

Written Testimony

The House Subcommittee on Fisheries, Wildlife and Oceans
Oversight Hearing on Recent Trends Concerning Annual Budgets for the National Wildlife
Refuge System – September 24, 2008

David Callihan, Director
Management Systems International

The National Wildlife Refuge System contracted with Management Systems International in September 2006 to conduct an independent evaluation of the overall effectiveness of its program. The evaluation's purpose was to identify program strengths and weaknesses, and to determine whether and to what degree the Refuge System is achieving its conservation mission.

This testimony document is principally drawn from the Executive Summary of the MSI report entitled *An Independent Evaluation of the Effectiveness of the U.S. Fish and Wildlife Service's National Wildlife Refuge System*, which was finalized in June 2008. In addition, some material has also been included from the full report in order to cover areas that are most pertinent to this hearing. The research for the evaluation was conducted between October 2006 and September 2007 and thus represents a snapshot in time; some of the report's findings and budgetary figures are now out of date.

This report produced by MSI is an evaluation of the effectiveness of the performance of the National Wildlife Refuge System and contains analysis on the Refuge System's ability to effectively achieve the twelve Strategic Outcome Goals contain in its 2007 Strategic Plan. The summary of the complete evaluation includes an overall performance rating, conclusions and recommendations for each of the Refuge System's twelve strategic outcome goals. A complete set of evaluation findings can be found in the full report - *An Independent Evaluation of the Effectiveness of the U.S. Fish and Wildlife Service's National Wildlife Refuge System* (MSI, June 2008). In addition to findings, the complete evaluation report contains response data from three surveys (refuge managers, state fish and game agencies, and Friends Groups/partners), a list of all persons interviewed (approximately 250), references, and a bibliography.

Budgetary Impacts on Program Performance

Over the period of performance that was examined by MSI (roughly between the passage of the 1997 Refuge Impact Act and 2007) there was an overall decline in the Refuge System's budget; purchasing power declined by approximately 11% between the FY 2003 peak and the requested FY 2008 budget. (Note: The FY08 *enacted* budget restored most, but not all, of the decline in purchasing power.)

We believe that the following areas of operation were most severely impacted by declining budget allocations:

- The law enforcement program has too few officers and does not have adequate resources to hire enough officers. As a result, there is insufficient law enforcement coverage.
- The pace of realty acquisition has slowed in recent years as a result of budget declines.
- Anecdotal and survey evidence suggests that biological survey and monitoring work has declined.

- Over the past five years or so, as real budgets have been in decline, refuges in several administrative regions have found that they had been expending upwards of 90% of their operations and maintenance funds on personnel costs, which left insufficient funds for operational tasks and projects, such as habitat restoration. The result of this re-balancing exercise has been to revisit and reduce staff in several regions, which also has meant reducing programs and operations. Some illustrative impacts of the workforce planning exercise are expected to include:
 - In **Region 4**, up to 20% of the workforce is expected to be eliminated (from its peak in FY2003), which will result in a significant cutback in some services. For example, these cutbacks will include: reducing the number of days per week that some refuge visitor centers are open; reducing trail maintenance; reducing biological inventory and survey work; cutting back or eliminating visitor service programs, such as environmental education; and operating some refuges without any staff (de-staffing).
 - In **Region 5**, a number of refuges are being de-staffed as a means to move forward with staff cuts, while full biological and public use programs will be maintained only at select “stay strong” refuges. In addition, recognizing the need to “do less with less,” the Regional Office is asking all refuges to focus their visitor service programs on two public uses, rather than on each of the “Big 6” activities.
 - A number of refuges are being de-staffed; for example, in Region 5, 7 of 71 refuges were expected to be de-staffed within the a year of the workforce plan’s completion plan.

In other regions the staff cutbacks under workforce planning have not been as severe. For example, the CNO and Alaska regions were not expected to have to make any significant cutbacks in staffing.

