NWRS Region 7 Inventory & Monitoring Regional Annual Report, FY2011

Alaska Region FY 2011 Annual Report

1. Introduction

1.1. Regional vision, goals, and objectives.

Vision: The inventory and monitoring initiative for the Alaska National Wildlife Refuge System will identify and evaluate the status and trends of wildlife, fish, plant and water resources on Refuge lands, and changes to those resources due to climate change and other internal and external stressors. Inventory and monitoring projects will enhance our knowledge of natural processes and ecosystem assemblages, and inform best practices to minimize the disruption to "natural, scenic, historical, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values" (ANILCA § 101(a)), i.e., the resources to be conserved on Alaska Refuges as defined by the Alaska National Interest Lands Conservation Act of 1980.

Goal 1: Develop a regional I&M Plan to coordinate legacy, current, and future inventory and monitoring activities across Refuges, with LCCs, and with other partners to promote a better understanding of natural systems and the effects of climate change and other stressors on those systems.
- Objective 1.1: Ensure that each Refuge is aware of the I&M activities throughout the Alaska NWRS.
- Objective 1.2: Identify common programs and projects among Refuges and partners and develop common protocols including sampling schemes, field methods, data collection and management, and analyses.
- Objective 1.3: Identify common information needs among Refuges and partners and develop new plans to meet those needs.

Goal 2: Partner with Landscape Conservation Cooperatives (LCCs) and the Alaska Climate Science Center (CSC) in developing our regional I&M plan so that we all promote an understanding of natural systems and resources in the context of landscapes and climate change.
- Objective 2.1: Coordinate with LCC and CSC leadership through meetings and informal communication to identify common goals and objectives of Refuges and partners.

Goal 3: Provide support and a regional perspective to ensure the best research practices are applied to all Refuge biotic and abiotic investigations.
- Objective 3.1: Provide advice and guidance on development of regionally coordinated I&M activities.
- Objective 3.2: Provide peer review, data management tools, and statistical support.
- Objective 3.3: Promote information networking and sharing of expertise among Refuge staff, especially those dedicated to I&M.
- Objective 3.4: Facilitate use of expertise at Universities and other research facilities.

Goal 4: Work with Refuge managers and biologists to ensure that I&M activities respond to and inform management questions.
- Objective 4.1: Engage Refuge managers early in the process of determining I&M objectives and tasks through participation on teams, meetings, and informal information sharing.

1.2. Region 7 I&M organization.

The Region 7 I&M branch, which currently includes an I&M Coordinator, 2 database managers, and a regional botanist, is within the Realty and Natural Resource (RNR) Division. The RNR Division also includes a Regional Refuge Ecologist, 2 Biometricians, and a Water Resources Branch. The I&M Branch Chief, Water Resources Branch Chief, and Regional Refuge Ecologist will coordinate management of biological and abiotic investigations with Refuge supervisory/lead biologists. Three I&M field positions stationed at Innoko, Tetlin, and Arctic will share their expertise among other Refuges to ensure coordination of I&M activities on Refuges.

An initial regional I&M workshop was held in April 5-7, 2011, with most of the above identified staff involved. Four focus areas were identified to initiate a regional I&M program: 1) water resources (quality and quantity, 2) phenology, 3) inventories (flora, fauna, abiotic), and 4) wildlife surveys.
Teams are currently made up of lead/supervisory Refuge biologists, I&M staff, and/or other (regional) biological and water resources staff. We will expand these teams to include Refuge managers, partners from other agencies, NGOs and Universities as appropriate. The teams will begin with developing specific objectives and alternatives within each category, and lead to a plan for implementation. The Regional I&M Coordinator, a data manager, and a biometrician will participate on all teams to ensure coordination among efforts. Where appropriate, teams may be subdivided to focus on subsets of the above broad categories and/or to address specific eco-regional (LCC) needs.

1.3. Integration with the Region 7 Refuge biological program.

Alaska Refuges have conducted refuge level I&M activities since they were created. I&M activities are an integral part of biological investigations on Alaska Refuges. Knowing the composition and trends of biotic and abiotic resources helps inform focused research investigations, while the latter can inform critical metrics that are key resources and system drivers. The I&M Coordinator and Regional Refuge Ecologist will work in concert to ensure a cohesive program.

The I&M program will facilitate communication and information sharing among Refuges, assist with development of Refuge I&M Plans, identify similar investigations and overlapping information needs, identify regional information needs and develop strategies to address them, and develop peer-reviewed I&M protocols.

