

Region 3 and 5 NWR Biologist Comments
To the
Biological Monitoring Team (BMT) with BMT Responses.
June 2008

Introduction:

The BMT conducts an annual meeting to; 1) identify and prioritize projects that assist refuges, 2) to update staff on status of current projects, and 3) discuss any issues or concerns relative to BMT activities. During this annual meeting, the BMT has solicited feedback from the respective Regional Offices and Refuge Biologists within Regions 3 and 5. Following are issues/concerns/requests identified by Region 3/5 refuge biologists, along with a response to the issues by the BMT staff.

The following individuals were in attendance at the meeting:

Tom Worthington, Jennifer Casey, Sara Williams, Rick Schauffler, Sue McMahon, Sandy Spencer, Soch Lor, Jan Taylor, Karen Viste Sparkman, Nita Fuller, Lindsey Landowski, Tony Leger, Pat Heglund, Janet Kennedy, Dan Wood, Jessica Lee, Leah Ceperley, Pauline Drobney, Sue Adamowicz, Todd Sutherland, Melinda Knutson, Hal Laskowski

Visitors: Marvin Moriarty, Wendi Weber, Lamar Gore

Note:

Refuge Biologist Comments in Black Text

BMT Response in Blue Text

BMT Goal 1

Communication

- ◆ More outreach for BMT goals and projects is needed. Most Refuges have heard of the BMT or participated in BMT projects but aren't clear about the difference between BMT and regional biological program, or how Regional biologist roles have changed. Consider sending periodic electronic updates that describe the progress of projects, new opportunities, and brief summaries of proposed policies or plans for review.
 - *We agree that it is very important for refuge staff, the BMT and RRBs to have direct communications about various projects. To improve communication:*

- *The BMT has initiated a quarterly BMT Update that is sent to all refuge project leaders and biologists within both Regions 3 and 5.*
 - *The BMT will work with the Regional Biologists and LMRD biologists to update (Region 3's) and develop (in Region 5) a functional directory. The directory will identify the duties and responsibilities of the respective programs and staff members, as well as, identifying whom should be contacted for assistance with various biological issues.*
 - *The BMT already has an Intranet web site and will soon be developing an internet website to disseminate information to partners outside the Service. The current intranet website contains various reports, protocols, documents, databases, training announcements, etc. Link to Intranet Site: https://intranet.fws.gov/region3/ScienceExcellenceandLandscapeConservation/bio_monitoring.html*
 - *The BMT is working with Regional Biologists to facilitate Biological Seminars, "webinars" (seminar using Webex and conference call) to address specific information needs requested by refuges.*

- ◆ *Provide updates on BMT activities on R5 Biology conf. calls & R3 Network conf. calls.*
 - *A BMT staff will join R3's network calls and R5 conference calls to provide updates. Since Pat and Soch are currently on the R3's networks email list, they will facilitate who will attend the call. In R5, when refuge conference calls are scheduled, Hal and Jennifer will coordinate BMT member attendance.*

- ◆ *Biologists would like to have a more centralized location to obtain standardize protocols, training, and literature. Could the BMT help foster an informal inter-Refuge communication on management challenges, research needs, and results of management actions?*
 - *The R5 Regional Biologist administers a Lotus Notes discussion database which helps to disseminate some of this information.*
 - *Cross-refuge communication occurs in R3 through the four biological networks.*
 - *See link above to access BMT intranet site.*
 - *The BMT will also begin administering the Fish and Wildlife Information Needs System (FWINS), which is a centralized database to allow FWS staff to identify research needs. This database is not presently available to field stations, but modifications are being performed to allow field access.*

Protocols and Databases

- ◆ *Refuges appreciate standardized surveys and are conducting them, but have additional protocol needs for baseline data (especially standardized habitat monitoring) or Refuge*

specific projects. BMT assistance is needed to determine the most efficient yet statistically rigorous survey methods.