- In several regions, key services such as visitor programs, environmental education, and biological monitoring are being curtailed or eliminated.
- As a counterbalance to the above, over the past ten years the Refuge System has been able to significantly expand participation by volunteers and Friends Groups. Partnerships with thousands of local and national organizations make a significant contribution to the accomplishment of the Refuge System’s key objectives, particularly in the areas of habitat restoration and visitor services; and partnerships bring a tremendous amount of funding into the system – in 2005 alone the total value of partnership contributions to the Refuge System exceeded \$50 million, with over \$30 million of the total being in direct cash contributions. The level of volunteer support increased dramatically over the past ten years – from 383,983 hours in 1987 to 1,478,797 in 2005.

BACKGROUND

The US National Wildlife Refuge System was created by Executive Order On March 14, 1903, when President Theodore Roosevelt established the country’s first wildlife refuge on Florida’s central Atlantic coast – the Pelican Island National Wildlife Refuge (NWR). From its modest beginning on Pelican Island

the Refuge System has expanded into a network of over 550 distinct units that encompasses over 95 million acres. Alaska contains approximately 76.8 million acres of refuge lands, or about 80% of the land in the total system.

To accomplish its mission the Refuge System finalized a strategic plan in early 2007 that contains twelve strategic outcome goals (SOGs). These goals cover the areas of habitat and wildlife conservation, wildlife-dependent recreation, law enforcement, fire management, welcoming and orienting visitors, wilderness management, conservation planning, infrastructure and equipment maintenance, strategic growth and organizational excellence. The Refuge System is part of the United States Fish and Wildlife Service, which is managed by the Department of Interior. The National Wildlife Refuge System collaborates closely with other Fish and Wildlife Service programs, including the migratory birds, endangered species and fisheries programs.

The MSI evaluation report reviews the Refuge System's twelve strategic outcome goals and provides an assessment as to how well the system is doing in accomplishing each goal. In addition, a section on the Refuge System's operating context, which analyzes budget and administrative trends over the past several years, has also been included.

EVALUATION METHODOLOGY

The evaluation was conducted between October 2006 and September 2007 and used a multi-method and multi-source data collection methodology.¹ MSI used a multi-source methodology to overcome the limitation of having to base analysis on a single source of information as single-source data may have weaknesses or unduly bias conclusions. In addition, a multi-method approach allows for a greater depth of understanding of particular issues.

The principal data collection processes used in this evaluation included:

Fish and Wildlife Service (FWS) and Partner Interviews: More than 250 interviews were conducted as part of this evaluation. Those interviewed included: Refuge System managers in Washington; a wide range of FWS field staff, from both regional offices and field stations; Refuge System stakeholders in Congress, the Department of the Interior and the Office of Management and Budget (OMB); national and local NGO partners; and staff from state fish and wildlife agencies.

Site Visits: The evaluation team visited all eight Refuge System regional offices and at least two refuges in each region. Refuge and regional office visits included meetings with refuge and regional office staff, state fish and game officials and non-governmental partners, such as representative from the Audubon Association, Ducks Unlimited, the Nature Conservancy, Friends Groups and other local partners.

Refuge Managers Survey: An on-line Refuge Manager's Survey was conducted between March 21st and April 19, 2007. The survey was a combination of close-ended and open-ended questions structured to collect information on the implementation and effectiveness of the Refuge System's twelve strategic outcome goals. *A total of 312 refuge managers completed the survey, which represents a survey completion rate of over 90% of current refuge managers.*

Partners and State Fish and Game Surveys: Two additional surveys were conducted to solicit the views of Refuge System partners on the quality of their partnerships with the Refuge System and on their views of the Refuge System's effectiveness. These surveys were:

¹ Expect for two surveys (partner survey and state fish and game agency survey), evaluation activity was completed by September 2007; the surveys were completed in April and May 2008.

- A survey of local Partners and Friends Groups was undertaken from March 17-25, 2008. A total of 83 responses were received from 98 potential respondents. The response rate was 85%.
- A survey of officials from state fish and game agencies was conducted from April 29–May 16, 2008. Responses were limited to one response per state agency. A total of 32 states responded to the survey, which constitutes a response rate of 64%.

