Southeast Climate Adaptation Science Center (SECASC) Final Report & Data Products: Regional Wildlife Collaborations in the Southeast US

1. ADMINISTRATIVE

Report Date: 1 November 2023
Cooperative Agreement Number: G22AC00047-00
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Project duration: 31 December 2021 – 1 July 2023
Total project funding requested from SECSC: $56,045.60
Actual total cost: $56,045.60

2. PUBLIC SUMMARY

Wildlife conservation success depends on regional conservation efforts, but little is known about barriers and opportunities that 'boots on the ground' wildlife conservation practitioners face when tackling regional conservation. This study provides the first data addressing these important questions in the southeastern United States. Surveyed professionals indicated that their top priority for regional conservation efforts was increasing the likelihood of conservation success for species with multi-state ranges, followed by the need to describe threats to species and their habitats. Perhaps not surprisingly, these priority areas were also where conservation practitioners were most likely to work in regional collaborations. The lowest priority for regional conservation efforts was developing plans to adapt conservation actions to climate change, followed by measuring the effectiveness of proposed conservation actions. Developing plans to adapt conservation actions to climate change was also the least likely priority area for conservation practitioners to be currently collaborating and had the least interest for future collaborations. Surveyed professionals indicated that the top barriers they faced in regional conservation projects were participation being too expensive and logistics being too difficult. These results suggest additional funding and simplified protocols for cross-state

collaboration may be required to encourage regional conservation initiatives, particularly those perceived as low importance by practitioners.

3. TECHNICAL SUMMARY

Wildlife management in the United States largely operates at the state and regional level, creating a system where collaboration across geographic areas and agencies is often necessary to achieve conservation goals. Regional collaborations offer a way to amplify the work an organization is doing by letting them join forces with other organizations to achieve common goals across larger geographic scales. However, for regional collaborations to be successful, it's important to understand the motivations and challenges faced by those engaging in them. To date, relatively little is known about the extent of regional collaborative conservation activities in the Southeastern US; still less is known about the priorities and motivations of managers for engaging in collaborative activities. The purpose of this project was to address a primary gap in knowledge around the viability of regional responses to wildlife conservation initiatives by surveying state agency leadership and field biologists from across the Southeast Association of Fish and Wildlife Agencies' (SEAFWA) states.

Data were collected through an online Qualtrics survey administered to members of state chapters of The Wildlife Society (TWS), the SE division of The Wildlife Society (SE TWS), and the Southern Division of the American Fisheries Society (SDAFS). The questionnaire focused on measuring participants' priorities for regional conservation collaborations, the extent of their current involvement in those collaborations, self-reported likelihood of participating in future collaborations, and the primary benefits and barriers to regional collaborations.

Practitioners indicated the following core conservation goals' importance for regional collaborations, in order from most to least important: 1. increasing the likelihood of success for species with multi-state ranges, 2. describing threats to species and their habitats, 3. proposing and prioritizing conservation actions for species of concern, 4. protecting additional land for conservation to improve connectivity, 5. working with diverse stakeholders to make wildlife conservation more relevant, 6. measuring the effectiveness of proposed conservation actions, 7. developing plans for adapting conservation actions to climate change. Participants' rankings of the same goals were consistent with reported perceptions of importance.

Currently, the most frequently participated in regional collaborations are projects describing threats to species and their habitats (38.3% of respondents), increasing the likelihood of success for species with multi-state ranges (33.7%), and proposing and prioritizing conservation actions for species of concern (32.7%). Developing plans to adapt conservation actions to climate change has the lowest levels of current regional collaboration (11.0%).

When participants were asked their interest in participating in future regional collaborations around the same goals, increasing the likelihood of success for species with multi-state ranges had the most interest (65.5%) followed by describing threats to species and their habitats (59.9%) and proposing and prioritizing conservation actions for species of concern

(57.5%). Developing plans to adapt conservation actions to climate change had the lowest reported future interest (41.5%).

Participants indicated that the benefits of a regional collaborative approach to conservation were, in order of most to least important, 1. increasing conservation success for species with multi-state ranges, 2. sharing data and information, 3. saving time, 4. sharing costs and saving money, and 5. making my boss/agency happy. Barriers to participation in regional collaborations, in order of the most major barriers to more minor barriers were 1. projects being too expensive, 2. logistics being too difficult, 3. my boss/agency doesn't support it, 4. takes too much time, 5. doesn't lead to conservation success, 6. it stirs up controversy, 7. sharing data and information is too difficult.

Both leadership and other practitioners are primarily concerned with increasing the likelihood of success for species with multi-state ranges and describing threats to species and their habitats, so funding and resources should be allocated to promote these efforts. Priorities such as developing plans for adapting conservation actions to climate change and working with diverse stakeholders to make wildlife conservation more relevant are struggling for support from practitioners. These priorities will need considerable strategic investments if regional collaborations around them are to succeed. Responses from agency leadership and other professionals were similar with the exceptions of current participation in regional collaborations being higher among leadership than non-leadership professionals, and the barrier of insufficient employer support being less concerning for respondents in leadership positions. Future research should explore ways that the financial and logistical burdens of collaborations can be overcome and how greater or more effective engagement in collaborations can be achieved.

4. PURPOSE AND OBJECTIVES

This project addressed a gap in knowledge surrounding the perceptions of leadership and other wildlife professionals' perceptions of regional wildlife collaborations in the southeastern United States. The project primarily served the wildlife conservation community in the Southeast. The original objectives included gathering information from state wildlife agency personnel at the division chief and field biologist levels. Key research questions involved which elements of wildlife conservation respondents were willing to engage with at a regional level, how much they were willing to push for a regional response to each element, and perceived benefits and costs associated with regional collaborations. The original narrative called for assessing respondents' attitudes towards collaborations around the eight required elements of the State Wildlife Action Plans (SWAPs), 30x30 initiative, and climate change adaptation.

