

Implementation of SHC also requires that conservation design and delivery be explicitly tied to population objectives (i.e., desired population size, occupancy, demographic rate, densities) in landscapes where the desired biological outcomes are predicted to occur (Johnson et al. 2009). Therefore, staff at Kulm WMD has selected the following population objectives to guide conservation delivery within the SHC design during the next 9 years:

1. Target wetland conservation in landscapes that support ≥25 breeding duck pairs/mi2 to maximize carrying capacity levels for breeding waterfowl (Anas spp.) and contribute to stable populations within the Prairie Pothole Region;
2. Target grassland conservation in landscapes that support ≥60 breeding duck pairs/mi2 (Anas spp.) and nest success levels above population maintenance levels (≥15–20% nest success) (Cowardin et al. 1985) to maximize waterfowl production and contribute to stable populations within the Prairie Pothole Region;
3. Increase habitat protection in landscapes that support high brood occupancy rates (Walker et al. 2013a) characterized by high densities of small- to mid-size wetland basins and a high proportion of grassland within a 10.4 km2 area to maintain waterfowl recruitment potential within the Prairie Pothole Region;
4. Target habitat conservation in landscapes that support densities above mean population levels for priority wetland- and grassland-dependent migratory bird species identified in this HMP.

The goals, objectives, and strategies included in this HMP are linked to SHC population objectives using a waterfowl-based landscape classification model that functions as a decision support tool to target resource allocation in landscapes where biological potential is the highest to support waterfowl carrying capacity, waterfowl production, and meet the habitat requirements of priority wetland- and grassland-dependent migratory birds (referred to as resources of concern [ROC]). **The classes do not represent priority order from 1A to 5, rather each class may have a different set or combination of conservation treatments (acquisition, enhancement, management) that can be used by managers to achieve the waterfowl population objectives of the SHC approach while benefitting other priority ROC**. For example, acquisition of wetlands in 1A, 1B, and 4A landscapes would provide the highest biological return to support the carrying capacity of waterfowl and pulses in their productivity that occur during wet periods in the PPR (Walker et al. 2013b). This includes targeting protection and acquisition of conservation easements, enhancement and restoration of wetlands and grasslands on private lands under the USFWS Partners for Fish and Wildlife Program, restoration of native mixed-grass prairie and reconstruction of non-native grasslands to diverse native stands on fee-title WPAs, and management of vegetation structure for nesting priority species on fee-title WPAs.

Because a large proportion of wetland (>50%) and grassland (>90%) habitat on private lands is currently unprotected in the District (USFWS Kulm WMD, Kulm, North Dakota, unpublished data), future conservation of these habitats is critical for the District to support the carrying capacity for waterfowl and other migratory bird populations in the PPR. The highest priority conservation treatment under the SHC conservation design is to conserve at-risk high-density wetlands that occur in cropland-dominated landscapes because they support waterfowl carry capacity and pulses in waterfowl populations that coincide with high spring pond density (Walker et al. 2013b). However, the rate of future easement acquisition will likely depend on 1) obtaining sufficient funding levels, 2) maintaining landowner interest and acceptance of the easement program, and 3) rate of land-use change influenced by demand for commodities and public policy (Doherty et al. 2013). Although the District is uniquely positioned to implement landscape conservation, if habitat protection does not outpace habitat losses in the future, then the goals and objectives identified in this HMP and other regional conservation plans may need to be refined to reflect what can actually be achieved (Doherty et al. 2013). Therefore, the District will continue to acquire wetland and grassland conservation easements from willing landowners in the shortest duration possible to protect critical habitats before they are converted and maintain the District's contribution to waterfowl and other wetland- and grassland-dependent migratory bird populations.

The District intends to track the outcomes of our conservation actions on selected priority species through assumption-based research and focused monitoring to determine the level of progress (contribution to populations within USPPR) that the District is achieving. This iterative process requires flexibility in conservation delivery that can be modified as new scientific information is obtained during the strategic habitat conservation process.

Ultimately, if biological outcomes are the currency that managers desire as a return on their conservation investment, then directing specific conservation treatments to different landscape types provides an efficient means for conservation delivery under an SHC framework (USFWS 2006b, 2008c).

Abbreviations

ac	acres
BIDEH	Biological Integrity, Diversity, and Environmental Health
BCR	Bird Conservation Region
ca.	circa
CCP	comprehensive conservation plan
CRP	conservation resource program
CDL	cropland data layer
DGCA	Dakota Grasslands Conservation Area
DNC	dense nesting cover
ESD	ecological site description
FmHA	Farmers Home Administration
ft	feet
GIS	geographic information system
drift prairie	glaciated plains
GPFD	Great Plains Fire District
HMP	habitat management plan
HAPET	habitat and population evaluation team
ha	hectare
HCPC	Historic climax plant community
in	inches
I & M	inventory and monitoring
IMP	inventory and monitoring plan
km	kilometers
District, Kulm WMD	Kulm Wetland Management District
LCC	landscape conservation cooperative
MLRA	major land resource area
Tribes	Confederated Salish and Kootenai Tribes
m	meters
MBTA	Migratory Bird Treaty Act
mi	miles
mph	miles per hour
NASS	National Agricultural Statistics Service
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
Improvement Act	National Wildlife Improvement Act of 1997
Refuge or NWR	national wildlife refuge
NWRS	National Wildlife Refuge System
NPAM	native prairie adaptive management