Review of Existing Data: This included documents and databases, both from the Refuge System and from other land management agencies – the latter which provided context and benchmarking. Analysis included a careful review of the Refuge System’s annual performance monitoring database – the Refuge Annual Performance Plan (RAPP).

PRINCIPAL FINDINGS AND CONCLUSIONS

An overview of the performance of each Strategic Outcome Goal is provided in the table below and a brief discussion of each SOG follows.

Ratings	Goals
<p>Operating Context: Budgets are down over the last several, as purchasing power have declined 11% between fiscal year 2003, and 2007. (Note: The FY08 <i>enacted</i> budget restored most, but not all, of the decline in purchasing power.) During this period of budget decline the Refuge System’s operational costs have increased due to inflation and annual salary adjustments. In addition, over the past five years, administrative non-core requirements have increased.</p>	
Highly Effective	<p>SOG 6: Facilitate Partnerships and Cooperative Projects to Engage Other Conservation Agencies, Volunteers, Friends, and Partners in the NWRS Mission.</p>
Effective	<p>SOG 5: Provide Quality Wildlife-Dependent Recreation and Education Opportunities.</p> <p>SOG 8: Provide Infrastructure and Equipment Adequate to Support Mission and Maintained in Good Condition.</p> <p>SOG 9: Complete Quality and Useful Comprehensive Conservation Plans on Schedule and with Full Engagement of Partners.</p> <p>SOG 11: Reduce Wildfire Risks and Improve Habitats.</p>
Partially Effective	<p>SOG1: Conserve Manage, and Where Appropriate, Restore Fish, Wildlife and Plant Resources and Their Habitats</p> <p>SOG 3: Ensure that Unique Values of Wilderness, other Special Designation Areas, and Cultural Resources are protected.</p> <p>SOG 4: Welcome and Orient Visitors.</p> <p>SOG 12: Promote and Enhance Organizational Excellence.</p>
Ineffective	<p>SOG 7: Protect Resources and Visitors through Law Enforcement.</p> <p>SOG 10: Strategically Grow the System.</p>
Unable to Evaluate	<p>SOG 2: Provide Quality Environments with Adequate Water.</p>

Operating Context:

Budget Trends: NWRS budgets have declined over the past several years, with actual purchasing power having declined about 11% between the FY 2003 peak and the requested FY 2008 budget. (Note: The FY08 *enacted* budget restored most, but not all, of the decline in purchasing power.) During this period of budget decline some Refuge System costs have increased due to inflation and annual adjustments, e.g. salaries. As a result, the Refuge System has not been able to maintain its level of operational activity from one year to the next – services and personnel have had to be cut back. Maintenance funding, however, has significantly increased – with a jump of 436% over eight years (FY 1996 – FY 2004).

Recent budget declines appear to have severely affected refuge operations. This is evident based on a number of findings, including:

- 94% of refuge managers' survey comments indicated an inability on the part of the NWRS to accomplish its mission due to inadequate budgets and staffing;
- Workforce planning exercises are leading to significant cutbacks in personnel and services; for example, the Region 4 plan calls for a 20% reduction in staff;
- In several regions, key services such as visitor programs, environmental education, and biological monitoring are being curtailed or eliminated; and
- A number of refuges are being de-staffed; for example, in Region 5, 7 of 71 refuges will be de-staffed within the next year.

Administration/Workload: Refuge System administrative reporting has reached an unbalanced and critical level and is diverting time and resources away from mission-critical activities. There has been a clear trend, particularly over the past five years, of increased workload requirements and increased administrative reporting. While some of the workload requirements, such as the need to produce CCPs, directly support the core mission of the Refuge System, much of the work relates to administrative requirements, such as the implementation of multiple and apparently redundant timekeeping and accountability processes. Much of the effort to address accountability concerns is disproportionate to the resources involved; for example, small refuges must use the same complex systems as large refuges even though their discretionary annual operations budgets may be as small as \$20,000-\$30,000 per year. The Refuge System places an emphasis on accountability that often times appears to be disproportionate to the level of resources being monitored, which is not cost effective and is a distraction to a focus on the organization's core conservation mission.