1.4. Coordination with Alaska LCCs and other FWS programs.

Alaska Refuges currently work closely and collaboratively with Migratory Birds, Marine Mammals, and other FWS programs to complete national and regional monitoring surveys. We will work with these programs to develop additional cooperative projects as needed, and to provide baseline data that will inform status and trends of FWS trust resources on refuges.
Of the five LCCs in Alaska, four are coordinated through FWS in Alaska, and the 5th (North Pacific) is coordinated through Region 1. The Arctic and Western Alaska LCCs were staffed prior to FY11 and the LCC Coordinators and the Science ARD are located and in the Alaska Regional Office in Anchorage, facilitating communication with I&M staff . The Aleutian and Bering Sea Islands LCC recently hired a Coordinator and the Northwest Interior Forest LCC has an interim Science Coordinator located in Fairbanks. We envision these programs growing together, with Refuges informing LCC models and alerting them to landscape level information needs, and LCCs providing information on the larger landscape context. In addition, we are coordinating with the Alaska CSC as that program develops.

2. Public Interest Highlights

Phenology Monitoring - We are currently working with Visitor Service in developing phenology monitoring projects. Tetlin NWR was particularly active in developing this program in FY11.

3. Staffing

3.1. 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.

<u>Regional Office -- NWRS</u>
Danielle Jerry – Division Chief of Realty and Natural Resources (existing position)
Diane Granfors – Regional I&M Coordinator and I&M Branch Chief

Hilmar Maier – Refuge Data Manager, stationed at Fairbanks
Michael Cunanan - Refuge Data Manager, stationed at Anchorage
Steve Talbot – Regional Refuge Botanist (existing position)

The following are key contacts within the Realty and Natural Resources Division:
John W. Martin – Regional Refuge Ecologist
John Trawicki – Branch Chief of Water Resources
Cathy Flanagan – Hydrologist, HGM contact and coordinator
Nathan Roberts – Regional Refuge Biometrician, Anchorage
Anna-Marie Benson – Biometrician, Fairbanks

Northwestern Interior Forest LCC
Nate Berg – Refuge Biologist, I&M specialist, Tetlin NWR
Jerry Hill – Refuge Biologist, I&M specialist, Innoko NWR

Arctic LCC
Vacant – Refuge Biologist, I&M specialist, aquatic ecologist, Arctic NWR (hired FY12)

4. Accomplishments – Activities and Products

4.1. Identify I&M Priorities for stations and the region.

4.1.1. Status of station Habitat Management Plans

Refuges in Alaska have not developed Habitat Management Plans due to the limited habitat management conducted on large ecologically intact Refuges. Most Refuges are managed to conserve and protect natural resources and processes, and the need for direct habitat manipulation (e.g., restoration, re-instatement of natural processes) is currently unnecessary.

4.1.2. Status of station Inventory and Monitoring Plans

Data managers have populated the PRIMR database with CCP goals and objectives and with projects from all 16 Alaska Refuges (14 stations) that were current as of 2009. These will be used as a base for developing Refuge IMPs in FY12. We have also worked with the National I&M to develop a User Guide and Data Dictionary for the PRIMR database.

4.1.3. Summary of inventory and monitoring priorities for the region

High priority information needs for the Alaska Region's I&M plan were identified at a Regional Supervisory Biologists meeting in April 2011. The four highest priorities for initial development are 1) phenological monitoring, 2) I&M of selected water resource parameters, 3) biotic inventories, and 4) coordination of wildlife surveys among Refuges and partners. We have formed teams comprised of refuge and regional office staff to develop an implementation plan for the first three initiatives using the SDM process. A fourth team will be initiated after population of the PRIMR database for each Refuge (i.e., completion of Tables 1, 2, and 3, Exhibit 1, I&M Policy 402).

4.2. Abiotic Resources

4.2.1. Inventories

Much work was accomplished by continuation of studies initiated by the Water Resources Branch (WRB). These studies will provide baseline data for monitoring the impacts of climate change. Stream gaging was continued for the purpose of obtaining water rights on Tetlin and Kanuti NWRs; this was the 6th and final year for Tetlin. The WRB also began the Water

Resource Inventory and Assessment (WRIA) process on Tetlin and Kanuti NWRs. Soil surveys were conducted through the NRCS on portions of Kodiak NWR that had not been previously surveyed. Soil surveys were conducted on portions of Yukon Flats NWR to complement ongoing studies of the impact of climate change on permafrost and water resources.

