Public Participation
CHAPTER 8

Table of Contents

Public Participation: A Call to Action **1**
Best Practices 1
Public Engagement: Foundational PA WAP Objectives and Strategies 1
Objective 6.1: Enhance coordination among conservation partners to foster a well-informed citizenry. 2
Objective 6.2: Encourage public input and participation in wildlife management decisions and activities. 3
Objective 6.3: Support conservation outreach initiatives. 3
Public Participation in the Revision Process **3**
Public Opinion Survey 3
Perceived Threats to Nongame Wildlife in Pennsylvania 5
Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission Programs 6
Opinions on Pennsylvania's Wildlife Action Plan 6
Nongame Fish and Wildlife Information Sources 7
Public Review 8
Tribal Governments 8
Public Comments Summary 8
Successes: Building Wildlife Action Plan Public Awareness to Advance Implementation **10**
Public Outreach: Supporting PA WAP Implementation **11**
Promoting the Plan 11
Pennsylvania Fish and Boat Commission, Angler and Boater Magazine 12
Social Media 12
Reports and Newsletters 13
Pennsylvania Natural Heritage Program 13
Engaging Public Leaders 14
Public Participation in PA WAP Implementation **15**
The Wildlife Action Map (WAM): A Public Tool for Conservation Planning and Implementation Tracking 15
Private Landowner Engagement 15
Summary **15**
References **16**
Appendix 8.1 – Public Comment Period News Releases and Form **17**
Exhibit 1. 17

Exhibit 2. 18
Exhibit 3. Public Comment Form 21
Appendix 8.2 - 2015-25 PA WAP Outreach Supporting Public Awareness and Participation 23
Exhibit 1. 23
Pennsylvania Angler and Boater articles 23
Exhibit 2. 24
Social Media Outreach statistics, 2022-26 24
Exhibit 3. 25
Pennsylvania Natural Heritage Program Newsletter and Annual Report articles 25
Appendix 8.4 Public Opinion Survey 26
Pennsylvania Residents' Opinions On and Attitudes Toward Nongame Wildlife 26

This part of page intentionally blank.

PUBLIC PARTICIPATION

Chapter Recap

- ✓ We highlight processes and products demonstrating Pennsylvania's efforts toward increasing public awareness of and engagement in 2015-25 Pennsylvania Wildlife Action Plan (PA WAP) implementation and revision.
- ✓ We outline measures to further advance public engagement to inspire action and implement the 2025-35 PA WAP.
- ✓ Since 2014, outreach by partners, the Pennsylvania Game Commission (PGC), and Pennsylvania Fish and Boat Commission (PFBC) has increased PA WAP public awareness from 12% to 53% in 2024.

Public Participation: A Call to Action

Best Practices

Public participation continually requires a broad-based and sustained approach to inform and inspire action. To do this, PGC and PFBC endeavor to implement *State Wildlife Action Plan Best Practices* (AFWA et al. 2012) whenever relevant and feasible. In this chapter, we identify where these "best practices" have been adapted and directed to support public participation in 2015-25 PA WAP implementation and revision, leading to the 2025-35 PA WAP. Specifically, we:

- informed and engaged the public in implementing the 2015-25 PA WAP.
- incorporated public participation in 2025-35 PA WAP development.
- will build upon this participation to implement the 2025-35 PA WAP.

Public Engagement: Foundational PA WAP Objectives and Strategies

In a complex social setting, enlisting ideas and support for this Plan requires a special focus expressed through a common theme of "communication and outreach." In this section, we discuss the relevance of public participation to objectives and strategies within 2025-35 PA WAP Goal 6 *"Inspire active public participation in Wildlife Action Plan development and implementation."*

Objective 6.1: Enhance coordination among conservation partners to foster a well-informed citizenry.

Pennsylvanians care deeply about the Commonwealth's fish and wildlife (Responsive Management 2024). From local entities (e.g., watershed groups, land trusts) to statewide authorities (e.g., state agencies, non-governmental organizations) with varying missions, this diverse conservation community is important for public engagement at multiple spatial scales. Uniting conservation partners across differing roles, missions and geographies, the 2025-35 PA WAP provides common themes for harmony among groups securing fish and wildlife health across the Commonwealth. Central to this coordination is ongoing outreach to build public awareness and understanding for Species of Greatest Conservation Need (SGCN) and their habitats, associated threats and risks (e.g., climate change, invasive species, pathogens) and ecosystem services (e.g., reducing floods with green infrastructure and wetland protection). To guide this effort, in 2017 we developed a PA WAP Communications Strategy (Fig. 8.1), implementing it through broad-based outreach using presentations, fact sheets, meetings, and developing the web-based publicly accessible Wildlife Action Map Conservation Opportunity Area (COA) Tool.

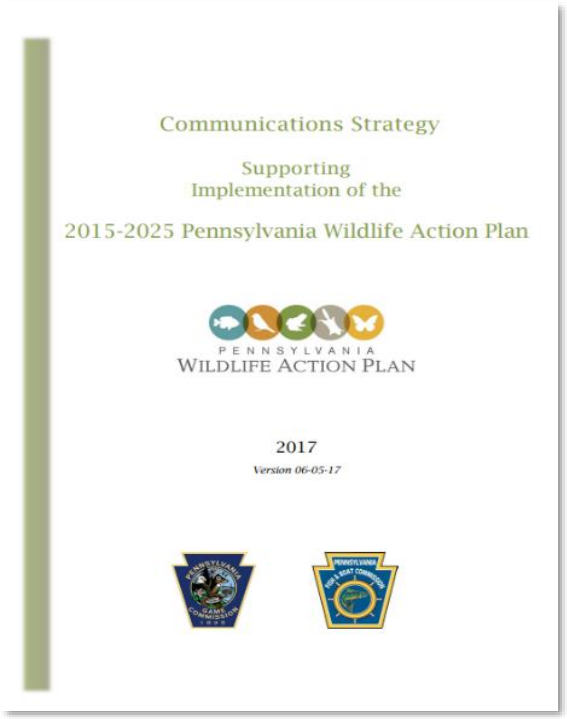


Fig. 8.1. In 2017, the Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission produced the 2015-2025 Pennsylvania Wildlife Action Plan Communications Strategy to guide outreach and support implementation.

Building on PGC and PFBC communication initiatives (discussed below), Pennsylvania's active and diverse conservation community continues to inform the public about critical issues relevant to this Plan. For example, invasive species prevention outreach is ongoing through the Pennsylvania Invasive Species Council (PISC); the Pennsylvania Natural Heritage Program, through quarterly newsletters, provides information on SGCN and habitat initiatives; and the Kittatinny Ridge Coalition routinely highlights SGCN, habitats, and the PA WAP through their 'Postcards from the Ridge' social media campaign. In the years ahead, we will continue to work with partners and expand non-traditional group collaborations to encourage their involvement using clear, concise, and consistent messaging.

Effectiveness monitoring of these communications and outreach endeavors will be important, with surveys and other analytical tools providing feedback on the usefulness of coordination and communication strategies. Communications methods and monitoring outcomes can be incorporated into a PA WAP Communications Strategy updated for the 2025-35 PA WAP.

Objective 6.2: Encourage public input and participation in wildlife management decisions and activities.

The PA WAP is for *all Pennsylvanians*! Thus, optimizing outreach to encourage public input and participation requires communication through numerous media platforms. For example, this communication may be direct one-on-one discussions with private landowners about how to voluntarily maximize benefits for SGCN on their property or, more broadly, use social and web-based media to serve diverse resources to large audiences. The audiences to reach, and associated actions for implementation, will guide approaches required to distribute relevant information. We will communicate with the public in ways that are: timely, appealing, informative, and encourage participation. The *Pennsylvania Residents' Opinions on and Attitudes Toward Nongame Wildlife* survey (Responsive Management 2024), discussed below, illustrates media types referenced by Pennsylvanians to gather nongame fish and wildlife information.

Objective 6.3: Support conservation outreach initiatives.

Communicating with the public should inspire implementation. As with the 2015-25 PA WAP, we anticipate a 2025-35 PA WAP communications strategy, or similar document, will identify topics and measures for communication progress. As a public participation "best practice" (AFWA 2012), this communications strategy will "define objectives for public involvement processes." It will provide "a clear understanding of the purpose for initiating a public engagement process." Our communications strategy will also "develop and implement a public participation process that: 1) Identifies key constituent audiences, and 2) Identifies involvement goals appropriate to each audience."

The 2025-35 PA WAP will be the foundation for developing the next communications strategy, which will build on successes and lessons learned from the 2015-25 Pennsylvania Wildlife Action Plan Communications Strategy. The revised communications strategy may include timelines, benchmarks and opportunities for periodic evaluation. Consistent with this communications strategy, we will strive to provide diverse learning experiences for traditional and non-traditional partners and encourage public participation. We anticipate using multiple media formats (e.g., social media, web-based, print) with outreach to broad audiences, including underserved communities.

Public Participation in the Revision Process

Public Opinion Survey

Adapted from Responsive Management (2014; 2024)

We used a statistically valid, science-based public survey to gain Pennsylvania residents' insights on threats to fish, wildlife, and habitats; agency programs; conservation interests; and natural resource information acquisition. This information proved instrumental for 2025-35 PA WAP development.
In February 2024, Responsive Management, a survey research firm specializing in natural resource and outdoor recreation issues, conducted the *Pennsylvania Residents' Opinions on and Attitudes Toward Nongame Wildlife* survey (hereafter "nongame survey"), the third such survey since 1996 (see 2015-25 PA WAP Chapter 8). When feasible, prior survey questions (Responsive Management 1996, 2014) informed 2024 survey questions to allow a decadal public attitude assessment.

Responsive Management conducted and completed telephone interviews obtained from Pennsylvania residents 18 years old and older. Statewide analysis had a sampling error that did not exceed +/- 1.65 percentage points.

Overall, the survey found:

1. *Pennsylvanians care deeply about wildlife.*
2. *Pennsylvanians consistently value fish and wildlife conservation. Importantly, this does not differ between hunters and nonhunter; anglers and nonanglers.*
3. *The Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission are considered highly credible.*
4. *The Pennsylvania Wildlife Action Plan addresses what constituents care about by providing a framework for needed actions.*

Survey methods and additional findings are more fully described in Appendix 8.4.

Below we discuss public opinions from four questions or topics within the survey including: 1-most important issue or concern facing nongame wildlife, 2-importance of PGC and PFBC programs, 3-importance of four main areas of the PA WAP, and 4-sources of information used by respondents.

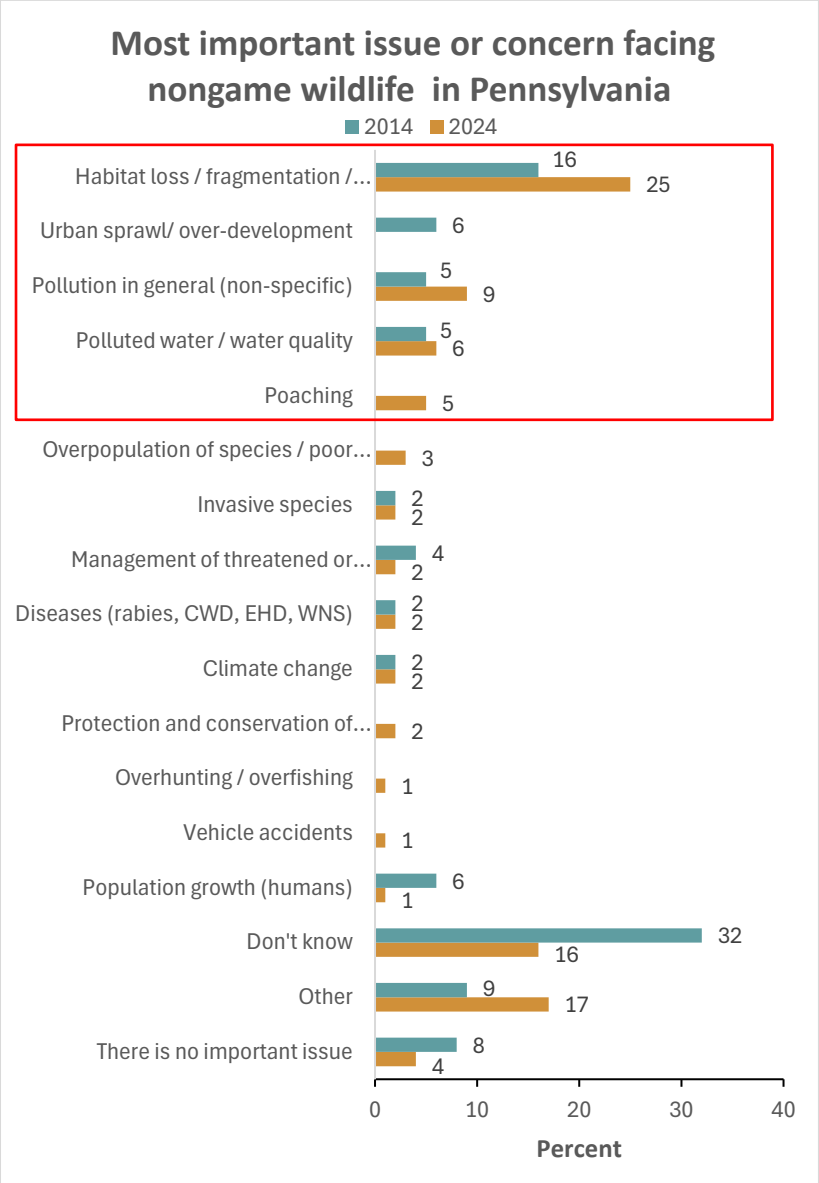


Fig. 8.2. Percent of responses by category when respondents were asked, in their opinion, to identify the most important issue or concern facing nongame wildlife in Pennsylvania today. Open-ended; only one response allowed. In 2024, this question was only asked of approximately 50% of interviewees (n = 1690) compared to 2014 (n = 3660). Source: Responsive Management (2014, 2024).

Perceived Threats to Nongame Wildlife in Pennsylvania

To guide conservation initiatives, we enlisted the public's perspective on threats to nongame wildlife. In an open-ended question, Pennsylvania residents were asked to "identify the single most-important issue or concern facing nongame wildlife in Pennsylvania today." Importantly, like the 2014 survey, the top identified concern was "habitat loss/ fragmentation/ degradation," with 25% of respondents expressing this threat, a 9% increase from 2014 (Fig. 8.2). For 2024, additional threats noted included "pollution in general (non-specific)" (9%), "polluted water/ water quality" (6%), "poaching" (5%), and "overpopulation of species/ poor species management" (3%) for the top five threats. Notably, the number of respondents expressing "don't know" decreased from 32% in 2014 to 16% in 2024. Similarly, the number indicating "there is no important issue" decreased by half, from 8% in 2014 to 4% in 2024. These results suggest a more informed public regarding threats to fish and wildlife.

Many of these perceived threats align with actual threats identified for SGCN (Chapter 1, Appendix 1.4). In 2024, the catch-all category of "other" garnered 17% of responses; an increase from 9% in 2014.

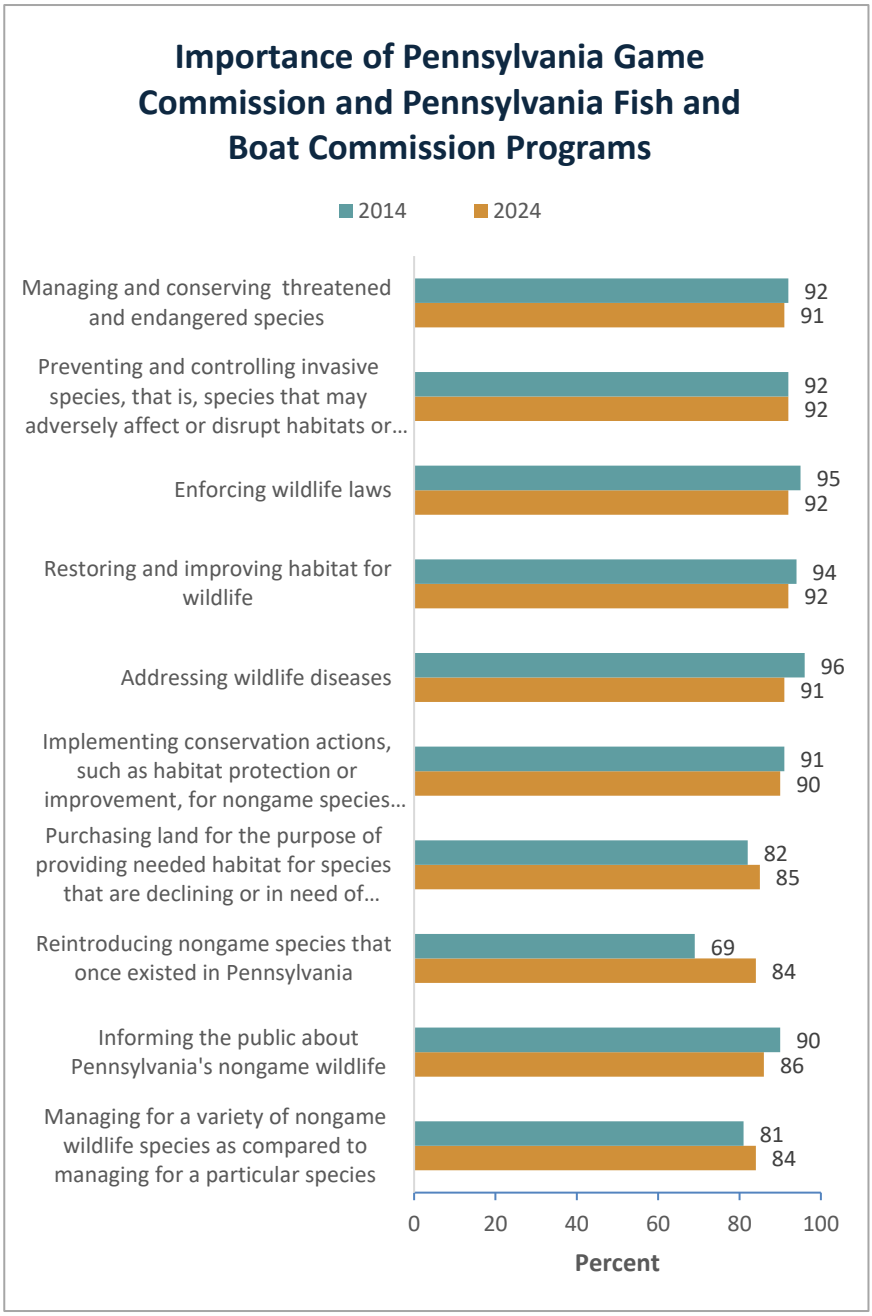


Fig. 8.3. Percent distribution of respondents answering the question "Do you think [PROGRAM] is an important or unimportant activity for the Commissions? Responses above reflect cumulative percent of respondents expressing "Very Important" or "Somewhat Important" to each program (activity) mentioned. Sources: Responsive Management (2014, 2024). (2014, n = 3,660; 2024, $1,707 \leq n \leq 3,490$).

Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission Programs

Both the 2014 and 2024 Pennsylvania nongame surveys (Responsive Management 2014, 2024), presented respondents with PGC and PFBC activities, asking respondents to rate an activity as *very important*, *somewhat important*, *somewhat unimportant* or *very unimportant*. Several topics were maintained in both the 2014 and 2024 surveys to allow comparison between years, referencing the "Commissions" collectively, rather than each Commission individually (Fig. 8.3; programs or activities allowing this comparison are shown). Commission-specific activities such as hunting, fishing, or activities not allowing a temporal assessment were included in the survey but are not discussed here. Overall, for each program or activity, there was strong consistency in responses between years, and the public considers these activities to be important with cumulative responses (i.e., "very important and somewhat important") exceeding 80%. The notable exception was enhanced importance for "reintroducing nongame species that once existed in Pennsylvania" where public perspective of this activity markedly increased from 69% (2014) to 84% (2024). This increased public importance for reestablishing populations may be due to substantial outreach and notoriety from public meetings and press for the PGC American Marten (*Martes americana*) initiative https://www.pa.gov/agencies/pgc/wildlife/discover-pa-wildlife/american-marten; a species currently extirpated from the state. Additionally, the PFBC has been actively developing programs (e.g., Union City Aquatic Conservation Center) to reestablish freshwater mussel and fish populations lost in specific areas of the state or where abundance and distribution have been diminished and stocking is a viable option for species restoration. Increased public importance for this activity suggests an awareness and support for this work.

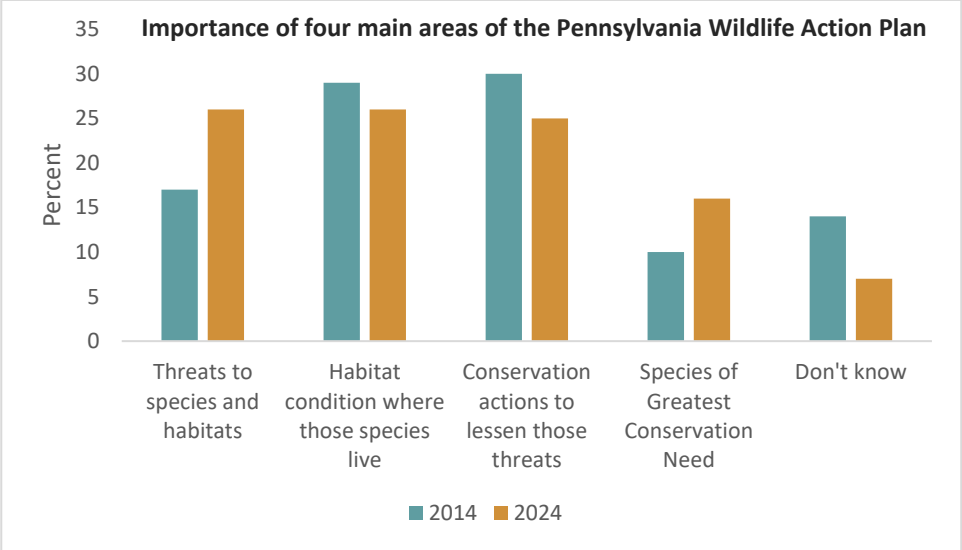


Fig. 8.4. Percent distribution of respondents answering the question "Which to you think is the most important area of the Pennsylvania Wildlife Action Plan?". Sources: Responsive Management (2014, 2024).

Opinions on Pennsylvania's Wildlife Action Plan

The 2014 Nongame Public Opinion Survey (Responsive Management 2014) provided an important baseline for PA WAP public awareness as it was the first survey conducted since publishing the 2005-2015 PA WAP. The 1996 nongame public opinion survey was conducted prior to State and Tribal Wildlife Grants enabling legislation for State Wildlife Action Plans (SWAPs). In 2014, respondents were initially asked about their awareness of the PA WAP and then informed that the Plan contains information pertaining to four main areas: "Species of Greatest Conservation Need"; "habitat

conditions where Species of Greatest Conservation Need live"; "threats to SGCN and their habitats"; and "conservation actions to lessen those threats". After providing this information to respondents, they were then asked which area is most important. In 2014, the top two issues, receiving nearly 60% of responses were: "habitat condition where those species live" (29%) and "conservation actions to lessen those threats" (30%) (Fig. 8.4). By 2024, responses were more evenly distributed across three PA WAP areas: "threats to species and habitats" (26%), "habitat condition where those species live" (26%), and "conservation actions to lessen those threats" (25%). From 2014 to 2024, respondents mentioned "threats to species and habitats" as an increasingly important component of the PA WAP (from 17% to 26% respectively). Notably, respondents mentioning Species of Greatest Conservation Need increased from 10% to 16% and, those expressing "don't know" decreased by half, from 14% to 7%, suggesting a more informed public and awareness of the PA WAP.

Nongame Fish and Wildlife Information Sources

An open-ended, multi-response question asked Pennsylvania residents where they acquire information about nongame fish and wildlife. Not surprisingly, 35% referenced "internet/ website other than PGC or PFBC websites (not social media)" most often, increasing by 14% from 2014 (Fig. 8.5). Other avenues for obtaining nongame fish and wildlife information included "from friends/ family" (11%), "TV" (9%), "PA Game Commission website" (8%), and "magazines" (6%). Use of several sources decreased between 2014 and 2024, including "from friends/ family" (11% decrease); "magazines" (13% decrease), "personal experience" (8% decrease), and "brochures or pamphlets" (7% decrease).

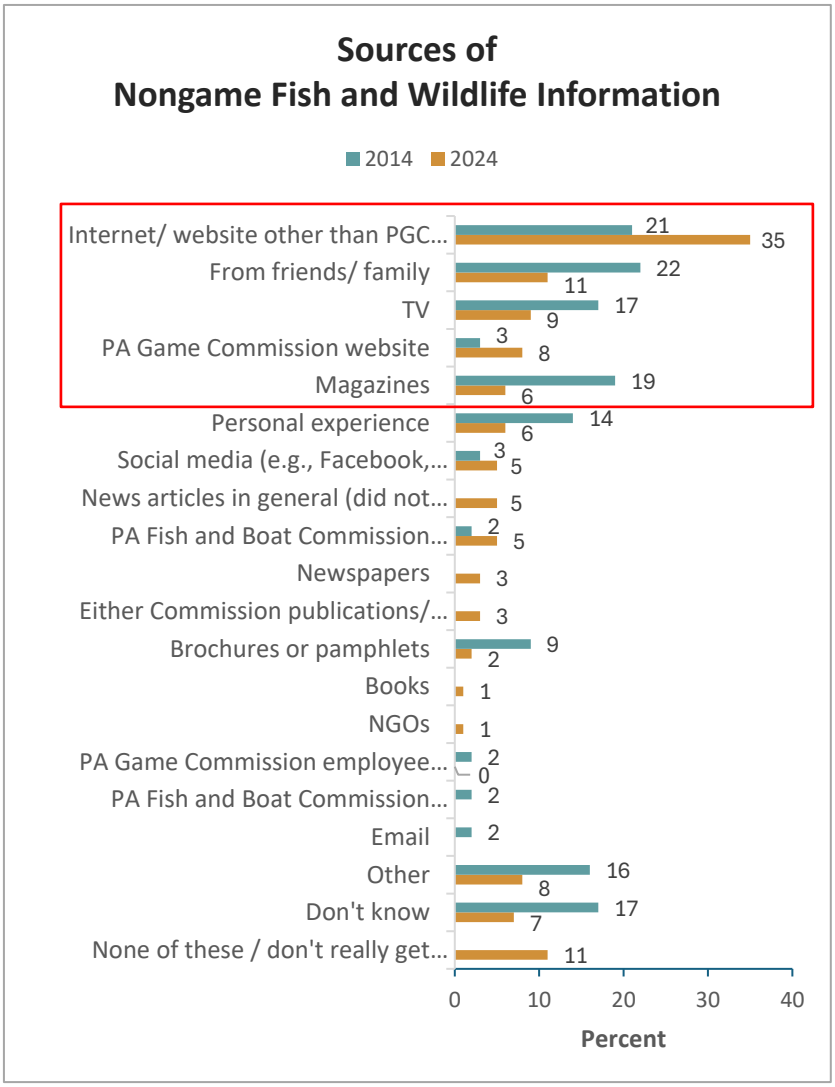


Fig. 8.5. Percent distribution of respondents answering the question "Where do you get your information about nongame fish and wildlife?" Sources: Responsive Management (2014, 2024).

Public Review

Public participation in State Wildlife Action Plans enhances conservation action implementation potential. As noted elsewhere in this chapter, awareness is essential for an effective plan. In this section we document federal requirement compliance and the AFWA State Wildlife Action Plan "best practice" that states ensure the public has at least 30 days to review and comment before it is officially submitted to the U.S. Fish and Wildlife Service.

Beginning 19 August 2026, the PGC and PFBC provided links to the full draft 2025-35 PA WAP on a shared dedicated PA WAP website for a 32-day public review period, with comments received through 19 September 2026. Readers wishing to provide comments could access an electronic Microsoft Form and, upon submittal, were notified their comments had been recorded. This public comment period was initially announced through a press release from each Commission's Press Office (Appendix 8.1, Exhibits 1, 2) and through various social media outlets (e.g., Facebook, Instagram, LinkedIn, Reddit) (Table 8.1).

Additionally, the PA WAP Coordinators separately notified of the PA WAP review opportunity 78 individuals who had signed up to receive PA WAP update notifications.

Table 8.1. Count of Pennsylvania Game Commission (PGC) and Pennsylvania Fish and Boat Commission public comment period notifications via news releases and digital media post reach, 19 August-19 September 2026.

Agency	**Date shared or posted**	**News Release** (outlets)	**Facebook** (views)	**Instagram** (views)	**LinkedIn** (impressions)	**Reddit** (views)
PGC	8.19.2026	190*	43,700**	--	1,091	--
PFBC	8.19.2026	190*	--	--	--	--
	8.24.2026		91,666	13,414	1,665	7,100
	9.8.2026		14,488	10,728	662	--

**Approximate counts*; ***Notably, viewer demographics were evenly split between page follower (22,971) and non-follower (20,758).*

Tribal Governments

Though Pennsylvania currently does not have federally recognized Native American tribal governments within our state, Native Americans have a rich historical and cultural heritage in Pennsylvania. Thus, to ensure awareness of this review opportunity, via electronic correspondence we enlisted input from federally recognized tribal governments, or affiliates, that Commonwealth agencies contact during National Environmental Policy Act (NEPA) review (Table 8.2).

Public Comments Summary

PGC and PFBC news releases received excellent statewide news coverage for diverse audiences through several online outlets such as The Courier Express (Dubois), PennWatch (central PA), The Derrick (Oil City), Lehigh Valley Live (Lehigh), Eagles Wire News (Philadelphia), Penn Live Patriot-News (central PA),

Table 8.2. Native American tribal governments, or affiliates, notified of the draft 2025-2035 Pennsylvania Wildlife Action Plan public comment period via electronic correspondence on 20 August 2026.

Absentee Shawnee Tribe of Indians of Oklahoma	Oneida Nation of Wisconsin	Seneca-Cayuga Tribe of Oklahoma
Cayuga Nation	Onondaga Nation	Shawnee Tribe
Delaware Nation of Oklahoma	Pamunkey Indian Tribe	Stockbridge-Munsee Community, Wisconsin
Delaware Tribe of Indians	Saint Regis Mohawk Tribe	Tonawanda Band of Seneca Indians
Eastern Shawnee Tribe of Oklahoma	Seneca Nation of Indians	Tuscarora Nation
Oneida Indian Nation		

WTAJ Altoona (Altoona), Erie Times-News (Erie), News 34 (on AOL), Pottsville Republican Herald (Pottsville), Times Leader (Wilkes-Barre/Scranton), GoErie (Erie), WJET/WFXP (Erie), Altoona Mirror (Altoona), Republican Herald (Pottsville), The Sentinel (Harrisburg/Carlisle). This illustrates only the traceable coverage through online search engines, thus likely represents minimum news release coverage.

As mentioned above, news releases and associated social media posts directed interested parties to the Pennsylvania Wildlife Action Plan website (https://www.pa.gov/wildlife-action-plan) for draft content and link to a comment form. From this outreach the web page received 2,702 page views from 1,878 unique visitors between 19 August and 19 September 2026, with August 24 having the most traffic. Sixty percent (60%) of views were through a non-mobile device.

Eighty-two (82) individuals or organizations submitted 102 comments through September 19, after which comments were no longer accepted. Several comments were multipart (i.e., covered several chapters or sections). Following careful review, we found 40 comments to be potentially relevant or not duplicative and addressed these, in whole or in part, through editorial or content. Twenty-seven (27) comments were not applicable to the PA WAP (e.g., unassociated agency business), beyond the Plan's scope, or related to implementation rather than planning (e.g., study design). Remaining comments were either applicable to other PGC or PFBC jurisdictional responsibilities, and shared with relevant staff for future consideration, or pertained to content already addressed within the Plan.

Public comments provided informed feedback on multiple PA WAP topics and highlighted substantive typographical errors, for which we were grateful. For example, several comments expressed that road salt and chlorides threats and actions were insufficiently addressed. We used the provided context and examples of best management practices to improve this narrative where relevant (Chapters 3-Threats and Chapter 4-Conservation Actions). During and following the public comment period, we reviewed the entire draft Plan, updating text, figures, tables, and references as needed, in response to public comments received.

Successes: Building Wildlife Action Plan Public Awareness to Advance Implementation

Outreach conducted over the past 10 years has expanded Pennsylvanian's awareness of the PA WAP as a foundation for future public engagement to conserve at-risk species. The relevance and importance of informing the public about the 2025-35 PA WAP is founded in Goal 6 "*Inspire active public participation in Wildlife Action Plan development and implementation.*"

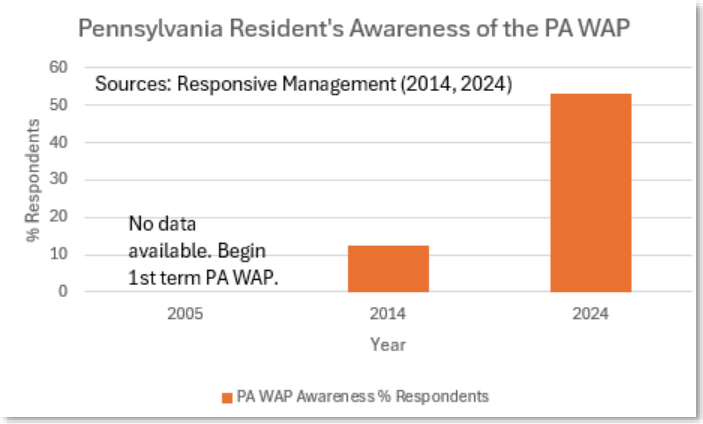


Fig. 8.8. Temporal changes in Pennsylvania resident's awareness of the Pennsylvania Wildlife Action Plan (PA WAP).

Baseline PA WAP Awareness: At their 2005 inception, SWAPs identified long-overdue deficiencies in conserving at-risk fish and wildlife, especially those animals not hunted or fished. Importantly, in the intervening years, SWAPs have been particularly effective at focusing attention on these needs. In the initial 10-year term (2005-15 PA WAP), Pennsylvania directed implementation and planning grants to cope with many natural resource concerns, including emerging threats (e.g., White-nose Syndrome in hibernating bats), on-the-ground conservation actions (e.g., habitat management, including fire management), and data acquisition for more informed management decisions. Multi-media outreach was part of these efforts, but it was not until 2014 when the Pennsylvania Game Commission contracted a survey of *Pennsylvania Residents' Attitudes on and Opinion Toward Nongame Wildlife* (Responsive Management 2014) that we became aware of the ineffectiveness of these outreach efforts. Through this survey, we learned that 12% of respondents (Pennsylvania residents) expressed having heard of the PA WAP (Responsive Management 2014) (Fig. 8.8). This low level of awareness occurred despite diverse outreach efforts conducted after 2005 (2015-25 PA WAP, Chapter 8). Importantly, PA WAP outreach is intended to inform and inspire implementation, with associated beneficial outcomes. However, when the public is unaware of the PA WAP, advancing implementation is increasingly difficult. Thus, to address this low public awareness, by June 2017, an ambitious PA WAP Communications Strategy provided the goal of increasing PA WAP public awareness to 50% by 2025. The Commissions, with assistance from several partners, then increased PA WAP outreach through presentations to diverse audiences, printed materials, web-based media (e.g., agency websites, social media platforms), a new publicly available, web-based interactive tool (i.e., Conservation Opportunity Area (COA) Tool), conferences, and other events.

Current Awareness: As discussed above, in 2024, aligned with this comprehensive review and revision, the Commissions again assessed Pennsylvania residents' public attitudes towards nongame wildlife (Responsive Management 2024). As part of this statewide survey, we gauged the effectiveness of

outreach and found PA WAP awareness had increased from 12% in 2014 to 53% in 2024. This increased PA WAP awareness included 30% of respondents expressing they "had heard of the PA WAP" and an additional 23% noting they were *somewhat* or *very familiar* with the document (Responsive Management 2024). Within this historical context, we discuss actions taken to increase public awareness from 2015 to 2025 and potential actions we may conduct to further expand public participation through 2035.

Public Outreach: Supporting PA WAP Implementation

Expanding PA WAP public knowledge, as noted in the successes above, is essential to implementation. These accomplishments, coupled with dynamic social and environmental conditions, require ongoing outreach initiatives to foster an informed public. Here, we summarize activities to involve and inform the public about the PA WAP's development and implementation.

Promoting the Plan

Beginning shortly after the 2015-25 PA WAP submission, we initiated outreach to promote the new plan by providing PA WAP information through formats familiar to PGC and PFBC constituents. These media are in support of a "best practice," where information is provided following the "state's public notification and comment period processes, such as commission meetings and hearings." Throughout its active term we employed numerous media to reach the public and partners (Table 8.4). Predominantly, presentations to diverse audiences were the primary format for reaching partners and the public, with social media increasingly prevalent from 2022 to present. Web-based materials, hard-copy fact sheets, the Conservation Opportunity Area (COA) Tool, and other media were also used contingent upon the audience and setting.

Table 8.4. Outreach formats, audiences, material type, and related information to support the 2015-25 PA WAP.

Outreach/ Inreach Format	Audience/ Material Type	Number	General
Presentations (virtual, in-person)	External (Multiple)	54	1,879 Attendees (Estimated)
	PA WAP Advisory Committee	4	Includes one written update (2020)
Printed & Digital Materials	Annual Reports	4	Information published in commission or partner annual reports
	Fact Sheets	2	2015-25 PA Wildlife Action Plan, 2015-25 PA Wildlife Action Plan Conservation Opportunity Area Tool
	Articles (Magazine)	4	PA Angler and Boater Magazine, PA Township News-circulation 7,363
	Newsletters	10	PGC, PFBC, PA Natural Heritage Program
Social Media	Facebook, Instagram, YouTube posts[1]	160	August 2020 to March 2026; posts by PFBC, Pennsylvania Natural Heritage Partnership

[1]-See Appendix 8.2, Exhibit 2 for summary information and topics (examples).

Pennsylvania Fish and Boat Commission, Angler and Boater Magazine

(Appendix 8.2; Exhibit 1)

The PFBC publishes the *Pennsylvania Angler and Boater Magazine* six times annually with hard copies distributed to 7,200 paid subscribers. Publications relevant to either the 2015-25 PA WAP implementation, or development of the 2025-35 PA WAP, include:

November-December 2016

A Giant Leap Forward for Conservation in Pennsylvania

Summary: This article discussed the recently published 2015-25 Pennsylvania Wildlife Action Plan highlighting the conservation significance for Pennsylvania's fish and wildlife, noting the Species of Greatest Conservation Need box score, and encouraging Pennsylvanian's implementation assistance.

September-October 2019

Act for Pennsylvania's Imperiled Species

Summary: This article highlighted the newly released, publicly available (August 2019) Pennsylvania Wildlife Action Plan-Conservation Opportunity Area Tool (https://wildlifeactionmap.pa.gov) and included a couple scenarios to demonstrate application of this free, web-based tool.

May-June 2025

The Pennsylvania Wildlife Action Plan: Mapping a course for At-risk Species Recovery

Summary: This article discusses PA WAP relevance for at-risk species recovery, acknowledges the need for active public participation, and encourages public input into the draft revised plan. Pennsylvania Angler and Boater Magazine, May-June 2025, Pages 39-41.

Social Media

(Appendix 8.2; Exhibit 2)

April 2022-March 2026

Through social media (e.g., Facebook, Instagram, YouTube) we provided PA WAP related information highlighting its significance and relevance to Pennsylvanians, with a cumulative reach of >3.6 million contacts.

Reports and Newsletters

The PGC and PFBC developed materials summarizing progress for a broad range of SGCN conservation initiatives. We jointly produced the following document highlighting 20 years of State and Tribal Wildlife Grants Program (https://www.pa.gov/content/dam/copapwp-pagov/en/fishandboat/documents/grants/statewildlifegrantprogram/swgtimeline2020.pdf) implementation in Pennsylvania (Fig 8.9). From 2006 to 2023, the PFBC reported progress on select State and Tribal Wildlife Grant Projects through the State Wildlife Grants Annual Summary Documents https://www.pa.gov/services/fishandboat/state-wildlife-grant.html (Fig. 8.10). Each annual document highlighted new, ongoing, or recently completed State and Tribal Wildlife Grant funded projects, providing general project purpose and findings.



Fig. 8.9. The Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission summarized Pennsylvania Wildlife Action Plan implementation progress celebrating 20 years of the State and Tribal Wildlife Grants Program.

Pennsylvania Natural Heritage Program

As members of the Pennsylvania Natural Heritage Program, the PGC and PFBC support periodic publications by providing articles relevant to the program and audiences.

Winter 2015-16 Newsletter
The 2015 Pennsylvania Wildlife Action Plan: Helping to recover and secure the Commonwealth's declining and imperiled species.

Summary: This article offers a synopsis of the recently completed revised PA WAP.

Fall 2019 Newsletter
From Observation to Conservation Decision-Making
Summary: Discussed here are differences in various PNHP products and outputs, including County Natural Heritage Inventories, Natural Heritage Area reports, and the Conservation Opportunity Area (COA) Tool.

PNHP 2020 Annual Report
Conservation Opportunity Area (COA) Tool Update
Summary: This article briefly summarizes the COA Tool and potential uses.

PNHP 2021 Annual Report
We hear you! (Conservation Opportunity Area (COA) Tool Update)
Summary: This article reminded readers of the COA Tool and uses, as well as expanded Area of Interest functionality requested by users.

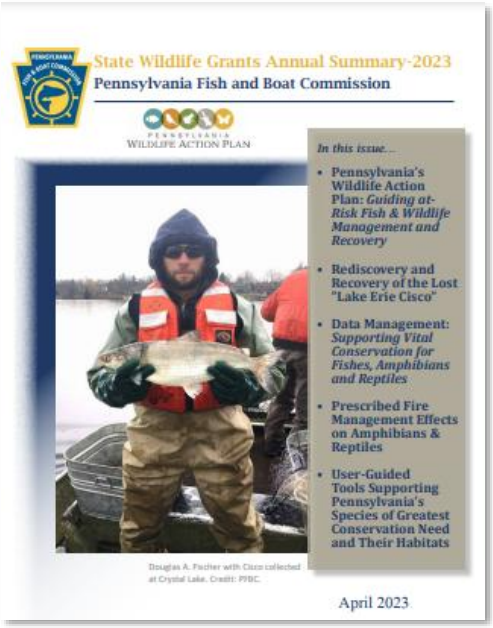


Fig. 8.10. The PFBC provided annual summaries of select State and Tribal Wildlife Grant Projects (cover of 2023 summary shown above).

Engaging Public Leaders

The 2025-35 Pennsylvania Wildlife Action Plan's fundamental need and support for public outreach is expressed in Goal 6. Beyond broad public outreach, informing public leaders about this important work helps secure the Commonwealth's fish and wildlife resources. For this outreach, an effective and illustrative approach is field-based events offering leaders and their staff first-hand opportunities to see the significant conservation work by agency staff. Additionally, agency staff and partners participating in the Association of Fish and Wildlife Agencies (AFWA) annual "Fly-In" events share technical information about State and Tribal Wildlife Grant-funded projects and their benefits to the Commonwealth's natural resources. In the years ahead, we anticipate continuing these communications to maintain 2025-35 PA WAP awareness and as activities in the PA WAP Communication Strategy.

Public Participation in PA WAP Implementation

The Wildlife Action Map (WAM): A Public Tool for Conservation Planning and Implementation Tracking

With its launch in August 2019, the Pennsylvania Wildlife Action Plan Conservation Opportunity Area (COA) Tool began a new era for conservation planning and implementation in Pennsylvania. Grounded in the 2015-25 PA WAP, this free, web-based tool allows users to access information on Species of Greatest Conservation Need, Habitats, Conservation Actions, and more, through a user-guided, map-based platform. Importantly, users can draw boundaries and gather information for places relevant to them and, compared to maps in the published Pennsylvania Wildlife Action Plan, at a more actionable scale for conservation planning. Through the detailed Area of Interest (AOI) report users are also able to access Species Accounts published in the Wildlife Action Plan.



Fig. 8.11. Home Page for the Pennsylvania Wildlife Action Map (WAM) which includes the Conservation Opportunity Area Tool and Conservation Action Tracker. https://wildlifeactionmap.pa.gov/.

In fall 2025, we launched the Conservation Action Tracker (CAT) a companion feature to the COA Tool and re-branded the tool as the Wildlife Action Map (WAM) (Fig. 8.11). With the CAT, users can voluntarily record their conservation action locations, SGCN, habitats and related non-sensitive project information. Through this site, the Commissions and partners will be able to review conservation actions supporting the Pennsylvania Wildlife Action Plan. For more information, see also Chapter 4, Actions.

Private Landowner Engagement

Pennsylvania Game Commission regional biologists provide Species of Greatest Conservation Need (SGCN) technical assistance to private landowners (10-acre minimum) through the Private Landowners Assistance Program, supported by a State and Tribal Wildlife Grant. This voluntary consultation begins with a questionnaire and field visit for the biologist to understand landowner objectives for their property. Following the field visit, interested landowners can receive a no-cost plan with recommendations to bolster native habitats and emphasizing SGCN support. Between October 2015 and September 2025, six region biologists met with **XX landowners and delivered XXX plans *(in prep)***. These landowner interactions enhance PA WAP conservation delivery statewide.

Summary

From PA WAP development to implementation, an informed and engaged public is crucial for diverse perspectives and energy to drive conservation initiatives. With the 2025-35 PA WAP we expect to build

upon historical gains in public awareness to further inform and motivate implementation. As referenced above, public participation encompasses a spectrum of involvement, of which we contend awareness is needed for public engagement and implementation. For this to occur, the public must be offered opportunities to learn about the Plan and fully understand its guiding role in managing and protecting the Commonwealth's at-risk fish and wildlife. With this knowledge of species, habitats, and associated threats, the public can be inspired to participate in local, regional, and statewide conservation projects and driven to "take action." Actions can take many forms including on-the-ground conservation actions such as habitat enhancement, fostering outreach to the public and partners, or participating in organized wildlife data collection efforts (e.g., Christmas Bird Counts, Amphibian and Reptile Surveys). Actively participating in local government decisions that help protect habitat for SGCN, or informing leaders on the relevance of fish, wildlife and their habitats to the quality of life for citizens of the state, are highly valued initiatives for public participation. When driven by public knowledge, these actions provide crucial impetus to enhance this Plan's implementation and success.

References

Association of Fish and Wildlife Agencies (AFWA), Teaming with Wildlife Committee, State Wildlife Action Plan (SWAP) Best Practices Working Group, 2012. Best Practices for State Wildlife Action Plans-Voluntary Guidance to States for Revision and Implementation. Washington (DC): Association of Fish and Wildlife Agencies.

Responsive Management. 1996. *Pennsylvania Residents' Opinions on and Attitudes Toward Nongame Wildlife*. A report to the Pennsylvania Game Commission, Harrisburg, Pennsylvania.

Responsive Management. 2014. *Pennsylvania Residents' Opinions on and Attitudes Toward Nongame Wildlife*. A report to the Pennsylvania Game Commission, Harrisburg, Pennsylvania.

Responsive Management. 2024. *Pennsylvania Residents' Opinions on and Attitudes Toward Nongame Wildlife*. A report to the Pennsylvania Game Commission, Harrisburg, Pennsylvania.

Appendix 8.1 – Public Comment Period News Releases and Form

Exhibit 1.

Pennsylvania Game Commission news release inviting public comment on the draft 2025-2035 Pennsylvania Wildlife Action Plan.

PENNSYLVANIA GAME COMMISSION

News Release #26-26
August 19, 2026

PA Game Commission, Fish and Boat Commission Seek Public Input on New Pennsylvania Wildlife Action Plan

Harrisburg – The Pennsylvania Game Commission (PGC) and Pennsylvania Fish and Boat Commission (PFBC) announced today that public input is being accepted related to the agencies' draft 2025-2035 Pennsylvania Wildlife Action Plan. This is a non-regulatory plan that encourages all Pennsylvanians to participate in fish and wildlife conservation.

The draft Plan and public comment form are available online. Comments may be submitted through September 19, 2026.

First developed in 2005, the Pennsylvania Wildlife Action Plan has been the Commonwealth's blueprint "to conserve Pennsylvania's native fish and wildlife, maintain resilient habitat, and protect and enhance Species of Greatest Conservation Need." As required by Congress, State Wildlife Action Plans must be revised no less than every 10 years.

Over the past decade, the Pennsylvania Wildlife Action Plan and associated funding from State and Tribal Wildlife Grants have been crucial for protecting and recovering at-risk species and their habitats.

A Wildlife Action Plan approved by the U.S. Fish and Wildlife Service (USFWS) is required for states to receive State & Tribal Wildlife Grant Program funds. The Pennsylvania Wildlife Action Plan is scheduled to be delivered to the USFWS by October 1, 2026.

"This Plan reflects our responsibility to protect Pennsylvania's remarkable variety of wildlife," said Pennsylvania Game Commission Executive Director Steve Smith. "In that responsibility, we must do more than just express our commitment to conservation. We must be active stewards

to carefully manage and protect the Commonwealth's natural resources. This Plan provides the framework to fulfill that responsibility while keeping our efforts aligned with the federal government and other states."

"The Wildlife Action Plan is a call to action to help protect, conserve and enhance Pennsylvania's fish and wildlife," said PFBC Executive Director Tim Schaeffer. "Our state is home to an incredible diversity of fish, invertebrates, reptiles, and amphibians, and we are entrusted with the responsibility of ensuring their sustainability for generations to come. This Plan will help guide our agencies' efforts and empower our partners to work collaboratively alongside us to advance common goals."

To compile the Pennsylvania Wildlife Action Plan, the PGC, PFBC, and conservation partners, work together to gather and analyze information related to native species, habitats, threats, conservation actions to address the threats, and monitoring of these species and habitats.

The revised draft plan has 858 Species of Greatest Need including 86 birds, 21 mammals, 19 amphibians, 18 reptiles, 47 fishes and 667 invertebrates that require attention.

###

MEDIA CONTACTS:

John Buffone, PGC: (717) 743-3601 Ext: 73351, jobuffone@pa.gov

Mike Parker, PFBC: (717) 585-3076, michparker@pa.gov

Exhibit 2.

Pennsylvania Fish and Boat Commission news release inviting public comment on the draft 2025-2035 Pennsylvania Wildlife Action Plan.

PA Game Commission, Fish and Boat Commission Seek Public Input on New Pennsylvania Wildlife Action Plan

HARRISBURG, Pa. (August 19) -- The Pennsylvania Game Commission (PGC) and Pennsylvania Fish and Boat Commission (PFBC) announced today that public input is being accepted related to the agencies' draft 2025-2035 Pennsylvania Wildlife Action Plan. This is a non-regulatory plan that encourages all Pennsylvanians to participate in fish and wildlife conservation.

The draft Plan and public comment form are available online. Comments may be submitted through September 19, 2026.

First developed in 2005, the Pennsylvania Wildlife Action Plan has been the Commonwealth's blueprint "to conserve Pennsylvania's native fish and wildlife, maintain resilient habitat, and protect and enhance Species of Greatest Conservation Need." As required by Congress, State Wildlife Action Plans must be revised no less than every 10 years.

Over the past decade, the Pennsylvania Wildlife Action Plan and associated funding from State and Tribal Wildlife Grants have been crucial for protecting and recovering at-risk species and their habitats.

A Wildlife Action Plan approved by the U.S. Fish and Wildlife Service (USFWS) is required for states to receive State & Tribal Wildlife Grant Program funds. The Pennsylvania Wildlife Action Plan is scheduled to be delivered to the USFWS by October 1, 2026.

"This Plan reflects our responsibility to protect Pennsylvania's remarkable variety of wildlife," said Pennsylvania Game Commission Executive Director Steve Smith. "In that responsibility, we must do more than just express our commitment to conservation. We must be active stewards to carefully manage and protect the Commonwealth's natural resources. This Plan provides the framework to fulfill that responsibility while keeping our efforts aligned with the federal government and other states."

"The Wildlife Action Plan is a call to action to help protect, conserve, and enhance Pennsylvania's fish and wildlife," said PFBC Executive Director Tim Schaeffer. "Our state is home to an incredible diversity of fish, invertebrates, reptiles, and amphibians, and we are entrusted with the responsibility of ensuring their sustainability for generations to come. This Plan will help guide our agencies' efforts and empower our partners to work collaboratively alongside us to advance common goals."

To compile the Pennsylvania Wildlife Action Plan, the PGC, PFBC, and conservation partners, work together to gather and analyze information related to native species, habitats, threats, conservation actions to address the threats, and monitoring of these species and habitats.

The revised draft plan has 858 Species of Greatest Need including 86 birds, 21 mammals, 19 amphibians, 18 reptiles, 47 fishes, and 667 invertebrates that require attention.

##

Media Contact:
Mike Parker
Communications Director
Pennsylvania Fish and Boat Commission
(717) 585-3076
michparker@pa.gov

Exhibit 3. Public Comment Form

Page 1:

DRAFT 2025-2035 PENNSYLVANIA WILDLIFE ACTION PLAN | PUBLIC COMMENT FORM

THANK YOU for providing feedback on the third iteration of Pennsylvania's conservation blueprint for at-risk fish and wildlife. The Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission greatly appreciate your time and value your input!