Overall Operating Context: The confluence of declining budgets, declining staff, and a significant increase in administrative workload has impaired the Refuge System's ability to focus on and accomplish its core mission – that of conserving habitat and resources.

Concurrent with declining budgets, the Refuge System has also experienced an increase in administrative requirements. Together, these factors have had a negative effect on the Refuge System's ability to achieve its core goals – refuge managers have less time, and less money, to focus on the accomplishment of their mission than was the case five years ago. The areas most impacted have included: the Refuge System's ability to conduct adequate monitoring and inventory work; the law enforcement program, which simply has too few officers to enable the Refuge System to provide

adequate law enforcement coverage; and the rate of growth of the Refuge System, which has declined markedly over the past five years.

SOG1: Conserve Manage, and Where Appropriate, Restore Fish, Wildlife and Plant Resources and Their Habitats.

Partially Effective: This objective is rated “Partially Effective” because of the significant amount of refuge land that is need of additional management attention and the inconsistent application of science-based management across the Refuge System. As per the Refuge System’s RAPP performance reporting system, 89% of refuge lands – 76.5 million acres – are in Class I condition, which means the land is receiving needed management action or does not require additional management action at this time. Alaska’s sixteen refuges report that 98% of their habitats were in Class 1 condition in 2006 (as per RAPP data reporting). However, for NWRS lands outside of Alaska, 59 % of the 18.9 million acres were reported as being in Class 1 condition in 2006 – meaning that 41% are in need of management attention.

A significant portion of refuges have not developed Habitat Management Plans and there is an insufficient level of biological inventory and monitoring work being done – only 11% of refuge managers surveyed described the current level of inventory and monitoring work as being mostly or fully sufficient.

SOG 2: Provide Quality Environments with Adequate Water.

Unable to Evaluate: This objective is rated “Unable to Evaluate” as a result of the limited information available against which to undertake an assessment of this strategic goal. The Refuge System does not currently operate a well defined and structured water resources program. There is currently no individual or office designated to coordinate the Refuge System’s water rights and water quality activities.

SOG 3: Ensure that Unique Values of Wilderness, other Special Designation Areas, and Cultural Resources are protected.

Partially Effective: The NWRS contains about 20.7 million acres of wilderness, of which approximately 90%, or 18.6 million acres, is in Alaska. In addition, about 1.9 million of proposed acres of wilderness exist in the NWRS. The NWRS currently operates under the 1986 Wilderness Stewardship Policy. This policy is outdated and does not provide Refuge Managers adequate guidance regarding permissible management actions. A new draft policy has been developed and was released for public comment in 2001 but has never been finalized. The NWRS has supported the development of wilderness training courses and refuge managers overwhelmingly feel these courses have been effective in enabling them to acquire the skills necessary to manage wilderness areas; 64% of refuge managers who manage wilderness areas have completed the required wilderness training.

SOG 4: Welcome and Orient Visitors.

Partially Effective: The NWRS is reasonably effective in terms of informing and engaging refuge visitors but could easily improve its performance in this area. Brochures are generally informative and available at refuges, and refuge employees and volunteers are able to provide helpful and informative answers to visitor questions. However, videos and CDs – very engaging and effective means of providing information to refuge visitors - are substantially underutilized. The information provided on refuge websites is very inconsistent from refuge to refuge and frequently provides only the most basic

information. The NWRS could do a substantially better job at orienting visitors by improving its websites and making sure website content is updated and consistent.

SOG 5: Provide Quality Wildlife-Dependent Recreation and Education Opportunities.