4.2.2. Monitoring

Several Refuges currently monitor snow depth, but a new study was added on Selawik NWR through the Western Alaska LCC which will also look at icing events and their potential impact on the Western Arctic Caribou Herd. The Western Alaska LCC also funded lake and stream temperature monitoring studies initiated this year that will not only track climate change but will provide much needed data to understand potential impacts to salmon on Kodiak, Alaska Peninsula/Becharof, Togiak , and Yukon Delta NWRs. Such efforts will greatly enhance future monitoring efforts of natural resources on these refuges. The WRB continued monitoring stream temperature, water quality (chemical and physical, and macro invertebrates) at gage sites on the Tetlin and Kanuti NWRs as part of their suite of variables at continuous monitoring gage stations.

4.3. Biotic Resources

4.3.1. Inventories

Stephen Talbot, the R7 regional botanist, continued flora and vegetation surveys of the Aleutian Islands on Unimak Island (Alaska Maritime NWR, managed by Innoko NWR). These data will not only provide baseline community information, but also help inform a controversial issue of top-down/bottom-up population regulation for caribou. Seventy releves were completed on eastern Unimak with data on the soils. In collaboration with Professor Teuvo Ahti of the University of Helsinki More than 1000 lichen specimens were collected; two are apparently new to science.

The regional Inventory team met to develop problem statement and objectives for conducting biotic inventories on refuges. Objectives will be used by the team to compare alternative inventory methods for initiation in FY12.

The I&M and LCCs began a collaborative project to develop a unified vegetation/land cover classification for Alaska, an issue that has hindered landscape scale studies and planning. Such a baseline data layer will prove invaluable for planning monitoring studies and tracking broad impacts of climate change at landscape scales.

4.3.2. Monitoring

The Phenology team met to develop problem statement and objectives for conducting phenology monitoring on refuges. Objectives will be used by the team develop a phenology monitoring plan for initiation in FY12.

Personnel on Tetlin NWR are currently monitoring 8 sites with 19 flora and 13 fauna species in a variety of habitats. They also established 4 native species gardens at their visitor center that allow monitoring of both the plants and their pollinators.

4.4. Stressors (examples: fire, invasive species, climate change)

4.5. Adaptive Management Projects

4.6. Data Management (example: legacy data)

Data managers Hilmar Maier and Michael Cunanan met with refuge staff both formally and informally to discuss database development, redesigning old databases, and data management planning for future

needs. Hilmar participated on two national teams including DOI Integrated Climate Change Observations and Data Management Workgroup and Geospatial Advisory Committee. Hilmar and Mike made significant contributions to the development of the PRIMR and GRAS databases. Mike is now a member of Alaska Data Integration Working group developed by the Alaska CSC and LCCs that seeks to make information about all Alaska projects and data freely available and easily accessible. Both Hilmar and Mike made significant headway on determining refuge data management and training needs to be addressed in FY12. This will lead to development of databases that can feed into a larger schema of refuge biological and abiotic data.

4.7. Communication (examples: symposia, program reviews, training, workshops, partnerships)

A Supervisory Biologists meeting was held in April 2011 to introduce the new I&M staff and to discuss blue print objectives, how to develop a regional I&M plan that meets refuge, regional, and national information priorities, and data analysis and management. Michael Cunanan provided an overview and update of the R7 I&M program for Fire Management at their fire planning workshop. Diane provided briefings and met with our Regional Director, Deputy Director, new Regional Refuge Chief, new Deputy Refuge Chief, Refuge Supervisors, and the Science, Migratory Birds and Partners, ARDs. Diane also participated in the Western Alaska LCC Science Workshop and the Alaska CSC Downscaling Workshop. Diane worked with Alaska LCC coordinators to submit a proposal on developing a spatially explicit unified vegetation classification for Alaska that was accepted for the October 2011 SDM workshop.

Table 1. Region 7 Inventory and Monitoring Activities by theme and project.