The eight congressionally mandated SWAP elements are intentionally broad to cover many aspects of conservation so that states have the flexibility to customize their SWAPs to their own needs. However, as testable elements, the SWAP elements were not specific enough, and could be interpreted in many ways. The key elements of the SWAPs and the broader challenges

of adaptation to climate change and connectivity were collapsed down into seven core conservation challenges. This synthesis was the result of input from the Southeast Climate Adaptation Strategy (SECAS) Lead Steering Team and the Climate Change into State Wildlife Action Plans (CC into SWAP) Working Group. Perceived importance of these seven core conservation challenges, current frequency of participation, and likelihood of future participation in collaborations addressing these challenges were assessed. Perceived benefits and barriers to regional collaborations were also assessed.

5. ORGANIZATION AND APPROACH

Sampling & Data Collection

Our study of professionals' perspectives regarding regional collaborations focused on the Southeast Association of Fish and Wildlife Agencies' (SEAFWA) member states. We administered our survey to state chapters of TWS, the Southeast division of TWS, and the Southern Division of AFS. State and regional professional society leadership sent out an email invitation from the researchers to society members with active email addresses between September 2022 and January 2023. The invitation included study details and a link to the online Qualtrics survey. Participants were sent an initial invitation and up to three reminders, based on the estimated response rate for each professional society chapter. Of 6,406 email addresses contacted, we received 544 total responses, 508 of which had useful data, resulting in an overall response rate of 8.3%.

Questionnaire Development

We consulted with the SECAS Lead Steering Team and the CC into SWAP Working Group to develop the core conservation goals in the survey instrument. Key participants of the SECAS Lead Steering Team included Amanda Sesser (SECAS Coordinator, United States Fish and Wildlife Service), Ryan Boyles (Deputy Director Southeast CASC, United States Geological Survey), Katherine Smith (Center Director, Northeast & Southeast CASC, United States Geological Survey), Bill Uhlein (Assistant Regional Director of Science Applications, Migratory Birds, SE Region, United States Fish and Wildlife Service). Key participants of the CC into SWAP Working Group included Jennifer Cartwright (Science Coordinator, SE CASC, United States Geological Survey) and Cari Furiness (SECASC Program Manager, Research Associate at NC State University). The Vice-Chair of the Southeast Association of Fish and Wildlife Agencies Minorities in Natural Resources and Conservation Committee (SEAFWA MINRC), Mercedes Maddox, assisted in distributing the survey to members of the MINRC committee. We pretested the questionnaire with members of the SECASC Climate Change into State Wildlife Action Plans Working Group (CC into

SWAP), Southeast Association of Fish and Wildlife Agencies' Minorities in Natural Resources and Conservation (SEAFWA MINRC) Committee members, Peterson Human Dimensions Lab researchers at NC State University, and individual leaders in the diversity field including David Buggs (Chief Diversity & Inclusion Officer, Texas Parks & Wildlife) and Sam Cook (Executive Director, College of Natural Resources, NC State University).

We assessed three themes on the survey instrument: 1. perceived importance of regional collaborative conservation goals and priorities for regional conservation collaborations, 2. current extent of regional conservation collaborations and interest in future participation in regional conservation collaborations, and 3. benefits and barriers to regional conservation collaborations.

We used a 7-point Likert scale from "Not at all important" to "Very important" to measure perceived importance of regional collaboration goals. We asked participants an open response question, "Have you worked across state boundaries on conservation-related issues other than those actions listed above?" to test for other regional collaboration priorities not covered by the seven core conservation goals. A click-and-drag ranking question asked participants to order the seven core conservation goals based on priority for regional collaborations, with 1 = most important to 7 = least important. We used a side-by-side format to measure current participation in regional collaborations with an ordinal scale of "never/rarely/regularly" and interest in participating in future regional collaborations with an ordinal scale of "not interested/somewhat interested/very interested."

We asked participants an open response question, "In your experience, what are the most important reasons to collaborate across state lines to achieve conservation goals? What are the primary benefits of a regional approach to conservation?" to address benefits of a regional approach. A 7-point Likert scale from "Not at all important" to "Very important" was employed to measure benefit importance when considering working on a regional collaboration to test the importance of five benefits, "sharing costs and saving money," "sharing data and information," "saving time," "increasing likelihood of conservation success for species with multi-state ranges," and "making my boss/agency happy."

We asked the open response question, "In your experience, what are the biggest problems faced when collaborating across state lines to achieve conservation goals? What are the primary costs of a regional approach to conservation?" to address barriers to a regional approach. A four-point ordinal scale with "not a barrier," "minor barrier," "moderate barrier," and "major barrier" was used to measure the extent each of several items served as a barrier to working with other states on conservation issues. Participants were not required to answer any of the open response questions.

The questionnaire also asked respondents to report socio-demographic attributes including gender identity (asked as 'Male (Man)', 'Female (Woman)',

'Non-binary,' or 'Not Listed' with a box for them to specify if they chose to do so), age (asked as "How old are you?" with a box to type their age in years), education ('some high school,' 'high school degree,' 'some college,' 'college degree,' or 'graduate degree beyond 4-year degree'), racial/ethnic background (check all that apply), and years they have been working in their state and in the broader field of wildlife conservation (each with a box to type number of years in space provided). Participants were also asked about their professional society affiliation (asked as "Yes, the Wildlife Society (TWS)," "Yes, the American Fisheries Society (AFS)," "Yes, both societies (TWS and AFS)" and "No, not a member of either society"), state that they primarily work in (drop down menu with SEAFWA states/territories and an "other/not listed" option), employer organization type (multiple choice with options including 'federal government agency,' 'state government agency,' 'university or university-affiliated extension agency,' 'non-governmental non-profit organization,' 'non-governmental for-profit organization,' 'self-employed,' or 'other' with a box for them to specify), and general category of their current role/job type (check all that apply, e.g. 'wildlife biologist,' 'education/outreach specialist,' 'administration/leadership,' etc.).

