

State Fish and Wildlife Agency Approaches to Landscape-Scale Conservation

A White Paper prepared by the Association of Fish and Wildlife Agencies

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Summary This white paper provides an introduction to recent landscape-scale conservation efforts involving the U.S. state fish and wildlife agencies as well as the national and regional associations of these agencies. Examples of successful collaborative regional conservation projects and programs include the Northeast Association of Fish and Wildlife Agencies' Regional Conservation Needs Program, the Midwest Association of Fish and Wildlife Agencies' Mid-America Monarch Butterfly Conservation Strategy, the Southeastern Association of Fish and Wildlife Agencies' Southeast Conservation Adaptation Strategy, and the Western Association of Fish and Wildlife Agencies' Crucial Habitat Assessment Tool. Recommendations for future landscape-scale conservation efforts in the USA include: the need to fully engage the state fish and wildlife agencies and relevant partners in the design and implementation of landscape efforts; the need for dedicated funding to support full participation of state agencies and other partners in landscape efforts; and the need for scientific and technical support, including data management, data analysis, and decision support tools to ensure the best available science is used in landscape conservation. State Wildlife Action Plans, developed by the 56 U. S. states and territories, offer a promising framework for integrating multiple conservation priorities across broader landscapes as well as regional and continental scales.

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Introduction to the Community of Practice: State Fish and Wildlife Agencies and their Regional Associations

State Fish and Wildlife Agencies and Why They Matter

Under the U. S. federal system of government, the 50 U. S. state fish and wildlife agencies and their counterparts in the U. S. territories and the District of Columbia have the primary legal authority and management responsibility for much of the nation's fish and wildlife resources. Under the Tenth Amendment to the U. S. Constitution, powers not specifically delegated by the Constitution to the federal government are reserved to the states or to the people, and this includes the responsibility for the management of most of our nation's fish and wildlife species (with certain well-defined exceptions for those species where Congress has created joint management authorities for certain species, such as under the federal Endangered Species Act or the Migratory Bird Treaty Act). To administer these authorities, each state and territory and the District of Columbia has created an agency or department whose responsibility includes the management of the state or territory's fish and wildlife resources. Most of these agencies were originally founded to conserve those species of fish and wildlife which are actively hunted, fished, trapped, or otherwise harvested. The conservation and management of game species and their habitats is supported through excise taxes on hunting and fishing equipment collected under the authority of the federal Pittman-Robertson and Dingell-Johnson Acts. Sales of hunting and fishing licenses to the general public also contribute significant financial support for state agencies' conservation efforts. Funding from these excise taxes and licenses is directed primarily, but not exclusively, to the conservation of game species and their habitats.

State fish and wildlife agencies have a long history of success in restoring many species, both game and non-game. It has long been recognized that the traditional focus of state fish and wildlife agencies has been on the conservation of game species, and that more attention and funding should be directed towards the conservation of non-game species. This need has been the impetus for the development of the "State Wildlife Action Plans" (SWAPs) and the State Wildlife Grants program. Each state and territorial fish and wildlife agency has developed a SWAP identifies the "Species of Greatest Conservation Need" (SGCN) in the state, describes the key habitats needed to conserve SGCN in the state, provides information on threats to SGCN and priority research and surveys needed to conserve SGCN, identifies actions needed to conserve SGCN, and describes the provisions for monitoring SGCN and their habitats and measuring the effectiveness of conservation actions. The first round of SWAPs was completed in 2005 and all states and territories completed revisions by 2015-2016.

Most state fish and wildlife agencies also have significant habitat management responsibilities, which often include managing certain state lands such as wildlife management areas and parks, as well as administering partnership programs that conduct conservation activities on lands outside state ownership. From both legal and practical perspectives, therefore, the state fish and wildlife agencies are critically important partners for large landscape-scale conservation efforts in the United States.