Blueprint Objectives and Tasks	Project or Theme; Status	Planned Product	Key Staff	**Funding** I=I&M R=Refuges O=Other	**Status** P=Planned F=Funded IP=In progress C=Completed
ABIOTIC RESOURCES – INVENTORIES					
2a	*Stream gages* Completed initial gaging of stream flows at Tetlin (sixth and final year for 4 of 6 gages) and Kanuti (second of 6 years for 7 of 8 gages) Two gages at Tetlin and one gage at Kanuti will continue operating through a cooperative multiagency effort as long term monitoring sites after the initial WRB project. Water chemistry parameters are also measured at a subset of gages and water quality physical parameters are measured at all sites. Continuous water temperature data is recorded at the chemistry collection sites for a 5 year period.	Water Resources Data Report	Alan Peck	R (WRB), O (cooperative agreements)	IP – Tetlin IP - Kanuti
2a	*WRIAs* Cathy Flanagan participated on the national team coordinating the implementation of WRIAs. WRIAs were initiated on Kanuti and Tetlin NWRs by the WRB.	Data for WRIAs will be entered into the national database.	Cathy Flanagan	I, WRB	IP
1a	*Elevation data for coast of Arctic NWR* The NRPC provided funds across the NWRS to fill gaps in LiDAR for coastal refuges. Arctic NWR is using these funds to obtain IfSAR data for its coastal areas. Similar to LiDAR, IfSAR data is becoming the standard coverage for Alaska because it provides horizontal and vertical resolution of higher resolution than DEMs but since it lower resolution than LiDAR, it can cover much larger areas for the same cost.	High resolution elevation data to fill gaps in coverage for ongoing work involving several partnerships and the statewide initiative for obtaining adequate elevation data through IfSAR. These data will also assist studies of permafraost and geomorphology, hydrology, and cover-types which are expected to be significantly altered by climate change.	Dave Payer (Arctic NWR Supervisory Biologist)	I	IP

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1a	*Soils Kodiak NWR Glottof RNA* Through funding from the NRPC, NRCS was able to complete a soil survey for an area of the Kodiak archipelago.	NRCS visited 76 sites and completed mapping for 151,541 acres, including site characteristics, vegetation descriptions, and species composition. Data is currently being associated with developing ecosite concepts. Full map unit descriptions and State and Transitions models are in preparation.	Bill Pyle (Kodiak NWR Supervisory Biologist)	I	C (survey), IP (reports)
6a	*Koyukuk/Nowitna Relict Sand Dunes and Climate Change*	GIS map of eolian landforms, a time line of dune activity over the last 18 K years, and a better understanding of the link between dune activity and climate change	Karen Bodony	I, R, O	IP
2a	*Izembek Stream Ecosystem Function – whole-stream metabolism, stream channel nutrient storage, and organic matter retention.*	A better understanding of whole stream metabolism including nutrient cycling, and its role in salmon management.	Trent Liebich	I, O, R	IP
ABIOTIC RESOURCES – MONITORING					
6a	*Snow pack and duration* Several Refuges currently monitor snow depth, but there is a need for a more coordinated effort as changes in snow amount and duration will have a great impact on water resources and ecosystem processes. The water resources monitoring work group will address development of standardized methods for monitoring snow.	Work towards a draft protocol will be initiated through conference calls and meetings	Diane Granfors, RNR biometrician, John Trawicki	I, R	IP
BIOTIC RESOURCES – INVENTORY					
1d	*Stream Invertebrates* Aquatic diatom and benthic macro-invertebrate sampling are conducted at a subset of gage sites in Tetlin (complete) and began in 2011 at Kanuti.	Water Resources Data Report	Alan Peck	R (WRB)	IP

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1d	*Flora and fauna inventories – pilot projects* Two Alaska Refuges have conducted (Kenai) or are in the process of conducting (Kanuti) comprehensive flora and fauna surveys on their Refuge. Data were analyzed to determine cost/benefit ratios used to inform development an inventory protocol for all Alaska Refuges, and how such an inventory could be implemented given the enormous size and access constraints.	A report on the information obtained from different sampling schemes and methodologies to inform future flora and faunal inventories.	Anna-Marie Benson	R	IP
1(d,e)	*Aleutian Island flora and vegetation inventories* Although not a pilot study or necessarily classifying vegetation according to NVCS, these studies are an inventory of the vegetation of the Aleutian Islands and continued on Alaska Maritime and Izembek NWRs.	Reports on the floral composition and vegetation communities of the Aleutian Islands. Also working toward a book on Mosses of the Aleutian Islands. Presentations and publications in peer reviewed journals.	Stephen Talbot	R	IP
1d	*Flora and fauna inventories on Alaska Refuges* This topic was addressed by a Refuge Inventory team to develop objectives, evaluate different alternatives, and make recommendations to and elicit comments from refuge managers and the RO.	The inventory team has met to discuss objectives and potential methodologies for meeting biotic inventory needs.	Diane Granfors, Dave Payer, John Morton	I, R	IP
1d	*Spatially-explicit, unified vegetation/landcover classification for Alaska* There is currently no comprehensive remotely-sensed vegetation classification system for Alaska that meets the needs of land managers. I&M and LCC staff are working toward resolving this issue using the SDM process.	An agreed upon hierarchical vegetation classification that can be used by NWR managers and their partners.	Diane Granfors Karen Murphy (Western Alaska LCC)	I, R, O	IP