Data Analysis

We examined descriptive statistics (e.g., counts, averages, standard deviations, and percent frequencies) for the following variables: conservation challenge importance and priorities, current extent of regional collaborative activities, interest in future participation in regional collaborative activities, and benefits and barriers to regional conservation collaborations. For our conservation challenge importance analysis, we calculated the number of respondents who indicated a "7 = very important" for each item. These responses indicated a participant placed the highest level of importance on a conservation challenge. To analyze the open-ended responses of reasons for collaboration, we used thematic coding. For our conservation priorities analysis, we calculated descriptive statistics including mean (rank) and standard deviation. For the current extent of regional collaborative activities and interest in future participation in regional collaborative activities, we calculated the number of respondents that indicated the most frequent participation ("3 = regularly") and most interest ("3 = very interested") respectively.

For our benefits importance analyses, we calculated the number of respondents who indicated a "7 = very important" for each item. These responses indicated a participant placed the highest level of importance on a benefit of regional collaboration. For our barriers importance analyses, we calculated the number of respondents who indicated a "4 = major barrier" for each item. These responses indicated a participant placed the highest level of importance on a barrier to regional collaboration. To analyze the open-ended responses of the questions about benefits and

barriers to regional collaboration, we used thematic coding.

Finally, we tested for non-response bias in our sample by leveraging the continuum of resistance theory. Responses were assigned to an early or late response group based on how quickly they completed the survey after it was first distributed to them (early respondents completed the survey within 7 days of the first distribution, late respondents completed the survey after 7 days or the second distribution). We conducted analyses using SPSS Statistics (IBM Corp).

6. PROJECT RESULTS

The survey instrument collected a total of 544 responses (508 of which contained useful data) across several modes of distribution. Response rates for each distribution are listed in Table 1. In most cases (x of y comparisons) we did not detect differences in perceptions between respondents that indicated they held leadership roles and those that did not ($t < 1.533$, $p > 0.064$), and instances where differences were detected are described below.

Importance of Regional Collaboration for Achieving Conservation Goals

The conservation goal of increasing the likelihood of conservation success for species with multi-state ranges had the highest perceived importance level, with a mean of 6.55 (SD = 0.849) on a 7 point scale ranging from "1 = not at all important" to "7 = very important." Most (70.6%) respondents rated this goal as "very important." The conservation goal of describing threats to species and their habitats had the second highest perceived importance level for working across state boundaries with a mean of 6.25 (SD = 1.098) and 58.1% of respondents rating it as "very important.". The conservation goal with the lowest perceived importance was developing plans for adapting conservation to climate change, which had a mean of 5.84 (SD = 1.428) and only 19.7% of respondents rated it as "very important." See Figure 1 for further importance perceptions.

Increasing the likelihood of success for species with multi-state ranges, proposing and prioritizing conservation actions for species of concern, and describing threats to species and their habitats were the highest priority conservation goals. Developing plans for adapting conservation actions to climate change and working with diverse stakeholders to make wildlife conservation more relevant were again at the bottom of the priority list (Figure 1).

Current Collaboration Participation & Future Intent to Participate

The conservation goal of describing threats to species and their habitats had the highest level of current participation, with a mean of 2.18 (SD = 0.745) and 38.3% of respondents indicating that they regularly participated in that type of project (on a scale of "1 = never," "2 = rarely," and "3 = regularly"). The goal of increasing the likelihood of conservation success for species with multi-state ranges had the second highest level of participation, with a mean of 2.10 (SD = 0.753) and 33.7% of respondents indicating regular participation on the same three point

scale. The conservation goal with the lowest current participation was developing plans for adapting conservation to climate change, with a mean of 1.57 (SD = 0.682) and only 11.0% of respondents indicating regular participation on the same three point scale. See Figure 2 for further details on current participation in regional collaborations. Current participation levels in regional collaborations tended to be higher among respondents that indicated they held leadership roles than among those who did not (Table 3). Results were similar for measures of future intention to participate in regional collaborations. Increasing the likelihood of success for species with multi-state ranges had the highest interest with a mean of 2.62 (SD = 0.555) and 65.5% of respondents indicating they were very interested (on a scale of " 1 = not interested," "2 = somewhat interested," and "3 = very interested") in participating in a future collaboration around that goal. The goal of describing threats to species and their habitats had the second highest interest, with a mean of 2.55 (SD = 0.586) and 59.9 % of respondents indicating they were very interested on the same three point scale. The conservation goal with the lowest future interest was again developing plans for adapting conservation to climate change with a mean of 2.24 (SD = 0.728) and 41.5% of respondents indicated they were very interested on the same three point scale. See Figure 3 for further breakdown. We did not detect differences in the likelihood of participation in future regional collaborations between leadership and non-leadership respondents, except for efforts to increase the likelihood of success for species with multistate ranges, where leadership reported being more likely to work on these projects (Table 3).

Benefits & Barriers to Regional Level Collaborative Conservation

The top benefit considered when working with other states was increasing the likelihood of conservation success for species with multi-state ranges, with a mean of 6.63 (SD = 0.729) on a seven point scale ranging from "1 = not at all important" to "7 = very important." 73.7% of respondents scored this benefit as being of the highest importance ("7 = very important). Sharing data and information was the second most important benefit of regional collaborations, with a mean of 6.54 (SD = 0.792) and 69.0% of respondents scoring it as the highest importance on the same seven point scale. The least important benefit measured by the scale items was making my boss/agency happy, with a mean of 3.53 (SD = 1.647) and only 5.30% of respondents indicating it was of the highest importance on the seven point scale. A further breakdown of the benefits importance analysis is available in Figure 4. We did not detect differences in how leadership and their counterparts perceived the benefits of regional collaborations.