- *The BMT recognizes the many and various monitoring needs of refuges. Through previous questionnaires to refuges, we have identified that approximately 680 types of surveys are performed on refuges within Regions 3 and 5. In the interest of time and personnel availability, the BMT will focus on priority monitoring needs that are common to many refuges. There are several criteria on developing monitoring products to meet refuges needs:*
 - *The BMT does not unilaterally identify monitoring products to be developed. Refuges staff must collectively identify the priority monitoring needs.*
 - *The BMT can not develop a monitoring plan and database without guidance from those refuges that will perform the monitoring. Information that refuges must provide include: survey objectives, management decisions made from the data, appropriate data collection protocols, analysis requirements, report formats, time constraints in collecting the data, etc. The BMT will facilitate refuge staff to identify these survey requirements.*
 - *To begin the process of developing a habitat monitoring plan, the BMT requested that groups of refuges with a common habitat monitoring need work collaboratively to develop an appropriate monitoring plan. The BMT will facilitate the group, provide/contract biometrician support, database development, and meet other needs.*
 - *The following are steps/guidelines to take in developing a such a monitoring plan:*
 - *Refuges with common monitoring needs should collaborate with each other, identify specific mgmt decisions that must be informed by the monitoring data, and convey this information from Refuge Project Leaders to Regional Office Supervisors, and the BMT. This information would greatly aid in identifying priority BMT projects. In Region 3, the Biological Networks have already begun this process – collaborating on identifying common needs.*
 - *The BMT will facilitate refuges with common habitat monitoring needs to collaboratively work together to develop a monitoring plan. (See Attachment 1).*
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- ◆ Northern forest Refuges need assistance developing monitoring protocols for impacts of silvicultural treatments on vegetation and wildlife (nutrient removal, indicators, vegetation response, wildlife use).
 - *We agree Forest Management is a very high priority for many refuges, as results of previous refuge questionnaire has indicated. BMT attempted to address this need at a workshop in 2006 at Big Oaks NWR among refuges from Regions 3 and*

5, which was facilitated by the BMT. A follow-up USGS request for research proposals was announced, but unfortunately, no full proposals were submitted.

- *We propose the following:*
 - *Recently, USGS began working with Refuges in Region 5 to develop a program to monitor the ecological integrity of salt marshes. During the above mentioned forest management workshop, forest integrity was identified as a very high priority. Thus, the process used to address salt marsh integrity may apply to forest management as well.*
 - *We suggest that the staff at refuges where forest management is a high priority form a forest management workgroup.*
 - *The BMT will:*
 - *Facilitate a Structured Decision-Making workshop, in similar fashion to the saltmarsh ecological integrity group. Products from the workshop will include:*
 - *Identification of forest management decisions.*
 - *Forest management and monitoring objectives.*
 - *Identification of influence diagrams and stressors or other factors which impact forest health.*
 - *Development of forest management models and identification of key uncertainties.*
 - *Identification of monitoring needs to improve forest management decisions, and evaluate health of refuge forests.*
 - *Provide assistance or contract with others to develop monitoring protocols.*
 - *Provide assistance or contract with biometricians to develop appropriate sampling designs.*
 - *Develop appropriate databases to store data.*

◆ Additional training on existing protocols and databases is needed. Improve databases by allowing easy data transfer into Excel, export and reporting functions, and improve data analysis capabilities. Can habitat and wildlife data be linked in a database?

- *The BMT is addressing these needs as follows:*
 - *Internet training sessions have been conducted for the; Landbird and Water Level databases. Marsh bird database training was conducted at the two workshops in 2007; an email message was sent to the field stations encourage testing, using, and checking existing data, if historical data*

exists. The BMT will provide refresher internet training sessions for these databases each year, prior to the normal data collection periods. Announcements of these training sessions are sent to all refuges.

