

NWRS Region 6 Inventory & Monitoring FY2011 Annual Work Plan

1. Introduction

1.1. Present the vision, goals, and objectives for the regional inventory and monitoring initiative.

This annual work plan describes the implementation of the National Wildlife Refuge System (NWRS) Inventory and Monitoring (I&M) Program in Region 6 (R6). The purpose of this document is to describe the program and the approach that will be used to identify priority issues in R6 that new I&M Program staff and the Regional Refuge Biologist will address during Fiscal Year (FY) 2011 and beyond to help achieve the NWRS mission. The foundation of this approach is based on the new *National Wildlife Refuge System Inventory & Monitoring Policy* (863 FW 1, which will supersede 701 FW 2) and the following National I&M Program guidance documents developed in 2010: 1) the *Strategic Plan for Inventories and Monitoring on National Wildlife Refuges: Adapting to Environmental Change* (hereafter the *Strategic Plan*), 2) the *Operational Blueprint for Inventories and Monitoring on National Wildlife Refuges – Adapting to Environmental Change* (hereafter *Operational Blueprint*), and 3) the *Business Addendum to the Strategic Plan*. The *I&M Policy* provides guidance for developing an I&M plan for field stations, including outlining priorities for surveys, the selection and design of survey protocols, data storage and analysis, and reporting results. The *Strategic Plan* provides background information and the rationale for the I&M Program, whereas the *Operational Blueprint* establishes the initial structure of the program and identifies priority tasks to be initiated in FY 2010 and 2011. The *Addendum to the Strategic Plan* characterizes program organization, administration, and staffing.

The NWRS Inventory & Monitoring Program

Formation of a NWRS I&M Program is based on the premise that credible and defensible information on biological resources, ecological processes, and components of physical environments is critical to meeting the mission and legislated mandates of the Refuge System. Specifically, the program is designed to address the Refuge System's critical information needs and help plan and evaluate the effectiveness of conservation strategies implemented by the U.S. Fish and Wildlife Service (Service) and conservation partners in response to accelerating climate change and growing threats from other environmental stressors. Collecting this information will require collaboration within the NWRS and other Service programs, as well as other federal, state, and private partners because current and emerging environmental issues are complex and occur at multiple spatial and temporal scales. The purpose of these collaborations is to develop, where possible, integrated strategies for the collection of I&M data that can be used to advance conservation at multiple scales ranging from an individual field station to ecosystems. To accomplish this vision, development of the NWRS I&M Program must consider NWRS station and regional biological programs, as well as the mission and operational guidelines of newly established Landscape Conservation Cooperatives (LCCs).

Success of the NWRS I&M Program will require adherence to sound business practices that (1) ensures delivery of valued products to NWRS field staff and our partners, (2) provides defensible scientific data for land managers and others involved in making natural resource decisions, and (3) is accountable to Congress and the public. The scope of the program will include documenting the status, condition, and changes in the Refuge System's diverse fish, wildlife, and plant communities, as well as physical resources (e.g., water, air and soils) and ecological processes in a manner that supports science-based conservation planning and management at multiple spatial scales. The collection and storage of information will be based on protocols and standards to ensure that information is scientifically credible, relevant, and valued by the Service, its partners in the conservation community, and the public.

The initial framework for the I&M program includes a national office in Fort Collins, Colorado, eight regional offices, a presence within each LCC, and a minimum of three field positions located at stations served by the LCC. The NWRS I&M Program will be nationally coordinated, but integrated with station

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management. Roles and responsibilities of the I&M positions are available in the *Addendum to the Strategic Plan*. Integration of the new R6 I&M Program with the Regional Biological program, as well as the roles and responsibilities of these positions are described below.

National Inventory and Monitoring Program

The vision of the National I&M Program is to develop a nationally coordinated program of I&M within the NWRS that will generate information critical to ensuring the Refuge System's ongoing contributions to the conservation of the nation's fish, wildlife, and plant resources in the face of climate change and other environmental stressors. To realize this vision, the *Operational Blueprint* identifies the following goals and objectives, which were used to develop initial tasks to be undertaken by the National and Regional I&M staffs during FY2010 and FY2011.

Goals

- Meet the Refuge System's legal mandate to monitor the status and trends of fish, wildlife, and plant populations on refuges; collect and manage information needed to maintain populations of trust species, biological integrity, biological diversity, and environmental health; and preserve the character of designated wilderness within the NWRS.
- Advance fish and wildlife conservation on refuges and at broader landscape scales in an adaptive management cycle by providing scientific information that supports conservation planning and design, guides learning through evaluation of conservation delivery, and offers a basis for assumption-driven research.
- Implement monitoring of fish, wildlife, and plants; physical resources; and ecological processes to reduce uncertainty related to impacts of climate change and other stressors; provide early warning of changing conditions; and guide development of management actions that facilitate adaptation to climate change.
- Synthesize, interpret, and report on the condition of fish, wildlife, plants, and habitats conserved by the Refuge System in a manner that documents the contributions of the Refuge System within the context of the larger conservation estate and clearly communicates its value to the American public.
- Enhance effectiveness and reduce costs by coordinating and integrating monitoring of natural resources at landscape scales through collaboration with other Service programs, agencies, and organizations.