The top barrier to working with other states was the cost of collaborations (item "too expensive"), with a mean of 2.85 (SD = 0.825) on a four point scale ranging from "1 = not a barrier," "2 = minor barrier," "3 = moderate barrier," "4 = major barrier." 22.2% of respondents scored "too expensive" as a major barrier to regional collaborations. The second greatest measured barrier to regional collaborations was "logistics are too difficult," which had a mean of 2.82 (SD = 0.818) and 19.9% of respondents scored it as a major barrier on the same four

point scale. The most minor barrier to regional collaborations measured was "sharing data and information is too difficult", with a mean of 2.23 (SD = 0.824) and 5.8% of respondents indicating it was a major barrier on the same four point scale. A further data breakdown of the barrier analysis is available in Figure 5. We did not detect differences in how leadership and other professionals perceived barriers to regional collaborations, with the exception of the barrier of a lack of boss/agency support being larger for respondents in non-leadership positions (Table 3).

Qualitative Analysis: Reasons, benefits, and barriers to collaboration.

Thematic analysis of open ended responses suggest the primary benefit of collaboration across lines was linked to wildlife species not responding to political boundaries, and aligning conservation with this reality was by far the most common theme (Table 4). Conversely, several barriers were commonly identified in open ended responses at relatively high levels and centered on the general ideas that institutions were poorly designed for collaboration and resources were insufficient to allow it (Table 4).

7. ANALYSIS AND FINDINGS

We found that wildlife professionals place the greatest importance on increasing success for species with multi-state ranges when considering cross-state collaborations, followed by describing threats to species and their habitats. These two goals also had the highest regular participation from practitioners participating in collaborative projects as well as the most interest for future collaboration participation. The primary benefits of regional collaborations included increased success for species with multi-state ranges and shared data and information to make better conservation decisions. The major barriers to cross-state collaborations experienced by wildlife professionals include high expense, logistics too difficult to navigate, and a lack of agency/leadership support. Priorities, perceived benefits, and Responses were similar for respondents that indicated they held leadership roles and those that did not ($t < 1.533$, $p > 0.064$), with the exception of participation in current regional collaborations, likelihood of participation in projects aimed at increasing the likelihood of success for species with multi-state ranges, and the perceived barrier of a lack of boss/agency support for regional collaboration.

8. CONCLUSIONS AND RECOMMENDATIONS

Wildlife professionals in the Southeast are primarily participating in regional collaborations that focus on species occupying multi-state ranges and projects aimed at describing threats to species and their habitats. Further research is needed to determine which actors are initiating and supporting these collaborations. Regional collaborations around adapting to climate change and working with diverse stakeholders to make conservation more relevant have the least current participation and lowest interest from practitioners. It's possible these collaborations are not taking place as often as others due to a wildlife-centric approach to wildlife management, with professionals viewing climate change and diversity, equity, and

inclusion issues as outside the scope of their mission. These priorities will need considerable strategic investments if regional collaborations around them are to succeed. Barriers to regional collaborations including high expense, difficult logistics, and a lack of agency support are perceived as preventing practitioners from participating in collaborations. Currently, respondents in leadership positions are participating in regional collaborations more than their non-leadership counterparts. If agencies desire regional collaborations at a larger scale then barriers to non-leadership personnel need to be addressed, including perceived lack of boss/agency support, the absence of reliable logistical support, and funding/travel restrictions. Decision makers interested in reaping the benefits of collaborations should seek out new funding sources and work with peer agencies to coordinate terminology, standardize measurement systems, and streamline data sharing/communication. These changes will help reduce the logistical burden on partner organizations and pay out in the form of increased conservation success. Future research should explore ways that wildlife management agencies can incorporate landscape-level conservation goals into their missions and coordinate efforts to have the greatest impact on conservation.

9. MANAGEMENT APPLICATIONS AND PRODUCTS

"The Minorities in Natural Resources Conservation champions the careers of diverse populations in conservation. We visualize this research preparing and empowering our newer professionals to work collaboratively at a landscape level."
–George P. Braxdon, Virginia Department of Wildlife Resources, Chief Diversity & Inclusion Officer. Minorities in Natural Resources Conservation Committee Chair

10. OUTREACH AND COMMUNICATION

- Tiffany, K.*, Peterson, M. N., Larson, L., Stevenson, K., & Seekamp, E. (2023). Collaborative conservation networks enhance diversity, equity, and inclusion. *Pathways 2023: Human Dimensions of Wildlife Conference*. Fort Collins, CO: May 31-June 3, 2023. [Poster]
- Peterson, M. N., Tiffany, K., Larson, L. R., Stevenson, K., Seekamp, E., Martin, M., Vaughn, L., Armsworth, A. L (2022). Improving collaborative conservation efforts in the SEAFWA region using insights from wildlife conservation professionals. Climate Change into State Wildlife Action Plans Working Group: Regular Meeting, March 21, 2023. [Oral presentation]
- Peterson, M. N., Tiffany, K., Larson, L. R., Stevenson, K., Seekamp, E., Martin, M., Vaughn, L., Armsworth, A. L (2022). Improving collaborative conservation efforts in the SEAFWA region using insights from wildlife conservation professionals. The Southeastern Association of Fish and Wildlife Agencies Annual Conference. Charleston, WV: October 23–26, 2022. [Oral presentation, Invited Speaker for Symposium Session:

The Southeast Conservation Adaptation Strategy (SECAS): Applying the Southeast Conservation Blueprint across Scales]

- Final results of this research will be prepared into two journal articles and submitted for peer review.

Tables and Figures

Table 1: Response Rates of state chapters of TWS, regional divisions of TWS and AFS.