Comments will be accepted through Saturday, September 19, 2026.

All comments will be summarized for inclusion in the Wildlife Action Plan. Personal information will not be shared, and comments will not be publicly attributed to the individual or entity providing comments. Though we will not respond individually to comments received, we will make a reasonable effort to address comments in the document, to the greatest extent possible, prior to finalizing and submitting the 2025-2035 Pennsylvania Wildlife Action Plan to the U.S. Fish and Wildlife Service by October 1, 2026.

1. **First Name (will not be shared)** *

2. **Last Name (will not be shared)** *

3. **Email Address (in case we need clarification on a comment)** *

4. **City** *

5. **State** *

Page 2:

6. **Zip Code** *

7. **Please select the CHAPTER for which you have a comment.** **One comment per comment form. For additional comments, select '"submit another response" after submitting the form.* *

- ◯ Introduction
- ◯ Chapter 1 - Species
- ◯ Chapter 1 - Species Accounts
- ◯ Chapter 2 - Habitat
- ◯ Chapter 3 - Threats
- ◯ Chapter 4 - Conservation Actions
- ◯ Chapter 5 - Monitoring
- ◯ Chapter 6 - Revision
- ◯ Chapter 7 - Partner Engagement
- ◯ Chapter 8 - Public Participation
- ◯ References (at the end of each chapter)
- ◯ General Comment

8. **Please indicate the PAGE, or PAGE RANGE, for which you are commenting.** *

9. **COMMENT** (~800 word / 4000-character limit). If you have multiple comments in a Chapter, please start the comment with the page number (e.g., p. 5 - comment; p. 15 - comment): *

Please enter at most 4000 characters

Appendix 8.2 - 2015-25 PA WAP Outreach Supporting Public Awareness and Participation

Exhibit 1.

Pennsylvania Angler and Boater articles

- *A Giant Leap Forward for Conservation in Pennsylvania, November/December 2016*
- *Act for Pennsylvania's Imperiled Species, September/October 2019*
- *The Pennsylvania Wildlife Action Plan: Mapping a course for At-risk Species Recovery, May/June 2025*

PENNSYLVANIA
WILDLIFE ACTION PLAN

A GIANT Leap Forward for Conservation in Pennsylvania

by Diana Day
Pennsylvania Fish & Boat Commission
Conservation Coordinator



photo-Tom Diez

New Jersey Chorus Frog



photo-Jackie Carey

Wood Turtle

On October 1, 2015, the Pennsylvania Game Commission (PGC) and Pennsylvania Fish & Boat Commission (PFBC) officially submitted the 2015-2025 Pennsylvania Wildlife Action Plan to the U.S. Fish & Wildlife Service (USFWS).

Why is this significant?

For context, completion of the 2015 Pennsylvania Wildlife Action Plan represents the culmination of a 3-year intensive effort to comprehensively revise the 2005 Pennsylvania Wildlife Action Plan. This revision process, led by PGC and PFBC, included staff from both Commissions and an expansive team of technical experts and energetic partners. In 2005, the first Pennsylvania Wildlife Action Plan at the time of its publication was the most comprehensive assessment of imperiled and declining species in Pennsylvania. Over its 10-year history, it served as a crucial blueprint for the managing, protecting and enhancing knowledge of these species. The Pennsylvania Wildlife Action Plan is part of a national program. In 2000, as a proactive approach to keep species from becoming federally threatened or endangered, the United States Congress approved legislation authorizing development of State Wildlife Action Plans (formerly Comprehensive Wildlife Conservation Strategies). It is generally recognized by resource managers that early intervention to stabilize and recover imperiled populations is less costly and more beneficial to the species than attempting to recover them from the brink of extinction when populations are reduced to critically low levels. Also, attempting to recover species with low populations brings additional technical concerns (e.g., genetic viability), and other elements such as the potential listing as a federal endangered or threatened species and expanded regulations.

The federal legislation that authorized the State Wildlife Action Plans requires states, United States territories and the District of Columbia to comprehensively revise their Wildlife Action Plans no less than every 10 years. Completion of the 2015 Pennsylvania Wildlife Action Plan and its submission to the USFWS was the initial step in satisfying this requirement for Pennsylvania. Each state's Wildlife Action Plan must then be reviewed and approved by USFWS to ensure critical features (i.e., eight Required Elements) have been addressed. In other issues of this publication, we have discussed the State Wildlife Action Plan and a few of these Required Elements (September/October 2015, September/October 2014, September/October 2013 and November/December 2012).

Federally approved State Wildlife Action Plans also allow each state to receive federal funds through the State and Tribal Wildlife Grants Program. In Pennsylvania, these federal funds are shared equally between PFBC and PGC and, along with non-federal matching funds, are used to support species and habitats in the Pennsylvania Wildlife Action Plan.

What species are in the plan?

At the foundation of the Pennsylvania Wildlife Action Plan are the Species of Greatest Conservation Need (the term used for species in the plan). During the revision process, species

Table 1. Number of Species of Greatest Conservation Need in the 2015 Pennsylvania Wildlife Action Plan by Taxonomic Group.

Birds	90
Mammals	19
Fishes	65
Amphibians	18
Reptiles	22
Invertebrates	450
Grand Total	664

experts from PFBC, PGC, Pennsylvania Biological Survey (PABS), non-governmental organizations and institutions determined which native animals should be included in the plan. They used standardized procedures to evaluate global and state rarity as well as environmental threats to species. A series of questions (i.e., a flowchart) guided a consistent approach to species selection. The outcome of this transparent process, discussed more fully in Chapter 1 (Species) of the plan was selection of 664 species (Table 1).

How you can help species in the plan?

Success of the 2015 Pennsylvania Wildlife Action Plan depends upon many people helping to implement conservation actions in the plan. It is a plan for all of Pennsylvania, and there are numerous opportunities for people of diverse skills and ages to support species and habitats. Do you like to watch birds, butterflies or other wildlife? Perhaps your interests are planting trees or grasses for wildlife or removing invasive species. Do you own land and want to provide high-quality habitat for wildlife? With your keen interest and motivation, there are numerous ways to become engaged in the plan (see Chapter 4 in the section Take Action! Get Involved!).

The 2015 Pennsylvania Wildlife Action Plan is comprehensive, so it may be helpful to consider a few questions to guide readers to find more information in the plan (Table 2).

What's next?

The 2015 Pennsylvania Wildlife Action Plan builds upon the great work of many PFBC and PGC staff and numerous conservation partners who developed and implemented the 2005 Plan.

To initially implement the 2015 Plan we will:

Table 2. Quick Guide to the 2015 Pennsylvania Wildlife Action Plan.

Topic	Question	Overview	For Information
Animals	I have a favorite animal or group of animals. Where can I see the list of animals in the plan?	There are 664 Species of Greatest Conservation Need in the plan.	Species Accounts-Appendix 1.4, Chapter 1, Appendix 1.1
Habitats	I want to learn more about habitats and species associated with those habitats. Where can I find this information?	As required by the Service, habitats where species may be found have been identified.	Chapter 2, Appendix 2.1
Actions	What types of activities would support this plan? Who can get involved?	There are many ways to help species in the plan. It depends on your interests.	Chapter 4 (Conservation Actions), see Take Action! Get Involved!
Environmental Threats	How can I understand more about environmental problems affecting species?	The plan has information on a broad range of environmental problems effecting fish and wildlife throughout the state and northeastern United States.	Chapter 3

- Continue to assess species populations and their environmental threats.
- Work with conservation partners to begin implementing high priority conservation actions identified in the Species Accounts (Appendix 1.3).

The 2015 Pennsylvania Wildlife Action Plan provides a focal point to rally collaboration and engagement of federal, state and local governments, non-governmental organizations, private landowners and anyone interested in protecting and conserving Pennsylvania's natural heritage for future generations. The plan is available at ***www.fishandboat.com/swap.htm*** and ***www.pgc.pa.gov/Wildlife/WildlifeActionPlan/Pages/default.aspx.***

Act for Pennsylvania's Imperiled Species



photo-Tom Diez



photo- Doug Fischer



photo-JacobDingel, PGC

by Diana Day
PFBC Division of Environmental Services
Conservation Coordinator

Cathy Haffner
PGC Wildlife Diversity
Conservation Planning Coordinator

Across Pennsylvania, there is incredible interest to conserve and sustainably manage the Commonwealth's diverse natural resources. Yet, with many different types of wildlife and habitats, it can sometimes be difficult to know what actions to take. The Conservation Opportunity Area (COA) Tool, introduced earlier this year, may be able to help. Developed using information in the 2015-2025 Pennsylvania Wildlife Action Plan, the COA Tool is publicly available and uses a web-based mapping system to provide information on Species of Greatest Conservation Need and their habitats, conservation actions to support species, as well as research and survey needs.

The 2015-2025 Pennsylvania Wildlife Action Plan is Pennsylvania's blueprint for proactively conserving and managing imperiled and declining species (i.e. Species of Greatest Conservation Need). Each state and United States territory has a Wildlife Action Plan aimed at keeping species from becoming federally listed as threatened or endangered. The Pennsylvania COA Tool transforms information from a static, complex document format to a dynamic, interactive web-accessible tool available to the public to support specific planning or management purposes, or to satisfy curiosity about Pennsylvania's Species of Greatest Conservation Need and habitats. The Pennsylvania Wildlife Action Plan is non-regulatory. Thus, the COA Tool does not satisfy or supplant regulatory review requirements and is not for Pennsylvania Natural Diversity Inventory (PNDI) project screening.

To get started using the tool, new users must first register for a free account, which will allow creating and saving projects, and generating reports. After registering and accepting terms and conditions, users can just dive-in or, if more information is desired, Quick Start Instructions provide steps for basic tool navigation. The Help section has detailed instructions for specific tool functions.

https://wildlifeactionmap.pa.gov

PENNSYLVANIA
WILDLIFE ACTION PLAN

Key features

The COA Tool has many features that can be used by novices and experts alike. Highlighted here are two major functions, along with examples of use, for Map and Statewide Search.

Scenario 1

A landowner would like to develop a wildlife management plan and wants to know which Species of Greatest Conservation Need are on their property.

How the tool can help

The Map function allows the landowner to draw an Area of Interest, in this case, the landowner's property boundary (up to 5,500 acres). The output is a detailed report, which includes location information, a list of the Species of Greatest Conservation Need and specific habitat requirements, conservation actions for the species, a habitat map, and research and survey needs. Threatened, endangered or otherwise sensitive species are masked in the report for the species' protection. Consultation with a wildlife professional is encouraged.

Scenario 2

An interested citizen would like to know if a Species of Greatest Conservation Need occurs in their county or major watershed.

How the tool can help

The Statewide Search function allows users to select the county or major watershed of interest and generate a county or watershed-wide list of species. Alternatively, for an individual species, the user can select from a list of species and obtain a



The Conservation Opportunity Area Tool home page

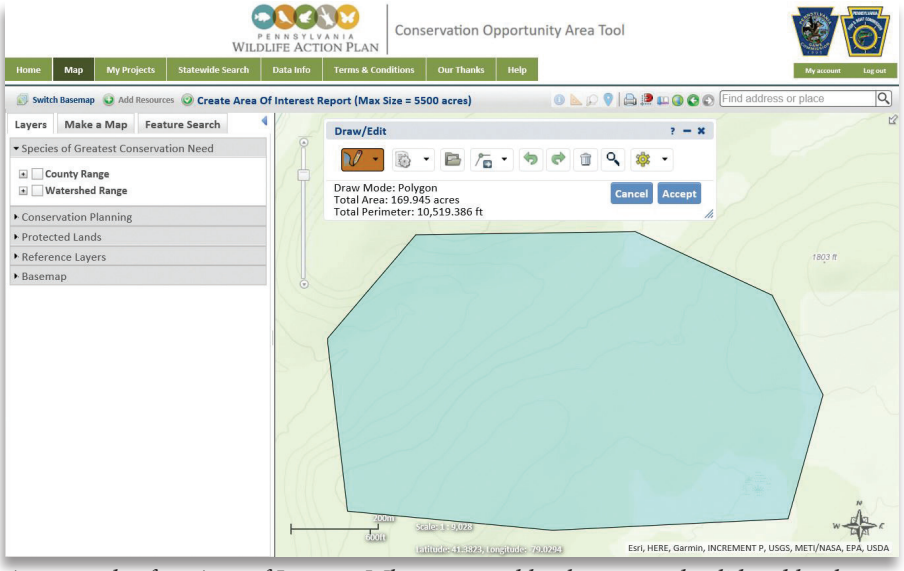
list of counties or watersheds where the species occurs. Output can also be as a Portable Document Format (pdf) and includes a map of the counties or watersheds where the species is found.

Reporting information

Do you have Species of Greatest Conservation Need information to report? Here's how you can help.

First, look in the 2015-2025 Pennsylvania Wildlife Action Plan, Appendix 1.3, at **www.fishandboat.com/Resource/Documents/SWAP-CHAPTER-1-apx13.pdf** for a list of Species of Greatest Conservation Need. If one or more species are listed for which you have information, then use one of the following sites to report the observation. To provide the most accurate information possible, these sources are reviewed by experts prior to uploading into the COA Tool at quarterly or annual intervals.

- Pennsylvania Amphibian and Reptile Survey **www.paherpsurvey.org**
- iNaturalist (all species) **www.inaturalist.org**
- eBird **www.ebird.org**
- Pennsylvania Mammal Atlas **www.pamammalatlas.com**
- Butterflies and Moths of North America **www.butterfliesandmoths.org**



An example of an Area of Interest. When accepted by the user and validated by the tool, a report will be produced.

As administrators of the Pennsylvania Wildlife Action Plan, the Pennsylvania Game Commission and Pennsylvania Fish & Boat Commission coordinated COA Tool development. Numerous technical and administrative staff from both agencies, as well as conservation partners across Pennsylvania, provided essential input and support. Data compilation, management and web-based prototypes were developed by Western Pennsylvania Conservancy, with NatureServe©, providing final web-enabling and current web support. Financial support was provided through the State Wildlife Grant Program administered by the Northeast Regional Office of the United States Fish and Wildlife Service, Wildlife and Sport Fish Restoration Program.

PENNSYLVANIA
WILDLIFE ACTION PLAN



photo-Brandon Ruhe

Eastern Spadefoot, Scaphiopus holbrooki

Pennsylvania Wildlife Action Plan—
Mapping a Course for At-risk Species Recovery

by Diana Day
Pennsylvania Fish and Boat Commission
Division of Environmental Services

Chris Urban
Pennsylvania Fish and Boat Commission
Division of Environmental Services

Cathy Haffner
Pennsylvania Game Commission
Wildlife Recovery Division

Many of us have found ourselves needing a map to guide us along a trail, find our favorite fishing spot or other desired destination. Maps, whether displayed on our electronic devices or on tattered paper, offer a sense of place—our location relative to other landscape features. Similarly, the Pennsylvania Wildlife Action Plan serves as a "map" to recover our native imperiled fish and wildlife species and guide and maintain healthy fish and wildlife populations. Proactively avoiding diminished populations is more effective and less costly than

Pennsylvania Wildlife Action Plan:

map-Public domain, via Wikimedia Commons



The Central Mudminnow was removed in 2019 from the Pennsylvania candidate species list, demonstrating a species status can improve.

recovering a depleted population, often expressed as to "keep common native species common". Currently, some "at-risk" species may be in good condition, but threats encountered over an extended time may contribute to their decline. Yet, for some species, their populations are already diminished, and we need to chart a long-term path to recovery. For nearly 20 years, the Pennsylvania Wildlife Action Plan has been Pennsylvania's most complete document on at-risk species. The Pennsylvania Fish and Boat Commission (PFBC) and Pennsylvania Game Commission (PGC) jointly oversee this plan for use by all Pennsylvanians who have an interest in conserving Species of Greatest Conservation Need and their habitats.

Purpose of the Wildlife Action Plan

In the late 1990s, the United States Congress determined action was needed to keep species from becoming federally listed as threatened or endangered. After passage of the United States Endangered Species Act in 1973, the number of species on this list grew rapidly, indicating increasing imperilment for species and their habitats. State natural resource agencies are required to conserve and protect their fish and wildlife, which is critical to implementing on-the-ground conservation. In 2000, the State and Tribal Wildlife Grants program was enacted by Congress requiring all states and United States territories to develop a Wildlife Action Plan to avoid federal fish and wildlife species listings. A United States Fish and Wildlife Service-approved Wildlife Action Plan provides states and United States territories with eligibility for federal funding to implement these plans.

At-risk Species Recovery

The road to species recovery is often not a direct, easy course; rather, such efforts typically require extensive time, technical knowledge and funding. Much like highly sought travel destinations, the Pennsylvania Wildlife Action Plan contains special features, referred to as the "Eight Required Elements". These features provide essential information to guide species recovery including a list of at-risk fish and wildlife (with justification) referred to as Species of Greatest Conservation Need. Required Elements also include the extent and quality of habitats used by the species, threats to the species and habitats, conservation actions to address the threats, monitoring activities for the species, plan implementation, a commitment by the state to comprehensively review and revise the plan every 10 years and partner and public participation in the plan.

The Pennsylvania Wildlife Action Plan is valuable for guiding species recovery and avoiding species endangerment. Since 2005, the PFBC has recovered, delisted or upgraded (i.e., reduced the threat status from state endangered to state threatened) 23 of its species of concern. Despite the great success, within this same period, surveys

have found the population status of 19 species has declined—becoming newly listed or downgraded (i.e., increasing imperilment from state threatened to state endangered). Such findings illustrate the need to focus attention on these species to regain healthy populations and the importance of frequently assessing species status.

Many factors (e.g., pollution, invasive species, illegal harvest) can impact fish and wildlife population health, and, in a changing environment, regularly reviewing the Pennsylvania Wildlife Action Plan is important to accurately guide conservation efforts. To provide this updated information, the PFBC and PGC are working with partners to develop the third version of the Pennsylvania Wildlife Action Plan.



Bowfin, Amia calva

photo-Bob Lorantas

The Bowfin was removed in 2016 from the Pennsylvania candidate species list. Additional occurrences in the Ohio and Lake Erie drainage were sufficient for this determination.

Critical Support

Pennsylvania Wildlife Action Plan successes are not possible without active engagement and participation by partners and the public. Reflecting a team effort, numerous coordination initiatives with federal and state agencies, public engagement in community science projects and more, contribute to its success.

Public Input

An important role of partners and the public is to offer their ideas on the Pennsylvania Wildlife Action Plan draft. We anticipate, in a few months, posting a full draft of the 2025-2035 Pennsylvania Wildlife Action Plan for public comment. Visit PFBC's website or watch for a news release.

Get Involved

We encourage participation in activities that support implementation of the Pennsylvania Wildlife Action Plan. All that's needed is interest in conserving Pennsylvania's Species of Greatest Conservation Need and their habitats. Regardless of your experience or age, there are numerous paths for involvement. Examples are provided both in the current and the draft plan. We welcome and greatly appreciate your ideas for additional resources to support implementation of the new plan.

Pennsylvanians value fish and wildlife, and with the 2025-2035 Pennsylvania Wildlife Action Plan, we can all chart a course to help secure and recover our most vulnerable species for future generations.



Cover of the State and Tribal Wildlife Grants Program 20-year summary.

State and Tribal Wildlife Grants Program Summary:

Exhibit 2.

Social Media Outreach statistics, 2022-26

Year	Media Format	Number of Contacts
2022	Facebook	106,000
2023	Facebook	227,600
2024	Facebook	1,165,246
	Instagram	67,940
2025	Facebook	1,831,062
	Instagram	154,672
	YouTube	5,300
2026	Facebook	380,992
	Instagram	56,146
	YouTube	8,600

Social Media Themes *(Examples)*
World Habitat Awareness Month
Earth Day
Endangered Species Day
National Wildlife Day
Amphibian Week
World Wildlife Day
Native Species Day
Aquatic Invasive Species Awareness and Prevention
National Invasive Species Week
Wildlife Conservation Day
World Reptile Day
Pennsylvania's Official State Amphibian
Pennsylvania's mighty mussels

Exhibit 3.

Pennsylvania Natural Heritage Program Newsletter and Annual Report articles

- *The 2015 Pennsylvania Wildlife Action Plan: Helping to recover and secure the Commonwealth's declining and imperiled species, Winter 2015-16 newsletter*
- *From Observation to Conservation Decision-making, Fall 2019 newsletter*
- *Conservation Opportunity Area (COA) Tool Update, 2020 annual report article*
- *Conservation Opportunity Area (COA) Tool Update, 2021 annual report article*

Pennsylvania Natural Heritage Program

information for the conservation of biodiversity

WILD HERITAGE NEWS

Winter 2015 - 2016



Photo Banner:
Little Mud Pond,
Pike County

Rocky Gleason

Inside This Issue

Heritage Ecologists Focus on Peatland Wetlands	Pg 1
2015 Pennsylvania Wildlife Action Plan	Pg 5
Notes from the Field	Pg 9
Measures of Progress	Pg 14

Heritage Ecologists Focus on Peatland Wetlands

by

Mary Ann Furedi, Adam Hnatkovich, Jessica McPherson, and Ephraim Zimmerman

Peatlands represent a unique group of wetlands in Pennsylvania usually defined by having a significant accumulation of water-logged organic matter (a.k.a. peat), which is composed of decaying sphagnum moss and other wetland plants. Peatlands sometimes represent the transition zone between terrestrial and aquatic environments. While these ecosystems occur in many regions across the globe, they are most common in cooler temperate environments, such as at higher latitudes and higher elevations. In Pennsylvania, peatlands are most common in the glaciated regions of the state and at higher elevations in the mountains. The cooler climate in these areas supports many plants and communities that have a more northerly distribution, many of which are listed as rare, threatened, or endangered in the state. Many of these species are considered to be vulnerable to the effects of climate change – such as altered weather patterns, changes in hydrology and precipitation, and temperature shifts. Increasing temperatures may also directly impact species at or near their thermal tolerance (i.e., northern species at the southern end of their range) resulting in the possible decline or loss of the current set of species and communities found in peatlands.

Peatlands are often found at the headwaters of our watersheds and therefore play an important role in regulating the flow, temperature, and quality of our creeks and rivers. Human activities such as wetland draining, development, and peat mining, have greatly impacted peatland ecosystems. Climate change may also influence the formation of



Ephraim Zimmerman

Chalk Hill Bog in Fayette County, which is classified as a Cotton-grass Poor Fen (S3) plant community, supports many rare plant species found in acidic wetlands in the region.

The 2015 Pennsylvania Wildlife Action Plan

by

Diana Day, Pennsylvania Fish & Boat Commission and Cathy Haffner, Pennsylvania Game Commission

Healthy, sustainable native wildlife populations, natural communities, and habitats are the birthright of every Pennsylvanian. Yet, with hundreds of vertebrate species and more than 10,000 invertebrates on our landscape, how can the Fish & Boat Commission and the Game Commission (the state agencies responsible for fish, reptiles, amphibians, and aquatic invertebrates and birds and mammals, respectively) galvanize the conservation community and interested citizens to work toward this shared vision? The recently revised State Wildlife Action Plan seeks to do just that. Originally published in 2005, State Wildlife Action Plans are non-regulatory, proactive natural resource management documents designed to prevent at-risk species, and recover endangered and threatened species (i.e., listed species). The 2015 Pennsylvania Wildlife Action Plan (Plan) is a comprehensive blueprint for recovery and protection of birds, mammals, fish, reptiles, amphibians, and invertebrates, and associated habitats found to be in greatest need of conservation in the commonwealth.



PGC/Jacob Dingel

Home to nearly 20% of the global scarlet tanager (*Piranga olivacea*) population, Pennsylvania has stewardship responsibility for this species. Highlighting conservation needs for this relatively common native species in the 2015 Wildlife Action Plan helps to protect its numbers.

Recovering and securing the commonwealth's declining and imperiled species is a significant undertaking, but the Plan has been specifically developed to guide recovery and management efforts by agencies, non-governmental organizations, private businesses and foundations, research institutions and the public. It does this by highlighting *Species of Greatest Conservation Need* – species that are imperiled, are likely to become imperiled, or for which Pennsylvania has stewardship responsibility – and by identifying specific threats to these species and their habitats. Categorizing these threats was the first step toward the primary focus of the Plan – conservation actions. Implementing conservation actions will reduce impacts to species of greatest conservation need and habitats on which they depend. A key objective of these actions is to slow or reverse declines of species to prevent regulatory action, particularly at the federal level.



PGC/Jim Donatelli

Continued prescribed fire management is a priority conservation action in the 2015 Wildlife Action Plan to maintain young forest, grassland, and barrens habitats that support many Species of Greatest Conservation Need.

In the late 1990s, the U.S. Congress recognized the high costs of recovering federally listed species. Generally, once protected under the federal Endangered Species Act, wildlife populations and habitats are often diminished to the extent that recovery can be expensive and result in an uncertain future. Identifying at-risk species prior to federal listing and proactively addressing their needs may avert costly recovery efforts. U.S. Fish and Wildlife Service approval of the Pennsylvania Wildlife Action Plan provides access to federal funds through the State & Tribal Wildlife Grants Program, the nation's core program for preventing species endangerment. Ecologically, potential outcomes are better with larger populations. Thus, intervention by implementing the State Wildlife Action Plan is likely to have a more positive result.

The first Pennsylvania Wildlife Action Plan was submitted in 2005. Congress requires that SWAPs be



PFBC

Monarch butterflies are a newly added Species of Greatest Conservation Need. This migratory species has recently been petitioned for protection under the federal Endangered Species Act due to concerning population declines.

updated every 10 years, and in compliance with that mandate, Pennsylvania submitted the recently completed revised plan on October 1, 2015. The revision process was led by a Steering Committee of Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission administrators and program managers. The Commissions have jurisdictional responsibility for species in the plan (except terrestrial invertebrates) and receive State & Tribal Wildlife Grants from the U.S. Fish and Wildlife Service for implementation. An Advisory Committee of state, federal, and local agencies and non-governmental organizations, including members of the Pennsylvania Natural Heritage Program (PNHP) were integral to the revision process. Also supporting the effort were numerous technical teams of taxonomic experts, especially from the PA Biological Survey (PABS), as well as committees on crucial topics of climate, habitat, and monitoring.

The 2015 Plan is a major revision from 2005 and was developed with the purpose *to conserve Pennsylvania's native wildlife, maintain viable habitat, and protect and enhance Species of Greatest Conservation Need* (SGCN) and includes five goals encompassing Pennsylvania, as well as regional interests. An approved State Wildlife Action Plan must address Eight Required Elements, designated by Congress. Discussion of all Required Elements is beyond the scope of this article so here we focus on three of these Required Elements; Species, Threats, and Conservation Actions. Other required topics include habitat extent and condition and species-habitat associations (Element 2); monitoring species, habitats and implementation of the Plan (Element 5); the state's process for revising the plan no less than every 10 years (Element 6); coordination with conservation partners (Element 7); and public involvement in plan development and implementation (Element 8).

Number of Species of Greatest Conservation Need in the 2015 Pennsylvania Wildlife Action Plan by Taxonomic Group.	
Birds	90
Mammals	19
Fishes	65
Amphibians	18
Reptiles	22
Invertebrates	450
Grand Total	664

Species

A central principle in developing the 2015 Plan was to use a transparent and scientific approach. In support of this tenet, standardized processes were developed and applied in several critical areas. For example, the Plan is species-based, so consistent species selection criteria were considered crucial. SGCN selection was supported by a flowchart with criteria for determining species' eligibility, standardized threats assessments, and state conservation status-ranking procedures. A core feature of the Plan is the 'Species Accounts' (Appendix 1.4) which provide a synopsis of the status, threats, conservation actions, monitoring, and research needs for all vertebrate species and federally or state-listed mussels. Given the large number of invertebrate species, summary information is provided (Appendix 1.1) rather than individual species accounts.

A notable change from the 2005 Plan is a new four category species prioritization that is not solely based on a species' rarity, but rather includes other factors that could be considered proactive (e.g., Category 2) species management. These categories allow users to select species within priority categories that are consistent with their missions, funding, and interests. Details on the process can be found in Chapter 1.

Species Prioritization Categories Identified for the 2015 Pennsylvania Wildlife Action Plan	
Category 1	Contribute to the conservation of globally or regionally important species.
Category 2	Prevent common native species from becoming at-risk.
Category 3	Maintain rare native species.
Category 4	Reduce knowledge gaps to better assess conservation status of species.

Percent of top four threats to vertebrate and invertebrate species. For invertebrates, values include threats to 83% (375) of 450 species. Details in Chapter 1.

Threat Description	Vertebrate	Invertebrate
Residential and Commercial	15	16
Energy Production and Mining	13	
Pollution	13	16
Invasive and Other Problematic	12	
Agriculture and Aquaculture		13
Transportation and Service Corridors		11



PGC/J. Kosack

Since the fungus that causes white-nose syndrome in bats was discovered in Pennsylvania in 2008-2009, hibernating little brown bat populations have declined in some areas by 99%.

Threats

Threats to Species of Greatest Conservation Need or their habitats can occur from the local to regional spatial scales. Understanding broad-scale threats to species across their range, by assessing similarities in threats beyond political boundaries, is important for recognizing the overall scope of threats. A longstanding northeastern states partnership (Maine to Virginia) adopted a globally recognized threat categorization scheme for Wildlife Action Plans in the region. The Pennsylvania Plan couples these standardized, tiered threat categories (e.g., Transportation and Service Corridors greater than Utility and Service Lines) with a description of the specific issue within the state (e.g., reduction in size of large, intact forested landscapes will reduce habitat available for migrants). This tiered approach can be used to tailor conservation actions to address these threats.

Conservation Actions

As with the threats categories, standardized conservation action categories also provide consistency and a mechanism for summarizing actions (Table 4). To guide implementation, these conservation action categories are coupled with specific actions (Species Accounts, Appendix 1.4). For example, the Planning category can be more specifically stated for a species as "Work with power line and pipeline companies to route new corridors in close proximity to existing roads or rights-of-way."

A conservation action was identified to address each recognized threat to a species (except for a small number of fish species for which threats were unknown/ undetermined). For invertebrates, conservation actions were recommended for species when sufficient information was available. For the remaining invertebrate species, conservation actions were assigned to an invertebrate family or informal taxonomic group. Fully implementing these conservation actions will be crucial to successful recovery and protection of species in this Plan.

Common Conservation Actions for Vertebrate and Invertebrate Species

Conservation Actions	Vertebrates	Invertebrates[b]
Planning	●	●
Direct Management of Natural Resources	●	●
Law and Policy	●	●
Technical Assistance	●	●
Outreach		●
Data Collection and Analysis[a]		●
Land and Water Rights Acquisition and Protection		●

a-For vertebrate species, Data Collection and Analysis was not specifically identified.
b-For invertebrates, conservation actions for family and informal taxonomic groups were used when insufficient specific information precluded identification by species.



PFBC/Ben Lorson

Dam removal, demonstrated in this sequence of images for the Heistand Sawmill Dam in Lancaster County (June 2015), is an important conservation action that enhances habitat quality, reduces stream fragmentation, and benefits fish and other aquatic life.

Taking Action

The 2015 Pennsylvania Wildlife Action Plan is intended to be a comprehensive document for guiding management and recovery of SGCN. While this thoroughness is beneficial for understanding the broad range of issues, as well as specific species and habitat needs in the Plan, given the many species, this large amount of information can make it difficult for users to identify how they can support goals of the Plan. To assist users, a tool (i.e., Conservation Opportunity Areas Tool) is in early stages of planning and development. Once this interactive tool is completed (anticipated in 2018), from a user-defined area it will produce a list of potential SGCN, as well as options for conservation actions appropriate for these species. This tool will support a broad range of users (e.g., private landowners, land trusts, agencies).



Nevin Welte

Conservation actions can include population surveys, as conducted here by PFBC for timber rattlesnake (*Crotalus horridus*).

In the meantime, until this tool is available, here are few tips for users of the Plan to consider.

- Identify a geographic area of the state in which you would like to work.
- Consider a species, or group of similar species, that may be of interest to you, your organization or agency.
- Determine the habitat types associated with those species (Appendices 1.4 & 2.1).
- Identify the types of conservation actions you or your organization/agency would like to implement (e.g., direct on-the-ground management, planning)
- Review the Species Accounts for species of interest, their distribution, and listed conservation actions.

If unsure about how to get started, see Chapter 4, *Take Action, Get Involved*. The options are not comprehensive, but provide an overview of selected actions that may appeal to a broad range of interests and, when implemented, can support the Plan.

The 2015 Pennsylvania Wildlife Action Plan is for all Pennsylvanians with an interest in taking action for wildlife. Whether you read it cover-to-cover, or jump to a particular section of interest, we hope you will find at least one action or research, survey, or monitoring need that resonates for you. Working together, we can enhance Pennsylvania's Species of Greatest Conservation Need over the next decade and beyond.

The 2015 Pennsylvania Wildlife Action Plan can be downloaded from either the PGC or PFBC websites.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Pennsylvania Natural Heritage Program

information for the conservation of biodiversity

WILD HERITAGE NEWS

Fall 2019



Inside This Issue

Learning Experiences for Future Scientists	1
From Observation to Conservation Decision-Making	6
PPCN Organizes Event to Save Rare Plant	9
Buffalo Moth	9
Timber Rattlesnake Assessments	10
iMapInvasives Search for Three Noxious Weeds in Pennsylvania	11
Case's Ladies'-tresses Confirmed in Clermont	11
Change of Guard	12
Not Looking Good for Barbara's Buttons	13

Photo Banner:
EYE Con participants search a quadrat for terrestrial salamanders

Miranda Crotsley

Field Learning Experiences for Young Scientists

by

Danielle Forchette and JoAnn Albert

Engaging with the work of scientists is a critical component of developing science literacy. By providing opportunities for young people to "do science," PNHP staff leverage real-world projects, field experience, and depth of expertise to strengthen science education experiences, build awareness of careers, and encourage interest in biodiversity conservation.

Natural Heritage staff share valuable scientific expertise through educational activities, and we maximize our impact through partnerships with schools and other educational organizations. For example, in 2018 and 2019 Pete Woods supported the Pittsburgh Parks Conservancy's Young Naturalists program, offering a unique experience exploring moth populations in the Laurel Highlands and Pittsburgh. By sharing his expertise and passion for his work, Pete helps develop the Young Naturalists' fascination with and observation of the local diversity of moth species.

Molly Moore and Anna Johnson, created an ecological impact simulation for a group of high school girls through the University of Pittsburgh's Investing Now program, which introduces students to STEM (Science Technology Engineering and Mathematics) career fields. In this simulation, students were presented with a potential development scenario and given the tools and knowledge to enable them to survey for biological indicator species in a mock development location. Molly and Anna guided students through the scenario and challenged them to consider the impact that development could have on



Pittsburgh Parks Conservancy

Pete Woods discusses moth ecology and identification to a group of Young Naturalists. Over 100 moth species were attracted to this lighted sheet.

From Observation to Conservation Decision-Making

by

Anna Johnson

The Pennsylvania Natural Heritage Program provides the scientific information and expertise to guide conservation efforts in Pennsylvania. Our mission supports Pennsylvania in carrying out the Conservation and Natural Resources Act of 1995, which states—in part—that the Department of Conservation and Natural Resources (DCNR) must "*undertake, conduct and maintain the organization of a thorough and extended survey of this Commonwealth for the purpose of inventory, survey and elucidation of the ecological resources of this Commonwealth, to gather and digest information from sources within and outside this Commonwealth and to put the results of the survey into a form convenient for reference*." While we often talk about the survey and inventory work of PNHP biologists in these newsletters, in this article we will be focusing on the less-discussed "form convenient for reference" portion of our mandated work.

Which data do we collect?

Lists of species in our state that are rare and should be actively tracked and managed are key resources provided by PNHP. We currently track plants, mammals, birds, fish, reptiles, amphibians, butterflies, moths, dragonflies, damselflies, and a subset of other invertebrates, mosses, and lichens. The tracked species lists which we publish may seem definitive and straightforward, but they represent the product of many field and office hours from many experts. Determining which species to actively track is an iterative process. Our field biologists conduct field surveys, work with museum collections, consult taxonomic experts and partner organizations, and then use this information to determine how well species are doing. Sometimes species increase in abundance to such a degree that they become delisted, and no longer require us to monitor their populations. Other species show startlingly swift declines, and require us to increase our monitoring and management efforts.



Steve Gosser

The bald eagle (*Haliaeetus leucocephalus*), is an example of a once-endangered species which had such a successful recovery that it was delisted by federal agencies, although it is still tracked by PNHP and as an SGCN.



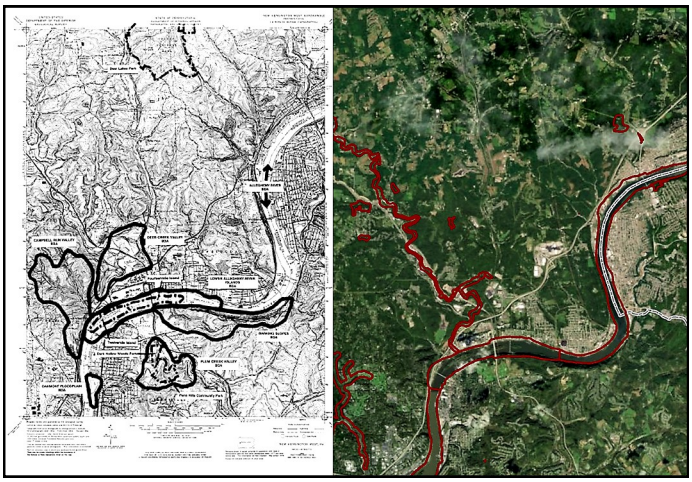
PGC, Jacob Dingel
Frode Jacobsen

While the scarlet tanager (*Piranga olivacea*), left, is considered a Species of Greatest Conservation Need (SGCN) and an indicator of mature forest habitat, it is not tracked by PNHP because it remains relatively common in Pennsylvania. However, the northern waterthrush (*Parkesia noveboracensis*), right, is both an SGCN and tracked by PNHP, because it is considered vulnerable to decline in Pennsylvania as a result of threats to its habitat, forested wetlands.

This constant back-and-forth work involved in inventorying and categorizing species leads to a sometimes-confusing layer of terms, especially when agencies with differing goals collaborate on conservation. For example, a set of birds in Pennsylvania are identified as Species of Greatest Conservation Need (SGCN) by the Pennsylvania Game Commission: these are a total of 90 species which are considered to be already rare or experiencing significant declines, or for which Pennsylvania supports a substantial portion of their range. PNHP, however, formally tracks only 66 bird species: these are the species we consider most indicative of specialized habitats and most imperiled in Pennsylvania. While many of these species have been assigned a legal status of Pennsylvania-endangered (PE) or Pennsylvania-threatened (PT), we also track species which are not considered threatened or endangered but which PNHP biologists recognize as rare and more vulnerable to decline than most species. The complexity of how species are categorized reflects the reality that there is a lot of uncertainty with regards to the abundance, stability, and future trajectory of many of our rare species. Some of this uncertainty comes from a lack of data, and some comes from our naturally dynamic and variable ecological systems.

A form convenient for reference—past, present, and future

How do we make our data accessible to the general public and useful for conservation planning projects? Over the years, our approach to sharing our data products has evolved. Our County Natural Heritage Inventories (CHNIs) have long been a PNHP core data product. These sets of written narratives and maps describe the discrete locations—Natural Heritage Areas (NHAs)—determined to be critical habitat for species or natural communities of concern within each county in Pennsylvania. The spatial information (mapped areas where rare species or communities occur) included in CHNIs has become much more precise since PNHP first started publishing them more than 25 years ago. NHA boundaries can now be drawn digitally, based on high resolution aerial photography and maps describing land cover, topography, and stream networks, ensuring that NHA boundaries are biologically realistic and limited to the habitat essential to support the target species or communities of concern. Additionally, field staff use GPS units, and increasingly accurate ones at that, compared to the standard tools of map and compass used 20 years ago.



One of the hand-drawn maps (left) from a CHNI published in the early 1990s, prior to having access to the sophisticated spatial data and computing tools that PNHP now employs. On the right, a current view of the same area with more precise boundaries indicating Natural Heritage Areas that support unique components of Pennsylvania's biodiversity.

As PNHP data collection procedures have grown more precise, our data storage and reporting tools have also grown more sophisticated. For example, the most recent CHNI reports provide users with detailed and specific information describing each rare species or community present at a given site and conservation threats specific to each NHA, as well as suggested management approaches to address each individual issue and target species or natural community.



Anna Johnson

PNHP biologists collect information about rare species and communities in the field. Once this data is entered into our databases, it feeds into conservation planning products such as Natural Heritage Areas.

While these NHA reports will remain a core conservation planning product of PNHP, in the near future the development of new analysis and reporting tools will allow updates to occur more continuously and fluidly. As Pennsylvania's Environmental Review (ER) process moved online, PNHP also shifted its data sharing to the more dynamic interface of Conservation Explorer. This online mapping and reporting tool allows users to screen a project area for potential impacts to rare species and natural communities, based on PNHP data. Conservation Explorer also has the capability to provide users access to more frequently updated NHA information. Migrating our data from static CHNI print reports and downloadable PDFs to this more dynamic digital interface ensures that the conservation data products that we share publicly better match our most up-to-date understanding of species distributions and habitat quality. For example, NHA updates are currently underway for the southwest regional counties, many of which have not had a CHNI update published since the early 1990s, even though field data has been collected in this area continuously over the last 25 years. We will not publish new full CNHI reports for these 10 counties but will add the new data and revised NHAs to the CNHI map layers in Conservation Explorer.

PNHP scientists have also been integral to the release of a new data product, the Conservation Opportunity Area (COA) tool. This online mapping and reporting tool is a window into the 2015-2025 Pennsylvania Wildlife Action Plan, providing essential, geographically specific information for SGCN species across the state.

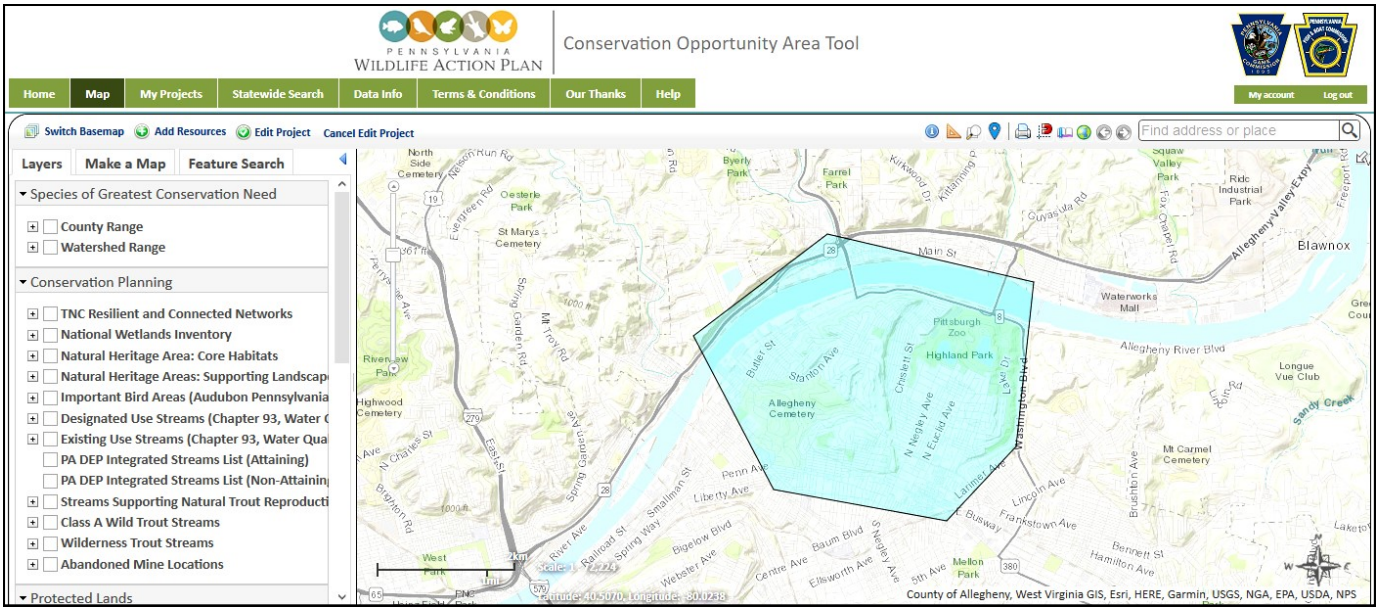
Unlike the NHA data products, the COA tool only provides information on wildlife and their habitats; rare plants and natural communities are not included in this tool. Also, the COA tool conveys the likelihood of an SGCN species being present; Conservation Explorer deals with only known locations of rare species. Like the Conservation Explorer's conservation planning reporting function, the COA tool allows users to define an area of interest in Pennsylvania and then produce a report. The reports provide species and habitat lists for the area of interest, as well as recommended conservation actions, research, and survey needs for all associated SGCN species. In contrast, the Conservation Explorer planning reports provide information on sites already delineated as NHAs. The COA tool also provides range maps for the SGCNs and allow users to download data in forms convenient for further analysis (tabular results or shapefiles), in addition to in PDF form.

This new tool represents the direction that PNHP conservation planning products are moving towards: simplifying the data which has been collected and vetted by PNHP and allowing users to get site-specific information along with clear, actionable steps for protecting Pennsylvania's ecological resources.

About the Author



Anna Johnson began working for PNHP in 2018 as a conservation planning communication specialist. While a plant and pollination ecologist by training, since joining PNHP she has been mostly in the office, developing conservation tools. She loves finding ways to make complex ecological issues, stories, and data more accessible to more people. She received a BA in liberal arts from St. John's College and a PhD in Geography and Environmental Systems from the University of Maryland, Baltimore County.



An example of the interactive mapping interface of the new Conservation Opportunity Area (COA) tool, which allows users to define areas of interest and generate detailed, actionable wildlife conservation reports.



PNHP

Pennsylvania Natural Heritage Program

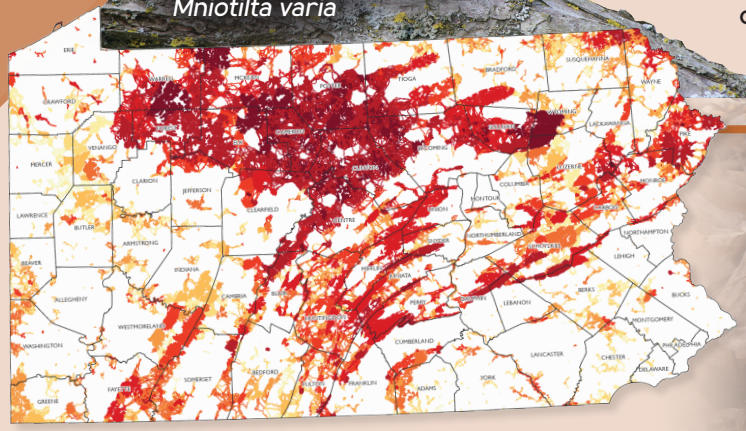
ANNUAL REPORT 2020

APPLICATION

An important aspect of PNHP's work is distilling large amounts of scientific information into a form that can guide biodiversity conservation planning and decision-making throughout the state.



Black-and-white warbler
Mniotilta varia



Climate Change Connectivity Map

CLIMATE CHANGE CONNECTIVITY DATASET

In the past, species could move great distances in response to changing environments. As our climate changes more rapidly and human-caused landscape fragmentation continues, there are now many barriers to species' movements. The Pennsylvania Department of Conservation and Natural Resources (DCNR) provided PNHP the resources to complete an assessment of climate change connectivity in Pennsylvania. The final product, completed in 2020, provides statewide mapping and prioritization of conservation hubs and corridors based on an index of five factors: regional flow, biodiversity value, resiliency, geophysical setting, and landscape condition. Using various combinations of these factors, PNHP provided guidance regarding additional protection, habitat management, and restoration actions needed to improve and maintain connectivity within the corridors. These data are publicly available by request through the PNHP website, and will be a valuable tool to ensure local land conservation actions support broader, regional climate change connectivity goals.

Three species which rely on connected, intact habitat in Pennsylvania



Snow trillium
Trillium nivale



Wood turtle
Glyptemys insculpta



CONSERVATION OPPORTUNITY AREA (COA) TOOL UPDATE

PENNSYLVANIA WILDLIFE ACTION PLAN

Do you want to help Pennsylvania's imperiled wildlife but are not sure where to start? The Wildlife Action Plan Conservation Opportunity Area (COA) Tool is just the place! Powered by more than 400,000 Species of Greatest Conservation Need locations, the COA Tool provides species information for your areas of interest. Learn about what species are (or might be) in the area, their habitat preferences, the habitats found in the area, and conservation actions that will benefit the at-risk species. There is also an option to query by county or large watershed.

Join the growing COA Tool community, now with over 750 registered users, to see what they're raving about!

"...This is one of my top tools when initially taking a look at a potential project with a landowner or conservation partner. Thank you for helping us tell the full story about PA's Heritage when it comes to its wildlife!"

Everone can play a role in supporting Pennsylvania's wild heritage. Explore an area of your interest today!
https://wildlifeactionmap.pa.gov

The Wildlife Action Plan and COA Tool were developed and are administered by the Pennsylvania Game Commission and Pennsylvania Fish & Boat Comission, with technical support provided by the Pennsylvania Natureal Heritage Program and NatureServe. Federal funding is provided by the U.S. Fish & Wildlife Service, Wildlife and Sport Fish Restoration Program through the Stat and Tribal Wildlife Grants Program

Pennsylvania Natural Heritage Program

ANNUAL REPORT 2021





PNHP COOPERATION TO PROTECT BATS



Indiana and northern long-eared bats have been impacted by white-nose syndrome. Forestry practices on state lands may both impact and improve habitat for federally listed bats. DCNR and PGC jointly obtained an incidental take permit from the U.S. Fish and Wildlife Service in December 2020 and just recently completed a Habitat Conservation Plan for these two species. Instrumental in the writing of the plan was the species survey, hibernacula monitoring, and data quality control information that PNHP staff at WPC provided to the agencies. PNHP partners, DCNR and PGC, have committed to following the State Land Habitat Conservation Plan to minimize, mitigate, and monitor impacts to bats on state lands. They submitted an annual report for the first reporting period of implementation to USFWS. The permit uses acres of forest activities (timber sales, prescribed burns, and others) in mapped bat habitat areas as a proxy for take of bats. USFWS caps allowable annual take at 19,770 acre of Indiana bat habitat and 130,386 acre of northern long-eared bat habitat. DCNR and PGC's combined acreage impact was well below the cap: 3,173 acre Indiana bat habitat and 3,511 acre northern long-eared bat habitat for the first reporting period.

WE HEAR YOU!

In 2021, the Pennsylvania Wildlife Action Plan Conservation Opportunity Area (COA) Tool received a notable enhancement to enable drawing an Area of Interest (AOI) greater than 5,500 acres. We heard from several users that allowing larger landscape assessments would be very useful so, working with NatureServe, this functionality was recently made available. The intent for the user-defined Area of Interest is to guide on-the-ground conservation actions for Species of Greatest Conservation Need (SGCN); the initial acreage restriction was to support this approach and the tool remains most useful at finer scales. User's applying this functionality to larger areas should be aware of lengthy AOI reports.