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4a	*Identification of key wintering areas for Aleutian Crested Auklets*	An assessment of the vulnerability of crested auklets to oil spills during the non-breeding season.	Jeff Williams	I, O	IP
4a	*Kodiak Nesting Ecology of Kittlitz's Murrelet*	Identification of potential Kittlitz's Murrelet nesting habitat and a better understanding of basic nesting ecology. Kittlitz's Murrelt is a candidate for ESA listing.	Robin Corcoran	I, R, O	IP
4a	*Izembek Inventory of eelgrass to assess winter carrying capacity for Pacific Brant*	Improved winter carrying capacity model reflecting the huge increase in numbers staying at Izembek due to climate change.	Nancy Hoffman	I, R, O	IP
4a	*Roles of Alder and Salmon on Togiak*	A better understanding of the role salmon and alder play in providing nutrient inputs in lakes.	Pat Walsh	I, R,O	IP
4a	*Yukon Delta River Coho Salmon Study*	Pilot for potentially larger project aimed at understanding Coho salmon ocean survival and stock specific exploitation rates on the Kwethluk River.	Dan Gillikin	I, R, O	IP
4d	*Yukon Delta Survey of Diptera Family of Chironomidae of Western Alaska*	A baseline survey of an important juvenile salmon food item. Potential basis for future monitoring.	Tom Doolittle	I, R, O	IP
1e	*Kodiak Floristic Survey of Selected Areas of Western Kodiak Island*	A plant inventory including a collection of vascular plant specimens, habitat descriptions, and photopoints on four study sites on Kodiak island.	Bill Pyle	I, R, O	IP
6a	*Arctic Antlers on the Tundra*	Analyses of biogeographical patterns of calving grounds and nutritional value of sheds to mammals and birds.	Eric Wald	I, R, O	IP
3	*Kodiak ecology of non-native mountain goats*	An understanding of the population dynamics and resource selection of introduced mountain goats on Kodiak island, and their impact to native resources.	McCrea Cobb	I, R, O	IP
3	*Kenai exotic earthworms*	MS project. Distribution and possible effects of exotic earthworms on the Kenai NWR	John Morton	I, R	IP

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3	*Relationship between introduced caribou and ecosystem function on Adak Island*	Informed management of this introduced herd on Adak (Aleutian Islands, Alaska Maritime)	Jeff Williams	I, R, O	IP
BIOTIC RESOURCES – MONITORING					
4b	*Phenology monitoring* A team has been formed to determine objectives and alternative methods for monitoring phenology on Refuges.	Phenology Team has met to discuss objectives, existing methods, tools on the NPN web site, and current Refuge phenological monitoring in R7 with the goal of developing a phenology plan and node on the NPN web site.	Bud Johnson, Diane Granfors, John Martin	I	IP
6a	*Yukon Flats Climate Change on Boreal Wetlands* measuring water chemistry, invertebrate composition, and migratory bird use on wetlands.	A better understanding of how wetlands and their biological parameters will be impacted by climate change.	Mark Bertram	I, R, O	IP
4a,c	*Arctic Shorebirds Demographics Network*	A better understanding of shorebird nesting ecology and population dynamics leading to a better understanding of climate change impacts and reasons for population declines	Arctic NWR	I, O	IP
6a	*Arctic Muskoxen Survival in NE Alaska*	A better understanding of musk ox population dynamics and reasons for their decline on the Arctic NWR. Cooperative project with ADF&G	Patricia Reynolds	I, O	IP
6a	*Kodiak Brown Bears and Climate Change*	PhD project – thesis, peer-reviewed papers. A better understanding of bear habitat use.	Bill Leacock	I, O, R	IP
6a	*Togiak Monitoring Pacific Walrus Haulouts*	Testing a camera system to monitor walrus use of haulouts and potential disturbance events. Pacific Walrus are a candidate for ESA listing.	Michael Winfree	I, R	IP
4a	*Togiak Monitoring Mulchatna Caribou*	Better understanding of the seasonal distribution, survival, and reproductive status of this herd. Cooperative project with ADF&G.	Andy Aderman	I, R, O	IP

