Best Practices for State Wildlife Action Plans

Voluntary Guidance to States for Revision and Implementation

TEAMING WITH WILDLIFE
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November 2012

Gary Wise

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ASSOCIATION *of* FISH & WILDLIFE AGENCIES

Report of the Association of Fish and Wildlife Agencies' Teaming With Wildlife Committee's State Wildlife Action Plan (SWAP) Best Practices Working Group

The Association of Fish and Wildlife Agencies

The Association of Fish & Wildlife Agencies (AFWA) represents North America's fish and wildlife agencies to advance sound, science-based management and conservation of fish and wildlife, and their habitats in the public interest.

AFWA represents its state agency members on Capitol Hill and before the Administration to advance favorable fish and wildlife conservation policy and funding, and works to ensure that all entities work collaboratively on the most important issues. AFWA also provides member agencies with coordination services on cross-cutting as well as species-based programs that range from birds, fish habitat, and energy development to climate change, state wildlife action plans, conservation education, leadership training, and international relations.

Working together, the AFWA's member agencies are ensuring that North American fish and wildlife management has a clear and collective voice.

AFWA Teaming With Wildlife Committee

The Teaming With Wildlife (TWW) Committee advocates for long-term, dedicated funding and annual appropriations for the conservation of at-risk fish and wildlife, nature-based recreation, and conservation education.

The committee supports the development, implementation, and revision of State Wildlife Action Plans, and it builds, supports, and coordinates the national TWW Coalition.

AFWA TWW State Wildlife Action Plan (SWAP) Best Practices Working Group

The State Wildlife Action Plan (SWAP) Best Practices Working Group is nested under AFWA's Teaming With Wildlife Committee. The working group's task was to develop voluntary guidance in the form of a "best practices" document that can be used by US states and territories when revising their SWAPs. One subgroup worked directly with the US Fish and Wildlife Service (USFWS) to clarify the language of the 2007 SWAP revision guidance document.

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Iowa DNR

Table of Contents

Table of Contents *(continued)*

Kentucky DFWR

Foreword

They are our blueprints for conservation, our guideposts for action, and our visions for how we wish to leave our lands, waters, fish, and wildlife for future generations of outdoor enthusiasts. As a body, they represent our collective hopes, plans, and expectations for what we will achieve as stewards and fiduciaries of our priceless natural heritage and the trust of the public that we all serve. I am writing of course about our nation's collection of State Wildlife Action Plans.

Since their inception in 2005, the plans have articulated clear and compelling conservation goals, and defined the measures necessary to recover endangered species, restore unique habitats, keep rare and imperiled species off of the endangered species list, and keep common species common. By any measure, they have served to inspire our community of fish and wildlife professionals, along with our partners, to do more for the species that need it the most.

At the same time, any conservation professional recognizes that the plans were never meant to be static or left to languish untended upon a dusty office shelf. Rather, from their very beginnings, the plans were conceived to be dynamic and ever-evolving to meet the contemporary challenges affecting fish and wildlife populations across our respective states. With an increasing number of species declining in population and viability, coupled with a challenging funding environment for conservation, it is more imperative than ever to make our plans as efficient and effective as possible.

Our charge is to meet that challenge and to ensure that we build upon our past successes with each and every iteration of the plans. By improving them, we can and will chart a way forward with our public and private partners to accomplish our common goal of conserving healthy wildlife populations and landscapes to be enjoyed by future generations. The plan revision process that many states are undertaking right now provides that very opportunity.

Along those lines, the State Wildlife Action Plan Best Practices Working Group was created by the Association of Fish and Wildlife Agencies' Teaming With Wildlife Committee. The working group was tasked with identifying best practices that state fish and wildlife agencies could use when revising and implementing their plans. Over the last eight months, dedicated professionals from state, federal, and non-governmental agencies gave generously of their time and talents through group discussions, a face-to-face meeting, outreach to state fish and wildlife agencies and their partners, and through a review of the conservation planning literature. Their efforts have borne considerable fruit and have yielded a number of best practices for state fish and wildlife agencies to consider using when revising and implementing their plans.

It is important to note that the recommendations contained herein are voluntary. They are intended to offer guidance not mandates. We encourage all states to utilize their plans to reflect and express their own unique identities, showcase the diversity of their fish and wildlife resources that sets them apart from other geographies, and highlight the innovative strategies that will be employed to conserve them now and to come.

At the same time, I would be remiss in not expressing our hope that we can and should achieve greater consistency and standardization across our plans. Such consistency will undoubtedly engender improved efforts to measure our success with the conservation of targeted species and communities, track progress on population recovery and habitat enhancement goals, and foster enhanced collaboration across state lines.

In summary, I hope you find this report on best practices useful to you and your colleagues as you revise and implement your State Wildlife Action Plans. Thank you for all you do for your state's and our country's wild things and wild places. They need you now more than ever.

Sincerely,

Carter Smith, Chair of the Teaming With Wildlife Committee and
Executive Director of the Texas Parks and Wildlife Department

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Best Practices for State Wildlife Action Plans

Practices to enhance conservation and consistency across plans

Executive Summary

The development of State Wildlife Action Plans (SWAPs) in 2005 in every state and territory was a major milestone in fish and wildlife conservation. The plans for the first time identified the species and habitats in greatest conservation need, key threats, and conservation actions needed to prevent endangered species listings and spur recovery. Congress mandated that state fish and wildlife agencies develop the plans to receive federal funding through the State and Tribal Wildlife Grants (SWG) Program. Although each SWAP was required to address eight common elements, states were given wide latitude to use methodologies and approaches that conformed to each state's individual needs, respected varying capacities, and allowed for innovation. The plans have stood the test of time and serve as a key resource for prioritizing fish and wildlife conservation action. As states undertake plan revision, the time is right to inventory innovations and share lessons learned with SWAP Coordinators and the broader conservation community. By doing so, a new standard is set so that subsequent versions of plans remain relevant and lead to increased consistency while respecting the individuality of states.

In November 2011, the Association of Fish and Wildlife Agencies (AFWA) circulated a survey to state fish and wildlife agencies and their conservation partners to identify areas for improvement in the SWAPs based on lessons learned (Association of Fish and Wildlife Agencies 2011a). In January 2012, during the Wildlife Diversity Program Managers (WDPMs) Meeting in Sapelo Island, Georgia, participants recommended that a working group be created to develop best practices based on the survey results. The Chair of the Teaming With Wildlife (TWW) Committee established the SWAP Best Practices Working Group later that month.

Kentucky DFWR

Since January 2012, working group members participated in monthly conference calls (chapter teams conducted additional calls), and attended one in-person meeting in Austin, Texas. In May 2012, the working group sent a preliminary draft of best practices (an introductory paragraph and a bulleted list of best practices for each chapter) to SWAP Coordinators and WDPMs for review and comment. Seven states as well as US Fish and Wildlife Service (USFWS) personnel submitted comments. The working group incorporated the feedback and in July 2012 sent the revised draft for review to the states and the broader conservation community to ensure maximum utility for state partners. At least nine states and 13 federal and private partners submitted comments. The final draft benefitted from the comments of more than 45 reviewers representing more than 25 agencies and organizations.

The 23-member working group was comprised mainly of SWAP Coordinators and WDPMs, as they are the primary audience for the document. The group also had representatives from the USFWS and the National Wildlife Federation. Members hailed from regions across the country.

Best Practices

This report is organized into six chapters based on the Eight Required Elements of SWAPs. Some of the practices are illustrated by case studies from states that have been innovators in meeting a particular element. The best practices for each chapter are summarized briefly below. These practices represent standards that states can aspire to over the course of their next two review cycles. Implicit in this document is the recognition that some states have already completed their first comprehensive review and others are in various stages of it, which may not allow for the incorporation of some of these best practices at this time.

Mark Nelson

Chapter 1. Prioritization

The Prioritization Chapter outlines a systematic approach to selecting Species of Greatest Conservation Need (SGCN) and prioritizing species, habitats, and conservation actions. To strategically direct limited resources to the highest priority targets, the following practices are recommended. In assessing conservation status, use ranking procedures (e.g., NatureServe methodology) to characterize risk, and collaborate with other states to support ranking procedures. Include geographically-isolated subspecies and/or distinct population segments. Update conservation status regularly and the SGCN list early in the revision process.

In setting conservation priorities, establish clear goals and use decision theory approaches (e.g., optimal allocation) to both derive and prioritize SGCN and associated conservation actions. Be transparent about which criteria are used, avoid vague terminology, understand that any set of criteria is to some degree subjective, and use weighting schemes to rank criteria. Direct conservation efforts toward biodiversity at the coarsest scale an area can support, and then determine the extent to which ecosystems and species at finer scales can be targeted. Consider species within the context of the state and the region. Engage multiple stakeholders and sponsor a workshop to educate policymakers about their roles as compared to scientists.

Chapter 2. Species and Habitats (Elements 1 & 2)

Elements 1 and 2 direct each state to provide information on at-risk wildlife species, and describe key habitats essential to the conservation of those species. To develop the most effective maps and models possible, and to enable SWAPs to be compatible with other regional and national mapping efforts, the following practices are recommended. Spatially depict areas that offer the best opportunities for SGCN conservation and call them Conservation Opportunity Areas (COAs). Use transparent and repeatable methods and models, and incorporate relevant spatial priorities developed by partners. Align SWAPs

Iowa DNR

along ecological boundaries. Adopt standard classification systems and taxonomy for SGCN, habitats, mapping units, and other such methodologies and data sources.

Chapter 3. Threats and Conservation Actions (Elements 3 & 4)

Elements 3 and 4 direct each state to describe threats and corresponding conservation actions to priority species and habitats. To improve conservation work and enable SWAPs to be summarized at the regional level, the following practices are recommended. In describing threats and conservation actions, adopt the classification system in Salafsky et al.'s (2008) *A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions*. Incorporate climate change into the plan and conduct vulnerability assessments to inform the selection and prioritization of SGCN and conservation actions. Cultivate partnerships with agencies responsible for mitigation oversight. Design conservation actions to abate known threats and indicate metrics to measure the effectiveness of conservation actions. Engage partners in developing conservation actions.

Chapter 4. Monitoring (Element 5)

Element 5 directs each state to propose a plan for monitoring species, habitats, and the effectiveness of conservation actions, and for adaptive management. To make monitoring scientifically-sound and consistent across landscapes, the following practices are recommended. Use widely-accepted monitoring protocols designed to make the resulting data as useful as possible to conservation and science. Assess populations, habitats, and project effectiveness at multiple scales, and collaborate with existing monitoring programs and regional associations. Participate in existing research and conservation alliances, and regional agency associations. Consider staffing and funding when determining priorities for long-term monitoring programs, and consult with partners to evaluate needs. Develop new citizen science programs as appropriate to augment monitoring capacity.

To better demonstrate performance, identify measurable objectives for each conservation action, and select performance measures appropriate for each objective. Employ the AFWA Effectiveness Measures in project planning and implementation. Use Wildlife TRACS to generate summary reports that can demonstrate successes and efficiency to diverse audiences. Use Auxiliary TRACS to report on the full array of programs for monitoring species, habitats, and conservation actions, including nonWSFR-funded projects.

Chapter 5. Review and Revision (Element 6)

Element 6 directs each state to review its plan at least every 10 years. For clarification on the official review requirements, use the revision guidance table and suggested submittal package checklist provided in this report. If reviewing before the 10-year deadline, ensure that the review proceeds from an explicit identification of the need for change. If possible, align the review with other relevant internal conservation planning documents. For taxa which the state has limited regulatory authority, staff, or funding (e.g., insects, plants), include those taxa on the SGCN list but engage outside partners or seek additional funding to address them. To address emerging issues, use the official process described in this report.

To enhance SWAP utility, include a section on "how to use this document," organized by types of targeted audiences. To reduce length, incorporate information by reference rather than reiterating text. Provide a Web link to both the entire document and segmented versions of the document using software that is free to the public. Create a GIS portal for conservation partners to access and download plan-related data. Create a section or companion document referring readers to resources on

Rod Gilbert

project effectiveness, successes, and implementation efforts. Send a hardcopy and Web link of approved revisions, as well as updated SWAP Coordinator contact information, to AFWA. Create a limited number of hard copies and make them available in state libraries. Use 8.5 × 11 inch paper to facilitate easier printing and downloading. Create a short and/or condensed version of the SWAP that is more easily printed and marketed to pique interest and participation.

To better engage partners in the review process, craft a SWAP statement of purpose. Create a charter to formalize the review and revision process, schedule, and roles for those involved. Document

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roles and measures of success for conservation partner teams, and provide mechanisms for partners to understand how their input is used and valued. Scale the level of partner participation to the type of review. Ask partners to feature the state's review or revision updates and request for comments in their constituency communications. Provide recognition for partners that contributed significantly to the SWAP to instill a sense of ownership and desire to protect and implement the plan.

Chapter 6. Partnerships and Public Participation (Elements 7 & 8)

Elements 7 and 8 direct each state to develop, implement, review, and revise the plan in coordination with partners and with broad public participation. To build and maintain lasting partnerships and public support, the following practices are recommended. Use the Collaborative Conservation Model for SWAP implementation developed by Lauber et al. (2009). Develop partnerships early on and revisit them as often as necessary to promote ownership and buy-in, maintain positive and supportive relationships, and ensure that SWAPs are *state* plans rather than *state agency* plans. Formalize partnerships as appropriate. Strategically create committees for development, revision, and implementation. Identify overlapping priorities with partners. Use the *Open Standards for the Practice of Conservation* to bring together common approaches and terminology in conservation project design, management, and monitoring. Revitalize and develop new Memoranda of Understanding (MOUs) and become familiar with existing MOUs at the federal level to capitalize on partnership opportunities. Cultivate a partnership with the Natural Resources Conservation Service (NRCS) and participate in NRCS State Technical Committees. Cultivate a partnership with Landscape Conservation Cooperatives (LCCs), the state forester and state Forest Action Plan, the US Department of Defense (DoD) Legacy Resource Management Program through the Integrated Natural Resource Management Plans (INRMPs), state and federal department of transportation regional plans, and US Department of Energy (DOE) plans. Work with neighboring state fish and wildlife agencies. Identify common priorities to pool resources for regional conservation efforts. Coordinate across jurisdictional boundaries with nonstate partners. Strengthen the state Teaming With Wildlife (TWW) Coalition. Develop a communications plan. Ask partners to promote conservation projects and successes through their outreach mechanisms. Use a team approach (with species and habitat biologists as well as GIS experts) to develop models and maps.

In engaging the public, develop and implement a public participation process with clear objectives. Notify the public of the state's intent to revise its plan early in the revision process using the state's public notification processes, and providing 30–60 days for review and comment. Document within the SWAP both the process used and the consideration of comments received. Archive all comments received, as well as actions taken with regard to each comment. When reaching out to the public, link the plan to established community values.

Conclusions

The following best practices are meant to inspire and enable state and territorial fish and wildlife agencies to enhance their SWAPs. The document is offered as a resource for states that are interested in improving consistency, meeting the revision requirements, and enhancing effectiveness with respect to prioritization, conservation delivery, and collaboration with partners and other states. These voluntary practices may be implemented at any time or whenever a state undergoes a revision of its plan.

Introduction, Review, and Use of These Guidelines

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What is a Best Practice?

A "Best Practice" method or technique, through experience and research, has consistently shown results superior to those achieved by other means. It implies accumulating and applying knowledge about what is working and not working in different situations and contexts, including the continuing process of collaborative assessment, reflection, and analysis. A commitment to using best practices in any field is a commitment to using all the knowledge and technology at one's disposal to ensure success. In addition, a "best" practice evolves as successive improvements are implemented.

Identifying the Need for Best Practices

In November 2001, President George W. Bush signed into law H.R. 2217, the Department of the Interior and Related Agencies Appropriations Act, 2002, enacting the State and Tribal Wildlife Grants (SWG) Program, which provides wildlife conservation grants to US states, the District of Columbia, and the territories of Puerto Rico, Guam, the United States Virgin Islands, the Northern Mariana Islands, and American Samoa (hereafter referred to collectively as states), and federally recognized Indian tribes under the provisions of the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act. This program supports the development and implementation of management programs that benefit wildlife and their habitat, including species that are not hunted or fished. Since enacted, the bill has provided annual, formula-based

apportionments to the states to support wildlife conservation.

To qualify for funding under this program, each state was required to develop a comprehensive wildlife conservation strategy (now known as State Wildlife Action Plan) by October 1, 2005, consistent with criteria established by the Secretary of the Interior, and that considered the broad range of the state, territory, or other jurisdiction's wildlife and associated habitats, with appropriate priority placed on those Species of Greatest Conservation Need (SGCN) (as defined by the state Wildlife Conservation and Restoration Program). Each state's respective fish and wildlife agency was authorized to lead in coordination with other state, federal, tribal, nongovernmental, and private partners that managed significant amounts of land in the state.

In the absence of explicit federal guidance, the Association of Fish and Wildlife Agencies (AFWA) developed a document in September 2002 that outlined guiding principles for states to consider in developing their plans, with the intent of fostering consistency, while recognizing the solidarity of state, to identify their own conservation needs and approaches. Expanding on this, the AFWA Teaming With Wildlife (TWW) Committee formed a working group comprised of representatives from state and federal agencies and nongovernmental organizations (NGOs) to develop guidance for the states to consider when crafting their original plans for the October 1, 2005 deadline. This series of documents formed what is known as the "Binder," (Association of Fish and Wildlife Agencies, Teaming With Wildlife Committee 2003a) and includes the following:

- National summary of state progress reports
- Alternative formats for the plans
- Ecological framework options
- Information management and geographic information system (GIS)
- Criteria and resources for identifying species of greatest conservation need
- Monitoring success
- Sources of information
- Recommendations concerning public participation
- Process and criteria for acceptance of plans
- Establishment of regional development assistance teams
- A proposed Web-site outline for the plans

Iowa DNR

Since 2005, new tools to develop and aggregate information have improved procedures for assessing conservation status (Faber–Langendoen et al. 2012, Master et al. 2012, NatureServe 2012a), setting conservation priorities (e.g., Bottrill et al. 2008, Joseph et al. 2009), modeling species distribution (e.g., Phillips et al. 2004, Phillips et al. 2006, Elith et al. 2011), assessing vulnerability of species and habitats to climate change, and classifying vegetation (e.g., US National Vegetation Classification, **http://usnvc.org/**). In addition, new standards exist for describing threats and conservation actions (Salafsky et al. 2008). Adopting these new resources will ensure that SWAPs are using the best available methodologies and technologies and lead to greater consistency.