PENNSYLVANIA WILDLIFE ACTION PLAN

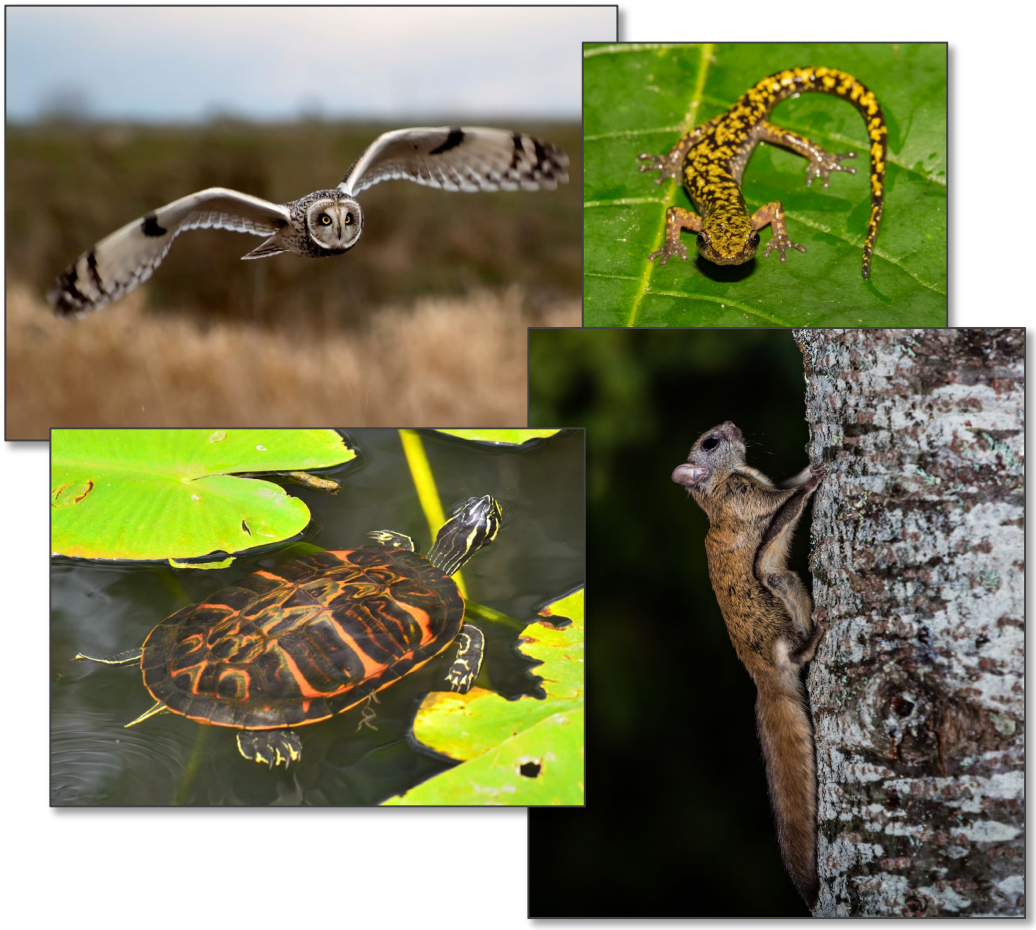
Developed through a PNHP partner collaborative effort, the Conservation Opportunity Area (COA) Tool was launched in August 2019 and is a user-driven, web-based, "go to" resource for Pennsylvania Wildlife Action Plan SGCN information. From its early development through present day, the Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission, administrators of the Wildlife Action Plan, encourage input for improvements to make the tool more amenable to user needs. These suggestions are evaluated for their feasibility to implement and Wildlife Action Plan relevance. The COA Tool is freely available at https://wildlifeactionmap.pa.gov

Appendix 8.4 Public Opinion Survey

Pennsylvania Residents' Opinions On and Attitudes Toward Nongame Wildlife

Responsive Management 2024

Pennsylvania Residents' Opinions on and Attitudes Toward Nongame Wildlife



Study conducted for the
Pennsylvania Game Commission
and the
Pennsylvania Fish and Boat Commission

2024

RESPONSIVE MANAGEMENT

Pennsylvania Residents' Opinions on and Attitudes Toward Nongame Wildlife

2024

Responsive Management
Mark Damian Duda, Executive Director
Martin Jones, Senior Research Associate
Tom Beppler, Senior Research Associate
Amanda Center, Research Associate
Andrea Criscione, Senior Research Associate
Patrick Doherty, Research Associate
Gregory L. Hughes, P.E., Research Associate
Jeremiah Morris, Survey Center Manager
Alison Lanier, Business Manager

PO Box 1828
Harrisonburg, VA 22801-9500
540/432-1888
Email: mark@responsivemanagement.com
www.responsivemanagement.com

Responsive Management would like to thank the following for their input, support, and guidance on this project:

Project Managers
Cathy Haffner, Wildlife Recovery Conservation Planning Coordinator, Game Commission
Diana Day, Conservation Coordinator, Fish and Boat Commission

Pennsylvania Fish and Boat Commission
Chris Urban, Natural Diversity Section Chief

Pennsylvania Game Commission
Coren Jagnow, Human Dimensions Specialist
Josh Johnson, Biometrician
Samara Trusso, Southwest Region Wildlife Management Supervisor
Lisa Williams, Wildlife Recovery Division Chief
Nate Zalik (contractor), Conservation Planning Assistant

Suggested citation: Responsive Management. 2024. *Pennsylvania residents' opinions on and attitudes toward nongame wildlife*. A report to the Pennsylvania Game Commission, Harrisburg, PA.

This project was supported, in part, by the federal State & Tribal Wildlife Grants Program administered by the U.S. Fish and Wildlife Service Office of Conservation Investment and Pennsylvania Game Commission.

EXECUTIVE SUMMARY

Responsive Management conducted this study of Pennsylvania residents to determine their opinions on and attitudes toward nongame wildlife, activities and priorities of both the Game Commission and the Fish and Boat Commission (hereinafter referred to as the Commissions), and funding for the Commissions. Additionally, the study explored attitudes toward hunting, fishing, and game species. Similar surveys were conducted in Pennsylvania in 1996 and 2014 by Responsive Management. This report continues the overarching purpose of these previous studies.

METHODOLOGY

This study entailed a multimodal survey conducted by telephone and online. The telephone and online questionnaires were developed cooperatively by Responsive Management and the Commissions, based on the previous surveys. Both Commissions sought the following information from the survey:

- Determine public values and attitudes toward nongame wildlife.
- Determine trends in public values and attitudes toward nongame wildlife since 1996.
- Determine public attitudes toward dedicated nongame funding.
- Determine public attitudes toward the Commissions' roles in protecting, managing, and conserving nongame wildlife.
- Identify the public's priorities for nongame wildlife programs.
- Inform the State Wildlife Action Plan process.

The overall sample of Pennsylvania residents consisted of a telephone sample that included both cell phones and landlines and an online sample. The final statewide sample was representative of all Pennsylvania residents 18 years old and older. The survey was conducted in February 2024. Responsive Management obtained 3,511 completed questionnaires.

Because the Commissions had many more questions they wanted to ask than could be asked of a single respondent, the sample was randomly split for certain survey questions so that no single respondent would get every question, thereby shortening the survey for respondents and increasing the likelihood of obtaining completed surveys. For this reason, the sample size on certain questions that were designed to be asked of everybody is less than the total sample. Because these questions were asked on a *randomly selected* sub-sample, the results of this half-sample still validly represent all Pennsylvania residents. Responsive Management conducted pre-tests of the questionnaires to ensure proper wording, flow, and logic in the survey.

For quality control, both the telephone and online versions of the survey were programmed to branch and substitute phrases based on previous responses to ensure the integrity and consistency of the data collection. The survey questionnaire also contained error checkers and computation statements to ensure quality and consistent data.

Additionally, for quality control, Survey Center managers monitored the telephone interviews in real time and provided feedback to the interviewers. After the surveys were obtained, the Survey Center managers and statisticians checked each completed survey to ensure clarity and

completeness. Additionally, analysts reviewed all individual survey responses to identify potential invalid submittals.

The analysis of data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management.

OPINIONS ON IMPORTANT NONGAME WILDLIFE ISSUES IN PENNSYLVANIA

Habitat loss is most commonly perceived as the greatest issue or concern regarding nongame wildlife, as 25% of residents named it in response to an open-ended question. In a second tier are three other issues/concerns: pollution in general (9%), polluted water specifically (6%), and poaching (5%). Note that respondents were informed before this question that nongame wildlife are wild birds, mammals, fish, reptiles, amphibians, and other aquatic animals that are not hunted or fished. (See the Introduction and Methodology section in the body of the report for the full information provided to respondents in the survey.)

OPINIONS ON SPECIES POPULATIONS AND SPECIES MANAGEMENT

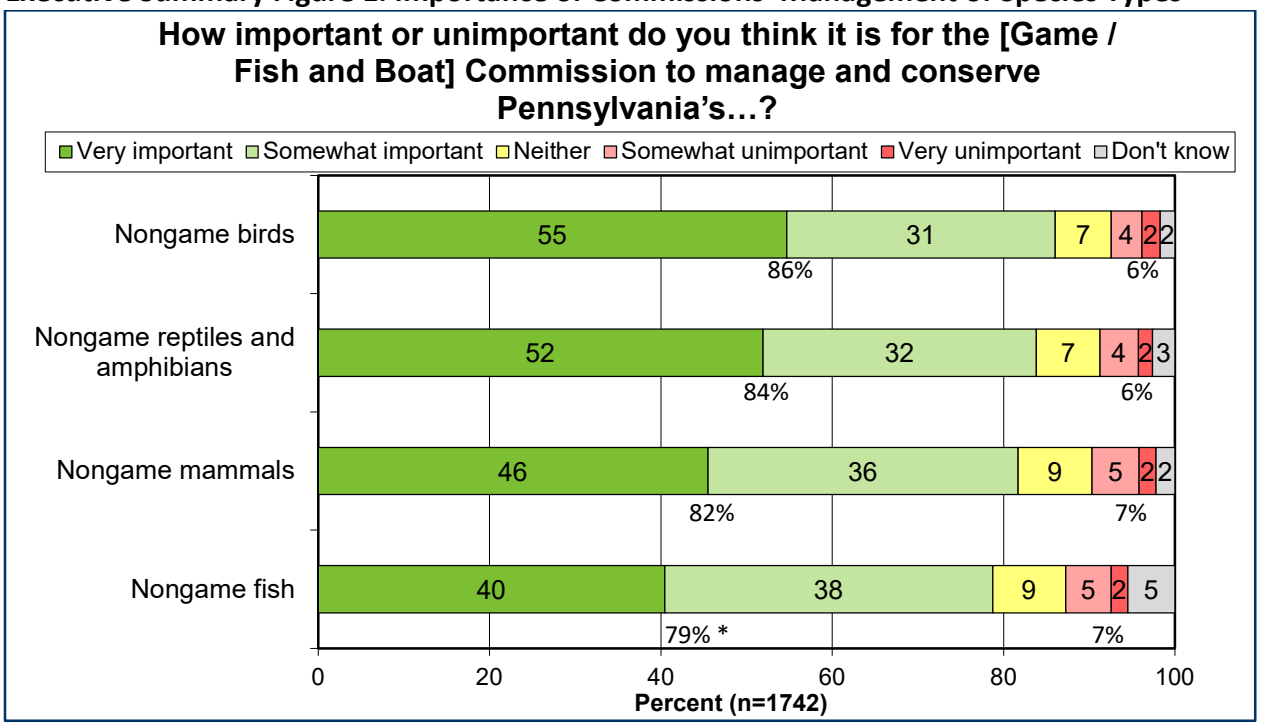
The survey asked about the importance of managing four types of nongame animals and then asked about the overall health of these types of animals:

- Nongame birds, such as birds of prey, songbirds, and shorebirds. (This category specifically excludes game birds like turkeys, pheasants, or grouse.)
- Nongame mammals, such as bats and northern flying squirrels. (This category specifically excludes bear, ground hogs, porcupines, and other game animals.)
- Nongame reptiles and amphibians, such as turtles and salamanders, including the red-bellied turtle and green salamander. (This category specifically excludes bullfrogs.)
- Nongame fish, such as darters, chubs, and shiners. (This category specifically excludes game fish like bass or trout.)

Management and conservation of nongame birds and nongame reptiles and amphibians are considered the most important, with majorities saying these are *very* important (55% and 52%, respectively). Nonetheless, large majorities consider each animal group *very* or *somewhat* important (from 79% to 86%). (This graph is shown on the next page.)

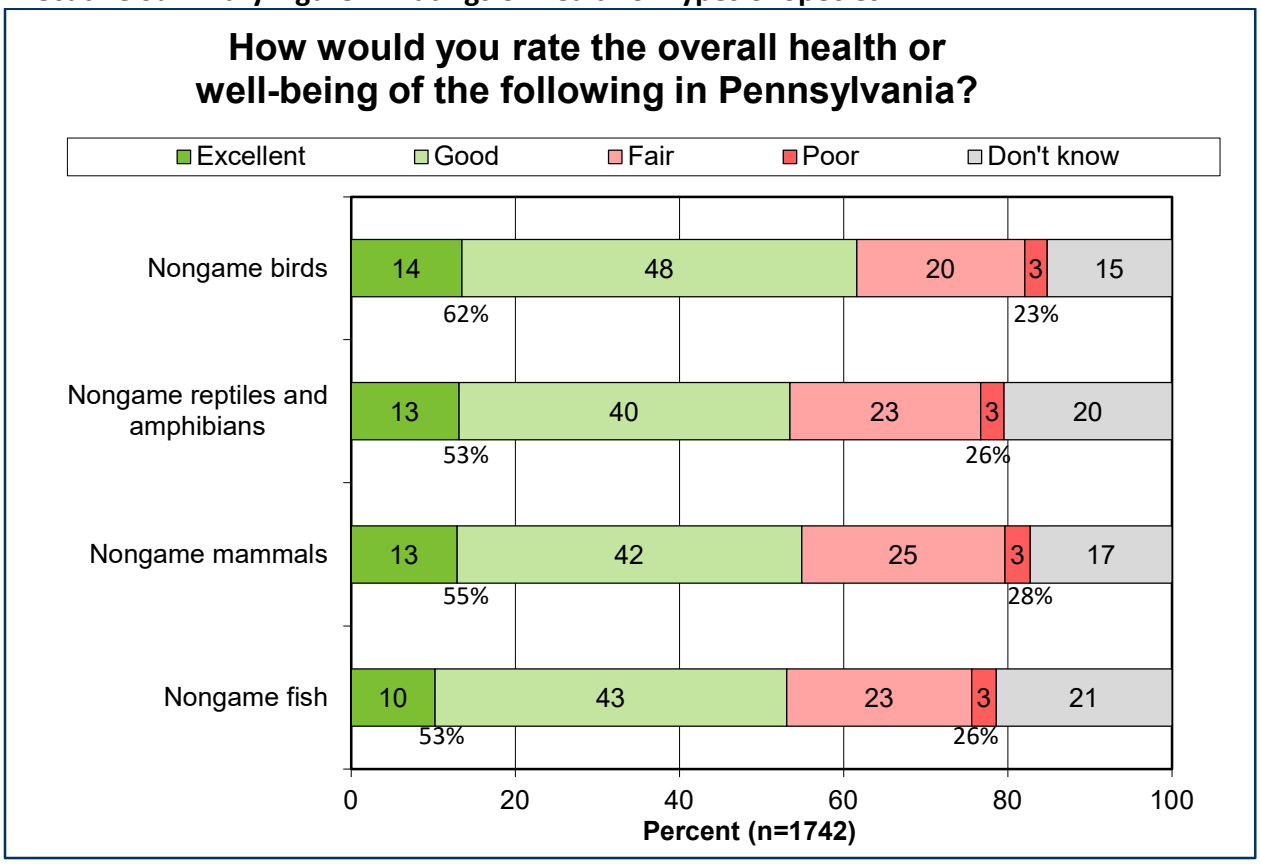
In the ratings of the health of these types of nongame animals, the health of nongame birds is rated the highest, with 62% responding in the top half of the scale (*excellent* or *good*), compared to 55% for the next highest rated type. Most of those percentages consist of the *good* rating, as *excellent* ratings are no higher than 14% among residents overall. (This graph is also shown on the next page; the graph is ranked by ratings of *excellent*.)

Executive Summary Figure 1. Importance of Commissions' Management of Species Types



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Executive Summary Figure 2. Ratings of Health of Types of Species



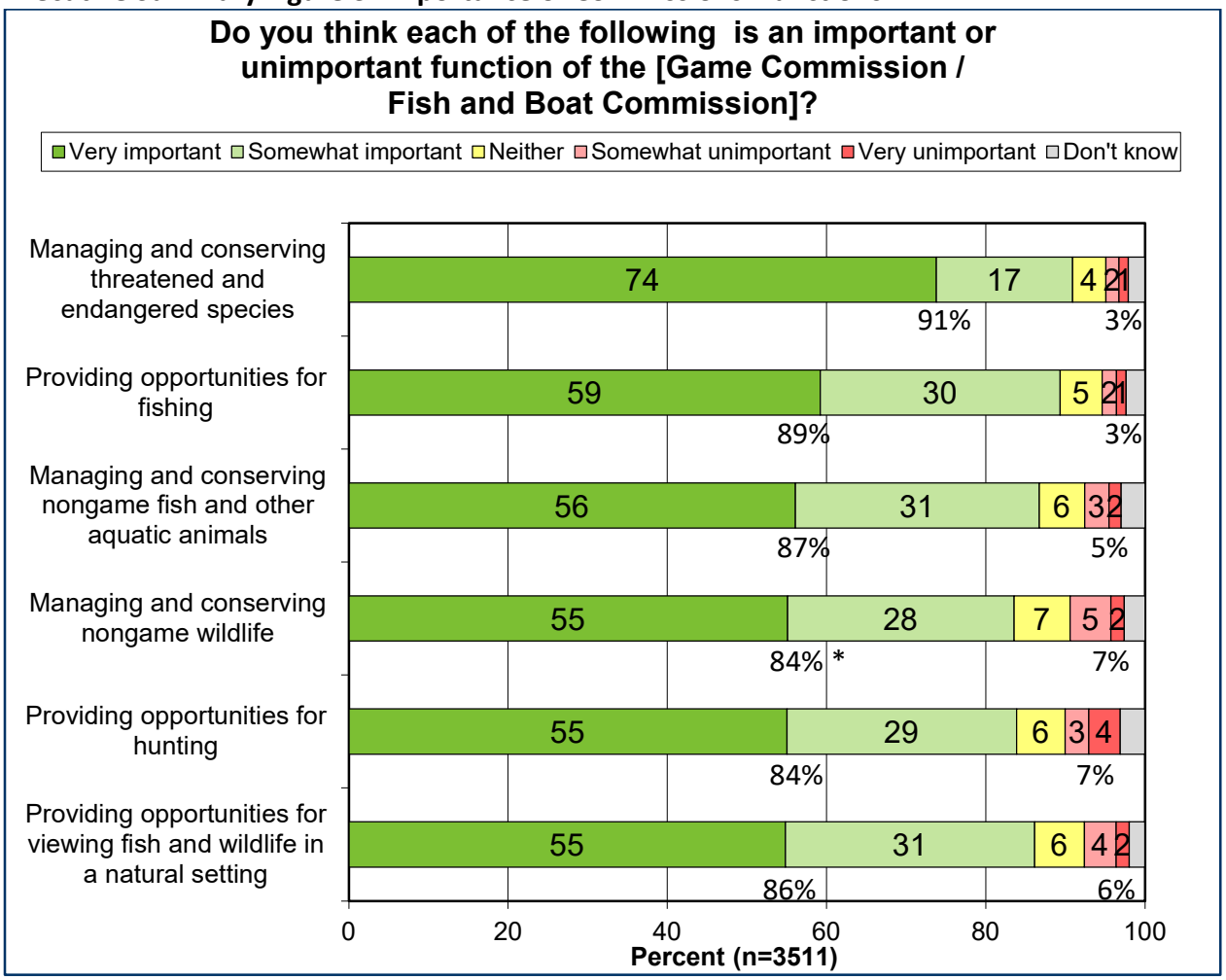
Demographic analyses show several groups commonly near the top in rating the items *very* important. These groups are wildlife viewers, Northcentral Region residents, anglers, and those living in large cities/urban areas.

The health questions in this series of questions were also run in the demographic analyses. Those groups more likely than residents overall to give excellent or good ratings to the health of the types of species are hunters, Hispanics, Northeast and Northwest Region residents, anglers, and males. On the other hand, one group is consistently associated with high ratings of fair or poor: residents of Pennsylvania aged 18 to 34 years old. Otherwise, no group is consistently at the top on the fair/poor ratings.

COMMISSION PROGRAM AREAS

Managing and conserving threatened and endangered species is considered the most important function of the Commissions, with almost three quarters of Pennsylvania residents indicating that this is a *very* important function of the Commissions. This sentiment is further supported in all six functions of the Commissions with a majority (55% to 74%) rating each function as *very* important.

Executive Summary Figure 3. Importance of Commissions' Functions



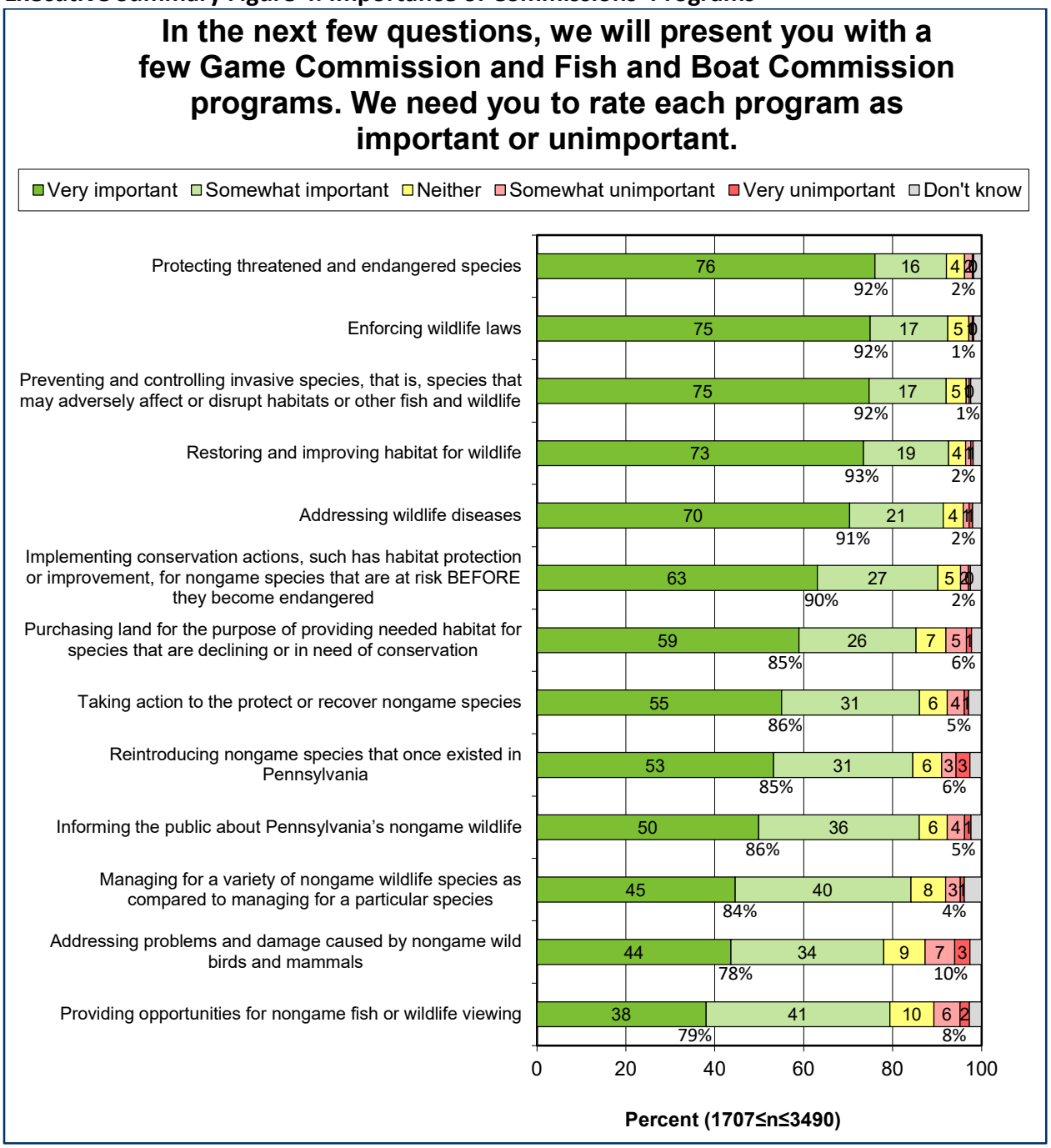
* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Demographic analyses were run on each of the questions in this series. In general, groups giving relatively high ratings of importance on many (or all) of these questions in the series include wildlife viewers, Northcentral and Northeast Region residents, and, to a lesser extent, Northwest and Southcentral Region residents.

IMPORTANCE OF COMMISSIONS' ACTIVITIES

The survey presented 13 program areas to respondents, who rated the importance of each program as an activity of both of the Commissions. Five programs are in a top tier: protecting threatened and endangered species, enforcing wildlife laws, preventing and controlling invasive species, restoring and improving habitat for wildlife, and addressing wildlife diseases. All of these were rated *very* important by at least 70% of respondents. Human-centered activities, such as providing opportunities to view nongame fish and wildlife, are lower in the ranking. (This graph is shown on the next page, as it needs a full page for display.)

Executive Summary Figure 4. Importance of Commissions' Programs



(In the question wording, references to both Commissions were randomized so that half of the sample received the wording with Game Commission listed first and half of the sample received the wording with the Fish and Boat Commission listed first. Sums of very and somewhat are shown below the bars, calculated on unrounded numbers.)

PENNSYLVANIA'S WILDLIFE ACTION PLAN

About half of Pennsylvania residents (53%) indicate that they had at the very least heard of the Pennsylvania Wildlife Action Plan, while 23% indicate some familiarity with it (although only 5% say that they are very familiar with it.) Hunters are much more familiar with the Wildlife Action Plan (47% are *very* or *somewhat* familiar, compared to only 18% of nonhunters).

The survey then presented the four main areas of information in the Pennsylvania Wildlife Action Plan and asked residents to choose the one area addressed in the plan that they think is the most important. Pennsylvania residents' sentiments are fairly evenly split among three of the main areas with about a quarter of respondents equally prioritizing each: threats to species and habitats, habitat condition where those species live, and conservation actions to lessen those threats. Alone at the bottom, with only 16% prioritizing the item, is species of greatest conservation need. (The remainder of the sample do not know.) Hunters are more likely than nonhunters to prioritize habitat condition where those species live over the other areas of information.

AGENCY RELEVANCY

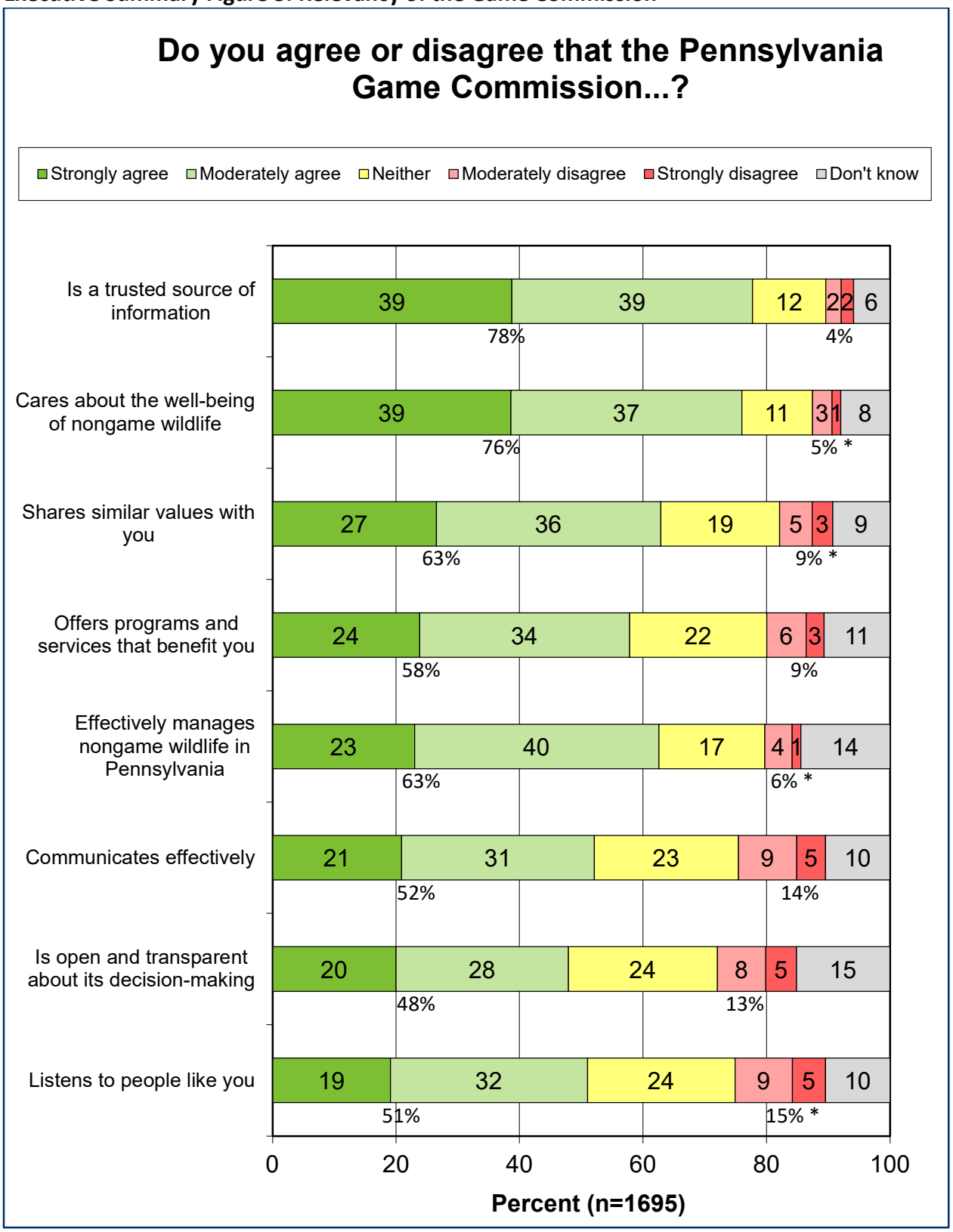
The survey presented eight statements about the Commissions' values and communications to Pennsylvania residents and asked them if they agreed or disagreed with each. One set of questions was specific to the Game Commission, and the second set was specific to the Fish and Boat Commission. Six statements were exactly the same (e.g., Is a trusted source of information), and two statements were similar but not exactly the same (e.g., the Game Commission questions asked about managing nongame wildlife while the Fish and Boat Commission questions asked about managing nongame fish and other aquatic animals). These graphs are ranked by *strongly* agree percentages. Each is shown on a full page, starting on the next page.

The statements at the top regarding the Game Commission are that it is a trusted source of information and that it cares about the well-being of nongame wildlife—more than three quarters of Pennsylvania residents agree with each of the statements. The positive results are that each of the statements except one has a majority agreeing with it, the exception being that the Game Commission is open and transparent about its decision-making, on which 48% agree. Note that lack of agreement is not the same as disagreement, as relatively large percentages responded with *neither* or *don't know*. In fact, the most disagreement is only at 15%.

The results regarding the Fish and Boat Commission are similar, with essentially the same statements at top, each with three quarters of Pennsylvania residents agreeing: that it is a trusted source of information and that it cares about the well-being of nongame fish and aquatic animals. The rest of the statements have at least half of residents agreeing.

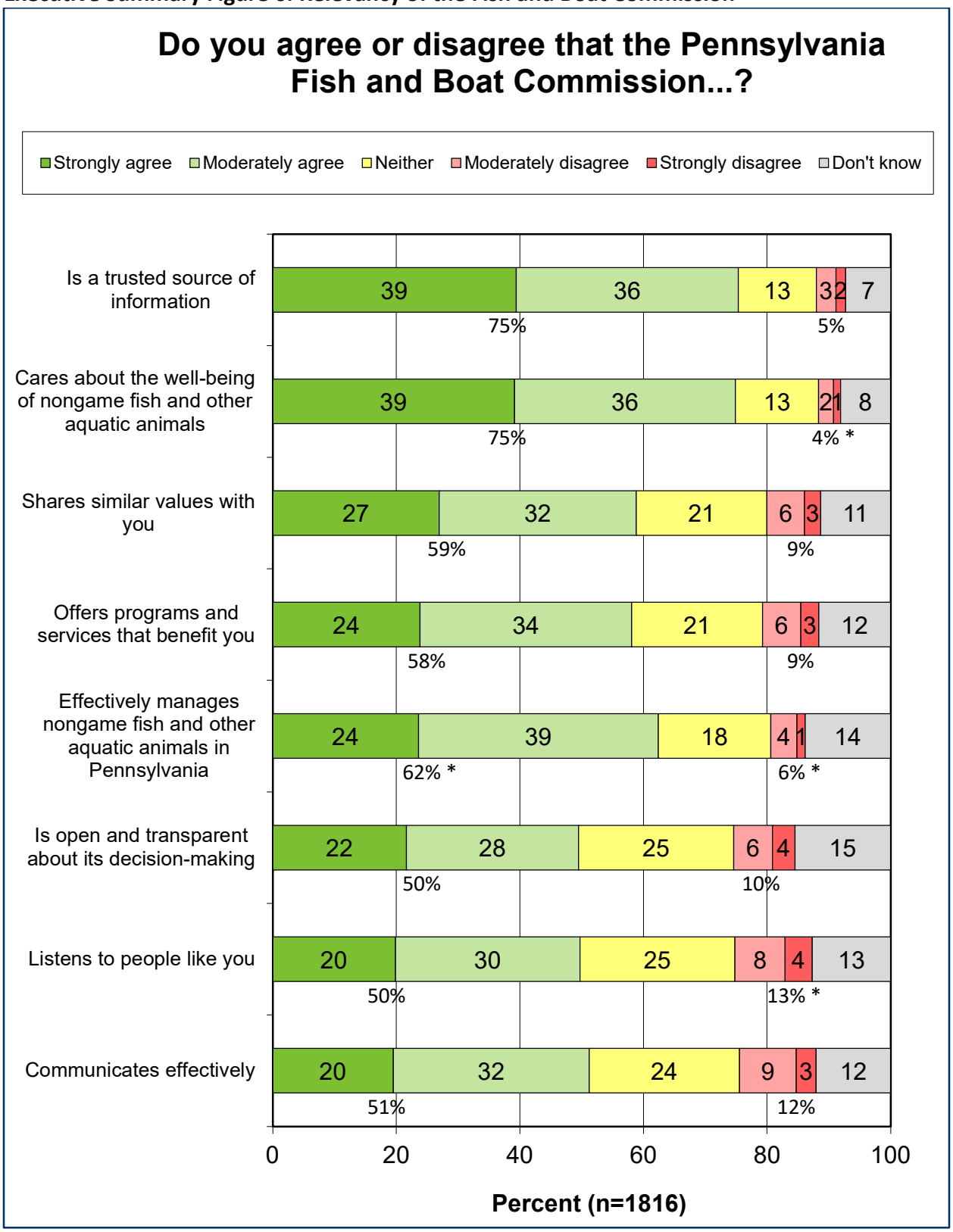
Overall, there are no marked differences between the Commissions for those agreeing with the statements with the Game Commission receiving 48% to 78% and the Fish and Boat Commission receiving 50% to 75%. Similar ranges are also found for disagreement with the statements ranging from 4% to 15% (Game Commission) and 4% to 13% (Fish and Boat Commission).

Executive Summary Figure 5. Relevancy of the Game Commission



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Executive Summary Figure 6. Relevancy of the Fish and Boat Commission



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Two questions (one regarding the Game Commission and the other regarding the Fish and Boat Commission) were run in the demographic analyses. The groups most likely to agree that the Game Commission effectively manages nongame wildlife in Pennsylvania are Northcentral Region residents, anglers, hunters, and males. The groups most likely to agree that the Fish and Boat Commission effectively manages nongame fish and other aquatic animals in Pennsylvania are residents of the Northcentral and Northeast Regions, anglers, and hunters.

FUNDING

Prior to the funding question, the survey informed residents of the following:

> Both the Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission are funded by a variety of sources, including hunting and fishing license fees, oil and gas revenue, timber sales, and federal excise taxes on hunting and fishing equipment and motorboat fuel. These taxes have been in place and help to fund fish and wildlife management and conservation, primarily for game species, for 75 years.
>
> These sources come mainly from license sales and added taxes; they are not *dedicated funding* sources. *Dedicated funding* is money allotted for a specific purpose and received directly from the government.

Residents were then asked if they support or oppose dedicated funding specifically for nongame fish and wildlife management. There is much greater support than opposition with 78% supporting dedicated funding, while 9% oppose (the remainder giving one of the neutral responses). The differences in support are small, but hunters are less likely to support it than are nonhunters, and hunters are much more likely to oppose than are nonhunters.

USE OF APPS AND ONLINE TOOLS

A question asked about participation in recreation; the question's primary purpose was to identify people for three subsequent questions about use of iNaturalist, eBird, and Pennsylvania's Wildlife Action Plan Conservation Opportunity Area Tool (these apps and online tools are fully explained in the body of the report).

Among those who engaged in wildlife-related recreation, 7% shared their observations on iNaturalist. Hunters are about twice as likely to share on iNaturalist than are nonhunters.

Among birdwatchers, 10% indicate sharing observations on eBird. Again, hunters are more likely to share on eBird than are nonhunters.

Finally in this section, the rate of use of the Conservation Opportunity Area Tool among those who maintained areas for wildlife is 8%, with hunters again more likely than nonhunters to do this.

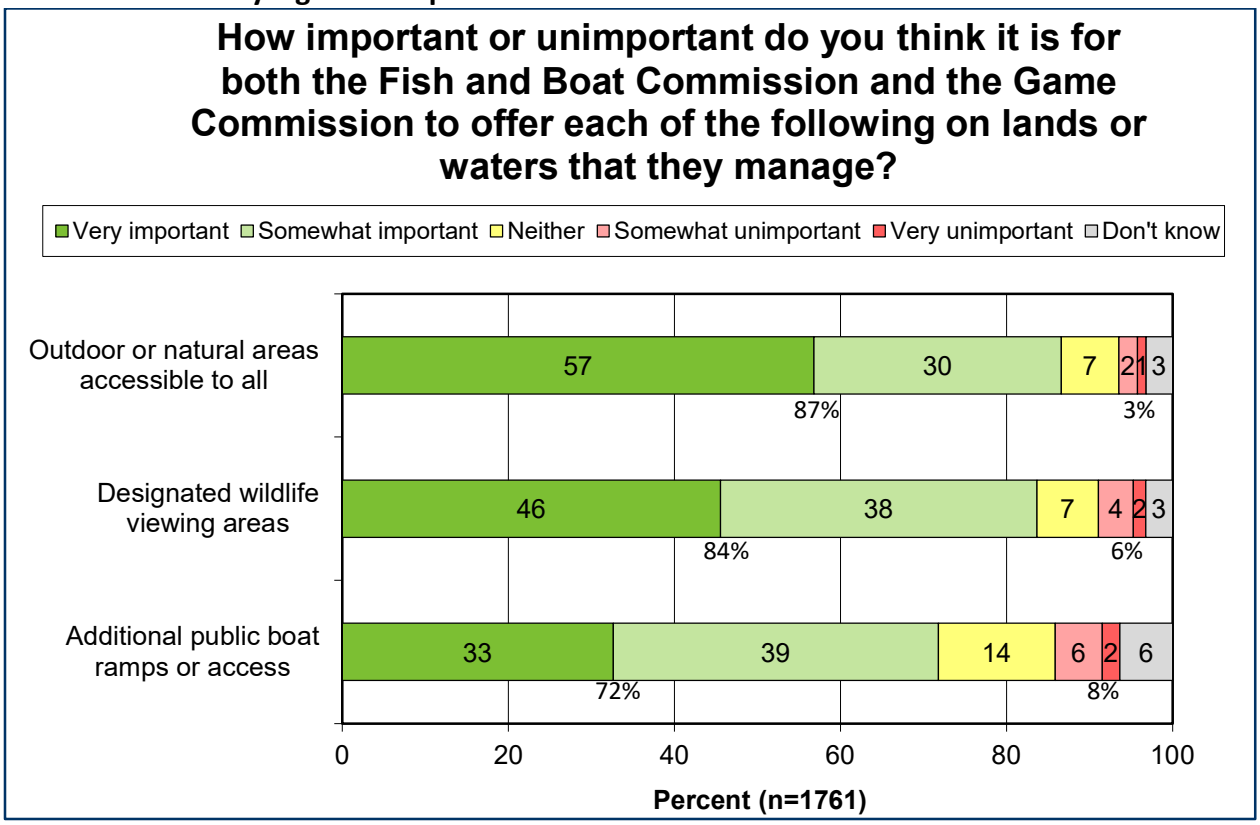
USE OF STATE GAME LANDS AND WATERS

The survey first described State Game Lands to respondents and then asked about recreating on State Game Lands other than for hunting or trapping. Nearly a quarter of Pennsylvania residents (24%) indicated that they had engaged in recreation on State Game Lands for activities other than hunting or trapping in the past 2 years. Hunters had done so much more often than nonhunters.

The groups more likely to use State Game Lands for purposes other than hunting or trapping, relative to residents overall, are Northcentral Region residents, hunters, anglers, young residents, rural residents, wildlife viewers, and Northwest Region residents.

Additionally, the survey asked about the importance of accessibility, viewing areas, and boat ramps on lands or waters managed by either Commission. Of the three, the one deemed most important is that the state offer outdoor or natural areas accessible to all: a large majority (57%) perceive these areas as *very* important, and another 30% deem these as *somewhat* important (a sum of 87%). Next in the ranking are designated wildlife viewing areas (46% say this is *very* important, 84% say *very* or *somewhat* important). At the bottom are boat ramps or boat access, but still considered important overall by a majority of Pennsylvanians (72%).

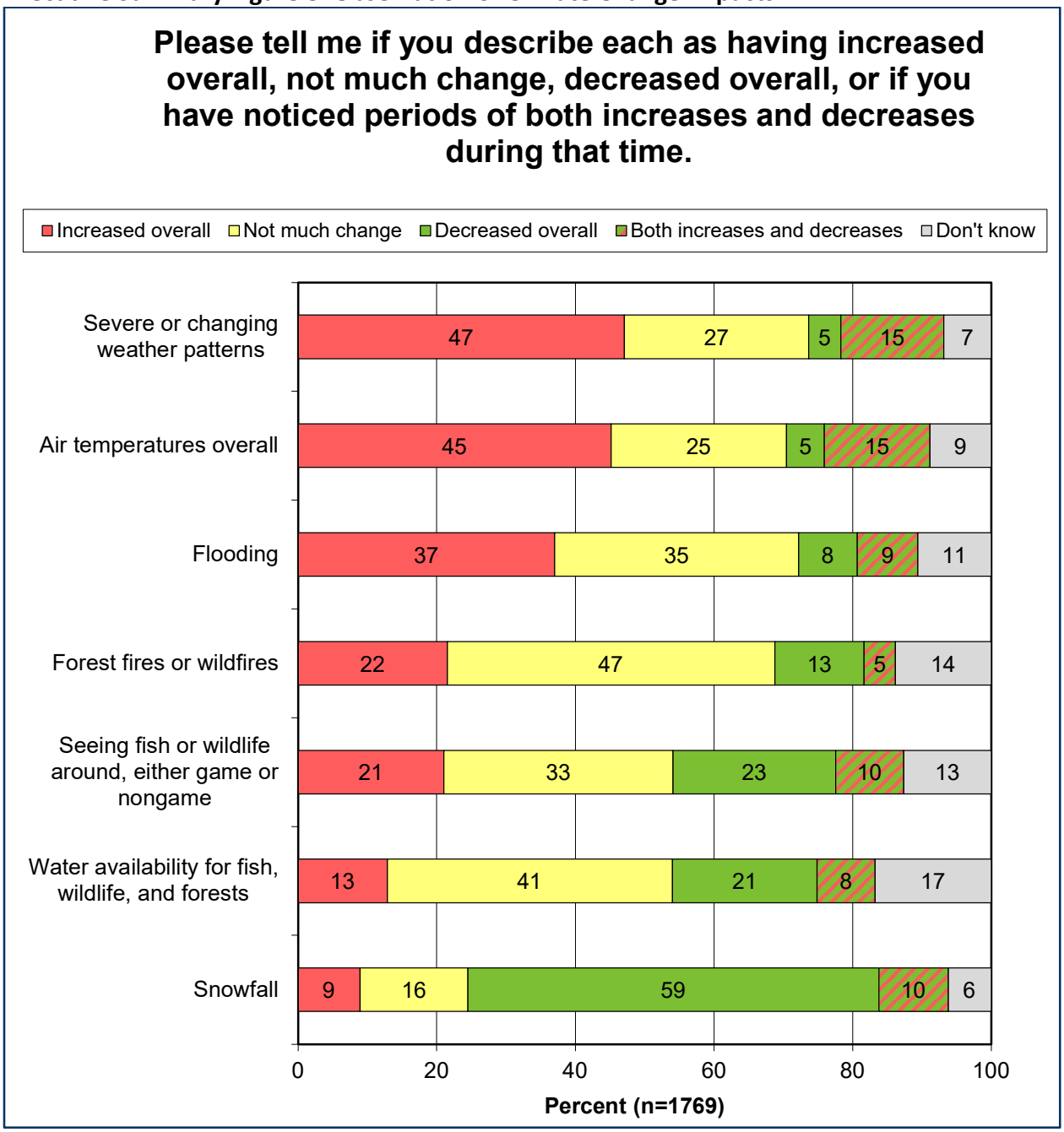
Executive Summary Figure 7. Importance of Provision of Each on State Game Lands



CLIMATE CHANGE IN PENNSYLVANIA

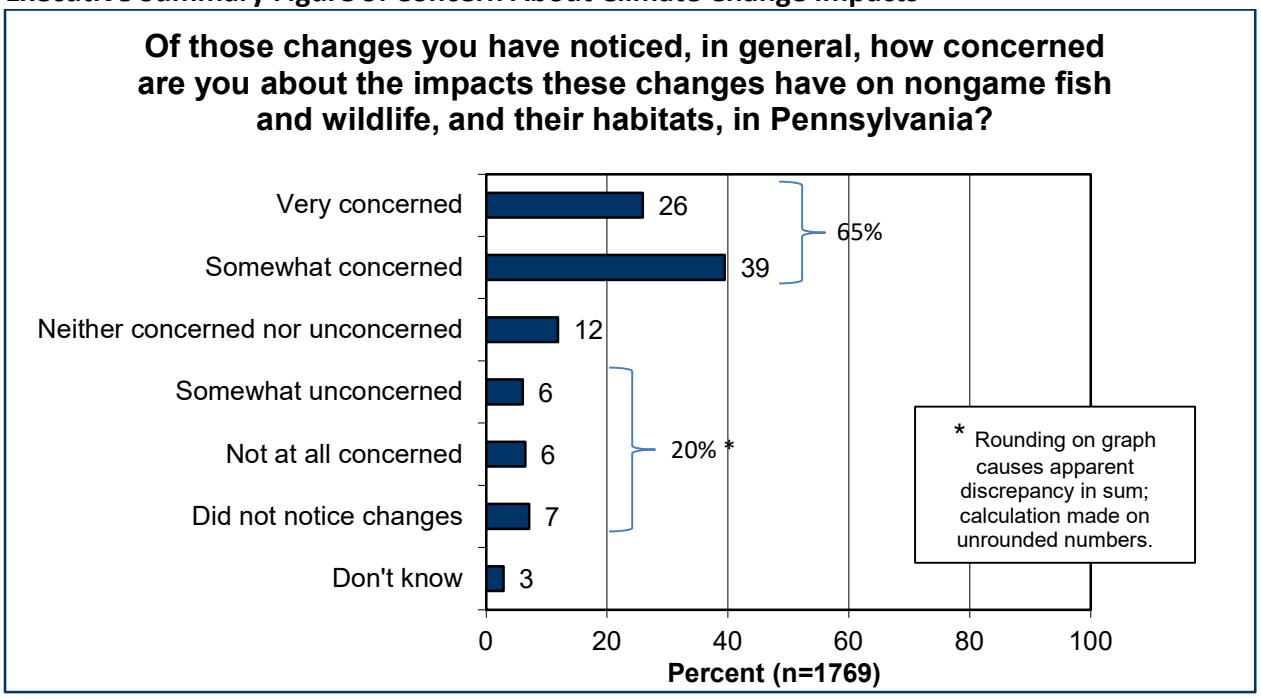
Without mentioning the phrase, "climate change," the survey asked whether Pennsylvanians had seen phenomena related to climate change. Both severe or changing weather patterns and air temperatures overall are seen by nearly half of residents (47% and 45%, respectively) as having increased, and more than a third (37%) have seen increases in flooding. For two of the items, a much greater percentage perceive a decrease than perceive an increase: water availability and snow.

Executive Summary Figure 8. Observation of Climate Change Impacts



Those who perceived increases or decreases (or some of both) were asked a follow-up question. A majority of all residents are concerned about effects of the changes that they have seen on nongame fish and wildlife and their habitats.

Executive Summary Figure 9. Concern About Climate Change Impacts



SOURCES OF INFORMATION

Among the findings of the open-ended question that asked about sources of information regarding nongame fish and wildlife, 35% get their nongame fish and wildlife information from websites other than Commission websites. Also, 8% of Pennsylvania residents indicate visiting the Game Commission's website, and 5% visit the Fish and Boat Commission website. (The body of the report shows the graph with the full listing of sources that were named in this open-ended question.)

NATURAL RESOURCE-RELATED ORGANIZATIONS

Just over a quarter of Pennsylvania residents (26%) contribute to or are a member of a non-governmental organization related to conservation and outdoor recreation. Over half of hunters (52%) donate to or are members of one of the types of organizations asked about in the survey, compared to only 20% of nonhunters.