Effective: The Refuge System has done a good job at expanding the number of refuges that offer wildlife-dependent recreation opportunities and, overall, the visitor satisfaction rate at refuges appears to be very high –above 90% in the 2002 and 2004 surveys (note: the surveys were conducted only at fifty high visitation refuges). In terms of the individual Big 6 recreational activities, the operation of hunting, fishing, wildlife viewing, and photography programs are generally operating at a satisfactory level in terms of the Refuge System’s ability to provide an adequate level of service and in terms of the support provided to those programs by the Refuge System. The environmental education and interpretive programs, on the other hand, are not able to meet public demand and are not adequately supported by the Refuge System. This latter conclusion is based solely on the view of refuge managers: 55% of refuge managers surveyed indicated they are not able to adequately meet the demand for environmental education services and 48% indicated they are not able to meet the demand for interpretive services.

SOG 6: Facilitate Partnerships and Cooperative Projects to Engage Other Conservation Agencies, Volunteers, Friends, and Partners in the NWRS Mission.

Highly Effective: This objective was rated highly effective for several reasons: over the past ten years the Refuge System has been able to significantly expand participation by volunteers and Friends Groups; partnerships with thousands of local and national organizations make a significant contribution to the accomplishment of the Refuge System’s key objectives, particularly in the areas of habitat restoration and visitor services; and partnerships bring a tremendous amount of funding into the system – in 2005 alone the total value of partnership contributions to the Refuge System exceeded \$50 million, with over \$30 million of the total being in direct cash contributions.

State Fish and Game Agencies: 88% of state agencies rated the quality of their relationship with individual refuges as between good and excellent; 47% rated the quality of the relationship as excellent or very good.

Partner Agencies: 93% of partners rated the quality of their relationship with individual refuges as between good and excellent; 56% rated the quality of the relationship as excellent.

SOG 7: Protect Resources and Visitors through Law Enforcement.

Ineffective: Low staffing levels are leading to a substantial and critical lack of law enforcement coverage and capability at many refuges across the system. At many refuges, law enforcement coverage is insufficient to ensure the protection of resources and the safety of visitors and refuge staff. A substantial majority of refuge managers (over 70%) feel visitor safety and law enforcement performance has declined in recent years. The issue of public safety is of particular concern given that only seven of the refuge managers from 50 high visitation refuges (with annual visitation in excess of 250,000) who responded to the MSI survey indicated that law enforcement coverage is sufficient on their refuge. It is highly unlikely that any meaningful progress towards improving the Refuge System’s law enforcement capability can be achieved under current and expected budget allocation levels.

SOG 8: Provide Infrastructure and Equipment Adequate to Support Mission and Maintained in Good Condition.

Effective: The most important refuge assets -- those most necessary to the achievement of refuge conservation and public use objectives -- are generally well maintained. Seventy-five percent of refuge managers surveyed feel that the assets most critical to their refuge's mission and purpose, such as water management systems, are maintained in a condition adequate to support and achieve those goals. An important caveat to this conclusion is the fact that a substantial minority of refuge managers (40%) believe their refuges require new facilities if they are to meet their purpose and objectives. In the mid-1990s, the maintenance of the Refuge System's infrastructure and equipment was a critical concern and the maintenance budget subsequently increased dramatically -- from \$21 million in 1996 to \$91.5 million in 2004 (a 336% increase over eight years in actual funding dollars). The availability of increased funds over the past seven or eight years has allowed the Refuge System to effectively address preventive maintenance requirements. Subsequent to 2004, however, maintenance funding dipped substantially -- a decline of 30% from 2004 to 2007. It is important to note that if the recent backsliding in maintenance funding is not reversed infrastructure maintenance will soon once again become a critical problem.

SOG 9: Complete Quality and Useful Comprehensive Conservation Plans (CCPs) on Schedule and with Full Engagement of Partners.