AFWA

The Association of Fish and Wildlife Agencies ([AFWA](#)) is a non-profit organization which represents the state fish and wildlife agencies and the federal wildlife and natural resource management agencies in

Washington, D.C. The Association was founded in 1902 and its voting members now include the state fish and wildlife management agencies from all 50 states, many Canadian provinces, the U. S. territories, and the District of Columbia, as well as multiple federal government agencies from USDA, the Department of the Interior, and the Department of Commerce. A complete list of current AFWA members is available on the website: http://fishwildlife.org/?section=member_list Some of AFWA's major achievements over the past 100+ years which are relevant to landscape conservation include:

- 1918: Participant in Migratory Bird Treaty Act
- 1937: Supports passage of Pittman-Robertson Federal Aid to Wildlife Restoration Act
- 1950: Supports passage of Dingell-Johnson Federal Aid to Sport Fish Restoration Act
- 1984: Supports Wallop-Breaux Boating Trust Fund Amendment to Dingell-Johnson
- 1985: Advocates conservation in Farm Bill
- 1986: Supports North American Waterfowl Management Plan
- 1990s: Develops "Teaming with Wildlife" initiative which resulted in the creation of the State and Tribal Wildlife Grants Program and the State Wildlife Action Plans.
- 2007: Leads National Fish Habitat Action Plan
- 2015: Created Blue Ribbon Panel on Sustaining America's Diverse Fish & Wildlife Resources

Regional Associations: MAFWA, NEAFWA, SEAFWA, and WAFWA

In addition to the national association, there are four independent regional associations of state fish and wildlife agencies, each of which provides opportunities for discussion and collaboration among groups of state fish and wildlife agencies and their partners on important landscape-scale conservation issues. These associations are the Northeastern Association of Fish and Wildlife Agencies ([NEAFWA](#)), the Southeastern Association of Fish and Wildlife Agencies ([SEAFWA](#)), the Midwest Association of Fish and Wildlife Agencies ([MAFWA](#)), and the Western Association of Fish and Wildlife Agencies ([WAFWA](#)). Some states are members of more than one regional association.

Each of these regional associations has undertaken numerous significant landscape-scale conservation efforts over the course of its history. Each of these associations also has a wide range of current landscape-scale conservation efforts for species and habitats of conservation interest, efforts which are undertaken and administered through a network of formal standing committees as well as technical working groups. In each case, guidance and oversight for these landscape-scale conservation efforts is provided by committees of state agency directors, particularly those directors who serve on the regional associations' Executive Committees. Recent landscape-scale collaborative projects which are being led by these regional associations are highlighted in the sections of the report that follow.

Other regional conservation partnerships

Each of the state fish and wildlife agencies also participates in numerous existing multi-state and regional partnerships, many of which are also engaged in significant landscape-scale conservation efforts. These partnerships include the Migratory Bird Joint Ventures, Flyway Councils, the National Fish Habitat Partnership, regional threatened and endangered species recovery teams, Landscape Conservation Cooperatives, Partners in Amphibian and Reptile Conservation, and many others.

Existing Opportunities, Challenges and Barriers, as Illustrated by Recent Regional Projects

The following sections of this white paper describe several recent efforts by the state fish and wildlife agencies, working through and with their regional associations, to address landscape-scale needs for widespread species of conservation concern, regionally significant ecosystems, and broader ecoregions across boundaries of multiple states. Information about additional regional and landscape-scale efforts undertaken by these state agencies and their regional associations are available at the [AFWA](#), [MAFWA](#), [NEAFWA](#), [SEAFWA](#), and [WAFWA](#) websites.

The Northeast Collaboration for Wildlife Conservation

The 13 northeastern states (Virginia north to Maine) and the District of Columbia have an extensive history of over 50 years of collaboration through the Northeast Association of Fish and Wildlife Agencies (NEAFWA) in a wide range of activities related to landscape-scale conservation and implementation. NEAFWA has developed regional conservation planning and implementation priorities in collaboration with the U. S. Fish and Wildlife Service (USFWS) and non-governmental partners. The regional collaboration makes it possible to coordinate and leverage capacity-building across state boundaries.