TABLE OF CONTENTS

Introduction and Methodology 1
Questionnaire Design 1
Survey Samples 1
Multimodal Survey Administration 2
Survey Quality Control 4
Data Analysis 4
Presentation of Results 6
Information Provided in the Survey 8
Opinions on Important Nongame Wildlife Issues in Pennsylvania 9
Opinions on Species Populations and Species Management 11
Commission Program Areas 41
Importance of Commissions' Activities 59
Pennsylvania's Wildlife Action Plan 72
Agency Relevancy 85
Funding 104
Participation in Wildlife-Related Activities and Use of Apps and Online Tools 111
Use of State Game Lands and Waters 117
Climate Change in Pennsylvania 131
Sources of Information 140
Natural Resource-Related Organizations 142
Demographic Information 144
Appendix A: Survey Questionnaire 152
Appendix B: Additional Crosstabulation Graphs 169
About Responsive Management 192

LIST OF FIGURES

Figure 1. Pennsylvania Congressional Districts 2
Figure 2. Pennsylvania Regions for Analysis 5
Figure 3. Sampling Error Equation (Dillman Method) 5
Figure 4. Example of Demographic Analyses Graph 7
Figure 5. Most Important Issues Facing Nongame Wildlife 9
Figure 6. Importance of Commissions' Management of Species Types 11
Figure 7. Ratings of Health of Types of Species 12
Figure 8. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Birds 13
Figure 9. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Reptiles and Amphibians 14
Figure 10. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Mammals 15
Figure 11. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Fish 16
Figure 12. Demographic Analyses Graph of Rating of Health of Nongame Birds, Part 1 17
Figure 13. Demographic Analyses Graph of Rating of Health of Nongame Birds, Part 2 18

TABLE OF CONTENTS (continued)

LIST OF FIGURES (continued)

Figure 14. Demographic Analyses Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 1 19
Figure 15. Demographic Analyses Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 2 20
Figure 16. Demographic Analyses Graph of Rating of Health of Nongame Mammals, Part 1 21
Figure 17. Demographic Analyses Graph of Rating of Health of Nongame Mammals, Part 2 22
Figure 18. Demographic Analyses Graph of Rating of Health of Nongame Fish, Part 1 23
Figure 19. Demographic Analyses Graph of Health of Nongame Fish, Part 2 24
Figure 20. Congressional District Graph of Importance of Managing Nongame Birds 29
Figure 21. Congressional District Graph of Importance of Managing Nongame Reptiles and Amphibians 30
Figure 22. Congressional District Graph of Importance of Managing Nongame Mammals 31
Figure 23. Congressional District Graph of Importance of Managing Nongame Fish 32
Figure 24. Congressional District Graph of Rating of Health of Nongame Birds, Part 1 33
Figure 25. Congressional District Graph of Rating of Health of Nongame Birds, Part 2 34
Figure 26. Congressional District Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 1 35
Figure 27. Congressional District Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 2 36
Figure 28. Congressional District Graph of Rating of Health of Nongame Mammals, Part 1 37
Figure 29. Congressional District Graph of Rating of Health of Nongame Mammals, Part 2 38
Figure 30. Congressional District Graph of Rating of Health of Nongame Fish, Part 1 39
Figure 31. Congressional District Graph of Rating of Health of Nongame Fish, Part 2 40
Figure 32. Importance of Commissions' Functions 41
Figure 33. Demographic Analyses Graph of Importance of Managing and Conserving Threatened and Endangered Species 42
Figure 34. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Wildlife 43
Figure 35. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Fish and Other Aquatic Animals 44
Figure 36. Demographic Analyses Graph of Importance of Providing Hunting Opportunities 45
Figure 37. Demographic Analyses Graph of Importance of Providing Fishing Opportunities 46
Figure 38. Demographic Analyses Graph of Importance of Providing Wildlife Viewing Opportunities 47
Figure 39. Trends Graph of Importance of Managing and Conserving Threatened and Endangered Species 48
Figure 40. Trends Graph of Importance of Providing Wildlife Viewing Opportunities 48
Figure 41. Trends Graph of Importance of Providing Hunting Opportunities 49
Figure 42. Trends Graph of Importance of Providing Fishing Opportunities 49
Figure 43. Congressional District Graph of Importance of Managing and Conserving Threatened and Endangered Species 53

TABLE OF CONTENTS (continued)

LIST OF FIGURES (continued)

Figure 44. Congressional District Graph of Importance of Managing and Conserving Nongame Wildlife 54
Figure 45. Congressional District Graph of Importance of Managing and Conserving Nongame Fish and Other Aquatic Animals 55
Figure 46. Congressional District Graph of Importance of Providing Hunting Opportunities 56
Figure 47. Congressional District Graph of Importance of Providing Fishing Opportunities 57
Figure 48. Congressional District Graph of Importance of Providing Wildlife Viewing Opportunities 58
Figure 49. Importance of Commissions' Programs 59
Figure 50. Trends Graph of Importance of Enforcing Wildlife Laws 60
Figure 51. Trends Graph of Importance of Preventing and Controlling Invasive Species 60
Figure 52. Trends Graph of Importance of Restoring and Improving Habitat 61
Figure 53. Trends Graph of Importance of Addressing Wildlife Diseases 61
Figure 54. Trends Graph of Importance of Implementing Conservation Actions 62
Figure 55. Trends Graph of Importance of Purchasing Land for Habitat 62
Figure 56. Trends Graph of Importance of Reintroducing Nongame Species 63
Figure 57. Trends Graph of Importance of Informing the Public About Nongame Wildlife 63
Figure 58. Trends Graph of Importance of Managing for a Variety of Nongame Species 64
Figure 59. Trends Graph of Importance of Addressing Human-Wildlife Conflict 64
Figure 60. Familiarity with Pennsylvania's Wildlife Action Plan 72
Figure 61. Importance Placed on the Four Main Areas of the Pennsylvania Wildlife Action Plan 72
Figure 62. Demographic Analyses Graph of Familiarity With the Pennsylvania Wildlife Action Plan 73
Figure 63. Demographic Analyses Graph of Thinking That Threats to Species and Habitat Is the Most Important Area of the Pennsylvania Wildlife Action Plan 74
Figure 64. Demographic Analyses Graph of Thinking That Habitat Condition Is the Most Important Area of the Pennsylvania Wildlife Action Plan 75
Figure 65. Demographic Analyses Graph of Thinking That Conservation Actions Is the Most Important Area of the Pennsylvania Wildlife Action Plan 76
Figure 66. Demographic Analyses Graph of Thinking That Species of Greatest Conservation Need Is the Most Important Area of the Pennsylvania Wildlife Action Plan 77
Figure 67. Trends Graph of Importance Placed on the Four Main Areas of the Pennsylvania Wildlife Action Plan 78
Figure 68. Congressional District Graph of Familiarity With the Pennsylvania Wildlife Action Plan 80
Figure 69. Congressional District Graph of Thinking That Threats to Species and Habitat Is the Most Important Area of the Pennsylvania Wildlife Action Plan 81
Figure 70. Congressional District Graph of Thinking That Habitat Condition Is the Most Important Area of the Pennsylvania Wildlife Action Plan 82
Figure 71. Congressional District Graph of Thinking That Conservation Actions Is the Most Important Area of the Pennsylvania Wildlife Action Plan 83

TABLE OF CONTENTS (continued)

LIST OF FIGURES (continued)

Figure 72. Congressional District Graph of Thinking That Species of Greatest Conservation Need Is the Most Important Area of the Pennsylvania Wildlife Action Plan 84
Figure 73. Relevancy of the Game Commission 86
Figure 74. Relevancy of the Fish and Boat Commission 87
Figure 75. Demographic Analyses Graph of Agreeing That the PGC Is a Trusted Source 88
Figure 76. Demographic Analyses Graph of Agreeing That the PGC Effectively Manages Nongame Wildlife 89
Figure 77. Demographic Analyses Graph of Agreeing That the PFBC Is a Trusted Source..... 90
Figure 78. Demographic Analyses Graph of Agreeing That the PFBC Effectively Manages Nongame Fish and Aquatic Animals 91
Figure 79. Congressional District Graph of Agreeing That the PGC Is a Trusted Source..... 100
Figure 80. Congressional District Graph of Agreeing That the PGC Effectively Manages Nongame Wildlife 101
Figure 81. Congressional District Graph of Agreeing That the PFBC Is a Trusted Source 102
Figure 82. Congressional District Graph of Agreeing That the PFBC Effectively Manages Nongame Fish and Aquatic Animals 103
Figure 83. Support of Dedicated Funding..... 104
Figure 84. Support of Dedicated Funding by Hunter/Nonhunter 105
Figure 85. Demographic Analyses Graph of Support of Dedicated Funding..... 106
Figure 86. Demographic Analyses Graph of Opposition to Dedicated Funding..... 107
Figure 87. Congressional District Graph of Support of Dedicated Funding..... 109
Figure 88. Congressional District Graph of Opposition to Dedicated Funding..... 110
Figure 89. Participation in Activities 111
Figure 90. Participation in Activities, by Hunter/Nonhunter..... 112
Figure 91. Trends Graph of Participation in Activities..... 113
Figure 92. Use of iNaturalist 114
Figure 93. Use of eBird..... 114
Figure 94. Use of the Conservation Opportunity Area Tool 115
Figure 95. Other Activities on State Game Lands 117
Figure 96. Other Activities on State Game Lands, by Hunter/Nonhunter..... 117
Figure 97. Demographic Analyses Graph of Other Activities on State Game Lands 118
Figure 98. Congressional District Graph of Other Activities on State Game Lands..... 120
Figure 99. Importance of the Provision of Each on State Game Lands 121
Figure 100. Importance of the Provision of Each on State Game Lands, Hunters 122
Figure 101. Importance of the Provision of Each on State Game Lands, Nonhunters..... 122
Figure 102. Demographic Analyses Graph of Importance of Offering Outdoor or Natural Areas 123
Figure 103. Demographic Analyses Graph of Importance of Offering Wildlife Viewing Areas.. 124
Figure 104. Demographic Analyses Graph of Importance of Offering Boat Ramps and Access..... 125

TABLE OF CONTENTS (continued)

LIST OF FIGURES (continued)

Figure 105. Congressional District Graph of Importance of Offering Outdoor or Natural Areas 128
Figure 106. Congressional District Graph of Importance of Offering Wildlife Viewing Areas 129
Figure 107. Congressional District Graph of Importance of Offering Boat Ramps and Access .. 130
Figure 108. Observation of Climate Change Impacts 131
Figure 109. Concern About Climate Change Impacts 136
Figure 110. Concern About Climate Change Impacts, by Gender 137
Figure 111. Concern About Climate Change Impacts by Age 138
Figure 112. Concern About Climate Change Impacts by Ethnicity 139
Figure 113. Sources of Information About Nongame Fish and Wildlife 140
Figure 114. Membership in Organizations 142
Figure 115. Trends Graph of Membership in Organizations 142
Figure 116. Gender 144
Figure 117. Age 144
Figure 118. Length of Residency 145
Figure 119. Ethnicity 146
Figure 120. Education 147
Figure 121. Residential Area 147

List of Tables

Table 1. In your opinion, what is the most important issue or concern facing nongame wildlife in Pennsylvania today? 10
Table 2. How important or unimportant do you think it is for the Game Commission to manage and conserve Pennsylvania's nongame birds, such as birds of prey, songbirds, and shorebirds? 25
Table 3. How important or unimportant do you think it is for the Fish and Boat Commission to manage and conserve Pennsylvania's nongame reptiles, such as turtles, and amphibians, such as salamanders? 25
Table 4. How important or unimportant do you think it is for the Game Commission to manage and conserve Pennsylvania's nongame mammals, such as bats and northern flying squirrels? 26
Table 5. How important or unimportant do you think it is for the Fish and Boat Commission to manage and conserve Pennsylvania's nongame fish, such as darters, chubs, and shiners? 26
Table 6. How would you rate the overall health or well-being of Pennsylvania's nongame birds? 27
Table 7. How would you rate the overall health or well-being of Pennsylvania's nongame reptiles and amphibians? 27

TABLE OF CONTENTS (continued)

LIST OF TABLES (continued)

Table 8. How would you rate the overall health or well-being of Pennsylvania's nongame mammals? 28
Table 9. How would you rate the overall health or well-being of Pennsylvania's nongame fish? 28
Table 10. Do you think managing and conserving threatened and endangered species are important or unimportant functions of both the Game Commission and the Fish and Boat Commission? 50
Table 11. Do you think managing and conserving nongame wildlife is an important or unimportant function of the Game Commission? 50
Table 12. Do you think managing and conserving nongame fish and other aquatic animals is an important or unimportant function of the Fish and Boat Commission? 51
Table 13. Do you think providing opportunities for hunting is an important or unimportant function of the Game Commission? 51
Table 14. Do you think providing opportunities for fishing is an important or unimportant function of the Fish and Boat Commission? 52
Table 15. Do you think providing opportunities for viewing fish and wildlife in a natural setting is an important or unimportant function of both the Game Commission and the Fish and Boat Commission? 52
Table 16. Protecting threatened and endangered species (Do you think this is an important or unimportant activity for the Commissions?) 65
Table 17. Enforcing wildlife laws (Do you think this is an important or unimportant activity for the Commissions?) 65
Table 18. Preventing and controlling invasive species, that is, species that may adversely affect or disrupt habitats or other fish and wildlife (Do you think this is an important or unimportant activity for the Commissions?) 66
Table 19. Restoring and improving habitat for wildlife (Do you think this is an important or unimportant activity for the Commissions?) 66
Table 20. Addressing wildlife diseases (Do you think this is an important or unimportant activity for the Commissions?) 67
Table 21. Implementing conservation actions, such as habitat protection or improvement, for nongame species that are at risk before they become endangered (Do you think this is an important or unimportant activity for the Commissions?) 67
Table 22. Purchasing land for the purpose of providing needed habitat for species that are declining or in need of conservation (Do you think this is an important or unimportant activity for the Commissions?) 68
Table 23. Taking action to protect or recover nongame species (Do you think this is an important or unimportant activity for the Commissions?) 68
Table 24. Reintroducing nongame species that once existed in Pennsylvania (Do you think this is an important or unimportant activity for the Commissions?) 69

TABLE OF CONTENTS (continued)

LIST OF TABLES (continued)

Table 25. Informing the public about Pennsylvania's nongame wildlife (Do you think this is an important or unimportant activity for the Commissions?) 69
Table 26. Managing for a variety of nongame wildlife species as compared to managing for a particular species (Do you think this is an important or unimportant activity for the Commissions?) 70
Table 27. Addressing problems and damage caused by nongame wild birds and mammals (Do you think this is an important or unimportant activity for the Commissions?) 70
Table 28. Providing opportunities for nongame fish or wildlife viewing (Do you think this is an important or unimportant activity for the Commissions?) 71
Table 29. How familiar are you with Pennsylvania's Wildlife Action Plan? 79
Table 30. In general, which one of the four main areas addressed in the plan do you think is the most important? 79
Table 31. Is a trusted source of information (Do you agree or disagree that the Pennsylvania Game Commission…?) 92
Table 32. Cares about the well-being of nongame wildlife (Do you agree or disagree that the Pennsylvania Game Commission…?) 92
Table 33. Shares similar values with you (Do you agree or disagree that the Pennsylvania Game Commission…?) 93
Table 34. Offers programs and services that benefit you (Do you agree or disagree that the Pennsylvania Game Commission…?) 93
Table 35. Effectively manages nongame wildlife in Pennsylvania (Do you agree or disagree that the Pennsylvania Game Commission…?) 94
Table 36. Communicates effectively (Do you agree or disagree that the Pennsylvania Game Commission…?) 94
Table 37. Is open and transparent about its decision-making (Do you agree or disagree that the Pennsylvania Game Commission…?) 95
Table 38. Listens to people like you (Do you agree or disagree that the Pennsylvania Game Commission…?) 95
Table 39. Is a trusted source of information (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 96
Table 40. Cares about the well-being of nongame fish and other aquatic animals (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 96
Table 41. Shares similar values with you (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 97
Table 42. Offers programs and services that benefit you (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 97
Table 43. Effectively manages nongame fish and other aquatic animals in Pennsylvania (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 98
Table 44. Is open and transparent about its decision-making (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 98

TABLE OF CONTENTS (continued)

LIST OF TABLES (continued)

Table 45. Listens to people like you (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 99
Table 46. Communicates effectively (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) 99
Table 47. In general, do you support or oppose dedicated funding specifically for nongame fish and wildlife management?..... 108
Table 48. Have you shared observations through iNaturalist in the past 2 years? (Asked of those who participated in any wildlife-related activities.) 116
Table 49. Have you shared observations through eBird in the past 2 years? (Asked of those who participated in birdwatching.) 116
Table 50. Have you used the Conservation Opportunity Area Tool in the past 2 years? (Asked of those who have maintained areas around their home to benefit fish and wildlife.) 116
Table 51. In the past 2 years, did you participate in any outdoor activities other than hunting or trapping specifically on Pennsylvania State Game Lands? 119
Table 52. Outdoor or natural areas accessible to all (How important or unimportant do you think it is for both the Fish and Boat Commission and the Game Commission to offer each of the following on lands or waters that they manage?)..... 126
Table 53. Designated wildlife viewing areas (How important or unimportant do you think it is for both the Fish and Boat Commission and the Game Commission to offer each of the following on lands or waters that they manage?) 126
Table 54. Additional public boat ramps or access (How important or unimportant do you think it is for both the Fish and Boat Commission and the Game Commission to offer each of the following on lands or waters that they manage?)..... 127
Table 55. Severe or changing weather patterns (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?)..... 132
Table 56. Air temperatures overall (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) 132
Table 57. Flooding (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) 133
Table 58. Forest fires or wildfires (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?)..... 133
Table 59. Seeing fish or wildlife around, either game or nongame (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?)..... 134

TABLE OF CONTENTS (continued)

LIST OF TABLES (continued)

Table 60. Water availability for fish, wildlife, and forests (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) 134
Table 61. Snowfall (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) 135
Table 62. Of those changes you have noticed, in general, how concerned are you about the impacts these changes have on nongame fish and wildlife, and their habitats, in Pennsylvania? 136
Table 63. Where do you get your information about nongame fish and wildlife? 141
Table 64. Do you contribute to or are you a member of a conservation, sportsmen, recreation, or environmental club or group? 143
Table 65. What is your gender? 148
Table 66. May I ask your age? 149
Table 67. How long have you lived in Pennsylvania? 149
Table 68. What races or ethnic backgrounds do you consider yourself? 150
Table 69. What is the highest level of education you have completed? 151
Table 70. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm, or a rural area not on a farm? 151

INTRODUCTION AND METHODOLOGY

Responsive Management conducted this study of Pennsylvania residents to determine their opinions on and attitudes toward nongame wildlife, activities and priorities of both the Game Commission and the Fish and Boat Commission (hereinafter referred to as the Commissions), and funding for the Commissions. Additionally, the study explored attitudes toward hunting, fishing, and game species. Similar surveys were conducted in Pennsylvania in 1996 and 2014 by Responsive Management. This report continues the overarching purpose of these previous studies. The study entailed a multimodal survey conducted by telephone and online. Specific aspects of the research methodology are discussed below.

QUESTIONNAIRE DESIGN

The telephone and online questionnaires were developed cooperatively by Responsive Management and the Commissions, based on the previous surveys as well as the research team's familiarity with wildlife management and outdoor recreation research. Both Commissions sought the following information from the survey:

- Determine public values and attitudes toward nongame wildlife.
- Determine trends in public values and attitudes toward nongame wildlife since 1996.
- Determine public attitudes toward dedicated nongame funding.
- Determine public attitudes toward the Commissions' roles in protecting, managing, and conserving nongame wildlife.
- Identify the public's priorities for nongame wildlife programs.
- Inform the State Wildlife Action Plan process.

There were slight differences between the telephone and online versions of the survey to accommodate each survey mode, but otherwise the surveys were identical.

Because the Commissions had many more questions they wanted to ask than could be asked of a single respondent, the sample was randomly split for certain survey questions, and only a random half of the sample was given the question. In this manner, no single respondent would get every question, thereby shortening the survey for respondents and increasing the likelihood of obtaining completed surveys. This causes the sample size on certain questions that were designed to be asked of everybody to be less than the total sample. However, because these questions were asked on a *randomly selected* sub-sample, the results of this half-sample still validly represent all Pennsylvania residents.

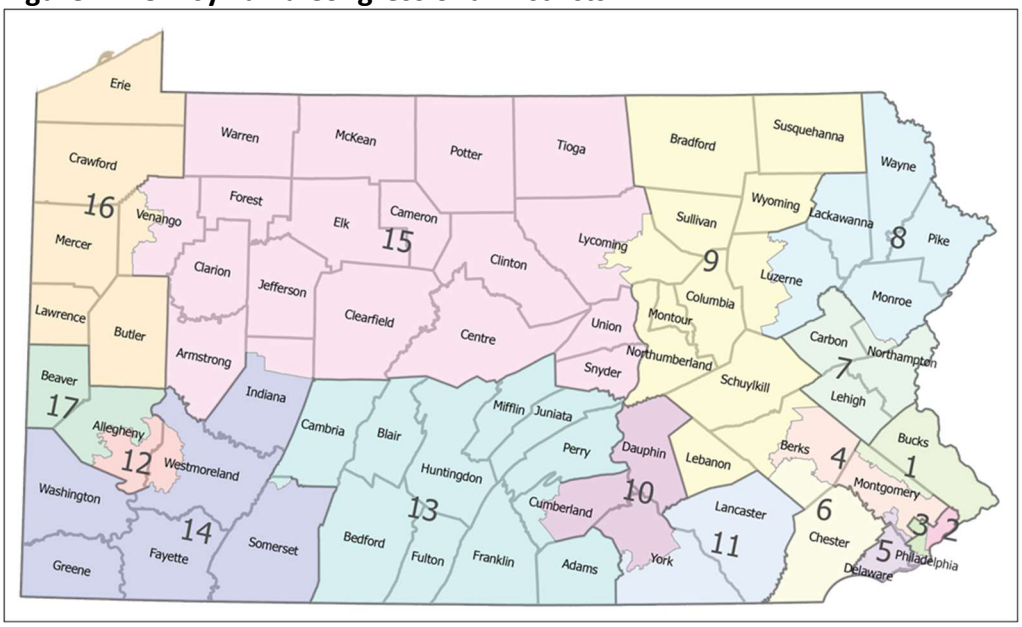
Responsive Management conducted pre-tests of the questionnaires to ensure proper wording, flow, and logic in the survey. The survey questionnaire is included as Appendix A.

SURVEY SAMPLES

The overall sample of Pennsylvania residents consisted of a telephone sample that included both cell phones and landlines and an online sample. The overall sample was stratified by Congressional District with a goal of approximately 200 completed questionnaires in each District. Both samples were obtained from MSG, a firm that specializes in providing scientifically rigorous samples for surveys. The Congressional Districts are shown in the map that follows,

obtained from the pa.gov website. (Note: Because of substantial changes in Congressional District boundaries compared to previous surveys, trends at the District level are not feasible.)

Figure 1. Pennsylvania Congressional Districts



Source: pa.gov website.

For the telephone portion of the survey, the sample used a probability-based selection process that ensured that all Pennsylvania residents with a telephone had an approximately equal chance of being selected for the survey within each stratification district. These districts were then properly weighted for statewide results, as explained in more detail in the data analysis section.

MULTIMODAL SURVEY ADMINISTRATION

The version of the survey conducted by telephone was coded for integration with Responsive Management's computer-assisted telephone interviewing process. The online version of the survey was coded in software compatible with online surveying. An important aspect of both versions of the survey is that the computer controlled which questions were asked and allowed for immediate data entry. Note that surveys conducted by telephone are administered by a live interviewer (the computer simply controls which questions are asked, depending on previous responses).

Telephone interviews were conducted Monday through Friday from noon to 9:00 p.m. and Saturday from noon to 7:00 p.m., local time, using interviewers with experience conducting computer-assisted surveys about wildlife management and outdoor recreation. A five-callback design was used to avoid bias toward people easy to reach by telephone and to provide an equal opportunity for all to participate. When a Pennsylvania resident could not be reached on the first call, subsequent calls were placed on different days of the week and at different times of the day. The survey was conducted at the time of initial contact, or a callback time was set that was more convenient for the respondent.

Those with a cellular number who could not be reached after five attempts were sent a text message from a Pennsylvania phone number inviting them to participate in the survey online. Those who did not respond to the text were called at least one more time, and then a reminder text was sent to nonrespondents a week after the initial text invitation. An example of the text message follows. The text message provided a link to the online survey featuring an introduction with more information and instructions to begin the survey; the text and online survey introduction are shown below.

Text Message

Hello. I'm Amanda from Responsive Management. The PA Game Commission and the PA Fish and Boat Commission would like your opinion on wildlife management in the state. Please consider taking this survey [survey link]. [Note that the order of the Commissions in the text was randomly switched.]

Online Survey Introduction and Instructions

The Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission are conducting a study to find out about Pennsylvania residents' opinions on fish and wildlife conservation programs in the state. You do not have to know a lot about wildlife; we would like to hear the opinions of Pennsylvania residents, regardless of knowledge. As a resident of Pennsylvania, your input is very important to this study and the results will assist in managing wildlife throughout the state.

Your answers will be kept completely confidential and will not be associated with your contact information in any way.

Responsive Management, an independent research firm that specializes in natural resource and fish and wildlife issues, has been contracted to conduct this study. If you need technical assistance with the survey, please contact Responsive Management via email at research@responsivemanagement.com.

Thank you for your time and willingness to participate.

Please click "Next" below to begin the survey.

If you are on a mobile device and do not see a "Next" button, please click the small forward arrow at the bottom right of your screen to continue and to move forward throughout the survey.

The survey forward arrow will look similar to this:



For the online survey, Responsive Management monitored the surveying effort to ensure the quality of the data. Although not stratified by district, monitoring during the course of the survey ensured that robust numbers of completed questionnaires by the online mode were obtained in each district.

The survey was conducted in February 2024. Responsive Management obtained 3,511 completed questionnaires.

SURVEY QUALITY CONTROL

For both the telephone and online versions of the survey, the questionnaire was programmed to branch and substitute phrases based on previous responses to ensure the integrity and consistency of the data collection. The survey questionnaire also contained error checkers and computation statements to ensure quality and consistent data.

Additionally, for quality control, Survey Center managers monitored the telephone interviews in real time and provided feedback to the interviewers. To ensure the integrity of the telephone survey data, Responsive Management has interviewers who have been trained according to the highest industry standards established by the American Association for Public Opinion Research. Methods of instruction included lectures and role-playing. The Survey Center managers and other professional staff conducted briefings with the interviewers prior to the administration of this survey. Interviewers were instructed on type of study, study goals and objectives, handling of survey questions, interview length, termination points and qualifiers for participation, interviewer instructions within the survey questionnaire, reading of the survey questions, skip patterns, and probing and clarifying techniques necessary for specific questions on the survey questionnaires.

For quality control of the online surveys, an additional question developed by Responsive Management was used to identify and filter out invalid surveys that could automatically generate illegitimate results.

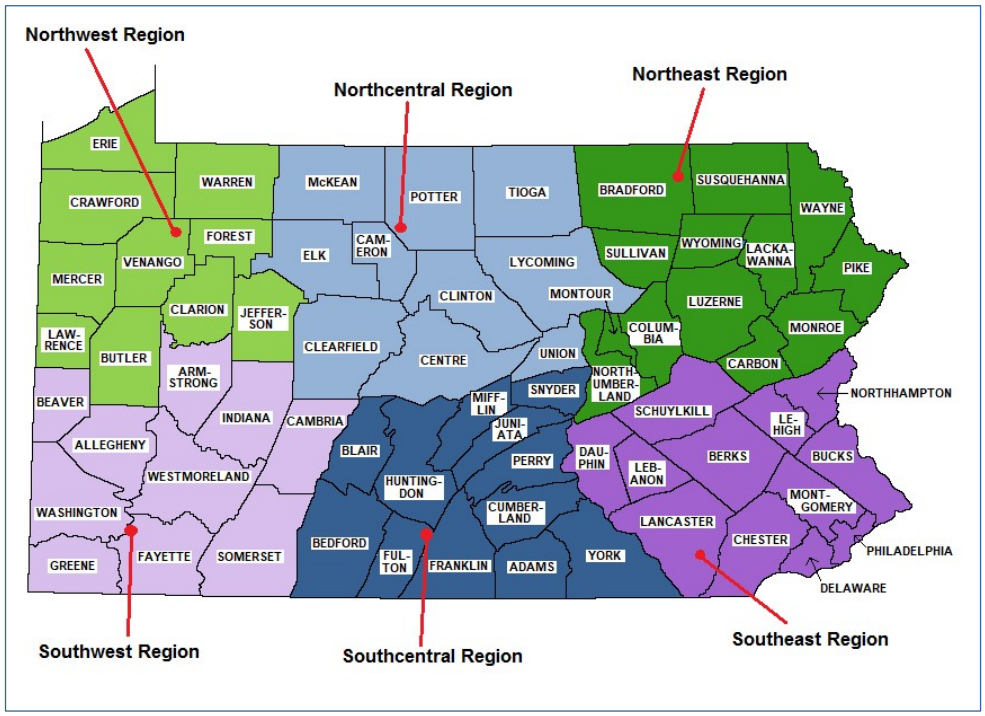
After the surveys were obtained, the Survey Center managers and statisticians checked each completed survey to ensure clarity and completeness. Additionally, analysts reviewed all individual survey responses to identify potential invalid submittals, such as online surveys that were completed in an unrealistically brief timeframe, which suggests that respondents were clicking through responses without reading and evaluating the questions. Analysts also checked for the related issue of “straight-lining” of responses, which is when respondents select (for example) the first or same response options throughout the survey. Also, open-ended responses to the final question asking for additional comments were used to identify and remove invalid respondents. All completed surveys of questionable quality were removed prior to data analysis.

DATA ANALYSIS

The data analysis was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management. For analysis, weighting by age and gender was applied to ensure that the Districts exactly matched U.S. Census data for Pennsylvania residents 18 years old and older in that district, and then the Districts were properly weighted so that they would be in proper proportions for the statewide results. Weighting was also applied on ethnicity statewide. The final statewide sample was representative of all Pennsylvania residents 18 years old and older.

The analysis included an examination of regional results, based on the regions defined by the Commissions, shown in the accompanying map. It also included results by congressional district (this map was previously shown), which are provided in tables but not otherwise discussed in the text of the report.

Figure 2. Pennsylvania Regions for Analysis



Where possible, we examined trends in responses from prior surveys. Only questions not added or modified since the 2014 survey could be evaluated for trends. This resulted in more than a dozen trend graphs for questions with valid comparisons. Also, three questions included trends data from 1996.

Throughout this report, findings of the survey are reported at a 95% confidence interval. The sampling error was 1.65 percentage points, based on a total sample size of 3,511 and an estimated population size of 10,349,850 adult Pennsylvania residents. The sampling error equation is shown below.

Figure 3. Sampling Error Equation (Dillman Method)

$$B = \left(\sqrt{\frac{\frac{N_p(.25)}{N_s} - .25}{N_p - 1}} \right) (1.96)$$

Where: B = maximum sampling error (as decimal)
N_P = pop. size (i.e., total number who could be surveyed)
N_S = sample size (i.e., total number of respondents surveyed)

Derived from formula: p. 206 in Dillman, D. A. 2000. *Mail and Internet Surveys*. John Wiley & Sons, NY.

Note: This is a simplified version of the formula that calculates the *maximum* sampling error using a 50:50 split (the most conservative calculation because a 50:50 split would give maximum variation).

PRESENTATION OF RESULTS

For these results, it is important to be aware that the questionnaire included several types of questions:

- Single response questions: Some questions allow only a single response.
- Multiple response questions: Other questions allow respondents to give more than one response or choose all that apply. Those that allow more than a single response are indicated on the graphs with the label, "Multiple Responses Allowed."
- Closed-ended questions have an answer set from which to choose.
- Open-ended questions are those in which no answer set is presented to the respondents; rather, they can respond with anything that comes to mind from the question.
- Scaled questions: Some closed-ended questions (but not all) are in a scale, such as those with an excellent-good-fair-poor response set.

Graphs and tables show results rounded to the nearest integer; however, all data are stored in decimal format, and all calculations are performed on unrounded numbers. For this reason, some graphs may not sum to exactly 100% because of this rounding on the graphs and tables. Additionally, sums of responses may appear to have a discrepancy when basing the sum on the integers, but be assured that all sums are calculated on unrounded numbers. These instances are noted in the report.

The report also includes graphs that show how various demographic groups respond to certain questions, hereinafter simply referred to as demographic analyses graphs. Only select questions were analyzed in this way. The example on the following page explains how to interpret these graphs. Although used as an example, the graph shows actual data from this survey.

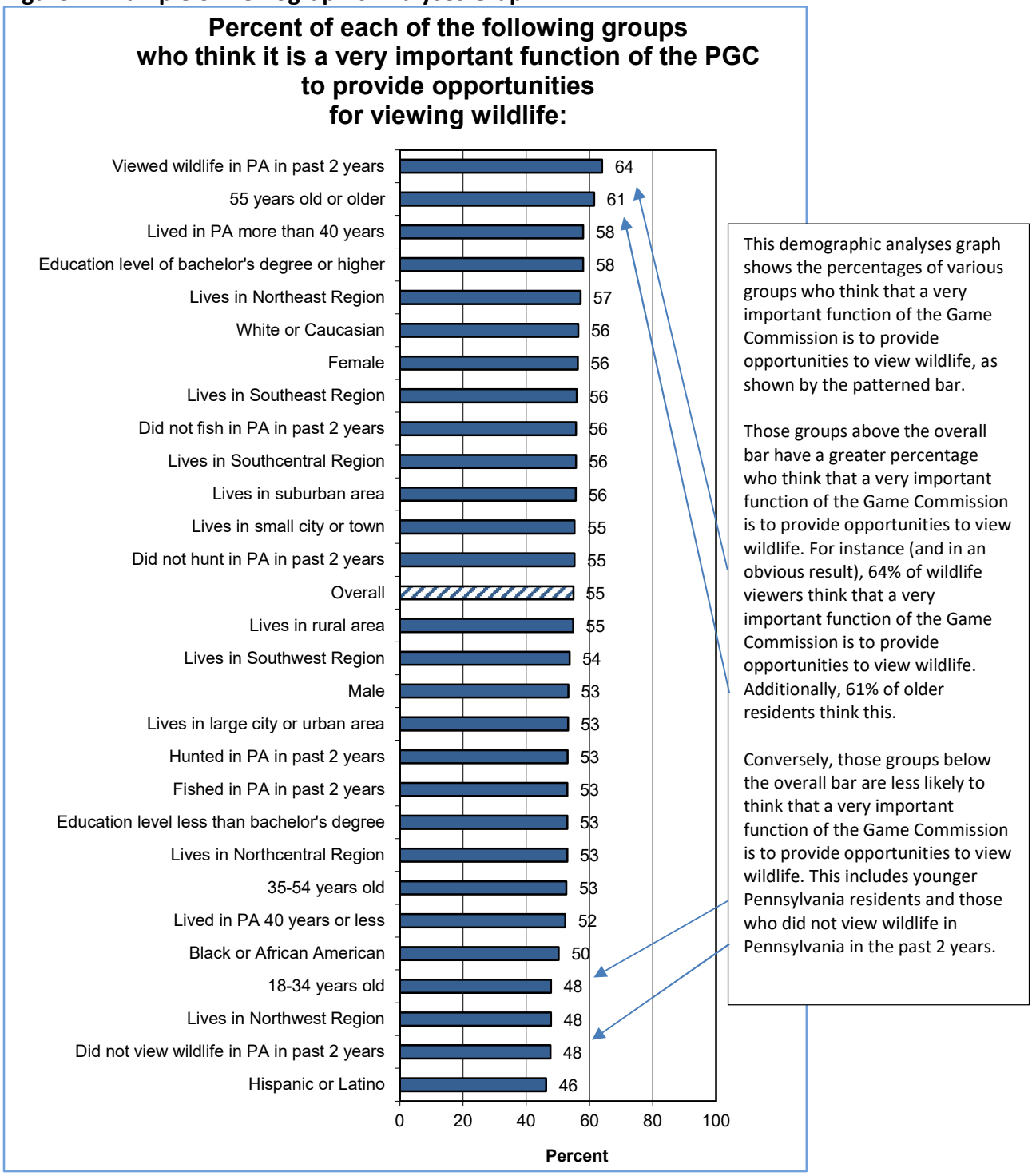
The example graph shows the percentages of the various groups of Pennsylvania residents who think that a very important function of the Game Commission is to provide opportunities to view wildlife. Overall, 55% of Pennsylvania residents think that a very important function of the Game Commission is to provide opportunities to view wildlife, as shown by the patterned bar. Specific Pennsylvania resident groups shown above the overall bar have a higher percentage who think this about the Game Commission's function. For instance, 64% of wildlife viewers think that a very important function of the Game Commission is to provide opportunities to view wildlife, higher than among Pennsylvania residents overall. Additionally, older Pennsylvania residents (61%) are more likely to think that a very important function of the Game Commission is to provide opportunities to view wildlife.

Meanwhile, those groups below the overall bar have lower percentages who think that a very important function of the Game Commission is to provide opportunities to view wildlife. In this example, only 48% of young Pennsylvanians (18 to 34 years old) think that a very important function of the Game Commission is to provide opportunities to view wildlife.

When one group is above the overall bar (for instance, in this example, older residents), its counterpart or one of its counterparts (in this instance, younger residents) will typically be below the overall bar. The distance from the overall bar matters, as well. If a group is close to the overall bar (for instance, rural residents in this example), then the group should not be

considered markedly different from respondents overall. A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 4. Example of Demographic Analyses Graph



These demographic analyses graphs were also conducted by congressional district. These graphs are included after the tables of congressional district results, but again they are not specifically discussed in the text of the report.

INFORMATION PROVIDED IN THE SURVEY

Nongame wildlife as a term was specifically defined in the survey to mean "wild birds, mammals, fish, reptiles, amphibians, and other aquatic animals that are not hunted or fished." This reminder was given several times during the survey so that residents would stay focused on nongame in the survey.

Pennsylvania residents were also given the information shown below about the two Commissions. In the survey wording, the order in which the Commissions are mentioned was randomly switched. The example below shows the Game Commission being mentioned first.

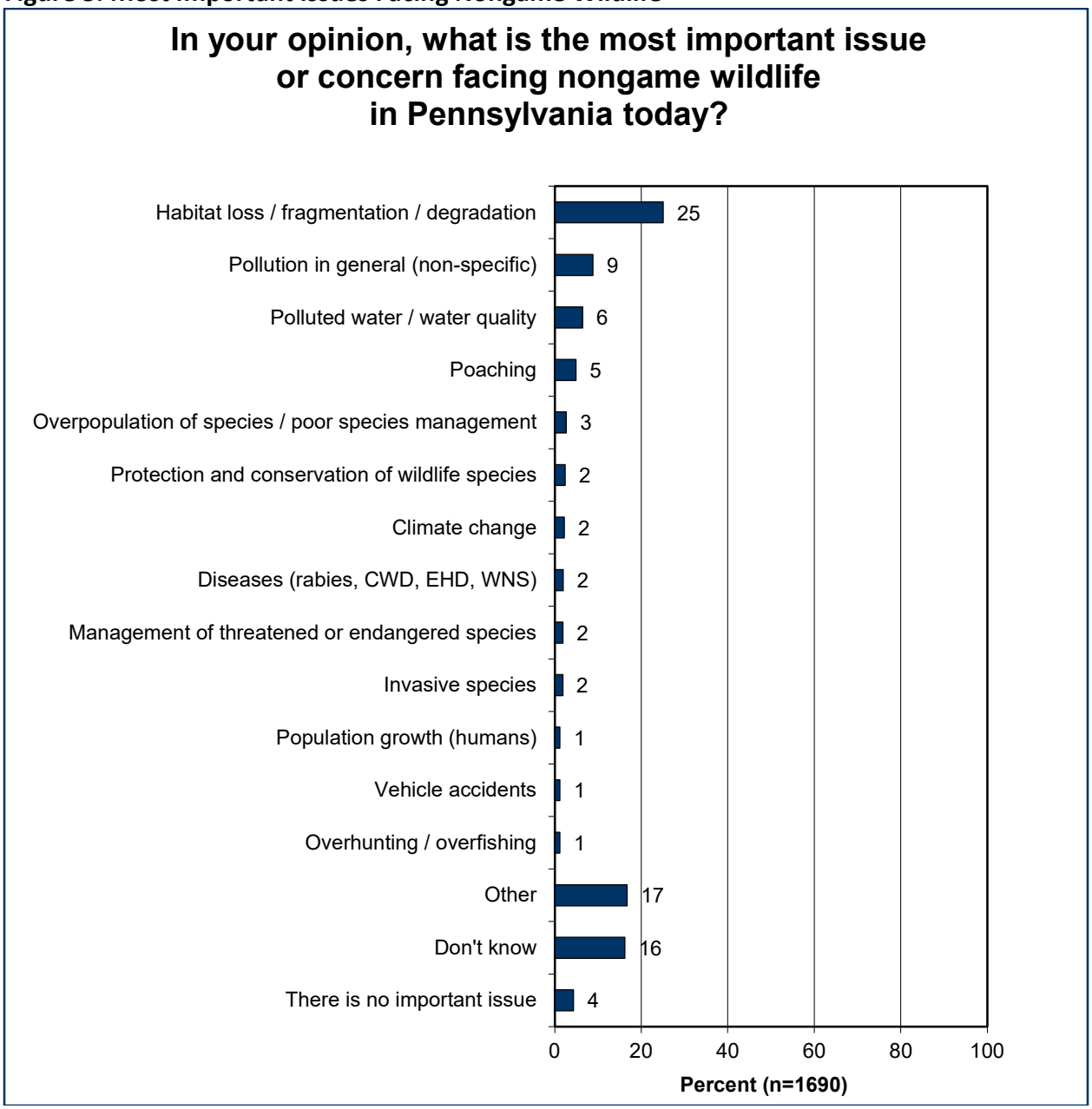
> The Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission manage all fish and wildlife in Pennsylvania. The Game Commission manages all wild birds and mammals while the Fish and Boat Commission manages all fish, reptiles, amphibians, and other aquatic animals.

In another section, survey respondents were informed that the "Game and Fish and Boat Commissions support a variety of program areas that include nongame and game wildlife."

OPINIONS ON IMPORTANT NONGAME WILDLIFE ISSUES IN PENNSYLVANIA

Habitat loss is most commonly perceived as the greatest issue or concern regarding nongame wildlife, as 25% of residents named it in response to an open-ended question. In a second tier are three other issues/concerns: pollution in general (9%), polluted water specifically (6%), and poaching (5%). Note that respondents were informed before this question that nongame wildlife are wild birds, mammals, fish, reptiles, amphibians, and other aquatic animals that are not hunted or fished. (See Appendix B for crosstabulation of this question, and others in the survey, by hunters/nonhunters.)

Figure 5. Most Important Issues Facing Nongame Wildlife



The crosstabulation by congressional district shows only those concerns expressed by 2% or more.

Table 1. In your opinion, what is the most important issue or concern facing nongame wildlife in Pennsylvania today? (Graph shows percentages giving response.)

District	Habitat loss / fragmentation / degradation	Pollution in general (non-specific)	Polluted water / water quality	Poaching	Overpopulation of species / poor species management	Protection and conservation of wildlife species	Climate change	Diseases (rabies, CWD, EHD, WNS)	Management of threatened or endangered species	Invasive species
1	25	6	2	4	3	5	3	12	2	1
2	15	7	11	6	1	7	3	1	3	1
3	26	13	6	11	2	2	5	0	5	1
4	39	10	6	1	3	5	2	0	3	0
5	22	16	3	3	7	2	3	1	2	3
6	35	12	3	6	1	4	1	0	2	4
7	34	6	3	6	7	4	3	4	1	0
8	20	11	13	6	5	1	1	0	1	4
9	29	3	8	3	1	1	2	1	0	1
10	26	8	4	3	1	2	2	1	3	3
11	25	11	13	5	1	1	1	3	4	4
12	20	13	5	8	4	1	3	0	3	0
13	19	3	4	0	0	1	0	4	0	3
14	21	7	5	4	3	2	5	3	1	0
15	23	1	5	6	0	0	3	2	1	1
16	19	11	9	8	2	0	1	1	1	4
17	24	11	9	3	5	2	2	2	2	2
Overall	25	9	6	5	3	2	2	2	2	2

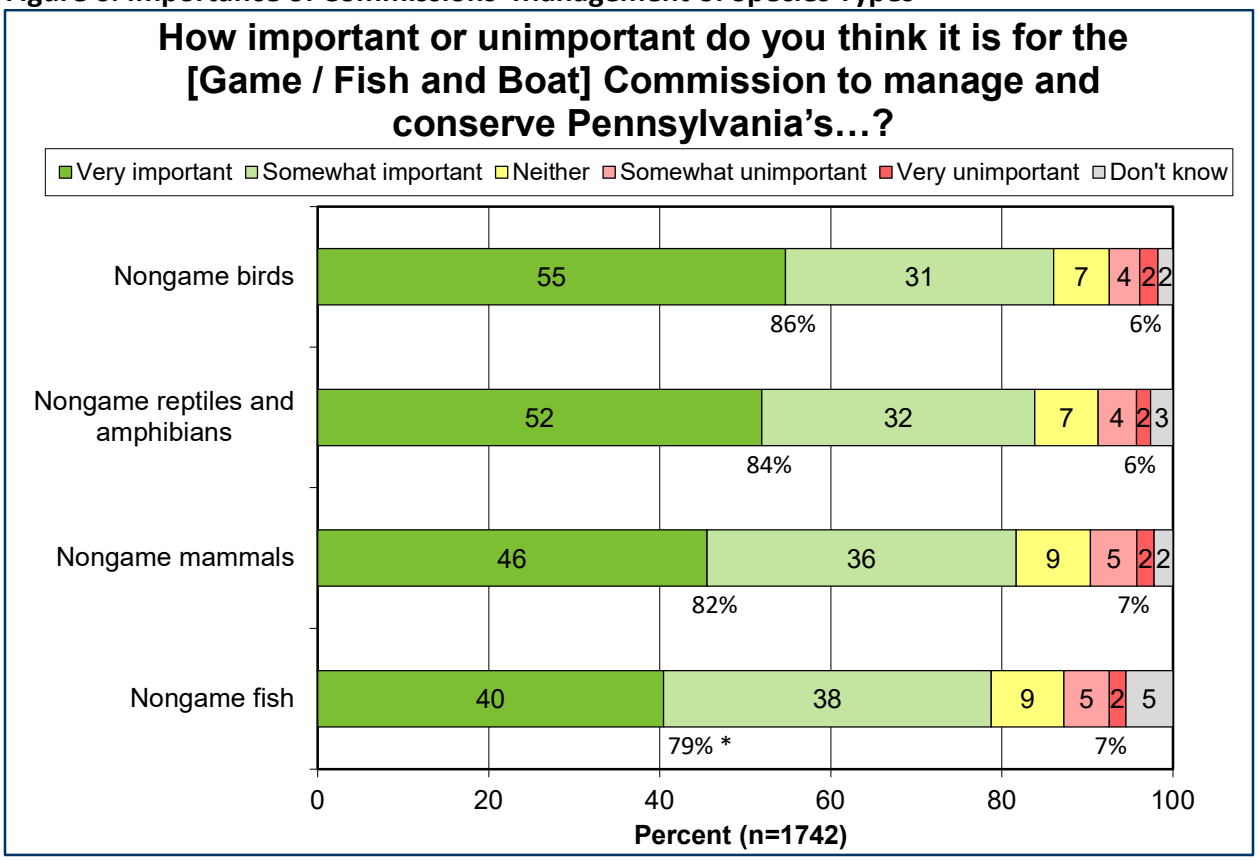
OPINIONS ON SPECIES POPULATIONS AND SPECIES MANAGEMENT

The survey asked about the importance of managing four types of nongame animals and then asked about the overall health of these types of animals:

- Nongame birds, such as birds of prey, songbirds, and shorebirds. (This category specifically excludes game birds like turkeys, pheasants, or grouse.)
- Nongame mammals, such as bats and northern flying squirrels. (This category specifically excludes bear, ground hogs, porcupines, and other game animals.)
- Nongame reptiles and amphibians, such as turtles and salamanders, including the red-bellied turtle and green salamander. (This category specifically excludes bullfrogs.)
- Nongame fish, such as darters, chubs, and shiners. (This category specifically excludes game fish like bass or trout.)

Nongame birds and nongame reptiles and amphibians are considered the most important, with majorities saying these are *very* important. Nonetheless, large majorities consider each *very* or *somewhat* important (from 79% to 86%). Sums are shown below the bars.

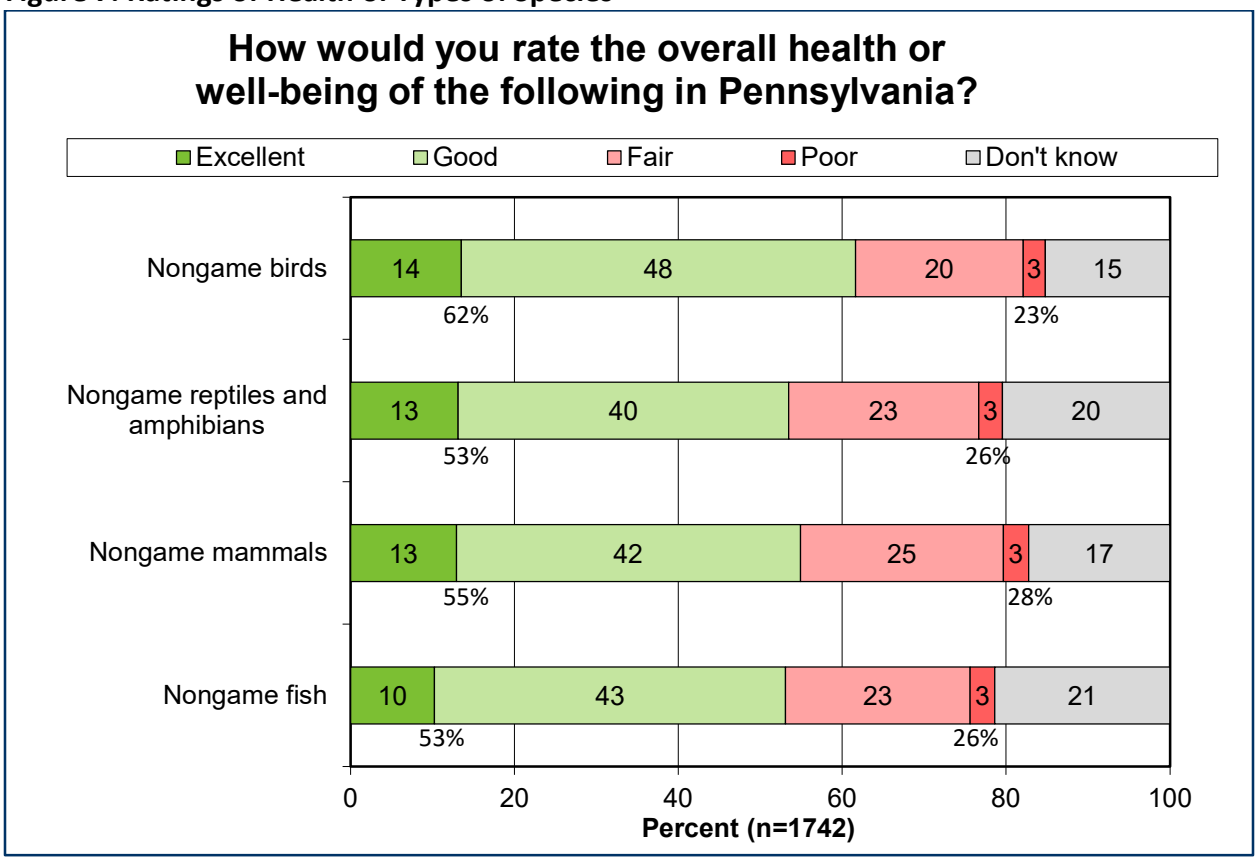
Figure 6. Importance of Commissions' Management of Species Types



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

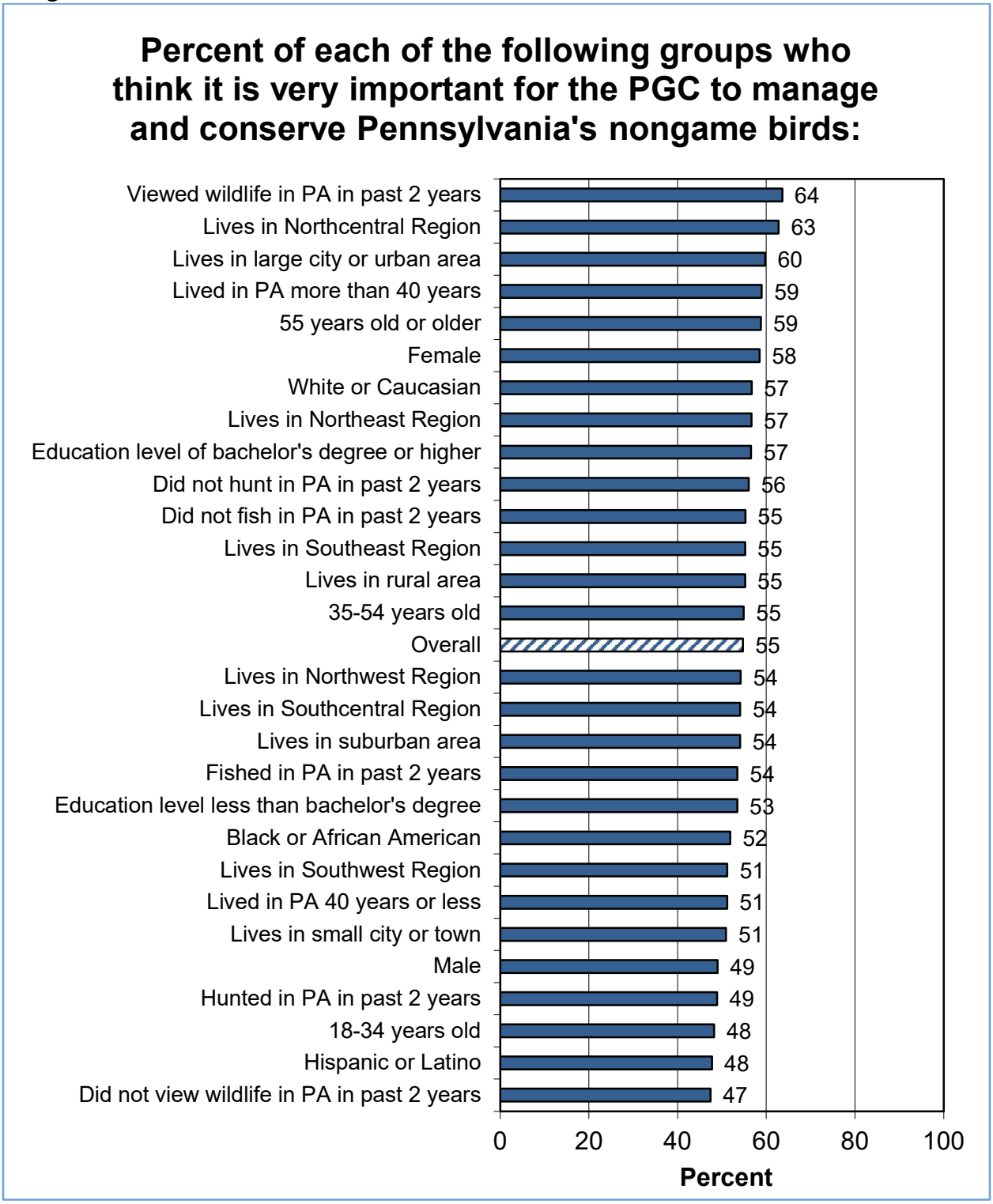
In the ratings of the health of these types of nongame animals, the health of nongame birds is rated the highest, with 62% responding in the top half of the scale (*excellent* or *good*), compared to 55% for the next highest rated type. Most of those percentages consist of the *good* rating, as *excellent* ratings are no higher than 14% among residents overall. (These graphs are ranked by ratings of *excellent*.)