Effective: The NWRS is required to complete CCPs for 554 refuges by 2012. To date, two hundred and five refuges have completed CCPs -- or about 37% of required units (analysis as per mid-2207). Although the pace of CCP completion has accelerated significantly over the past few years, the Refuge System is slightly behind schedule in terms of meeting its CCP completion target. In April 2007, the Refuge System began implementing the *2012 Plan, an Action Plan to Meet Our Legislative Mandate*, which lays out a series of actions intended to ensure that all required CCPs are completed by 2012. Overall, refuge managers have found CCPs to be a useful tool for clarifying objectives, guiding habitat management decisions, and clarifying public use decisions.

As per the MSI State Fish and Game Agency Survey: 94% of state agencies agreed or strongly agreed that they had been provided an opportunity to meaningfully participate in the CCP process; 95% of state agencies agreed or strongly agreed that their participation in the CCP process had improved their communication and coordination with the Refuge System.

SOG 10: Strategically Grow the System.

Ineffective: This objective was rated ineffective for a number of reasons, including: the rate at which land has been added to the NWRS has declined significantly over the past five years; land purchased by the Refuge System often does not match the priorities identified by the NWRS' Land Acquisition Priority System, especially over the past few years; and the current DOI-managed land appraisal process that the NWRS uses is ineffective and cannot be relied upon to produce timely or accurate appraisals, resulting in available land deals being lost.

SOG 11: Reduce Wildfire Risks and Improve Habitats.

Effective: This objective is rated "Effective" as a result of the systematic planning and execution by which the NWRS utilizes prescribed fire to improve wildlife habitat and reduce fuels loads and also for the Refuge System's ability to fight and suppress wildfires. Where refuges have the qualified staff and budget, the high level of planning, training, and coordination results in application of prescription fire to improve and maintain habitats, reduce fuel loads, and suppress unwanted wildfire. Based on MSI surveys and interviews, it appears that approximately one-half of the NWRS has the resources it

needs – both budget and personnel – to use fire as a habitat management tool. For other units, issues of staffing, available budget, the growing percentage of Wildland Urban Interface lands, and the location of refuges relative to other fire resources impair the system’s ability to promote prescription fire while proactively addressing fuels availability and effective wildfire suppression.

SOG 12: Promote and Enhance Organizational Excellence.

Partially Effective: The Refuge System has introduced a number of new management and planning systems over the past several years, including a medium-term strategic plan, activity-based costing, RAPP work planning and reporting systems, and refuge-level comprehensive conservation planning. The Refuge System is also currently undertaking a Workforce Planning exercise to help better balance personnel and operational expenditures and to prioritize staffing and programs in consideration of declining budgets. The RAPP system has enabled the NWRS to better track and report on national-level accomplishments and the budget rebalancing exercise will, over time, provide managers greater flexibility to address local priorities. The RAPP system, however, has not proved useful to analyzing program effectiveness nor is it used for program decision-making. In addition, there is significant inconsistency within the Refuge System in how policies and programs are implemented across regions. In particular, there is a great deal of variance in basic business management practices, such as budgeting, annual work planning and the use of station reviews/evaluations.

PRINCIPAL RECOMMENDATIONS

This report contains specific recommendations for improving the effectiveness of the Refuge System in each of the individual strategic outcome goal sections. A brief summary of some of the recommendations most likely to improve performance are presented below.

The Law Enforcement program needs increased funding: There is a severe shortage of full-time law enforcement officers that can only be addressed by hiring additional full-time law enforcement officers—moving from current levels of around 200 full-time officers to at least 400 full-time officers. Implementation of this recommendation will require substantial resources, but an acceptable improvement in law enforcement coverage is of fundamental importance to the on-going effectiveness of the Refuge System.

The Refuge System should find a way to increase policy and program consistency across regions and between refuges: Part of this process could include standardizing budget development, work planning, reporting and evaluation requirements. Another aspect of this recommendation is the need to develop a clear point of authority and process for ensuring greater policy consistency.

Reduce administrative and reporting requirements: The Refuge System should strive to reduce administrative and reporting requirements -- particularly for smaller refuges (seven or fewer staff).