Objectives

- Identify and prioritize information needs that, when addressed, will improve conservation and management of trust species, etc.
- Collect, synthesize, and manage information needed to increase the resilience of existing protected areas by informing refuge planning and management and the future growth of the Refuge System. Support and evaluate adaptation strategies at multiple spatial scales.
- Collect, synthesize, and manage information needed to assess the vulnerability of the NWRS to the following broad-scale climate and non-climate stressors: water shortages, changes in precipitation and disturbance patterns, changes in fire risk, contaminants, and land use changes. Support and evaluate adaptation strategies at multiple spatial scales.
- Collect, synthesize, and manage information needed to assess the vulnerability of the NWRS to increases in weed species and changes in insect pests and disease pathogens. Support and evaluate adaptation strategies at multiple spatial scales.
- Collect, synthesize, and manage information needed to detect shifts in biomes and species ranges, elevated extinction rates, and changes in the timing of migrations and other phenological phenomena. Support and evaluate adaptation strategies at multiple spatial scales.

- Collect, synthesize, and manage information needed to assess the vulnerability of the NWRS coastal and marine resources to sea level rise, rising ocean temperatures, and ocean acidification. Support and evaluate adaptation strategies at multiple spatial scales.
- Collect, synthesize, and manage information needed to assess the vulnerability of the NWRS Arctic and other high-latitude resources, including ice-dependent species. Support and evaluate adaptation strategies at multiple spatial scales.

1.2. Describe how the regional I&M initiative is organized and planned focus areas.

Region 6 Inventory and Monitoring Program Overview

A decision was made to integrate the new I & M program with the Region 6 regional refuge biological program and together they are referred to as the Division of Biological Resources (DBR). The primary vision of the DBR is to build a biological framework that is based on management needs and to work collaboratively with partners and FWS programs to develop products that support management decisions at multiple spatial scales. The R6 DBR staff met in Lakewood, CO. in December 2010 to discuss how the program should be developed and implemented to achieve this vision. General operating principles were developed based on existing Service policies and I&M Program guidance documents as mentioned above, and they include: 1) a primary function of the R6 DBR Program is to assist field stations and collaborate with other R6 programs to define clear conservation and management objectives and to evaluate progress in achieving those objectives, 2) the R6 DBR Program must contribute to achieving National I&M Program goals and objectives, and 3) the NWRS I&M Program is NWRS centric, but is not refuge exclusive because collaborative efforts, when priorities and needs overlap, will likely provide valuable information for other Service programs, LCCs, and other conservation partners. In addition, the staff agreed that the use of an adaptive process driven by local, regional, and national needs to determine program direction is essential to ensuring long-term success and effectiveness.

1.3. Explain how the regional I&M initiative integrates with the refuge biological program in the region.

To ensure that station needs are met, I&M program staff will collaborate with staff from field stations and other Service programs to identify conservation and management issues and track the status and trends of abiotic and biotic factors needed to effectively manage NWRS lands and waters. At the station level, needs identified in Comprehensive Conservation Plans (CCP) and Habitat Management Plans (HMP), as well as other landscape issues influencing station management, will be used to establish priorities for each refuge's I&M activities. Region 6 DBR staff also will support field stations in the development of tools (e.g., study plans, monitoring protocols, database development, data analysis) and provide technical assistance necessary to make informed management decisions. At the R6 level, I&M Program activities will be based on tasks identified in this draft Annual Work Plan, as well as input from staff of other Service programs (e.g., Water Resources Division, LCCs, Office of Migratory Birds, Ecological Services, and HAPET). R6 priorities will be identified by field station needs as part of the I&M review process described below, and final decisions on priority tasks will be made by the R6 Refuge Leadership Team, including the Assistant Regional Director, Zone Refuge Supervisors, and Project Leaders.

1.4. Explain how the regional I&M initiative coordinates with partners via the Landscape Conservation Cooperatives (LCCs). Which LCC's are included in the regional I&M initiative? What role does the regional I&M initiative serve within the LCC?

To ensure that the goals and objectives of the National I&M Program and LCCs are addressed, the R6 I&M staff will address a subset of Phase I tasks identified in the *Operational Blueprint*. The subset of tasks selected will vary annually depending on priorities and opportunities to collaborate; however, an attempt will be made to focus on those tasks that overlap station and R6 priorities to maximize regional benefits. In addition, the R6 I&M staff will ensure that monitoring priorities and strategies, when possible, are aligned with and support the National I&M Program and the LCCs.

The DBR staff determined that in order to be most effective we need to develop both a short-term annual work plan as well as a need for a long-term framework that will clearly define the integration of the regional biological programs. This Annual Work Plan is a short-term plan that is required by the National I&M Program and is necessary because interim decisions regarding annual tasks and funding needs to be addressed. After all position vacancies for the Regional and National I&M Programs have been filled, I&M staff will meet with staff from other Service programs in R6 and LCC Coordinators in the region to identify long-term plans for the regional and national I&M programs. This plan will be drafted by the R6 I&M Coordinator and will be distributed to field station staff and other Service programs for review and comment. In addition to integration and collaboration with other Service programs and LCCs, the roles and responsibilities and integration of the R6 I&M Program with the R6 Biological Program will also be defined.

To facilitate communication, the National I&M staff established a SharePoint site and will work on a program website to distribute and share information with Regional I&M program staff and Field Station staff throughout the NWRS. Similarly, R6 has established a SharePoint site for the R6 I&M staff that will soon be available to all R6 Field Station staff to provide region-specific information about the I&M program.

