Advancing and Coordinating State-Level Action on Reversing America's Wildlife Crisis

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Table of Contents

I. Executive Summary

The National Wildlife Federation (NWF), a longstanding leader in U.S. conservation, is working to address critical challenges in the implementation of State Wildlife Action Plans (SWAPs), which states have developed every decade since 2005 to identify Species of Greatest Conservation Need (SGCN) and guide proactive conservation efforts. While SWAPs were originally established as a bipartisan solution to support state-led wildlife management through federal funding via the State and Tribal Wildlife Grants Program, significant gaps remain between the resources required (estimated at $1.6 billion annually) and the funding currently available. This shortfall, combined with inconsistent stakeholder engagement, varying plan structures, and limited local capacity, constrains the effective implementation of conservation actions. In response, the NWF has advocated for the Recovering America's Wildlife Act (RAWA), which would provide stable, long-term funding to strengthen state and tribal conservation efforts. This project analyzes the 2025 SWAP revisions through a landscape and SWOT analysis to identify best practices, gaps, and promising opportunities for improving conservation action implementation, with a particular focus on enhancing standardization and coordination across the nation to ensure SWAPs can effectively address accelerating biodiversity loss.

Our team conducted a landscape analysis to evaluate SWAPs and identify opportunities for the National Wildlife Federation (NWF) to better support states and territories, particularly in advancing the Recovering America's Wildlife Act (RAWA). We systematically analyzed the conservation action sections of the most recent SWAP iterations, focusing on trends and outliers across several dimensions: reporting frameworks, conservation strategies, level of stakeholder engagement, inclusion of diverse taxa, and the structure of Level 3 actions. Our team compiled our findings to identify patterns, which were then synthesized into four major categories: reporting frameworks, stakeholder engagement, stakeholder diversity, and conservation strategies. Results revealed that while many states rely on standardized frameworks such as the CMP classification system, others use customized or undefined structures, often making it difficult to evaluate the effectiveness of the conservation actions and compare them with other SWAPs. These findings highlight key inconsistencies and gaps across SWAPs, underscoring opportunities for greater standardization, improved collaboration, and more effective alignment of conservation actions with funding and policy goals.

Our landscape analysis identified several best practices that enhance the clarity and effectiveness of SWAPs. Building on these findings, our team identified a set of best practices that consistently distinguished the most effective and actionable SWAPs and that could serve as the foundation for a more standardized national approach. The most successful SWAPs clearly prioritize conservation actions using Conservation Opportunity Areas (COAs) and vulnerability assessments, allowing states to target high-impact regions and align actions with the most

pressing threats. They incorporate measurable metrics tied directly to action items, enabling states to track progress over time and adapt strategies based on outcomes. High-performing plans also explicitly identify research gaps, particularly for underrepresented taxa such as invertebrates, plants, fungi, and culturally significant species, creating opportunities for targeted data collection and external support. Additionally, effective SWAPs distinguish between statewide and regional actions, which fosters cross-state collaboration and improves the ability to address large-scale ecological challenges that extend beyond political boundaries. Integrating stakeholder engagement, education, and outreach directly into conservation actions further strengthens these plans by building public support and ensuring more inclusive decision-making, especially when Tribal Nations and historically underrepresented groups are meaningfully involved. Transparency is another defining feature, with leading SWAPs outlining funding needs and, in some cases, presenting budget scenarios to guide decision-making under financial constraints. Finally, embedding climate adaptation strategies into conservation actions enhances long-term resilience by ensuring that efforts remain effective under changing environmental conditions. Collectively, these best practices create SWAPs that are more strategic, transparent, and adaptable, providing a clear model for how the National Wildlife Federation can support states in improving conservation action implementation and advancing national coordination.

Our recommendations were focused on three main actions: developing decision-support tools that simplify complex ecological data and guide state conservation strategy planning, strengthening regional coordination by encouraging standardized frameworks and partnerships among states, and filling research gaps for underrepresented species, including plants, fungi, invertebrates, and culturally significant species. These recommendations could be critical ways that the NWF can assist states with developing conservation strategies that are more effective, holistic, and resilient when looking towards the future of wildlife conservation.

II. Introduction

The NWF has identified a challenge for states in securing the funding needed to implement the conservation actions outlined in SWAPs. The NWF has also identified stakeholder engagement, outreach, and education as critical components of SWAPs to address challenges in implementing conservation actions. There is an urgency to educate local communities and engage relevant stakeholders to drive change in wildlife conservation. Collaboration is critical to protecting wildlife and habitats in the face of a daunting disparity between the resources required for conservation actions and the funding available. The most recent revised SWAPs submitted in 2025 could provide meaningful insight into the NWF's role in supporting states in addressing these concerns.

Our initial findings indicate that while states generally use similar conservation action classifications to structure their SWAPs, the format and structure of their SWAPs vary significantly. This could provide an opportunity to recommend actions that simplify the funding process by using a standardized framework with clear expectations and standards for SWAPs. Our research approach sought to identify commonalities and differences across classifications of state plans.

This project analyzed the latest revised SWAPs submitted in 2025. Our team provided a summary of the actions that states have outlined in their SWAPs to conserve and recover wildlife and habitats through a landscape analysis. After conducting a landscape analysis of state wildlife conservation actions, our team identified best practices and gaps in SWAPs. After best practices were identified, our team conducted a sustainability SWOT analysis to identify the strengths, weaknesses, opportunities, and threats within the strategic context of SWAP development. We then used the findings from our analysis to provide recommendations for the NWF to improve the implementation of SWAPs through collaboration with national and state partners.

III. Project Background

The National Wildlife Federation (NWF), founded in 1936, is one of the longest-standing conservation organizations in the United States. With their mission to "unite all Americans to ensure wildlife and people thrive in a rapidly changing world" (National Wildlife Federation, 2018), the NWF has advocated for wildlife conservation since its inception. Early on, the NWF was crucial in securing the Federal Aid in Wildlife Restoration Act of 1937, which created a dedicated funding stream for wildlife conservation and laid the groundwork for modern wildlife management in the U.S. Since then, the NWF has continued to advance landmark conservation policies, defend critical environmental protections, and gain nationwide support for conservation efforts.

States and U.S. territories began submitting SWAPs in the early 2000s, with revised iterations released every decade. SWAPs identify species of greatest conservation need (SGCNs) and outline strategies for habitat restoration, monitoring, management, and other conservation practices. SWAPs originated when Congress created the State and Tribal Wildlife Grant Program to secure federal funding for state wildlife conservation. This program provides federal funding for fish and wildlife agencies and their partners to support actions outlined in SWAPs. In 2000, with the creation of this program, Congress mandated that states produce and submit a first draft of SWAPs to the U.S. Fish and Wildlife Service by 2005 to qualify for receiving federal funds (McPherson, 2024). All states and territories chose to produce plans; however, they could opt not to produce a plan if they wanted to forgo federal funds. The funding process is based on an

allocation formula that factors in geographic area and population, with no state receiving less than 0.5% of the total allocation. This funding structure provides equitable support for states with smaller populations or smaller geographic areas.

This was the first generation of SWAPs, followed by revised editions in 2015 and 2025, as the grant program requires states to update their plans every 10 years. With all available SWAPs taken into account, over 14,000 species have been identified, and few receive particularly adequate conservation attention (*Species of Greatest Conservation Need National Database Dashboard*, n.d.). Primary federal funding streams provide only a fraction of the funding required to implement state conservation actions effectively. This tension between conservation needs and available resources has been a considerable obstacle in U.S. governance.

In response to the biodiversity funding crisis, the NWF has advocated for the Recovering America's Wildlife Act (RAWA), a bipartisan proposal designed to establish a long-term funding stream for wildlife conservation. The bill would allocate approximately $1.3 billion annually to states and territories to support state-led conservation efforts (*National Wildlife Federation Fact Sheet: Recovering America's Wildlife Act Investing in Conservation to Save Our Nation's Declining Wildlife*, n.d.). Most notably, RAWA would dedicate $97.5 million each year to Tribal Nations to support on-the-ground projects that prevent wildlife from becoming endangered in the first place (Voggesser & Thorstenson, n.d.). Despite their well-established leadership in conservation, tribes across the U.S. have historically been excluded from major wildlife funding sources, including the State Wildlife Grant (SWG) program. Federally recognized tribes only qualify for $6 million (Kitchell, 2026) of the total $115 million currently offered to states under the State Wildlife Grant program (*USAspending.gov*, n.d.). Out of the $115 million that is budgeted by the U.S. Fish and Wildlife Service, $41 million was carried over from last year, and $74 million in new appropriations was dedicated to conservation this year (*USAspending.gov*, n.d.). Given that there are 574 federally recognized tribes throughout the U.S. competing for grant money, the amount currently allocated to wildlife conservation is inadequate; an estimated $1.6 billion to $2.3 billion in annual investment is needed to save all species that are currently considered threatened or endangered (Center for Biological Diversity, 2022). By providing stable funding, RAWA aims to shift conservation efforts from ecologically and economically costly emergency interventions to proactive, preventive conservation practices.

Congress required that SWAPs include information about 8 core elements. These 8 required elements include the identification of species of greatest conservation need, descriptions of key habitats, descriptions of threats to species or habitat conservation, descriptions of conservation actions, proposed plans for monitoring conservation actions, descriptions of the procedures for reviewing the plan, coordination and collaboration plans with partners, and public participation (Association of Fish and Wildlife Agencies). These required elements are intended to work as a holistic approach to wildlife and habitat conservation across the United States by

encouraging states to be proactive in their conservation actions to secure federal funding. The scope of this project, provided by our client, the NWF, will focus on the fourth required element: description of conservation actions. Our team's goals for this project are to synthesize the actions outlined in SWAPs, identify common trends, identify research gaps, and provide the National Wildlife Federation with recommendations to improve the implementation of conservation actions in SWAPs.