- *Prior to opening the database for public access and to providing training, the BMT staff would greatly appreciate field station staff to test the database and provide feedback. For instance, the Marsh Bird database is at this stage of needing field station feedback.*
 - *As various monitoring plans are developed, the BMT will provide internet training sessions to inform refuge staff of appropriate sampling designs and data collection protocols.*
 - *Presently, the Landbird and Marshbird databases already allow for immediate importation of data into Excel. Simply perform a query of your data over the internet, right click within the query results and immediately download into an Excel spreadsheet on your desktop computer.*
 - *Refuges will need to identify and provide guidance to the BMT on appropriate report formats. Once we have those report formats, we will work with USGS to develop the reports within the database.*
 - *We are contracting with University of North Carolina, to develop specific data analysis capabilities within the Landbird and Marshbird databases. As additional databases are developed, we will incorporate data analysis capabilities.*
 - *Yes. Habitat and Wildlife data can be linked at present. The linking field is either the point id, or polygon id (refuge management unit).*
 - *Tools to allow stations to work with their Landbird and Marshbird data in ArcGIS are currently being developed. BMT will be demonstrating these tools to interested Refuge biologists this summer.*
 - *The SWIM database (management of water gauge data) has developed a new report at the request of field station users. The new report will be distributed to current users and also included in the packaged download file on the BMT intranet site.*
- ◆ **Would like to see the BMT take more proactive measures to ensure that all stations have the basics covered in terms of monitoring and surveys. There is a great need to have consistent protocols and be able to compare results among stations.**
- *The BMT agrees with the need for consistent protocols and sharing of results (See discussion about marshbird, landbird, and waterbird monitoring).*
 - *We must emphasize that the roles and tasks of the BMT and RRBs are driven by the field stations, thus, the team members depend on field stations to identify station needs and to work together to ensure the basics are covered in terms of monitoring and survey needs. We think the identification of survey/information needs to support refuge management*

is the role of the individual refuge and the BMT does not have the authority or desire to dictate to refuges what they should/should not do unless otherwise requested.

- *Oversight to ensure that refuges are conducting justified and defensible surveys is the responsibility of Supervisors, with Regional Biologist assistance. The BMT's role is to help facilitate development of refuge survey needs that are common to numerous refuges.*
- *BMT and the RRBs challenge the field staff to take a proactive and lead role in making good use of the data that are collected at field station. The BMT and RRBs will assist refuges to ensure that every survey done by station staff is valuable and that data is useful and are collected in a statistically sound manner.*

◆ What is a User Acceptance Team (UAT)?

- *A UAT is a group derived from field station staff, and, at times non-FWS experts, who are familiar with a specific refuge monitoring need, and provide guidance in the development of a monitoring product.*
 - *The UAT identifies the information needed to make a refuge management decision, identifies logistical issues and constraints in designing a survey, determines the types of analysis and reports required from the data, and provides refuge requirements for the development of a database to store the resulting data. These are all decisions that must be made by the USERS of the data, not the BMT.*

BMT Goal 2, Adaptive Management:

- ◆ Biologists are concerned about the time commitment associated with research/multi refuge projects. Make sure Refuges understand all aspects of involvement of an Adaptive Management project.
 - *The BMT agrees with this concern. Both multi-refuge biological studies and adaptive management consultations take considerable staff time to implement. We recommend:*
 - *Refuges only participate in these studies if the issue is very important at the refuge. The level of importance might be related to a significant management action with large resource impacts, or a significant controversy at the refuge which must be addressed. The issue should be sufficiently important, that the refuge would address the issue on their own, if a multi-refuge management study or AM Consultation were not performed.*

- *The BMT will provide detailed guidance to refuges identifying the various steps and estimated time required to participate in Adaptive Management Consultations or Multi-Refuge Management Studies. However, refuge staff must keep in mind that detailed study designs and protocols are not available at the beginning of each of these processes, rather refuge staff and consultants work collaboratively to develop the study designs and treatments for the multi-station studies and to identify products in the case of the AM consultancies. Initially, it is uncertain how much time will be required to complete these projects and what's doable and what's not are typically discussed and worked out at the planning and coordination meetings.*