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4a,c	*Yukon Flats Rusty Blackbird Nesting Ecology*	Gain a better understanding of potential causes of population decline by studying foraging ecology, reproduction, and potential limiting factors.	Mark Bertram	I, R, O	IP
	Kanuti I&M Team Leader	Assistance with inventories and surveys at an understaffed refuge.	Tim Craig	I, R, O	IP
	Moose Monitoring Protocol Many refuges regularly monitor moose but lack a standard protocol.	Standard moose monitoring protocol used by all refuges engaged in monitoring moose populations.	Tim Craig, Nathan Berg, Nathan Roberts	I, R	IP
	Beaver Monitoring Protocols As above, many refuges monitor beaver but lack a standard protocol.	Standard beaver monitoring protocol used by all refuges engaged in monitoring beaver activity.	Lisa Saperstein, Nathan Roberts, Tim Craig	I, R	IP
	Redesign of Tundra Swan monitoring on the Alaska Peninsula/Becharof NWR Tundra Swans are currently monitored using a stratified sampling scheme that may be unsuitable for long-term monitoring.	An efficient sampling design for monitoring Tundra Swans.	Nathan Roberts, Hilmar Maier, Susan Savage	I, R	IP
DATA MANAGEMENT					
	Refuge project survey database The Planning and Review of Inventory and Monitoring and Monitoring (PRIMR) database is being developed and piloted for use by Refuges to assist with development of a refuge IMP, and to inform other refuges and regional staff of current I&M projects on Refuges.	The PRIMR database was modified to meet R7 needs. The database was populated with CCP goals and objectives from those refuges that have completed their CCP. The database was also poplulated with data from an Effort Analysis conducted in 2009.	Hilmar Maier, Michael Cunanan	I	IP
	Steller's Eider Banding Database This database for Izembek refuge was redesigned to eliminate redundancies and prepare the data for analysis.	A banding database that will assist in local data analysis but will allow integration with other refuge and regional information systems.	Michael Cunanan	I	IP
	Koyukuk/Nowitna Data Management Refuge staff were given training and assistance on database development and data management.	A data management plan for the refuge and improved database development for specific projects	Hilmar Maier	I	IP

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	Geospatial Advisory Committee	This team identified priority geospatial datasets and developed strategies for development of data standards	Hilmar Maier	I	IP
	Alaska Database Integration working group (ADIwg) Development of data standards for sharing information on projects across Alaska by multiple agencies, NGOs, and Universities. Project is led by the Alaska Climate Science Center for the Alaska Climate Change Executive Roundtable. Phase 1 is metadata on surveys currently conducted in Alaska.	Implementation of ADIwg metadata standards for projects conducted on the refuge (through population of the PRIMR database).	Michael Cunanan	I	IP
	Water Resource Branch Weather Data Automate download of climate data for use in interpreting stream gauge and temperature data. Will also be useful for other refuge projects.	Scripts for automating data retrieval and formatting of NCDC climate data, SQL Server database containing formatted NCDC climate data for Alaska, and complete documentation.	Michael Cunanan	I	IP
	Global Observation Research Initiative in Alpine Environments (GLORIA) Data collected by Stephen Talbot in 2007 and 2010 was entered by a SCEP student into a database managed at the University of Vienna.	GLORIA is an international project to monitor the impact of climate change on alpine ecosystems and species diversity. Alaska participates through monitoring sites in the Brooks Range on The Arctic and Selawik NWRs.	Stephen Talbot	R	IP
	Alaska Maritime Data Rescue and Regional Database Development	Evaluation of the status of seabird data, increased access by Maritime staff, improved public outreach. Will link to North Pacific Seabird Data Portal.	Nora Rojek	I, R	IP
COMMUNICATION					