IV. Problem Statement

When first initiated in 2005, SWAPs were used as tools to streamline how the U.S. Fish & Wildlife Service (USFWS) funds were administered. SWAPs provide a solution by allocating funds directly into the state agencies instead of through the federal government. This is a solution that has received bipartisan support from Congress as it both provides the funding required to keep SGCNs off the endangered species list and allows states the ultimate decision on how those funds are best allocated to support their interests and needs. The program has completed two funding cycles and has delivered promising results. However, in 2016, the Association of Fish and Wildlife Agencies (AFWA) estimated that a minimum of $1.6 billion in annual investment would be required to implement every SWAP successfully. This is far more than the $78 million in funding currently administered annually by USFWS through the State and Tribal Wildlife Grant program.

Therefore, funding and local capacity are severe limitations in the successful implementation of SWAPs. The National Wildlife Federation (NWF) seeks to address this challenge by supporting the passage of 'Recovering America's Wildlife Act,' which would provide a dedicated, long-term funding stream to implement SWAPs nationwide. The proposed legislation would significantly increase annual investment in proactive wildlife conservation, enabling states to address threats to SGCN before they require listing under the Endangered Species Act—a far more costly and politically contentious outcome. By strengthening state agency capacity and stabilizing funding levels, the Recovering America's Wildlife Act reinforces the original bipartisan intent of SWAPs: empowering states to lead science-based conservation efforts while delivering ecological, economic, and social benefits. In this way, the Act represents not a departure from SWAPs' founding principles but a necessary evolution to ensure their long-term effectiveness amid accelerating biodiversity loss.

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V. Methods

To achieve the project goals, our team evaluated all 2025 SWAPs available to the public during our project timeline. Each state or territory was included in our group's landscape analysis, which focused on the conservation actions reported within the SWAPs. A landscape analysis is a framework used to identify current trends, challenges, and opportunities by analyzing data (Lynch, 2025). This information was used to inform our SWOT, best practices, and recommendations.

Our group reviewed multiple SWAPs to identify a baseline for commonly included information within the conservation actions section. Through this review, our group identified four different areas of focus, including: the reporting framework, the species included, specific conservation actions, and the level of stakeholder involvement. SWAPs shared many similarities when it came to reporting frameworks and the levels of actions, which were used to create our landscape analysis deliverable. Within this spreadsheet, we collected data stating the specific reporting framework used and the level of conservation actions, which was based on the Conservation Measures Partnership framework, or the CMP framework. The CMP framework was the most common framework used, and it focused on categorizing actions into 7-10 different groups, depending on the version. Our group utilized the CMP framework version 2.2 to classify our actions within the spreadsheet (Conservation Measures Partnership, 2019). The number of level 3 conservation actions was calculated for the SWAPs that included them. Level 3 actions are highly specific actions a state or territory intends to use, while the other levels are broader and typically used to categorize these specific actions. This information was further compiled into a number of different charts and graphs to identify trends and outliers.

The landscape analysis deliverable heavily focused on the conservation actions and reporting frameworks, but used other research collected during our research as well. A survey conducted by the NWF was included to help further analyze the species included. Through this survey, a representative of each state was asked to answer questions about species inclusion. The purpose of this survey was to identify the SWAPs that included plants listed on their SWAP SGCN list, all known invertebrates, tribally significant species, fungi, plants, and animals. Included in our research was the stakeholder engagement, which provided insight into the different groups involved with creating the SWAPs. Although each SWAP relied on one reporting agency, our group identified states that mentioned other stakeholders and their level of involvement.

At the completion of our landscape analysis, an additional deliverable was created. The USFWS regions were used to create regional summaries. Their regions focused on organizing states into 8 different geographic regions that best suited our research (U.S. Fish & Wildlife

Service, n.d.). Within this deliverable, we focused on the trends and outliers of each region. In each regional summary, we included 4 different key findings. Multiple of these key findings were focused on the conservation actions used by that region. A pie chart was used to show the most common conservation strategies, and the total number of individual conservation actions was totaled. The number of level 3 actions in each level 1 category was compared to both the unweighted regional average and the unweighted national average. These summaries included data compiled by the NWF survey about species involvement as well. Using these key findings, our group wrote an analysis detailing the successes and failures of the regions.

VI. Landscape Analysis

Our research process began by completing a landscape analysis. A landscape analysis is used to evaluate an environment, in this case a non-profit organization, to inform decision-making by identifying potential gaps. The Ranger Racoons conducted a landscape analysis to identify potential areas of support for states and territories that could be provided by the National Wildlife Federation with the intention of passing the Recovering America's Wildlife Act in Congress. In order to complete this landscape analysis, our group identified key questions that guided our findings. Some of these included "What are the current strengths and weaknesses of SWAPs?", "How can the NWF better support states and territories?", and "How can SWAPs be used to support the Recovering America's Wildlife Act?". Based on these questions, we conducted research by analysing the conservation action section of SWAPs that were submitted and available to the public during our project timeline. The Ranger Raccoons chose to compare state wildlife conservation actions to better understand the obstacles states and U.S. territories encounter while creating SWAPs and implementing state-level conservation actions.

During the research phase of our project, our group focused on finding trends and outliers among SWAPs. We decided to establish a few key areas of focus to help narrow the scope of the project. These areas included:

- Specific frameworks used when reporting conservation actions
- Type of actions/strategies found within SWAPs
- The number of level 3 actions included in each state/U.S. territory's SWAP
- The inclusion of specific species (invertebrates, tribally significant species, fungi, plants, and other taxa)
- Stakeholders involved in the creation of the SWAP

After identifying the above areas of focus, our group members each evaluated multiple SWAPs to report back on each of our research areas. All research was compiled into spreadsheets, which helped determine our preliminary findings. Through these findings, our

group identified multiple trends and outliers found among SWAPs. These trends were further quantified using charts and data tables to visually represent our data. Within the SWAPs, our identified trends and outliers can be categorized into four subcategories, which are:

1. Reporting Frameworks
2. Level of Stakeholder Engagement
3. Type of Stakeholders
4. Conservation Strategies Used

Reporting Frameworks

One common trend our group identified within the SWAPs was the type of framework used. At this time, the U.S. Fish & Wildlife Service allows states and territories to select their own framework. The majority of states used versions of the CMP Conservation Actions Classification Framework. By using this framework, their actions were organized into similar categories, such as “Species Management” or “Education & Training”. These states often included actions rated 0-3. Within these categories, our group noted that Level 3 actions varied across SWAPs based on their specific goals, habitats, and species found in the state or territory. (Conservation Measures Partnership, 2019) Other frameworks included were the Crisfield & NEFWDTC framework, utilized by states in the Northeast (Crisfield & Northeast Fish and Wildlife Diversity Technical Committee, 2022). States within this region standardized their reporting to establish a collaborative effort towards their conservation actions. The pie chart below shows the different types of frameworks identified among SWAPs.

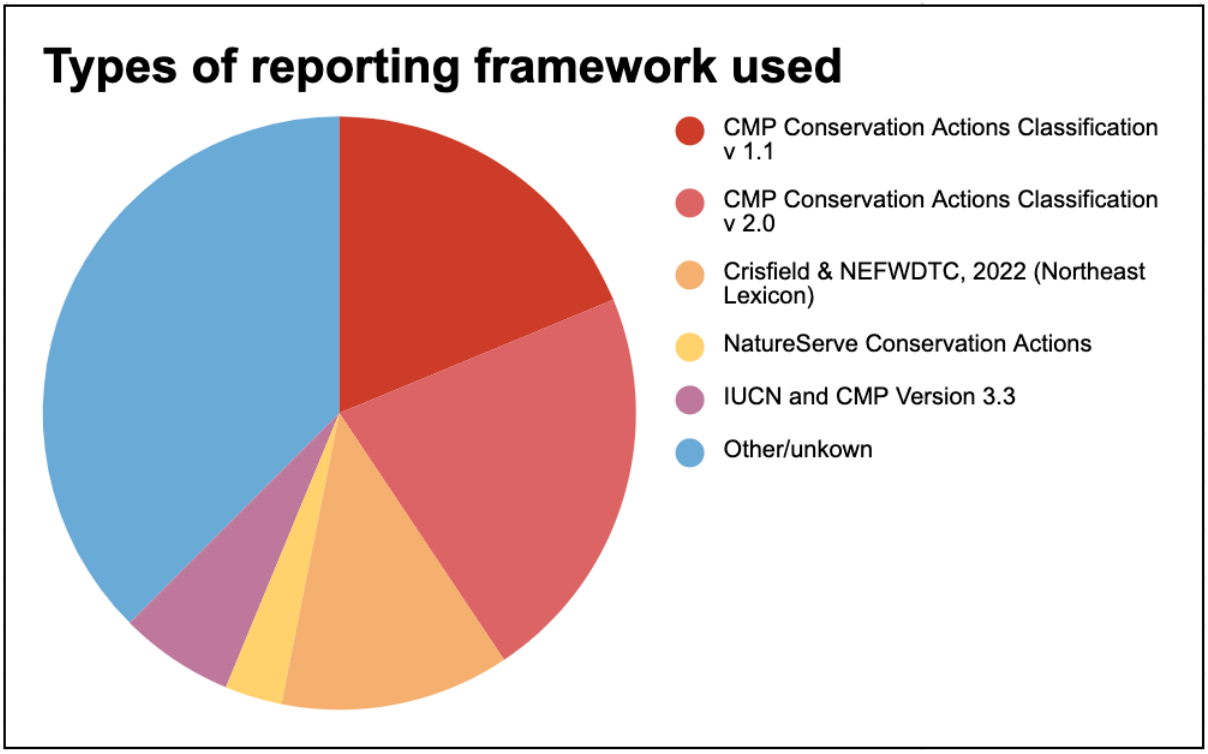


Chart 1: *Compares the different types of frameworks used within SWAP reporting.*

Multiple versions of the IUCN & CMP framework were used, but one of the most common was version 2.0. South Dakota is one state that classifies its actions using this framework, as shown in Tables 1 and 2. The level 0 actions are categorized A-C, while the level 1 actions are further categorized into one of ten categories. From there, South Dakota identified level 2 actions they would like to achieve, along with the level 3 actions needed to be successful. Use of this framework allows for a clear understanding of the state's conservation actions, meaning funding and support could be more successfully secured (South Dakota Game, Fish, and Parks, 2025).