In 2011, AFWA conducted a survey of SWAP Coordinators, state Wildlife Diversity Program Managers (WDPMs), and federal and NGO partners to evaluate the strengths and weaknesses of the SWAPs: the results identified 14 categories in need of improvement or enhancement, which provide the foundation and inspiration for practices identified in this document.

As states revise their SWAPs, access to information, and voluntary coordination among states to ensure that basic elements are compatible across SWAPs, will enhance cross-state compilation, comparison, and facilitation of regional conservation needs. This kind of coordination is essential to effective conservation (Salafsky et al. 2002, Sutherland et al. 2004, Pullin and Stewart 2006). These best practices derive from the need for greater consistency among SWAPS, and to respond to new information and methodologies over the last several years. *The practices outlined in this document represent some standards that all states can achieve and others that can be strived for based on capacity and funding*. One thing is clear—to be effective, SWAPs need to serve as a catalyst for conservation, a mechanism for aggregating data that can be presented in a geospatial context, and that provides easily accessible and usable products by any and all for the purpose of conservation. Given current technology, the next iterations of SWAPs have the capacity to function in real time as opposed to static documents, thus better serving conservation.

Chapter 1: Prioritization

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Although the State and Tribal Wildlife Grants (SWG) Program, and the companion State Wildlife Action Plans (SWAPs), are intended to benefit a diverse array of wildlife in each state, inherent in SWAPs is the need to place appropriate priority on those Species of Greatest Conservation Need (SGCN) while considering the relative level of funding to support conservation of those species. More specifically, congressional language directs the states to develop and implement wildlife management and habitat restoration for the most critical wildlife needs in each state to preclude the need to list species as threatened or endangered under the Endangered Species Act of 1973, as amended.

A survey of the strengths and weaknesses of SWAPs conducted by the Association of Fish and Wildlife Agencies (AFWA) (Association of Fish and Wildlife Agencies 2011a) emphasized the need for greater prioritization of SGCN, habitats, threats, and conservation actions. Results also indicated a need for more specificity with regard to on-the-ground actions, and strategically setting priorities agreeable to all partners.

Prioritization is paramount to the conservation planning process because it makes conservation efforts strategic, which is especially important in light of limited resources and capacity. Improving the ability to prioritize will enhance the consistency of the plans, effectiveness of conservation actions, and utility of the plans by partners.

This chapter identifies best practices for assessing conservation status and setting conservation priorities, with particular emphasis on the distinction between them.

Assessing Conservation Status (i.e., Extinction Risk) of Species and Ecosystems

Several formal methods exist for assessing the conservation status of species and/or ecosystems, which is a necessary first step toward prioritization. The IUCN Red List Categories and Criteria (IUCN 2001) were developed for classifying species at high risk of global (rangewide) extinction. Options for national, regional, and local levels (hereafter regional level) include: (1) publish an unaltered subset of the global Red List that includes species relevant to the region, or (2) assess a species' extinction risk within the region (e.g., state or territory). Recognizing the need for coherent guidelines for the application of Red List Categories at regional levels, IUCN published guidelines that demonstrate an assessment at the regional level (IUCN 2003). In essence, the guidelines provide a structured way of incorporating a suite of variables such as population size, trend, and geographic range (extent of occurrence or area of occupancy). This methodology also provides guidance on how to recognize and deal with uncertainty when using the criteria.

> A pitfall in conflating risk with management priorities is that time, money, and political capital can be wasted on the wrong things—for example, some highly-ranked species (i.e., high extinction/extirpation risk) require enormous expenditures and offer little chance of recovery or stabilization within a state or territory. On the other hand, less-imperiled taxa might be recovered with modest effort.

Partners in Flight (PIF) follows a step-by-step planning approach that develops a sound scientific basis for decision-making, and a logical process for setting, implementing, and evaluating conservation objectives for birds (Pashley et al. 2000, Rich et al. 2004, Berlanga et al. 2010). The process has evolved over the years (Hunter et al. 1993, Carter et al. 2000, Panjabi et al. 2012), and the procedures have been thoroughly tested, externally reviewed (see Beissinger et al. 2000), and updated to address issues raised by reviewers and partners.

The Florida Fish and Wildlife Conservation Commission's approach to ranking taxa (species and subspecies) is a Florida-developed system, described in a peer-reviewed monograph published by The Wildlife Society (Millsap et al. 1990). The system evaluates a taxon's extirpation risk based on biological vulnerability, population status (to the extent known), and management needs. For each taxon, the system assigns a biological score and an action score.

NatureServe conservation status assessments are intended to assess the conservation status of species and ecosystems—specifically the extinction risk of species and elimination risk of ecosystems at global scales, and their extirpation risk at national and subnational scales (e.g., state, province)—using standard methods. NatureServe and Natural Heritage Program staff across North America collect and evaluate data for species and ecosystems of concern using these methods and tools to ensure that assigned status ranks are accurate and consistent, based on current field and remote sensing information. These assessments employ a set of rank factors (see Master et al. 2012): eight core status rank factors are identified as relevant to risk assessments of extinction/elimination or extirpation. Descriptions of each factor include the basis for its use and its evaluation and rating criteria. Factors are organized into three categories (rarity, threats, and trends). Conditional rules for use of factors are applied to ensure that adequate information is used for assessing status. Factors are scaled and weighted according to their impact on risk. Consistent factor scaling and weighting allows the use of points to effectively score the contribution of each factor to risk. Scores are weighted and combined by category resulting in an overall calculated rank, which is reviewed, and a final conservation status rank is assigned (see Faber–Langendoen et al. 2012). Finally, to implement these methods, a rank calculator (in the form of a Microsoft Excel spreadsheet) automates the process of assigning conservation status ranks (NatureServe 2012a).

Because the NatureServe conservation status assessment

methodology is in use in each state's Heritage Program, and is intended to be applied at multiple scales, across taxa, and for both species and ecosystems, this chapter identifies this method as the standard for all states to use for SWAPs when assessing extinction/extirpation risk.

Setting Conservation Priorities

Systematic priority setting usually recommends ranking species on several criteria, including level of risk (as described above) and metrics of species value such as evolutionary distinctiveness, ecological importance, and social significance (Joseph et al. 2009). But this ignores two crucial factors: the cost of management and the likelihood that the management will succeed. A pitfall in conflating risk with management priorities is that time, money, and political capital can be wasted on the wrong things—for example, some highly-ranked species (i.e., high extinction/extirpation risk) require enormous expenditures and offer little chance of recovery or stabilization within a state or territory. On the other hand, less-imperiled taxa might be recovered with modest effort. Joseph et al. (2009) expanded on the methods of Bottrill et al. (2008), which operationalized conservation triage, by devising a project prioritization protocol (PPP) to optimize resource allocation where costs, benefits (including species values), and the likelihood of management success were considered simultaneously.

Figure 1. Graphical representation of Joseph et al.'s (2009) nine steps to prioritization beginning with defining objectives.

The authors found that this approach (Fig. 1) substantially improved conservation outcomes for threatened species by increasing efficiency and ensuring transparency of management decisions.

Mace et al. (2007) and Nichols and Williams (2006) also emphasized that objectives in an integrated conservation framework might also involve differential weighting of species (i.e., prioritization), with priorities based not on trends but on taxonomic status, endemism, geographical range, economic utility, and/or other factors.

By initially assessing conservation status as outlined in the section above, and then applying a decision theory approach such as methods outlined by Mace et al. (2007), Bottrill et al. (2008), and Joseph et al. (2009), each state would in effect derive its SGCN list through this process. In addition, because such a process includes assigning ranks by each parameter (e.g., cost, distinctiveness, threat status, etc.), in effect, it also indicates priority among the overall list of species and conservation actions.

Best Practices

Assessing Conservation Status (i.e., Extinction Risk)

[1] Use NatureServe ranking procedures to characterize risk of extinction and extirpation of species (across taxonomic groups) and ecosystems (see Faber–Langendoen et al. 2012, Master et

[1] Throughout the document, cost-effective best practices are indicated by this symbol. Recognizing that not all states have the capacity or interest to implement all of the practices in this report, cost-effective practices are highlighted that, if implemented by many states, could lead to greater consistency across plans.

Iowa DNR

al. 2012, NatureServe 2012a). Try to include geographically-isolated subspecies and/or distinct population segments (DPSs), and work with other states to amend and support ranking procedures.

2. Review and/or update conservation status regularly, as appropriate. In addition, update the SGCN list early in the revision process to make it available for revisions of other sections (e.g., maps, habitat analyses, etc.).

Setting Conservation Priorities

3. Establish clear conservation goals during systematic planning and decide upon them in an open and consultative manner prior to making choices (e.g., Groves 2003, Mace et al. 2007).

4. Use decision theory approaches (e.g., optimal allocation) such as those outlined by Mace et al. (2007), Bottrill et al. (2008), and Joseph et al. (2009) for systematic priority setting—i.e., to both derive and prioritize SGCN and associated conservation actions. SGCN should only include those species that assist in fulfilling the purpose of the SWAP.

5. As an initial step, prioritize top tier taxa/species based on immediacy and magnitude of threats.

6. When applicable, group species by space and/or habitat to focus and specify conservation programs.

7. Be explicit and transparent about which criteria are used so it will be clear and repeatable to any user of a plan how the priorities were established (Groves 2003).

8. Avoid the use of vague terminology or rating whenever possible. For example, if a qualitative rating scheme is used to rank a particular criterion (high, medium, low), ensure that such ratings are defined clearly and unambiguously (Groves 2003).

9. Conduct sensitivity analyses to examine the effects of including or excluding particular criteria or to assess the impact of placing greater emphasis on some criteria over others (i.e., weighting), and provide a rationale for why particular criteria or weighting schemes were used (Groves 2003).

10. Understand that any set of criteria for setting priorities is to some degree subjective, biased, and value-laden. Decision support tools and software may help planning teams decide which criteria are most important to use and in what fashion. The most effective set of criteria will be those that reduce subjectivity and clarify known biases and values (Groves 2003).

11. Strive for a comprehensive, multiscale approach and direct conservation efforts toward biodiversity at the coarsest scale an area can support, and then determine the extent to which ecosystems and species at finer scales can be targeted (see Poiani et al. 2000).

12. Consider not only conditions within a particular state/territory, but also the status of the taxon from a rangewide perspective and the proportion of the global population that occurs within the respective state/territory—work regionally toward prioritization and action, including participating in existing research/conservation organizations and alliances. For example, is the core of a particular species' population in a given state? If the core of a particular species' range/population is in another state (i.e., consider which states have the most viable/defensible populations or occurrences given current and future threats), determine what that other state is doing to maintain/restore that species.

13. Engage multiple stakeholders in the prioritization process.

14. Sponsor a seminar or workshop to educate policymakers about the roles of scientists compared to those of policymakers (see Wilhere 2008).

Chapter 2: Species and Habitats

Idaho DFC

Element 1 of the Eight Required Elements for State Wildlife Action Plans (SWAPs) directs each state to provide information on the distribution and abundance of wildlife species—including low populations and declining species—that are indicative of the diversity and health of the state's wildlife. Element 2 directs each state to describe the extent and condition of key habitats and community types essential to the conservation of Species of Greatest Conservation Need (SGCN). Together, these two elements provide the foundation for threats assessments and prioritizing conservation actions.

This chapter identifies best practices for visually representing the distribution and abundance of wildlife, as well as describing the location and condition of key habitats and community types.

Best Practices

Mapping and Modeling

1. Identify and spatially depict priority areas on the landscape that offer the best opportunities and potential for SGCN conservation as determined by each state, and use the generic term Conservation Opportunity Areas (COAs) for these focal areas.

Lessons Learned

Developing Conservation Opportunity Areas (COAs) that represent areas with the greatest opportunity for conserving SGCNs facilitates the use of the SWAP among partners. In Nebraska, the Natural Resources Conservation Service (NRCS) used the COAs map to target locations for its Environmental Quality Incentives Program (EQIP). This action by a key SWAP partner essentially doubled the funding applied to SWAP implementation in Nebraska, and tripled the personnel working to implement the SWAP.

2. Incorporate existing spatial priorities developed from other multistate conservation planning efforts or partners if the goals and fundamental assumptions are compatible with the SWAP.

3. Clearly articulate the purpose and intended use of all maps, underlying assumptions and limitations, and timeline for updating the maps. Map development methods should also be transparent and repeatable. Clearly state that the use of the generic term "COA" does not imply use of a standardized methodology (since no such thing exists). Several states have reported conflicts with partners and stakeholders due to having published maps without adequately communicating what the maps

Case Study for Best Practice 2: HabiMap™ Arizona

HabiMap™ Arizona is a user-friendly, Web-based SWAP data viewer that contains the Species and Habitat Conservation Guide, a spatially-explicit representation of the state's conservation priorities. HabiMap™ Arizona includes more than 300 data layers showing the distribution of SGCN, and their habitats and stressors. These layers were developed by the Arizona Game and Fish Department (AZGFD) and vetted through public meetings and stakeholder review. Additional layers allow users to place SGCN, stressors, etc. into the larger conservation landscape context, and include USGS topographic maps, Southwest Regional GAP vegetation layers, Audubon Important Bird Areas, state and federal grazing allotments, etc. The intent of this tool is to provide information to partners to facilitate voluntary, collaborative conservation. The strength of this approach is that information is available for large-scale, statewide analyses, and is being used early in the planning process for transportation, energy, and urban development. Consultation with AZGFD biologists is still necessary for project analyses at the local scale. Information available through HabiMap™ Arizona is nonregulatory and may be useful by considering wildlife in making decisions about the state's future growth.

http://www.habimap.org

are meant to depict and how they should, and should not, be used. Many methods exist for modeling and mapping areas for focused conservation; the key is to match methods to objectives and intent, and to communicate well and often.

4. Use the most appropriate information for map development. The most appropriate information may or may not be the most current, or of the highest resolution. Rather, select the most appropriate information based on the particular need while striving to maximize regional and national consistency. Selecting which information to use often requires finding a balance among the currency, cost-effectiveness, availability, and relevancy of the data to the objectives of the mapping project.

5. To overcome the inconsistency and incompatibility of scale, and to create seamless planning products across partnership boundaries within states (and as appropriate for regional or national projects), align SWAPs along ecological boundaries (e.g., Bailey's ecoregions, The Nature Conservancy's (TNC) Ecoregions, Omernik's ecoregions, the National Geographic Framework [LCCs]).

6. Use models (e.g., ESSA Technology's Vegetation Dynamics Development Tool and Cumulative Effects Analysis Tool, etc.) to forecast landscape-scale vegetation dynamics through time. Natural forces, as well as passive and active management, cause both predictable and surprising changes in habitat, including factors such as the distribution of age classes. Climate change will also likely influence these habitat changes. Therefore, rather than only describing the current extent and condition of habitats, strive to anticipate—and where possible influence through management—future extent and condition. TNC's Landscape Conservation Forecasting process uses such models; several TNC state chapters (NV, UT, ID, OR) have expertise or familiarity with this process.

7. Continue to develop point occurrence data, and use the data in species distribution models (SDMs; e.g., MaxEnt). SDMs estimate the relationship between species records at sites and the environmental and/or spatial characteristics of those sites, to explore and predict species distributions. A strict reliance on positive-occurrence data (i.e., known locations) nearly always understates actual distribution, which nearly always represents the sum of "known distribution" plus some fraction of model-able "predicted distribution." As an alternative to developing SDMs, consider using the newest GAP models, which have been recently improved. For avian taxa, the eBird STEM models area is another example.

8. Consider both patch- and gradient-based approaches for connectivity analysis. Least-cost distance modeling is commonly used, but methods are evolving rapidly. Use widely-available, published tools.

9. Select classification systems, mapping units, and other such methodologies and data sources that will support the ultimate integration of SWAP priorities into future implementation of regional and national conservation initiatives, e.g., the Western Wildlife Crucial

Recommended Tools for Best Practice 8

- Linkage Mapper **http://code.google.com/p/linkage-mapper/**
- Circuitscape **http://www.circuitscape.org/Circuitscape/Welcome.html**
- Connectivity Analysis Toolkit (CAT; for both linkage mapping and landscape-level "centrality" analysis) **http://databasin.org/connectivity-center/features/connectivty-toolkit**
- FRAGSTATS (for calculating patch and landscape metrics) **http://www.umass.edu/landeco/research/fragstats/downloads/fragstats_downloads.html**

Also see Aune et al.'s (2011) *Assessment and planning for ecological connectivity: a practical guide.*

Habitat Assessment Tool (CHAT), part of the Western Governors' Association (WGA) Initiative on Wildlife Corridors and Crucial Habitat (Western Governors' Association [no date]).

10. Maintain flexibility in modeling methodology to keep models dynamic and capable of incorporating new and revised data sets, as well as to ensure their currency, and avoid producing a single decision output hindered by model preconceptions.