State Chapter (TWS)	Membership #	Total Responses	Response Rates
Alabama	250	23	0.07
Arkansas	262	39	0.09
Florida	170	28	0.12
Georgia	156	32	0.13
Kentucky	124	22	0.16
Louisiana	235	25	0.05
Mississippi	100	33	0.23
Missouri	481	9	0.01
North Carolina	278	35	0.08
Oklahoma	55	12	0.16
South Carolina	289	40	0.11
Tennessee	401	45	0.08
Texas	778	26	0.02
Virginia	194	45	0.13
West Virginia	48	11	0.15
Regional Divisions			
SETWS	760	48	0.06
SDAFS	1825	59	0.05
Other/Not Listed	NA	12	NA
Totals	**6406**	**544**	

Table 2: Importance and Rankings of Regional Collaborations

Conservation Goal	**Mean Importance Rating** (1 = not at all important, 7 = very important)	**SD** (Importance)	**% of Responses "7 = Very Important"**	**Mean Ranking** (1 = most important, 7 = least important)	**SD** (Ranking)	**% of Responses "7 = very important"**
Working with diverse stakeholders to make wildlife conservation more relevant	5.9	1.4	46.8%	4.9	2.0	30.8%
Developing plans for adapting conservation actions to climate change	5.8	1.4	47.4%	4.6	2.0	24.5%
Measuring the effectiveness of proposed conservation actions	6.0	1.2	46.6%	4.5	1.6	11.8%
Protecting additional land for conservation to improve connectivity	6.0	1.3	50.0%	3.7	2.0	10.7%
Describing threats to species and their habitats	6.3	1.1	58.1%	3.7	2.0	11.4%
Increasing likelihood of conservation success for	6.6	0.8	70.6%	3.3	2.0	7.2%

species with multi-state ranges						
Proposing and prioritizing conservation actions for species of concern	6.2	1.1	55.2%	3.2	1.6	3.7%

Table 3: Differences between Leadership and Non-leadership professionals

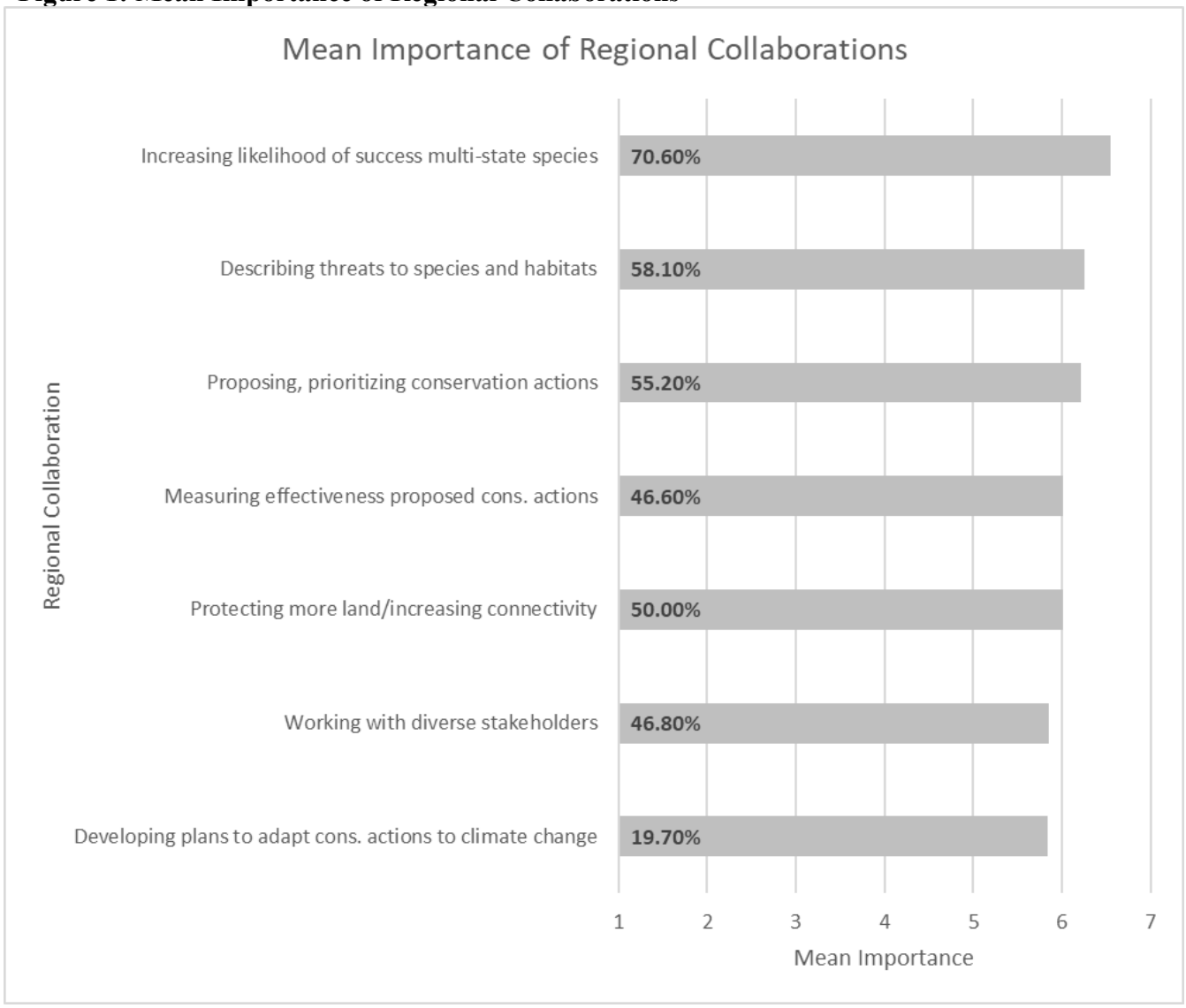
Survey Item	Mean (Leadership)	SD (Leadership)	Mean (Non-leadership)	SD (Non-leadership)	T Value	P value
Q. 1.5.1 How often do you currently work with people in other states on the following issues?						
Describing threats to species and their habitats	2.5	0.7	2.1	0.7	4.2	<.001
Proposing and prioritizing conservation actions for species of concern	2.4	0.7	2.0	1.0	5.1	<.001
Increasing the likelihood of conservation success for species with multi-state ranges	2.5	0.6	2.0	0.8	4.8	<.001
Measuring the effectiveness of proposed conservation actions	2.2	0.7	1.8	0.7	4.3	<.001
Developing plans for adapting conservation actions to climate change	1.8	0.8	1.5	0.6	4.0	<.001
Protecting additional land for conservation to improve connectivity	1.9	0.8	1.6	0.7	3.0	.003
Working with diverse stakeholders to make wildlife conservation more relevant	2.3	0.7	1.9	0.8	4.2	<.001