South Dakota		CMP Conservation Actions Classification v 2.0		1. Land/Water Management
			A. Target Restoration/Stress Reduction Actions	2. Species Management
				3. Awareness Raising
				4. Law Enforcement & Prosecution
			B. Behavioral Change/Threat Reduction Actions	5. Livelihood, Economic & Moral Incentives
				6. Conservation Designation & Planning
				7. Legal & Policy Frameworks
				8. Research & Monitoring
				9. Education & Training
			C. Enabling Condition Actions	10. Institutional Development

Table 1: *Organizes South Dakota's conservation actions using the CMP framework (levels 0 and 1)*

	1.1 Site/Area Stewardship	8
16	1.2 Ecosystem & Natural Process (Re)Creation	8
	2.1 Species Stewardship	8
	2.2 Species Re-Introduction & Translocation	8
18	2.3 Ex-Situ Conservation	2
8	3.1 Outreach & Communications	8
1	4.2 Criminal Prosecution & Conviction	1
	5.1 Linked Enterprises & Alternative Livelihoods	1
	5.2 Better Products & Management Practices	7
	5.3 Market-Based Incentives	5
	5.4 Direct Economic Incentives	8
29	5.5 Non-Monetary Values	8
	6.1 Protected Area Designation &/or Acquisition	7
	6.2 Easements & Resource Rights	8
	6.3 Land/Water Use Zoning & Designation	8
	6.4 Conservation Planning	8
33	6.5 Site Infrastructure	2
	7.1 Laws, Regulations & Codes	7
15	7.2 Policies & Guidelines	8
	8.1 Basic Research & Status Monitoring	8
16	8.2 Evaluation, Effectiveness Measures & Learning	8
	9.1 Formal Education	8
16	9.2 Training & Individual Capacity Development	8
	10.1 Internal Organizational Management & Administration	8
	10.2 External Organizational Development & Support	8
	10.3 Alliance & Partnership Development	8
32	10.4 Financing Conservation	8

Table 2: *Organizes South Dakota's conservation actions using the CMP framework (levels 2 and 3)*

Although many SWAPs used a specific, pre-established framework, there were other states and territories that did not. Instead, these outliers could be further categorized into two sections: those utilizing their own framework (chose not to use a pre-established framework) or those that have no identifiable framework used (unknown framework). Based on our findings, these had varying degrees of success.

There are many states or territories that use a framework adapted to their state's needs. For example, Oregon based its direct threats on the CMP framework, but classified its conservation actions by the key conservation issues of the state. Included in this framework are specific goals they would like to meet, which are equivalent to the level 2 actions found within the CMP framework. Each of these goals has the equivalent of level 3 actions, which discuss actions needed to achieve the goal. Despite using their own framework, Oregon can achieve the same level of detail seen within the other pre-established frameworks (Oregon Department of Fish and Wildlife, 2026).

Oregon		Direct Threats use the CMP framework; actions are classified using Key Conservation Issues (KCI)	1. Barriers to Animal Movement	A: Aquatic Passage B: Terrestial Animal Movement
			2. Climate Change	
			3. Disruption of Disturbance Regimes	A: Altered Fire Regimes B: Altered Waterway and Floodplain Function
			4. Invasive Species	
			5. Land Use Changes	Land Use Planning
			6. Pollution	
			7. Water Quality and Quantity	A: Water Quality B: Water Quantity

Table 3: *Organizes Oregon's conservation actions using the key conservation issues (levels 0 and 1)*

	Goal 1: Provide conditions suitable for natural movement of fish and aquatic animals	4
13	Goal 2: Provide connectivity of habitat	9
	Goal 1: Use the best available information, technology, and management tools to determine the vulnerability of species and habitats	3
6	Goal 2: Identify, prioritize, and implement conservation strategies to mitigate the negative impacts of climate change	3
	Goal 1: Reduce uncharacteristically severe wildfire and restore fire or ecologically equivalent action in fire-dependent ecosystem	7
14	Goal 2: Maintain and restore waterway and floodplain functions	7
	Goal 1: Prevent new introductions of non-native species with high potential to become invasive	3
	Goal 2: Reduce the scale and spread of priority invasive species infestations when they occur	2
8	Goal 3: Increase research and data collection efforts	3
	Goal 1: Manage land use changes to protect and conserve	3
5	Goal 2: Work proactively and collaboratively to encourage land development actions	2
	Goal 1. Determine the vulnerability of species and habitats	3
6	Goal 2: Identify, prioritize, and implement conservation strategies to avoid, reduce, and mitigate the negative impacts of pollution	3
	Goal 1: Protect, maintain, and restore water quality in surface and groundwater	4
7	Goal 2: Conserve, protect, maintain, and restore surface flows and groundwater levels	3

Table 4: *Organizes Oregon's conservation actions using the key conservation issues (levels 2 and 3)*

Other states and territories refrained from mentioning a specific framework, and our group was unable to identify it. The Virgin Islands is one such territory that identified 4 specific goals it would like to achieve by 2035. These goals were divided further into level 2 and 3 actions. Although no framework was used, the territory included actions similar to those using the frameworks, but lacked the level of detail present within most frameworks. This territory focused on areas such as protection of land & species, capacity & resources, knowledge & data, and engagement & incentives. The actions were unspecific and not measurable, making it

difficult to understand their connection to the 4 goals (U.S. Virgin Islands Department of Planning and Natural Resources, Division of Fish and Wildlife, 2019).

Through this research, we found that those using a specific framework were often the most detailed and easiest to follow. When reporting specific actions a state or territory will use, stakeholder understanding is a priority to help gain funding and support. Having specific guidelines and areas of focus often enhances SWAPs, including South Dakota's. Within their SWAP, there were detailed actions showing stakeholders specific actions that will be implemented to help different habitats and species in this area.

Stakeholder Engagement

Stakeholder engagement varied depending on the state or territory. Although engagement with other groups is encouraged, this was not a requirement by the NWF at this time. Stakeholder engagement was categorized into two classifications: state-level coordination and regional coordination. States and territories selected different types of stakeholders while also having differing levels of involvement.

According to our research, there were multiple regional collaborations for the 2025 SWAPs. A commonly mentioned collaboration was between the Northeast states through the use of the Northeast Lexicon (Crisfield & Northeast Fish and Wildlife Diversity Technical Committee, 2022). Other regional coordinations transpired, such as the Arizona-Nevada collaboration. Through these regional approaches, states were able to focus on individual goals while managing conservation needs beyond state boundaries. By creating partnerships with regional stakeholders, these states commonly mentioned conservation actions addressing issues, including climate change. In terms of regional collaborations, there was very little variation in the types of stakeholders. The most notable trend within these collaborations was partnerships between each state's wildlife departments, as exemplified by the Arizona-Nevada collaboration. The Arizona Game and Fish Department and the Nevada Department of Wildlife were the reporting agencies that focused on aligning their conservation actions (Nevada Department of Wildlife, 2022).

Despite multiple regional collaborations across SWAPs, this was an outlier in our research. A majority of SWAPs excluded engagement with other states or territories. Our research showed it was more common to collaborate with other groups at the state level. Numerous different stakeholder types were identified within SWAPs. Louisiana is one state that represented a large number of stakeholder partnerships often found in the plans. Among these stakeholders were government agencies, individuals, tribal groups, non-governmental organizations, and universities. Louisiana engaged its stakeholders through a survey evaluating the effectiveness of its 2015 SWAP. Utilizing this feedback allowed the state to adapt its

conservation actions to a large number of stakeholders' needs (Louisiana Department of Wildlife and Fisheries, 2025).

Although certain states, including Louisiana and Oregon, collaborated with tribal groups found in their states, this was often an outlier in our research. Despite many other states containing tribal land, these groups were not often involved in deciding the state's conservation actions. SWAPs that lacked this collaboration were missing conservation actions specific to protecting tribal land and tribally significant species, meaning their actions were not comprehensive.

Conservation Strategies Used

A common trend in SWAPs is the type of conservation actions used by the states and territories. When completing our research, the types of conservation actions were categorized into 10 different groups. The most common type of strategy related to land and water management with 6,876 individual actions. In contrast, the least common strategy used by states is law enforcement and prosecution, with only about 452 individual actions. This information was input into two charts detailing the distribution of conservation actions across all evaluated plans.