Review the Need to Hire Additional Biologists: As noted in the conclusion section, in part, the Refuge System is unable to fulfill its commitment to manage refuges using an adaptive management process because of a shortage of biologists (approximately 20% of the Refuge System’s workforce are biologists). It is recommended that the Refuge System review the adequacy of its biology workforce as compared to system needs. The White Paper produced for the *Conservation in Action Summit* recommended that biological teams be added to the top 50 refuges. An assessment should be undertaken to determine the degree to which this has happened.

Biological monitoring and inventory work needs to be increased and a more consistent approach should be developed and implemented: The effort of developing a system-wide geographic monitoring

capability should be continued and provided increased emphasis. For example, efforts should be made to build upon the Refuge Lands Geographic Information system (RLGIS) and accelerate and adequately resource the implementation of the Strategic Habitat Conservation Initiative. The Refuge System's challenge is to better define high-priority system-wide needs, identify best practices that meet these needs, and replicate these systems in an increased number of locations.

Develop a water strategy: The Refuge System should develop an overall strategy and management structure to more effectively assess and address water management issues. Steps to develop such a program would include appointing a Water Resources Coordinator and developing a policy, or at least a defined process, for how refuges should assess and manage water rights. As the Refuge System reviews the need to bolster its approach to water management it could also take the opportunity to review other program and issue areas that may benefit from increased attention, such as the impacts of climate change and its influence on how the Refuge System should be managed.

Develop consistent and improved refuge websites: Develop a single website format/architecture for each of the refuge unit's websites. There are several options available in terms of the approach used to manage refuge websites; however, the most efficient option would likely be to centralize the function in a single office or under a single contract.

Prioritize visitor services: In light of high public demand for wildlife-dependent recreation and the Refuge System's limited and stretched budgets, the Refuge System should prioritize the public use services it will offer and provide some guidance to refuges and regions as to how limited resources should be allocated among the various wildlife-dependent recreational activities. Particular attention should be given to better defining and supporting environmental education and interpretation programs, where such programs are appropriate and of high utility.

Strengthen the Refuge System's strategic growth program: The Refuge System should develop a Land Acquisition Policy and a corresponding strategy to guide expansion of the system. It is recommended that the land acquisition policy/system be developed to be consistent with the Fish and Wildlife Service's Strategic Conservation Habitat Initiative, a geospatial system being adopted by the Service to identify and monitor conservation priorities. In addition, the Refuge System should engage in a discussion with the Department of Interior to enable it to improve the process it uses to appraise potential real estate transactions as the current Department of Interior mandated Appraisal Services Directorate (ASD) system is ineffective.

Redesign the RAPP reporting system: This system should be redesigned based on a clarification of its purpose. If the system is to remain primarily an external reporting tool – for reporting to FWS, DOI, OMB, and Congress—then the system should be substantially simplified to focus on areas of key interest and the number of indicators tracked should be significantly reduced (by at least 50-60%). However, the RAPP system would be most useful to the Refuge System if it were redesigned to provide information that could help inform strategy and management decisions, which is not currently the case. This will require revising the system and also instituting practices to review and analyze the data for management decisions, e.g. an annual strategy and performance review workshop.

It is also recommended that the Refuge System disaggregate reporting data between the Alaska region and the rest of the system. Because approximately 80% of all refuge land is in Alaska, and more than 90% of this land is classified as wilderness, aggregating Alaska performance data with that from the rest of the Refuge System provides a distorted picture of the overall system's condition, needs and performance accomplishments

Develop a knowledge management program: The NWRS should implement a Knowledge Management System to foster information sharing, promote learning and to ensure that best practices are more widely disseminated and adopted. Consideration should be given to creating a dedicated Knowledge Management Unit, which would be responsible for program reporting (RAPP), archiving documents, managing evaluations, disseminating lessons and best practices, and responding to external information requests (together with public relations staff). The Unit's purpose would be to improve performance analysis and reporting and to raise the quality level of implementation practices across the Refuge System.