2. Staffing

2.1. Provide a list of regional I&M staff and their job type or role, grouped by LCC. Also include a list of key cooperators (with their affiliation and role) who will be actively involved with the region's activities on at least a monthly basis during the coming year. Indicate vacancies and plans for refilling.

The R6 I&M Program is operated within the R6 DBR (Appendix III). The DBR Chief provides overall guidance and support for I&M program activities in the region. During the latter part of FY 2010, six R6 I&M positions (Table 1) were filled and the logistical and administrative needs of the program were identified and addressed. One Regional I&M Coordinator was hired and is located in the regional office. Three I&M Zone Biologists were hired and are strategically located in each of Region 6's geographic areas. With the exception of a few field stations, the area of responsibility for each zone biologist aligns with the area supervised by R6 Zone Refuge Supervisors. Further, these areas coincide, for the most part, with the five LCC geographic areas in R6 (Great Northern, Great Basin, Southern Rockies, Great Plains, and Plains and Prairie Potholes). In addition, two GIS/Database Specialists were hired to serve the GIS and database needs of the program.

Table 1. Positions, locations, and geographic area of responsibility for support of the U. S. Fish and Wildlife Service Mountain-Prairie Region (Region 6) Division of Biological Resources Staff (*LCC=Landscape Conservation Cooperatives).

Position Title	Staff Name	Location	LCC*	Geographic Area
Chief, DBR	Wayne King	Lakewood, CO	Region-wide	Regional/National
Regional I&M Coordinator	Soch Lor	Lakewood, CO	Region-wide	Regional/National
Zone Biologist	Jeff Warren	Red Rock Lakes NWR Lima, MT	Great Northern Great Basin	Utah, Montana, Wyoming, Brown's Park
Zone Biologist	Cami Dixon	Chase Lake NWR, Woodworth ND	Plains & Prairie Pothole	North Dakota, South Dakota, Medicine Lake
Zone Biologist	Murray Laubhan	Quivira NWR Stafford, KS	Great Plains Southern Rockies	Nebraska, Kansas, Colorado, Lacreek
GIS/Database Specialist	Jo Ann Dullum	Benton Lake NWR Great Falls, MT	Region-wide	Montana, Wyoming, Colorado, Utah (project-specific)
GIS/Database Specialist	Jennifer Zorn	Arrowwood NWR Pingree, ND	Region-wide	North Dakota, South Dakota, Kansas, Nebraska (project-specific; RLGIS)

Roles and Responsibilities

Chief, Division of Biological Resources:

- Overall guidance and support for R6 I&M program activities
- Contact for major issues at a regional or national scale that are of a significant or sensitive nature and requires a higher degree of management decision.
- Project level questions that would require Division Chief review and approval before implementation.
- Personnel and work related issues.
- Long-term project involvement or historical institutional knowledge.
- Budget development, enhancement, tracking, and administration.

Regional Inventory and Monitoring Coordinator:

- Coordinates I&M activities on R6 field stations in collaboration with the LCCs, HAPET, and the National I&M office.
- Ensures refuge needs are scaled up with the National I&M program and with LCC activities, and with other Service programs.
- Works closely with Zone Biologists and between the R6 DBR program and other Service programs and the National I&M office to address refuge needs.
- Support biological monitoring and adaptive management needs at multiple spatial scale by advocating for resources, prepare and submit grant proposals, collaborate with other programs to leverage resources.
- Provides guidance related to the use of standardized monitoring protocols and databases.
- Develop inventory and monitoring protocols in collaboration with zone biologists, regional I&M coordinators, HAPET, and the National I&M staff.
- Assist field stations with study designs, data analysis, report preparation, and reviews of various documents and plans.
- Works closely with the Planning and Water Resources Divisions to develop quality CCPs, HMPs, and IMPs.

Zone Biologists:

- Serves as the primary support staff to R6 field stations on issues related to biological I&M.
- Collaborate with field station staff to identify priority and common I&M needs in R6 and LCCs, including conducting initial field station I&M visits as described in this work plan, working with LCC Coordinators, and serving on advisory boards as requested.
- Assist field stations, as requested by Project Leaders, Zone Supervisors, Regional Refuge Biologist, and Regional I&M Coordinator, with identifying high priority resource management problems and completing CCP, HMP, and step down plans.
- Provide leadership and technical assistance, as needed, to Station Biologists, Project Leaders and the LCC partnership. Technical assistance may involve leading or serving on work teams; developing and reviewing monitoring protocols, sampling designs, and reports; facilitating contacts and consultations with scientists; facilitating workshops and meetings; and identifying management questions and needs.
- Assist the Chief, Division of Biological Resources and/or the Regional I&M Coordinator with planning, organizing, and implementing the National and Regional I&M programs.
- Represent R6 Refuges and participate in or lead, as appropriate, work teams associated with the National and Regional I&M program or associated with I&M needs of the LCC, including the development of I&M protocols, databases, and reporting systems.
- Assume the role of Project Coordinator, or some other appropriate leadership role, for one or more multi-station adaptive management projects, as needed. This may include developing and reviewing survey protocols and sampling designs; planning and delivering training; ensuring that projects are of high technical quality; publishing results; and assisting with field work.
- Work with others in R6 and nationally to develop processes for cataloging and extracting useful information from legacy datasets at field stations. This includes assisting field stations that conduct Hydrogeomorphic (HGM) analyses.
- Test and evaluate protocols, databases, and processes developed by national and regional I&M work groups.