Q. 1.5.2 How interested are you in working with other states on the following issues in the future?						
Increasing the likelihood of conservation success for species with multi-state ranges	2.8	0.5	2.6	0.6	2.6	.01
Q. 2.3.6 To what extent are each of the following items barriers or reasons that might discourage you from working with other states on conservation issues?						
My boss/agency doesn't support it.	2.0	1.1	2.4	1.1	-2.4	.016

Table 4: Benefits & Barriers to collaboration – qualitative responses

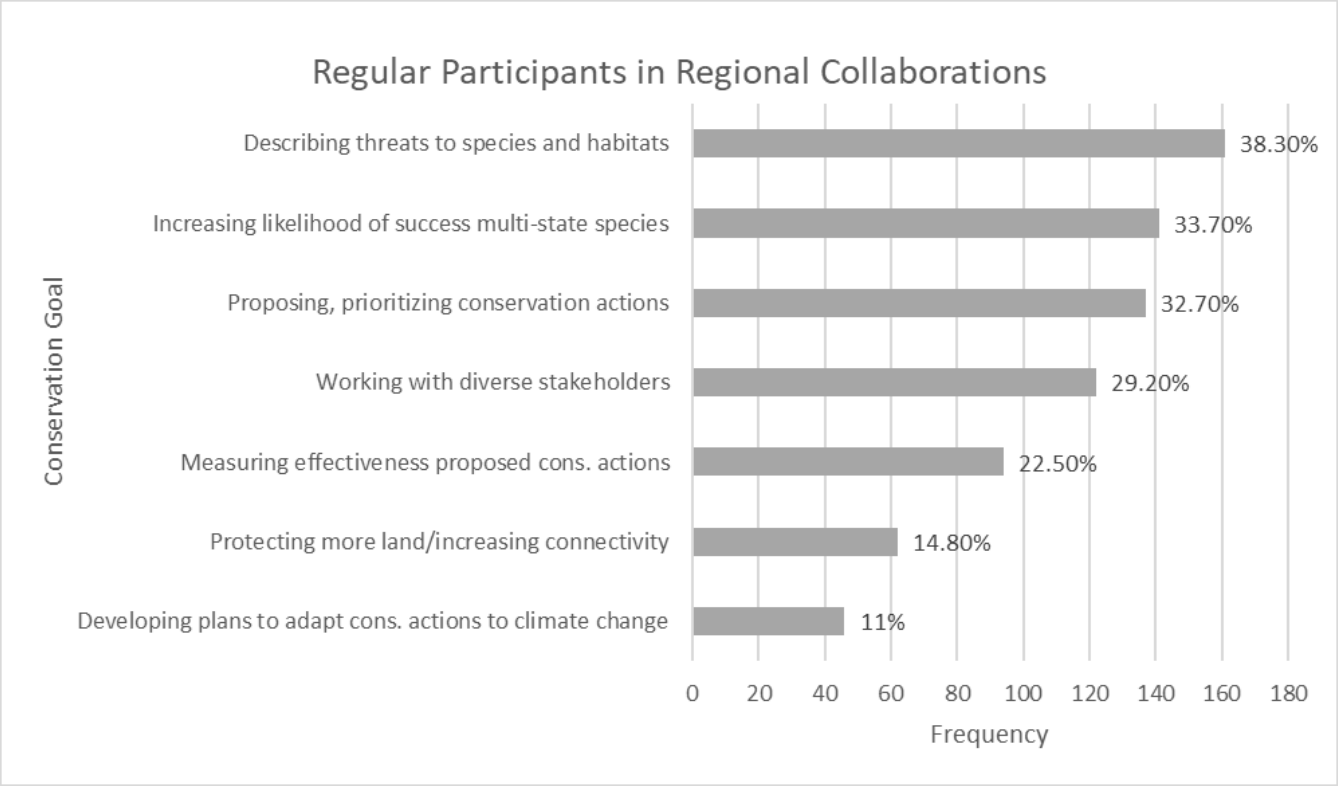
Top themes: Benefits of collaboration.	Frequency	Top themes: Barriers to collaboration.	Frequency
Species, habitats, and ranges do not recognize political boundaries.	214	Different/mismatched organizational priorities.	107
Coordinated actions lead to better outcomes/better chances of success.	63	Bureaucratic red tape, politics are too much to overcome.	94
Wildlife should be managed at the population or landscape level.	58	Issues of funding & resource constraints.	90
Sharing knowledge, not reinventing the wheel.	57	There's not enough time to work with others, and if there's time we don't have the manpower.	80
Standardizing approaches/consistent messaging will have a greater impact.	48	Logistics, coordination, and communication are too difficult.	58
Pooling resources	46	Regulatory mismatches between states/agencies.	31
Collaborations leverage/make best use of limited funding.	24	Turf war mentality/state-centric thinking	17
Bringing new and diverse perspectives into consideration.	21	Politics of out-of-state travel	17
Improving habitat connectivity	8	Silos between organizations	13
Climate change will affect species and habitats range wide.	7	Collaborations result in unbalanced outcomes	7
Managing zoonotic diseases	7		