- ◆ Small groups are definitely more advantageous and yield better results than larger groups (Adaptive Management Consultation groups); ten participants appear to be close to optimum.
 - *We concur! Our recommendation to refuges hosting future adaptive management consultations will be to restrict participants to ten or less individuals.*

- ◆ Ask that the BMT help fund and assist with smaller multi-refuge studies that could be governed by a refuge biologist but supported by BMT staff. (Station biologists would be the lead/principal investigator).
 - *We agree with the need for smaller multi-refuge studies. The BMT would help to facilitate such studies. An example may be 4 refuges in Region 5 that are working to address scrub/shrub habitat management using the Adaptive Management Consultation process. The BMT prefers a refuge biologist take the lead and coordinate the project. However:*
 - *Refuge staff must identify the need for these studies (those that address common management issues).*
 - *Unfortunately, BMT funds can not be used for most aspects of such studies. BMT funds are available to facilitate the planning of such studies. With previous multi-station studies, funds that covered biological technicians, extra equipment, items that were above and beyond normal refuge operations were provided by each region's Regional Chief. We are uncertain of how and where future funds will be available.*
 - *Once committed to the study and to being the lead coordinator/principal investigator, refuge staff must understand the commitment of time it takes to see the study to the very end (including publication and information distribution, etc.). In some instances, being the lead FWS coordinator typically takes about 50% of the biologist's time in the first year of the study and generally decreases in subsequent years.*

- ◆ Specialists/consultants are needed to work with Refuges one-on-one, who can tailor the adaptive management work to the needs of the Refuge and at the same time have the broader

regional perspective to integrate the data/project into a regional dataset. Statistical support is especially needed.

- *The BMT agrees with this request. During the Adaptive Mgmt Consultations at several refuges, it has been learned that additional follow-up assistance is needed. The BMT will thus be devoting additional time and resources to refuges during the implementation phase of the adaptive management consultation.*

- ◆ Would like to see the BMT conceptually challenge some of the traditional management on refuges and their efficacy. This needs to be done from a broad spatial/geographic perspective. Example: The role of impoundments, dikes, and their potential negative effects such as invasive species, or prairie pothole management in R3. Question the methodologies, assumptions, and management, and supply the needed information to “backup those assertions”.
 - *Some members of the BMT certainly enjoy challenging some of the traditional management practices performed on refuges. However, this should be driven by the field stations and is not the role of the BMT. The BMT’s role is to facilitate field stations to challenge traditional management practices. We recommend:*
 - *Individual or Groups of refuges identify the uncertainties associated with traditional refuge management actions. The BMT can then facilitate the refuge or group of refuges to challenge these management practices through a number of strategies, including working with the RRBs, an Adaptive Management Consultation or a Multi-Refuge management study, etc.*

BMT Goal 3, Sharing Data

- ◆ The BMT could help support existing or create new working groups for Refuges with common needs and concerns (for example, Refuges with colonial nesting seabirds, freshwater wetland management, forest management, or spruce-fir management).
 - *The BMT concurs! (Please refer to Attachment 1.)*

- ◆ Refuges could use help publishing data including data analysis, preparing graphics, and editorial guidance.
 - *We agree this is a very important need on refuges. However, the BMT was not created to provide this type of assistance. The BMT is working to ensure that as common refuge monitoring plans and protocols and databases are developed, the resulting data can be shared with other organizations for larger landscape decisions.*

- *The Regional Refuge Biologists in Regions 3 and 5 have contracted with biometricians to provide statistical assistance to refuges. We recommend a reminder announcement of this assistance be sent to all refuges.*
 - *The BMT staff will respond to questions, and requests to edit manuscripts whenever possible.*