Habitat Classification Standards and Systems

11. When selecting a habitat classification system, ensure that map units are identifiable, scalable, and model-able.

12. Use a well-accepted hierarchical vegetation classification standard to classify land cover or habitats for SWAPs. Examples include NatureServe's Terrestrial Ecological Systems of the United States (Comer et al. 2003, NatureServe 2012b) or the US National Vegetation Classification (USNVC) (GreenInfo Network 2012). A desirable alternative to the single-state approach is a regional approach, such as the various regional GAP projects, and the Northeast Habitat Classification System and Map. Adopting a regional approach will increase cross-border consistency, reward the effort that went into their creation, and facilitate collaboration among states.

13. While the development of standardized classification systems for aquatic habitats is less advanced than for terrestrial systems, there are some existing and some emerging regional systems that could be useful (e.g., Western Governors' Association, Northeast Aquatic Habitat Classification and Mapping Project, several regional Aquatic GAP projects, etc.). If your region has a standardized system, use it. If one does not yet exist, work with partners to start one.

Taxonomic Standards

14. To increase consistency when comparing SGCN lists across states, use accepted or official taxonomic standards for plant and animal species.

Suggested Standards for Best Practice 14

a. Reptiles and Amphibians: The Society for the Study of Amphibians and Reptiles (SSAR) is the official taxonomy for North American amphibians and reptiles north of Mexico. **http://www.ssarherps.org/pages/comm_names/Index.php**

b. Birds: The American Ornithologists' Union *Check-list of North American Birds* is the official source on the taxonomy of birds found in North and Middle America, including adjacent islands. **http://www.aou.org/checklist/north/**

c. Mammals: Wilson and Reeder's (2005) Mammal Species of the World: a taxonomic and geographic reference. Available as an online database at **http://www.vertebrates.si.edu/msw/mswcfapp/msw/index.cfm**

d. Fishes: The American Fisheries Society *Special Publication 29* is the recommended list of common and scientific names of fishes from the US, Canada, and Mexico (Nelson et al. 2004).

e. Invertebrates: use NatureServe Explorer. **http://www.natureserve.org/explorer/**

f. Plants: USDA Natural Resources Conservation Service PLANTS Database. **http://plants.usda.gov/java/**

In recognizing the dynamic nature of taxonomy, and various ways to define it, work with above entities to revise lists as new information becomes available.

Chapter 3: Threats and Conservation Actions

Idaho DFC

Elements 3 and 4 of the Eight Required Elements for State Wildlife Action Plans (SWAPs) direct each state to identify threats to Species of Greatest Conservation Need (SGCN) and the conservation actions needed to address those threats.

This chapter identifies best practices for identifying threats and conservation actions. The threat of climate change is given special consideration since its scope reaches beyond state boundaries, and it exacerbates many existing threats to wildlife, and affects each species differently. Consequently, incorporating climate change into SWAPs is vital for the development and implementation of effective conservation actions. Making SWAPs "climate smart" will enhance their value and durability over the long term (Glick et al. 2011a).

Best Practices

Threats

1. Use the definitions and hierarchical classification in Salafsky et al.'s (2008) *A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions* to describe the general components of any given conservation project and to categorize threats. As conservation initiatives become more landscape-oriented, adopting a consistent framework for threats and conservation actions becomes more important for funding initiatives and ensuring the integration of SWAP priorities into regional and multistate efforts. Consistency across SWAPs will facilitate the identification of shared threats across states and contribute to more focused conservation action.

> To create consistency across SWAPs in classifying threats and conservation actions, use the definitions and hierarchical classification in Salafsky et al.'s (2008) *A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions.*

2. Clearly distinguish among stresses, direct threats, and contributing factors sensu Salafsky et al. (2008).

3. Climate Change

a. Include climate change and its impacts as one of the criteria used in selecting and prioritizing SGCN.

b. Follow recommendations outlined in AFWA's *Voluntary Guidance for States to Incorporate Climate Change into State Wildlife Action Plans and Other Management Plans*—specifically as described in "Chapter 3: SWAP Revision Process" (Association of Fish and Wildlife Agencies 2009).

c. Conduct vulnerability assessments to inform the selection of SGCN and conservation actions. Use *Scanning the Conservation Horizon: A Guide to Climate Change Vulnerability Assessment* (Glick et al. 2011b) to determine the best approach for conducting a vulnerability assessment for habitats and species at an appropriate level (as determined by each state). This is more quantitative and spatially-explicit than a ranking system. Be specific about the aspect of climate change addressed (e.g., increased precipitation, prolonged drought, increased fire, sea-level rise, etc.), and take advantage of information from assessments already available (e.g., regional vulnerability assessments, university- or NGO-led vulnerability assessments).

d. Link climate impact to priority actions. Using the best available climate data, specify which impact (e.g., sea-level rise, prolonged drought, increased precipitation, increased fire, etc.) will result in which threat, and which action will address that impact. Avoid unspecified generalities such as "will create corridors" or "eliminate invasive species." To determine which conservation actions will maximize investments, consider both current and projected future conditions and trends.

e. Integrate key characteristics of climate-smart conservation when developing conservation actions (see **http://www.nwf.org/Home/Global-Warming/Climate-Smart-Conservation/Adaptation-Principles.aspx**). Example characteristics include: consider broader landscape context, develop forward-looking goals, and consider climate impacts on conservation action or project success.

f. Consider key adaptation approaches when developing conservation actions as described in West et al. (2009). Examples include: reduce nonclimate stresses, protect key ecosystem features, and ensure connectivity.

g. Work with regional partners such as Landscape Conservation Cooperatives (LCCs) and Department of Interior Climate Science Centers (CSCs) to use climate information and resources as well as ensure that they incorporate state-based information into their programs and resources. Develop a regional adaptation plan to better coordinate individual SWAPs.

h. Reach out to diverse partners who work on adaptation to ensure coordination and avoid maladaptation (e.g., hardened structures that would prevent marsh migration as sea levels rise). Key sectors might include coastal interests, transportation, agriculture, forestry, etc.

4. Mitigation

a. Cultivate awareness, support, and partnerships between the agencies/divisions responsible for SWAP implementation and the agencies/divisions responsible for mitigation oversight. Specifically,

Case Study for Best Practices 3b & 3c: Incorporating Climate Change into SWAPs: Nevada

The Nevada Department of Wildlife (NDOW) is incorporating climate change into every aspect of its SWAP. NDOW looked at climate vulnerability at three levels: habitat, species, and avifauna.

Habitat Analysis

TNC conducted the predictive modeling of climate change effects on vegetative communities using the Landscape Conservation Forecasting™ process (formerly known as Enhanced-Conservation Action Planning; Low et al. 2010 for description of process). TNC measured ecological condition using two landscape-scale metrics for each ecological system: (1) ecological departure from the reference condition, and (2) percentage of high-risk vegetation classes. TNC provided results of each vegetation class to relate changes in vegetation structure and food availability to the needs of wildlife species. The results of Landscape Conservation Forecasting™ were applied to each of Nevada's 13 regions.

Species Analysis

Concurrent with habitat modeling, the Nevada Natural Heritage Program conducted a wildlife species vulnerability analysis using the NatureServe Climate Change Vulnerability Index (CCVI) evaluation program (Young et al. 2011) to determine which wildlife species exhibited characteristics that might hinder their adaptation to climate change. Because of cost concerns, the SWAP Revision Team made the decision to limit CCVI analysis to the 2005 Species of Conservation Priority list.

Avian Analysis

The Great Basin Bird Observatory was contracted to provide climate change predictions for Nevada's breeding birds using point-count data from the Nevada Bird Count (NBC). Avian Species of Conservation Priority occurrences in the NBC were combined in GIS with the LANDFIRE map used by TNC. Results from the TNC analysis were then evaluated for potential consequences to Nevada's breeding birds, and avian species responses were predicted. The University of California, Davis' Connectivity Assessment Group donated another avian climate change analysis that evaluated possible patterns of movement of priority birds on the landscape based on the availability and connectivity of suitable habitats as currently understood compared to climate change projections in habitat shifts.

Integration into the SWAP

The SWAP Revision Team used those products to project the future of wildlife on Nevada landscapes over the next 50 years under a changing climate. Seven major tasks were undertaken:

1. Revision of the Species of Conservation Priority List
2. Revision of the ecological framework to fit the new vegetative analysis
3. Analysis of how ecological system changes/shifts were likely to impact living conditions and survival potential for priority species within relevant regional contexts
4. Construction of conservation strategies to maximize the preservation of wildlife diversity within state boundaries
5. Revision of the Focal Area analysis
6. Revision of the Implementation and Adaptive Management Framework
7. Revision of the SWAP with meaningful partner/stakeholder participation and review

Idaho DFG

work with the US Fish and Wildlife Service (USFWS) and local governments to implement a landscape-scale mitigation plan to maximize ecological benefit of mitigation-based conservation investments.

b. Include spatially-explicit layers of high-priority areas to facilitate the use of SWAPs in mitigation efforts.

c. Consider the impacts of development projects in the context of a wide array of biodiversity elements at a site and determine whether any of those impacts (or the cumulative impacts across all species) are unacceptably large (see Possingham et al. 2002).

Conservation Actions

6. Use the definitions and hierarchical classification in Salafsky et al.'s (2008) *A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions* to describe the general components of any given conservation project, and categorize conservation actions.

7. Use a hierarchical or tiered system to prioritize conservation actions.

8. Design conservation actions to abate known threats and indicate metrics to measure effectiveness of conservation actions.

9. Write conservation actions broadly enough to allow flexibility, yet with enough specificity to measure performance and engage partners.

Case Study for Best Practice 7: Prioritizing Conservation Actions: Georgia

The Georgia Department of Natural Resources (DNR) conservation stakeholder groups (including technical teams) identified more than 100 high priority conservation actions and systematically prioritized them using a weighted ranking system based on seven criteria. Each high priority conservation action was then tied to a goal, target species/habitat, geographic region, funding source, and lead and cooperating partners. Georgia DNR's use of a systematic prioritization scheme, and subsequent tie to other conservation targets, results in realistic conservation goals with tangible outcomes.

http://www.georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/pdf/AppL_SWAP.pdf

10. Incorporate social and ecological system drivers, including ecosystem services, into conservation action development. Identify new partners (e.g., businesses, energy developers, state and local planners, educators, demographic change experts, private landowners) to help understand current and future trends, and to develop and implement conservation actions.

Case Study for Best Practice 10: Prioritizing Conservation Action Implementation: North Carolina

Human population growth is a major threat to fish, wildlife, and habitats in the US. For example, the population of North Carolina increased 21% between 1990 and 2000, and is expected to increase by 50% by 2030. Habitat loss, alteration, and fragmentation are routinely cited as the leading causes of extinction and biodiversity loss (Pimm and Raven 2000, Brooks et al. 2002). To address this concern, the North Carolina Wildlife Resources Commission (WRC), using State Wildlife Grant funding, developed a Green Growth Toolbox to provide guidance to biologists, planners, developers, and land use decision-makers. The toolbox is an overarching effort to conserve fish, wildlife, and habitats in response to increasing development and population growth in North Carolina.

The toolbox includes a comprehensive handbook, access to conservation data, green planning guidance (including case studies from North Carolina), examples of "green" ordinances, and tools and templates for local governments to develop conservation plans. Additionally, the North Carolina WRC and its partners offer workshops and technical assistance to ensure delivery of the toolbox to appropriate users in local government.

North Carolina's Green Growth Toolbox represents an excellent example of conservation action implementation through an organized and formal effort to conserve fish and wildlife resources through partnership and land use planning.

http://216.27.39.101/greengrowth/index.htm

Chapter 4: Monitoring

Iowa DNR

Element 5 of the Eight Required Elements for State Wildlife Action Plans (SWAPs) directs each state to describe a plan for three levels of monitoring: species and habitats, effectiveness of conservation actions, and adaptive management (Fig. 2, p.17). The questions of what, when, where, and how to monitor were left up to each individual state fish and wildlife agency to answer.

With multiple agencies and organizations monitoring species and habitats throughout a state and region, implementing standard protocols facilitates data integration to provide a more complete picture of the status of wildlife across political jurisdictions. Effectiveness monitoring and adaptive management allow states to demonstrate success when populations and habitats respond positively to conservation actions.

Standardized approaches to monitoring help demonstrate at a national level the effectiveness of conservation actions with respect to the long-term benefits to fish and wildlife populations.

In this chapter, monitoring is defined as *the collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting a management objective.*

This chapter identifies best practices for creating consistency in monitoring and adaptive management and describes Wildlife TRACS, the new grant reporting system that state fish and wildlife agencies will be required to use for SWAP conservation action effectiveness monitoring beginning in January 2013. Other important monitoring considerations are listed in Appendix B.

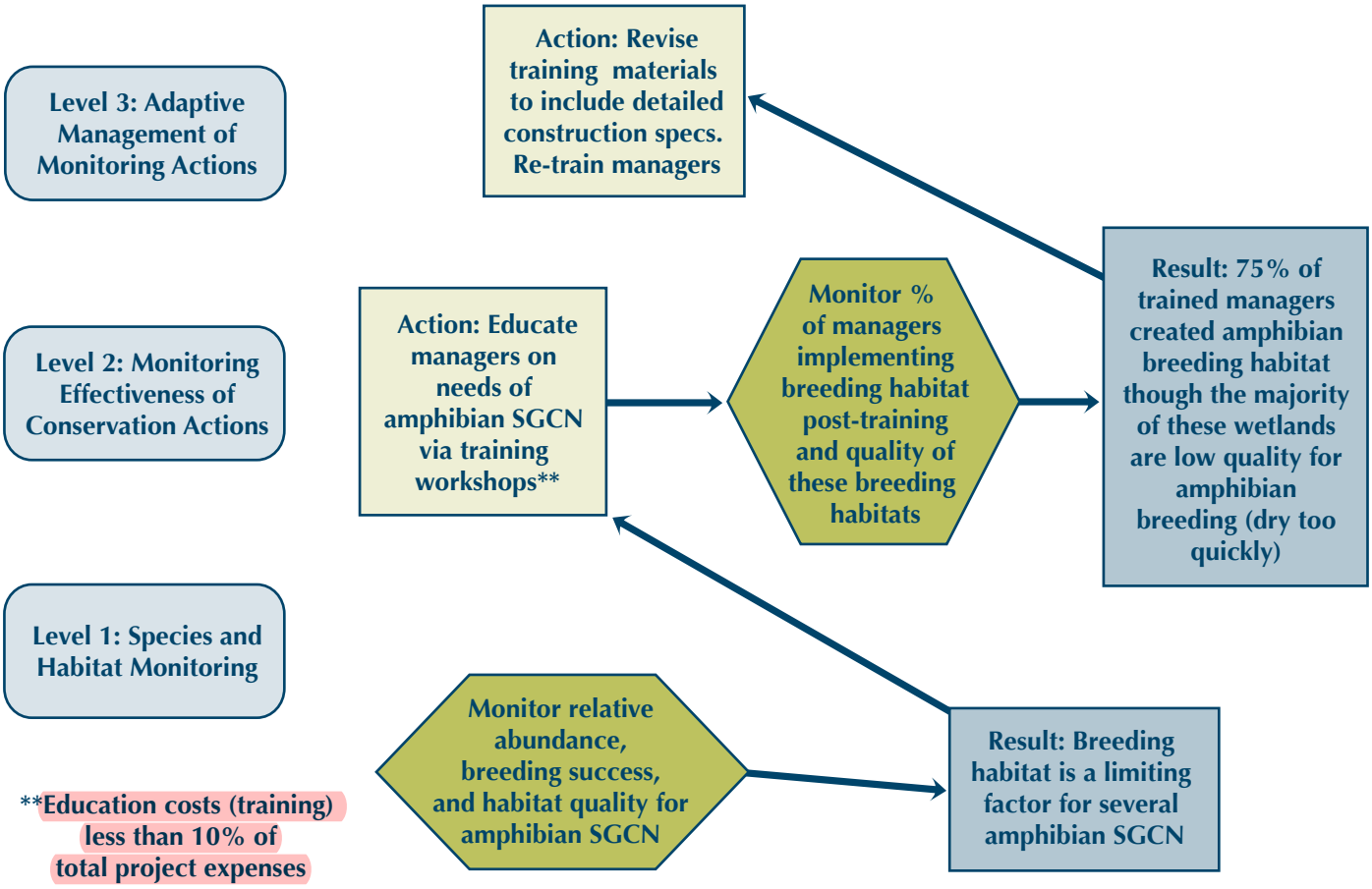

Figure 2. Three levels of monitoring required by Congress in Element 5 of the Eight Required Elements for SWAPs (example)

Effectiveness Measures

Assessing and reporting on the success of SWAPs as required by Element 5 is extremely challenging due to the complexity of biological and ecological interactions, and the extended timeframes often required for conservation benefits to become apparent. In 2011, the Effectiveness Measures Working Group of the Association of Fish and Wildlife Agencies' Teaming With Wildlife Committee produced a report that recommended a framework of effectiveness measures that states could use to enhance performance reporting (Association of Fish and Wildlife Agencies 2011b).

The measures help states fulfill Element 5 by establishing a standardized and accessible suite of performance data to evaluate conservation actions and guide adaptive management. They also provide a cost-effective way to demonstrate the value of both the State and Tribal Wildlife Grants (SWG) Program and SWAPs. Although the measures were not specifically designed to report on the effectiveness of SWAPs themselves, reporting the effectiveness of individual conservation actions helps to demonstrate the overall success of the SWAPs from which they are derived.

The report includes a proposed results chain and performance indicators to assess the effectiveness of conservation actions. This assessment is based on five main pathways:

1. Better conservation through increased conservation funding

2. Implementation of the SWAP to allow for more strategic conservation actions

3. Improvement of the policy environment

4. Better coordination with other agencies

5. Development of more effective coalitions of conservation partners to enhance conservation opportunities

Wildlife TRACS

Wildlife TRACS (Tracking and Reporting Actions for the Conservation of Species) is the tracking and reporting system for projects funded by the US Fish and Wildlife Service, Wildlife and Sport Fish Restoration (WSFR) Program. Wildlife TRACS will replace the current WSFR reporting system (FAIMS), which is being retired on December 31, 2012. Wildlife TRACS will take over the performance reporting side of FAIMS, while financial reporting functions will be handled by the Financial Business and Management System (FBMS).