Figure 1: Mean Importance of Regional Collaborations



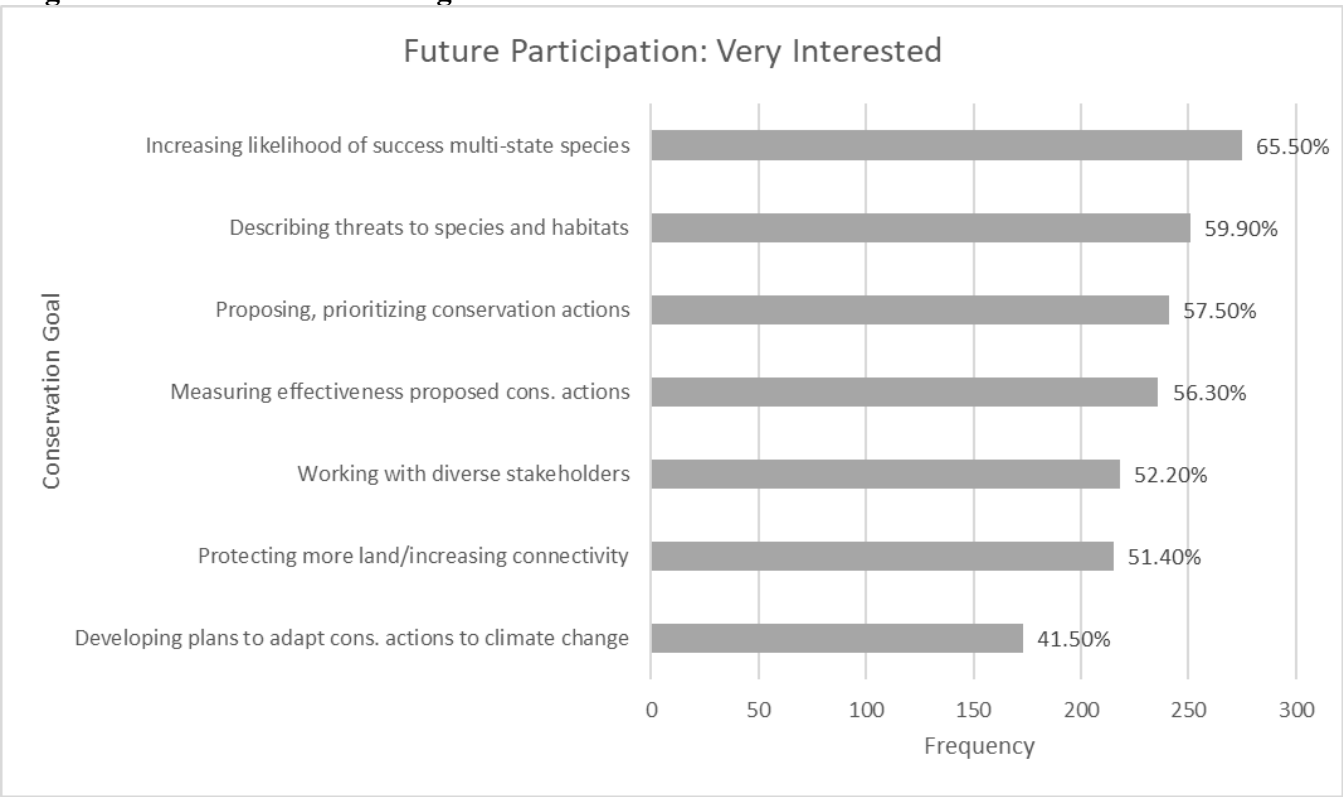
Note: Bars indicate mean importance on a seven point likert scale from 1 = least important to 7= most important." % indicates percent of respondents that ranked a conservation goal as "7 = very important."

Figure 2: Current Participation in Regional Collaborations



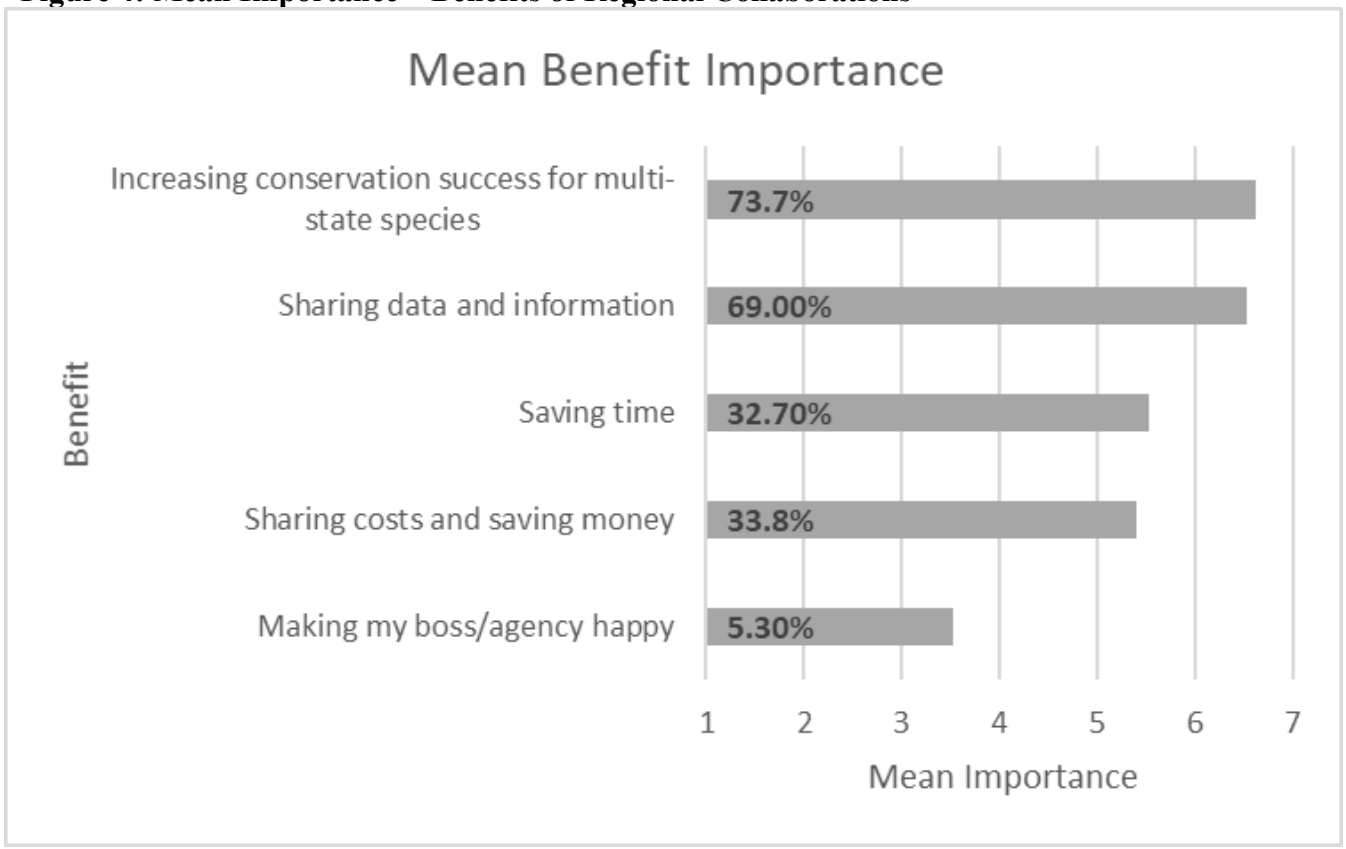
Note: Bars represent the frequency of respondents that indicated they regularly participate in regional collaborations on a scale of "never," "rarely," and "regularly." Percentages indicate % of total respondents that regularly participate in regional collaborations.