Most common conservation strategies	# of individual actions
1. Land/Water Management	6876
2. Species Management	2089
3. Awareness Raising	1891.5
4. Law Enforcement & Prosecution	452.5
5. Livelihood, Economic & Moral Incentives	1677
6. Conservation Designation & Planning	4160
7. Legal & Policy Frameworks	2054.5
8. Research & Monitoring	3448
9. Education & Training	962.5
10. Institutional Development	2735

Chart 2: *The number of conservation actions divided into the CMP framework v 2.0 level 1 actions.*

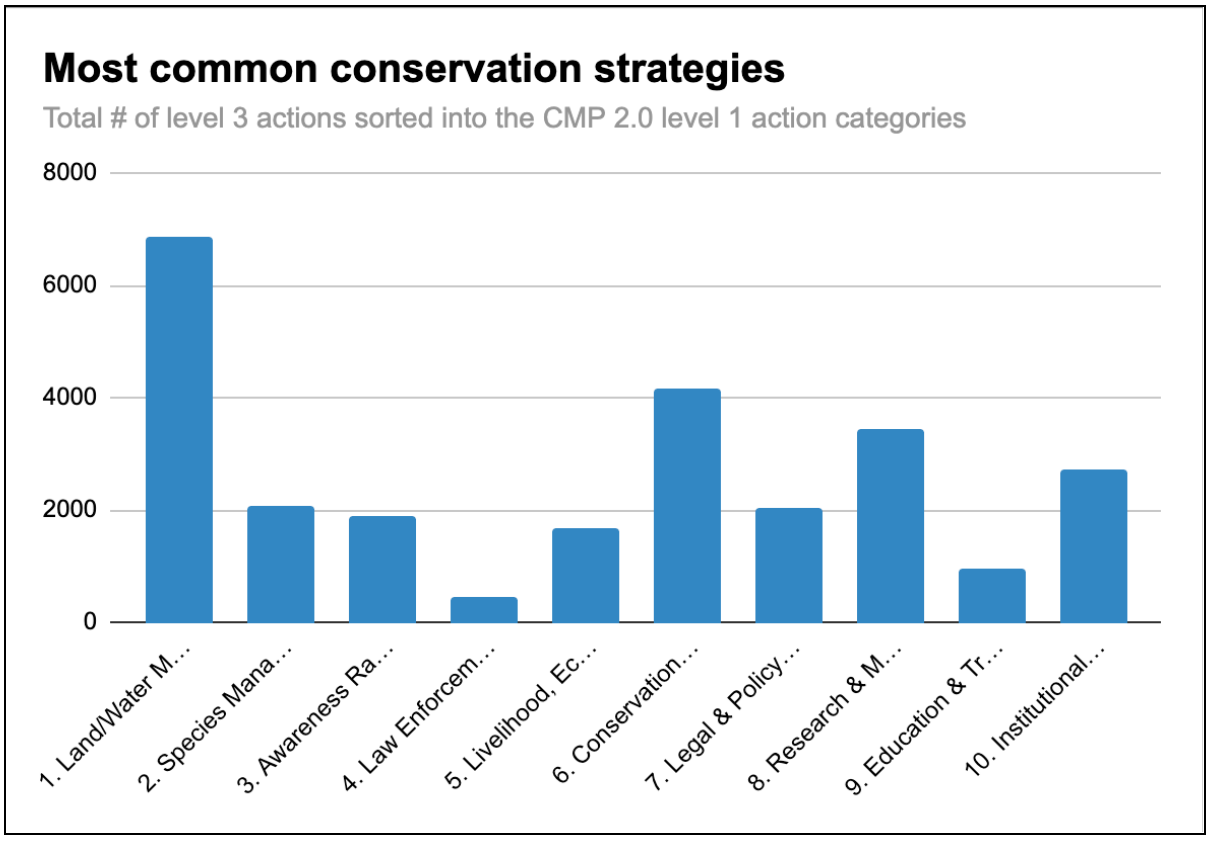


***Chart 3**: The total number of level 3 actions sorted using the CMP framework v 2.0 level 1 actions.*

VII. Best Practices

After conducting a landscape analysis, the Ranger Raccoons identified trends of best practices among SWAPs that our team believes should be incorporated into a standardized approach to classifying wildlife conservation actions. These best practices made SWAPs easy to understand, clear in prioritization and monitoring, and goal-oriented. The best practices that our team identified are outlined below.

Action Prioritization

When formatting the actions section of a SWAP, there were various organizational differences across different states. States that outlined clear conservation opportunity areas (COAs) tended to be the most clear in explaining how the proposed actions would benefit wildlife conservation. Conservation opportunity areas refer to geographical areas within a landscape where conservation actions would most likely lead to significant benefits for wildlife.

Actions can be sorted into broader categories based on the COA they targeted when using this organization. This approach is beneficial when states provide descriptions of habitat-specific or ecosystem-specific actions, as it allows them to target areas with rich biodiversity where such actions may be more cost-effective. Tennessee utilized the table in Figure 1 to outline COAs and provide updates for changes in specific COAs.

2025 Conservation Opportunity Area	Terrestrial Ecoregion(s)	Aquatic Subregion(s)	New COA?	Regional COA?	Change and Rationale
Berry Cave Salamander	Ridge and Valley	Tennessee River - Ridge and Valley	Yes	No	New COA created due to presence of a highly sensitive species with distribution limited to the Upper Tennessee and Clinch Rivers.
Blue Ridge	Blue Ridge & Ridge and Valley	Tennessee River - Blue Ridge ———— Tennessee River - Ridge and Valley	No	Yes	Unchanged
Catoosa/Emory River	Cumberland Plateau (SW Appalachians) & Cumberland Mountains (Central Appalachians)	Tennessee River - Cumberland Plateau	No	No	Unchanged
Clinch and Powell	Ridge and Valley	Tennessee River - Ridge and Valley	No	Yes	Unchanged

Figure 1: *Tennessee conservation opportunity areas as they are listed in their 2025 SWAP.*

Using tables when sorting COAs or actions made them easier to understand and could facilitate transparency for community stakeholders who want to know what states are prioritizing in their wildlife conservation. When tables were used to list habitat-specific or species-specific actions, the actions could be organized to indicate priority or to group similar actions clearly. This could also reduce clutter and confusing prose when detecting action statements in the body text.

Prioritizing species-specific and habitat-specific actions based on risk and threat through vulnerability assessments provides a clear sense of which actions state governments believe can yield the greatest change. These types of actions were typically separated in action plans, but a few states indicated a desire to increase coordination between species-focused staff and habitat-focused staff. Connecticut mentioned this in their SWAP by stating, “The taxa teams emphasized the need for coordinated habitat and species management to address intensifying threats…” (Connecticut Department of Energy & Environmental Protection, 2025). This may be

an area where organizations such as the NWF can provide states with assistance on how to coordinate their staff in their conservation efforts. Prioritization also links actions to risks and threats, indicating which stressors each action targets. When seeking funding, prioritization allows state governments to highlight which actions are essential to wildlife conservation by providing a clear picture of their importance in mitigating threats.

Metrics

Our team found that there were not many SWAPs that linked specific actions to metrics. This practice should provide measurable goals tied to action items, enabling states to develop aspirational strategies alongside realistic plans to achieve results. Metrics should be provided wherever applicable to accompany action items as a strategy for states to track progression achieved utilizing specific strategies toward conservation efforts. Short-term and long-term metrics should also be used to create integrated goals that can be measured every decade with revised SWAPs. Tennessee utilized simple metrics seen in Figure 2 in the furthest right column to quantify progress on its conservation actions.

5. Commercial incentives	**A. Conservation Enterprises**	1. Develop forest banking programs for forest systems at high risk of destruction or degradation within critical units of aquatic, subterranean, or terrestrial habitats.	# of acres
		2. Create ecotourism-based local economies to deter development or natural resource extraction pressures in economically depressed areas that contain critical units of aquatic, subterranean, or terrestrial habitats.	# of acres
	B. Market Forces	1. Encourage municipal & county governments to subsidize/offer additional incentives to developers that utilize "green" methods of construction, design, and land-use planning in large residential or commercial developments.	# of acres

Figure 2: *Tennessee actions with metrics as listed in their 2025 SWAP.*

States should be encouraged to utilize more specific metrics depending on the specificity of the strategy. Along with metrics, states should provide a plan for how they will track these metrics in their monitoring section. States should also mention where they may need assistance with developing metrics, tracking progress, and updating goals to continue to be proactive in their wildlife conservation. During each new revision period for a state's SWAP, these metrics can be utilized to understand where the state succeeded in achieving wildlife conservation goals and where there could be a focus for the upcoming period to target in a newly revised SWAP.

Research Gaps

States should provide insight into research gaps in their wildlife conservation approach. Research and monitoring are critical components for determining which actions states should pursue. If states can communicate areas they have struggled to research or monitor, the NWF can assist in how to approach them. Research gaps on insects, plants, fungi, invertebrates, and culturally significant species are now categorized under Species of Greatest Information Need (SGIN) in many states' SWAPs. This could be an important area for the NWF to assist states with research as states seek to expand their conservation actions to encompass more wildlife.

Nevada and Colorado provided exemplary ways to identify research gaps in their SWAPs by highlighting important aspects of wildlife conservation where they have knowledge gaps or have begun to approach research but are not yet at a desired level of knowledge or actionable strategies. Nevada identified that terrestrial invertebrates are a research gap amidst a lack of regulatory authority regarding this group. This lack of regulatory authority is very limiting for states as they seek guidance on how to formulate their conservation strategies for SGINs. Nevada included pollinating bees and butterflies in their newly revised SWAP due to their importance for ecosystems, but mentioned there is "a significant lack of information for many of these species [of invertebrates]" (Nevada Department of Wildlife, 2022). Colorado identified that for the state's SGCN species, "increasing knowledge of their abundances, distributions, and life histories remains a primary action needed to better understand their conservation" (Colorado Department of Parks & Wildlife, 2025). Identifying that there is a lack of information for this area of wildlife conservation and indicating that this lack of information may lead to a decline in ecosystem health signals that these states need assistance with researching and monitoring these species. This could be a critical point of intervention for the NWF to provide assistance or resources on how to shape regulatory and conservatory practices heading into the next decade regarding underexplored species.