Components of Wildlife TRACS

TRACS resides in two linked online platforms: Data TRACS and Public TRACS (Paladin Data Systems Corporation 2012).

Data TRACS is the federal system for WSFR project reporting and tracking, including project descriptions and outcomes. Data TRACS will only be accessible to users who have been issued accounts and log-in authority.

Public TRACS is an open access area where the public can view limited, state-selected information from Data TRACS. Embedded within Public TRACS is Auxiliary TRACS, a secure nonpublic site that offers states the optional capability to add and manage additional information, such as planned or conceptual projects, projects from other agencies or organizations, or nonWSFR projects. The Wildlife TRACS Population Status Module will be an optional component that provides an opportunity for each state to highlight its successes in improving the status of species and habitats.

Wildlife TRACS will enhance SWAP effectiveness monitoring because it will:

- Format data in a consistent manner
- Incorporate the Effectiveness Measures approved by AFWA
- Demonstrate effectiveness in a format usable by the US Congress and the Office of Management and Budget (OMB)
- Provide industries that pay sporting excise taxes with information on the disposition of excise tax dollars and the return on investment of those tax dollars
- Provide accountability and transparency while demonstrating the benefits of the WSFR Program

The Conservation Registry

The Conservation Registry (**www.conservationregistry.org**) was developed by Defenders of Wildlife and more than 50 partners including state fish and wildlife agencies. It tracks and maps conservation actions across the landscape relative to spatially-explicit conservation priorities. The purpose is to assist public and private organizations in investing more strategically by helping them to understand the context in which they are working. Oregon, Washington, Idaho, Arkansas, and Missouri have portals on the registry. It is free to users and reaches a broad audience of technical and nontechnical users. It can be used compatibly with TRACS or instead of Public TRACS.

The registry contains over 100,000 projects across the US, including about 60% of the conservation easements in a dedicated portal called the National Conservation Easement Database. Other portals highlight projects by local government, land trusts, foundations, and nongovernmental organizations (NGOs).

Best Practices

1. Design monitoring programs with the aim of making the resulting data as useful to conservation and science as possible (see Nichols and Williams 2006).

2. Use scientifically-sound monitoring protocols designed to detect changes that will inform assessments of SWAP effectiveness.

Iowa DNR

Case Study for Best Practices 2 & 3a: Iowa DNR Multiple Species Inventory and Monitoring Program (MSIM)

The Iowa Department of Natural Resources (DNR) Multiple Species Inventory and Monitoring (MSIM) Program is based on the MSIM Program created for and used by the US Forest Service (USFS) (Manley et al. 2006). Iowa DNR randomly selected a sample of properties from a larger set of properties that met certain criteria. Each property is then surveyed for all taxa listed in the SWAP using standardized protocols from other ongoing programs in the US. Data are collected on all Species of Greatest Conservation Need (SGCN) as well as common species since it cannot be predicted which species may become rare in the future. Most properties surveyed each year (to date) have been new to the program. However, some sites are surveyed annually to control for differences in weather patterns across years.

MSIM aims to document which species occur on which properties and the habitat variables associated with each occurrence that could serve as predictors of species occurrence. Iowa DNR intends to use the data collected from the first years of the program (the inventory stage) to build predictive models to assist with adaptive habitat management for certain SGCN. The same data collection protocols will be implemented post-habitat manipulation to determine the effectiveness of the management actions.

Iowa DNR's partner organizations can access the protocols and database for their programs. Three partner organizations have adopted these protocols and use the MSIM database for some of their projects to determine faunal response to habitat manipulation. Although those projects may have different objectives, collecting data using similar methodologies and sharing data from statewide analyses facilitates predictive modeling efforts. Since these protocols are based on others' methods, the data can be aggregated to a regional or national analysis of occurrence data for most species. For example, Iowa's 10–min bird point-count data, collected in three time intervals (0–3 min, 3–5 min, 5–10 min), can be combined with USFS data from around the country or could be truncated down to observations from the first 3 min at each location to be combined with point-count data collected by the North American Breeding Bird Survey.

http://www.iowadnr.gov/Environment/WildlifeStewardship/NonGameWildlife/DiversityProjects/MSIM/MSIMManual.aspx

Case Study for Best Practices 2 & 6: Florida's Objective-Based Vegetation Management

Florida's Objective-Based Vegetation Management (OBVM) Program is a scientifically quantifiable approach to land management that emphasizes maintaining and restoring natural plant communities toward predetermined desired conditions (DFCs), long-term monitoring of the conditions, and applying the results to management decisions (Florida Natural Areas Inventory; Florida Fish and Wildlife Commission 2007). Land managers may also use these results to adapt practices and prescriptions to better meet management objectives. Clearly stated long-term objectives that are easily measured, spatially-explicit, monitored and tracked over time, and related to management actions are the key concepts.

- Clear and measurable management objectives (in the form of vegetation parameters and their desired conditions) are established for actively managed natural communities on managed areas. For example, mesic flatwoods may have a DFC of 20–70 square feet of pine basal area, less than 3 feet of shrub height, and greater than 35% ground cover.
- Current and historical natural communities are mapped using the Florida Natural Community Guide (Florida Natural Areas Inventory). Every 5 years, the maps are updated.
- Permanent footprints equivalent to management or burn units are delineated.
- Management actions are taken toward achieving objectives and are spatially recorded as an action footprint.
- Routine monitoring is performed.
- Results of monitoring, as compared to the desired conditions, are analyzed and coupled with land management actions.

Monitoring is accomplished at two levels: (1) community, and (2) targeted to specific management objectives to:

- Provide long-term trends as related to DFCs to confirm that management actions are meeting objectives, and
- Track progress toward restoration goals through targeting specific areas with DFCs such as Strategic Management Areas (SMAs) identified through FWC's Wildlife Conservation Prioritization and Recovery Program.

Benefits to manager:

- Provides area managers enhanced decision-making support and accountability for habitat management treatments.
- Meets objectives at two levels: (1) managing natural communities for the benefit of wildlife at a landscape level and (2) managing protection and recovery of threatened, endangered, and focal species.
- Supports adaptive management responses.

http://myfwc.com/conservation/terrestrial/obvm/

3. Assess populations, habitats, and effectiveness at multiple scales. Trends observed within a state's boundaries are often best understood within a broader spatial and temporal context. Collaborate with other agencies and NGOs in established, long-term, multistate efforts to contribute to, and gain from, broader spatiotemporal perspectives of status and trends.

a. Collaborate with existing monitoring programs, including the North American Breeding Bird Survey, Audubon Christmas Bird Count, Xerces Society Fourth of July Butterfly Count, North American Amphibian Monitoring Program, and Marine Mammal Stranding Network.

b. Coordinate state-level habitat monitoring with forest condition data from the USDA Forest Service Forest Inventory and Analysis National Program, and landscape-level fish habitat conditions from the National Fish Habitat Partnership (Esselman et al. 2009).

c. Participate in research and conservation alliances such as Landscape Conservation Cooperatives (LCCs), international bird conservation groups, and regional agency associations. These organizations can provide a framework for discussions of monitoring and reporting needs, development of funding proposals, and seamless integration of monitoring efforts.

Case Study for Best Practice 3c: SWAP Revision Tools in the Northeast

The Northeast Association of Fish and Wildlife Agencies (NEAFWA) has a history of collaboration, enhanced in recent years through the development of the Northeast Fish and Wildlife Diversity Technical Committee, the Regional Conservation Needs (RCN) program, and the North Atlantic and Appalachian Landscape Conservation Cooperatives (LCCs).

The 14 SWAPs under the jurisdiction of NEAFWA have commonalities across SGCN, habitats, threats, and actions. However, there are substantial differences in criteria for selecting SGCN, habitat classification systems, and ways of describing threats and actions. Furthermore, most SWAPs are lengthy and difficult to search. Two projects are being developed to ensure that limited resources are targeted toward the highest priorities of the region, and aid states on SWAP revisions.

The proposed Northeast SWAP Database Framework for Common Elements is a common, annually-updated, searchable, Web-based lexicon of SGCN, habitats, threats, and actions from all 14 SWAPs using common taxonomies and classifications. The database will provide consistency that will allow plan users to identify common priorities across SWAPs, and perform cross-state queries, compilations, and comparisons, facilitating the development of multistate proposals, and increasing the likelihood that partners will implement SWAP actions. The framework will function as the planning complement to the Wildlife TRACS project reporting database. The selection and performance of a contractor will be guided by a steering committee representing the partner state and federal agencies. The database is anticipated to be completed by the contractor and populated by the northeastern states by early 2014 to inform and be incorporated into SWAP revisions.

The Northeast Regional Conservation Synthesis for SWAP Revisions will produce a synthesis of regional conservation data and information produced through the RCN program and LCCs. This synthesis will provide regional context for state-level conservation actions. The product can be added to individual SWAPs as an extra chapter or appendix, or can be integrated throughout individual SWAPs.

Case Study for Best Practice 3c: Avian Knowledge Alliance

The Avian Knowledge Alliance (AKA) is an international group of organizations dedicated to amassing, archiving, and communicating knowledge gained from the study of birds. The AKA brings together the unique capacities and roles of nongovernmental organizations with broad participation from governmental agencies, academic institutions, and other organizations, and serves as a leader in meeting North American Bird Conservation Initiative (NABCI) monitoring goals by:

- Integrating monitoring into bird management and conservation practices and priorities
- Coordinating monitoring programs among organizations, and integrating monitoring across spatial scales
- Improving statistical design of monitoring
- Maintaining bird population monitoring data in modern data management systems
- Providing raw data, associated metadata, and summary analyses that inform priority conservation and management challenges

At the core of the AKA is a sophisticated data management and sharing system, the Avian Knowledge Network (AKN). AKN nodes have an established and exhaustive data architecture, and expanding application suite designed to handle the rapid accumulation of data, reduce the risk of data loss, allow internet-based data access at appropriate, provider-specified data-sharing levels, and provide tools that support conservation and management decision-making.

http://www.avianknowledge.net/content

4. Consider staffing and other resource needs in determining priorities for long-term monitoring programs, and consult with other organizations to evaluate these needs. At a national scale, estimates of costs to fill critical data gaps for reporting on ecosystem condition have been developed (H. John Heinz III Center for Science 2006), but states must also address more local resource needs.

5. Develop new citizen science programs as appropriate to augment monitoring capacity, relying on established methods and protocols. Evaluate the costs and benefits of such programs on a case-by-case basis.

6. Specify assessable objectives for each conservation action and select performance measures appropriate for each objective. Employ the AFWA Effectiveness Measures in project planning and implementation.

7. Use Auxiliary TRACS to report on the full array of programs for monitoring species, habitats, and conservation actions, including nonWSFR-funded projects. Strive to track implementation of conservation actions achieved through all funding sources and partnerships. This provides a more comprehensive picture of program effectiveness, the value of SWAPs, and the critical role that WSFR programs play in helping states leverage other funding resources to achieve SWAP objectives. This recommendation is predicated on the assumption that funding resources will be made available for states to use the Public TRACS component at little expense.

8. Link SWAP performance reporting to outreach efforts to diverse audiences, including conservation partners, landowners, and policymakers to build a broad base of support for SWAP implementation and funding. Establish a SWAP implementation monitoring team to allow agency members and implementation partners to meet as needed to provide information on recent conservation activities. Use Wildlife TRACS to generate summary reports and other information that can be used to demonstrate conservation successes and program efficiency to these audiences.

Chapter 5: Review and Revision

Arizona GFD

Element 6 of the Eight Required Elements for State Wildlife Action Plans (SWAPs) directs each state to review its SWAP at least every 10 years. The first deadline for all states to complete a review is 2015, although some states have chosen to conduct their reviews earlier. In July 2007, the US Fish and Wildlife Service (USFWS) and Association of Fish and Wildlife Agencies (AFWA) distributed the guidance on the requirements for the review (hereafter Guidance) (US Fish and Wildlife Service and Association of Fish and Wildlife Agencies 2007). The Guidance is to be implemented by state fish and wildlife agencies, their Wildlife and Sport Fish Restoration (WSFR) Regional Coordinators, and a WSFR-appointed Regional Review Team (RRT) (Pub. L. No. 106–553 . . . 2000).

Review and revision are part of the cyclical life of any long-term plan and can enhance relevancy and implementation. Frequent review or revision can stress a state's planning and outreach resources and conservation partnerships but ever-changing environmental and policy conditions, and the development of best management practices, necessitate adaptive management. SWAP review is an opportunity to further improve upon what is a monumental achievement in wildlife conservation by incorporating new information and lessons learned over the past several years, and create consistency in format to enhance usability and therefore relevancy to partners.

As of 2012, a few states have completed revisions and some are currently engaged in the process. Lessons learned from those pioneering states have proven the Guidance to be vague in some areas, contributing to a disparate understanding of the roles, functions, and expectations of both the state and RRT during the review process.

Arizona GFD

This chapter helps clarify the requirements of the Guidance, and identifies best practices to meet those requirements and exemplify successful, efficient coordination. It also identifies best practices to respond to emerging conservation issues outside of a formal review/ revision process, engage partners, and enhance delivery.

This chapter does not propose changes to USFWS policy, nor does it recommend new requirements at the national level for states to standardize the next generation of SWAPs. Without providing a critique of the Guidance, these best practices may provide food for thought should the USFWS, AFWA, and the states collaborate to revise the Guidance in the future.

Best Practices

State and USFWS Coordination Before and During Revision Processes

1. Use Table 1 below to supplement the 2007 joint USFWS/AFWA *Guidance for State Wildlife Action Plan (Comprehensive Wildlife Conservation Strategy) Review and Revisions* to better understand the requirements and best practices for the three types of SWAP revisions.

Comprehensive Review and Revision Package Documents

2. Use the Submittal Checklist (pg. 27) for preparing the submittal package, appropriate to the level of revision (comprehensive, major, or minor).

Guidance	Section A. Comprehensive Review	Section B. Major Revision	Section C. Minor Revision
Deadline	Date specified in last approved SWAP; **or if no date specified,** October 1, 2015 **or** Ten (10) years from date of last approved comprehensive review, whichever comes first.	No deadline: a state may choose to do a major revision at any time. The major revision does not restart the 10-year clock, nor change the comprehensive review date.	No deadline: a state may choose to do a minor revision at any time. The minor revision does not restart the 10-year clock, nor change the comprehensive review date.
USFWS Notification Requirements *"Early and often" should be the guiding principle—assume a need or desire to communicate with revision partners, even if not required by the 2007 Guidance.*	State agency director notifies USFWS Regional Office (RO) WSFR Coordinator by letter of intent to initiate the Comprehensive Review. **Best Practice:** State's letter outlines that the entire plan will be reviewed, specific elements that will likely change (if known), the timeframe for completing the review, public review and response to comments, and companion documents delivery. **Best Practice:** Prior to the intent-to-revise notification to USFWS, create a project management chart (e.g., Gantt chart) to identify milestones, timelines, resources needed, deliverables, and people/roles. **Best Practice:** Determine which USFWS Region will be responsible for the review—if there is a conflict of interest (e.g., state requesting coordination is on the Review Team) another region will review. All plans for revision should be vetted with both the Region that will oversee the grants after the SWAP is approved and the Region that will conduct the review.	State agency director notifies USFWS RO WSFR Coordinator by letter of intent to make major revisions. **Best Practice:** State's letter outlines specific elements that it anticipates revising, establishes the timeframe for completing and delivering the Major Revision, including all companion documentation delivery. **Best Practice:** Prior to the intent-to-revise notification to USFWS, create a project management chart (e.g., Gantt chart) to identify milestones, timelines, resources needed, deliverables, and people/roles. **Best Practice:** Determine which USFWS Region will be responsible for the review—if there is a conflict of interest (e.g., state requesting coordination is on the Review Team) another region will review. All plans for revision should be vetted with both the Region that will oversee the grants after the SWAP is approved and the Region that will conduct the review.	State agency director notifies USFWS RO WSFR Coordinator by letter of intent to make minor revisions. **Best Practice:** State's letter includes what it intends to revise, and a statement that supports why the change is considered a minor revision.
Is a meeting or teleconference with USFWS RO required prior to state action?	YES **Best Practice:** Schedule a meeting in person or via teleconference, before the review process is initiated, with the WSFR RO contact. During this meeting: verify the actions, timeline for actions by all parties; document this meeting with written minutes reviewed by meeting participants.	NO **Best Practice:** Following USFWS RO acknowledgment of intent to revise, communicate with RRT members throughout process, and prior to SWAP and companion document delivery; in each communication, verify the timeline for actions by all parties; document teleconference(s) and meeting(s) with written minutes reviewed by meeting participants.	NO **Best Practice:** Following notification letter, a teleconference with USFWS RO and possibly the RRT is valuable to keep all parties apprised of changes; document this call with written minutes reviewed by all participants in meeting.
Road Map Required? *The Road Map outlines the location of the Eight Required Elements in the SWAP.*	YES **Best Practice:** Ensure that the Eight Elements are easily recognized within the table of contents.	YES **Best Practice:** Ensure that the Eight Elements are easily recognized within the table of contents.	YES **Best Practice:** Ensure that the Eight Elements are easily recognized within the table of contents.

continued on page 26

Guidance	Section A. Comprehensive Review	Section B. Major Revision	Section C. Minor Revision
Must a state Demonstrate the Entire SWAP Was Reviewed?	YES **Best Practice:** Provide evidence that the entire plan was assessed by the agency, stakeholders, and the public, and that the decision not to change certain sections was based on a consensus that there was no need for a change, i.e., that these sections were considered current and sufficiently relevant to the revised sections.	NO	NO
Summary of Changes required? *Different from the Road Map, the Summary of Changes identifies where all significant changes have been made*	YES Include a tabular summary of any significant changes made as a result of the comprehensive review, and where those changes can be found in the documents.	YES Include a tabular summary of any significant changes made as a result of the major revision, and where those changes can be found in the documents.	YES Include a tabular summary of any changes made as a result of the minor revision, and where those changes can be found in the documents.
If no changes are made to the SWAP or any Element:	Document and explain why no changes were necessary after review, and describe the process used to make that determination. Provide documentation that the public reviewed the nonchanged sections as well.	No explanation of unchanged parts of SWAP is required.	No explanation of unchanged parts of SWAP is required.
Must a state post the new SWAP, summary of changes, and Road Map online? *See also BPs 11–19 below*	NO—not required **Best Practice:** Although posting online is not required, the Internet is the first place many people search for information. Post SWAP, Road Map, and Summary of Changes online in a searchable format, related to the way your constituents would use the document. Additionally, post the purpose of the SWAP, contacts for more information, and regular updates to mark progress.	NO—not required **Best Practice:** Although not required to post online, the Internet is the first place many people search for information. Post SWAP, Road Map, and Summary of Changes online in a searchable format, related to the way your constituents would use the document. Additionally, post the purpose of the SWAP, contacts for more information, and regular updates to mark progress.	NO—not required **Best Practice:** Although not required to post online, the Internet is the first place many people search for information. Post SWAP, Road Map, and Summary of Changes online in a searchable format, related to the way your constituents would use the document. Additionally, post the purpose of the SWAP, contacts for more information, and regular updates to mark progress.
Is a Public Review Required?	YES (Elements 7 & 8) Note: A public review of the entire SWAP is required, including those sections not changed. See Best Practice: online posting above.	YES (Elements 7 & 8) Note: A public review is only required for the SWAP content that was changed. See Best Practice: online posting above.	NO A public review process is not required.