In 2007, the Regional Conservation Needs (RCN) program was created through this coalition and involved the thirteen states within NEAFWA, the District of Columbia and the USFWS Northeast Region Division of Wildlife and Sport Fish Restoration. By recognizing that numerous elements of individual State Wildlife Action Plans target conservation priorities common to all plans, participating states agree to pool 4% of their State Wildlife Grant apportionments to fund cooperative projects that impact regional-level conservation and restoration initiatives that extend far beyond state borders. An integral part of this cooperative approach has been the administrative assistance of the Wildlife Management Institute (WMI) to coordinate funds from multiple states, and manage project contracts and agreements. As a result, the RCN program provides a mechanism to utilize the resources, techniques, expertise and funding needed to achieve a scale and scope of ecosystem conservation that would not be possible for any single state to deliver.

The central goal of the RCN program is to develop, coordinate, and implement conservation actions that are regional or sub-regional in scope, to build upon the multiple regional initiatives that already exist and compliment ongoing work in individual states.

Specifically, the RCN program has produced:

- Unifying maps of the region's habitats.
- Common language and condition analysis of those habitats.
- Identification of regional conservation focal areas; what they are and where they are.
- Consistent metrics to measure success and gauge effectiveness.

The RCN program is the largest multi-jurisdictional collaborative in the United States to effectively advance conservation priorities of State Wildlife Action Plans that go beyond state or political boundaries. As of 2015, the RCN program has put more than \$2 million to work to address regional fish

and wildlife management challenges and high-priority conservation initiatives. The program funds projects that improve our understanding of regional species and habitats of greatest conservation need and makes recommendations for strategies that ensure sustained populations of these species and their biological communities. In addition to the development of the common habitat classification system and map, the northeastern states also developed a regional list of priority species by combining responsibility (% of range in Region) with risk (as measured by the number of states listing a species in their SWAP).

Southeast Regional Conservation Adaptation through SECAS

The Southeast Conservation Adaptation Strategy (SECAS; <http://secassoutheast.org/>) is a shared, long-term vision for lands and waters that sustain fish, wildlife and plant populations, and that improve our citizens' quality of life in the southeast United States and Caribbean. This vision provides regional focus for investments across organizations, disciplines, and partnerships on shared and proactive goals. The unique role of SECAS is to identify and support the steps necessary to regionally plan, implement, and evaluate actions that sustain habitat, mitigate threats, and adapt to future conditions. Key leaders of this effort are the Southeastern Association of Fish and Wildlife Agencies, which includes 15 states, the Virgin Islands and Puerto Rico, and the 12 federal agencies of the Southeast Natural Resource Leaders Group. Key partners include the Southeast Climate Science Center, South Central Climate Science Center, the Southeast Aquatic Resources Partnership and the six southeastern Landscape Conservation Cooperatives: Gulf Coast Prairie, Gulf Coastal Plains & Ozarks, South Atlantic, Appalachian, Peninsular Florida, and Caribbean.

SECAS is a collaboration to define the conservation landscape of the future. Current and future generations rely on the nation's fish, wildlife and plant resources and habitats. Working with private landowners, the business community, local leaders, and other partners and stakeholders will be critical to achieve the SECAS vision. Over the next five years, through SECAS, the partners will:

- Refine a habitat network for the southeastern U.S. and Caribbean based on a common assessment of current natural resource conditions, the development of alternative future scenarios, and identification of shared conservation priorities.
- Integrate major existing conservation plans and designs across the Southeast.
- Assess vulnerabilities, such as sea level rise along the Gulf coast, future urban growth, and river flow alterations.
- Understand and improve how resource management decisions are made to facilitate the implementation of conservation priorities.