Statewide Actions and Regional Actions

Most states focus on statewide actions in planning their SWAPs. Regional actions need to be incorporated into a section within the conservation actions required element, since wildlife conservation issues can extend beyond state boundaries. Regional approaches may be more effective for mitigating threats and risks that are prevalent across a regional group of states. States should sort actions into these two categories to establish internal planning systems and create regional partnership networks to address more complex issues.

The Northeast states have utilized a framework for wildlife conservation planning known as the Northeast Lexicon. This framework acts as an excellent example of utilizing a regional approach by standardizing the formatting of SWAPs and identifying regional approaches to conservation threats. This approach allows states to apply the framework to statewide initiatives while maintaining consistency in the region to create a network between states with similar

conservation threats. Partnerships are easier to facilitate between these states as a result of their shared approach to conservation. The NWF could utilize the benefits of this approach to aid in establishing standardized regional approaches in other regions of the United States.

Utah mentioned a similar regional approach with the Western Association of Fish and Wildlife Agencies (WAFWA) in developing a conservation strategy for sagebrush in the region. The strategy "provides a biome-wide model to measure the ecological integrity of sagebrush ecosystems" and sought to identify major threats to the ecosystems, such as "invasive annual grasses, conifer encroachment, and human modifications" (Utah Department of Natural Resources, 2025). This model can be applied at a regional level and indicates threats that extend beyond state borders in the region. Conservation threats that are present in multiple states in a region need a standardized approach to mitigate threats at a state level with coordinated effort and collaborative partnerships. Funding could be tied into these sections as well to discuss the types of funding states may need to undertake internal and external actions.

Within these regional approaches, states can easily form partnerships with other states that share similar issues. Nevada and Arizona formed a partnership between 2021 and 2022, where the SWAP technical leads for each state met nine times. These meetings led the state agencies to identify that the states had "51 shared species, [and] 47 were identified as providing opportunity for collaboration, particularly through predictive modeling" (Nevada Department of Wildlife, 2022). The NWF should promote meetings between state agencies to formulate SWAP conservation strategies, such as these meetings between Arizona and Nevada. These partnerships between states allow them to utilize each state's resources and data to promote conservation partnerships within regions that may only apply to specific states within that region.

Community Engagement, Education, and Outreach

Integrating stakeholder engagement into the actions section of a SWAP was an effective way to include communities in the planning process. Outlining plans for education and outreach allowed state agencies to tie stakeholders to action items. This process created a plan that felt inclusive and could provide a greater sense of community responsibility while managing limited funding. Utah utilized this approach in its SWAP by listing potential conservation actions and likely authorities, stakeholders, and partners for conservation objectives. Figure 3 showcases how this was organized within the SWAP.

CODE	ACTION
4.1.2	Increase law enforcement capacity to discourage new user-created OHV trails and travel in unauthorized areas.
5.2.1	Continue to require mufflers with approved spark arresters on all OHVs.
5.5.3	Emphasize the importance of open spaces and outdoor recreation to enhance the lives and health of the public.
6.4.4	Promote Utah as an ecotourism and wildlife watching destination.
6.4.4	Emphasize the importance of responsible outdoor recreation to Utah's economy.
6.5.1	Design and locate recreational infrastructure and facilities in appropriate locations that avoid or minimize adverse impacts to SGCNs and key habitats. Avoid locating recreational infrastructure such as OHV routes in floodplains, wetlands, near bodies of water, or in areas with unstable soils prone to erosion or compaction.
7.2.3	Ensure wildlife review of special recreation permits.
7.2.3	Coordinate with the Utah Division of Outdoor Recreation to minimize outdoor recreation impacts to SGCNs and their habitats.
7.2.3	Engage with statewide and local efforts to ensure wildlife values are incorporated into recreation planning efforts.
7.2.4	Support the establishment of multiagency OHV travel plans developed on a county or planning unit level.

Likely Authorities, Stakeholders, and/or Partners

- National Park Service (NPS)
- USFS
- BLM
- Utah Division of State Parks
- Utah Division of Outdoor Recreation
- USFWS
- TLA
- Utah Outdoor Industry Association
- Governor's Council on Balanced Resources

Figure 3: *Utah actions and likely stakeholders as listed in their 2025 SWAP.*

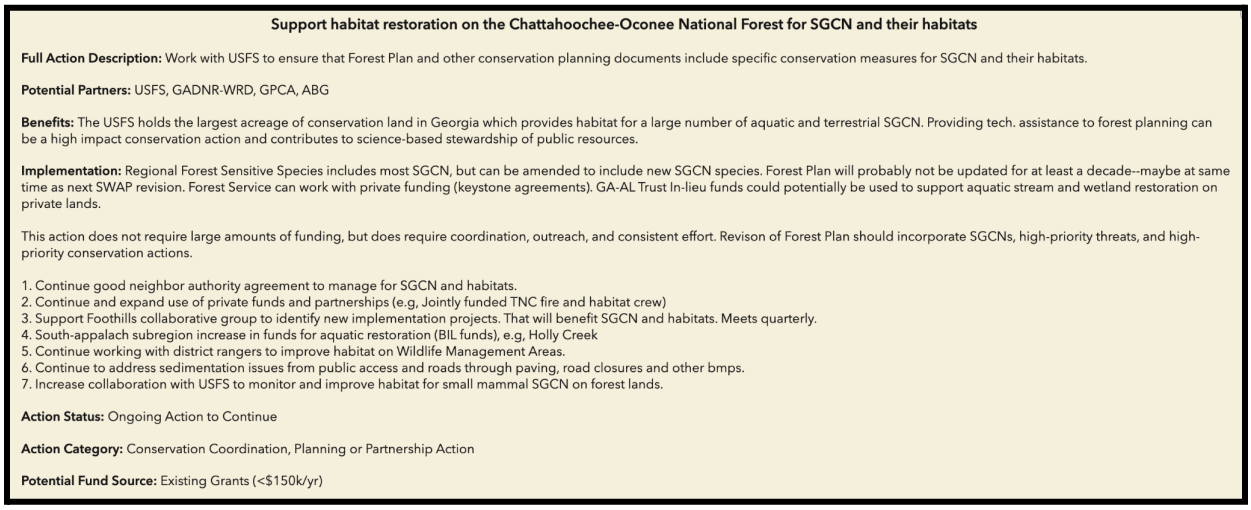
The NWF identified this area as critical for improvement and as an important way to create long-term alternatives to high spending on wildlife conservation. Many stakeholder groups have historically been excluded from the planning process, and explicitly stating how states will address community needs and target engagement is a critical component of establishing futures thinking in SWAPs. Once community engagement has been utilized within a SWAP, the next step is to assign responsibility within the SWAP explicitly, as Utah does within its SWAP. Even if states only mention potential stakeholders, it provides a starting point for establishing partnerships for conservation action strategies. States should try to identify internal and external stakeholders and partners to further integrate into a regional approach. Unfortunately, tribal agencies were often completely neglected or viewed as an afterthought in the planning process

despite historical inequity. Tribal agencies are an important stakeholder group for states seeking to enact wildlife conservation measures, and our team considers it a best practice to mandate that SWAPs involve tribal agencies in the planning process.

Budget Scenarios

Wildlife conservation actions require funding, so SWAPs should reflect the funding that states need to accomplish wildlife conservation goals. Creating budget models dependent on which actions states deem completely necessary or somewhat necessary would provide more useful information when applying for federal grants. This information would also provide stakeholders with greater transparency into which areas states are prioritizing for wildlife conservation actions. Different budgeting scenarios can be modeled to provide insight into decision-making when prioritizing state spending on conservation action areas. Scenarios could be modeled based on action efficiency, action benefits, or targeting specific action areas, if this approach were used to show different outcomes for wildlife conservation under different approaches. These modeled scenarios can be paired with a decision-support tool to increase efficiency in state spending. At the very least, states should provide insight into their spending priorities if they are unable to model specific budgets.

Georgia provided insight into funding sources and implementation in its SWAP. The format of Georgia's planning for each action can be seen in Figure 4.



Support habitat restoration on the Chattahoochee-Oconee National Forest for SGCN and their habitats

Full Action Description: Work with USFS to ensure that Forest Plan and other conservation planning documents include specific conservation measures for SGCN and their habitats.

Potential Partners: USFS, GADNR-WRD, GPCA, ABG

Benefits: The USFS holds the largest acreage of conservation land in Georgia which provides habitat for a large number of aquatic and terrestrial SGCN. Providing tech. assistance to forest planning can be a high impact conservation action and contributes to science-based stewardship of public resources.

Implementation: Regional Forest Sensitive Species includes most SGCN, but can be amended to include new SGCN species. Forest Plan will probably not be updated for at least a decade--maybe at same time as next SWAP revision. Forest Service can work with private funding (keystone agreements). GA-AL Trust In-lieu funds could potentially be used to support aquatic stream and wetland restoration on private lands.

This action does not require large amounts of funding, but does require coordination, outreach, and consistent effort. Revison of Forest Plan should incorporate SGCNs, high-priority threats, and high-priority conservation actions.

1. Continue good neighbor authority agreement to manage for SGCN and habitats.
2. Continue and expand use of private funds and partnerships (e.g, Jointly funded TNC fire and habitat crew)
3. Support Foothills collaborative group to identify new implementation projects. That will benefit SGCN and habitats. Meets quarterly.
4. South-appalach subregion increase in funds for aquatic restoration (BIL funds), e.g, Holly Creek
5. Continue working with district rangers to improve habitat on Wildlife Management Areas.
6. Continue to address sedimentation issues from public access and roads through paving, road closures and other bmps.
7. Increase collaboration with USFS to monitor and improve habitat for small mammal SGCN on forest lands.