Review and Revision Frequency

3. If reviewing/revising before the 10-year deadline, ensure that it proceeds from an explicit identification of the need for change (CMP 2007).

4. Align review interval with other relevant conservation planning documents to identify shared conservation actions and objectives, and to be mindful of the timeframes for conservation outcomes.

Addressing Emerging Issues

5. Changes to SWAPs to reflect emerging issues, including changes to a living online database connected to and informing SWAPs, can be addressed through documented coordination with the USFWS Regional Office rather than through a formal review/revision as long as the issue is included in the next revision. The 2010 USFWS WSFR Service Manual Chapter for State Wildlife Grants, 517 FW 10.15 outlines the process (US Fish and Wildlife Service 2010; see Box 1, page 28 and Appendix C). Document the process and changes as they happen and include them in the Summary of Changes at the next revision interval.

Submittal Checklist

- ✓ Intent letter from the state fish and wildlife agency Director
- ✓ Response letter from USFWS RO acknowledging the intent
- ✓ Road Map to the Eight Required Elements tied to clear markers in the Table of Contents and document sections, so that reviewers are not required to make inferences or independently draw their own conclusions
- ✓ Summary of Changes organized by the document content order, so that the RRT can easily follow both the Summary of Changes and the SWAP
- ✓ Executive Summary to provide reviewer context, including guiding principles and/or assumptions
- ✓ A well-organized SWAP with notations in the document corresponding to the Road Map and the Summary of Changes
- ✓ Lists and links to references and relevant documentation (e.g., maps, lists, analysis, research, other decision-supporting rationale), especially important as states cannot assume the RRT will include members familiar with their state's particular issues

Conservation Partner Engagement *(also see Chapter 6: Partnerships and Public Participation)*

6. Craft an explicit SWAP statement of purpose consistent with the national purpose, along with a review and revision charter. Formalize a structure, process, schedule, and anticipated workload to explicitly define and delineate key roles, responsibilities, and contributions for those involved. This framework can help plan time, workloads, and budgets; avoid biases and perceptions (e.g., criteria for SGCN, how to define habitats, "weighting"); and clarify deliverables and teams.

7. Identify and document specific roles and measures of success for conservation partner teams that contribute information and complete tasks associated with review/revision (e.g., Review/Revision Steering Committee, Annual Review, Taxa Status Updates, Field Connectivity, Outreach and Promotion, Implementation Work Plan).

8. Provide mechanisms for conservation partner engagement to further collaboration and understanding of how their input is used and valued (e.g., incorporate crosswalks, use online comment retention, provide regular updates).

Box 1. 2010 Service Manual: 517 FW, State Wildlife Grants Chapter 10.15—Criteria for Emerging Issues:

- Fully describe the emerging or crisis situation
- Indicate whether funds must be reallocated from efforts already underway
- Identify the species or habitats that will benefit from the proposed action
- Commit to monitoring the effectiveness of the proposed conservation action so that future management activities can be appropriately adapted
- Commit to incorporating the new priority within the next version of SWAP, if it remains an emerging or critical issue

Grant applications or amendments that include issues not identified within a SWAP must be reviewed by the USFWS Assistant Regional Director (ARD) for Migratory Birds and State Programs for approval. If the ARD finds that the project is not eligible, the decision may be appealed to the USFWS Regional Director.

http://www.fws.gov/policy/517fw10.html

Case Study for Best Practice 9: Engaging Partners to Address the Full Suite of Species: Nebraska

The Nebraska Game and Parks Commission (GPC) included plants in its SWAP by securing a grant from the Nebraska Environmental Trust. Nebraska GPC used this grant to match the State Wildlife Grant used for developing the SWAP. Environmental Trust dollars also provided funding to inventory at-risk plants, complete species-specific modeling efforts, and gather expert input used to include plants in the Nebraska Species of Greatest Conservation Need list. The funds continue to provide an important source of funding to implement SWAP actions for plant species.

9. For key taxa (e.g., insects, plants) and other needs which the state has limited regulatory authority, staff expertise, or funding, include those taxa in the SWAP but engage outside partners (e.g., taxa-based or targeted professional societies, conservation organizations, other agencies with authority, universities) or seek additional funding to create a more comprehensive vision of SGCN, habitats, threats, and conservation actions.

10. In consultation with conservation partners, scale the level of partner participation (plus associated staff time and other resources related to that outreach) with the type/degree of review/revision (i.e., comprehensive review would benefit from more extensive, broad partnership engagement than a minor revision).

Also see Chapter 6: Partnerships and Public Participation.

11. Ask conservation partners to feature the state's review/revision updates, including public information meetings and requests for comments, in their constituency communications (e.g., newsletters, Web sites, social media updates, e-blasts).

12. Provide recognition for partners that contributed significantly to the SWAP to instill a sense of ownership and desire to protect and implement the plan.

SWAP Ease of Use and Accessibility

13. Include a section or companion document about "how to use this document" organized by the types of targeted audiences (e.g., land trusts, data providers, researchers, stewardship specialists, policy makers, legislators, private landowners, grant seekers).

14. To reduce length, incorporate information by reference rather than reiterating text (e.g., refer reader to the best resources for detailed species accounts).

15. Send a hardcopy and link of approved revisions to AFWA to update the national SWAP Web site. Also send SWAP Coordinator contact information to AFWA as needed.

16. Provide a Web link to the entire document as well as a segmented and searchable version of the SWAP, using software that is easily accessible and used by the public and diverse audiences (e.g., free software downloads online such as Adobe Reader for PDF file viewing). Ideally, provide a linked set of documents, references, tools, etc. that are easily updated, compared to a static, fixed documents.

17. If resources (i.e., capacity and funding) allow, create a geographic information system (GIS) portal for conservation partners to access and download SWAP-related data.

18. Create a limited number of hardcopies and make available in state libraries. Use 8.5 × 11 inch paper to facilitate easier printing and downloading. Large formats may show more detail, but printable tables and maps are more accessible.

19. Create a short and/or condensed version of the SWAP that is more easily printed and marketed to pique interest and participation.

20. Create a section or companion document, or refer the reader to resources (e.g., The Conservation Registry, NatureServe, the National Geographic Society's LandScope America, USFWS Wildlife TRACS) on project effectiveness, conservation progress, successes, and implementation efforts that have been realized, or are in progress as a result of the SWAP.

Case Study for Best Practice 20: Florida Companion Document for Performance Reporting

Florida's revised 2011 SWAP includes a chapter entitled "Florida's First Five Years of Action Plan Implementation." This 23-page chapter explains how Florida's Wildlife Legacy Initiative worked with partners to develop five implementation goals and describes some of the conservation efforts that the Florida Fish and Wildlife Conservation Commission (FWC) and partners have accomplished together during the first five years of implementation, with a strong emphasis on partnerships. Florida FWC devoted a section to each of the five goals, and each goal's section provides an overview of the work accomplished, as well as 1–3 brief case studies to showcase a particular project.

With its magazine-style format, the chapter is designed to be different and stand out from the rest of the SWAP. It has a more colorful and attractive layout, including numerous photographs, maps, tables, case-study boxes, and quotation callouts. Heading formats and the color scheme are consistent with the rest of the plan, ensuring that the chapter fits and flows with the rest of the document. The chapter is designed to be readily condensed, enhanced, and published as a separate pamphlet for broad distribution, in addition to its current inclusion within the SWAP.

Chapter 6: Partnerships and Public Participation

Iowa DNR

Elements 7 and 8 of the Eight Required Elements for State Wildlife Action Plans (SWAPs) direct each state to develop, review, and implement SWAPs in conjunction with conservation partners and broad public participation.

Although state fish and wildlife agencies led the development of the plans, the goals of the plans cannot be achieved without coordinated action undertaken in partnership. Working with partners can elevate conservation to the broader landscape scale, which avoids imposing political boundaries on natural systems. Individual states can better leverage scarce resources (e.g., staff, time, money) and avoid duplication of effort by finding complementary roles and actions with partners.

The plans also need to reflect stakeholder values. The revision and implementation processes must be transparent and open to public input. The SWAP review process provides an opportunity to advance collaboration across jurisdictions and organizations, and therefore build public and political support for SWAP implementation.

This chapter identifies best practices to enhance partnerships and public participation in SWAP implementation. It also describes the Collaborative Conservation Model for SWAP implementation developed by Lauber et al. (2009).

Collaborative Conservation Model

Lauber et al. (2009) developed a Collaborative Conservation Model for SWAP implementation (Fig. 3, pg. 32). This model illustrates the concept that, although individual examples may vary widely in their approach or proximate purpose, engaging partners in conservation actions is intended to achieve an ultimate conservation outcome for the restoration or protection of conservation targets.

The authors suggest that practitioners consider several questions to evaluate partnership needs and opportunities (i.e., ingredients for success) for each intended outcome of the SWAP. These considerations apply to several of the best practices and may need to be reconsidered throughout the life of a project or partnership.

Best Practices

Partnerships

1. Use the set of questions outlined by Lauber et al. (2009) to structure thoughts on partnership development. Develop partnerships early on and revisit them as often as necessary to promote ownership and buy-in, maintain positive, supportive relationships, and ensure that SWAPs are *state* plans rather than *state agency* plans. Formalize partnerships as appropriate.

2. Strategically create committees and teams for development, revision, and implementation. For each committee, determine which skills, knowledge, and decision-making authorities are needed to strategically target potential members.

Questions to guide evaluation of partnership needs and opportunities for each SWAP outcome:

- **Relationships.** Which organizations and individuals (both governmental and nongovernmental) might be interested in similar conservation outcomes? How strong are the relationships among these conservation interests? Do they know each other? Have they worked together? Do they trust each other?
- **Dialogue.** How adequate is the communication among these conservation interests? Do they share information about their interests and activities?
- **Agreement.** How strongly do these conservation interests agree about what needs to be and how it needs to be accomplished?
- **Coordination.** How well are the activities of these organizations and individuals coordinated?
- **Legitimacy.** Does the work have the support of those who can influence its success? Public or private landowners? Governmental agencies? Elected officials? Influential interest groups or individuals?
- **Funding.** How much funding is available to support work in this area? From which sources will it come?
- **Labor.** Who might be able to carry out the conservation work?
- **Possible Actions.** What kinds of actions might help achieve the desired outcomes?
- **Information.** Is there enough information to choose from among these actions? Information about the actions' effectiveness, cost, acceptability, collateral effects, and other relevant considerations?

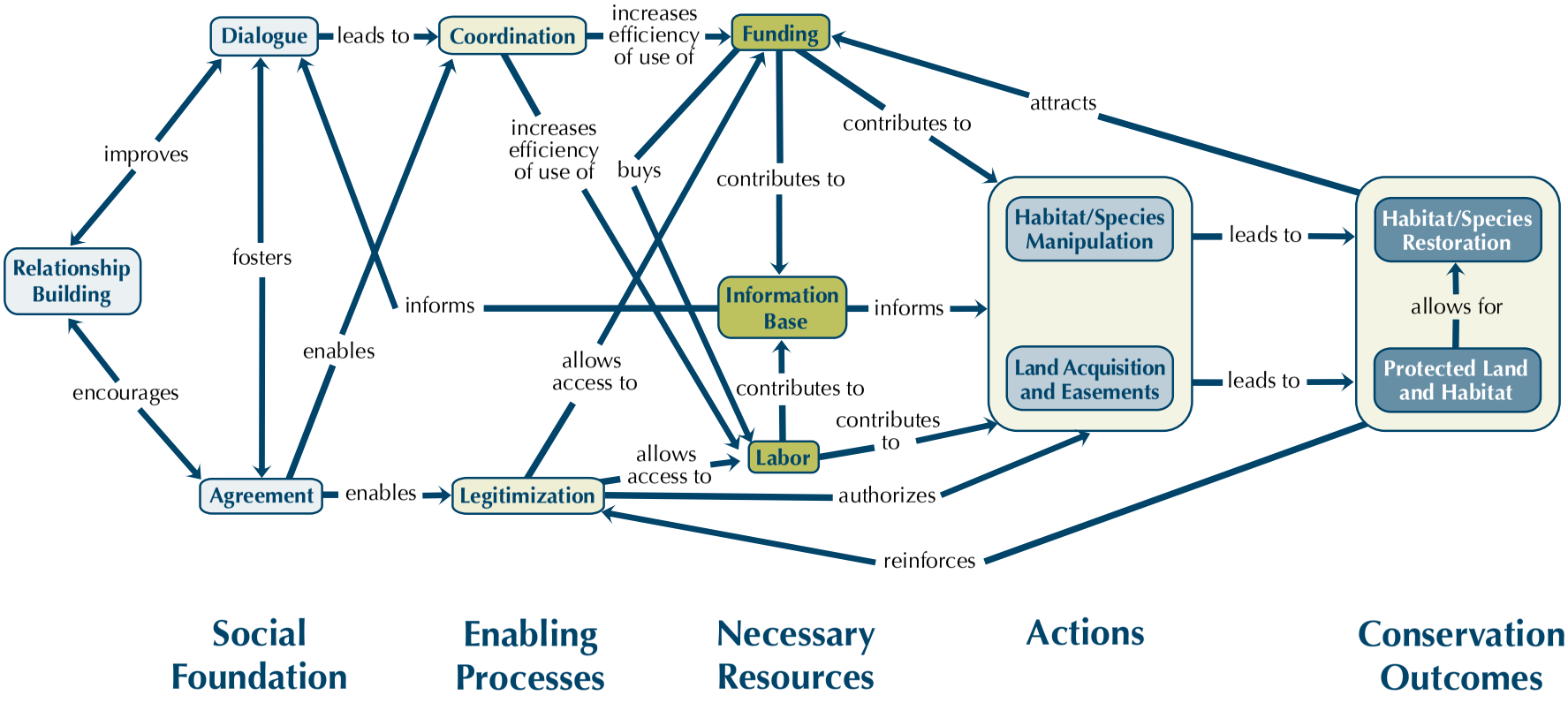

Figure 3: Collaborative Conservation Model (Co-Conserve Model): How collaborative SWAP implementation takes place.

a. Include broad agency perspectives (see Appendix D for suggestions). If committees are responsible for making major decisions concerning revision and implementation, ensure that staff has the authority to make those decisions.

b. If development and land conversion are significant threats to Species of Greatest Conservation Need (SGCN), invite representatives of municipal, county, and/or regional planning entities to serve on committees that develop conservation actions.

c. Throughout the lifetime of the SWAP, maintain a regular working relationship with the implementation committee by convening joint planning and reporting meetings.

3. Identify overlapping priorities. Prioritizing species, habitat types and locations, threats, and conservation actions enhances the usability of the plan for partners because it helps to identify common goals.

4. Use the *Open Standards for the Practice of Conservation*, developed by the Conservation Measures Partnership, to bring together common concepts, approaches, and terminology in conservation project design, management, and monitoring to help practitioners improve the practice of conservation (CMP 2007). The standards elevate both stakeholder involvement and partnership development/cultivation as overarching principles that apply to all steps within the standards. The standards ensure careful consideration and planning in the partnership and public participation processes to avoid an ad hoc approach.

Case Study for Best Practices 3 & 12: Partnership Coordinator at the Texas Parks and Wildlife Department (TPWD)

Texas provides important migratory bird habitat along the Gulf Coast and interior pathways to and from the northern US, Canada, Mexico, and Central America. Because the state shares a border river with Mexico, the International Boundary and Water Commission (IBWC) is an important partner in the conservation of fishes and other aquatic life. The Texas Parks and Wildlife Department (TPWD) employs a liaison who coordinates conservation partners in Mexico related to border wildlife issues. Additionally, several biologists from TPWD, US Fish and Wildlife Service (USFWS), and Texas conservation organizations have a strong relationship with nongovernmental conservation organizations, museums, universities, and their biologists in Canada, Mexico, and Central America. During the 2011 Texas SWAP revision, migratory bird priorities identified through Partners in Flight, National Audubon Society, and various conservation biologists with international connections were reviewed. A Desert Fishes Council representative who regularly coordinates with biologists along the Rio Grande/Rio Bravo identified several aquatic needs for the SWAP. Coordination for input into the SWAP revision was through targeted Texas contacts, leveraged to provide relevant requested information. Several conservation priorities—Species of Greatest Conservation Need (SGCN) (primarily birds, fishes, mammals, plants) and specific habitats (e.g., coastal marsh, riparian, freshwater wetland, native grasslands)—and specific research, site-protection, and management actions were included in the revision.