Data Managers/GIS Specialists:

- Develop databases that are identified by field stations
- Assist field stations with database management, development, and maintenance (e.g., RLGIS).
- Maintain databases, write programming code, and perform analyses that help achieve goals of the field stations and I&M program.
- Provide training and technical assistance with GIS and RLGIS.
- Develops and maintain databases and provide training related to adaptive management projects (e.g., Native Prairie and Reed Canary Grass AM projects)
- Collaborate with the National I&M Database Managers on national database development, as appropriate.
- Develop and maintain SharePoint and websites to improve communication.

3. Planned Activities and Anticipated Products

During the remainder of FY 2011, the R6 DBR staff identified two immediate priorities. The first is to engage and educate the new DBR staff, Field Stations, and Region 6 Office about the NWRS I&M Program, and LCCs, including options for integrating these programs to reduce redundancy and achieve maximum effectiveness. In addition, the new I&M program will require time to develop working relationships with Field Station staff and become familiar with station-specific and regional priorities, including conservation and management issues, strategic plans (including CCPs and HMPs), and relevant policies and handbooks if they are to effectively support I&M activities that benefit stations and R6. Appendix I describes in detail the plan for field station visits with tentative FY11 visitation schedules (Appendix II) for each of the zone biologists.

The second priority is to begin addressing the Phase I tasks in the Operational Blueprint. The R6 Assistant Regional Director for Refuges and the R6 DBR Chief preliminarily identified a subset of 45 tasks in the *Operational Blueprint* as priorities for FY 2011 prior to new I&M staff being hired. During the regional program meeting in December, the entire R6 I&M staff carefully reviewed these tasks and priorities and yielded the tasks identified in Table 2.

The following criteria were used to prioritize tasks for R6:

- Address information needs common to multiple stations in R6, as well as to the NWRS.
- Address information needs (data gaps) critical to developing adaptation strategies for climate change with wide application to the NWRS.
- Leverage existing projects that are occurring at field stations. Priorities articulated by field staff will justify or modify these preliminary priorities from the Operational Blueprint.

In addition, each region will initiate work on one or more pilot I&M projects identified in the *Operational Blueprint*. Region 6 will assume a leadership and collaborative role on adaptive management projects and invasive species inventory and monitoring. We will also lead the effort to conduct HGM analyses on field stations, which includes working closely with R6 Water Resources Division and the Conservation Planning team to gather needed legacy data, conduct new water resources inventory and monitoring activities, and coordinate and work closely with the Planning team on HGM and CCP development. We will continue to support existing multiple station adaptive management projects (e.g., Native Prairie and Reed Canary Grass Control) that R6 stations are conducting by assisting with project coordination and database development and management in the operational phase of the projects. R6 will likely contribute to other pilot I&M projects such as Region 1's effort to beta test the Refuge Habitat Management Database (RHMD) at selected stations. Although several multi-year I&M program activities will begin in FY 2011 to address these priority tasks, the R6 I&M staff will work with Field Station staff annually to evaluate the status of these activities and make adjustments as needed.

Table 2. Region 6 Inventory and Monitoring Activities, by Project or Theme, Starting in FY2011. Yellow highlighted items are tasks that have been started and are in progress.

Blueprint Objectives and Tasks	Project or theme	Planned Products	Staff
IDENTIFY I&M PRIORITIES			
See below for description	Conduct field station visits to review and assess I&M needs.	Trip report and database	R6 Zone Biologists
LEGACY DATA			
1A	Compile quality abiotic data for each refuge, for purposes of WRIA, HGM, and CCP planning.	Report and database	R6 Database Specialists
1A	Develop data standards to achieve consistency among regions.	Report and database	National I&M Staff R6 Database Specialists
1A	Develop centralized abiotic database.	Database	National I&M Staff R6 Database Specialists
1A	Develop timeline and strategies for filling data gaps.	Timeline & strategies	R6 Planning Division R6 I&M Coordinator
1C	Develop a process for evaluating the quality of and reporting of legacy data, including steps to compile and store quality legacy data.	Database	R6 Field Station Staff R6 Zone Biologists
1C	Evaluate the quality of, and analyze and report high quality legacy datasets on a priority topic for a subset of refuges.	Database	National I&M Staff R6 I&M Coordinator
WATER			
1B	Integrate WRIA with HGM analysis on refuges that are starting HGM analysis in FY11 (Seedsadee, Alamosa, Monte Vista, Baca, & Quivira).	Report and schedule of HGM and WRIA work on refuges	R6 Water Resources Division Regional I&M Coordinator R6 Zone Biologists
1B	Prioritize field stations for HGM analysis and WRIA.	Report and schedule	R6 Field Station Staff R6 Planning Division R6 I&M Coordinator R6 Zone Biologists
1B	Support field station staff and contractor with data acquisition and editing of HGM report.	HGM report	R6 Field Station Staff R6 I&M Staff
2A	Prioritize and schedule refuges for a WRIA.	Report of priorities and schedule	R6 Planning Division R6 DBR Chief R6 I&M Coordinator
2A	Test a national strategy for conducting WRIsAs on NWRS lands.	Protocols & Report	Water Resources Division National I&M Staff R6 I&M Coordinator
2A	Develop a standardized centralized database (Evaluate WISKI)	Database	National I&M Staff R6 Database Specialists
INVENTORIES			
1E	Identify station needs for vegetation cover maps in R6.	Report	R6 I&M Coordinator R6 Database Specialists
1E	Develop national strategy for creating standardized vegetative cover maps for NWRS lands.	National strategy, protocols, and databases	LCC Staff National I&M Staff HAPET R6 Database Specialists

