

**North American Waterfowl Management Plan
Desired Characteristics for Joint Venture Implementation Plans
(17 July 2007)**

<i>Strategic Habitat Conservation Framework</i>	Element/Product	Element Expectations	
		Minimal Content (for initial Implementation Plans and Concept Plans)	Comprehensive Content (Implementation Plans should move toward this content as a Joint Venture matures)
Biological Planning	Biological Planning Unit (Spatial and Temporal Scales)	Spatial Planning Unit defined. Identify temporal importance (breeding, staging, wintering) of JV to waterfowl. Explain and justify when planning scale deviates from NAWMP conservation ecoregions. How do you plan to treat overlapping planning units within established JV admin boundaries?	Same.
Biological Planning	Priority Species	A preliminary list of priority waterfowl species identified and justified. Explanation if priority species/populations in most recent NAWMP update are excluded.	Final list of priority waterfowl species/populations. Documentation for final list. Explanation if priority species/populations deviate from priorities in latest NAWMP update.
Biological Planning	Population Objectives	Anticipated population objective variables (abundance, vital rates, etc.) identified. General description of the process that will likely be used to develop population objectives. Description of how those objectives will link to the NAWMP continental objectives.	Explicit set of population objectives. Include moving population objectives as appropriate to account for environmental or seasonal variability. Documented process for deriving population objectives. Sources of uncertainty and list of assumptions.
Biological Planning	Limiting Factors	A list of potential factors thought to limit waterfowl in planning unit.	Demographic parameters (e.g., survival rate, recruitment rate) targeted by habitat management actions.
Biological Planning	Species/Habitat Relationships	Type of population-habitat model expected to be developed that will explicitly relate population response to limiting factors (empirical, conceptual).	Explicitly stated population-habitat models. Assumptions documented as testable hypotheses.

Conservation Design	Landscape/Habitat Characterization and Assessment	General description of ecological setting relative to waterfowl habitat. List of drivers that seem to be impacting waterfowl habitat. Set of implications to waterfowl population in the absence of partnership intervention. Link to assumed limiting factors and population-habitat relationships.	A rigorous analysis of landscape/habitat carrying capacity based on explicit population-habitat models. Where possible conduct retrospective analysis of carrying capacity (e.g., prior to 1986). Where possible forecast expected carrying capacity with and without partnership intervention.
Conservation Design	Assessment of the Conservation Estate	Preliminary summary of waterfowl habitat (acres) protected, managed, and restored in the planning unit. This includes an assessment of all conservation lands that will benefit waterfowl.	Thorough analysis of existing waterfowl habitat under protection, management, or enhancement throughout the planning unit. This includes all conservation lands, not just the accomplishments of JV partners. Information should be presented by ownership, state, etc. where applicable. Assessment of the net change in the conservation landscape since the inception of the Joint Venture.
Conservation Design	Decision Support Models	Description of how the partnership might develop spatially explicit decision support models/tools to guide specific management actions suitable to overcome limiting factors. If deemed appropriate, develop a preliminary set of spatially-explicit focus areas to guide interim conservation delivery activities.	Spatially-explicit decision support tools for specific management actions suitable to overcome limiting factors. Tools distributed to partnership based on population-habitat models where appropriate. Documented analytical process and model assumptions.
Conservation Design	Habitat Objectives	General estimation of the magnitude of habitat protection, restoration, and enhancement that might be expected of the partnership.	Explicit set of habitat objectives linked to population objectives and based on population-habitat models, carrying capacity, assessment of conservation estate, and decision support models as available. Habitat objectives should be partitioned among sources of habitat (ownership, state) where appropriate.

Conservation Design	Integration with non-waterfowl avian populations.	Articulate anticipated approach for integrating waterfowl habitat objectives with habitat objectives for other avian species.	Document process for integrating various bird plans. Describe decision-rules for conflict resolution. Describe extent of spatial/temporal overlap in conservation activities.
Habitat Delivery	Conservation Treatments	General description of anticipated conservation tools/treatments the partnership expects to deliver to meet the needs of waterfowl.	Comprehensive list and documented description of habitat treatments/conservation actions being deployed by partnership, including quantification of how specific conservation actions are expected to affect waterfowl abundance and/or vital rates and to what degree.
Habitat Delivery	Program Objectives	Description of how conservation programs (e.g., Farm Bill, land purchase and restoration programs, etc.) will be linked to biologically-derived waterfowl habitat objectives.	Translate waterfowl habitat objectives into explicit program-specific objectives (e.g., CRP, WRP, NWR, WMA, Green Cover Canada, etc.). If appropriate, describe ranking systems developed to inform prioritization and decision-making.
Monitoring	Conservation Tracking System	General description of anticipated need for tracking partnership activities (gross partnership accomplishments). A vision for creating that capability among partners.	Documentation on how the partnership will track conservation actions overtime. Explicit description of how information will be used to inform decisions (e.g., increasing performance for Program X). Explanation of linkage between tracking system and biological models so that biological accomplishments can be assessed and reported.
Monitoring	Habitat Inventory & Monitoring Programs	General description of anticipated process that will be employed to inventory and monitor net habitat change over time and net progress toward population objectives (gains and losses).	Documentation of habitat monitoring objectives and habitat parameters that will be inventoried and monitored over time. Expected process (e.g., remote sensing) and time interval for data collection. Explicit description of how information will be used to inform decisions (e.g., refining habitat or population objectives). Assessment of the net change in the conservation landscape of the Joint Venture.

Monitoring	Population Monitoring Program	Description of anticipated process for prioritizing and coordinating monitoring of bird population responses over time.	Documentation of demographic parameters monitored specific to each objective. Expected process (e.g., aerial surveys, nest survival) and time interval for data collection. Explicit description of how new information collected from monitoring programs will be used to inform future planning decisions (i.e., identify the feedback loop).
Research	Species/Habitat Model Assumptions	A preliminary list of assumptions for population and habitat parameters used in models (e.g., priority species' limiting factors, predicted densities, habitat quality).	Prioritized, targeted research needed to address key uncertainties within models (prioritized based on value of better information).
Research	Conservation Treatment Assumptions	A list of conservation treatments for which the impacts on bird abundance and vital rates may not be well known.	Prioritized, targeted research needed to address key uncertainties about the impacts of conservation treatments on bird abundance/vital rates.
Research	Sensitivity Analyses	A list of key parameters most likely to influence 1) population response variables or 2) habitat objectives.	Statistical analysis of key parameters to examine their influence on population or habitat model results based on a range (e.g., confidence intervals) of assumed values (e.g., distance to edge).
Research	Spatial Data Analyses	A list of concerns relating to the limitations of current spatial databases as they may affect conservation planning.	Development of best or improved methods of monitoring landscape attributes and spatial arrangement.