Use the Open Standards for the Practice of Conservation, developed by the Conservation Measures Partnership, to bring together common concepts, approaches, and terminology in conservation project design, management, and monitoring to help practitioners improve the practice of conservation.

5. Revitalize and develop new Memoranda of Understanding (MOUs). To integrate SWAPs into the initiatives of other agencies, MOUs were developed among key conservation agencies. Many of these agreements have expired, or are no longer visibly touted, and a revitalization effort may be needed. MOUs legitimize and institutionalize the SWAPs and encourage the incorporation of SWAP priorities by partners in the development of their plans that impact wildlife and habitat. MOUs are useful in SWAP implementation because they elevate the importance of their initiatives, which may otherwise be overlooked due to their nonregulatory nature.

The 2008 Farm Bill

. . . provides the Secretary authority to address issues raised by State, regional, and national conservation initiatives. These "State, regional and national conservation initiatives" may include such things as the North American Waterfowl Management Plan, the National Fish Habitat Action Plan, the Greater Sage-Grouse Conservation Strategy, the State Comprehensive Wildlife Conservation Strategies (also referred to as the State Wildlife Action Plans), the Northern Bobwhite Conservation Initiative, and State forest resource strategies. (H.R. Conf. Rep. No. 110–627 . . . 2008).

6. Become familiar with MOUs at the federal level to capitalize on partnership opportunities.

7. Cultivate a partnership with the Natural Resources Conservation Service (NRCS). Identify key NRCS staff and engage them in SWAP implementation committees. Participate in NRCS State Technical Committees to encourage the use of NRCS Farm Bill conservation programs to implement SWAP priorities and to influence priority-setting in programs such as the Environmental Quality Incentives Program (EQIP), Wildlife Habitat Incentive Program (WHIP), and Healthy Forests Reserve Program (HFRP), among others (see **http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs**). Farm Bill conservation programs represent the largest potential source of funding available for SWAP implementation in some states.

By encouraging the consideration of SWAPs, the 2008 Farm Bill gives SWAP Coordinators the legitimacy to approach state NRCS office and State Technical Committees.

8. Cultivate a partnership with Landscape Conservation Cooperatives (LCCs) to bring additional partners together to identify shared priorities and identify landscape-level actions.

9. Familiarize yourself with state Forest Action Plans (available from: **http://www.forestactionplans.org/**); contact the state forester (details at: **http://www.stateforesters.org/**) to coordinate updates, identify common priorities, and find other ways to coordinate the two plans.

10. Coordinate with the US Department of Defense (DoD) Legacy Resource Management Program through the Integrated Natural Resource Management Plans (INRMPs) (**http://www.denix.osd.mil/nr/edNaturalResourceManagementPlan.cfm**), state and federal department of transportation regional plans, and US Department of Energy (DOE) plans for transmission corridors to identify common priorities and conservation actions.

11. Work with neighboring state fish and wildlife agencies. Reach out to agencies with similar SGCN and habitats to pool resources for regional conservation efforts including problem identification, funding, mapping, and tracking the effectiveness of conservation actions.

12. Coordinate across jurisdictional boundaries with nonstate partners when conserving wildlife or habitat. Work with international conservation organizations and multijurisdictional conservation organizations to address the conservation needs of SGCN and habitats at a broader geographic scale or to better address their needs throughout their respective annual cycles. Useful information about protected area planning across international borders has been compiled by the Global Transboundary Conservation Network, an initiative of the IUCN World Commission on Protected Areas (see **http://www.tbpa.net/**). In addition, the Southern Wings Program is a state partnership that facilitates state investment in conservation projects in the wintering grounds of state priority migratory birds. For more information, see **http://www.fishwildlife.org/index.php?section=southern-wings-program&activator=62**.

Case Study for Best Practice 11: Rangewide New England Cottontail Initiative

The New England cottontail *(Sylvilagus transitionalis)* is listed as a priority SGCN in each SWAP of the states in which it occurs. The Northeast Wildlife Diversity Technical Committee (NEWDTC) has named the cottontail as a focal species for regional cooperation.

Because of an 86% decline in the species' historic range, the cottontail was identified as a Candidate for listing under the Endangered Species Act, as amended, in September 2006. The cottontail requires dense woody vegetation or thickets for cover. All states included the creation of early-successional habitats in their SWAPs as a conservation action. A suite of commonly used management techniques must be implemented on the landscape to create this habitat to support viable populations of the cottontail. Habitat management is expected to result in immediate benefits to the species. The goal is to avert federal listing by increasing the availability and rate of colonization of habitat patches, thereby stabilizing metapopulation viability.

Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, and New York, with the assistance of the USFWS, NRCS, and the Wildlife Management Institute (WMI) have been engaged in complex planning and implementation roles coordinated via multiple working groups and a steering committee. The Rangewide New England Cottontail Initiative applied for and was awarded Competitive State Wildlife Grant (C-SWG) funds in 2009 and 2011. All partners reviewed and adopted the spatial planning tools developed by the first C-SWG grant. WMI provides technical support to participating states and manages habitat on state lands. The objectives of the 2011 grant include (1) integrating conservation design and delivery in six states at the regional, local, and parcel scales, and (2) delivering 1200 acres of cottontail habitat restoration in an adaptive management framework, creating 50 new habitat patches across the species' range, with an expected long-term population increase of 720 individuals. Additionally, the partners will monitor and/or augment cottontail populations to ensure their colonization in up to 50 newly-restored or suitable but vacant habitat patches.

13. Evaluate the state Teaming With Wildlife (TWW) Coalition. The size and vitality of coalitions vary depending on the urgency of funding needs, or the availability of opportunities. Work with a partner organization to maintain contact with coalition members. Assess whether your coalition is meeting your needs and evaluate options for revitalizing your coalition if needed. Use the TWW coalition-building toolkit: **http://www.teaming.com/toolkit/**

14. Develop a communications plan. Identify key constituent groups and audiences, and involvement goals appropriate to each audience. Define communication strategies that will be effective at getting information to, and gathering feedback from, affected groups. Strategies can include outreach through print and electronic media, direct consultation through meetings and events, and quantitative public opinion data collection and human dimensions research. Host a SWAP Summit with identified stakeholders if goals include reinvigorating partnerships, sharing information, soliciting input, sharing successes, and/or garnering support.

15. Engage partners in SWAP communications. Ask conservation partners to promote conservation projects, progress, and successes through their constituencies and outreach mechanisms (e.g., Web sites, social media, e-blasts).

Case Study for Best Practice 14: Pennsylvania Game Commission's Wildlife Diversity Forum

The Pennsylvania Game Commission (PGC) held a one-and-a-half day, invitation-only Wildlife Diversity Forum that brought together 91 conservation leaders from more than 50 organizations in June 2012 to bolster the effectiveness of SWAP conservation actions by initiating a dialogue with established and potential partners to identify areas of common concern. The Pennsylvania TWW Coalition member list served as a starting point for invitations.

The forum began with a brief plenary session followed by facilitated breakout discussions to identify critical conservation issues, highlight priorities among the list, and specify actions that the conservation community could take to address priority issues. Concise presentations at the plenary on conservation strategies, the SWAP, and status of birds, mammals, and their habitats provided the foundation for the subsequent breakout discussions. First day breakout groups consisted of 10-12 conservation professionals who brainstormed and categorized critical conservation issues using a nominal group process technique to ensure that all ideas were recorded. A poster session/social that evening, prior to a banquet presentation, allowed time for partners to share their projects and network regarding possible conservation actions. SWG-funded projects were highlighted during this session.

By the second day, organizers had compiled 340 conservation issues from the first day for breakout groups charged with prioritizing the issues and suggesting conservation actions for each priority. These preassigned groups consisted of leaders in land protection, habitat management, education/outreach/human dimensions/communications, administration/funding/policy/ regulation, population monitoring and assessment, scientific research, and conservation planning and design. Again, the forum employed a round robin process to prioritize issues and identify actions. This was only the start to a long conversation with various partners in the coming months and years as Pennsylvania updates the SWAP jointly with the Pennsylvania Fish and Boat Commission. The discussion with participants will continue through the state Web site and available social media. PGC plans to consider these suggestions in the near-term and during the SWAP revision process, with results incorporated as part of the stakeholder involvement documentation.

The Wildlife Diversity Forum was a tremendous accomplishment, largely due to the vision and support from PGC's Executive Director. More than 30 PGC staff from across the agency assisted with this event. In addition, the Director, Deputy Executive Director, and Chief Counsel participated in its entirety. During his opening remarks, the Director commented that this was the most important event of the year. With that kind of support at the outset, the forum was sure to succeed.

16. Use a team approach (with species and habitat biologists as well as GIS experts) to develop models and maps. Solicit and consider as much external review as possible along the way. This will ensure a better technical product and generate buy-in to encourage greater acceptance and use of the product.

Public Participation

17. Define objectives for public involvement processes. A clear understanding of the purpose for initiating a public engagement process is key to designing an effective process. Is the intent of the process to inform the public, encourage participation in a project, or manage or resolve conflict? Use these considerations to inform the methods used to disseminate information and gather input.

18. Follow the state's public notification and comment period processes, such as commission meetings and hearings. These are processes well-understood by regulators and other programs for disseminating information. This process may engage internal stakeholders and garner internal state agency and public support, putting the SWAP on the same platform with other agency functions.

19. Notify the public of the state's intent to revise its SWAP early in the revision process. Ensure that the general public has an opportunity to review and comment on the plan before it is submitted. Give 30–60 days for the public comment period.

20. Develop and implement a public participation process that (1) identifies key constituent groups/audiences, (2) identifies involvement goals appropriate to each audience, and (3) defines involvement strategies that will be effective at getting information to, and gathering feedback from, affected groups. Make a deliberate effort to reach out to stakeholders and involve them in the process above and beyond formal agency public review processes. These strategies can include outreach through print and electronic media, direct consultation through meetings and events, and quantitative public opinion data collection/human dimensions research.

21. Document within the SWAP both the process used and the consideration of comments received.

22. File and archive all comments received, as well as actions taken with regard to each comment.

23. Scale the level of public participation and comment solicitation with the type of review or revision (i.e., comprehensive, major, or minor) to make effective use of state agency resources.

24. When reaching out to the public, link the plan to established community values (e.g., birdwatching, fishing, economic development, land protection, water quality, agriculture, quality of life). Acknowledge existing conservation efforts and emphasize the voluntary nature of the plan. Use direct and honest language. Effective public engagement galvanizes support for the SWAP and brings partners and funding to implementation.

Team Approach in Action: Map Development in Washington:

Washington Wildlife Habitat Connectivity Working Group (WHCWG) is a nationally-recognized science collaborative that produces tools and analyses that identify opportunities and priorities to provide habitat connectivity in Washington and surrounding habitats. **http://waconnected.org**

Develop and implement a public participation process that:

- identifies key constituent groups/audiences,
- identifies involvement goals appropriate to each audience, and
- defines involvement strategies that will be effective at getting information to, and gathering feedback from, affected groups.

Conclusions

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We have the benefit of the last seven years to evaluate State Wildlife Action Plans (SWAPs) and to identify which general approaches have worked better than others. With this new-found knowledge, the State and Tribal Wildlife Grants (SWG) Program (manifested in this effort) is authoritatively positioned to suggest what will make it stronger. In addition, state-based plans can benefit from a broader, more comprehensive assessment of conservation needs at the regional/national/global scale. Active state involvement in regional research and conservation alliances is essential to future iterations of SWAPs.

Best practices present an opportunity to provide consistency where consistency is needed and to select the most effective practices that all states can use in revising their SWAPs. This report's intent is to move the SWAPs forward as a whole, while recognizing that each state will be limited by capacity and constrained by reality. However, that does not preclude there being a single standard or a set of complementary standards to use in revising SWAPs. This document should also inspire states and partners to conduct the SWAP revision in a manner that captures the imagination of the public and policymakers so that they will be excited about implementing it. Arguably, the biggest challenge we face is transitioning from a traditional emphasis on managing fish and game to one that meets the needs of a broader suite of fish, wildlife, and priority habitats, and that appeals to a broader human constituency, which should ultimately lead to a willingness to provide new revenue sources for agency programs. The next generation of plans will provide a signal to partners about the overall direction of the agencies, their priorities, and strength of commitment to conservation in general.

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Contacts and Resources for Further Information

Prioritization

Conservation Planning Software and Resources

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Publications Using State-and-Transition Simulation Models **http://wiki.pathmodel.com/index.php?title=Publications**

Presentations from the 2011 State-and-Transition Landscape Modeling Conference **http://wiki.pathmodel.com/index.php?title=User_Conference**

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Threats and Conservation Actions

Climate Change

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Appendixes

Appendix A: SWAP Innovations

The following case studies represent innovations from the states and partners in meeting the Eight Required Elements and are provided here to inspire the use of similar or other innovative efforts to further raise the bar for and create consistency across State Wildlife Action Plans (SWAPs).

Innovations in Identifying Species and Habitats

Employing Common Habitat Classification for Maps: Northeast Wildlife Habitat Classification System and Map

To provide state fish and wildlife agencies with a consistent habitat classification system to build digital habitat maps to implement SWAPs, the Northeast Terrestrial Wildlife Habitat Classification System (NETWHCS) was developed with financial support from the Doris Duke Charitable Foundation. Each of the 13 northeastern states and the District of Columbia participated and contributed in-kind support. Together, with the sister project, the Northeastern Aquatic Habitat Classification System, the classification system and map have provided the foundation for regional habitat maps, enhancing regional conservation among the northeastern states.

The Northeast Terrestrial Habitat Mapping Project was undertaken in 2008 with the support of a Northeast Regional Conservation Needs (RCN) grant, by the Eastern Conservation Science (ECS) office of The Nature Conservancy. This RCN project used the NETWHCS to construct comprehensive terrestrial wildlife habitat spatial data of the Northeast region, a 30 meter grid that maps upland and wetland wildlife habitats/ecological systems for all 13 states. The ecological systems represented in the map are mosaics of plant community types that tend to co-occur within landscapes with similar ecological processes, substrates, and/or environmental gradients, in a pattern that repeats itself across landscapes. Systems occur at various scales, from "matrix" forested systems of thousands of hectares to small patch systems, such as cliffs, basin wetlands, or barrens on a particular bedrock type, of a hectare or two. Additional map layers are being produced using RCN funding, including an analysis of habitat condition and identification of regional focus areas.

The purpose of this mapping effort is to provide a common framework and language for conservation planning and wildlife management across jurisdictional borders. Specifically, the NETWHCS and map aim to: provide a standardized and consistent habitat and ecosystem classification at multiple scales across states; facilitate interstate communication about habitats; offer managers a tool for understanding regional biodiversity patterns; and allow for more effective and efficient habitat conservation across the region, including the prioritization of habitat conservation activities. **http://rcngrants.org/**

Describing Habitat Condition: Geospatial Condition Analysis of Northeast Habitats based on the Northeast SGCN Habitat Maps

Expected to be completed in January 2013, the purpose of the analysis is to evaluate and summarize the current condition of terrestrial and aquatic habitats across a region of thirteen states using region-wide habitat maps of streams (Northeastern Aquatic Habitat Classification System) and terrestrial ecosystems (Northeastern Terrestrial Habitat Classification System). The proposed products include a final report with habitat condition results. **http://rcngrants.org/content/geospatial-condition-analysis-northeast-habitats-based-northeast-sgcn-habitat-maps**

Identifying and Leveraging Landscape Conditions Common to Partners: Northeast Landscape Conservation Design

Currently in progress, this project aims to leverage past and future investments in landscape conservation design by organizing, synthesizing, and sharing information and relevant products from completed, ongoing, and future regional projects, and to facilitate their integration with on-the-ground delivery mechanisms. Goals include (1) establishing cooperative means to make existing and future conservation design information and tools more available and accessible to conservation partners, (2) producing composite maps depicting landscape conservation designs, and (3) developing spatial data layers summarizing environmental conditions affecting a suite of important ecological and cultural resource elements in the Northeast region. Proposed products include (1) the identification of landscape elements important to diverse partners, including cultural elements, rare species, ecological systems, landscapes, or watersheds, (2) data layers summarizing present and predicted future environmental conditions that describe the status of each landscape element, and (3) data layers summarized at multiple scales to describe the collective status of all the landscape elements within important geographies or jurisdictions. More information: Contact Andrew Milliken, North Atlantic Landscape Conservation Cooperative Coordinator, **andrew_milliken@fws.gov**

Updating Mapping Data as the Foundation for Conservation Opportunity Areas: Texas GIS portal

One of the high priority actions identified in the 2005 Texas SWAP was to update and remap the vegetation communities map using a more thorough and defensible classification system, which could also link other conservation partners' and states' efforts across the landscape. A key component of the project was to create a GIS portal for the spatial data and a handbook for its use by any interested parties. The Ecological Mapping Systems portal on the Texas Parks and Wildlife Department Web site makes the data, interpretative supporting information, and experts readily available, which enhances data-sharing among conservation partners and provides another avenue to standardize contributions with the SWAP. These data will be the foundation for a complex Species of Greatest Conservation Need (SGCN) analysis and Conservation Opportunity Areas (COA) Map in FY13-15, which will engage conservation partners across the state.

http://www.tpwd.state.tx.us/landwater/land/maps/gis/tescp/index.phtml

Developing Regional Focal Areas: Regional Focal Areas for SGCN Based on Site Adaptive Capacity, Network Resilience, and Connectivity in the Northeast Region

Completed in 2011, the purpose of developing regional focus areas was to identify the most resilient examples of key geophysical settings (e.g., sand plains, granitic mountains, limestone valleys, etc.) in relation to SGCN, to provide conservationists with a nuanced picture of the places where conservation is most likely to succeed under climate change. The product was a final report with site scores.

http://rcngrants.org/content/regional-focal-areas-species-greatest-conservation-need-based-site-adaptive-capacity-network

Reconnecting Fragmented Aquatic Habitats: Northeast Aquatic Connectivity: An Assessment of Dams on Northeast Rivers and Connectivity

Completed in 2012, the purpose of the connectivity project was to strategically reconnect fragmented aquatic habitats by targeting removal or bypass of key barriers to fish passage. The products were the Northeast Connectivity Assessment Tool (NCAT) Excel workbook, and associated final report and appendices with instructions.

http://www.rcngrants.org/content/northeast-aquatic-connectivity

Innovations in Identifying Threats and Conservation Actions

Incorporating Climate Change into SWAPs: Florida

The Florida Fish and Wildlife Conservation Commission (FWC) recently started updating its SWAP to better address the impacts of climate change on wildlife. The FWC worked with partners to explore two complementary approaches to assess species vulnerability. Defenders of Wildlife helped FWC with the first approach, which evaluated wildlife species using the NatureServe Climate Change Vulnerability Index (CCVI). This tool helped to identify relative vulnerability, as well as the relative importance of factors contributing to vulnerability, by using detailed information from species experts to develop an index score. The CCVI tool was used to evaluate 23 SGCN from the SWAP, and provided FWC with the exposure and sensitivity information necessary to further assess the vulnerability of a subset of these species referred to as focal species.