Figure 7. Ratings of Health of Types of Species



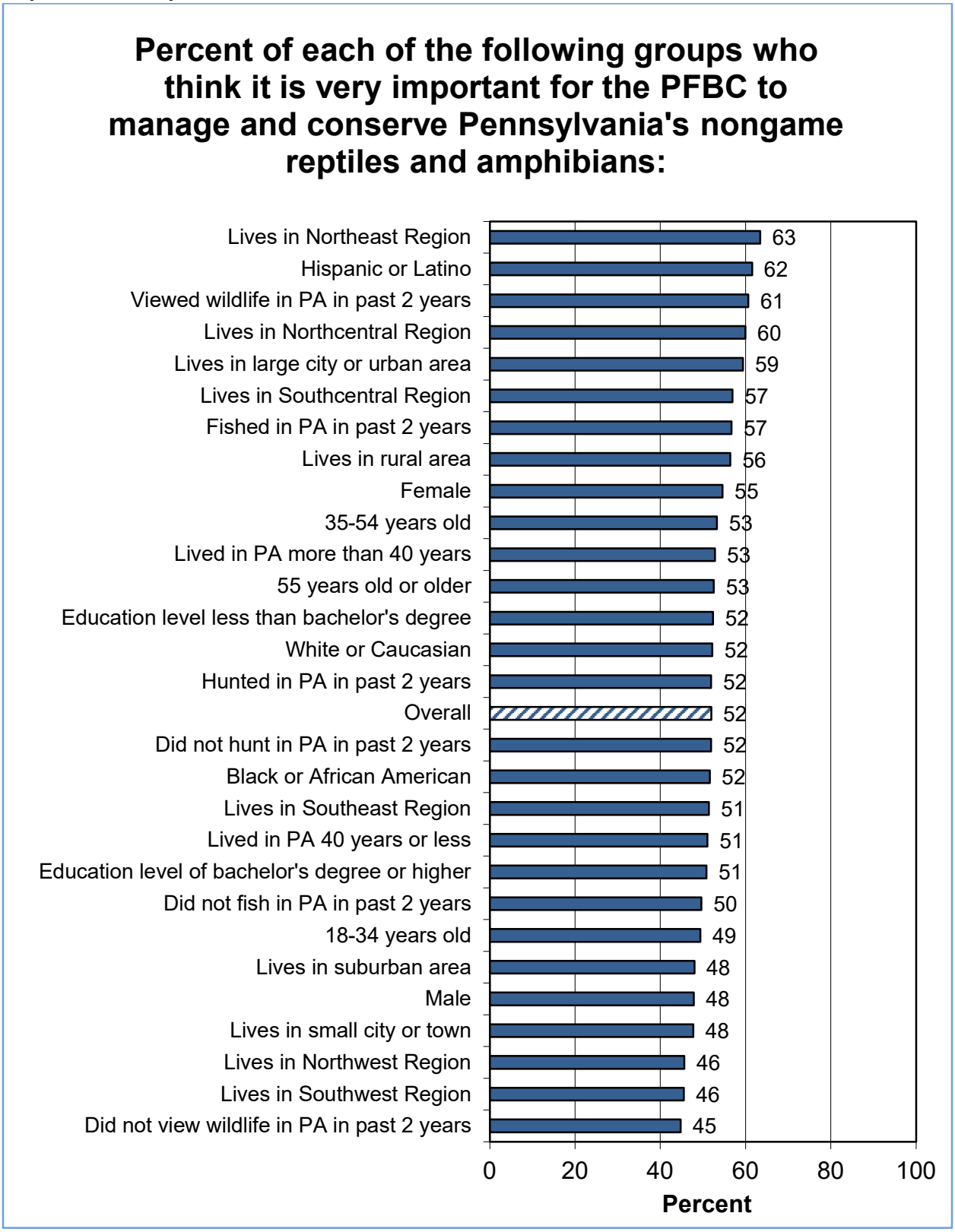
The demographic analyses show several groups commonly near the top in rating the items *very* important on these four graphs. These groups are wildlife viewers, Northcentral Region residents, anglers, and those living in large cities/urban areas.

Figure 8. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Birds



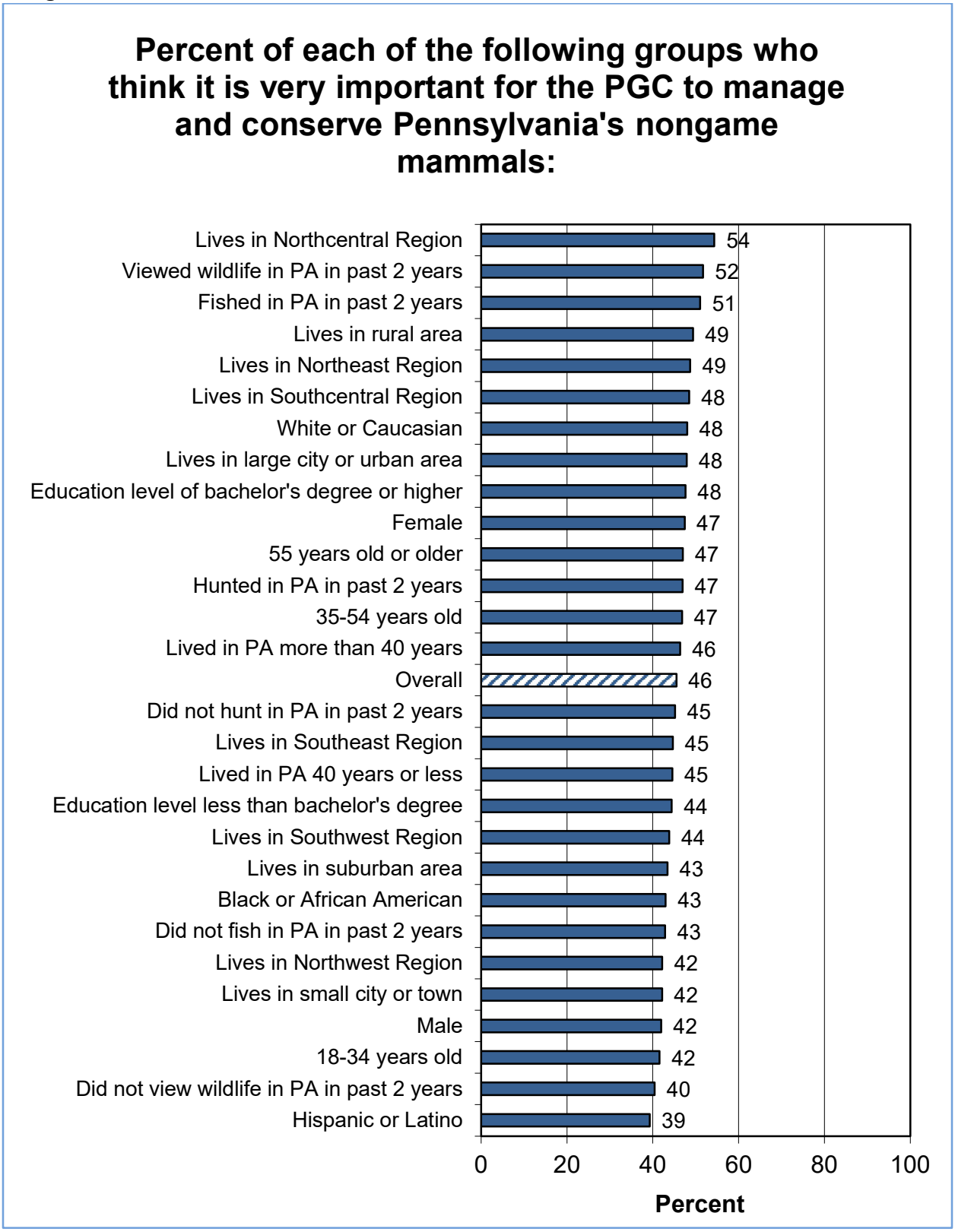
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 9. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Reptiles and Amphibians



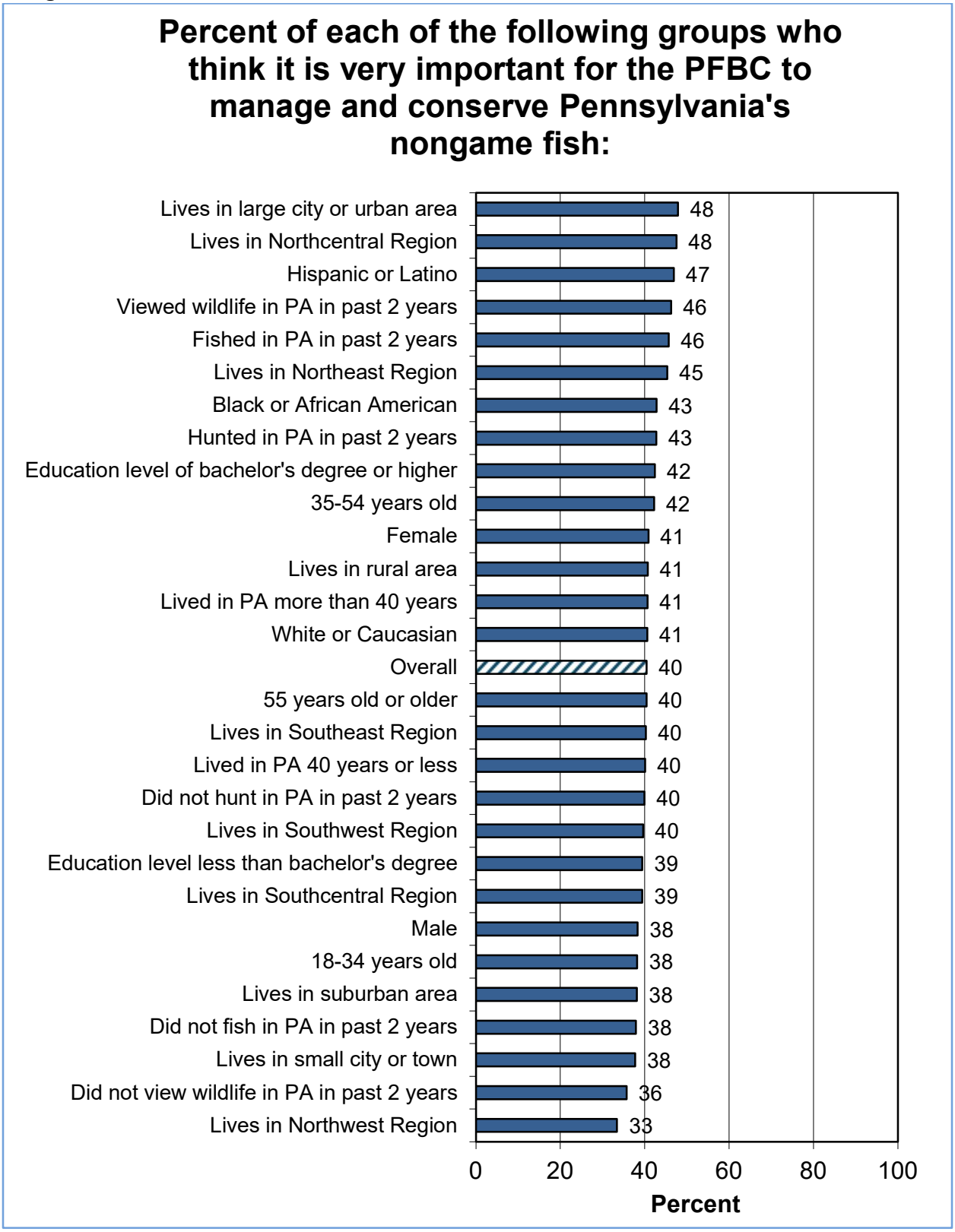
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 10. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Mammals



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 11. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Fish

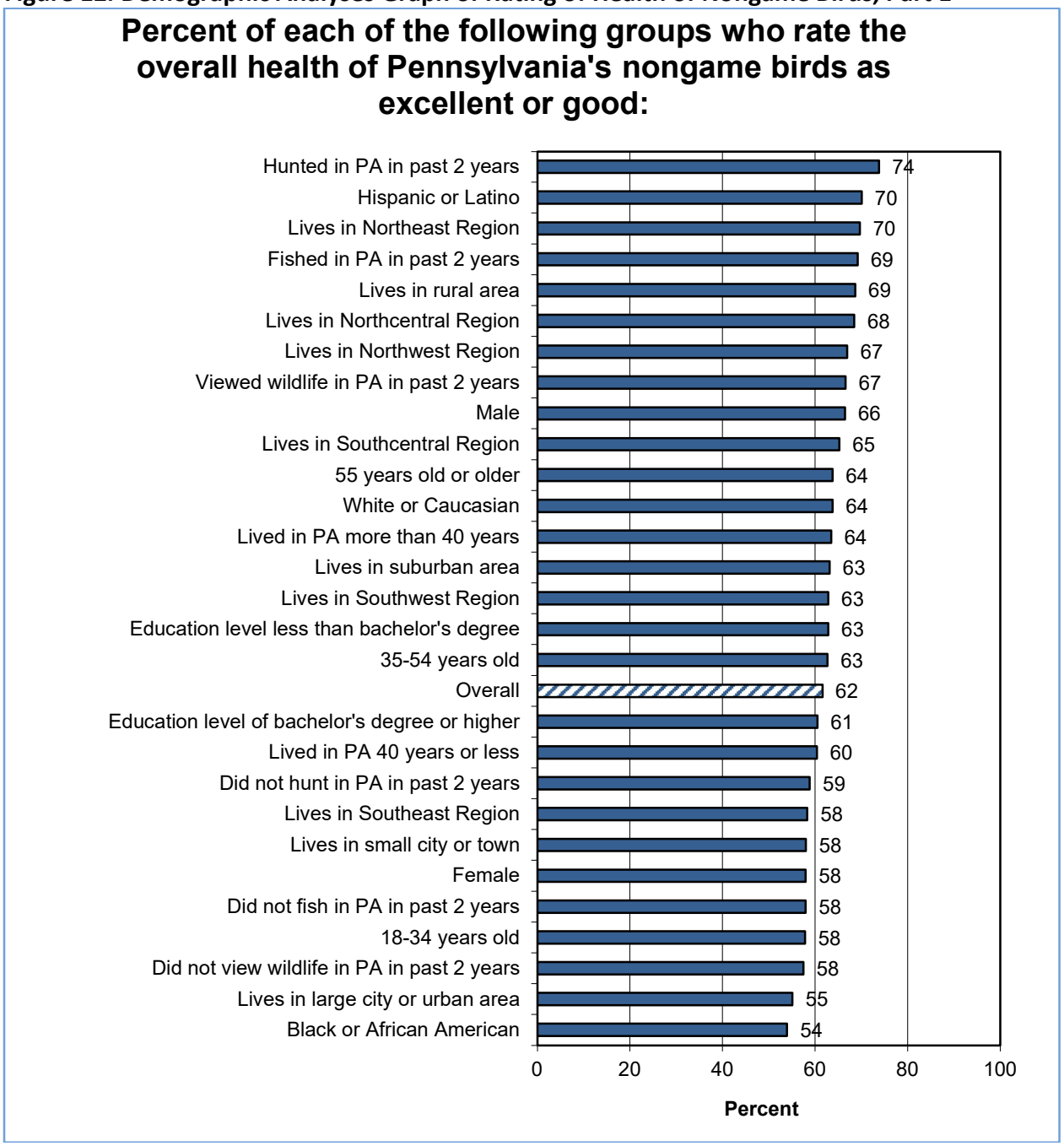


A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

The health questions in this series of questions were run in the demographic analyses, as shown in the next four graphs. Those groups more likely than residents overall to give excellent or good ratings to the health of the types of species are hunters, Hispanics, Northeast and Northwest Region residents, anglers, and males.

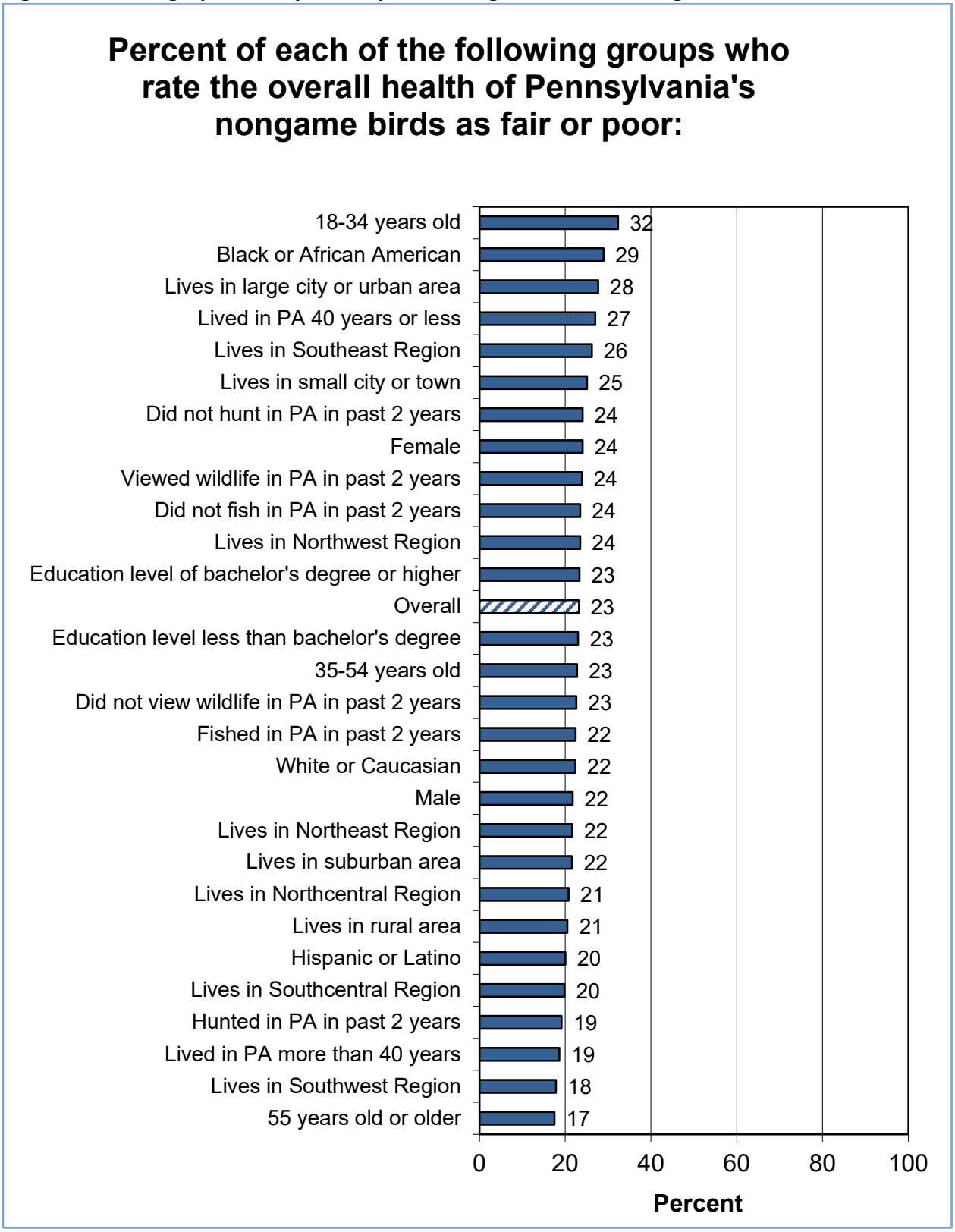
On the other hand, one group is consistently associated with high ratings of fair or poor: residents of Pennsylvania aged 18 to 34 years old. Otherwise, no group is consistently at the top on the fair/poor graphs. For instance, on the graph for fair/poor ratings of the health of reptiles and amphibians, there are no marked differences in the groups.

Figure 12. Demographic Analyses Graph of Rating of Health of Nongame Birds, Part 1



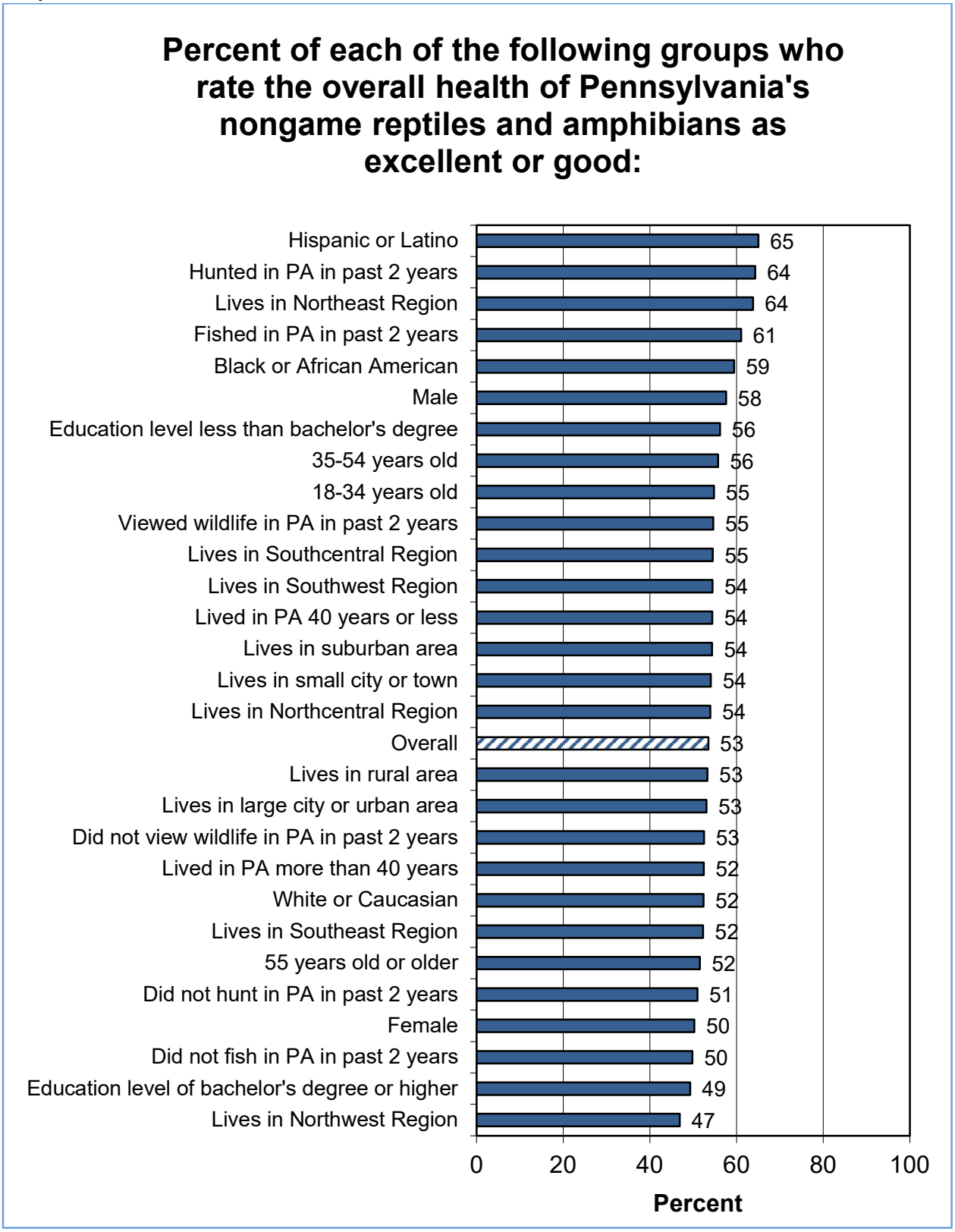
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 13. Demographic Analyses Graph of Rating of Health of Nongame Birds, Part 2



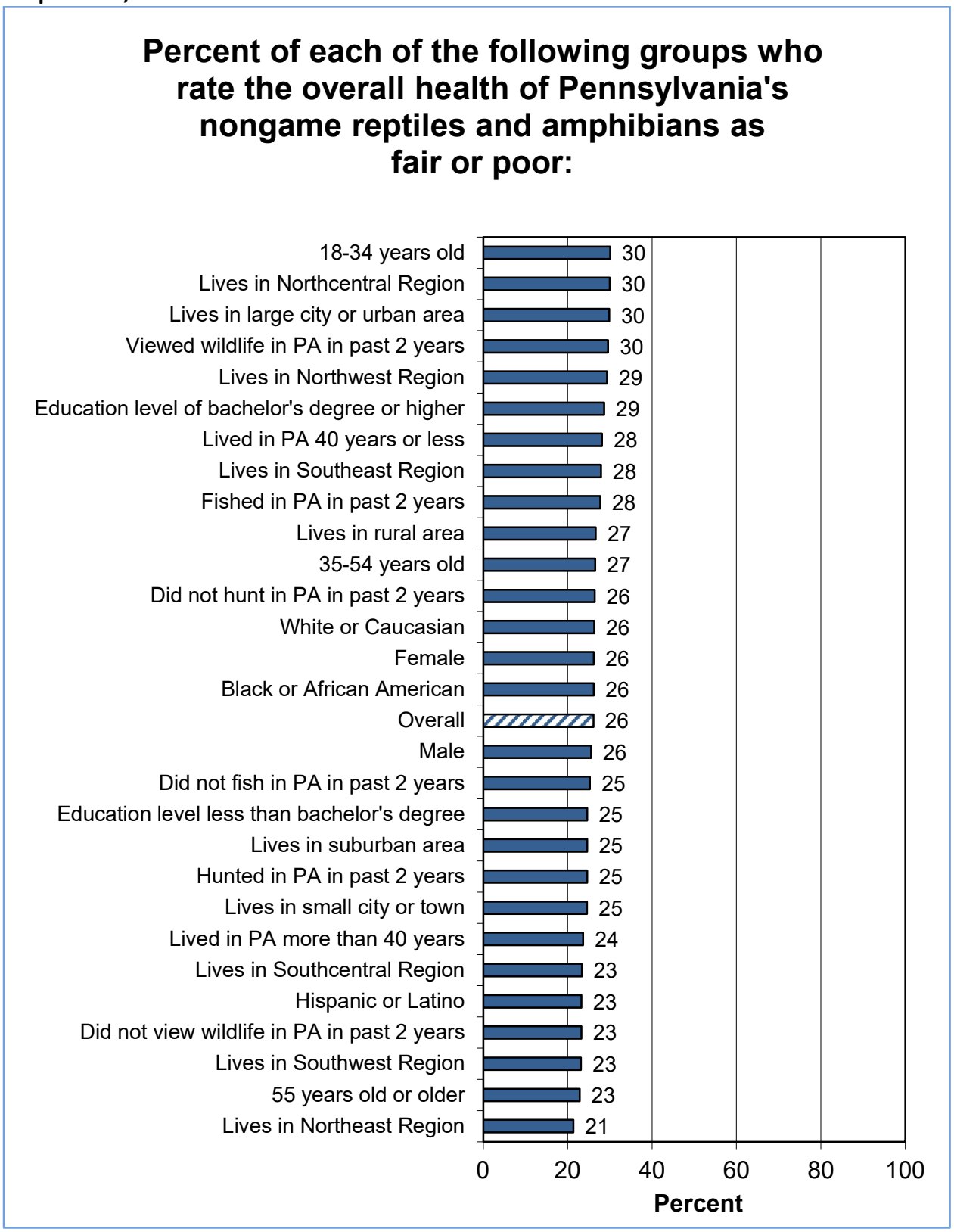
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 14. Demographic Analyses Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 1



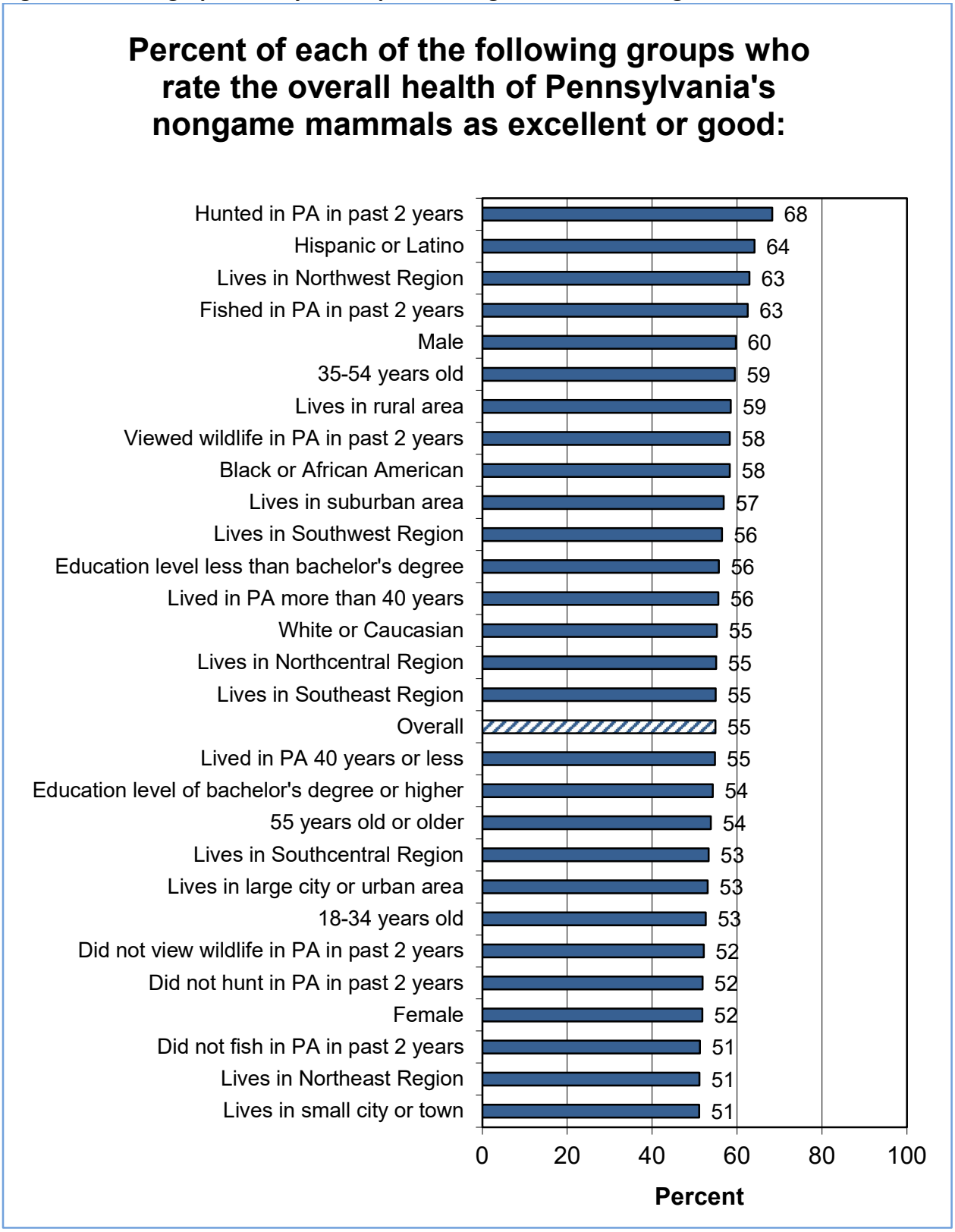
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 15. Demographic Analyses Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 2



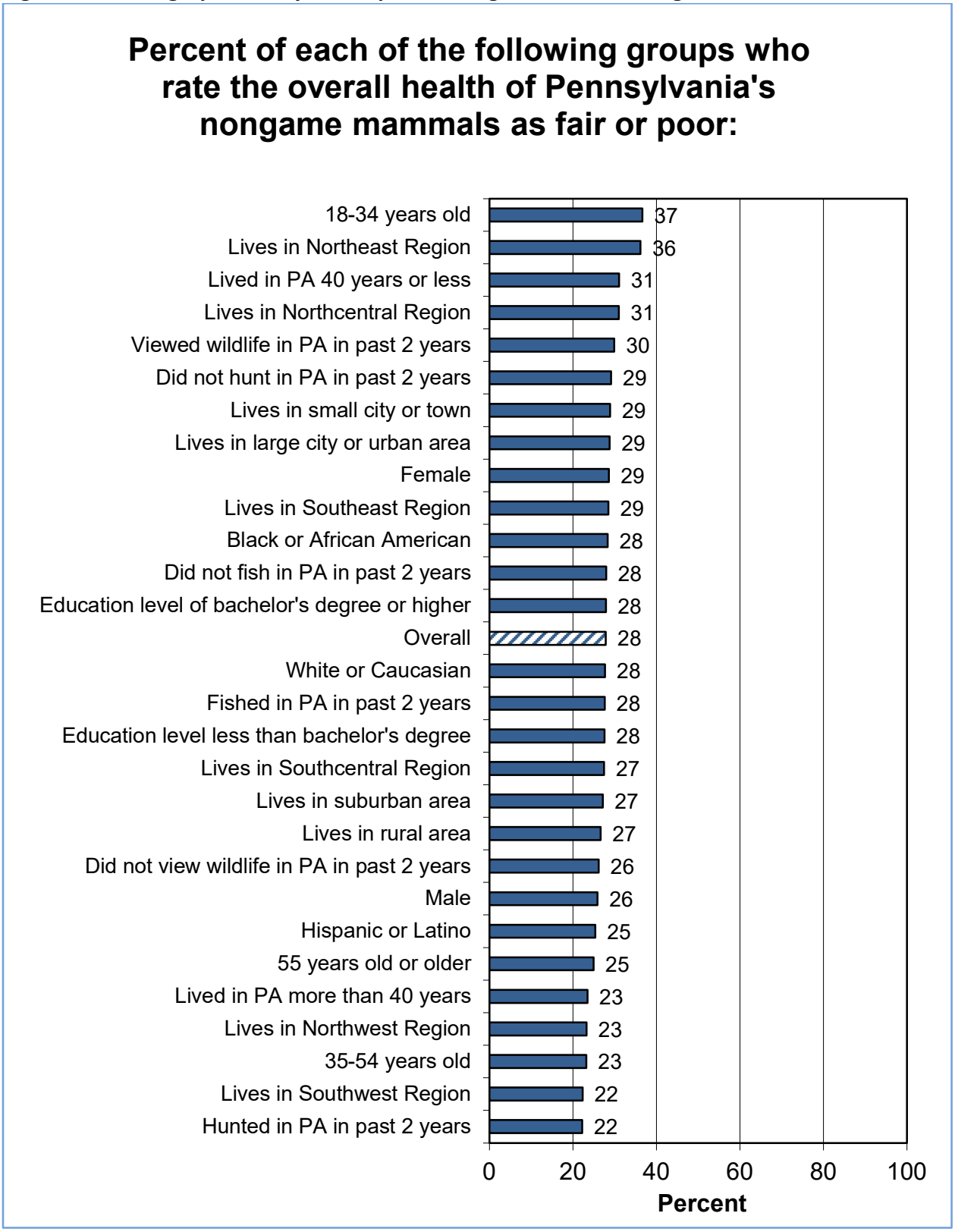
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 16. Demographic Analyses Graph of Rating of Health of Nongame Mammals, Part 1



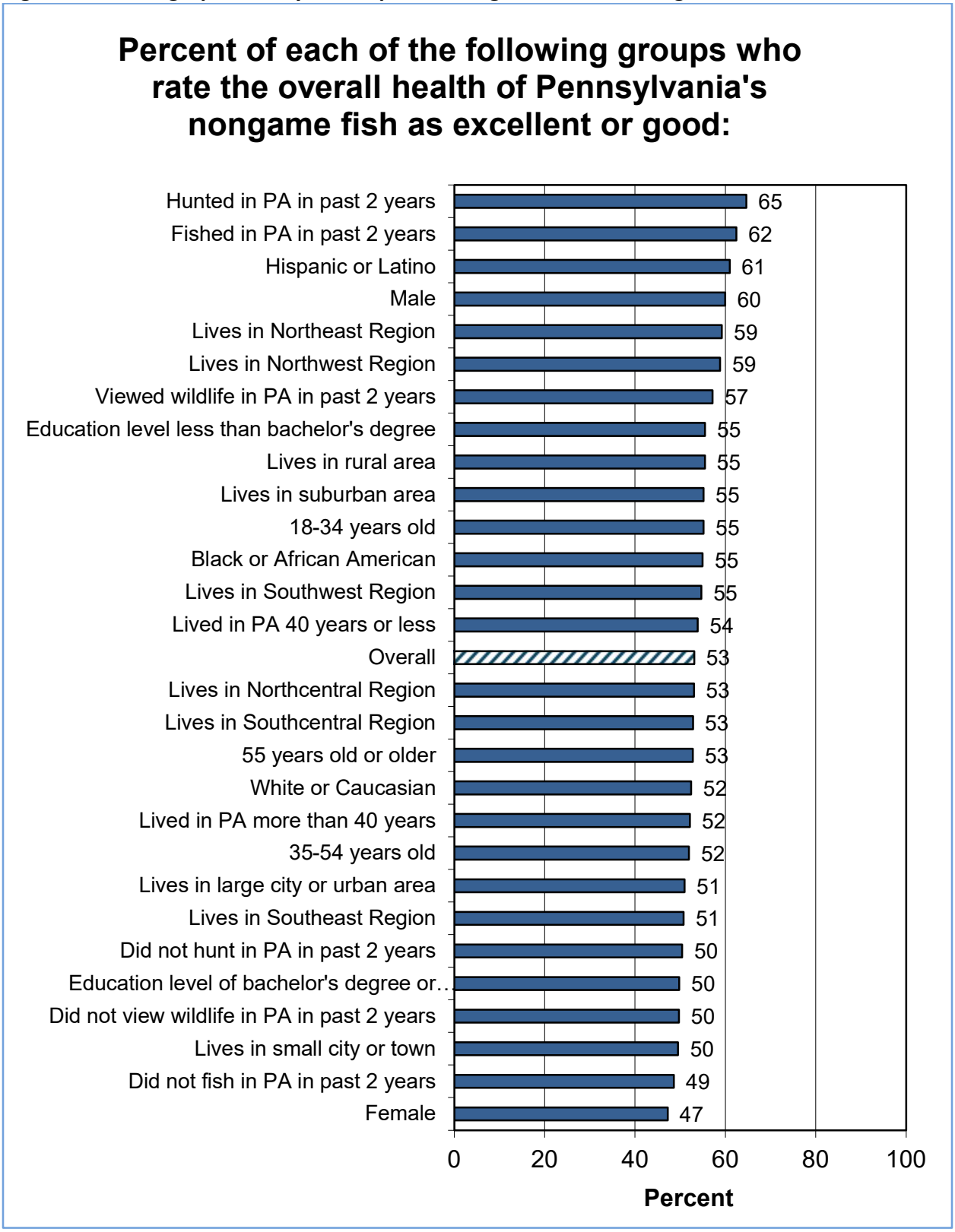
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 17. Demographic Analyses Graph of Rating of Health of Nongame Mammals, Part 2



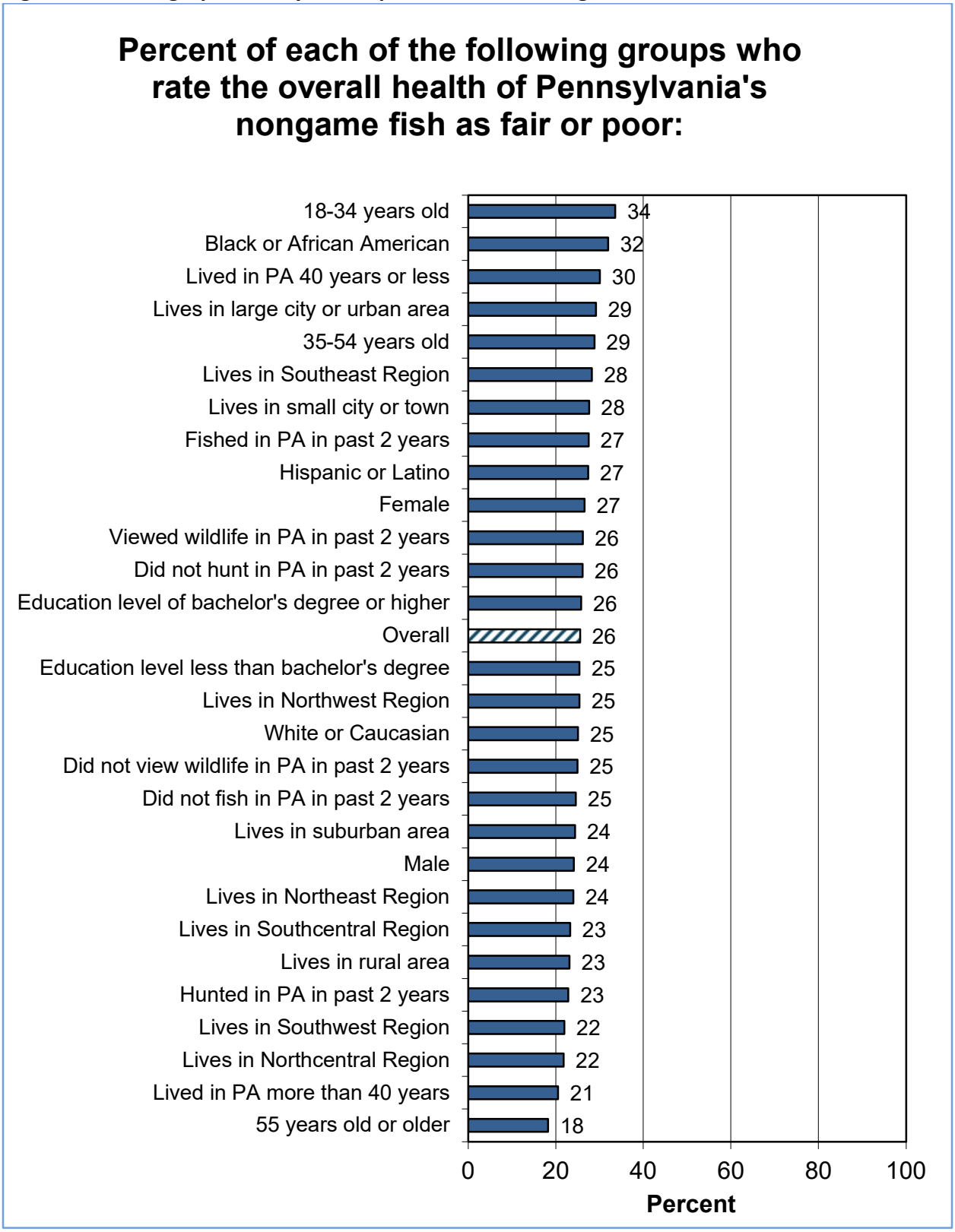
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 18. Demographic Analyses Graph of Rating of Health of Nongame Fish, Part 1



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 19. Demographic Analyses Graph of Health of Nongame Fish, Part 2



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Table 2. How important or unimportant do you think it is for the Game Commission to manage and conserve Pennsylvania's nongame birds, such as birds of prey, songbirds, and shorebirds? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	59	23	3	9	2	2
2	50	34	7	3	3	2
3	58	24	12	1	1	4
4	61	26	7	2	2	2
5	43	41	7	2	5	2
6	49	37	5	7	1	2
7	53	36	9	2	0	0
8	53	37	4	3	1	1
9	62	26	3	3	4	1
10	66	24	6	1	1	1
11	58	27	7	4	4	0
12	56	22	14	2	1	5
13	52	38	3	3	3	0
14	52	33	12	1	2	2
15	55	37	2	4	1	1
16	59	24	5	9	1	2
17	43	41	4	3	6	3
Overall	55	31	7	4	2	2

Table 3. How important or unimportant do you think it is for the Fish and Boat Commission to manage and conserve Pennsylvania's nongame reptiles, such as turtles, and amphibians, such as salamanders? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	49	32	7	5	1	7
2	53	29	11	2	0	5
3	57	27	7	4	1	5
4	48	36	4	7	0	6
5	38	43	10	5	2	1
6	46	35	5	10	1	2
7	54	38	5	2	1	0
8	66	24	5	3	1	1
9	61	27	4	3	3	1
10	67	26	3	3	1	0
11	54	32	6	3	4	1
12	45	32	10	5	2	6
13	50	31	8	4	4	3
14	50	35	11	1	1	2
15	48	28	19	3	2	0
16	51	32	4	8	2	2
17	42	38	4	10	3	3
Overall	52	32	7	4	2	3

Table 4. How important or unimportant do you think it is for the Game Commission to manage and conserve Pennsylvania's nongame mammals, such as bats and northern flying squirrels? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	41	41	11	6	1	1
2	51	23	17	6	0	4
3	44	34	4	11	2	5
4	49	33	9	3	3	3
5	36	42	9	6	6	0
6	38	39	10	4	3	6
7	44	40	7	8	1	1
8	44	46	3	2	1	3
9	58	30	5	1	4	2
10	49	37	10	2	1	1
11	51	25	9	11	1	3
12	49	28	14	5	1	2
13	45	40	9	4	3	0
14	44	42	7	6	1	0
15	46	46	1	3	3	1
16	47	29	14	8	1	1
17	40	37	10	7	3	3
Overall	46	36	9	5	2	2

Table 5. How important or unimportant do you think it is for the Fish and Boat Commission to manage and conserve Pennsylvania's nongame fish, such as darters, chubs, and shiners? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	36	40	9	11	0	3
2	44	28	16	4	3	5
3	45	36	6	3	2	7
4	38	38	7	5	3	9
5	33	46	14	0	2	5
6	34	39	8	11	2	7
7	44	39	2	10	1	4
8	47	39	4	4	0	5
9	46	38	4	4	3	4
10	47	40	8	1	0	3
11	42	29	10	5	4	10
12	47	29	13	5	0	6
13	33	43	10	8	3	4
14	38	43	7	2	3	7
15	43	38	4	8	1	6
16	35	43	13	5	3	1
17	34	42	10	6	2	6
Overall	40	38	9	5	2	5

Table 6. How would you rate the overall health or well-being of Pennsylvania's nongame birds? (Graph shows percentages giving response.)

District	Excellent	Good	Fair	Poor	Don't know
1	12	45	19	5	19
2	16	44	26	2	12
3	14	34	21	6	25
4	9	41	26	3	20
5	13	48	20	6	13
6	9	53	23	3	12
7	14	48	20	3	15
8	17	49	21	1	12
9	15	48	24	2	11
10	8	53	21	1	17
11	19	53	17	0	11
12	11	47	19	2	20
13	9	58	15	4	14
14	21	49	15	1	14
15	16	58	14	1	11
16	11	50	25	4	10
17	14	41	20	1	24
Overall	14	48	20	3	15

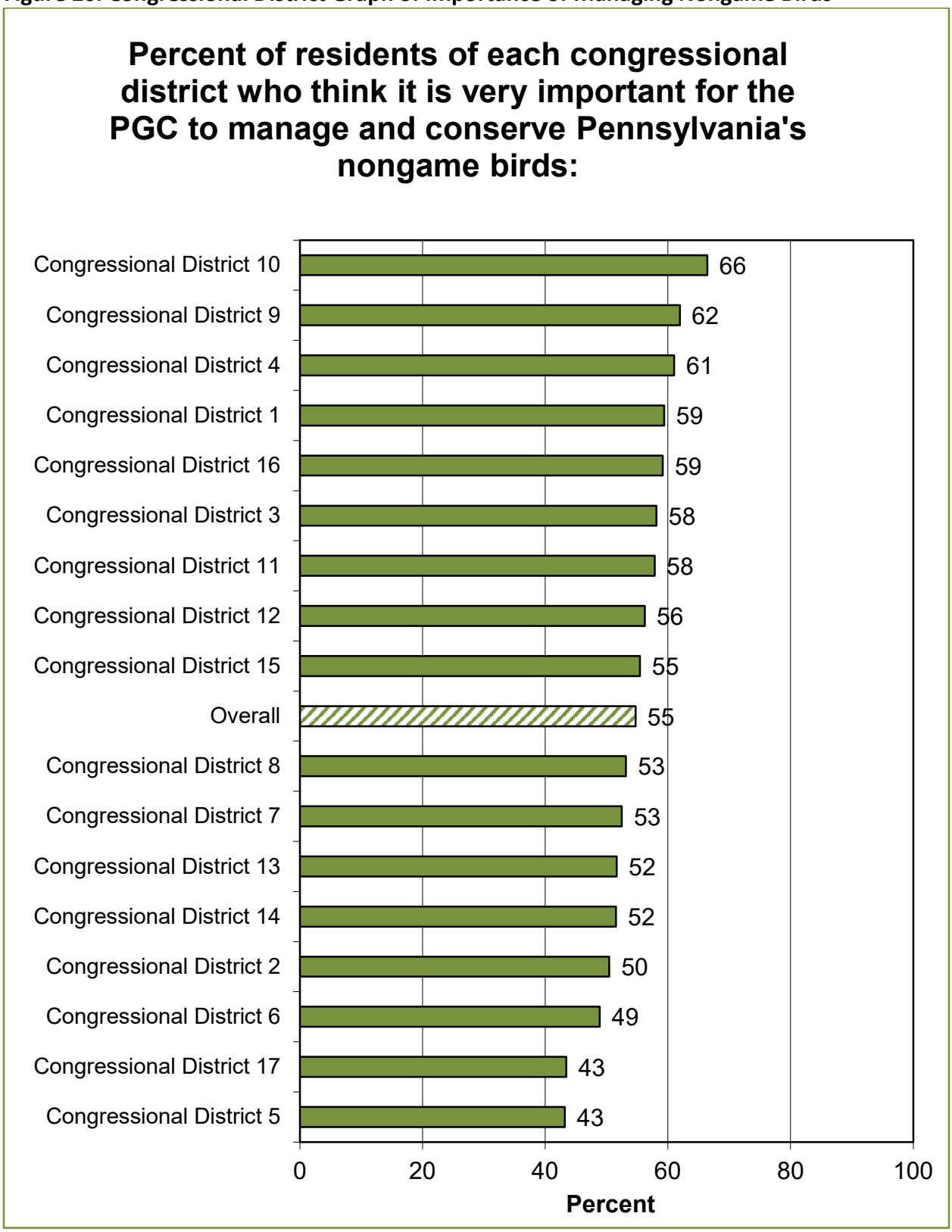
Table 7. How would you rate the overall health or well-being of Pennsylvania's nongame reptiles and amphibians? (Graph shows percentages giving response.)