Figure 3: Interest in Future Regional Collaborations



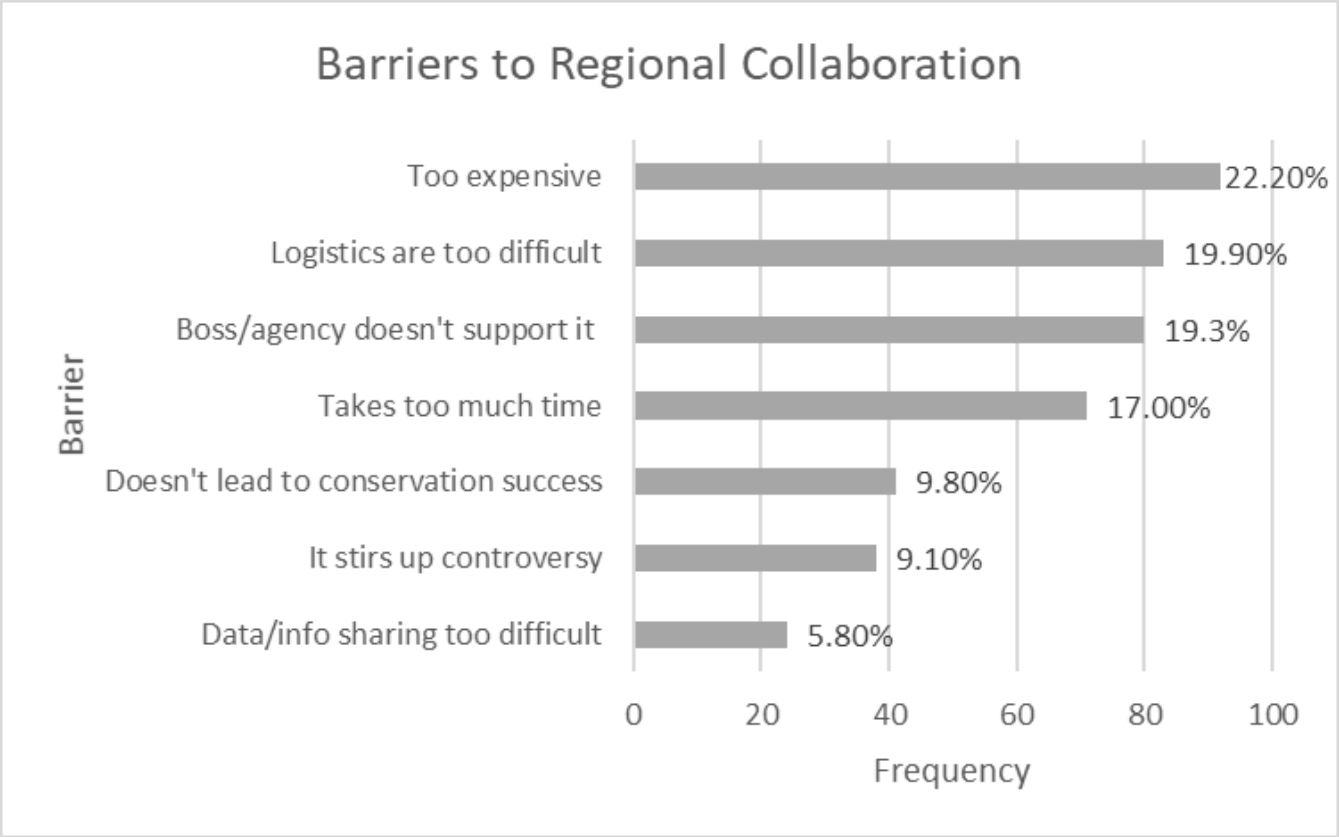
Note: Bars represent the frequency of respondents that indicated "very interested" in participating in future regional collaborations on a scale of "not at all interested," "somewhat interested," and "very interested." Percentages indicate percent of total respondents that indicated they were "very interested" in future regional collaborations.

Figure 4: Mean Importance – Benefits of Regional Collaborations



Note: Bars represent mean benefit importance on a scale from "1 = least important" to "7 = most important." Percentages indicate % of respondents that indicated "7 = most important" for each benefit.

Figure 5: Barriers to Regional Collaboration



Note: Bars indicate frequency of total respondents that indicated a barrier was a "major barrier" on a scale from "not at all a barrier" to "major barrier." Percentages indicate % of total respondents that indicated an item was a "major barrier" to working with other states on conservation issues.