Blueprint Objectives and Tasks	Project or theme	Planned Products	Staff
ADAPTIVE MANAGEMENT			
1F	Test and evaluate Region 1 Refuge Habitat Management Database.	Database	R1 Staff R6 Zone Biologists
1F	Support multi-refuge Native Prairie project.	Coordination, database, data calls, etc.	R6 Zone Biologist (ND) R6 Database Specialist (ND)
1F	Support Reed Canary Grass Control project.	Coordination, database, data calls, etc.	R6 Zone Biologists (ND, KS)
1F	Support completion of cattail control project.	Report, manuscripts, and protocols	USGS/NPWRC R6 I&M Coordinator R6 Zone Biologist (KS)
1F	Support R6/R7 adaptive management under climate change.		USGS R6 DBR Chief
1F	Support Ungulate Browse Project.	Report, manuscripts, and protocols	R6 Zone Biologist (MT)
1F	Support Dakota Prairie Reconstruction Project.	Report, manuscripts, and protocols	R6 I&M Coordinator R6 Zone Biologist (ND)
1F	Support Sentinel plant monitoring on Charles M. Russell NWR.	Protocol development and testing	Charles M. Russell NWR Staff R6 I&M Coordinator R6 Zone Biologist (MT)
6A	Downscale models on environmental changes at Red Rock Lakes NWR (effects on vegetation communities, trumpeter swans, arctic grayling).	Models and report	LCC Staff and Partners R6 Zone Biologist (MT)
FIRE			
2B	Serve on planning committee ESA Emerging Issues conference on setting conservation targets	Conference and report	R6 I&M Coordinator
2B	Assess current and future needs for prescribed fire as management tool on refuges	Survey results and report	Fire Program Staff R6 I&M Coordinator R6 Zone Biologists
2B	Develop appropriate and practical benchmarks	Report	Fire Program Staff R6 I&M Coordinator R6 Zone Biologists
2B	Develop protocol for monitoring effects of fire on habitats.	Protocol	USGS/NPWRC R6 DBR Chief R6 I&M Coordinator R6 Zone Biologists (ND, KS)
2B	Work with North Dakota State University and Range Research Pipeline to study fire and grazing impacts with focus on Kentucky bluegrass.	Protocol and report	R6 Zone Biologist (ND)
INVASIVE SPECIES			
3A	Collaborate with R6 Invasive Sp. Coordinator and National Invasive species coordinator to develop and test a protocol for invasive species inventory protocol and guidelines.	Protocols	R6 Invasive Species Coordinator National I&M Staff R6 I&M Coordinator R6 Zone Biologist (MT)
3A	Develop national centralized database.	Database	R6 Database Specialist (MT)
Blueprint Objectives and Tasks	Project or theme	Planned Products	Staff

WILDLIFE HEALTH			
3B	Introduce proposed wildlife health monitoring plan to National and Regional I&M program.	Webinar for Regional and National I&M Staff	National I&M Staff R6 Wildlife Health Chief R6 DBR Chief
3B	Integrate wildlife health monitoring with I&M program.	Protocols and reports	R6 Wildlife Health Chief R6 DBR Chief
3B	Implement "passive monitoring" and "active monitoring" programs.	Protocols and reports	R6 Wildlife Health Chief R6 DBR Chief
BIRD MONITORING			
4C	Identify priorities and opportunities for coordinating bird monitoring among Regions, LCCs, JVs, and HAPET office.	National plan	Migratory Bird Office Staff HAPET LCC Staff National I&M Staff R6 DBR Chief R6 I&M Coordinator R6 Zone Biologists
4C	Identify needs and develop strategy for management and monitoring of grassland birds based on needs assessment.	Plan and protocols	Migratory Bird Office Staff HAPET LCC Staff R6 I&M Coordinator R6 Zone biologists
4C	Evaluate and improve existing monitoring programs.	Monitoring program and protocols	National I&M Staff Migratory Bird Office Staff HAPET LCC Staff R6 DBR Chief R6 I&M Coordinator R6 Zone Biologists
4C	Develop new databases and improve/maintain existing databases (e.g., Landbird, Marshbird).	Databases	National I&M Staff R6 Database Specialists
4C	Identify marsh bird monitoring needs in R6 and the HAPET office.	Protocols and database	R6 I&M Coordinator HAPET
DATABASE			
7	Determine data requirements of all Phase 1 High priority database tasks.	Database	National I&M IT Staff R6 Database Specialists
7	Develop data management processes and infrastructure to support priority Phase 1 tasks.	Design	National I&M Staff R6 Database Specialists
7	Develop databases and processes for summarizing and reporting annual program accomplishments.	Annual accomplishment report	National I&M Staff R6 Database Specialists
7	Develop and maintain a "one-stop" shop for accessing I&M data.	Database	National I&M Staff R6 Database Specialists
7	Develop and maintain a website for I&M program.	Website	R6 Database Specialists
7	Develop and establish data standards.	Catalog	National I&M Staff R6 Database Specialists
Blueprint Objectives and Tasks	Project or theme	Planned Products	Staff
COMMUNICATION			
	Conduct WebEx conference calls on I&M Program for R6 staff		R6 I&M Staff

Create SharePoint site for R6 DBR Program to communicate with field staff, other refuge and Service programs.	R6 I&M Staff
Conduct HGM Webinars for R6 and other NWRS staff (Service-wide)	R6 I&M Staff and Contractors, Mickey Heitmeyer and Karen Kyle
Bi-weekly or monthly I&M program conference calls	Regional and National I&M Staff
Conduct bi-annual conference calls/video conferencing with field station staff to check-in, updates, etc.	R6 I&M Staff Field Staff

4. Budget Narrative and Budget

The projected FY2011 funding for the NWRS I&M Program is \$12 million, of which each Regional I&M Program will receive \$1.12 million (Table 3). However, at the time this plan was prepared the Appropriations bill was not passed so the final funding allocation is not known.