District	Excellent	Good	Fair	Poor	Don't know
1	13	26	29	5	27
2	21	39	23	4	13
3	16	37	25	6	17
4	13	30	24	3	29
5	14	43	21	3	20
6	10	46	20	6	18
7	14	35	32	2	17
8	19	46	17	1	17
9	12	38	28	3	19
10	6	45	27	2	21
11	14	47	14	1	23
12	10	40	27	1	23
13	12	49	20	2	17
14	15	43	21	3	18
15	12	40	16	2	30
16	10	43	29	6	12
17	9	40	23	1	28
Overall	13	40	23	3	20

Table 8. How would you rate the overall health or well-being of Pennsylvania's nongame mammals? (Graph shows percentages giving response.)					
District	Excellent	Good	Fair	Poor	Don't know
1	14	43	23	2	18
2	20	37	27	3	13
3	15	31	30	5	19
4	8	35	35	1	21
5	16	48	17	5	14
6	18	43	13	8	18
7	11	47	24	2	16
8	14	37	34	1	15
9	5	41	37	1	16
10	7	50	25	0	18
11	16	36	22	5	22
12	17	35	22	2	24
13	11	45	21	8	15
14	9	52	19	4	17
15	17	48	17	5	13
16	13	42	30	2	14
17	9	45	23	1	23
Overall	13	42	25	3	17

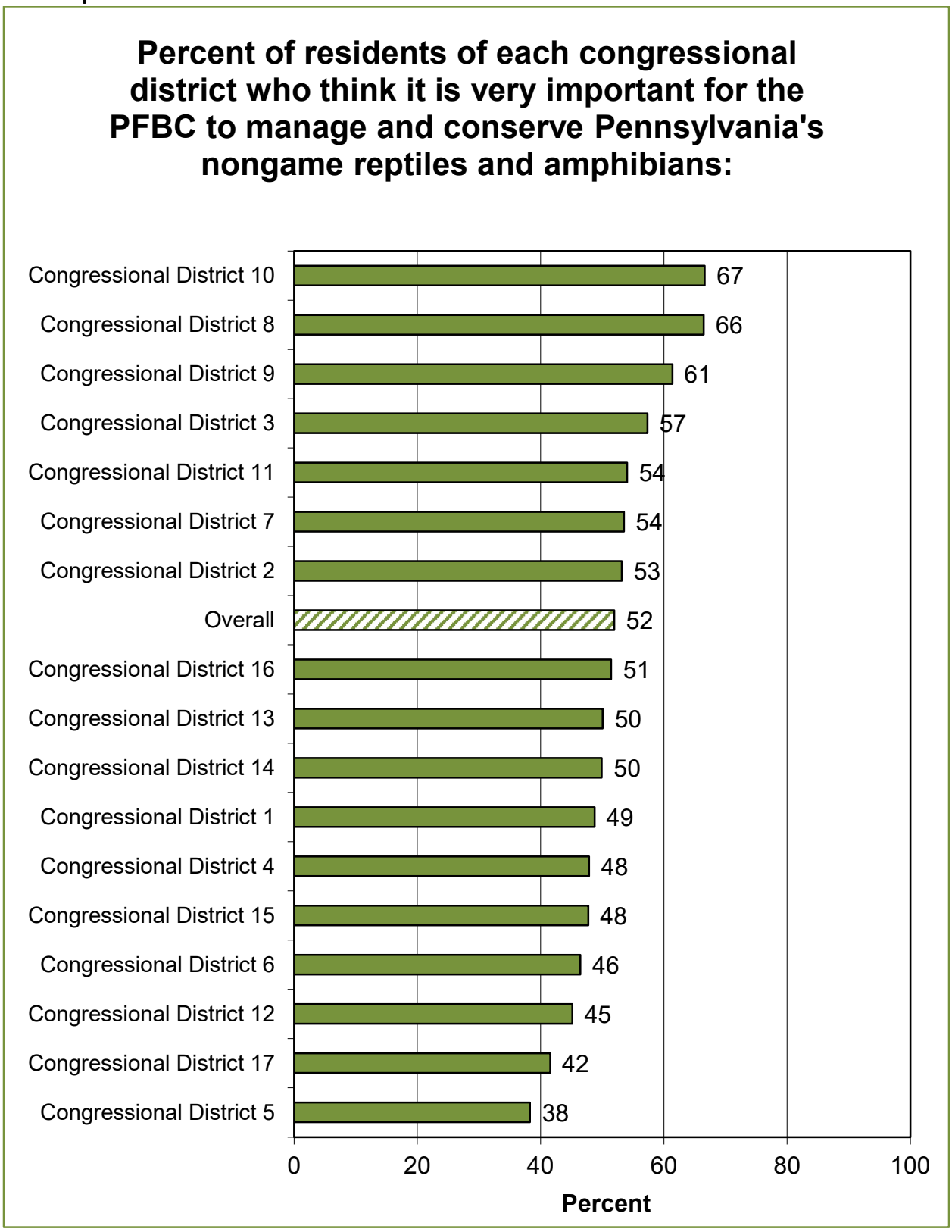
Table 9. How would you rate the overall health or well-being of Pennsylvania's nongame fish? (Graph shows percentages giving response.)					
District	Excellent	Good	Fair	Poor	Don't know
1	12	36	18	9	25
2	14	32	37	5	11
3	9	43	20	8	19
4	8	38	23	2	29
5	10	47	20	7	17
6	5	43	23	7	23
7	12	42	22	0	23
8	16	40	25	0	19
9	8	42	27	0	23
10	8	48	24	3	18
11	12	40	14	0	34
12	9	39	27	1	23
13	10	51	20	0	19
14	9	50	22	2	17
15	14	48	14	1	23
16	9	45	27	4	15
17	9	44	17	1	29
Overall	10	43	23	3	21

Figure 20. Congressional District Graph of Importance of Managing Nongame Birds



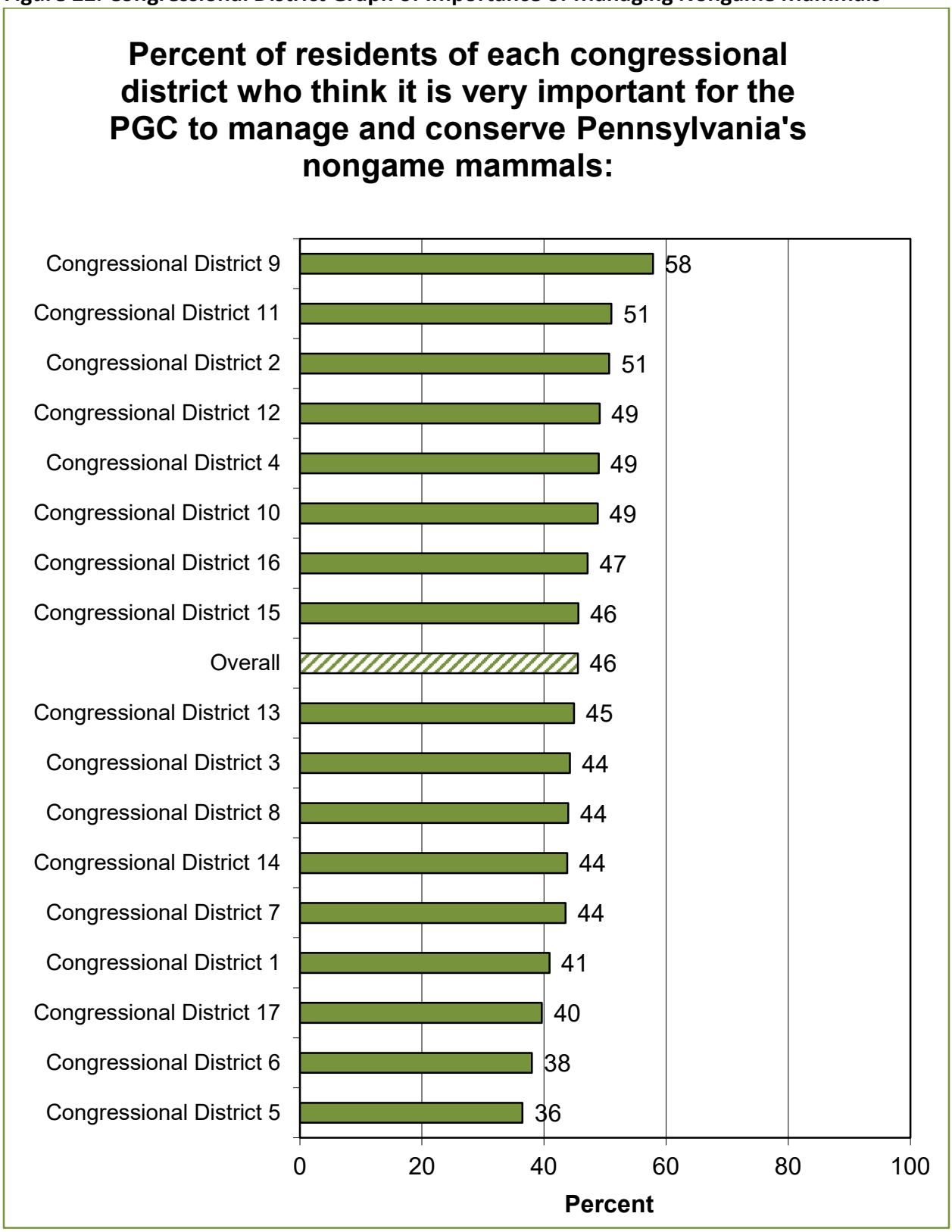
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 21. Congressional District Graph of Importance of Managing Nongame Reptiles and Amphibians



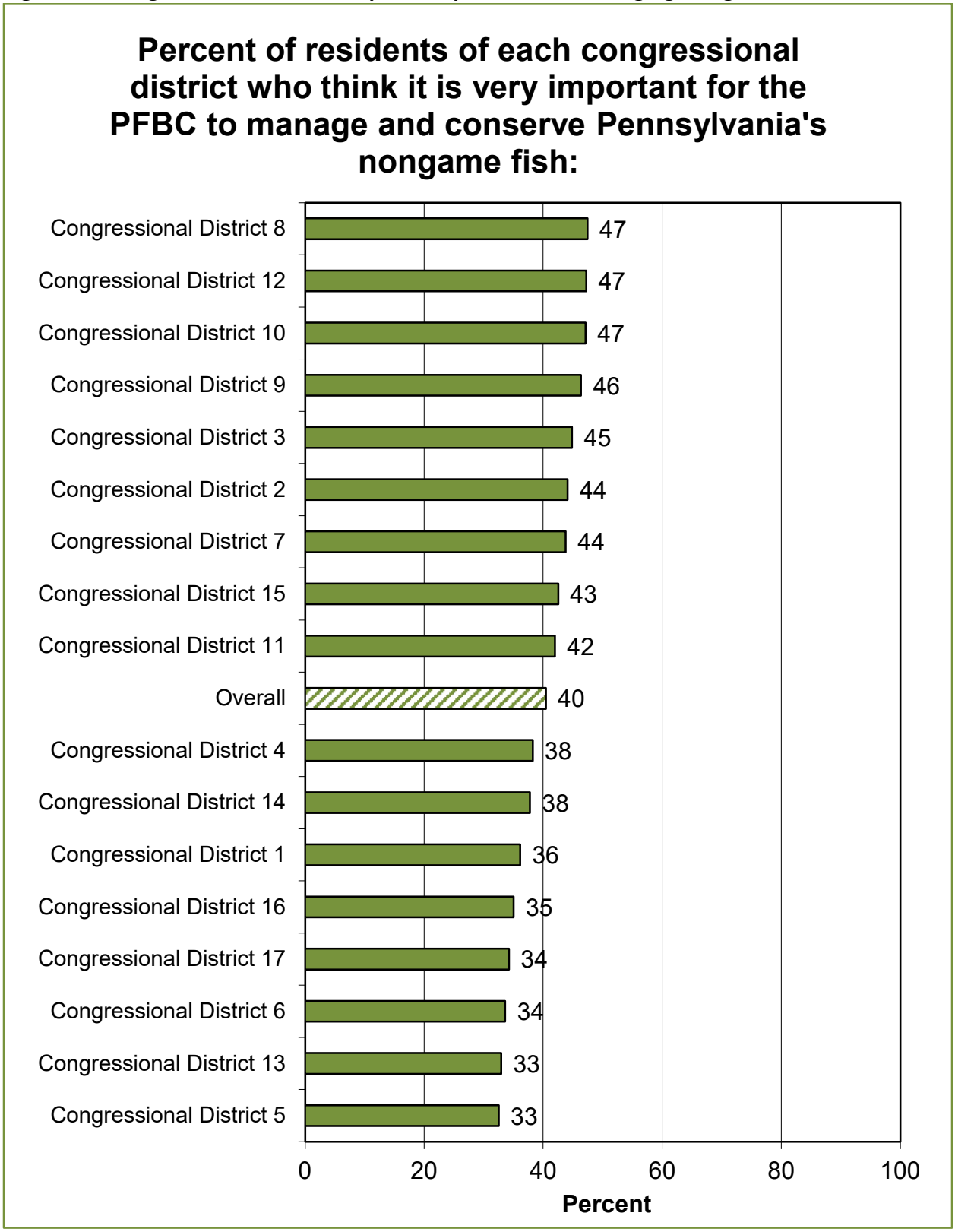
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 22. Congressional District Graph of Importance of Managing Nongame Mammals



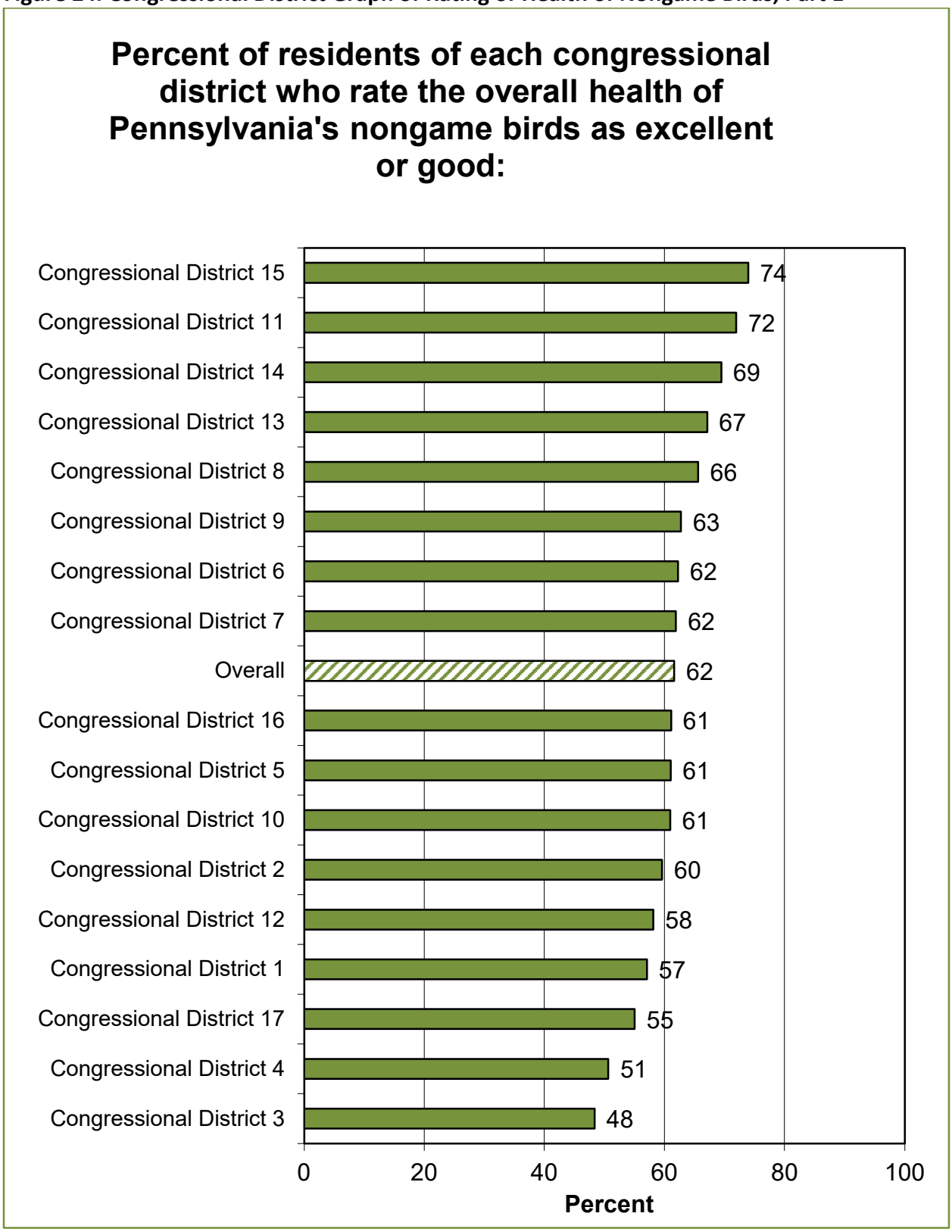
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 23. Congressional District Graph of Importance of Managing Nongame Fish



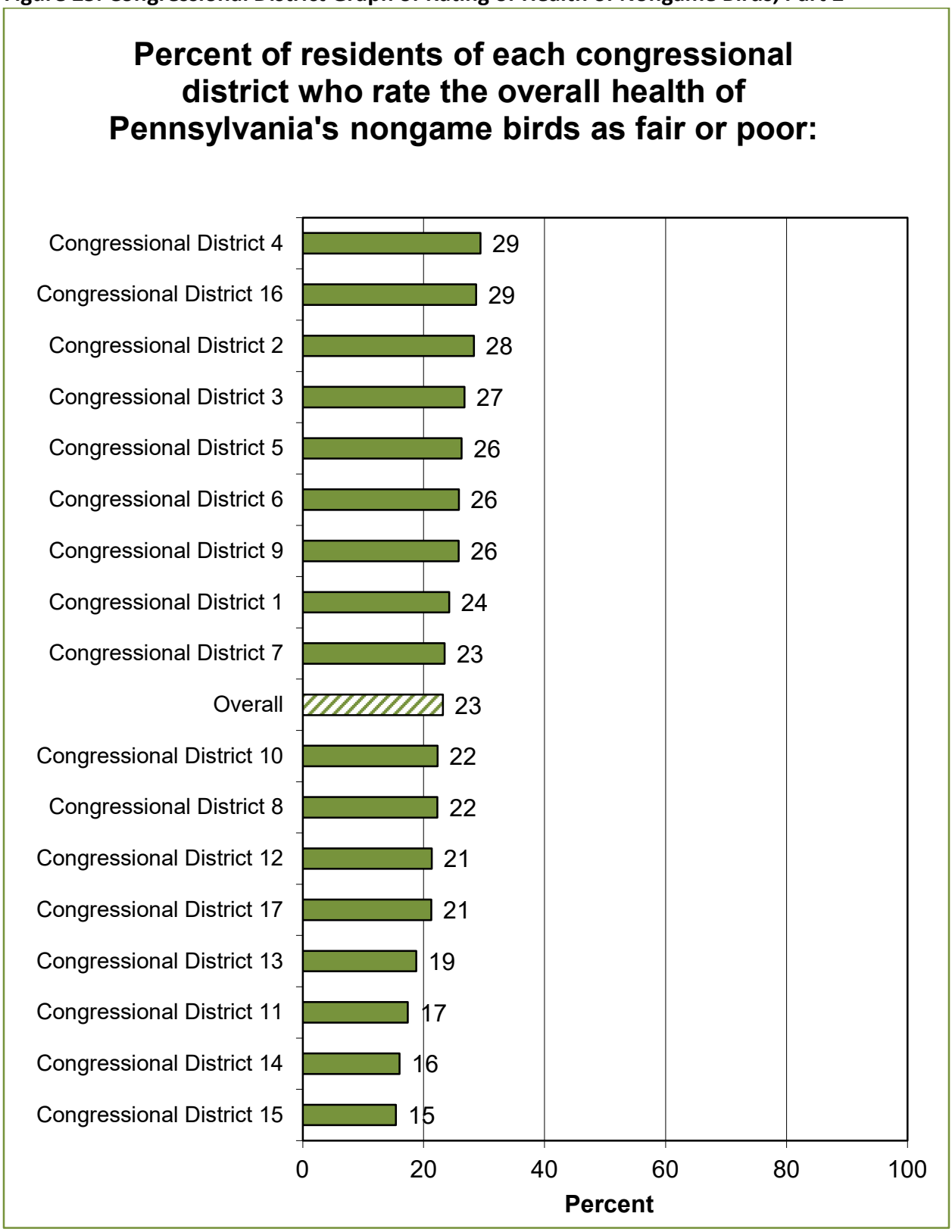
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 24. Congressional District Graph of Rating of Health of Nongame Birds, Part 1



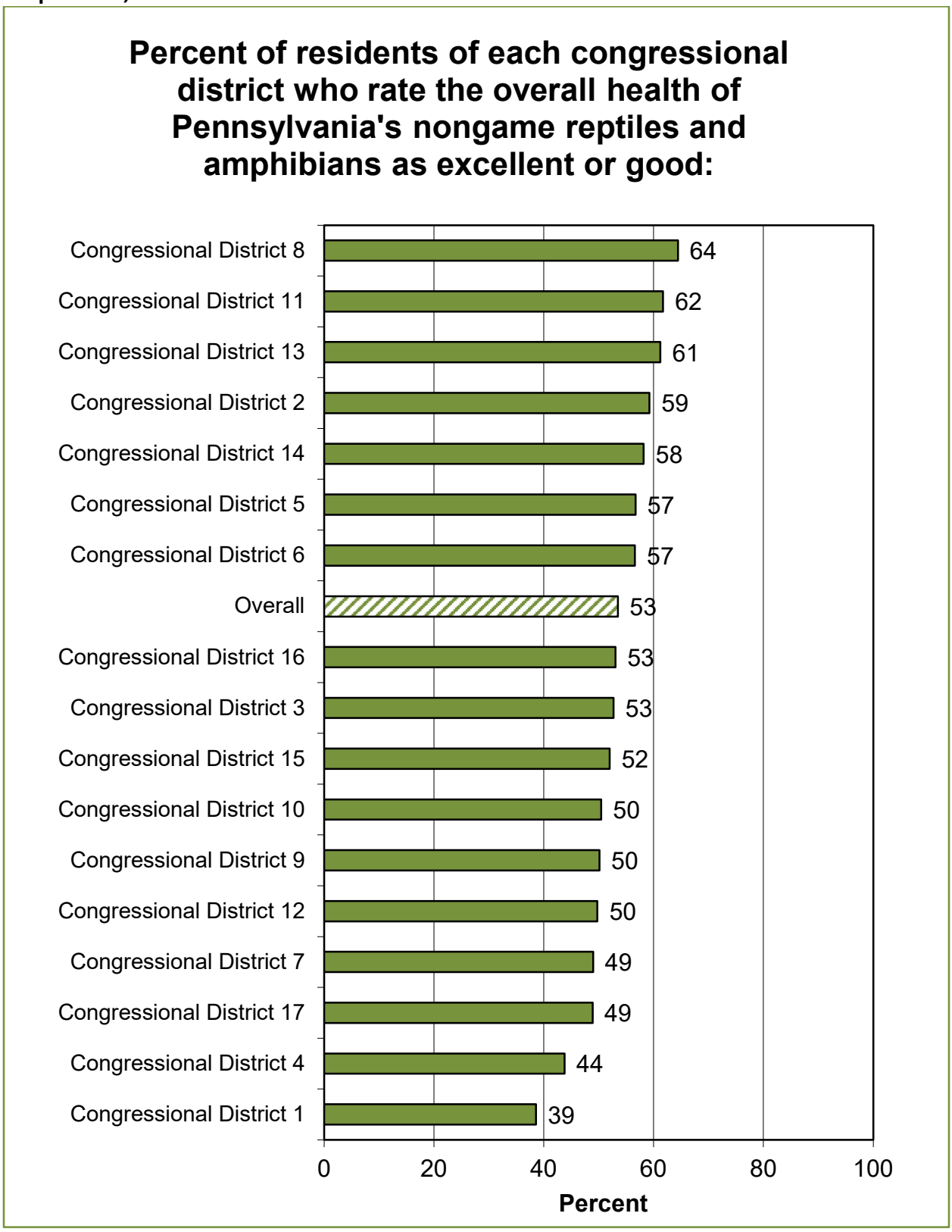
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 25. Congressional District Graph of Rating of Health of Nongame Birds, Part 2



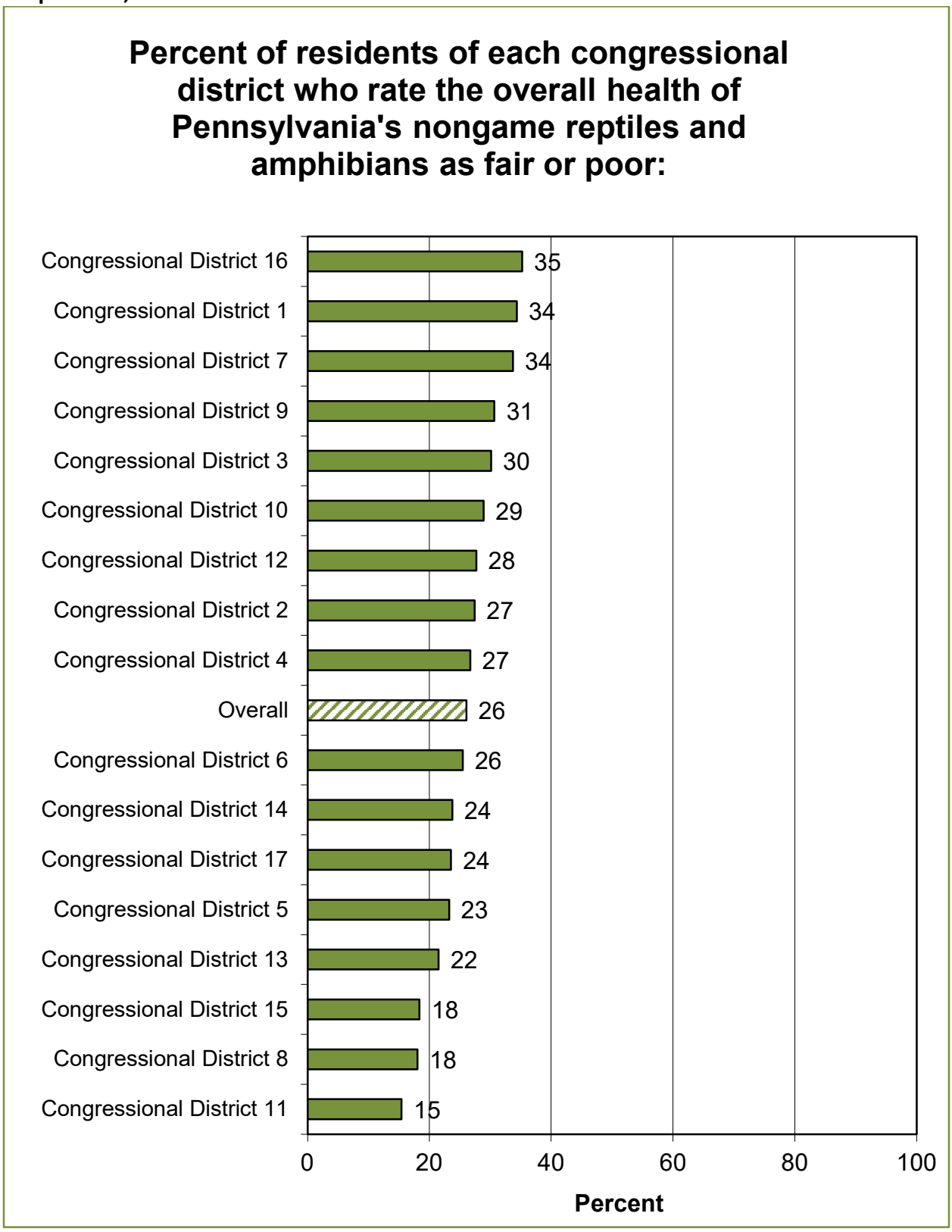
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 26. Congressional District Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 1



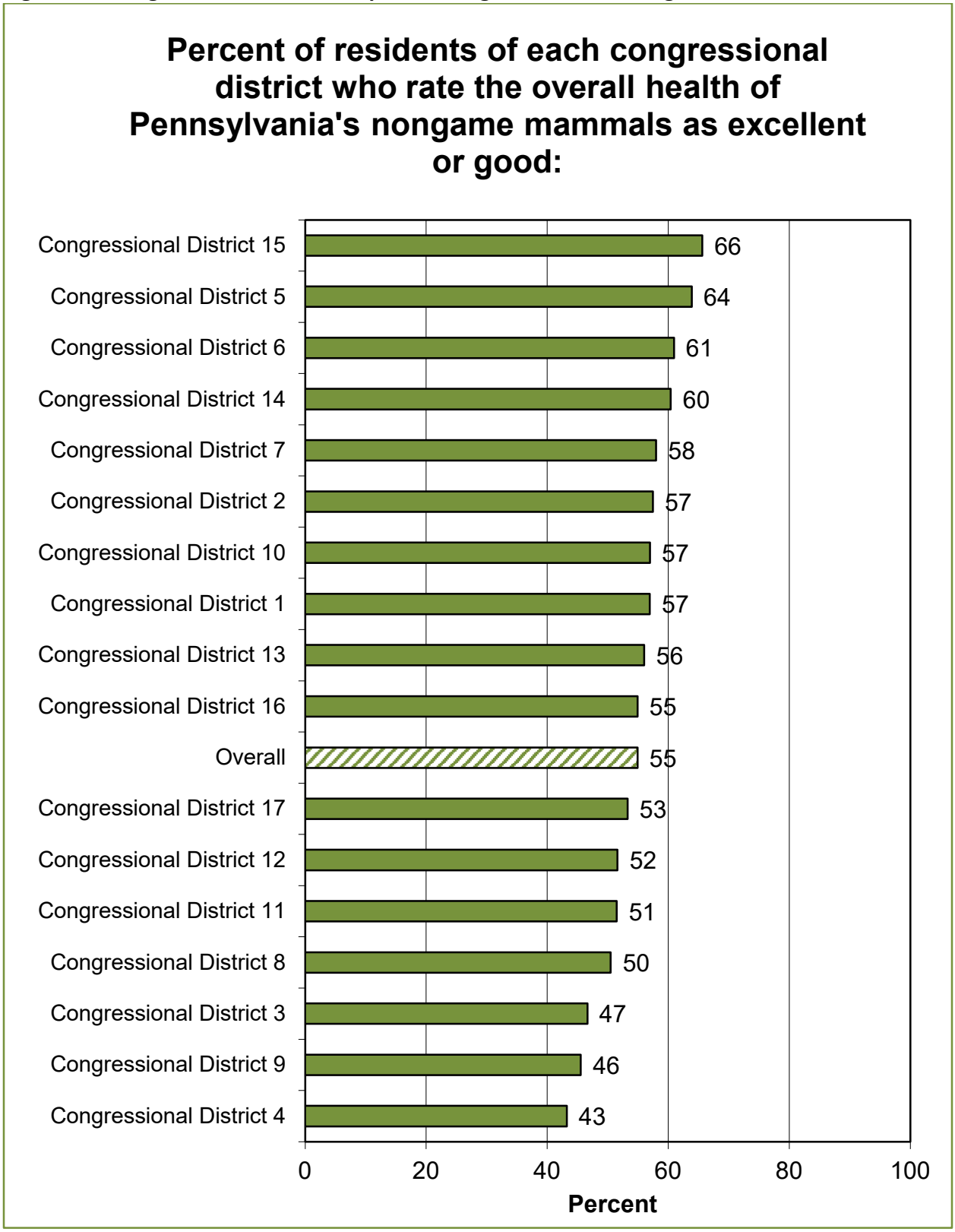
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 27. Congressional District Graph of Rating of Health of Nongame Reptiles and Amphibians, Part 2



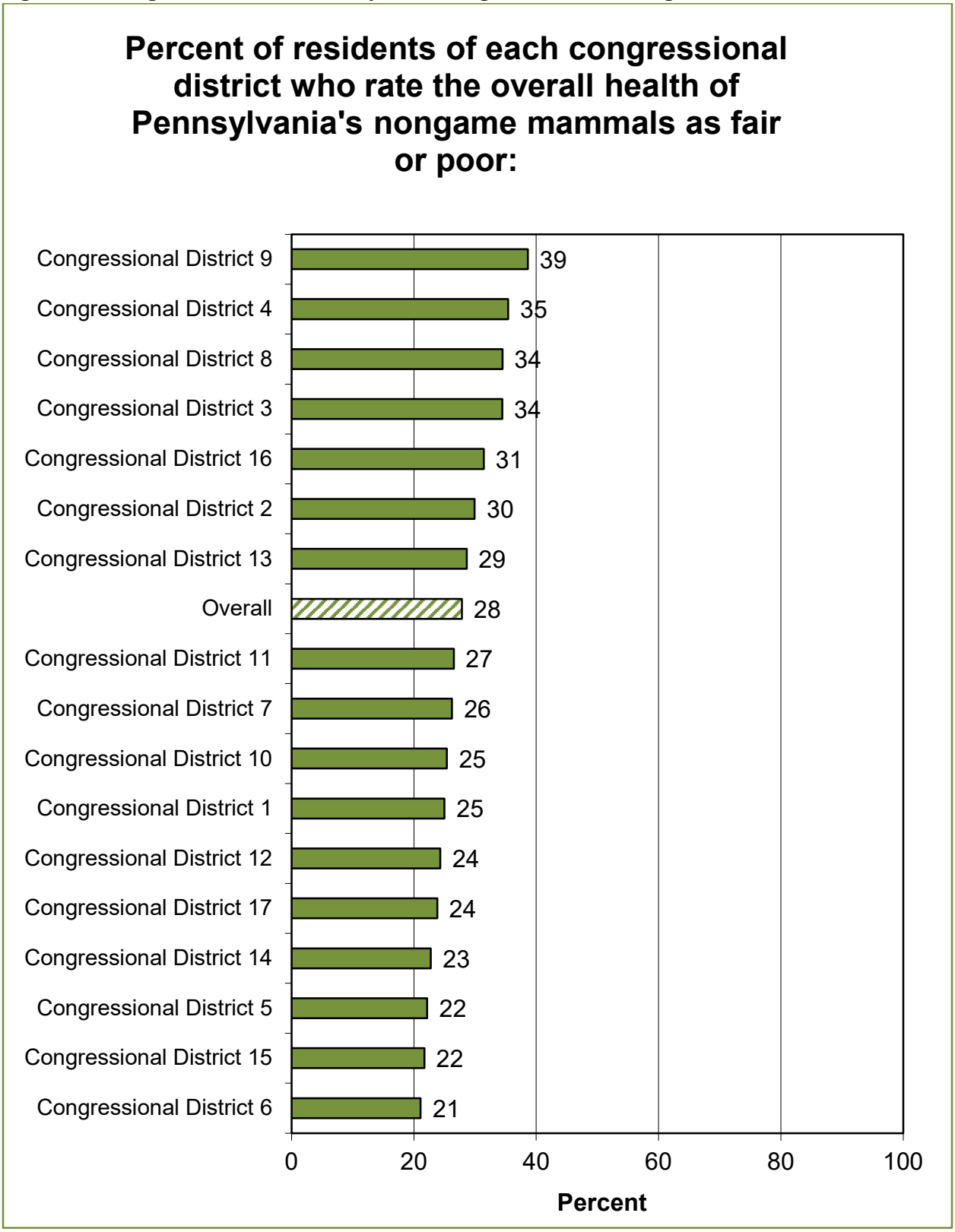
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 28. Congressional District Graph of Rating of Health of Nongame Mammals, Part 1



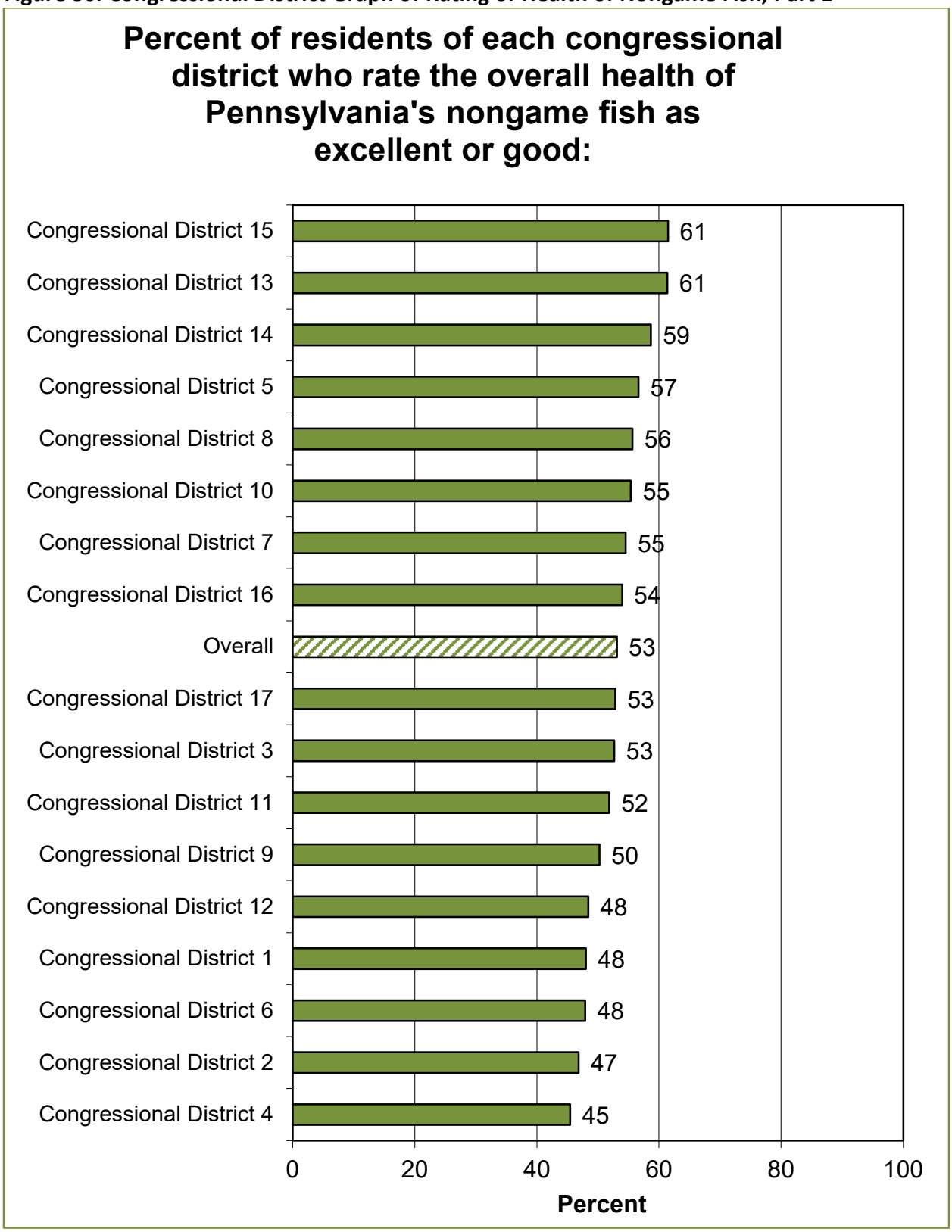
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 29. Congressional District Graph of Rating of Health of Nongame Mammals, Part 2



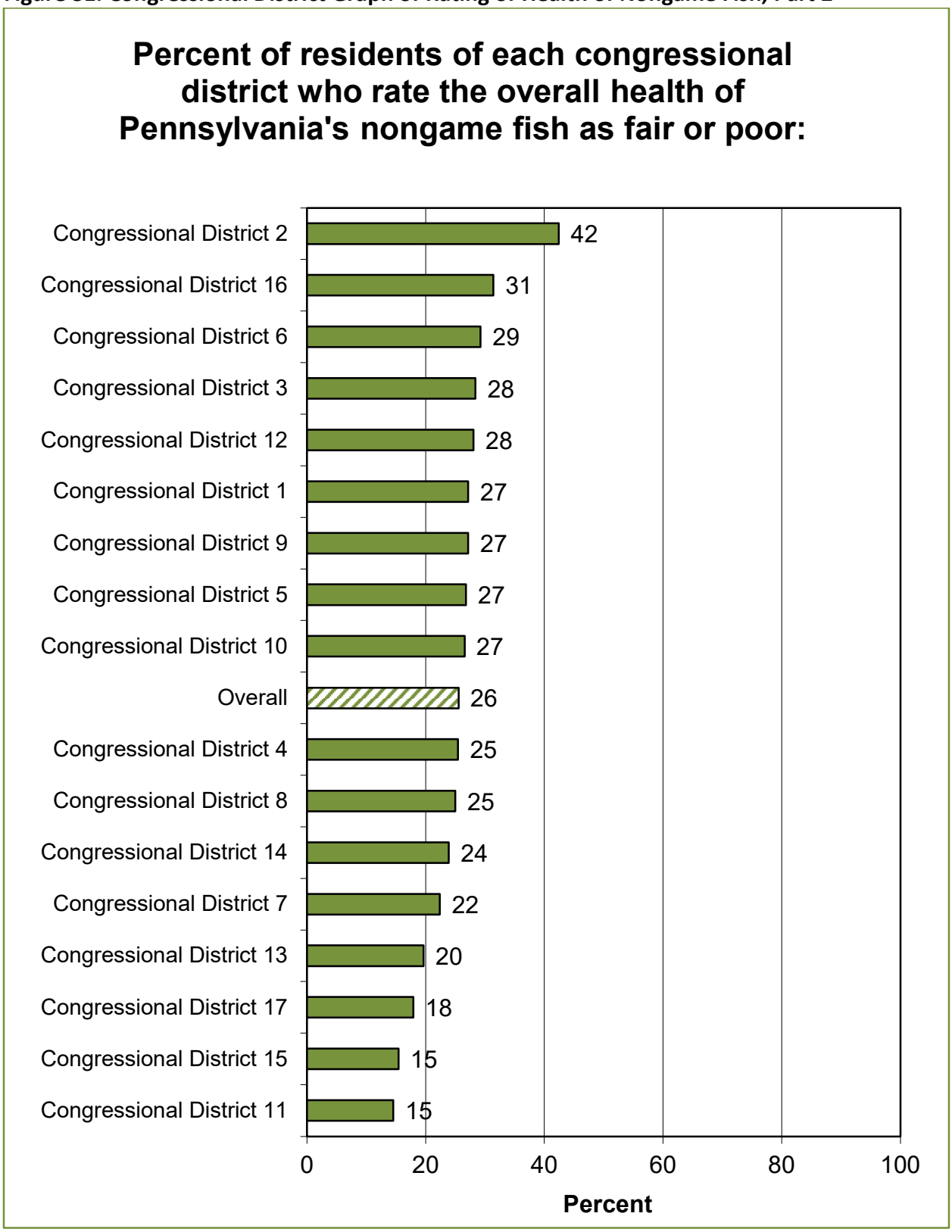
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 30. Congressional District Graph of Rating of Health of Nongame Fish, Part 1



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 31. Congressional District Graph of Rating of Health of Nongame Fish, Part 2

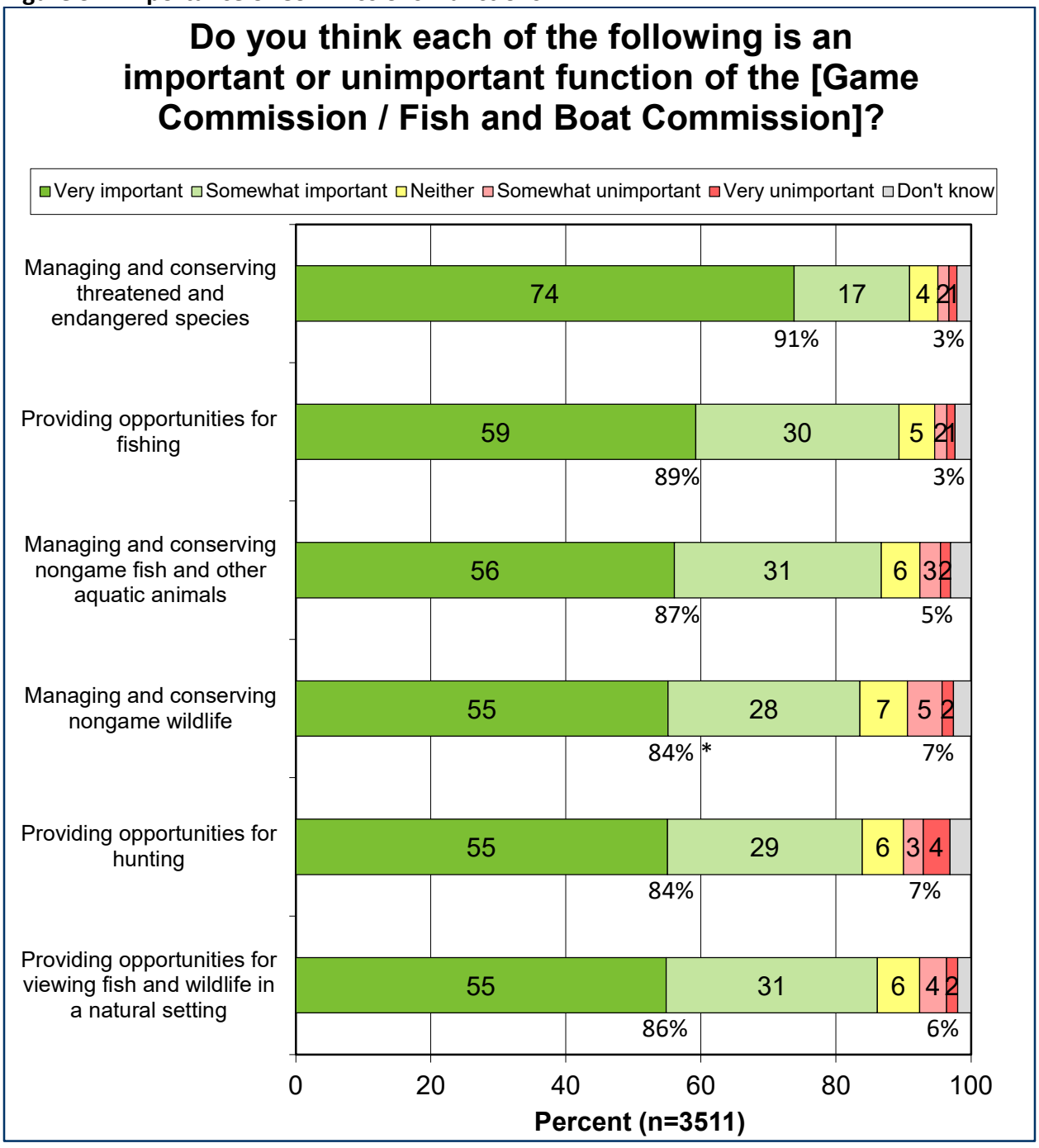


A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

COMMISSION PROGRAM AREAS

Managing and conserving threatened and endangered species is considered the most important function of the Commissions, with almost three quarters (74%) of Pennsylvania residents indicating that this is a *very* important function of the Commissions. Allied with this sentiment, each of the remaining five surveyed Commission functions has a majority saying it is *very* important. ("Don't know" values are omitted for better graph legibility.)

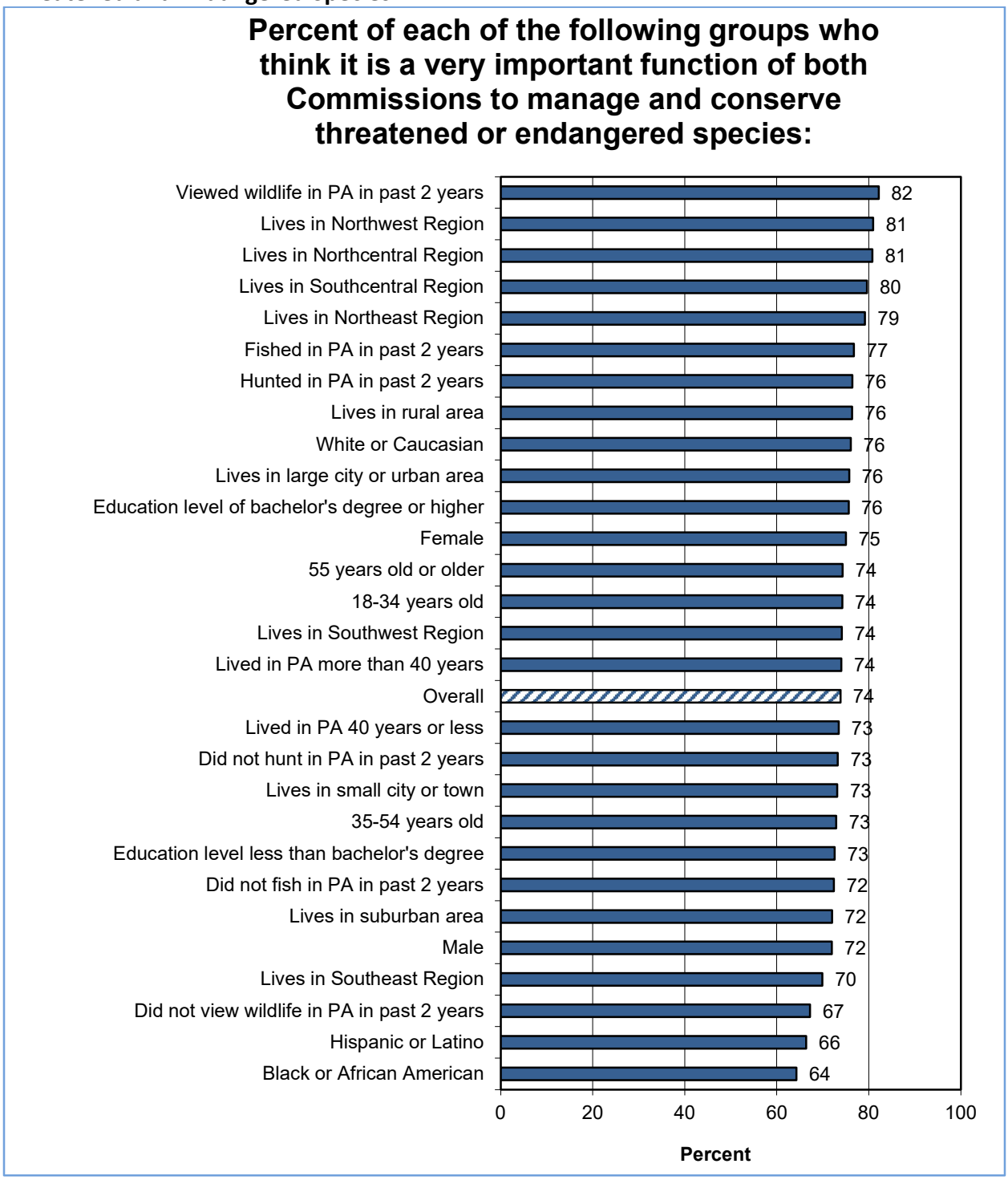
Figure 32. Importance of Commissions' Functions



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

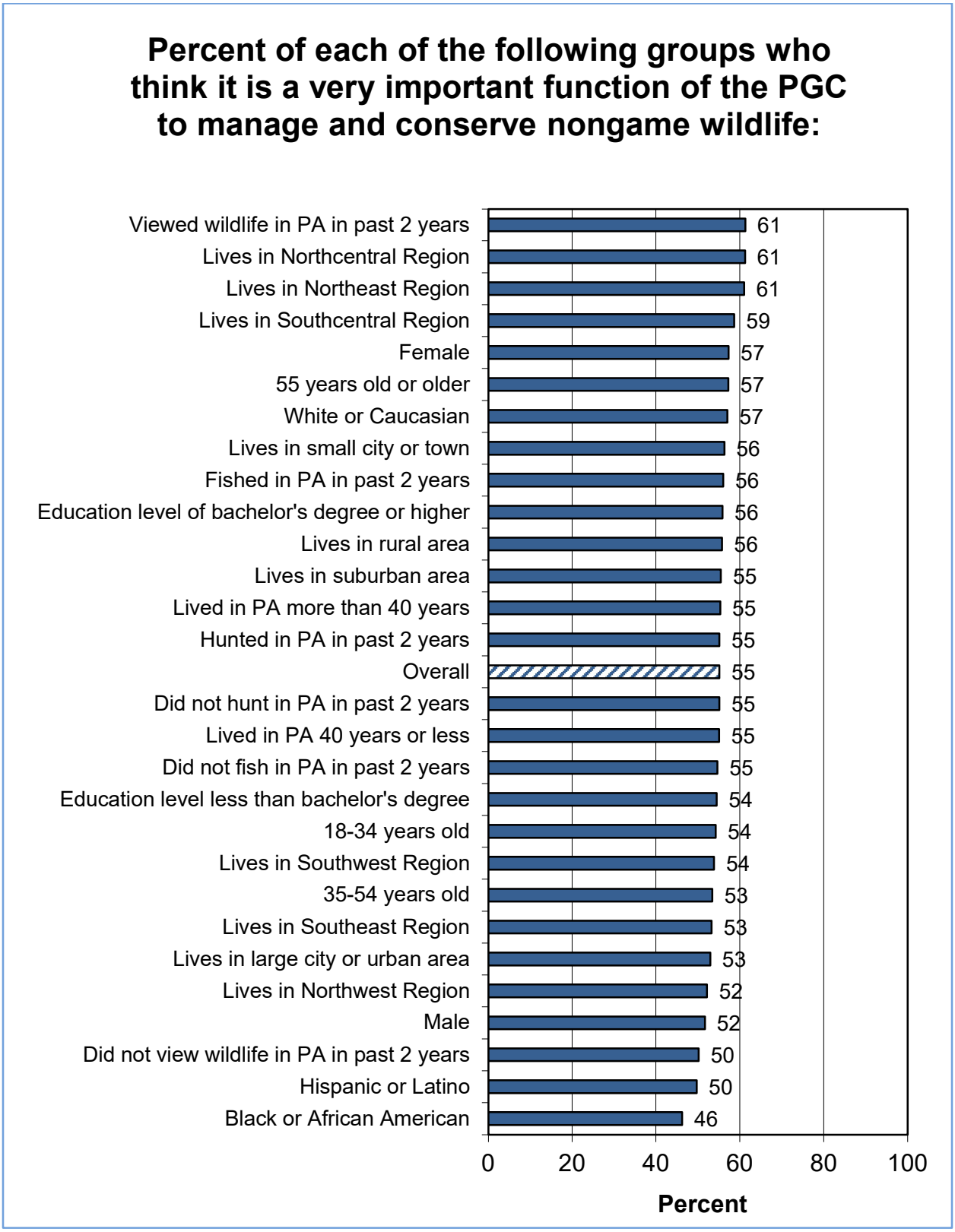
Demographic analyses were run on each of the questions in this series. In general, groups giving relatively high ratings of importance on many (or all) of these questions in the series include wildlife viewers (in the top tier in *all* the graphs), Northcentral and Northeast Region residents, and Northwest and Southcentral Region residents to a lesser extent. In the top on at least two of the graphs are hunters, anglers, males, older residents, and rural residents.