Action Status: Ongoing Action to Continue

Action Category: Conservation Coordination, Planning or Partnership Action

Potential Fund Source: Existing Grants (<$150k/yr)

Figure 4: *Georgia actions breakdown according to their 2025 SWAP.*

Georgia vaguely mentions funding sources in the implementation of conservation actions, as well as a potential funding source at the bottom of the image. This is paired with a general estimate for a budget. If states can include this information at a more specific level in the action

section of their SWAP, it could provide greater insight into what actions need to be taken to assist with costly conservation actions amidst a lack of funding. When specific data can be provided regarding funding, organizations like the NWF can generate a decision-support tool that can be applied to state conservation strategies to simplify complex decision-making when prioritizing funding for specific actions. These budgeting decisions could be significantly bolstered when paired with stakeholder engagement and regional collaboration, as outlined earlier in this report.

Climate Adaptation Plan

Conservation actions will change in response to the worsening effects of climate change. Various species and ecosystems have experienced shifts in precipitation patterns, temperature, and humidity, all of which affect habitat and food availability. States should actively identify and promote conservation actions that prioritize ecological resilience rather than reacting retrospectively after disturbances or declines occur. Standardized climate adaptation plans across the SWAPs would also help encourage a more unified regional approach to conservation planning. Another key benefit is improved efficiency and coordination of conservation resources. State agencies operate under funding and staffing constraints, so integrating climate adaptation into SWAPs helps align programs within a consistent, forward-looking framework. This reduces redundancy and ensures that actions, such as habitat restoration, land acquisition, and species monitoring, are robust to projected climate conditions. For instance, wetland restoration that does not account for altered hydrology or increased drought risk may fail, whereas climate-informed design can improve persistence and ecological function. Incorporating climate projections, therefore, increases the long-term effectiveness of conservation investments.

Integrating adaptation also enhances cross-scale coordination. Climate-driven shifts in species distributions and ecosystem processes frequently occur across jurisdictional boundaries, requiring regional approaches. Including adaptation in all SWAPs promotes standardized vulnerability assessments, data sharing, and coordination among state agencies, federal entities, tribes, NGOs, and private landowners. This is particularly important for migratory species and large, connected ecosystems, where fragmented planning reduces effectiveness. Climate-informed SWAPs can also better align with national conservation frameworks, improving access to funding and technical resources.

Statewide initiatives are utilized in certain SWAPs to address ongoing climate-driven conservation threats. Oregon was exemplary in outlining its climate adaptation plan by directly discussing regional climate threats and the impact of climate change in the Pacific Northwest. Oregon also discussed the impacts of climate change on fish and wildlife species and outlined what resources and tools are available for the state to minimize the impacts of climate change and to form partnerships to combat climate threats. The most interesting aspect of Oregon's climate adaptation strategy was how the state listed specific climate actions and described how

the state could implement those actions. Figure 5 shows an example of how Oregon structured this section of its climate adaptation plan.

Action 1.1. Work with partners to increase information on climate change vulnerability of habitats and species.

Building a body of information on climate change impacts and the vulnerability of Species of Greatest Conservation Need and Key Habitats is an important first step to guiding management and policy decisions on climate change. Management priorities should drive the scientific information that is gathered to inform decision making. Collaboration with research institutions, such as the **Oregon Climate Change Research Institute**, **Northwest Climate Adaptation Science Center**, **NOAA Northwest Fisheries Science Center**, and **University of Washington's Climate Impacts Group**, nonprofits, tribes, and government agencies can help increase understanding of climate change vulnerability without overtaxing limited budgets. Many of these institutions are leading ongoing efforts to identify the most vulnerable species and habitats and develop assessment models for these species. Meaningful, multi-sector stakeholder engagement will be essential to advance our understanding of these complex issues.

Action 1.2. Support long-term research on climate trends and ecosystem responses.

To provide the necessary information about the impacts of climate on species and habitats, research and monitoring efforts will need to be conducted over longer periods of time. Funding and institutional support will be needed to encourage long-term research. Existing long-term ecological research programs, such as **Oregon State University's (OSU) H.J. Andrews Experimental Forest**, the U.S. Forest Service's (USFS) experimental forests, the **Northwest Fisheries Science Center's long-term ocean environment monitoring**, and the **ODFW's Lifecycle Monitoring Sites** can be a cornerstone of such efforts. The results from these research efforts should be used to inform and adapt management strategies, monitoring protocols, and objectives for Species of Greatest Conservation Need and Key Habitats.

Figure 5: *Oregon's climate plan actions as listed in their 2025 SWAP.*

Oregon mentions potential partners that could facilitate each action item as the state seeks to produce a more resilient climate approach.

VIII. Sustainability SWOT Analysis

While analyzing each action plan, we produced a SWOT analysis. A SWOT analysis evaluates the strengths (S), weaknesses (W), opportunities (O), and threats (T) of an organization. The goal is to analyze SWAPs to identify strengths and areas for growth. Identifying these allows us to consider opportunities for future SWAPs and evaluate the potential threats they may face.

To identify the strengths and weaknesses of the SWAPs, we utilized our landscape analysis. This revealed trends and outliers in the SWAPs, which influence our best-practice recommendations. After identifying these, we included information that applies to most SWAPs.

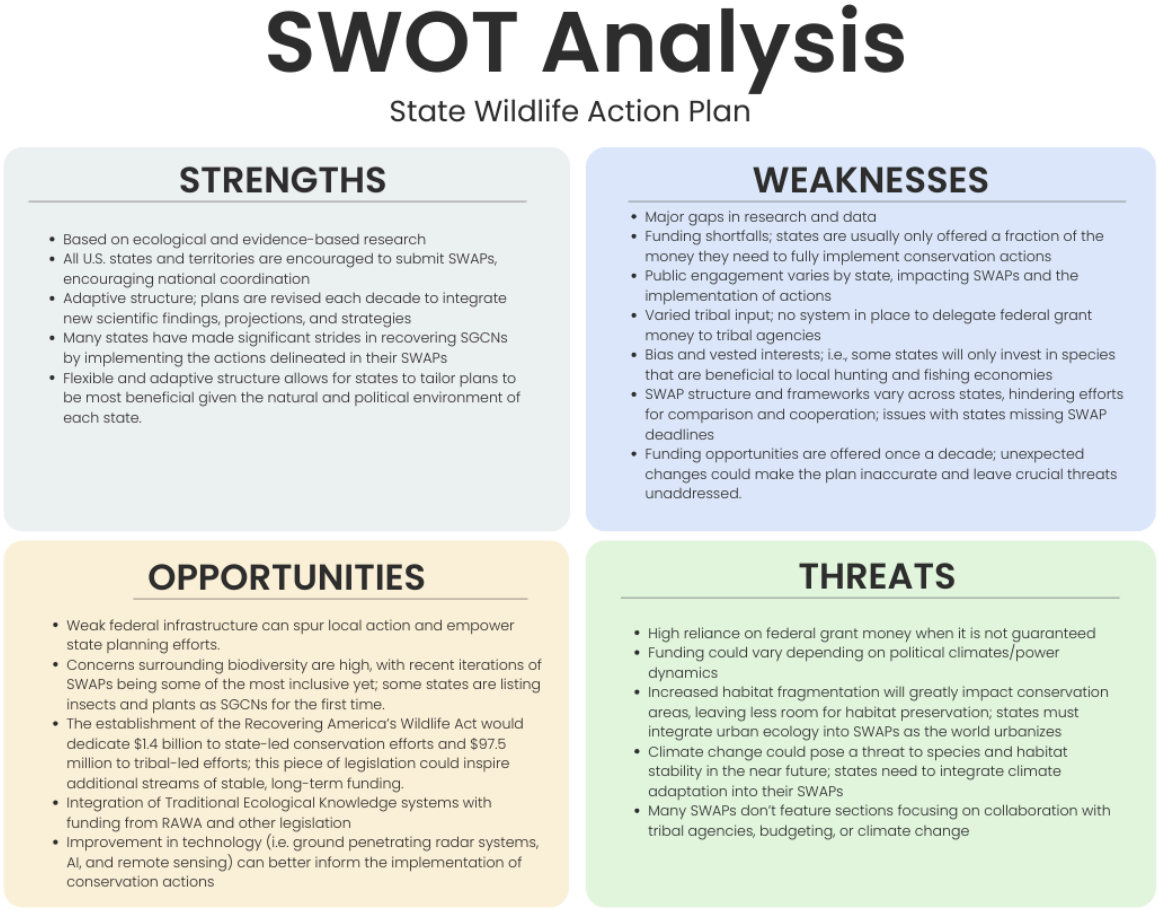


Figure 6: A *SWOT analysis identifying the strengths, weaknesses, opportunities, and threats of SWAPs.*

Overall, this SWOT analysis highlights several key insights from our research. While SWAPs consistently include similar core elements, each state or territory presents its conservation actions using unique formats and structures. This flexibility allows plans to incorporate evidence-based, locally relevant strategies, which is a major strength in addressing diverse ecological conditions. However, the lack of standardization also introduces challenges, particularly in terms of comparability, coordination, and access to funding, as inconsistent formats can make it more difficult for stakeholders to interpret and support conservation actions. At the same time, this gap presents a clear opportunity: by identifying common patterns and areas of divergence, the National Wildlife Federation can play a critical role in promoting greater alignment, enhancing collaboration, and providing targeted support to improve the effectiveness and implementation of SWAPs across states.