In the second approach, the Massachusetts Institute of Technology (MIT) helped FWC conduct spatially-explicit vulnerability analyses that provided alternative-futures maps simulating a range of likely responses to sea-level rise, public policy options, and financial conditions for the six focal species. The maps of potential alternative-futures helped biologists and managers to visualize where the habitat of the six focal species may be impacted in the future.

These approaches differed in the degree to which they incorporated both human- and species-level responses, as well as in the type and scale of the outputs that were produced. Outputs from both approaches were brought into a workshop-based process involving managers and biologists and used to identify potential adaptation strategies for focal species. The FWC intends to build upon the groundwork laid by this pilot study by exploring ways to more broadly apply vulnerability assessments and determining how these results could be used to inform agency decisions such as species management, land acquisition, policy and regulation, and research and monitoring efforts.

Incorporating Climate Change into Wildlife Action Plans: California

California's SWAP revision is scheduled to be completed by 2015. Primary objectives of the revision are to (1) incorporate new information developed through updates to Species of Special Concern documents for birds, mammals, reptiles, amphibians, and fish, (2) update the stressors and actions affecting fish and wildlife on an ecoregional scale, and (3) expand the analysis of threats posed by climate change and downscale the state's adaptation strategy to on-the-ground, implementable actions. The California Department of Fish and Game (DFG) is now working with Defenders of Wildlife to develop an open standards process to guide the development of the update with the goal of making the SWAP more

relevant to all levels of natural resource managers in California. The update of the SWAP will draw from new tools such as DFG's Areas of Conservation Emphasis mapping and modeling tool (**http://www.dfg.ca.gov/biogeodata/ace/**), the California Essential Habitat Connectivity project (**http://www.dfg.ca.gov/habcon/connectivity/**), the Climate Change Vulnerability Assessment for Rare Plants (**http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=36218&inline=true**), and the California Bird Species of Special Concern Climate Vulnerability Assessment (**http://data.prbo.org/apps/bssc/**), all of which have recently been completed by the DFG.

Additionally, DFG's Climate Science Program staff is currently working to ensure that climate change is fully integrated throughout the SWAP update process as well as the update to the 2009 California Climate Adaptation Strategy (CAS) in which the SWAP plays a major role as a vehicle to deliver climate adaptation actions on the ground. The program convened a SWAP Climate Work Group of stakeholders that include federal, state, and local agencies, nongovernmental organizations, academia, utility companies, etc. The information collected from the various vulnerability assessments will be used to inform the identification of target species, stressors, and conservation actions in the revised SWAP and CAS update. For more information:

DFG climate activities/products including vulnerability assessments: **http://www.dfg.ca.gov/Climate_and_Energy/Climate_Change/Activities/**

DFG climate stakeholders: **http://www.dfg.ca.gov/Climate_and_Energy/Climate_Change/Activities/Stakeholders/index.aspx**

Climate and SWAP-update resources: **http://www.dfg.ca.gov/Climate_and_Energy/Climate_Change/Activities/SWAP.aspx**

Innovations in Monitoring

Coordinating with Regional Conservation Alliances: Coordinated Monitoring Efforts: Natural Resource Monitoring Partnership

The Natural Resource Monitoring Partnership (NRMP), led by the National Biological Information Infrastructure (NBII) Program, was initiated to provide tools and protocols to facilitate coordinated regional and national natural resource monitoring efforts. The NRMP provided tools for communication among states and partners, and saved states time and money by reducing funding and staff time necessary for protocol development and implementation. For example, a state interested in initiating a grassland-bird monitoring program could use the NRMP Smart Query Tool to search the database for existing protocols, adopt the protocols, and ultimately pool data with adjacent states for more powerful analyses.

In 2012, in response to federal funding cuts, the NBII program was discontinued, effectively terminating access to the protocols and resources contained within the NRMP. Because coordinated monitoring efforts across states and regions are critical for effective monitoring of fish and wildlife resources, AFWA and partners should identify new funding to bring the NRMP back online or find a new host for these resources.

One important tool born from the NRMP program is back online. A compilation of the SGCNs from all SWAPs using common taxonomy is available that facilitates coordination and collaboration of conservation action between states and across regions and the country. Maps are available to provide visual representation of all states that list a particular species as an SGCN.

http://swap-analysis.appspot.com/download?

Engaging Partners in SWAP Revision: Rhode Island

Planning is underway for the Rhode Island SWAP revision. A strong partnership has been formed between the Rhode Island Department of Environmental Management (DEM) and the Rhode Island Chapter of The Nature Conservancy (TNC) to pool financial resources and staff expertise. TNC and the Rhode Island Foundation were able to provide the necessary funding match to initiate the process and contract with the original 2005 plan consultant, Terwilliger Consulting, Inc.

First, an inclusive committee structure was designed and assembled to effectively see the process through to final publication. A core steering committee was established to provide guidance, organization, and track progress on the revision. This committee consists of staff from DEM, TNC, and the University of Rhode Island (URI). Second, technical teams were formed with specific taxonomical or areas of expertise required to meet the Eight Required Elements. These teams consist of staff from DEM, TNC, URI, Natural History Survey, and other key partners. There will be a DEM staff liaison to coordinate between the core steering committee and the technical committees.

These core committees will solicit input from the key local, state, and regional partner/stakeholder entities in the state that affect land use decision-making. A contract position has been created to liaison with local/municipal partners to help assess and address the needs of municipalities in the revision process. The goal is to produce a "Condensed Publication" geared towards local land use planning, to supplement the SWAP.

Engaging partners up front in the revision process fosters an inclusive and transparent process, ownership, and buy-in, promoting future support from those partners in SWAP implementation and funding.

Identifying Common Priorities with Partners during SWAP Revision: Cross-walking conservation planning platforms in Texas

Although maps are the easiest way to depict conservation information to share with other conservation planners and project implementation teams, occasions exist when maps are not an available tool. The Texas Parks and Wildlife Department (TPWD) chose to crosswalk various partners' conservation planning platforms with the ecoregional platform used in the SWAP, including:

- The Nature Conservancy's terrestrial ecoregions
- The National Fish Habitat Action Plan's ecological drainage units
- North American Bird Habitat Joint Ventures
- NABCI's Bird Conservation Regions (BCRs)
- USFWS Landscape Conservation Cooperatives (LCCs)
- USDA Natural Resources Conservation Service (NRCS) Land Resource Regions and Major Land Resource Areas (MLRAs)

http://www.tpwd.state.tx.us/landwater/land/tcap/documents/conservation_crosswalk.pdf

Managing Document Length: Texas

The 2005 Texas SWAP consisted of four large complex volumes, much of which covered species and vegetation community descriptions gleaned or excerpted from other resources and references. In the 2012 revision, Texas incorporated reference citations and live Web links to books, accessible journal articles, and well-maintained internet resources to address much of the same information, but reduce the document complexity and length.

Enhanced Accessibility: Nebraska and Connecticut

Nebraska, Connecticut, and Montana among other states, segmented and posted online links to their SWAPs to improve their accessibility and utility. For example, one can download the entire plan, a segment or focal area, as well as access separate links for references and resources. Other state examples include segmentation to improve downloadable file sizes, as well as relevance to potential users (e.g., ecoregions, species lists, habitat types, actions). Finally, to accommodate file-viewing platforms accessible to most users, use Microsoft® Word and Adobe® Reader® file formats.

Connecticut: **http://www.ct.gov/Dep/cwp/view.asp?a=2723&q=329520&depNav_GID=1719**

Nebraska: **http://outdoornebraska.ne.gov/wildlife/programs/legacy/review.asp**

Montana: **http://fwp.mt.gov/fishAndWildlife/conservationInAction/fullplan.html**

Innovations in Partnerships and Public Participation

Conservation on the Landscape Level: The Northeast Association of Fish and Wildlife Agencies' Regional Conservation Needs Program

The purpose of the Northeast Regional Conservation Needs (RCN) Program is to address landscape-scale, regional wildlife conservation issues by combining resources, leveraging funds, and prioritizing conservation actions identified in the SWAPs.

The Northeast Association of Fish and Wildlife Agencies (NEAFWA) and the US Fish and Wildlife Service (USFWS) have created the largest multijurisdictional collaborative in the country to effectively advance those goals of SWAPs that transcend state boundaries. States pool four percent of their State Wildlife Grant (SWG) apportionments to fund cooperative work. To date, states have collectively spent $1,386,135 on projects completed since the inception of the RCN program, and have committed an additional $1,600,000 to RCN projects in progress. In addition to these direct expenditures, state agency staff, many of whom are supported by SWG, have dedicated substantial hours to these regional conservation efforts.

An integral part of this cooperative approach has been the participation of the Wildlife Management Institute (WMI) to administer funds from multiple states, and manage the contracts and agreements. Collaboration allows NEAFWA

states to support centers of learning excellence while applying results locally, advancing application of uniform conservation practices focused on the highest priority needs, and providing funding to address problems at the source, regardless of jurisdiction.

The RCN program was created in 2007 in a collaborative process that involved the thirteen northeastern states, the District of Columbia, and the USFWS Northeast Region Division of Wildlife and Sport Fish Restoration. The impetus was the recognition that although each state had developed a SWAP that addressed the species and habitats of conservation concern in its particular state, a portion of each plan dealt with issues common to all, such as rare species, hard-to-count species, and habitats that cross state boundaries. Much of the needed work required tools and techniques that were too costly to develop by a single state. Further, it was recognized that natural resource conservation on a regional scale can yield more durable outcomes.

Simply put, states recognized that there were conservation actions that could be better undertaken together as a region than alone as a single state. A mechanism to share expertise and funding would greatly enhance collaborative opportunities and likelihood of success, resulting in more effective conservation of species and habitats.

http://RCNgrants.org/

Engaging Partners: The North Atlantic Landscape Conservation Cooperative

The North Atlantic Landscape Conservation Cooperative (LCC) is a partnership consisting of federal and state agencies, tribes, universities, private organizations, and other partners working collaboratively to develop scientific information and tools needed to prioritize and guide conservation actions in the North Atlantic Region.

The North Atlantic LCC is guided by a steering committee comprised of 34 members, including 14 state fish and wildlife agencies, tribal agencies, nine federal agencies, Canadian partners, and eight nongovernmental organizations. The steering committee approved a governance document to guide the organization and function of the partnership. The steering committee agreed to meet in person at least twice a year in conjunction with regional meetings and two additional conference calls.

The North Atlantic LCC helps create consistency across state monitoring programs by:

- Providing the formal structure, staff, and a process to bring together partners and coordinate their conservation actions, develop consensus on common goals (resource outcomes), and leverage resources;
- Organizing and providing information from existing partners and partnerships on status, trends, current and emerging threats, and limiting factors for priority fish, wildlife, and plant species and cultural resources, and to agree on regional objectives for these species and resources;
- Developing and providing tools and information to guide decision makers;
- Assisting partners with the use of science and tools for conservation, and working with partners to implement conservation actions;
- Facilitating monitoring of populations, resources, habitats, and landscapes;
- Facilitating priority research activities based on needs identified and prioritized by partnerships;
- Developing effective communication products to enhance communications among partnerships; and
- Compiling, synthesizing, and making available information, data, science, and tools developed by partnerships and the LCC in scales and formats needed by partners.

http://www.northatlanticlcc.org

Developing Memoranda of Understanding: Western Association of Fish and Wildlife Agencies (WAFWA) Prairie Ecosystems Initiative

Arizona GFD

This coordinated conservation effort is detailed in the comprehensive WAFWA Western Grassland Initiative Strategic Plan (**http://www.wafwa.org/documents/WGISTRATPLAN.pdf**), which was approved at the July 2011 meeting. This plan integrates pertinent components of companion efforts for all four prairie dog species, black-footed ferret, swift and kit foxes, lesser prairie–chicken, mountain plover, burrowing owl, ferruginous hawk, Swainson's hawk, loggerhead shrike, and as appropriate and feasible, other shrubland and grassland species in the western Great Plains. To view the prairie ecosystems MOU, see **http://www.wafwa.org/documents/PrairieEcosystemsMemorandumofUnderstanding.pdf**

Cultivating Parterships with the Natural Resources Conservation Service (NRCS): Environmental Quality Incentives Program (EQIP) Nebraska Natural Legacy Special

A partnership effort between the Natural Resources Conservation Service (NRCS) and the Nebraska Game and Parks Commission (GPC) has been highly successful in implementing the SWAP. Beginning in 2008, $1 million of Environmental Quality Incentives Program (EQIP) funding was designated as a Natural Legacy Special Initiative. This special initiative prioritized EQIP projects toward implementing the Nebraska Natural Legacy Project (Nebraska's SWAP). Special Initiative EQIP dollars could be applied only in a Biologically Unique Landscape as identified in the SWAP, and required concurrence from a wildlife biologist that the habitat actions would further the objectives of the Nebraska Natural Legacy Project. In Nebraska, a standing relationship exists between the NRCS and the GPC, but involving the NRCS State Biologist in SWAP development facilitated the integration of the SWAP into their project delivery. From 2008 to 2011, $3,523,740 of EQIP funding was used to complete 212 landowner contracts that improved 149,616 acres for wildlife.

Coordinating across Jurisdictions with Nonstate Partners: Partners in Flight (PIF) Species Assessment Database

Partners in Flight (PIF) periodically updates its lists of priority species for each Bird Conservation Region (BCR). As SWAPs are revised, PIF intends to work with the Association of Fish and Wildlife Agencies (AFWA) and individual state fish and wildlife agencies to ensure that PIF's Species Assessment Database informs decision-making about which bird priority species will be included in SWAPs. States can help to ensure that updated PIF priorities are reflected in the revised SWAPs. Iowa recently submitted a major revision of its SWAP to update its SGCN list, which was informed by PIF priorities. Also, the bird species lists within the SWAP were updated to reflect changes in PIF priorities that had occurred in the time since the plan was initially published.

Coordinating across Jurisdictions with Nonstate Partners: Two Countries, One Forest/Deux Pays, Une Foret

Information about this ecoregional collaboration across an international boundary available from:
http://www.2c1forest.org/

Working with a Partner to Strengthen the Teaming with Wildlife (TWW) Coalition: Conservation Federation of Missouri and the Missouri Department of Conservation

The Conservation Federation of Missouri (CFM, an affiliate of the National Wildlife Federation) staffs a position to serve as Missouri's Teaming With Wildlife (TWW) Coalition Leader. CFM distributes regular e-mails to its coalition, keeping members engaged, informed, and active by highlighting State Wildlife Grants (SWG) funds distributed to partners to implement their SWAP, providing action alerts for SWG appropriations, and encouraging coalition members to feature the TWW logo on their Web sites and other news. The example on page 59 has been edited and excerpted to save space.

Engaging Partners in Demonstrating the Value of State Wildlife Grants: America's Great Outdoors (AGO) Initiative: Delaware Bayshore Initiative

The Delaware Bayshore Initiative is one of Delaware's America's Great Outdoors (AGO) Initiative projects. Secretary of the Interior Ken Salazar attended the kick off of this initiative, where Collin O'Mara, Secretary of the Delaware Department of Natural Resources and Environmental Control (DNREC), spoke about how the State Wildlife Grants (SWG) program is contributing to the AGO Initiative. As a follow-up, O'Mara posted to Delaware Governor Jack Markell's Governor's Blog, reiterating the value of SWG to the initiative. **http://www.dnrec.delaware.gov/Pages/Delaware-Bayshore.aspx, http://governor.blogs.delaware.gov/tag/delaware-bayshore-initiative/**

Notifying the Public of the State's Intent to Revise its SWAP: Outreach for Workshops: North Carolina

The North Carolina Wildlife Resources Commission sent out the following message to all TWW Coalition members:

North Carolina's revision process began with the September 2010 Climate Change workshop held in Raleigh, and continued in 2011 with five regional workshops. Several Stakeholder Advisory Committees are needed to help us review draft materials.

- We're seeking participation and input from you because you are an important stakeholder of North Carolina's natural resources.
- Participation in Stakeholder Advisory Committees is the next step in a process that will allow North Carolina to continue to be a leader in conserving and enhancing the state's full array of fish and wildlife species and their habitats.

How You Can Participate

Help Us Now: Review draft habitat vulnerability assessment reports written by the NC Natural Heritage Program, and help us incorporate strategies and recommendations for addressing climate change impacts to fish and wildlife species. Complete a volunteer form and we will contact you with information on how to help.