- ◆ *Refuges would like the BMT to focus more on generating temporal and spatial information (using existing Refuge data or gathering data from partners) that will provide Refuges with a better understanding of how they contribute to regional/national/global goals. This is too large of an effort for individual field station and would be more efficiently accomplished by the BMT.*
 - *Agree. This is an important function of the BMT. As monitoring products are being developed, the BMT is working closely with Partners to ensure that data can be shared for larger landscape decisions, and to allow refuges to identify their respective role within the landscape. Examples of these efforts are:*
 - *Secretive Marsh Bird monitoring. The BMT is working with USGS, Courtney Conway, and other Partners to ensure that data are collected in a similar manner across all stations and numerous Partners. A centralized database has been developed with cooperation of USGS to allow field stations, States, and other Partners to store marshbird data.*
 - *Breeding Landbird Surveys. The BMT has worked with National Park Service, Northeast Coordinated Bird Monitoring Initiative and other Partners to standardize point count protocols, and produce a centralized database to meet field station and Partner needs.*
 - *The BMT is working with Refuges in Regions 3, 4, and 5, along with Migratory Bird Program, Joint Ventures and other Organizations to identify and develop a standard waterfowl and shorebird monitoring program across the Atlantic and Mississippi Flyways.*
 - *When implementing these monitoring efforts to evaluate a refuge's role within the larger landscape, the refuge staff must conscientiously adhere to the appropriate sample design to allow for appropriate analysis of the data.*

Attachment 1

July 23, 2007

MEMO

To: Refuge Managers and Biologists
From: Refuge Chief
Subject: Refuge Habitat Monitoring Protocols

The Biological Monitoring Team (BMT) has been working to provide high priority monitoring tools to meet the common needs of numerous refuges (marshbirds, landbirds, and waterfowl). The Team has also been approached to assist refuges who are working together to develop important habitat monitoring protocols. The BMT will be providing assistance to these groups of refuges and would like to inform all refuges throughout Regions 3 and 5 of this opportunity to address your habitat monitoring needs.

The BMT will focus this assistance on habitat monitoring, as detailed vegetation data are not planned to be housed in centralized (database where data is entered over the internet) databases. Thus, for those refuges working together to address a common habitat monitoring need, we will provide support to develop distributed databases (database such as Access which resides on your computer). In addition, some habitats are monitored to meet specific habitat or ecosystem objectives (restore native species in a grassland or restore hydrological attributes), not necessarily to meet bird or wildlife objectives. We propose the following process for developing habitat monitoring protocols and databases:

1. Multiple refuges with a pressing need to monitor a specific habitat (grassland, forest, shrubland, freshwater marsh, saltwater marsh) will form a Habitat Monitoring Team (HMT). A chairperson will be identified for the team. The habitat monitoring team will be responsible for:
 - a. Identifying the management questions being addressed by the data.
 - b. Identifying how resulting data will be used to inform refuge habitat management decisions.
 - c. Determining appropriate sample frame.
 - d. Selecting sample designs.
 - e. Selecting data collection protocols.
 - f. Identifying appropriate reports and analysis.
 - g. The HMT will identify the data elements that should be stored by the database. Ideally, these data elements will be defined by a published

protocol. The HMT will guide the BMT to develop an appropriate and efficient database to support the monitoring program.

2. The BMT will support the Habitat Monitoring Team as follows:
 - a. Provide funding for the HMT to conduct meetings, if needed.
 - b. Assist the HMT to identify appropriate sample frame, sample designs, data collection protocols, and data analysis procedures.
 - c. The BMT will provide, or contract with biometricians or other experts, to provide appropriate sampling designs and suggest approaches to analysis of the habitat monitoring data.
 - d. The BMT will either develop, or contract development, of a distributed database for refuges to efficiently store and use resulting data.
 - e. The BMT will provide training in use of the database, administer and upgrade the database as needed, and facilitate the exchange of data among the database, other wildlife databases, and/or GIS.

The pace of each team will be determined by the participants. The Teams will be self-directed, with the BMT staff as a resource to assist in all aspects of the process. As the various HMTs develop defensible protocols, sampling plans, and databases, the products will be posted on the BMT Intranet site and will be available to all refuges.

Refuges with similar monitoring needs and a desire to develop a monitoring program should indicate their interest in participating in a Habitat Monitoring Team by contacting Pat Heglund (R3), or Hal Laskowski (R5).