A wide range of geospatial data and mapping products are already available through SECAS. One of the key products is the SECAS Blueprint (<http://secassoutheast.org/blueprint>), released in October, 2016, which stitches together the work of multiple Landscape Conservation Cooperatives (LCCs) into a map of shared conservation and restoration priorities across the Southeast and Caribbean. Additional data products are available through the Southeast Region Conservation Planning Atlas, the individual Landscape Conservation Cooperatives, and the Southeast Climate Science Center.

Midwest Landscape-Scale Conservation for the Monarch Butterfly

The monarch butterfly (*Danaus plexippus plexippus*) is an iconic North American butterfly species, and monitoring efforts have revealed a steep decline (as much as 90% over the 20-year average) in the butterfly's eastern overwintering population in Mexico since reliable data began to be published in the winter of 1994/1995 (Jepsen et al. 2015; Brower et al. 2012). These recent population declines prompted a handful of non-governmental organizations (NGOs) to petition to the U.S. Fish and Wildlife Service (the Service) to list the monarch butterfly as a threatened species under the Endangered Species Act (ESA) in August 2014. In December 2014, the Service issued a 90-day finding that the petition provided enough evidence to show that listing the monarch may be warranted, thus initiating the Species Status Assessment process (79 FR 250, December 31, 2014). The Service is scheduled to make a final listing decision by June 2019.

While the monarch butterfly is being evaluated under ESA processes, and before the Service makes a final listing determination, conservation partners across North America are working on current efforts and constructing future plans for conserving the monarch butterfly and its habitats. In particular, the 13 member states of the Midwest Association of Fish and Wildlife Agencies (MAFWA) plus Texas, Oklahoma, Arkansas, state and federal partner organizations, as well as several conservation NGOs formed the Mid-America Monarch Conservation Team in 2016 to coordinate monarch conservation efforts and create a Mid- America Monarch Conservation Strategy (hereafter referred to as the Strategy). MAFWA member states along with Texas, Oklahoma, and Arkansas comprise a particularly important portion of the range of the eastern population of monarch butterflies, supplying the majority of the breeding and migrating habitat that eventually produces the overwintering population of monarchs in Mexico (Flockhart et al. 2013). Indeed, several scientific studies have argued that much of the monarch's decline can be attributed to milkweed and nectar resource losses in the "Corn Belt" region of the central United States as well as south-central states, and therefore habitat restoration in these areas is key to helping to reverse recent population declines (Brower et al. 2012; Pleasants & Oberhauser 2012; Flockhart et al. 2013; Flockhart et al. 2015). Recent research suggests that as many as 1.6 billion additional milkweed stems should be added to the eastern North American landscape to reach monarch population targets (Pleasants 2017). Geospatial modeling and mapping work is currently underway through a science consortium that includes state, federal, and academic research biologists in order to inform conservation delivery on the ground.

Conservation efforts proposed by the states can be considered by the Service during its listing decision process. This Mid-America Monarch Conservation Strategy is structured so as to meet the guidelines described in the Policy for the Evaluation of Conservation Efforts (68 FR 15100, March 28, 2003) and aid the Service in understanding the conservation plans and commitments offered by states and partner organizations to preclude the need to list the monarch butterfly under the ESA.

Western Mapping of Regional Conservation Priorities through the Crucial Habitat Assessment Tool (CHAT)

The Western Association of Fish and Wildlife Agencies is developing the Crucial Habitat Assessment Tool (CHAT, <http://www.wafwachat.org/>) as a spatially explicit mapping tool to bring greater certainty and predictability to large scale development and conservation planning efforts across the west by establishing a common vision for discussing the intersection of development and wildlife. It is intended to support a broad spectrum of users from utilities, to transportation agencies, to private landowners, to policy makers. Additionally, it supports cross-state assessments of large-scale conservation efforts. The tool is managed by the Western Association of Fish and Wildlife Agencies (WAFWA). CHAT is designed to reduce conflicts while ensuring wildlife values are better incorporated into land use planning. It is a non-regulatory tool and not intended for project-level approval.