Help Us Later: Participate in future opportunities to review and comment on a variety of other topics, including statewide conservation needs and priorities, adaptive management strategies, and species of greatest conservation need. Future opportunities will be announced on the Commission's Web site **www.ncwildlife.org/conserving**.

Idaho DFG

Action Needed!

Your Help is Needed to Save Funding for the State and Tribal Wildlife Grants Program

Thank you so much for jumping into action to help save the State and Tribal Wildlife Grants Program! Thanks to your efforts, we already have more than 100 signatures! Please help us reach our goal of 300 signatures to send a strong message of support to the Senate. Please check out the current list of signers at the link below and continue to reach out to those who haven't yet signed.

The US House of Representatives has proposed a massive (50%) cut to FY13 funding for the State and Tribal Wildlife Grants Program. This program has already been cut by over 30% since 2010. We understand the fiscal constraints of the country and know everyone needs to do their part. However this large and disproportionate cut to a successful program that is preventing endangered species listings does not make economic sense. We know that when a species has to be federally listed, costs skyrocket! The last two years the US Senate has worked hard to restore funding to this program but only after they heard from the TWW Coalition. Please consider adding your organization's name to the attached letter to the Chair and Ranking Member of the Senate Interior Appropriations Subcommittee. Thanks for all that you do to support fish and wildlife conservation.

Click here to view the Teaming With Wildlife National Sign on Letter with the current list of signers.

Deadline: August 17, 2012

Send an email with your organization's name and state to **mhumpert@fishwildlife.org** to sign on.

Thanks for all that you do to support fish and wildlife conservation.
Debra Lee
Teaming With Wildlife Coordinator
Conservation Federation of Missouri
O: 573-634-2322
Email: **dlee@confedmo.org**
http://www.moteaming.com

Appendix B: General Concepts for a Monitoring Program

Source: Paul Dresler, US Geological Survey (**Paul_dresler@usgs.gov**)

Guiding Principles of a Monitoring Program

- Whenever feasible, use and build on existing monitoring efforts, both internal and external.
- When appropriate, strive to design and link local and regional monitoring efforts to support national and international assessments (i.e., integrate the data across scales).
- Support quantitative, scientifically-defensible descriptions of the resource (assessment) and changes in the resource over time (monitoring) to establish trends.
- When feasible, relate habitat monitoring to species monitoring.
- Whenever feasible, use and build on existing data management efforts, both internal and external.
- Ensure that all data and information derived from monitoring are well-documented, secure, archived, and accessible, both internally and externally, unless otherwise stated.
- All monitoring programs will be developed and implemented consistent with the "Basic Elements of a Monitoring Project and Program" (see below).
- Provide for flexibility, but strive for comparability among specific monitoring protocols within the framework of these Basic Elements.
- Apply the Basic Elements in the review, evaluation, and use of 3rd party and historic monitoring data.
- Over time, strive to incorporate all aspects of the Basic Elements within existing monitoring projects.
- Require internal, and when appropriate, external peer review of all plans and products.
- Encourage partnerships, leveraging of resources, and cost sharing.

Basic Elements of a Monitoring Project and Program

- Identification of monitoring goals and objectives
  - What is the question and why
  - Identify existing information
  - Conceptual model
- Identification of targets to monitor—indicators of land health
  - Selection based on above results and availability of resources (fiscal/human)
- Monitoring protocol (peer-reviewed)
  - All elements documented (question, sampling design, methodology, anticipated analysis/analytic tools, data management and reporting strategy, schedule)
- Quality assurance and quality control
  - How you assure and control quality
  - Training and potential certification of users
- Data management and archiving
  - Scheme to ensure data are documented, maintained, archived, and accessible
- Data analysis and assessment
  - Anticipated analysis including estimates of confidence
- Reporting
  - Reporting formats and schedule (usable, understandable, responsive) to user
- Periodic review and evaluation
  - Ensure project responsive to need and reflects best available science

Appendix C: Vermont Emerging Issues Letter

VERMONT

Fish & Wildlife Department
103 South Main St., #10 South
Waterbury, Vermont 05671-0501
www.VTFishandWildlife.com

ph: 802-241-3700
fax: 802-241-3295
tdd: 800-253-0191

Agency of Natural Resources

September 4, 2008

Sherry Morgan
Division of Migratory Birds
US Fish & Wildlife Service
300 Westgate Center Drive
Hadley, MA 01035

Dear Ms. Morgan,

I am writing to notify you of an emerging issue that is not addressed in Vermont's Wildlife Action Plan, and of Vermont's intent to use a small portion of its State Wildlife Grants obligation to address this issue.

White Nose Syndrome (WNS) is a new agent causing widespread mortality in 5 of the 6 cave bat species in the Northeast. White nose syndrome was first diagnosed in 2006 in four sites in the area west of Albany, New York. WNS is characterized by the presence of a white fungus on the muzzle, ears, or other exposed body parts of bats. In severely affected sites and cases, WNS is characterized by starvation and death. By the spring emergence from hibernation in 2008, WNS had been identified in 18 sites in New York, five sites in Vermont, three sites in Massachusetts, one site in Connecticut, and three possible sites in Pennsylvania. In its worst manifestation, WNS has resulted in the loss of approximately 90% of the bats in certain hibernacula. Given the hundreds of thousands of hibernating bats found throughout the affected region, WNS represents a significant and unprecedented problem with likely dire consequences.

Vermont's Wildlife Action Plan identifies all nine of our bats as Species of Greatest Conservation Need. This includes: the little brown myotis, Indiana bat, small-footed bat, northern long-eared bat, silver-haired bat, eastern pipistrelle, big brown bat, eastern Red bat and hoary bat. Of these, only the migratory tree bats (silver-haired, red, and hoary) are believed to be unaffected by WNS.

Vermont Fish & Wildlife Department intends to address White Nose Syndrome and any other new and/or relevant problems and opportunities associated with the conservation and management of Vermont's bat Species of Greatest Conservation Need when it next updates its Wildlife Action Plan.

With job # 5.03 (T-1-7) we want to obligate $25,183 our SWG allocation to a bat conservation/white nose syndrome job.

Sincerely,

Sherri Yacono
Federal Aid Coordinator

cc: Jon Kart, John Austin, Tom Decker, VFWD
Dee Blanton & John Organ, U.S. Fish & Wildlife Service, Division of Federal Assistance

Appendix D: Suggested Entities for Coordinating SWAP Implementation

Element 7 requires that the State Wildlife Action Plan "(vii) provides for coordination to the extent feasible, the State fish and wildlife department, during the development, implementation, review, and revision of the wildlife conservation strategy [State Wildlife Action Plan], with Federal, State, and local agencies and Indian tribes that manage significant areas of land or water within the State, or administer programs that significantly affect the conservation of species identified under paragraph (1) or their habitats" (Pub. L. No. 106–553 . . . 2000).

Applied Partnerships

- Landscape Conservation Cooperatives (LCCs) **http://www.fws.gov/science/shc/lcc.html**
- Joint Ventures (JVs) **http://www.fws.gov/birdhabitat/JointVentures/index.shtm**
- Partners in Flight (PIF) **http://www.partnersinflight.org/**
- Partners in Amphibian and Reptile Conservation **http://www.parcplace.org/**
- Avian Knowledge Alliance **http://avianknowledgealliance.ning.com/**

Tribes

- Individual tribes (see US Bureau of Indian Affairs [BIA] at **http://www.bia.gov/index.htm**)
- Tribal consortiums, such as the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) **http://www.glifwc.org/**

Federal Agencies

- US Fish and Wildlife Service **USFWS) http://www.fws.gov/**
  - National Wildlife Refuge System **http://www.fws.gov/refuges/**
  - Partners for Fish and Wildlife Program **http://www.fws.gov/partners/**
- US Department of Defense (DoD) **http://www.defense.gov/**
- USDA Natural Resources Conservation Service (NRCS) **http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/home**
- US Forest Service (USFS) **http://www.fs.fed.us/**
- National Park Service (NPS) **http://www.nps.gov/index.htm**
- US Bureau of Land Management (BLM) **http://www.blm.gov/wo/st/en.html**
- US Bureau of Reclamation (BOR) **http://www.usbr.gov/**
- US Army Corps of Engineers (USACE) **http://www.usace.army.mil/**
- US Environmental Protection Agency (EPA) **http://www.epa.gov/**
- US Geological Survey (USGS) **http://www.usgs.gov/**
  - Cooperative Research Units (CRU) Program **http://www.coopunits.org/Headquarters/index.html**
  - National Wildlife Health Center (NWHC) **http://www.nwhc.usgs.gov/**
- Americorps **http://www.americorps.gov/**

State Agencies

- Departments of transportation
- Departments of agriculture
- Departments of environmental quality, if separate from state fish and wildlife agency
- Departments of tourism and economic development
- State conservation corps
- State Revolving Fund (SFR) programs

Local Agencies

- Planning commissions
- Watershed groups
- Soil and Water Conservation Districts
- County-level conservation entities

Nongovernmental Organizations

Element 7 does not specify information about the extent of coordination with nongovernmental organizations. However, SWAPs are unlikely to have support or be successful without partnering with such organizations.

- National Wildlife Federation **http://www.nwf.org/**
- National Audubon Society and local chapters **http://www.audubon.org/**
- The Nature Conservancy **http://www.nature.org/**
- NatureServe **http://www.natureserve.org/**
- Ducks Unlimited **http://www.ducks.org/**
- Trout Unlimited **http://www.tu.org/**
- Pheasants Forever **http://www.pheasantsforever.org/**
- Quail Forever **http://www.quailforever.org/**
- National Wild Turkey Federation **http://www.nwtf.org/**
- Defenders of Wildlife **http://www.defenders.org/**
- Theodore Roosevelt Conservation Partnership **http://www.trcp.org/**
- Land Trust Alliance and Land Trusts **http://www.landtrustalliance.org/**
- The Trust for Public Land **http://www.tpl.org/**
- Open Space Institute **http://www.osiny.org/site/PageServer**
- NatureMapping Foundation **http://www.naturemappingfoundation.org/**
- Wildlife Conservation Society **http://www.wcs.org/**
- Rocky Mountain Elk Foundation **http://www.rmef.org/**
- American Bird Conservancy **http://www.abcbirds.org/**
- Environmental Law Institute **http://www.eli.org/**
- Environmental Defense Fund **http://www.edf.org/**
- The Conservation Fund **http://www.conservationfund.org/**
- American Rivers **http://www.americanrivers.org**
- Wildlife Habitat Policy Research Program **http://www.whprp.org**

Educational Institutions

- State universities
- Technical/community colleges
- Private colleges
- Natural History Museums

Private Entities

- Landowners
- Charitable foundations
- Business groups
- Consultants
- Land developers
- Energy industries
- Resource extraction industries

Appendix E: AFWA State Wildlife Action Plan Best Practices Working Group Charter

AFWA State Wildlife Action Plan Best Practices Working Group

Charter

Purpose

The Working Group will develop voluntary guidance in the form of a 'best practices' document that can be used by US states and territories when revising their State Wildlife Action Plans (SWAPs). One subgroup will work directly with the US Fish and Wildlife Service (USFWS) to develop recommendations that would clarify the 2007 SWAP revision guidance document.

Working Group Members

AFWA Staff: Mary Pfaffko

State and Federal Agency Members:

1. Co-chair: Rex Sallabanks, Idaho Department of Fish and Game, Wildlife Diversity Program Manager
2. Co-chair: Rita Dixon, Idaho Department of Fish and Game, SWAP Coordinator
3. Jon Ambrose, Georgia Department of Natural Resources, Assistant Chief, Nongame Conservation Section
4. Danna Baxley/Sunni Carr, Kentucky Department of Fish and Wildlife Resources, SWG Research Coordinator/ Wildlife Diversity Coordinator
5. Brian Branciforte, Florida Fish and Wildlife Conservation Commission, SWAP Coordinator
6. Wendy Connally, Texas Department of Parks and Wildlife, Program Lead, Rare Species, Nongame Permits, and Texas Conservation Action Plan
7. Dave Day, Pennsylvania Fish and Boat Commission, Conservation Coordinator
8. Jenny Dickson, Connecticut Department of Energy and Environmental Protection, Supervising Wildlife Biologist
9. Eric Gardner, Arizona Game and Fish Department, Nongame Branch Chief
10. Jimi Gragg, Utah Division of Wildlife Resources, Project Leader, Utah Wildlife Action Plan
11. Cathy Haffner, Pennsylvania Game Commission, Wildlife Biologist, Conservation Planning Coordinator
12. Leslie Hawkins, South Carolina Department of Natural Resources, SWAP Coordinator
13. Jane Norris, Minnesota Department of Natural Resources, SWAP Coordinator
14. Katy Reeder/Karen Kinkead, Iowa Department of Natural Resources, SWAP Manager/Wildlife Diversity Program Coordinator
15. Kristal Stoner, Nebraska Game and Parks Commission, Wildlife Diversity Coordinator
16. Dee Blanton, US Fish and Wildlife Service, Northeast Region, Wildlife Program Chief
17. Paul Van Ryzin, US Fish and Wildlife Service, State and Tribal Wildlife Grants Management Specialist
18. Ben Thatcher, US Fish and Wildlife Service, Assistant National LCC Coordinator
19. Austin Kane, National Wildlife Federation, Policy Manager

Guiding Principles

State Wildlife Action Plans (SWAPs) were completed for all US states and territories in 2005 according to specific guidelines from Congress and the US Fish and Wildlife Service (USFWS). The plans offer an excellent framework for states and partners to guide funding toward the highest priority conservation needs. This working group will compile best

practices for use by states and territories that are interested in updating their SWAPs to improve plan consistency, increase plan standardization, and enhance plan effectiveness with respect to prioritization, conservation delivery, and collaboration with partners and other states. It is entirely up to individual states and territories to determine if it is in their interest to use the practices provided by this working group.

Working Group Roles

Working group members will collaboratively develop a set of voluntary best practices to assist states and territories in revising their respective SWAPs. In addition, one subgroup will work directly with USFWS to develop recommendations for clarifying the language of the 2007 SWAP revision guidance document. Working group members will participate in six monthly conference calls, attend one in-person meeting, serve on subgroups, assist with work products, and contribute knowledge and expertise.

Relationship of Working Group to AFWA

The SWAP Best Practices Working Group is nested under AFWA's Teaming With Wildlife Committee.

Background

In 2005, each US state and territory completed its SWAP. This effort marked a major milestone in conservation, and state innovations and regional efforts since 2005 have changed the landscape of wildlife conservation across the country. Congress requires the states and territories to review and revise their SWAPs at least every 10 years to address new and changing conditions. This SWAP revision process is an opportunity for states and territories to voluntarily use best practices to ensure that the plans remain relevant, address changing and complex conservation challenges, benefit from increased standardization, and use consistent approaches to key elements such as prioritization.

In January 2012, during the Wildlife Diversity Program Managers Meeting in Sapelo Island, GA, participants recommended that a working group be created to develop SWAP best practices. Also, confusion has arisen about the requirements contained within the 2007 SWAP revision guidance document. As such, an additional objective of the project is to review the document and make recommendations on revising the language of the document to provide greater clarity about the requirements. The Chair of the Teaming With Wildlife Committee established the Working Group in January 2012.

Working Group Charges

1. Produce a document that can be voluntarily used as a resource by states and territories to incorporate best practices when updating their respective SWAPs
    a. Clearly describe best practices to address the Eight Required Elements of SWAPs
    b. Offer additional guidance on how to improve prioritization, organization, accessibility of information, standardization, and consistency
    c. Generally provide resources, tools, and examples where appropriate on how to accomplish each best practice
2. Develop recommendations for updating the 2007 SWAP revision guidance document
    a. Work directly with USFWS to clarify the document

Who Will Be Served

Member states and territories of the Association of Fish and Wildlife Agencies, US Fish and Wildlife Service, partners, and all SWAP stakeholders.

Measures of Success

To be determined at a later date by the working group

Products/Deliverables

Printed and electronic formats of the final document will be distributed via mail, websites, and email.

Duration

The working group will remain active until the AFWA Annual Meeting in September 2012, unless extended by the establishing committee.

Anticipated Timeline

Timeframe	Task	Location	Milestone
Nov 2011	Survey of SWAP Coordinators and partners	N/A	Compiled a list of strengths and weaknesses of SWAPs
Jan 2012	Wildlife Diversity Program Managers Meeting	GA	Best practices categories reviewed, potential members identified
Jan 2012	Working Group established by TWW Committee	N/A	Working Group established by the TWW Committee
Feb 2012	Kick-off conference call	N/A	Review purpose of working group; review best practices categories and distribute across subgroups; discuss timeline for subgroup products; assign writing and polling tasks; discuss potential dates and locations for the May in-person meeting
Feb 2012	Poll participants for date & location of May meeting	ID	Schedule May meeting
Mar 2012	Monthly conference call	N/A	Identify subgroup members; review charter; identify location of May meeting; identify deliverables and deadlines
Apr 2012	Draft Working Group Charter	DC	Charter completed
Apr 2012	Monthly conference call	N/A	Updates from each subgroup; Discuss challenges/ways to make subgroup products consistent
May 2012	In-person meeting	Austin, TX	Presentation from Chair of TWW Committee, Carter Smith; submit final products from the first subset of subgroups; second set of subgroups meet
Jun 2012	Monthly conference call	N/A	Continue work on second set of subgroup tasks
Jul 2012	Monthly conference call	N/A	Submit draft subgroup products for review by Wildlife Diversity Program Managers and SWAP Coordinators
Aug 2012	Monthly conference call	N/A	Finish final products
Sep 2012	Presentation/Approval at AFWA Annual Meeting	SC	Potential approval of SWAP Best Practices document

OH DNR

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Association of Fish & Wildlife Agencies

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