Figure 33. Demographic Analyses Graph of Importance of Managing and Conserving Threatened and Endangered Species



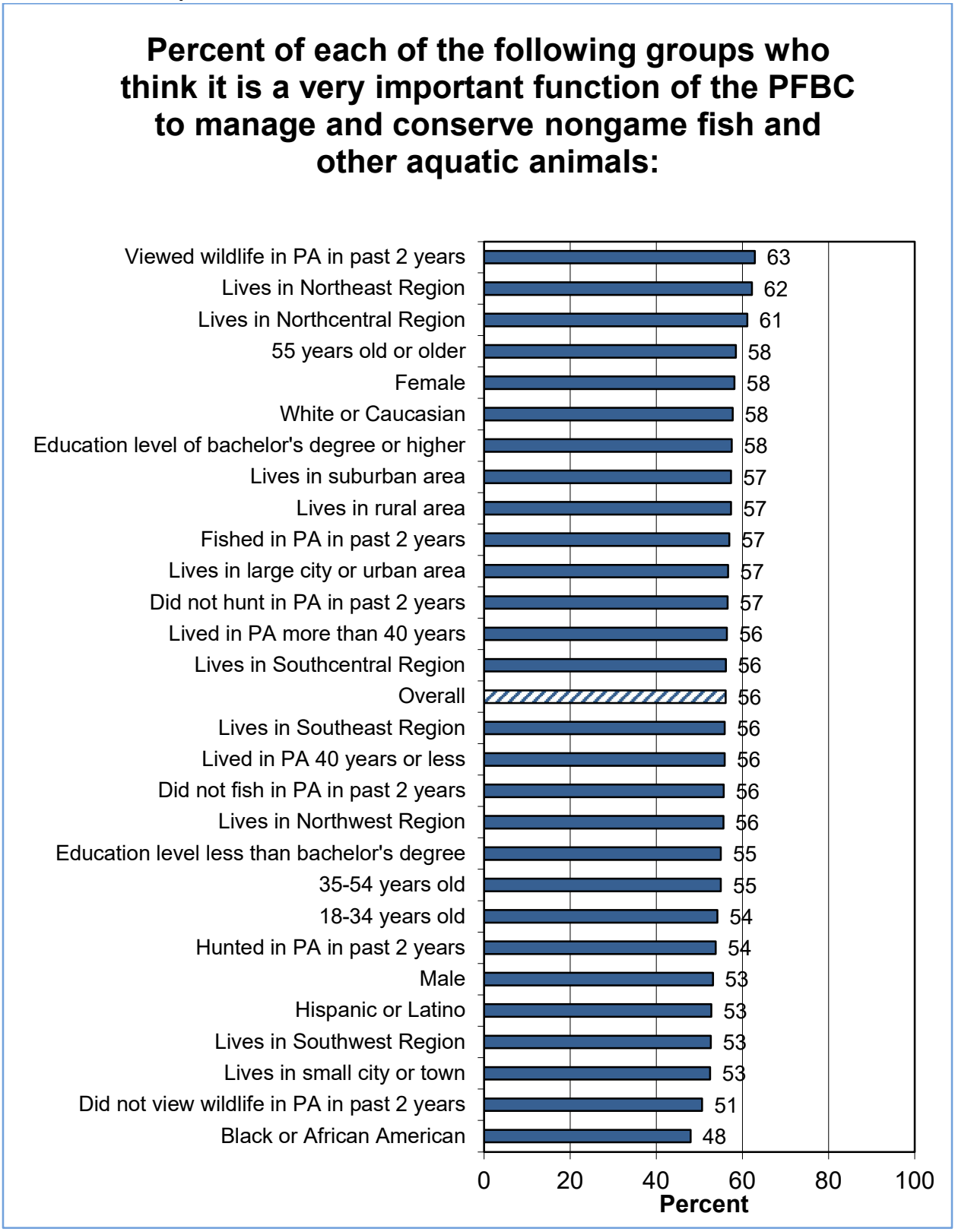
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 34. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Wildlife



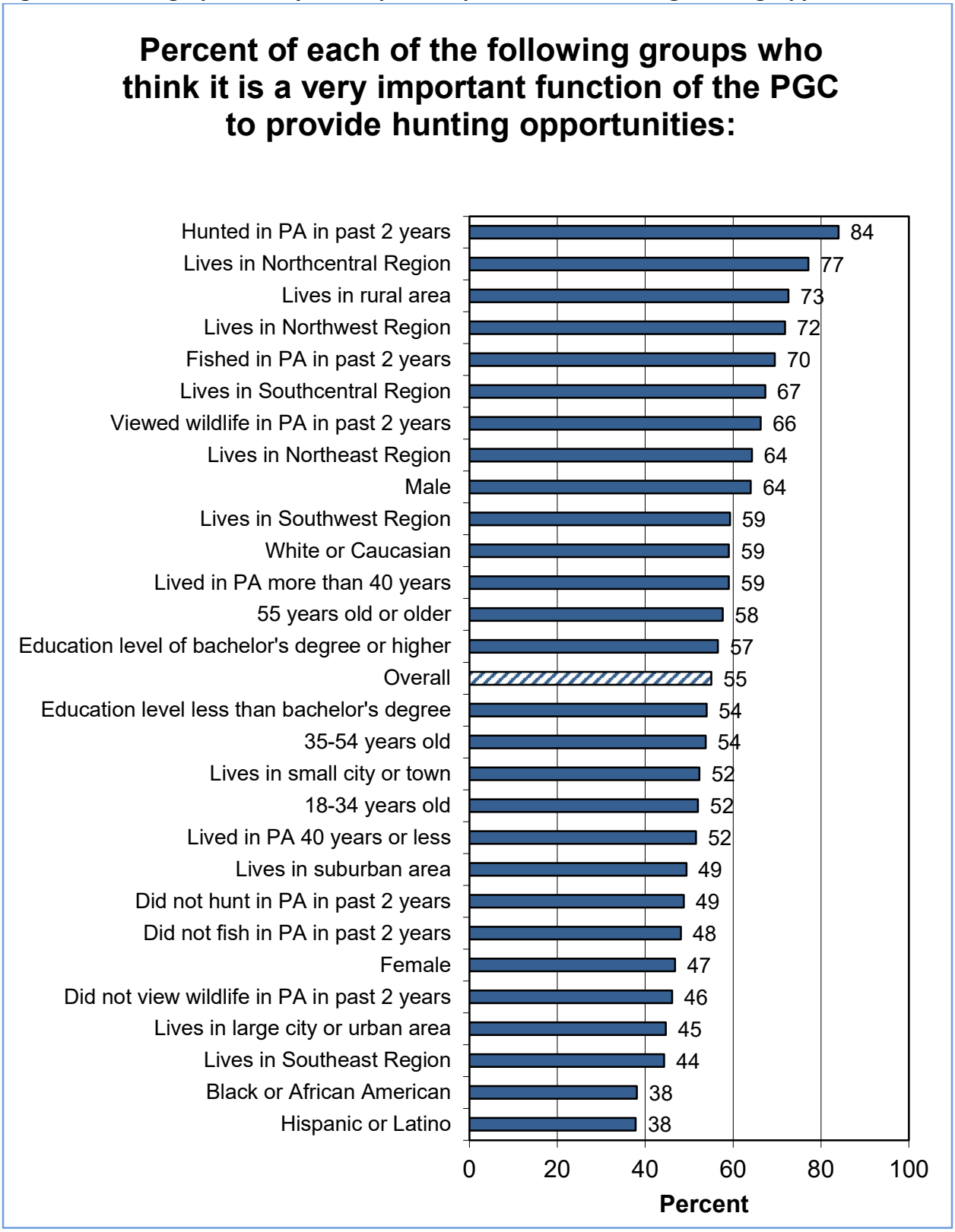
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 35. Demographic Analyses Graph of Importance of Managing and Conserving Nongame Fish and Other Aquatic Animals



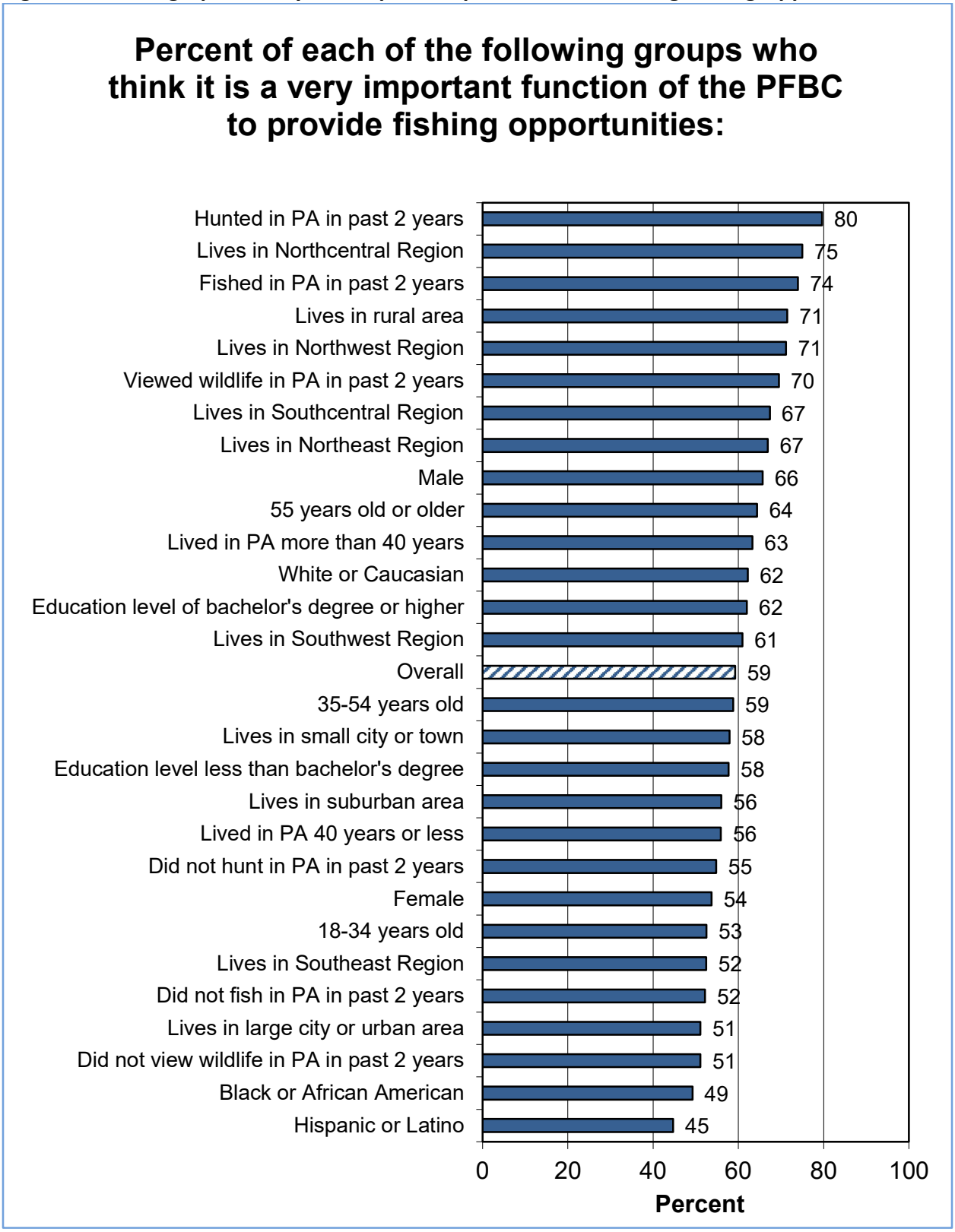
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 36. Demographic Analyses Graph of Importance of Providing Hunting Opportunities



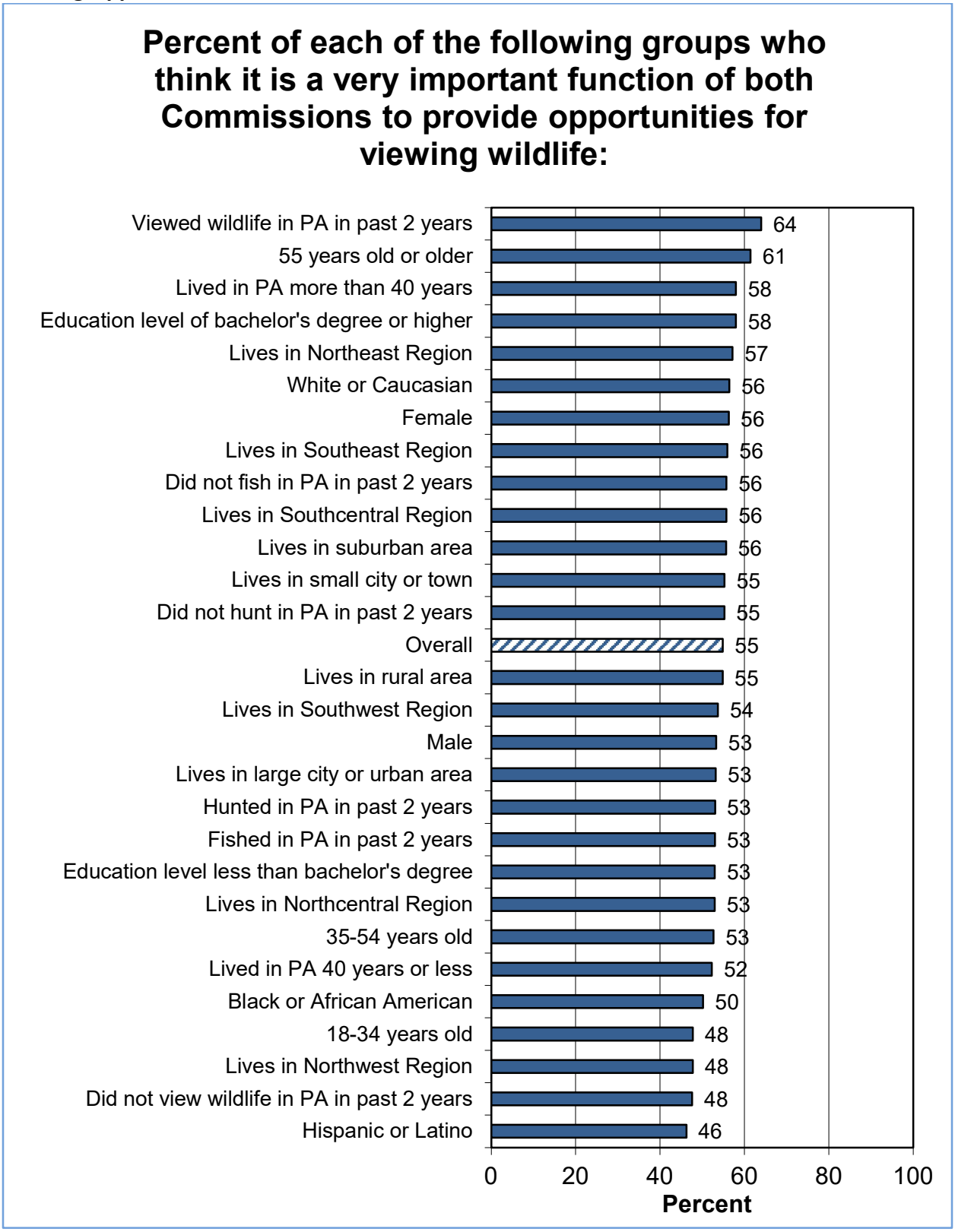
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 37. Demographic Analyses Graph of Importance of Providing Fishing Opportunities



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 38. Demographic Analyses Graph of Importance of Providing Wildlife Viewing Opportunities



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

There is almost no change in opinion on managing and conserving threatened and endangered species. The largest change in opinion on providing wildlife viewing occurs mostly in a switch from *very* important to *somewhat* important (rather than on overall importance, which declined only slightly).

Figure 39. Trends Graph of Importance of Managing and Conserving Threatened and Endangered Species

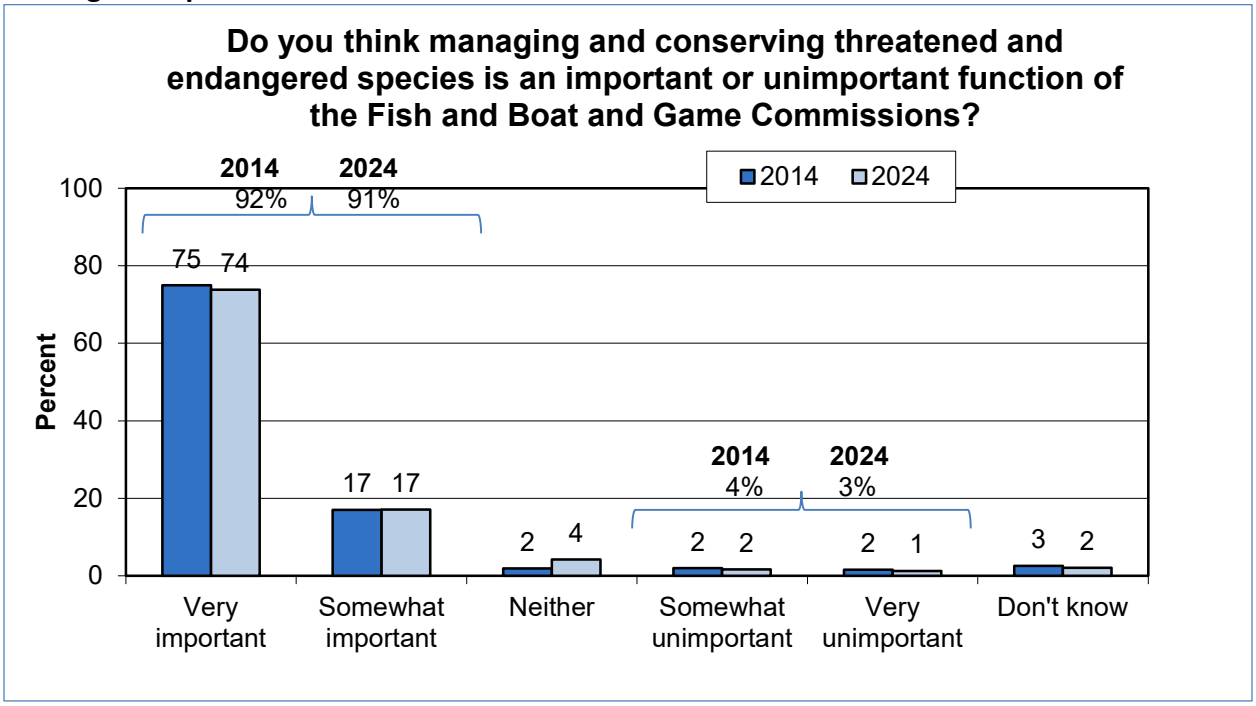
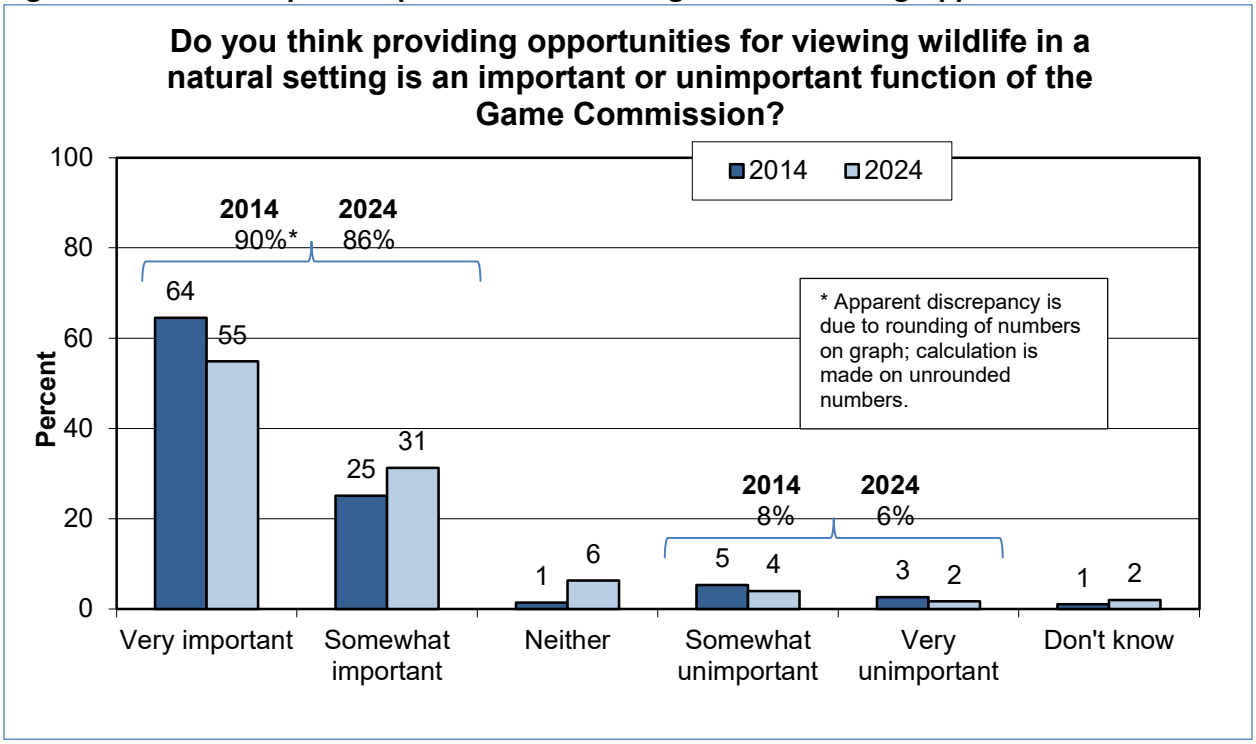


Figure 40. Trends Graph of Importance of Providing Wildlife Viewing Opportunities



The trends show only small changes from year to year in opinion on the importance of providing hunting and fishing opportunities. In each instance, a small decline in *very* important is offset by a small gain in *somewhat* important.

Figure 41. Trends Graph of Importance of Providing Hunting Opportunities

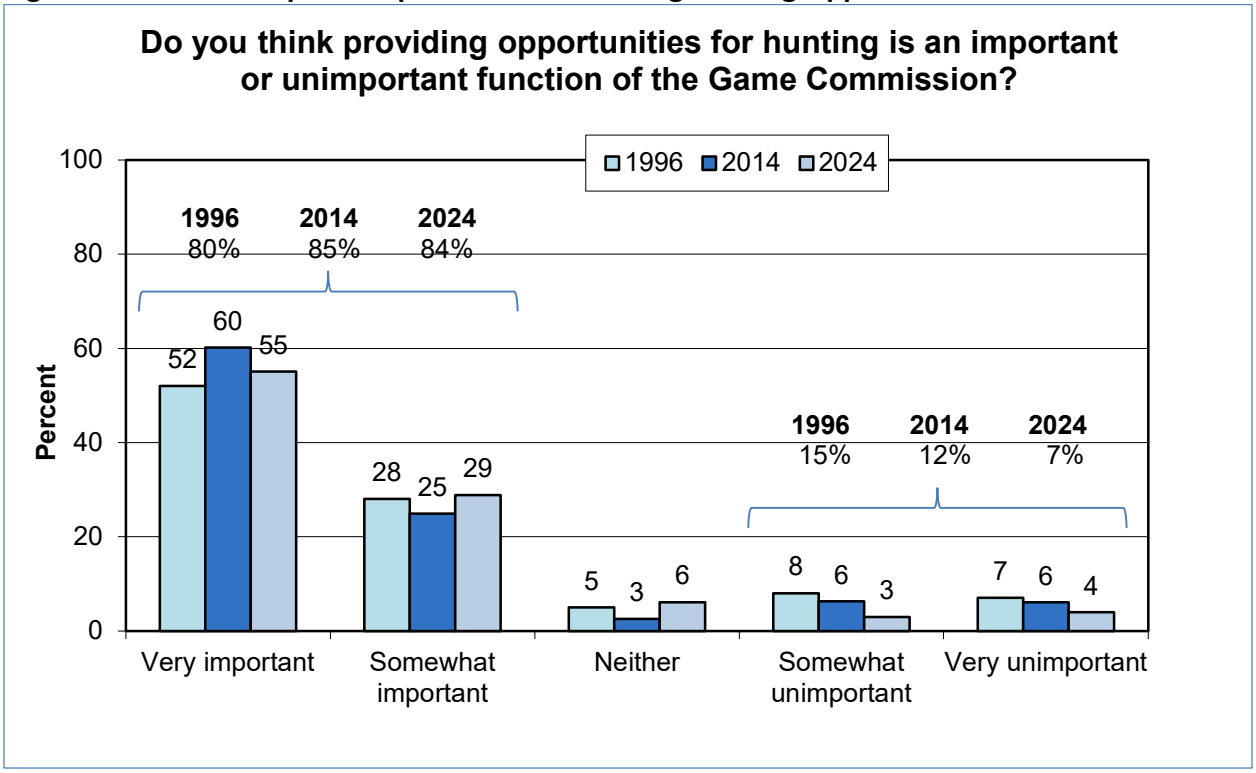


Figure 42. Trends Graph of Importance of Providing Fishing Opportunities

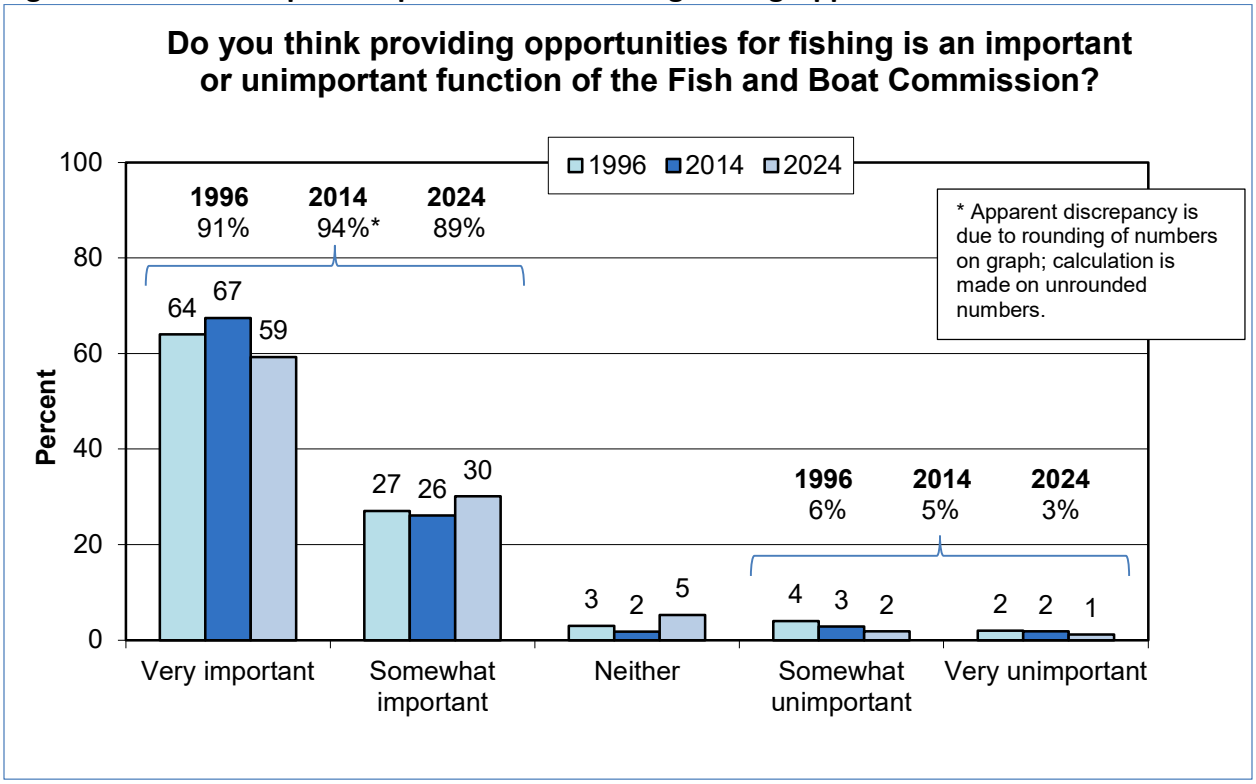


Table 10. Do you think managing and conserving threatened and endangered species are important or unimportant functions of both the Game Commission and the Fish and Boat Commission? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	69	24	4	1	1	1
2	72	15	7	0	4	2
3	64	17	8	1	4	6
4	67	26	1	2	0	3
5	63	22	9	2	1	3
6	70	19	4	4	0	2
7	75	20	4	0	0	1
8	80	13	5	1	0	1
9	78	14	1	4	2	1
10	78	17	4	1	0	0
11	74	17	5	0	1	2
12	79	13	4	2	0	2
13	81	12	2	2	1	1
14	74	17	4	0	1	3
15	81	12	2	2	2	0
16	79	12	5	2	1	1
17	69	18	2	4	1	7
Overall	74	17	4	2	1	2

Table 11. Do you think managing and conserving nongame wildlife is an important or unimportant function of the Game Commission? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	60	25	10	3	1	2
2	52	24	14	5	2	2
3	51	25	12	1	3	8
4	51	31	9	4	1	3
5	44	33	8	11	2	3
6	42	43	6	6	1	2
7	59	26	6	7	0	2
8	59	28	5	3	2	4
9	66	27	2	2	3	0
10	61	28	7	4	0	0
11	64	18	6	6	2	4
12	59	28	8	2	1	2
13	53	31	5	8	2	2
14	51	30	8	5	2	3
15	58	30	3	6	3	0
16	55	27	9	6	3	1
17	51	30	4	8	1	6
Overall	55	28	7	5	2	3

Table 12. Do you think managing and conserving nongame fish and other aquatic animals is an important or unimportant function of the Fish and Boat Commission? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	64	26	8	1	1	1
2	53	24	12	5	2	5
3	59	22	7	2	2	8
4	52	37	6	1	0	3
5	50	35	7	3	1	4
6	51	35	6	4	1	4
7	58	31	5	3	0	3
8	61	30	3	2	1	3
9	64	29	2	3	2	0
10	55	35	8	1	0	1
11	61	25	7	4	0	4
12	58	32	4	1	2	3
13	55	28	6	5	4	2
14	50	38	5	1	2	4
15	63	25	4	5	4	0
16	52	36	5	6	1	1
17	49	34	3	4	3	6
Overall	56	31	6	3	2	3

Table 13. Do you think providing opportunities for hunting is an important or unimportant function of the Game Commission? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	48	34	8	4	4	2
2	33	32	14	6	10	4
3	42	26	11	3	8	11
4	45	37	4	3	8	2
5	40	38	9	3	7	3
6	40	44	4	7	3	2
7	57	30	7	3	2	2
8	59	28	7	1	3	3
9	68	21	7	0	4	0
10	55	38	2	1	1	2
11	51	28	11	1	6	3
12	50	31	6	7	2	3
13	70	18	2	4	3	2
14	69	20	3	3	2	3
15	82	11	4	0	2	1
16	66	28	1	1	1	3
17	57	28	5	2	1	7
Overall	55	29	6	3	4	3

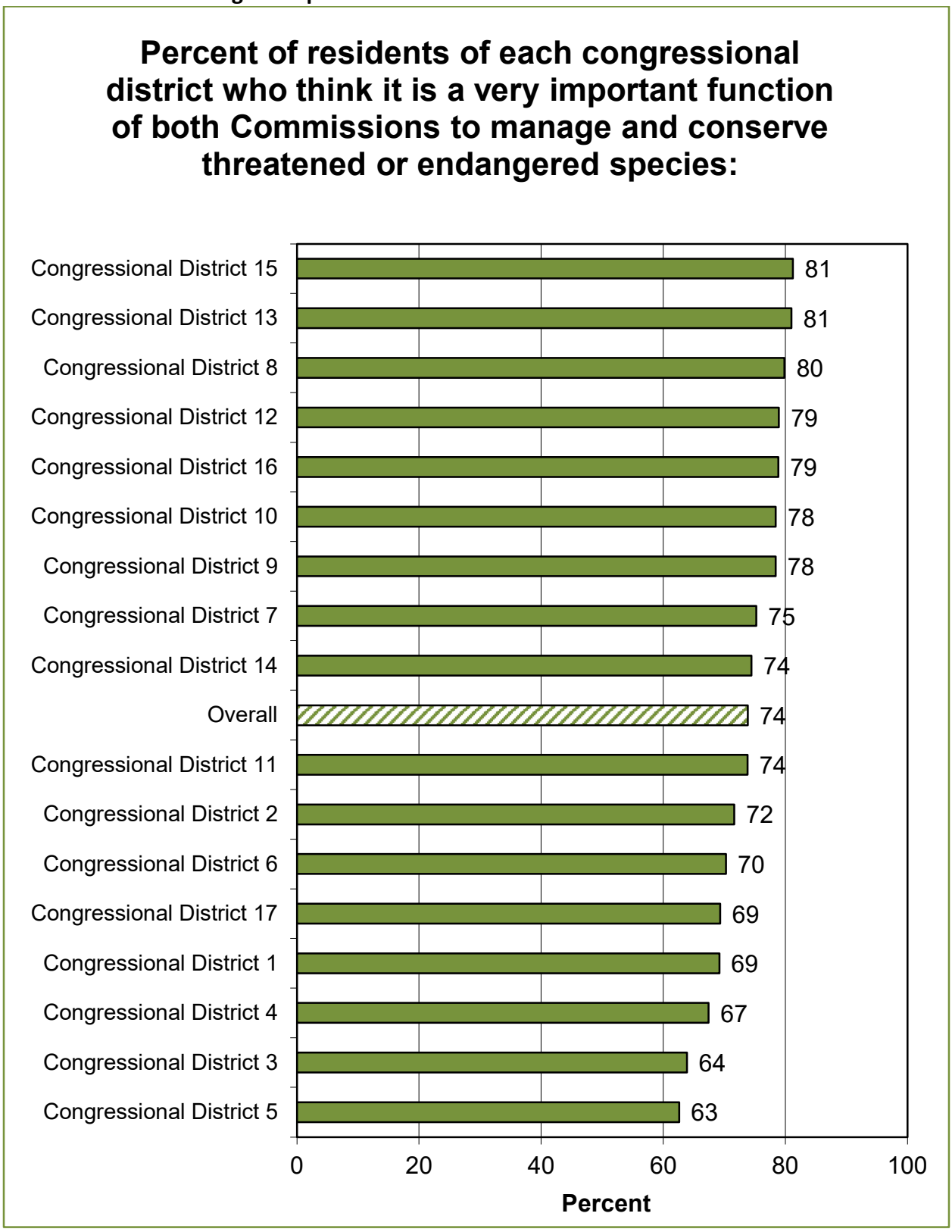
Table 14. Do you think providing opportunities for fishing is an important or unimportant function of the Fish and Boat Commission? (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	60	31	5	1	2	1
2	48	35	11	2	1	4
3	48	31	9	1	3	7
4	49	37	6	3	3	2
5	47	38	7	6	1	1
6	48	41	6	2	2	1
7	65	27	6	0	0	1
8	62	27	8	1	1	2
9	69	20	7	4	0	0
10	63	32	3	1	0	1
11	52	36	7	1	1	3
12	54	35	6	2	1	3
13	68	25	1	3	1	2
14	68	25	2	2	1	3
15	78	18	2	0	2	1
16	67	28	2	1	1	2
17	61	28	5	1	0	6
Overall	59	30	5	2	1	2

Table 15. Do you think providing opportunities for viewing fish and wildlife in a natural setting is an important or unimportant function of both the Game Commission and the Fish and Boat Commission? (Graph shows percentages giving response.)

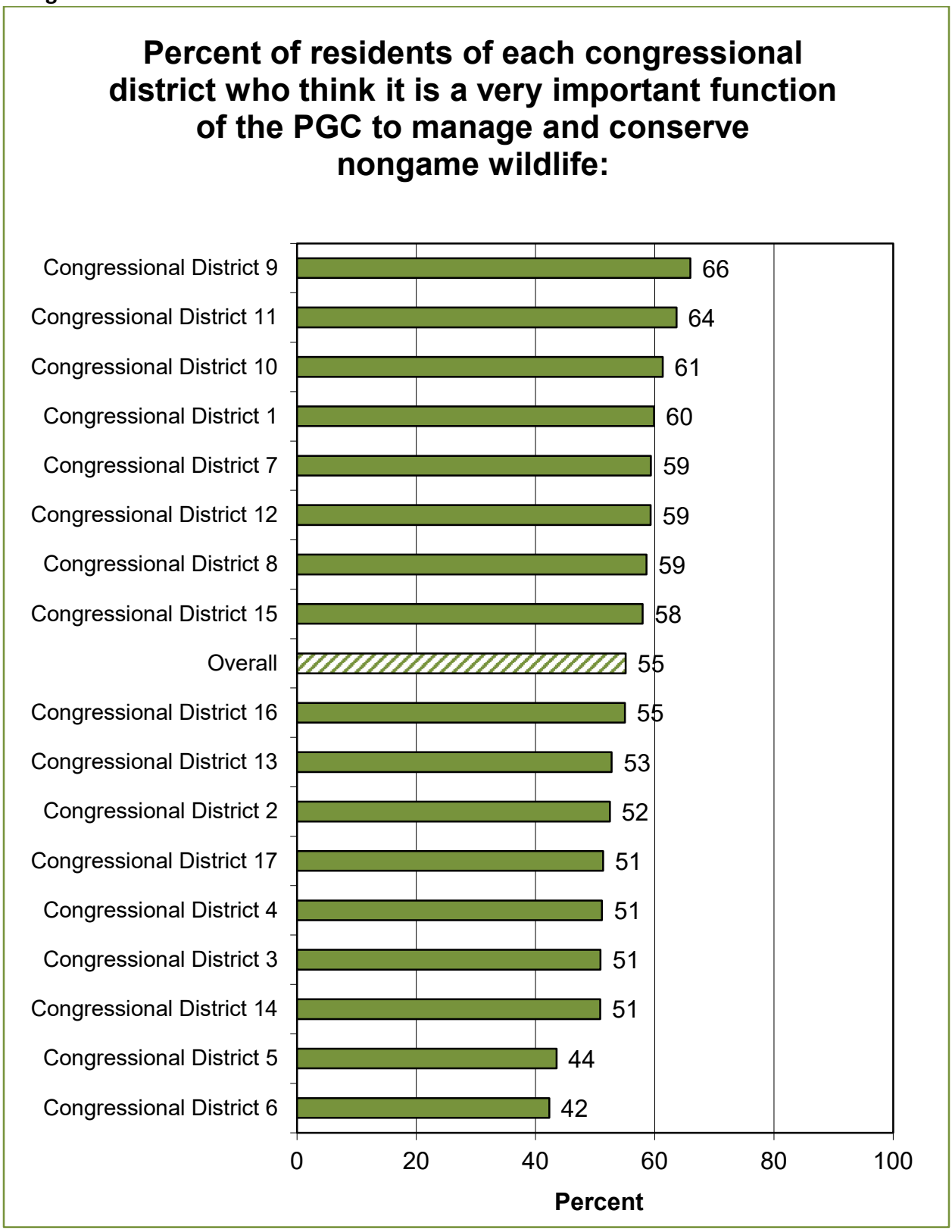
District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	58	32	4	4	0	2
2	52	32	10	4	2	0
3	53	26	10	3	3	6
4	53	34	9	1	1	2
5	60	30	5	1	3	2
6	55	32	7	6	0	0
7	57	32	4	2	4	1
8	57	30	7	3	1	2
9	61	26	5	5	3	1
10	57	32	5	4	1	2
11	61	25	7	3	2	2
12	54	37	3	3	0	3
13	48	37	5	6	2	1
14	53	25	7	10	2	3
15	51	37	5	5	2	0
16	53	32	7	5	1	1
17	52	33	7	2	0	7
Overall	55	31	6	4	2	2

Figure 43. Congressional District Graph of Importance of Managing and Conserving Threatened and Endangered Species



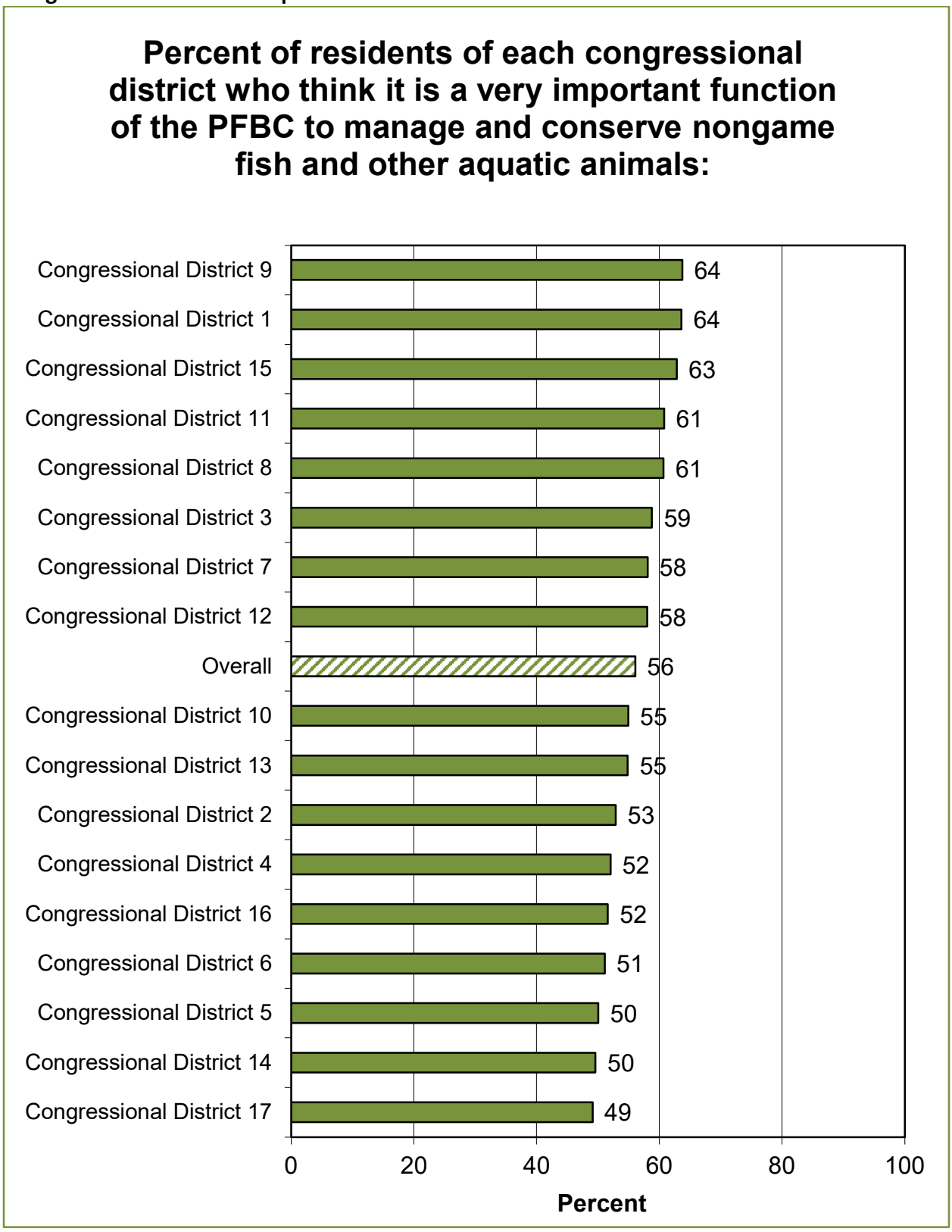
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 44. Congressional District Graph of Importance of Managing and Conserving Nongame Wildlife



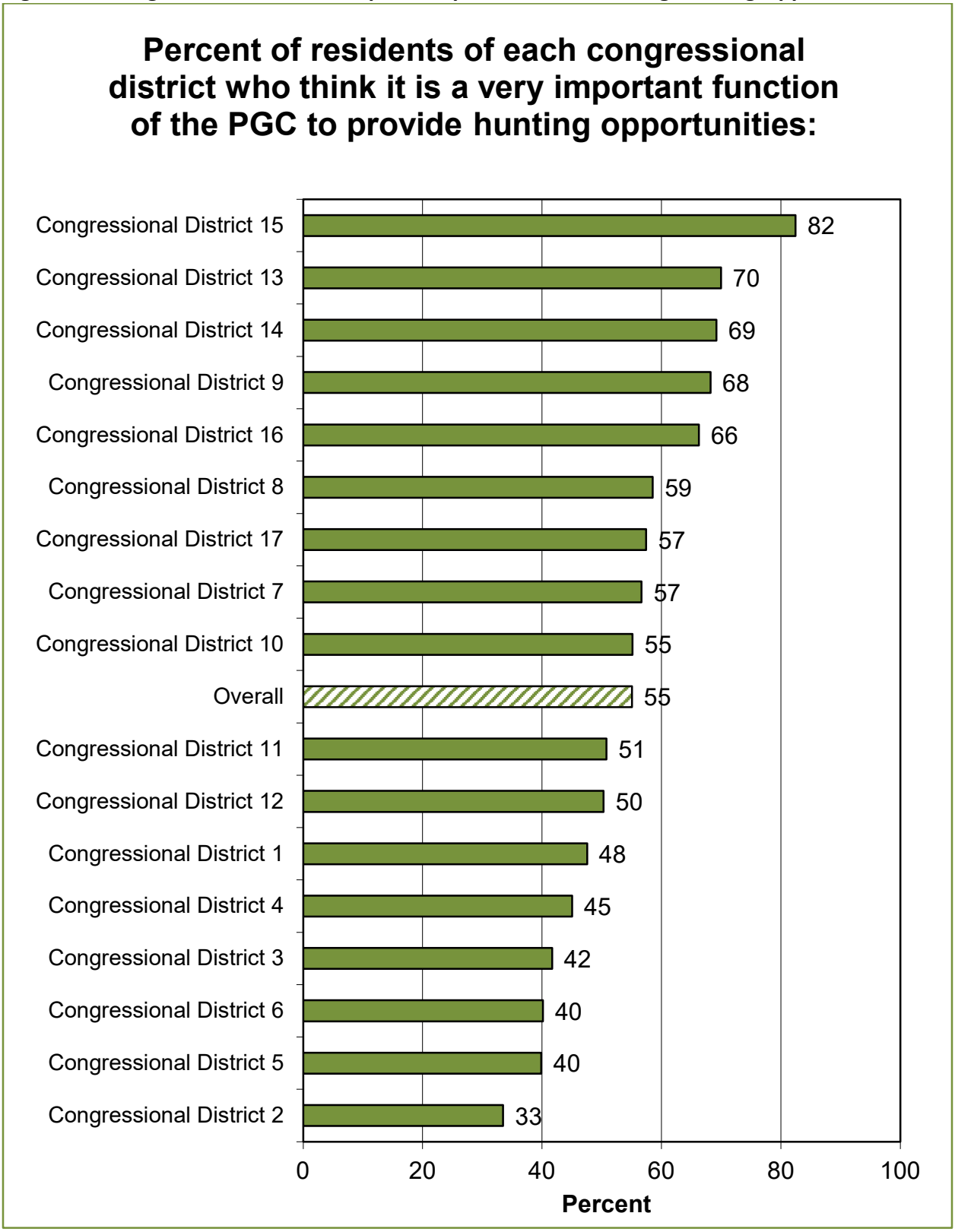
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 45. Congressional District Graph of Importance of Managing and Conserving Nongame Fish and Other Aquatic Animals



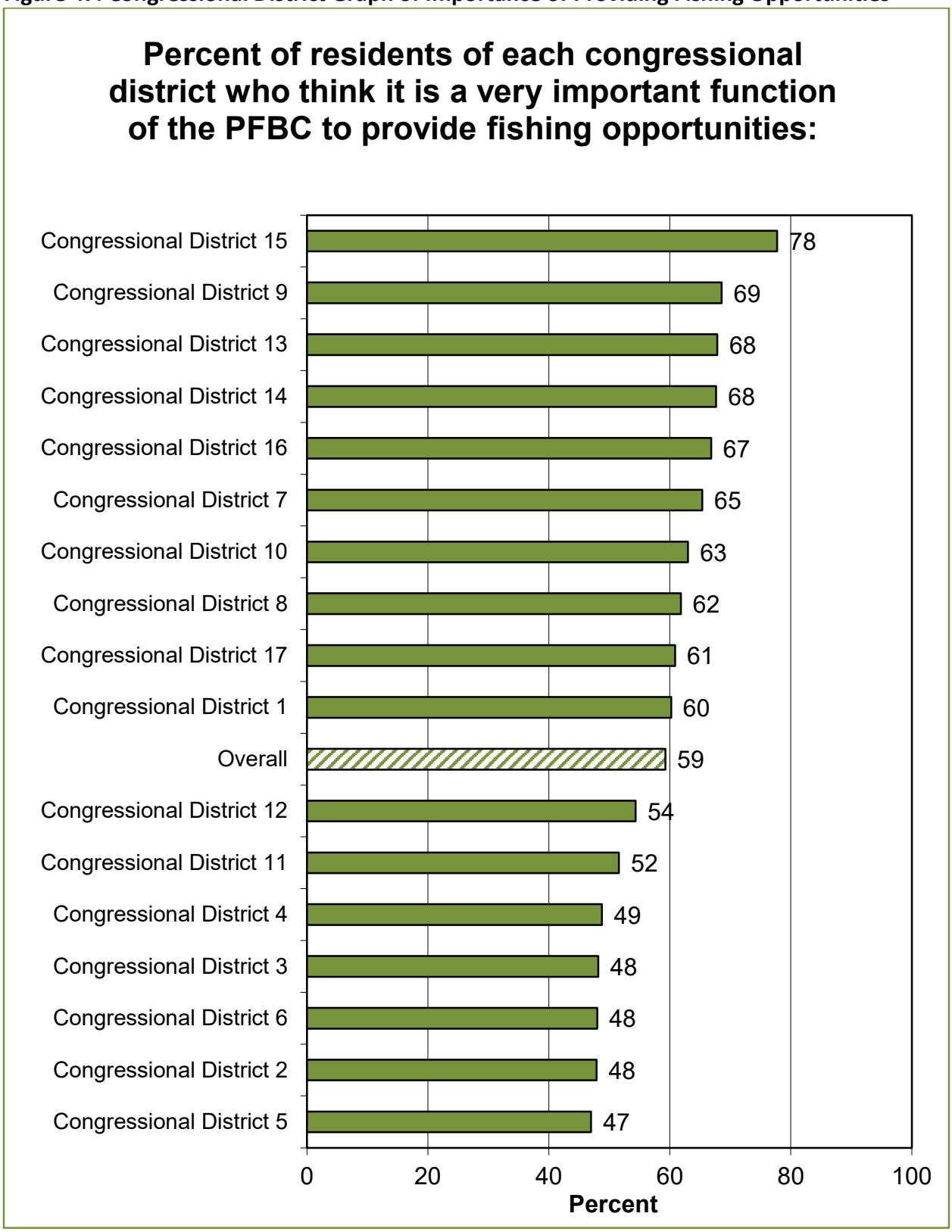
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 46. Congressional District Graph of Importance of Providing Hunting Opportunities



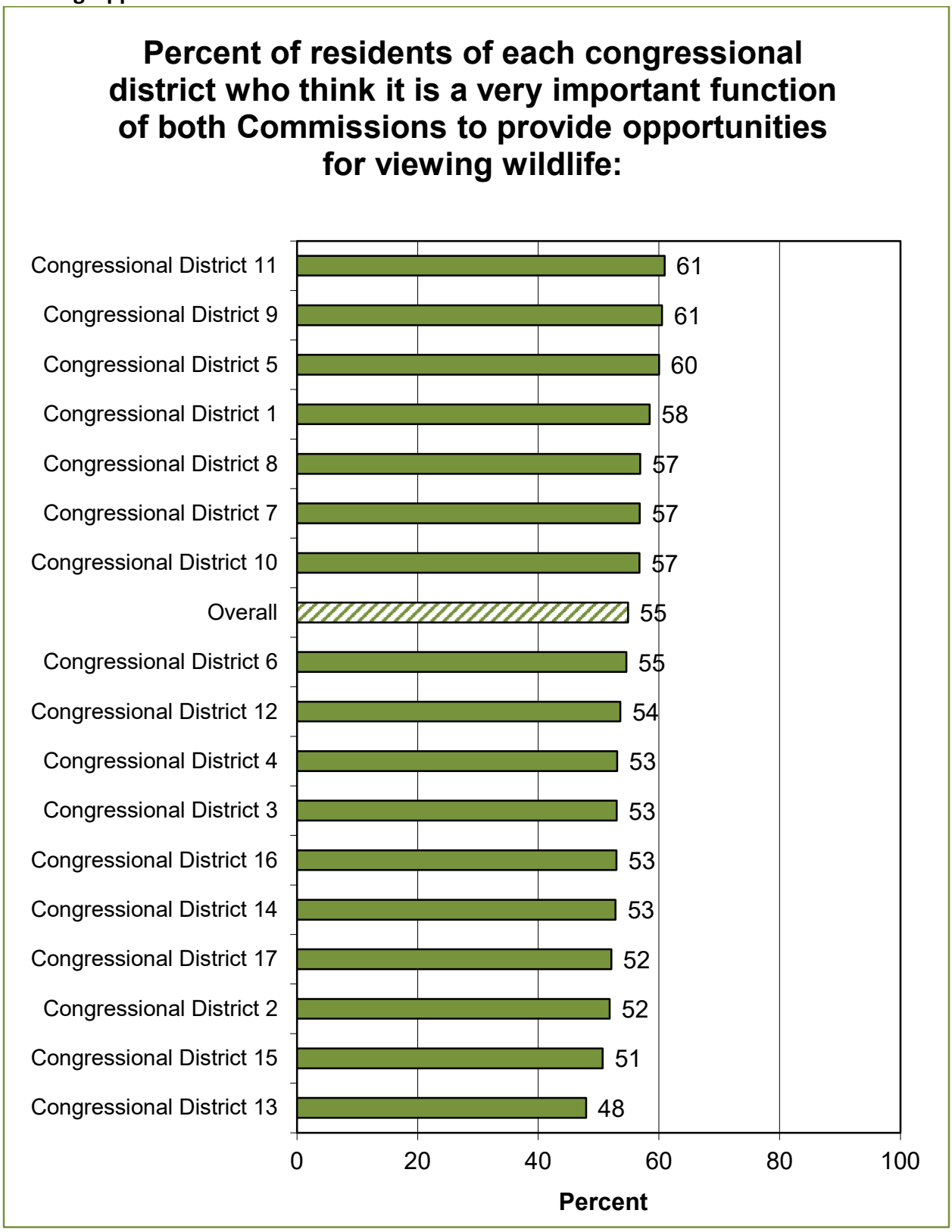
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 47. Congressional District Graph of Importance of Providing Fishing Opportunities



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 48. Congressional District Graph of Importance of Providing Wildlife Viewing Opportunities

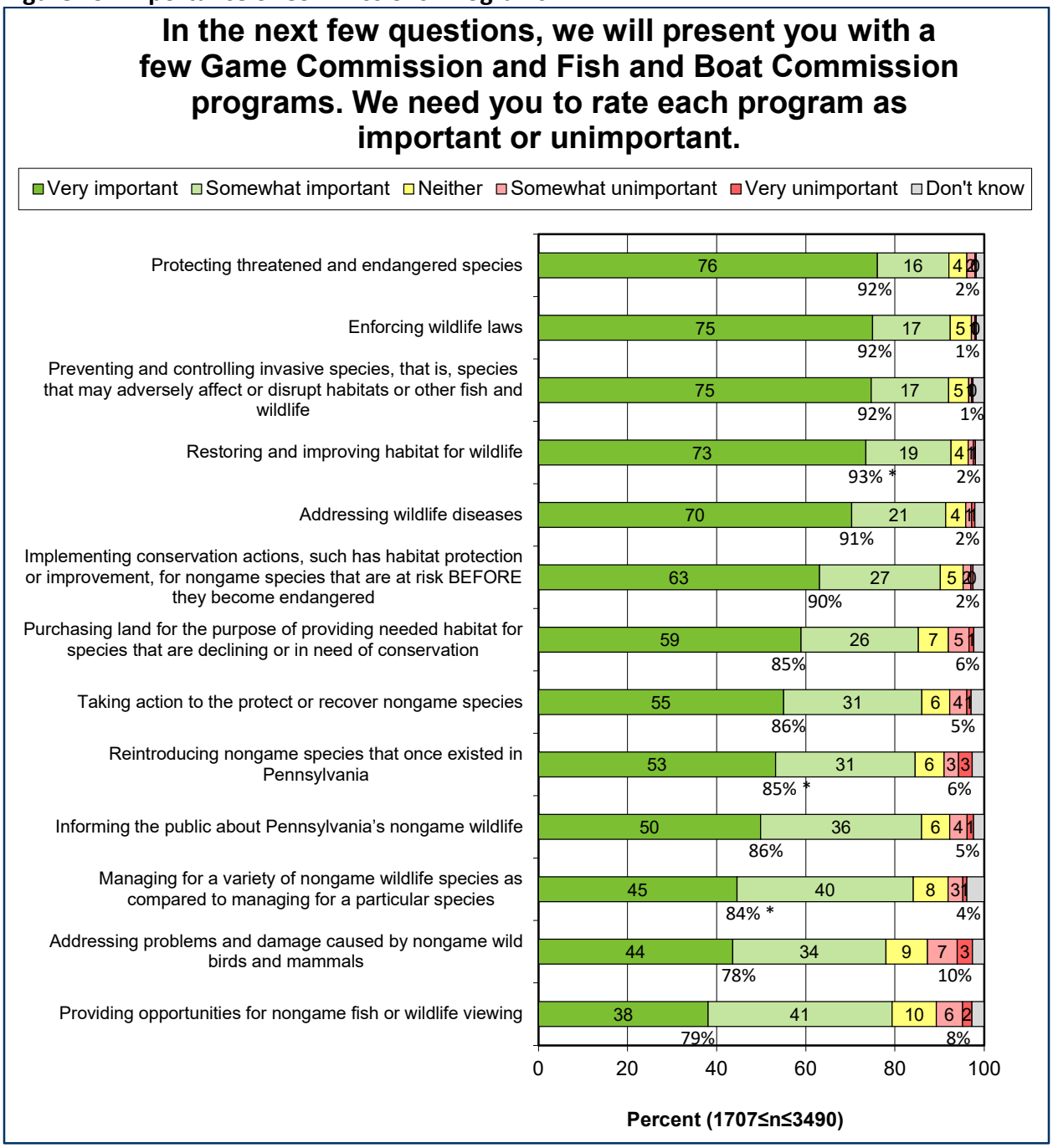


A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

IMPORTANCE OF COMMISSIONS' ACTIVITIES

The survey presented 13 program areas to respondents, who rated the importance of each one as an activity of both Commissions. Five program areas were rated *very* important by 70% or more: protecting threatened and endangered species (76%), enforcing wildlife laws (75%), preventing and controlling invasive species (75%), restoring and improving habitat for wildlife (73%), and addressing wildlife diseases (70%). Human-centered activities, such as providing opportunities to view nongame fish and wildlife, are ranked lower. ("Don't know" values are omitted for better legibility of the graph.)