The CHAT is an outcome of the Western Governors' Association (WGA) which launched CHAT in December 2013 as a public and regionally compatible west-wide GIS tool. In April 2015, WGA transferred full responsibility for CHAT to WAFWA. In addition to the west-wide CHAT, the states of Arizona, California, Kansas, Montana, Nevada, New Mexico, Oregon, Washington and Wyoming provide state-specific information on priority species and habitats through their own CHATs. In addition, the Southern Great Plains CHAT provides information specific to the lesser prairie-chicken, a species with habitat ranging across five states. This tool is used specifically to help direct oil and gas development while mitigating for such impacts and expanding on the conservation of the lesser prairie chicken. Other states are continuing to develop individual systems to provide additional state-specific information.

Range-Wide Conservation Efforts for the Lesser Prairie-Chicken

WAFWA and the states of New Mexico, Colorado, Kansas, Oklahoma, and Texas have embarked on an innovative and unprecedented approach to wildlife conservation, focused on the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*). In 2012, the fish and wildlife agencies in these five states that are home to the Lesser Prairie-Chicken worked together to create a range-wide conservation plan that outlined the needs of this grouse species. The plan addresses the conservation requirements of the species, establishes population goals, and provides a mechanism for industry to continue operating. This document brings together the different voluntary conservation programs in the high plains into a common approach to minimize and mitigate impacts and conserve habitat. The only plan of its kind endorsed by the U. S. Fish and Wildlife Service, it was incorporated into the Section 4(d) Special rule at the time of listing in 2014. Strong participation in the plan could lead to a timely delisting of the species.

Current partners in the Lesser Prairie-Chicken initiative include the five range states; WAFWA; the oil, gas, wind, electricity and telecommunications industries; private landowners, farmers and ranchers; USDA's Natural Resource Conservation Service and Farm Service Agency; as well as conservation groups such as Pheasants Forever and The Nature Conservancy. As of the end of 2016, WAFWA is conserving 16 sites for the Lesser Prairie-Chicken totaling 133,703 acres. The latest range-wide population survey, released in June, 2017, shows that bird population trends remain stable after six years of aerial survey data collection. The survey indicates an estimated breeding population of 33,269 birds in 2017, up from 24,648 birds in 2016.

Recommendations for Future Action

Recognition of unique role of states in fish and wildlife management in USA

As noted above, the state fish and wildlife agencies in the 50 states and their counterparts in the U. S. territories and the District of Columbia have important legal authorities and responsibilities for managing much of the fish and wildlife resources within their borders. These responsibilities mean that the state fish and wildlife agencies cannot merely be considered just “another voice at the table” when it comes to the planning and implementation of landscape-scale conservation efforts. State agencies actually have certain well-defined legal responsibilities to their citizens regarding the stewardship of fish, wildlife, and other natural resources that are managed in trust by the state on behalf of the general public.

Consequently, the state agencies will have strong interests in landscape-scale conservation efforts that are intended to further the conservation of the fish and wildlife resources in their stewardship. Depending on the focus of the particular landscape-scale conservation effort, states may also be able to bring valuable expertise, institutional knowledge and history, and other resources to the table, particularly in cases where conservation efforts align closely with state agency priorities. Therefore, we urge the broader conservation community to fully engage the state fish and wildlife agencies in the design, development, and implementation of landscape-scale conservation efforts, as illustrated by the examples of collaborative conservation described in previous sections.