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	Conservation of Arctic Flora and Fauna (CAFF), The regional I&M coordinator attended a meeting of the newly formed Circumpolar Protected Areas Monitoring (CPAM) group to discuss ways of coordinating data reporting on protected areas in the Arctic.	*28-30 March 2011* Granfors presented an introduction of the National and Alaska Region I&M initiative. Plan for developing information sharing capacities among circumpolar countries and agencies to be developed by the CPAM coordinator.	Diane Granfors	I	C
	Supervisory/lead Biologist I&M Workshop The workshop was held to introduce the new I&M and Natural Resources staff to the refuge biologists and to develop initial objectives and a plan for moving forward with the Region 7 Refuge I&M program.	*5-6 April 2011*Initial objectives for the region 7 I&M plan and a strategy to move forward as outlined briefly in this workplan.	Diane Granfors, Danielle Jerry, John Martin, Hilmar Maier, Anna-Marie Benson, Nathan Roberts, Jerry Hill, Nate Berg	I	C
	Western Alaska LCC Science Workshop The I&M coordinator will attend this first multi-partner, region-wide invitation only workshop that will identify science needs for the Western Alaska LCC for the next five years.	*26-27 April 2011*	Diane Granfors, Danielle Jerry,	I	C
	Alaska Climate Downscaling Workshop Sponsored by the Western Alaska LCC and the Alaska CSC will be a forum to learn about state-of-the-science climate downscaling models for Alaska, and to discuss current future capacities and science and management needs.	*28-29 April 2011*White paper to identify a science action plan is planned.	Diane Granfors	I	C
	Vegetation of the Aleutian Islands Stephen Talbot presented several talks to the staff of Izembek NWR and refuge administrative staff. Stephen is also successfully submitted several papers on his work in peer reviewed journals.	Dissemination of information on the vegetation of the Aleutian Islands to fellow botanists and refuge biology and non-biology staff.	Stephen Talbot	R	IP

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	CAFF, Circumboreal Vegetation Mapping (CBVM) As chair of the CAFF Flora group and coordinator of the CBVM, Stephen Talbot presented an update and organized a workshop at the CAFF biennial meeting in Akureyri, Iceland and presented an update at the European Vegetation Survey in Rome.	An internationally accepted classification and map of boreal vegetation communities.	Stephen Talbot	R, O	IP
	R7 I&M briefings were presented to the Regional Director, Deputy Director, Refuge Chief, Deputy Refuge Chief, Refuge Supervisors, Migratory Bird and State Programs Chief, Fisheries and Ecological Services Chief, Science Applications Chief, and External Affairs	Better understanding of the I&M program by the RDT and refuge supervisors.	Diane Granfors, Danielle Jerry	I	C
	Western Arctic Caribou Working Group The regional I&M provided assistance to allow this interagency group to meet for the purposes of management planning of this large, economically and ecologically important herd.	Continued coordinated management planning for the WACH.	Lee Anne Ayers	I, R, O	IP

5. Budget Narrative and Budget

5.1. Provide a brief description of how current and projected I&M funding is anticipated to be spent during the upcoming FY, including the major work **activities presented in Section II. List the major planned expenditures of I&M funds, including staff salaries and operations, contracts and agreements. Do not include contributions from outside the I&M funded initiative in the work plan. (Matching, in-kind, and leveraged funding from outside the I&M initiative will be included in the annual I&M administrative report.)**

National politics prevented the Service from receiving a final 2011 until late in the fiscal year. As a result the RO and Refuges allocated their budgets in about May. Nonetheless, based on guidance from the various Continuing Resolutions and direction from the WO, and using the newly hired staff from FY2010, R7 is spending their I&M funds as follows.

4. FY 2010 I&M Allocation ($500K): 6 positions, 4 hired by the start of FY11
   - 4.1. FY11: 2 additional staff with FY10 allocation. Arctic NWR Aquatic Ecologist (currently advertised) , RO database manager.
   - 4.2. Accomplishments of I&M Coordinator, Refuge Database Manager, and 2 Refuge I&M Staff
     - 4.2.1. Develop National I&M Plan through meetings with other Regional I&M Coordinators
     - 4.2.2. Initiate Regional I&M Plan through Supervisory Biologist meeting in April 2011
     - 4.2.3. Member of national database coordinator team that developed database to capture tables 1-3 of the draft NWRS I&M Policy 701 FW 2
     - 4.2.4. Member of Nation Climate Adaptation Team
   - 4.3. Funded I&M projects proposed under CCS which was eliminated in FY2011
   - 4.4. Funded other refuge support projects