Table 3. R6 I&M Program budget as of February 9, 2011.

Budget Item	Amount
Salaries and benefits	
Cost as of February 2011	\$159,635.00
Remainder of FY	\$391,558.00
<i>Subtotal - salaries and benefits</i>	<i>\$551,193.00</i>
Equipment, supplies, and travel	
Cost as of February 2011	\$6,405.00
Remainder of FY	\$81,402.00
<i>Subtotal - equipment, supplies, and travel</i>	<i>\$87,807.00</i>
Field station reimbursement for 5 FTE (\$2,200/FTE)	\$11,000.00
Support I&M activities on field stations (funds go directly to field stations for specific projects).	\$470,000.00
Total allocation	\$1,120,000.00

Appendix I. A plan for the Region 6 Inventory and Monitoring Program field station visits and biological assessment for FY2011.

To build a program that addresses the I&M needs of individual field stations and also contributes to the information needs at larger landscape scales (region, LCCs, and national), R6 I&M staff must become familiar with the resource management programs at field stations. Therefore, it will be useful for new I&M personnel to collaborate with field station staff to assess I&M needs throughout FY 2011. These assessments will serve as a basis for identifying a prioritized set of surveys required for fulfillment of Part I of each station's I&M plan as

specified in the new draft NWRS I&M policy (see below for details). Preparation of a prioritized set of surveys will also address priority tasks specified in the *I&M Operational Blueprint*, including assembling abiotic datasets (Task 1A) and compiling legacy data (Task 1C). Completing this assessment will provide an immediate benefit to station staff while providing the foundation on which to build the Regional and National I&M programs. The R6 DBR staff are collaborating with other I&M staff in other Service Regions to develop a database to collect and organize this information.

In addition, field station visits serve several other purposes, including:

- A. Clarify station management/conservation goals and objectives
 - a. Prior to the visit, I&M staff will review station goals and objectives in approved plans (e.g., CCP, HMP) and during the visit will discuss the status and priority of these goals and objectives.
- B. Identify station priorities (from CCP or HMP goals or new goals)
 - a. I&M staff will have the list of past and current surveys at each field station (from Part 1 I&M Policy database).
- C. Review of data needs and existing legacy data
 - a. Prior to station visits, I&M staff compile and identify types of abiotic data needed for CCP, HGM, and HMP development.
 - b. Request data layers from stations only if not accessible from other sources.
- D. Explain I&M program and work plan.
- E. Explain I&M staff roles.
- F. Develop working relationships to understand needs and priorities.

To facilitate communication during initial field station visits, Zone Biologists will:

- A. Contact the field station to confirm a time that fits the schedule of field station staff. Depending on the schedule, a GIS/Database Specialist and the Regional I&M Coordinator accompany the Zone Biologist to learn more about station-specific management issues and needs. We don't expect visits to be more than 1-2 days for most stations. Appendix II has tentative schedule for field station visits for each zone biologist.
- B. Develop an agenda for the visit so that field staffs know what to expect.
- C. Prepare report following the visit that documents the discussion and any decisions.

Summary of the National Wildlife Refuge System Inventory and Monitoring Policy

The draft National Wildlife Refuge System Inventory and Monitoring policy (863 FW 1, which will supersede 701 FW 2, 10/07/1995) requires refuges to prepare I&M plans. These I&M plans have two sequential phases:

- 1) Complete a prioritized list of surveys for approval by the Refuge Supervisor,
- 2) Prepare, submit for review, and approve individual protocols based upon the finalized list of surveys.

The Regional DBR staff is committed to assisting refuge staffs in completing Part 1 for all Region 6 field stations. This assistance will include collaborating with field station staff to identify, list, prioritize, and complete the I&M activities and database as well as a refuge visit from a Zone I&M Biologist to become familiar with each station's management issues.

Part 1 of a station's I&M Plan consists of three tables. The first is a prioritized list of surveys for a refuge. The second is a justification regarding how each survey informs refuge resource management decisions. The third focuses on time frames (calendar) to complete training, field work, data management and analyses, and reporting for each survey.