Need for early engagement of states in design and implementation of future landscape-scale conservation efforts

The state fish and wildlife agencies and their regional and national associations have provided significant leadership in landscape-scale conservation efforts for over a century. State agencies have developed significant expertise in species and habitat management, expertise which can be extraordinarily valuable for informing the development of broader conservation strategies. Because of the unique legal authorities and responsibilities vested in the state fish and wildlife agencies, it is essential for landscape-scale conservation partnerships to engage these agencies throughout the design and implementation phases of landscape-scale conservation efforts. From a practical perspective, it is best to consider state agencies as full partners and to engage them at the beginning of the planning process, in order to ensure alignment of project and program priorities with existing capacities, needs, and management interests of the state agency.

Need for dedicated funding for landscape-scale conservation work

The need for new dedicated funding has long been identified as a priority for facilitating cross-jurisdictional projects and landscape-scale conservation activities in the United States. Many of the historical and recent accomplishments of the Association of Fish and Wildlife Agencies highlighted in the list above are explicitly related to the development of new funding sources to support fish and wildlife conservation efforts at landscape levels of state, regional, national, and multi-national scale. In the northeast, the members of NEAFWA have come together to pool and leverage funds from each state for regional and landscape-scale conservation efforts through the Regional Conservation Needs program. Other additional funding/grants programs are also being used to support landscape-scale conservation efforts. These include the Competitive State Wildlife Grants Program, the Multistate Conservation Grants

Program, the National Fish Habitat Partnerships, the National Fish and Wildlife Foundation, the Climate Science Centers, and the Landscape Conservation Cooperatives. However, the capacity needs to support landscape-scale conservation efforts still greatly exceeds the existing sources of funding, a fact which led the Association of Fish and Wildlife Agencies in 2015 to convene the “Blue Ribbon Panel on Sustaining America’s Diverse Fish & Wildlife Resources.” The members of this panel have recommended a new approach for funding fish and wildlife conservation efforts that could potentially direct up to \$1.3 billion per year in existing oil and natural gas revenues to the conservation of Species of Greatest Conservation Need identified in the State Wildlife Action Plans. Legislation to implement the recommendations of this panel will be introduced into the U. S. Congress in the near future and would generate significant new resources for fish and wildlife conservation across the United States.

State Wildlife Action Plans as an integrated framework supporting landscape-scale conservation

The 56 U. S. state and territorial State Wildlife Action Plans provide a robust foundation for the development of regional and continental-scale landscape conservation efforts. By combining data from multiple SWAPs, states and regional conservation partners can develop integrated conservation frameworks that are based on accurate, up-to-date, and scientifically credible information provided seamlessly across species ranges and broader habitat landscapes undivided by administrative, legal, and data protocol barriers. Many states fish and wildlife agencies and state governments are already developing their own integrated data management tools and platforms for geospatial data management, data analysis, and decision support. And while there is a disparity in the capacities of states to develop and deploy such information and decision support, states and the regional associations are working together to achieve the economies of scale and development of synergies that can make their combined efforts equal to the task of landscape scale conservation and management. In addition, states are considering the need for and development of technological and data storage and assessment capacities necessary for working with and providing access to and manipulation of big data for landscape scale management and policy implementation. The Association of Fish and Wildlife Agencies has proposed and is evaluating the idea of a “Center for Habitat and Wildlife Analysis” to build upon and expand some of the efforts mentioned in this paper.

An important area which has been identified as a priority at both regional and national levels is the integration of data on species, habitats, threats, and conservation actions from the 56 State Wildlife Action Plans (one plan per state plus the territories and the District of Columbia). The northeastern states through NEAFWA have recently developed a regional State Wildlife Action Plan database which contains information compiled from each of the NEAFWA states’ SWAPs. The U. S. Geological Survey has also created a database of all 12,800 Species of Greatest Conservation Need which were identified in the original SWAPs, and is currently updating this database with information from the most recent round of SWAP revisions completed in 2015-2016. Further efforts are needed to compile, integrate, and share the immense wealth of information which is contained in these comprehensive and extraordinarily ambitious conservation documents. By making this information more broadly available, states and their federal, tribal, and private-sector conservation partners will be able to conserve species and habitats more effectively across broader geographic landscapes.

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