Strengths

To begin, SWAPs are largely based on scientific research and ecological data. Depending on the state or U.S. territory, SWAPs use data from ecological surveys, population trends, and habitat assessments, alongside various frameworks, to identify threats and area-specific conservation actions. SWAPs are generally strategic and evidence-based, which increases the likelihood of states having the capacity to establish metrics to track conservation outcomes and adjust their conservation actions as needed. SWAPs are revised at least every ten years to integrate new data, findings, projections, updates, and strategies. This adaptive structure, we argue, is one of the most beneficial aspects of SWAPs because it focuses on preventing species from becoming endangered in the first place, rather than reacting in retrospect after certain populations have already declined, while also simultaneously integrating new pertinent information. By identifying Species of Greatest Conservation Need (SGCN) early, states know where to implement targeted conservation actions before crises emerge. This adaptive structure is significantly more cost-effective and ecologically successful than emergency recovery efforts, which often require far more intensive funding.

For example, Tennessee has demonstrated success by using Conservation Opportunity Areas (COAs) to prioritize habitat restoration and species monitoring efforts, allowing the state to focus resources on high-impact regions and track measurable progress over time (Tennessee State Wildlife Action Plan Team, 2022). Similarly, Nevada has made notable strides by expanding its conservation focus to include previously underrepresented taxa, such as pollinators, including native bees and butterflies, while also identifying critical research gaps to guide future conservation actions and data collection (Nevada State Wildlife Action Plan, 2022). In the United States Virgin Islands, conservation efforts have focused on protecting critical habitats and increasing accessibility to resources for long-term biodiversity management, particularly in fragile island ecosystems where proactive measures are essential to prevent species loss (United States Virgin Islands Wildlife Action Plan Volume 1: Management Framework, 2018). Because of this adaptive and proactive structure, many states and territories have made meaningful progress in addressing the needs of SGCNs by implementing targeted actions outlined in their SWAPs.

Additionally, because all U.S. states and territories are encouraged to submit SWAPs, national conservation efforts can be better coordinated. While funding may be currently limited through the State and Tribal Wildlife Grants Program, SWAPs also assist in leveraging additional funding from non-federal resources, such as NGOs and local governments, further strengthening their role as an effective tool for biodiversity conservation in the United States.

Weaknesses

In terms of weaknesses pertaining to SWAPs, our group identified several areas in which SWAPs could be improved upon, as well as obstacles that presently inhibit SWAP conservation efforts. The first and most significant challenge states face is financial limitations. States and U.S. territories only receive a fraction of the funding needed to fully implement the conservation actions outlined in their plans, and that funding is not guaranteed long-term. As stated previously, an estimated minimum of $1.6 billion in annual investment is required to implement the actions delineated in SWAPs, which is far more than the amount that is currently administered through the SWG program. Tribal agencies have received only a small fraction of funding, which is usually administered through competitive grants, despite the thousands of acres of land across the U.S. that are managed or influenced by tribal agencies. Funding shortages are the most detrimental barrier that creates a disconnect between planning and implementation of conservation actions.

Another persistent limitation we identified is the uneven quality and availability of ecological data across species and regions. Many Species of Greatest Conservation Need (SGCNs), particularly invertebrates, plants, fungi, and culturally-relevant species, are data-deficient; as such, states must make decisions with data that may be incomplete or outdated. Limited metrics and long-term monitoring efforts also make it difficult for researchers to determine whether or not conservation efforts are effective. It is also important to note that, while the submission of SWAPs unlocks access to federal funding through the State and Tribal Wildlife Grants Program, the amount of funding allocated through Congress is significantly below what states estimate they need. Funding is also not guaranteed to states, regardless of the submission status of their SWAPs. As a result, the state conservation actions that are implemented may tend to be reactive and pushed to focus solely on the most immediate or visible threats to SGCNs. Funding shortfalls undermine the proactive nature of SWAPs and can allow declines to continue, while also limiting essential staffing and resources.

Another issue our group observed is that there is a lack of regional coordination. Through the majority of SWAPs that we analyzed, states often work in silos, with limited alignment between neighboring states, interstate organizations, and tribal agencies, even when managing shared ecosystems. This issue exacerbates the uneven quality and availability of ecological data across species and regions. Should regional coordination improve, there is a higher likelihood that resources and information can be shared to address data deficits and better inform conservation actions.

Through our group’s research, we also noticed that stakeholder and public engagement greatly vary by state. In states where outreach is limited, SWAPs risk remaining largely unknown outside of the agency that published the SWAP. Generally, SWAPs seem to remain largely as

internal documents that are not widely understood or targeted to the public and local communities. This lack of visibility can reduce opportunities for collaboration with NGOs, universities, private landowners, and community groups that are often essential for implementing conservation actions on the ground. More importantly, limited public engagement can weaken political support for conservation initiatives, as policymakers are less likely to prioritize funding and legislation for programs that lack public buy-in. Without strong advocacy and awareness, even the well-designed, up-to-date SWAPs may struggle to secure the sustained funding and institutional support needed for long-term conservation actions. Contrastingly, states that actively incorporate outreach and stakeholder participation into their SWAPs build greater public trust and shared responsibility. To take it one step further, states that are actively working with stakeholders and encouraging them to contribute to SWAPs also create a broader coalition of support that can drive lobbying efforts, increase funding opportunities, and enhance the overall effectiveness of conservation efforts.

There is also no current standardized system for allocating funding to Tribal Nations, with many tribal agencies forced to compete among one another for a small fraction of funding, despite the thousands of acres of land across the U.S. that are presided over or influenced by tribes. Even though tribes possess deep ecological knowledge and a strong connection to the land, there are presently structural barriers inhibiting meaningful participation from tribal communities. Among many of the SWAPs that we observed, tribal input is inconsistent and underrepresented rather than being fully integrated into tangible actions. This identified gap also highlights numerous missed opportunities to incorporate Traditional Ecological Knowledge (TEK) systems into biodiversity and conservation management.

SWAPs can also be influenced by the economic and political priorities of the area, particularly in states where hunting and fishing revenues are major funding sources. Different priorities sometimes conflict with the broader biodiversity and conservation management goals of SWAPs and run the risk of potentially skewing conservation outcomes by neglecting ecologically important but undervalued species. Although SWAPs follow general federal guidelines, states have significant flexibility in how they design and implement their plans. This results in significant variation in reporting formats and the structure of the SWAP itself, making it difficult to compare outcomes and coordinate conservation efforts across state boundaries. These inconsistencies can hinder regional and national-scale conservation strategies. Also, some states and territories struggle to meet SWAP update deadlines, creating further gaps in coordination and maintaining current plans. Because SWAPs are typically updated every decade, this also creates a challenge in responding to rapid or unexpected changes, such as extreme climate events or sudden SGCN population declines.

Lastly, while there are benefits to allowing states the flexibility to tailor their SWAPs to reflect local ecological conditions and priorities, this same flexibility also introduces other challenges. The structure and format of SWAPs vary widely across states, with some using

standardized frameworks and others relying on customized or undefined approaches. As a result, it becomes difficult to directly compare plans, evaluate the effectiveness of conservation actions, or identify consistent patterns across states. This lack of uniformity also complicates the development of clear metrics, as actions are often categorized and described differently, limiting the ability to track progress in a cohesive way. Furthermore, the variation in structure makes it more challenging for states to share best practices and learn from one another, as successful strategies may not be easily transferable or identifiable. While localized flexibility is valuable, a greater degree of standardization would improve coordination and the overall effectiveness of conservation efforts nationwide.

Opportunities

While limited federal coordination and funding are often seen as drawbacks, there is also an opportunity to establish better coordination among states. In times where federal infrastructure is weak, states have more flexibility to experiment with locally tailored conservation strategies and resulting funding mechanisms. This may also create an opportunity to build stronger coalitions with NGOs, universities, local governments, and the general public. Over time, state-led models could serve as models for a decentralized conservation approach. Recent SWAP iterations have begun to expand their SGCN lists to include previously overlooked taxa, such as insects, plants, fungi, and culturally significant species. This represents a significant shift in how states respond to the biodiversity crisis. One of the most remarkable and promising opportunities is the proposed Recovering America's Wildlife Act (RAWA), which would represent a transformative opportunity for SWAP implementation. By allocating approximately $1.4 billion annually to states and $97.5 million to tribal nations, RAWA would address one of the most significant barriers to success: consistent underfunding of conservation actions. Beyond the immediate financial boost, RAWA would provide one of the first opportunities that would provide stable, long-term funding to states, as well as tribal agencies, to plan beyond short grant cycles. Additionally, with increased funding streams (potentially through RAWA and other related programs or regional efforts), states have an opportunity to meaningfully integrate TEK into SWAP development and implementation. If paired with direct funding and decision-making authority for tribes, this integration could significantly enhance both the effectiveness and equity of conservation efforts. Another opportunity would be potential rapid improvements in technology that could transform the way in which data is collected and analyzed. Within the next few years, tools such as drones, satellites, AI, and ground-penetrating radar systems could improve the effectiveness of SWAP implementation.