We anticipate the station's I&M Plan will result in the following tangible benefits for the field station and the Region's I&M program:

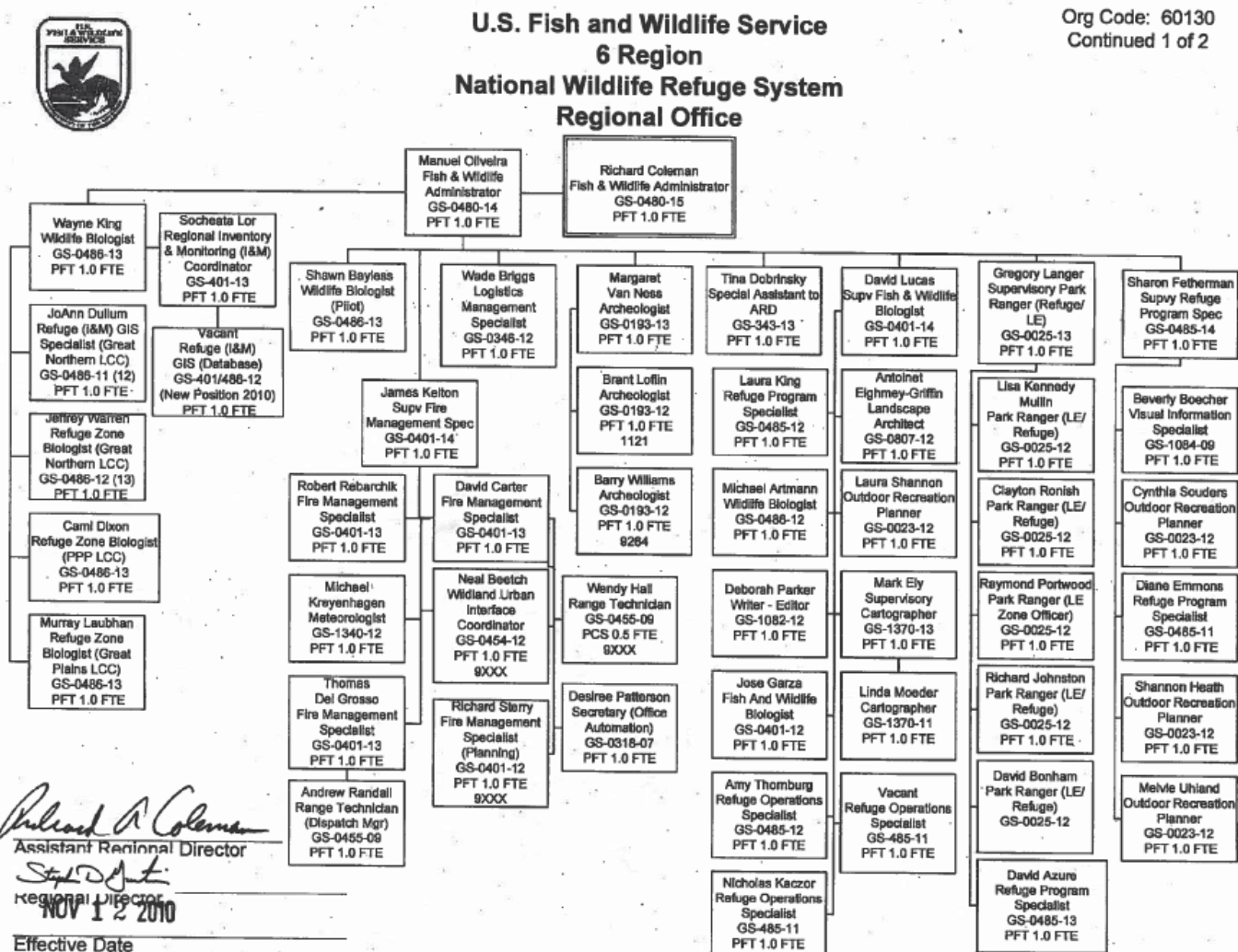
- 1) Ensure that survey priorities correspond with management priorities for a station (i.e., achieve refuge purpose, trust resource responsibilities, maintain/restore biological integrity)
- 2) Facilitate adaptive management by evaluating whether the station's management actions accomplish habitat and wildlife management objectives from its CCP or HMP.
- 3) Provide baseline information to assess effects of environmental stressors including climate change.
- 4) Provide opportunities for coordinated monitoring efforts to address regional (e.g., migratory birds), LCC, and national conservation issues.
- 5) Although program funding dependent, prioritized survey needs for individual refuges across Region 6 can be used to strategically leverage resources across the regional and national I&M programs, LCCs, and other FWS programs to conduct high-priority monitoring activities.

For refuge complexes and wetland management districts, it may be necessary to conduct separate reviews for individual units. The Zone Biologist will work with station staff to identify refuge groupings for I&M site visits.

APPENDIX II. Draft schedule for Zone Biologist visits to field stations. Zone Biologists will contact field stations to confirm availability.

Refuge/WMD	Tentative Date
MURRAY LAUBHAN (Colorado, Nebraska, Kansas)	
Quivira	March
Kirwin and Rainwater Basin	March
Rocky Mountain Arsenal, Two Ponds, and Arapaho	March
Flint Hills and Marais Des Cygnes	April
Valentine, Ft. Niobrara, Crescent Lake, North Platte, Lacreek	April
John & Louise Seier	April
Alamosa, Monte Vista, Baca, and Rocky Flats	May
JEFF WARREN (Montana, Utah, Wyoming, and Browns Park)	
Bear River MBR	February
Fish Springs, Ouray, and Browns Park	March
Cokeville Meadows and Seedskadee	April
Lee Metcalf and Benton Lake	June
National Bison Range and Lost Trail	July
Bowdoin, Charles M. Russell, and National Elk Refuge	August/September
CAMI DIXON (North Dakota, South Dakota, Medicine Lake, share Benton Lake, Bowdoin with J. Warren)	
Arrowwood Complex (including Valley City & Chase Lake), Audubon Complex, Kulm WMD	February
Tewaukon NWR Complex, Waubay NWR Complex, Lake Andes NWR Complex, Madison WMD, Lostwood NWR Complex (including Crosby WMD), Medicine Lake NWR Complex	March
Sand Lake NWR Complex, Long Lake NWR Complex, Devils Lake WMD Complex	April
Huron WMD, Souris River Loop Refuges and WMDs	TBA - Waiting on key staff positions to be filled.