Threats

SWAP implementation depends heavily on federal funding streams like the State and Tribal Wildlife Grants Program, which are not guaranteed or consistently sufficient. This reliance at times creates structural instability where states may design ambitious conservation strategies but lack the financial certainty to follow through. Funding levels and conservation priorities are highly sensitive to changing political climates and power dynamics at both the state and federal levels. Shifts in administration or legislative priorities can lead to: reduced funding for conservation programs, changes in regulations, and prioritization of economic interests. Because SWAPs operate within these political systems, their effectiveness has the potential to be undermined by policy instability. Even well-designed plans may struggle if political support shifts, highlighting the vulnerability of conservation efforts to broader governance trends. Aside from geopolitics, ongoing urban expansion, infrastructure development projects, and land-use change are fragmenting natural habitats at an accelerating rate. This poses a major threat to SWAP effectiveness because smaller, isolated areas support fewer species, and, along with wildlife corridors being disrupted, the biodiversity crisis is in effect worsened. As the world continues to urbanize, states must adapt by incorporating urban ecology into SWAPs. Without considering urban ecology in documents like SWAPs, conservation efforts risk becoming less viable, especially considering how protected areas alone may no longer be sufficient to sustain biodiversity. Alongside the biodiversity crisis, climate change presents a system-wide threat that can undermine nearly all aspects of SWAP planning. Climate change has been known to change species distributions, degrade or entirely eliminate critical habitats, as well as increase the spread of invasive species (Reckien et al., 2023). Without the integration of climate adaptation strategies, future climate conditions may make many current conservation actions ineffective. The political climate factors into this since even the term “climate change” is politicized, and some states risk not receiving funding if climate change is mentioned in their plans.

X. Recommendations

Through our analyses, we have found that the National Wildlife Federation has the opportunity to support states with developing and implementing their SWAPs by utilizing its scientific expertise, regulatory influence, and educational platforms. Since funding remains a significant issue for completing wildlife conservation actions from SWAPs, our recommendations are focused on providing states with support that allows them to utilize resources more effectively. Additionally, our recommendations aim to provide the National Wildlife Federation with actions that can bolster the regional approach to wildlife conservation by providing states with assistance in establishing strategic partnerships and utilizing stakeholder

engagement. Our recommendations include three areas of intervention that align with the most important findings from our analyses.

Our team identified three recommendations for the NWF:

1. Developing decision-support tools tailored to state-specific or region-specific situations
2. Filling research gaps for SGINs
3. Supporting states in transitioning toward developing regional framework standardization and partnerships

Decision-support tools can be a critically important tool to help states make decisions in action plans on how to utilize scarce funding. The NWF can work with states to develop decision-support tools that simplify complex data and can be front-facing on a state's webpage to provide transparency to stakeholders. California utilizes a decision-support tool that the California Department of Fish and Wildlife developed, titled Areas of Conservation Emphasis (ACE). This tool creates biodiversity data sets that are illustrated as patterns on a landscape map. The data sets are created utilizing information from "CDFW staff, academic researchers, consultants, land managers, including contributions from community science initiatives, and many other collaborators across the state," which showcases the ability of these tools to encourage connections between important stakeholders and knowledge bases in a state (California Department of Fish and Wildlife, 2025). The data sets include information about counts of plant and vertebrate species (native species richness), counts of special-status species (rarity richness), relative importance for California endemics (irreplaceability), compiled locations of significant habitat types, map layers concerning ecological stressors, protected status of lands, climate resilience information, and connectivity models that can be viewed in conjunction with ACE data (California Department of Fish and Wildlife, 2025). This data is displayed so that users can view broad statewide information or delve into more specific information at the regional or local level. This decision-support tool serves as an exemplary resource for understanding state conservation priorities at different levels while engaging stakeholders. The NWF can work with states to develop similar decision-support tools to help state agencies guide their conservation planning for future SWAPs. These decision support tools can be utilized to guide SWAP leaders in formulating strategies for COAs, identifying research gaps, and developing climate adaptation plans, among many other potential uses, depending on a state's needs. Furthermore, regional decision-support tool mapping could be implemented once these tools are utilized at the statewide level in a majority of states.

Once these foundational knowledge bases are developed to guide states in their action prioritization, the NWF can support states in developing regional networks and establishing state partnerships. The NWF should look to support states in transitioning to standardized frameworks, such as CMP 2.0, to facilitate a regional approach where states develop plans similarly in the same region. The Northeast Lexicon should be utilized as an example of how

states can develop state plans utilizing regional consistency to facilitate cross-state partnerships for regional issues. Arizona and Nevada utilized a similar partnership in the absence of a regional framework, which led to success for the states in how to approach their conservation strategies. The NWF should bring together SWAP leaders to help develop these regional frameworks so that important trends and gaps can be identified regionally. States with similar issues in a region can be brought together to facilitate the planning and implementation process through these partnerships. Summits could be held leading up to SWAP revision periods, where SWAP leaders can discuss their priorities and needs for their states to help update regional frameworks. These summits can be influential for bringing data and research together from different states in a region to assist states in filling knowledge gaps or developing new methods for developing conservation strategies by learning from other states' success stories with similar issues.

The NWF can assist states by developing reports and compiling resources that provide frameworks for states to use to prioritize research on poorly understood species and taxa. In addition, the NWF can compile existing laws and regulations used to protect biodiversity and develop guidance to states interested in expanding authorities for species protection. Many states cited a lack of regulatory authority or a lack of existing knowledge as a reason why the states have not prioritized conservation action for these species. The NWF can develop an index of existing knowledge regarding plant species, invertebrates, culturally significant species, and fungi to facilitate states in their interest to expand knowledge bases regarding these groups. This could be a critical way for the NWF to facilitate states to include tribal agencies in the SWAP planning process by bringing them in as experts on culturally significant species in the research process. Tribal agencies can meet with SWAP leaders to guide how to approach conservation planning for these species. The NWF should primarily seek to meet with SWAP leaders to discuss research gaps and what resources states need to develop extensive plans for these gaps. Once those gaps are identified and research is completed, the NWF can assist in lobbying for a regulatory presence to oversee these categories of species. This would create a ruleset that state agencies can plan around. It is currently difficult for SWAP leaders to develop strategies for these species when they do not understand what they are permitted to do from a regulatory standpoint.

XI. Conclusion

To conclude, this project demonstrated that State Wildlife Action Plans (SWAPs) remain one of the most important and promising tools for proactive, state-led wildlife conservation in the United States. As these plans are rooted in scientific research and adaptive management, SWAPs provide a critical framework for identifying Species of Greatest Conservation Need (SGCN) and implementing early interventions that prevent more costly and reactive conservation

measures in the future. However, despite their importance and previous success in improving biodiversity and conservation nationally, SWAPs are currently inhibited from being fully effective due to a range of factors: chronic underfunding, inconsistent stakeholder engagement, fragmented reporting frameworks, and limited coordination across states and regions. These barriers limit the effectiveness and long-term impact of conservation actions at a time when biodiversity loss is accelerating.

Through our landscape and SWOT analyses, it is clear that there is both a need and an opportunity to strengthen SWAP implementation nationwide. The variability observed across plans, while allowing for locally tailored solutions, creates challenges when it comes to comparing SWAPs and sharing best practices. At the same time, leading examples from certain states demonstrate that more standardized, clearly structured SWAPs can significantly improve prioritization and overall effectiveness. Practices such as incorporating measurable metrics, identifying research gaps, integrating stakeholder engagement into action planning, and embedding climate adaptation strategies all contribute to improved conservation outcomes. These approaches not only enhance the clarity and usability of SWAPs but also position them as more compelling tools for securing funding and stakeholder support.

The National Wildlife Federation (NWF) is uniquely positioned to play a central role in advancing these improvements. By leveraging its scientific expertise, lobbying power, and resources, the NWF can facilitate greater standardization, coordination, and capacity-building across states and territories. Our recommendations, which include developing decision-support tools, addressing research gaps for underrepresented species, and supporting the transition toward regional frameworks and partnerships, offer actionable pathways for strengthening SWAP implementation. These strategies emphasize not only efficiency and effectiveness, but also equity, particularly through the meaningful inclusion of Tribal Nations.

Perhaps most critically, the passage of the Recovering America's Wildlife Act represents a transformative opportunity to address the structural funding limitations that have long hindered SWAP success. By providing stable, long-term funding, this legislation would enable states and federally recognized tribes to fully realize the proactive vision of SWAPs. With increased funding accessibility, conservation efforts could shift from reactive crisis management to preventative action. When paired with improved coordination, stronger stakeholder engagement, and enhanced data and planning tools, this funding could spur a new era of wildlife conservation in the United States.

XII. References

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XIII. Deliverables

Deliverable 1: Landscape Analysis

The landscape analysis comes in the form of 4 Excel sheet tabs. The first labeled 'SWAP Actions' outlines the type of level 1 & level 2 actions performed by each state evaluated, as well as a count of their level 3 actions and their reporting framework. The second tab is labeled 'Preliminary Findings' and contains the formulas used to automatically sort the raw data. The third tab, 'Regional Summaries,' provides the data totaled for each USFWS administrative region. The final tab, 'State by State Summaries,' provides a tool that can be used to look up the conservation action totaled for each state. Appendix A can be found at this link: https://docs.google.com/spreadsheets/d/1TCCljsM4uV6xvp4Ig5oeFfO5QMHryoFJ/edit?usp=sharing&ouid=111928101014019761674&rtpof=true&sd=true

Deliverable 2: Regional Summaries

The Regional Summaries document comes in the form of a PDF document. This document displays large image versions of the graphics embedded inside the Excel file and displays the same content as the 'Regional Summaries' tab of Appendix A. It is intended that this document could be used as a way to quickly reference and communicate information created in our landscape analysis. Appendix B can be found at this link: https://drive.google.com/file/d/1TPnMPNuNDBDRpz8TQzk8GtxgulWGihN8/view?usp=drive_link

XIV Appendix

Appendix A: List of Participating States

Alabama

Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
Georgia
Idaho
Indiana
Iowa
Kansas
Kentucky
Louisiana
Missouri
Nebraska
Nevada
New Jersey
New Mexico
New York
North Carolina
North Dakota
Oregon
South Carolina
South Dakota
Tennessee
Utah
Virgin Islands
Virginia
Washington
Wisconsin