APPENDIX III. Mountain-Prairie (Region 6) National Wildlife Refuge System Program Organizational Chart.



APPENDIX IV. List of NWRS stations in the region, by state and LCC.

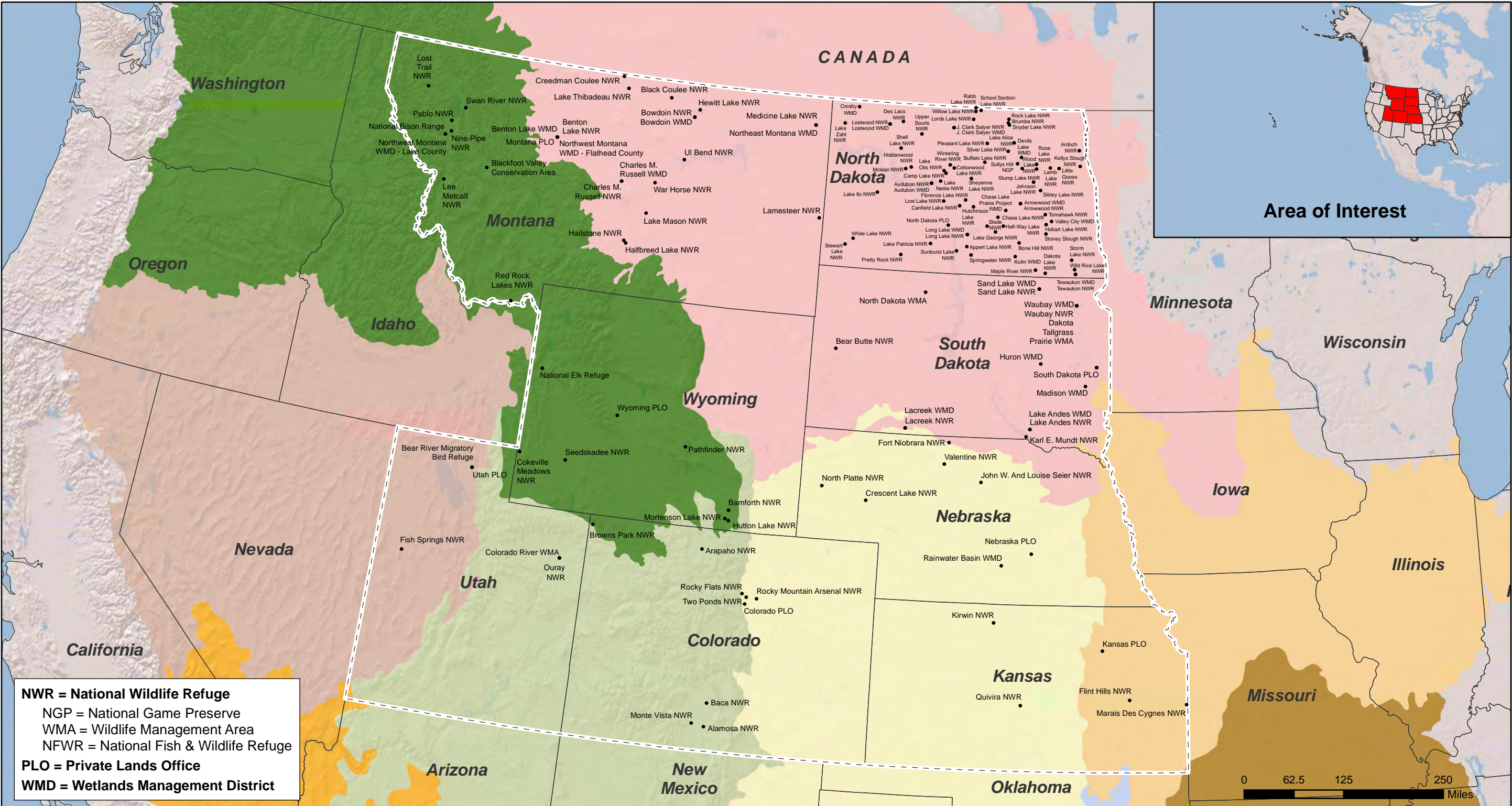


U.S. Fish & Wildlife Service

National Wildlife Refuge System by Landscape Conservation Cooperative

Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah and Wyoming

Region 6



NWR = National Wildlife Refuge
NGP = National Game Preserve
WMA = Wildlife Management Area
NFWR = National Fish & Wildlife Refuge
PLO = Private Lands Office
WMD = Wetlands Management District

National Wildlife Refuge System		Landscape Conservation Cooperatives and USFWS Lead Region			
122	National Wildlife Refuges (NGP/NFWR/NWR/WMA)	Desert (Region 2)	Great Northern (Region 6)	Gulf Coastal Plains and Ozarks (Region 4)	Region 6
9	Private Land Offices (PLO)	Eastern Tallgrass Prairie and Big Rivers (Region 3)	Great Plains (Region 2)	Plains and Prairie Potholes (Region 3)	State
24	Wetland Management Districts (WMD)	Great Basin (Region 8)	Gulf Coast Prairie (Region 2)	Southern Rockies (Region 6)	



Albers Equal Area
NAD 83

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