Figure 49. Importance of Commissions' Programs



Trends are shown below and on subsequent pages. Overall importance remained fairly consistent between 2014 and 2024, with one exception for which importance ratings went up dramatically: reintroducing nongame species that once existed in Pennsylvania (importance increased from 69% to 85% between 2014 and 2024).

Figure 50. Trends Graph of Importance of Enforcing Wildlife Laws

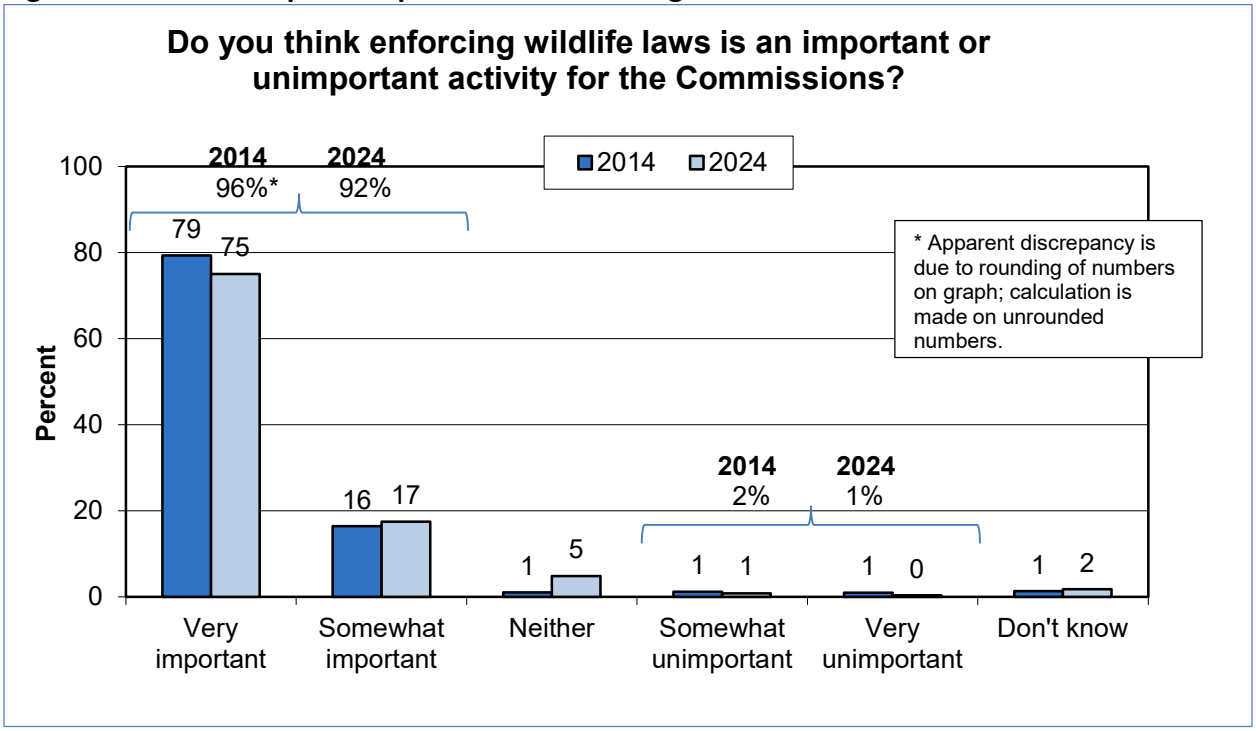


Figure 51. Trends Graph of Importance of Preventing and Controlling Invasive Species

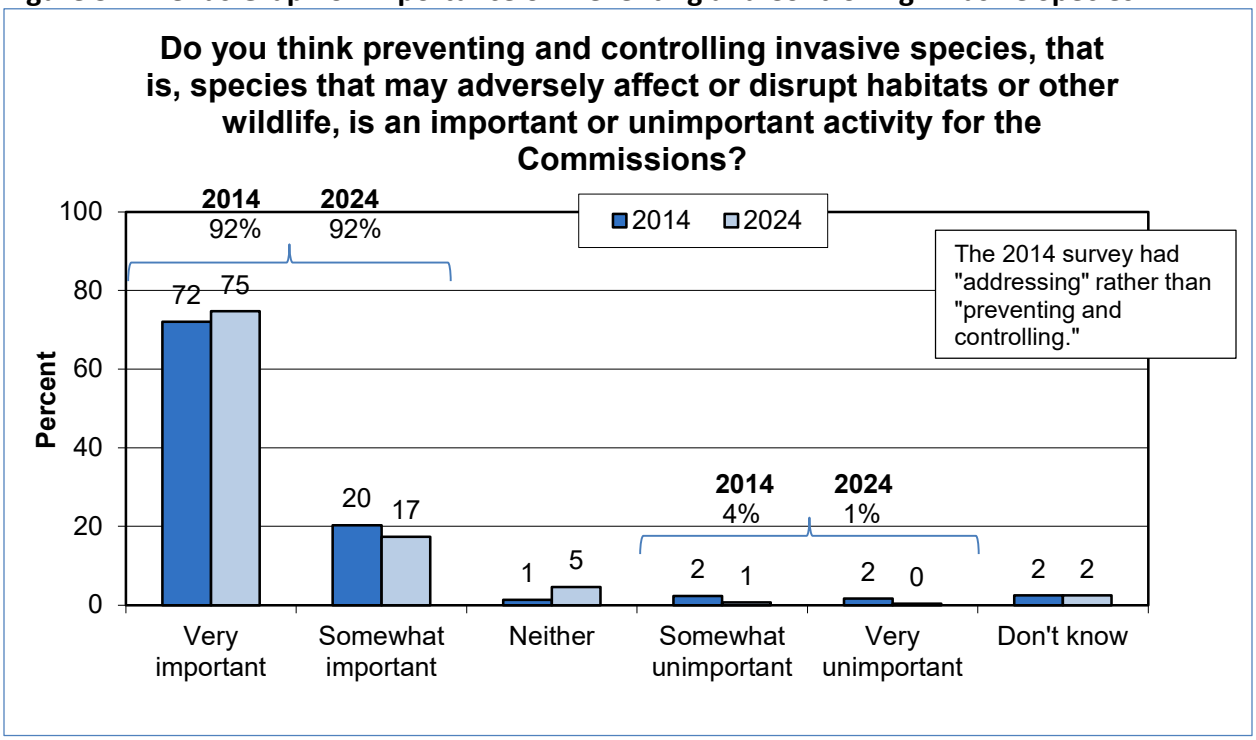


Figure 52. Trends Graph of Importance of Restoring and Improving Habitat

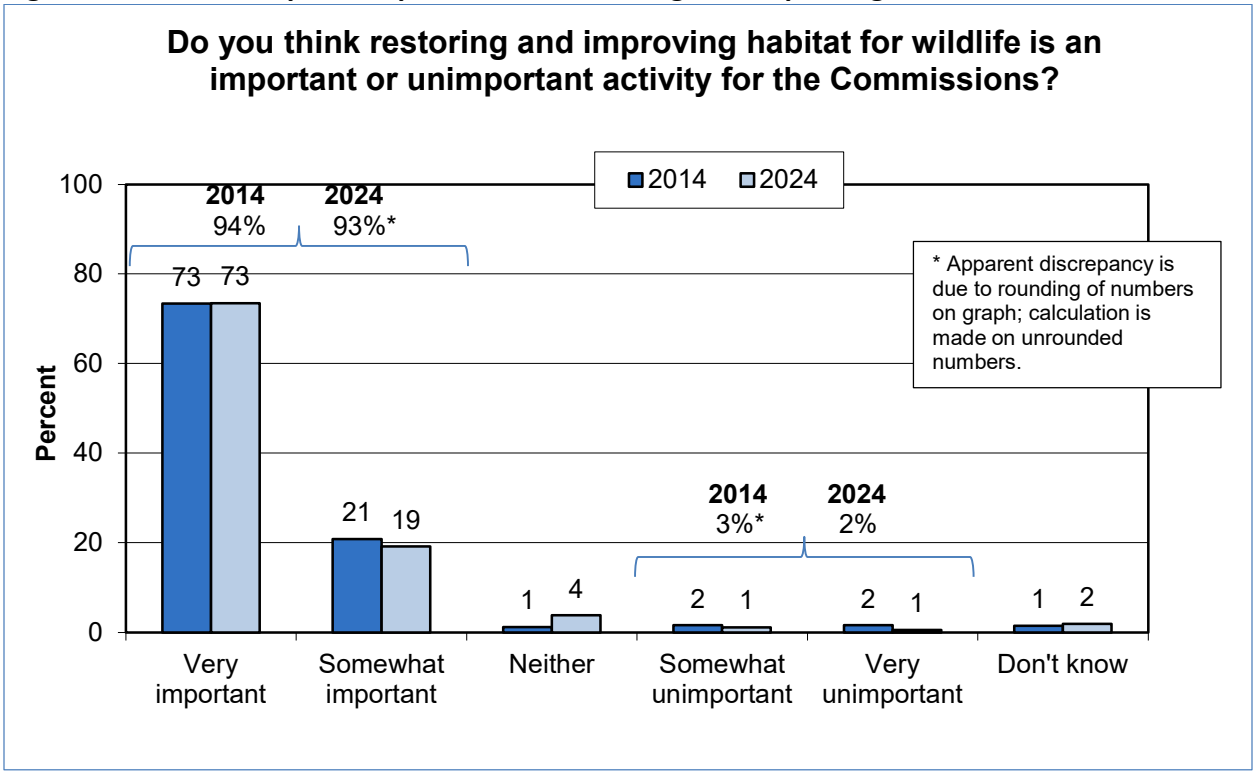


Figure 53. Trends Graph of Importance of Addressing Wildlife Diseases

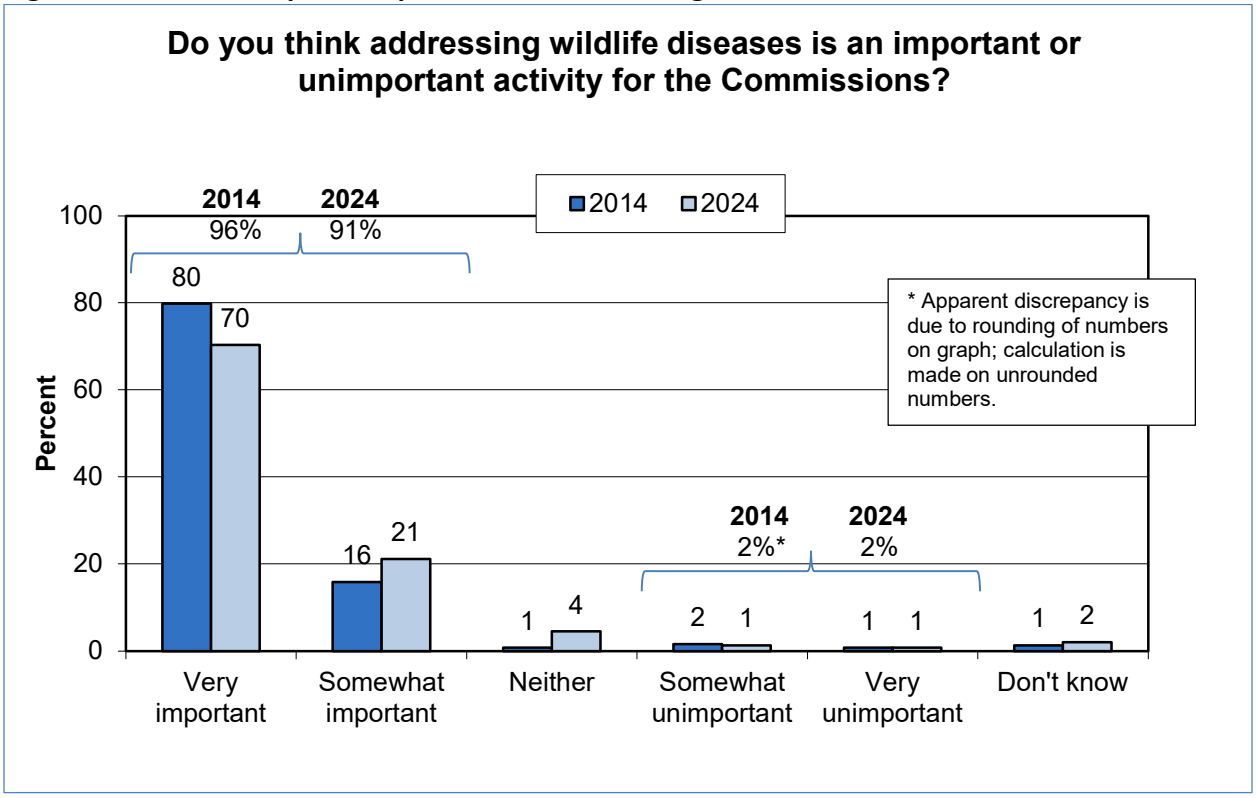


Figure 54. Trends Graph of Importance of Implementing Conservation Actions

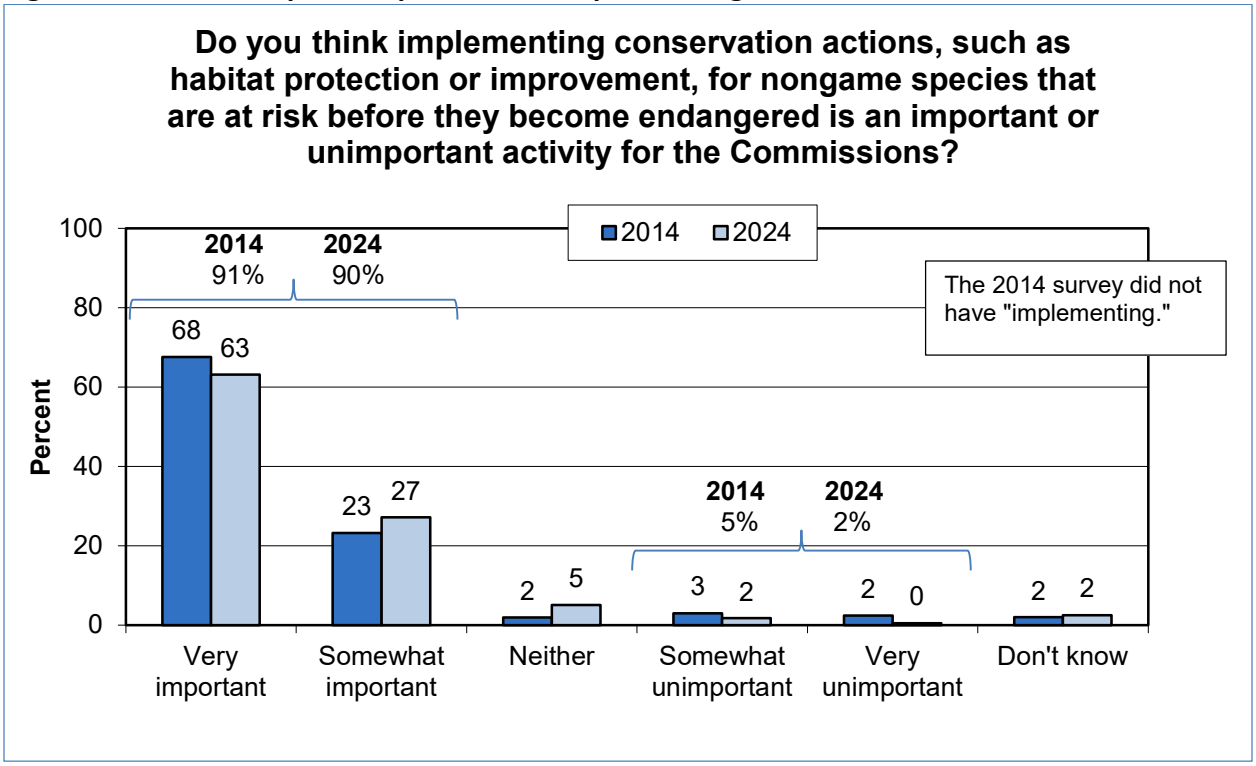


Figure 55. Trends Graph of Importance of Purchasing Land for Habitat

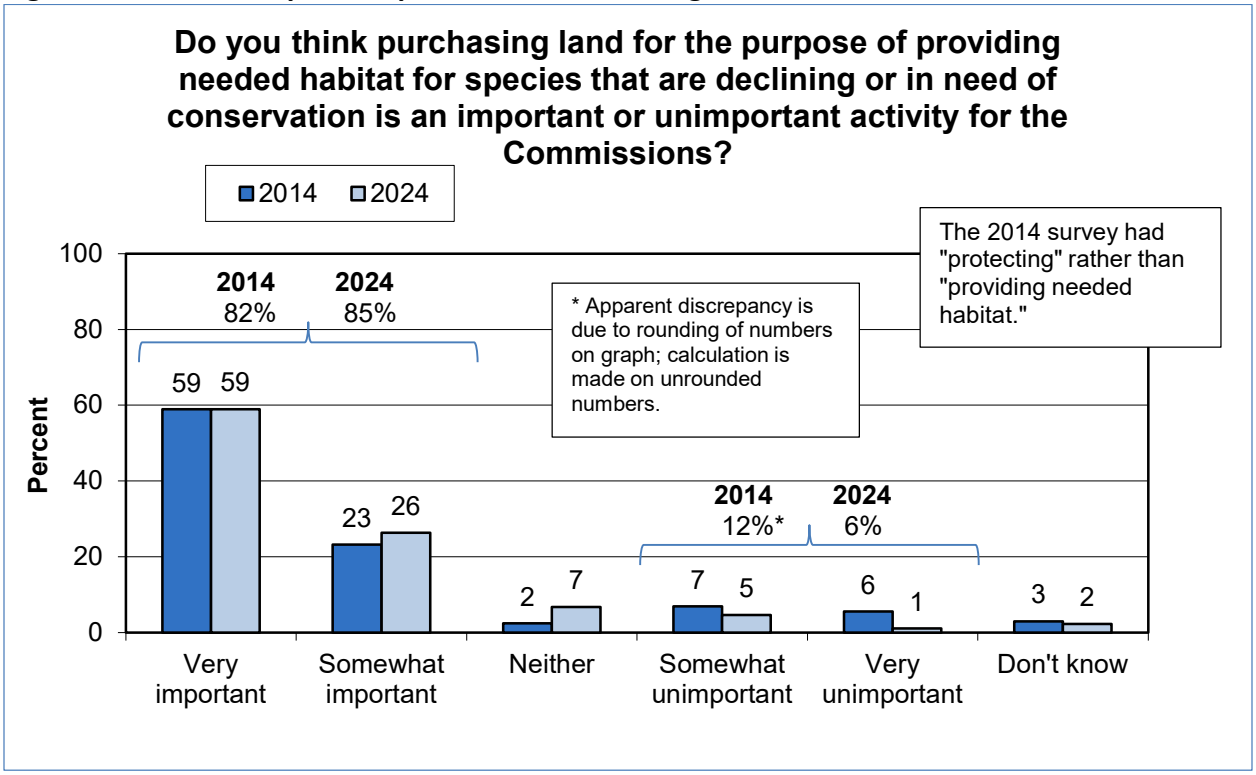


Figure 56. Trends Graph of Importance of Reintroducing Nongame Species

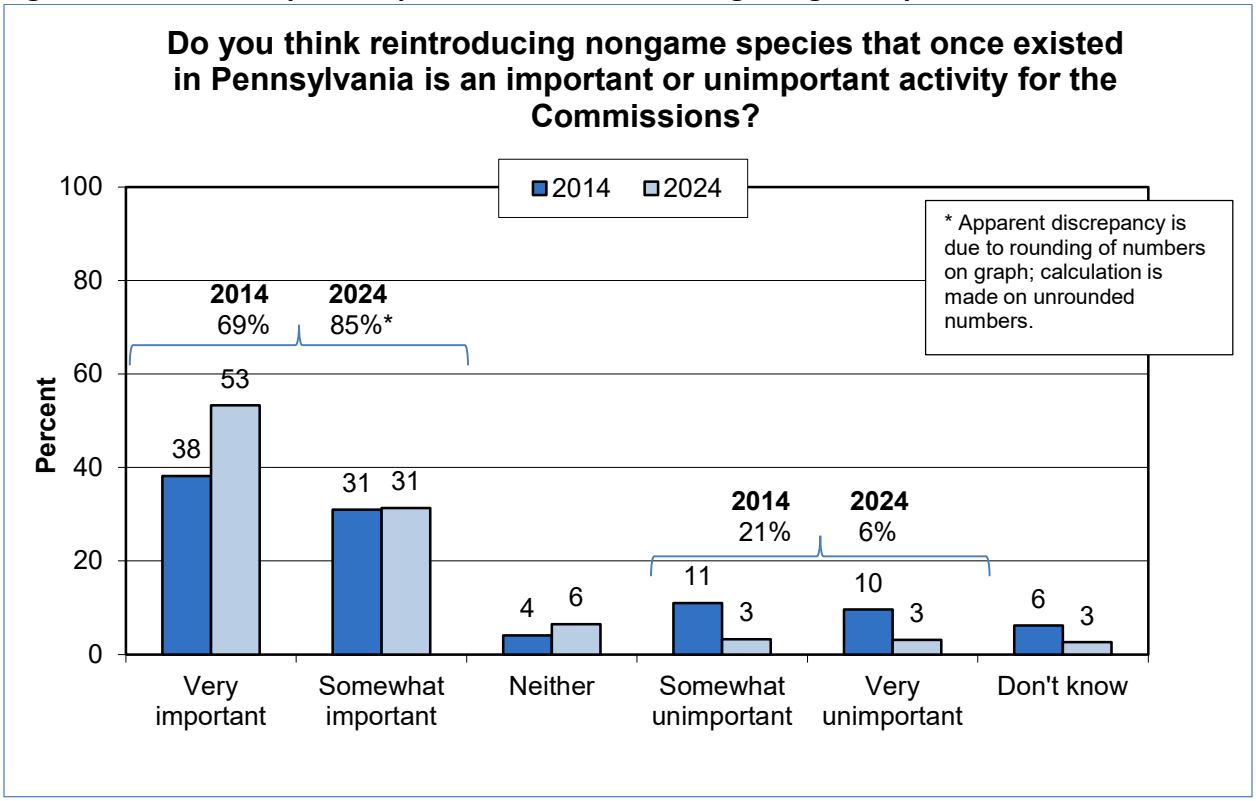


Figure 57. Trends Graph of Importance of Informing the Public About Nongame Wildlife

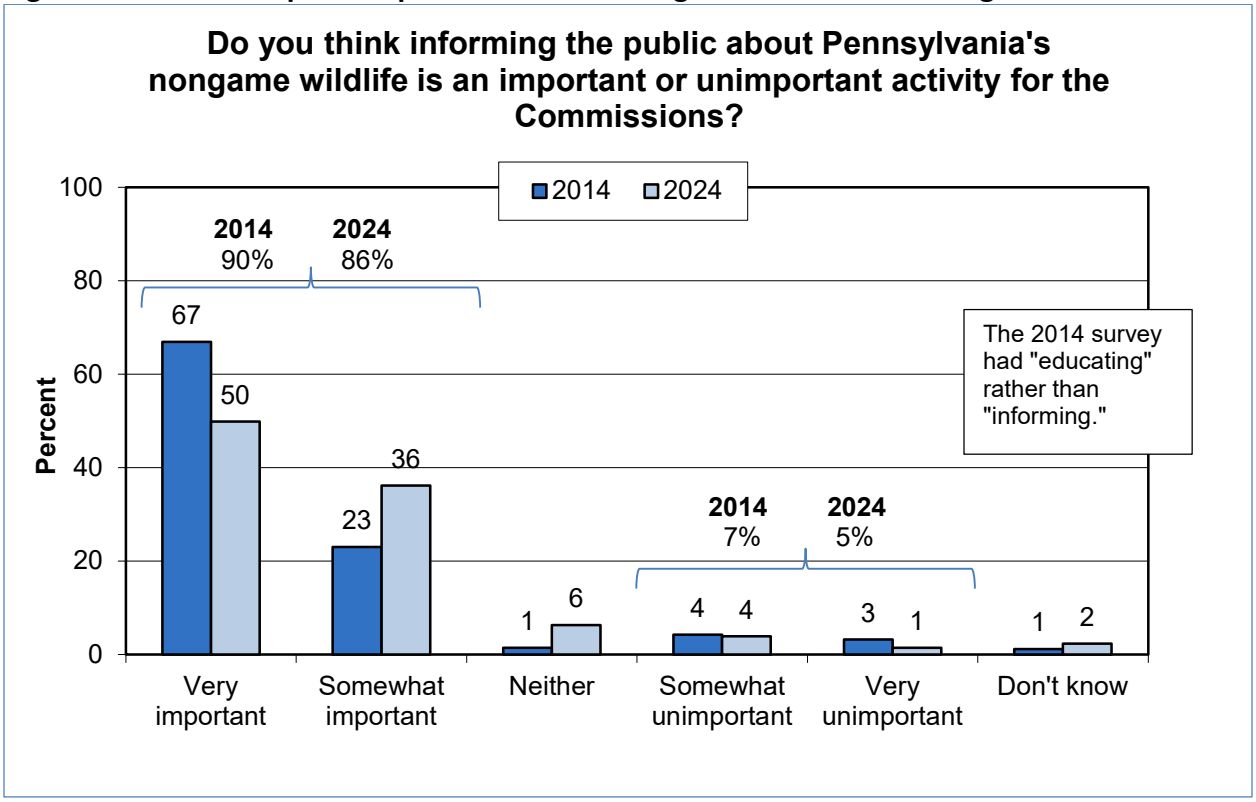


Figure 58. Trends Graph of Importance of Managing for a Variety of Nongame Species

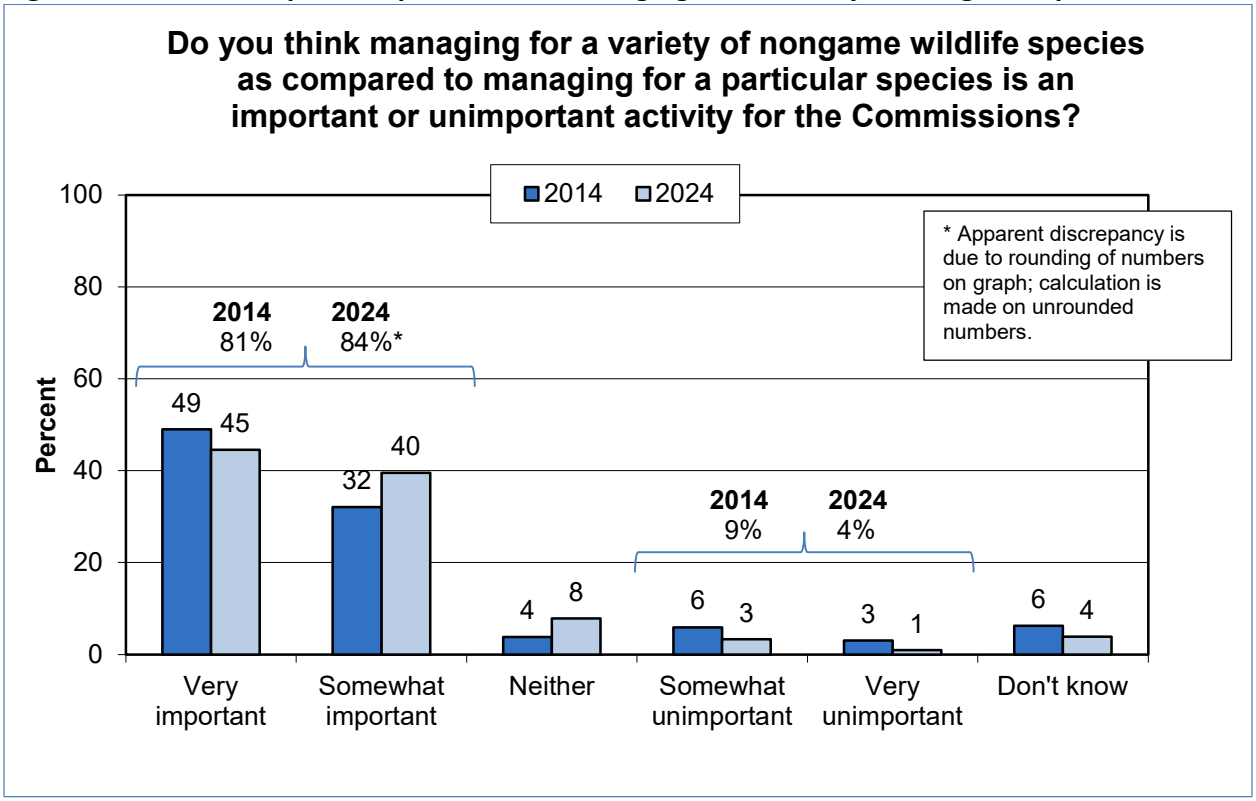


Figure 59. Trends Graph of Importance of Addressing Human-Wildlife Conflict

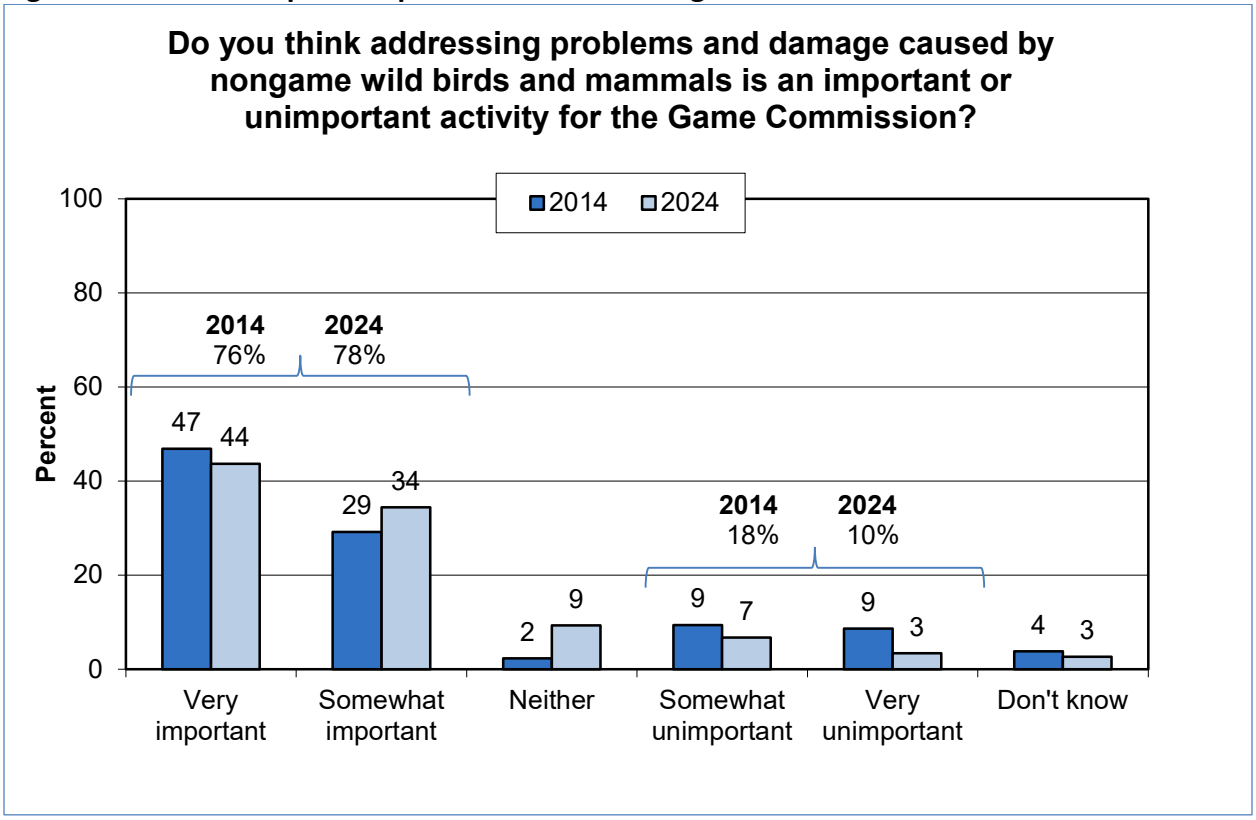


Table 16. Protecting threatened and endangered species (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	83	15	1	1	0	1
2	70	18	7	2	0	2
3	65	23	5	1	0	6
4	72	15	10	1	0	3
5	61	24	10	4	0	1
6	72	20	1	3	0	4
7	79	13	3	5	0	1
8	79	11	7	3	0	0
9	82	12	1	1	3	1
10	76	17	6	2	0	0
11	77	17	3	2	0	1
12	79	18	2	0	0	1
13	85	10	2	0	1	2
14	76	16	3	2	1	3
15	85	13	0	1	1	0
16	80	13	4	2	0	1
17	71	20	5	1	0	3
Overall	76	16	4	2	0	2

Table 17. Enforcing wildlife laws (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	81	14	4	0	0	1
2	67	18	7	5	1	2
3	64	17	11	0	1	7
4	72	23	4	0	0	1
5	63	30	5	1	0	1
6	71	23	3	4	0	0
7	74	15	9	0	0	1
8	89	7	2	1	0	0
9	91	7	2	0	0	0
10	73	19	5	1	0	1
11	70	19	9	0	0	2
12	80	17	2	0	0	1
13	77	18	2	2	0	2
14	74	15	8	0	2	1
15	78	19	1	1	0	1
16	79	15	4	0	0	1
17	71	19	3	0	0	8
Overall	75	17	5	1	0	2

Table 18. Preventing and controlling invasive species, that is, species that may adversely affect or disrupt habitats or other fish and wildlife (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	63	32	2	1	0	2
2	71	17	8	1	0	3
3	67	22	9	0	1	1
4	73	16	5	0	2	4
5	61	27	8	0	0	4
6	75	13	12	0	0	0
7	76	15	7	0	0	2
8	79	11	2	4	0	4
9	83	14	1	1	0	1
10	75	19	3	1	0	2
11	77	11	4	3	0	5
12	75	19	4	1	0	1
13	86	10	2	1	0	2
14	70	21	3	0	1	6
15	81	14	4	0	1	0
16	80	15	5	0	0	1
17	77	19	0	0	0	3
Overall	75	17	5	1	0	2

Table 19. Restoring and improving habitat for wildlife (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	72	23	3	1	1	0
2	69	24	2	2	2	1
3	67	17	9	0	0	7
4	73	15	4	4	0	4
5	56	36	6	1	0	1
6	74	19	2	2	3	0
7	67	25	5	0	0	2
8	83	14	1	0	0	2
9	86	9	3	2	1	0
10	77	16	6	1	0	0
11	76	16	5	1	0	1
12	71	24	2	2	0	1
13	79	15	3	2	0	0
14	70	20	3	1	1	5
15	86	11	1	0	1	0
16	70	21	7	0	0	2
17	70	20	3	0	0	6
Overall	73	19	4	1	1	2

Table 20. Addressing wildlife diseases (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	69	20	4	3	0	3
2	68	18	8	4	1	1
3	55	22	12	0	0	10
4	61	30	4	1	1	3
5	50	36	8	3	2	0
6	68	21	5	6	0	0
7	74	20	1	0	3	1
8	77	15	5	1	0	3
9	89	8	1	0	0	1
10	75	22	1	1	1	0
11	70	26	3	0	0	1
12	71	21	7	0	0	1
13	63	27	6	1	2	1
14	80	15	2	2	0	1
15	88	8	3	0	1	1
16	71	27	1	0	1	0
17	66	21	5	1	0	6
Overall	70	21	4	1	1	2

Table 21. Implementing conservation actions, such as habitat protection or improvement, for nongame species that are at risk before they become endangered (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	62	31	6	0	0	1
2	57	31	8	0	1	2
3	60	24	4	0	1	11
4	64	28	3	1	0	4
5	56	33	8	0	0	2
6	63	27	3	4	0	3
7	59	30	10	0	0	1
8	81	12	2	1	1	3
9	69	23	1	4	2	1
10	64	25	7	1	1	2
11	71	20	6	1	1	2
12	61	28	9	3	0	0
13	57	37	1	5	0	0
14	60	28	8	1	0	3
15	68	24	3	3	2	0
16	71	23	5	1	0	0
17	49	37	2	4	0	7
Overall	63	27	5	2	0	2

Table 22. Purchasing land for the purpose of providing needed habitat for species that are declining or in need of conservation (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	57	27	3	11	1	1
2	54	31	11	1	1	2
3	63	19	9	3	0	7
4	53	27	14	1	1	3
5	55	30	6	5	2	2
6	58	27	6	5	1	2
7	56	26	6	9	0	3
8	62	26	7	1	1	4
9	60	27	4	8	1	0
10	57	35	3	5	0	0
11	67	22	4	3	0	3
12	59	29	9	1	0	2
13	66	21	4	7	1	1
14	56	26	10	3	2	3
15	69	19	4	3	4	1
16	64	17	9	4	4	3
17	44	39	8	6	0	3
Overall	59	26	7	5	1	2

Table 23. Taking action to protect or recover nongame species (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	67	25	5	2	0	1
2	58	25	4	11	1	2
3	55	29	8	1	0	7
4	55	29	10	0	0	5
5	43	39	11	4	2	1
6	48	34	10	5	0	3
7	63	27	7	1	0	3
8	62	26	5	2	0	6
9	64	25	3	6	0	1
10	54	32	8	4	1	2
11	56	31	7	5	1	1
12	62	25	5	6	0	2
13	39	43	6	5	4	3
14	58	38	2	1	1	1
15	54	34	3	3	6	1
16	53	32	5	7	1	2
17	44	35	8	4	1	8
Overall	55	31	6	4	1	3

Table 24. Reintroducing nongame species that once existed in Pennsylvania (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	67	27	4	1	0	1
2	61	28	7	0	0	5
3	55	36	1	3	1	4
4	56	32	3	3	2	5
5	47	35	9	2	3	4
6	55	27	7	5	4	2
7	63	24	6	1	2	3
8	54	34	4	4	3	0
9	56	33	5	3	1	2
10	39	48	8	2	3	1
11	53	35	2	6	2	1
12	56	32	6	3	0	3
13	47	29	10	3	9	3
14	40	31	15	4	8	3
15	50	25	8	7	9	0
16	56	28	8	2	5	0
17	54	26	4	7	0	8
Overall	53	31	6	3	3	3

Table 25. Informing the public about Pennsylvania's nongame wildlife (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	50	39	5	4	2	0
2	52	26	7	10	5	0
3	51	31	10	1	1	6
4	49	46	1	0	2	2
5	49	42	4	2	0	3
6	50	39	6	3	0	3
7	56	33	7	1	0	3
8	50	32	7	7	0	3
9	58	29	6	6	1	0
10	43	50	5	1	1	0
11	55	32	5	6	2	1
12	52	39	6	3	0	1
13	50	32	4	7	3	4
14	41	32	15	7	2	2
15	51	36	4	5	3	1
16	46	38	7	2	3	3
17	39	39	10	4	1	7
Overall	50	36	6	4	1	2

Table 26. Managing for a variety of nongame wildlife species as compared to managing for a particular species (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	33	51	10	1	0	5
2	54	34	7	1	1	3
3	35	38	16	2	1	7
4	47	40	7	3	0	4
5	46	36	11	4	0	2
6	50	37	7	3	1	1
7	46	40	9	3	0	2
8	52	32	4	4	0	8
9	50	40	7	2	0	1
10	47	40	11	2	0	0
11	43	36	10	7	1	3
12	46	38	7	3	0	6
13	37	46	7	3	1	6
14	47	36	6	2	3	6
15	36	48	5	6	3	1
16	41	43	5	6	3	2
17	48	37	5	3	0	8
Overall	45	40	8	3	1	4

Table 27. Addressing problems and damage caused by nongame wild birds and mammals (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	49	30	8	8	4	1
2	49	25	9	5	9	3
3	44	33	7	7	2	7
4	41	35	12	2	3	6
5	38	42	11	5	0	3
6	46	39	9	4	0	2
7	50	39	8	2	1	1
8	49	25	13	8	4	2
9	55	25	9	5	6	1
10	40	40	7	8	2	3
11	43	23	12	11	7	3
12	46	36	11	4	0	2
13	41	37	7	7	7	2
14	39	40	7	6	4	4
15	34	43	6	11	5	1
16	43	33	9	10	4	1
17	34	37	12	10	3	4
Overall	44	34	9	7	3	3

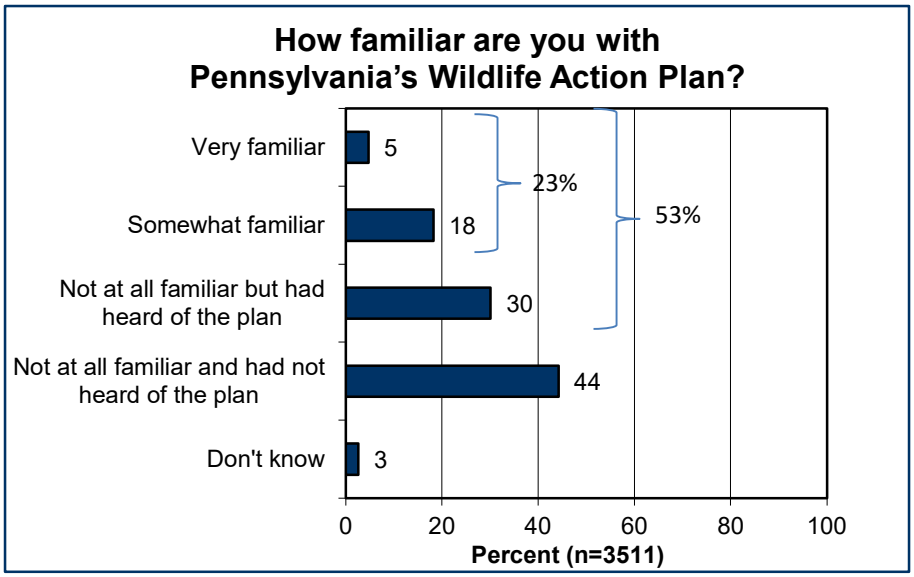
Table 28. Providing opportunities for nongame fish or wildlife viewing (Do you think this is an important or unimportant activity for the Commissions?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	38	46	11	3	1	1
2	44	34	12	5	4	2
3	41	34	15	3	0	7
4	37	42	14	4	1	3
5	34	48	11	2	1	3
6	37	48	7	6	1	1
7	42	49	6	2	0	2
8	42	37	10	8	1	3
9	43	38	5	8	5	1
10	31	46	13	4	5	1
11	46	36	9	6	1	3
12	37	41	13	7	0	2
13	30	45	7	11	4	3
14	39	39	11	5	3	4
15	34	45	12	6	3	1
16	37	40	6	11	2	4
17	37	35	10	8	4	6
Overall	38	41	10	6	2	3

PENNSYLVANIA'S WILDLIFE ACTION PLAN

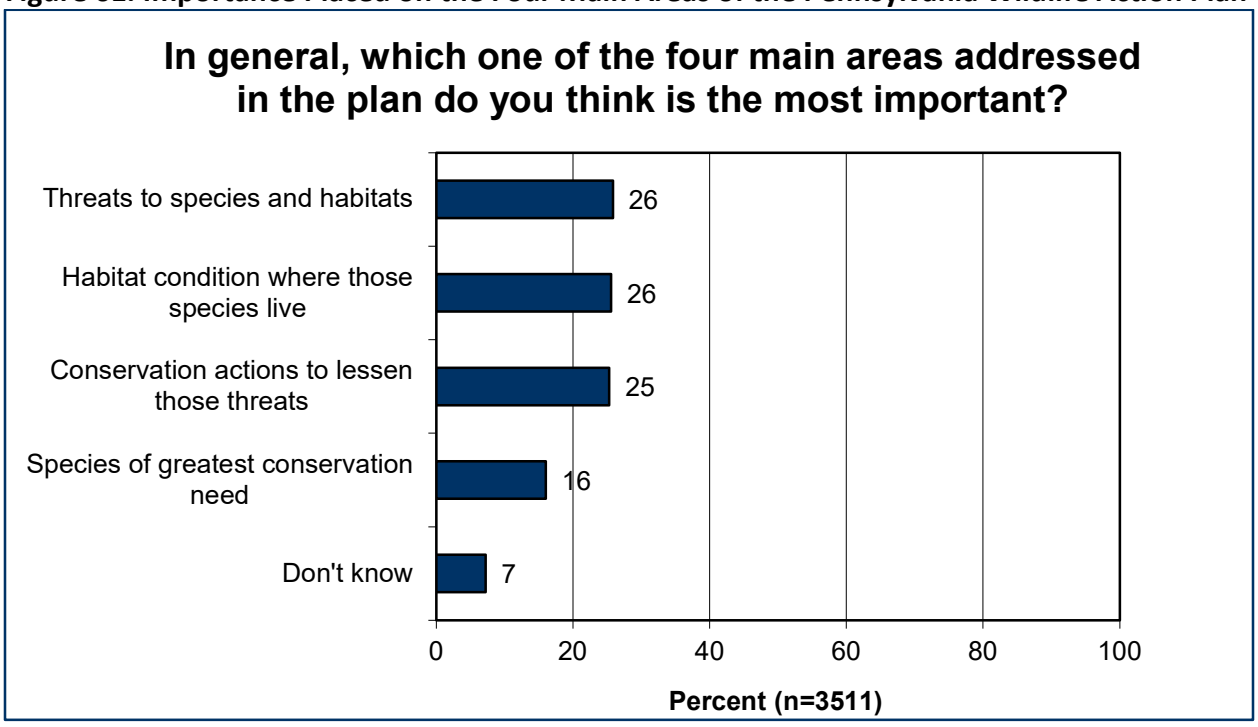
About half of Pennsylvania residents indicate that they had heard of the Pennsylvania Wildlife Action Plan, with 23% indicating some familiarity with it (although only 5% say that they are *very* familiar with it.)

Figure 60. Familiarity with Pennsylvania's Wildlife Action Plan



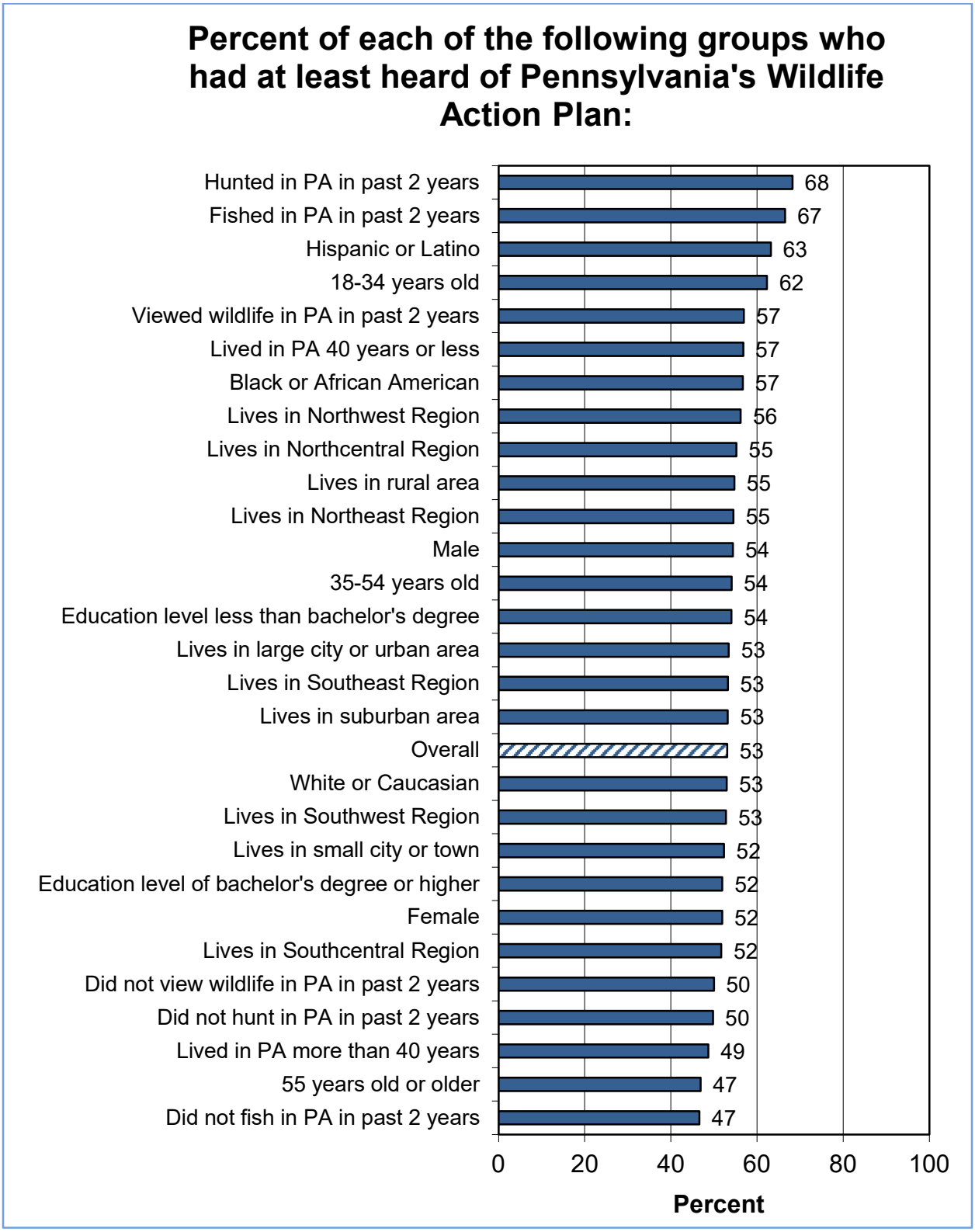
The survey then presented the four main areas of information in the Pennsylvania Wildlife Action Plan and asked residents to choose the one area addressed in the plan that they think is the most important. Pennsylvania residents are fairly evenly split: three of the main areas (threats to species and habitats, habitat condition where those species live, and conservation actions to lessen those threats) have similar prioritization.

Figure 61. Importance Placed on the Four Main Areas of the Pennsylvania Wildlife Action Plan



The groups most likely to have heard of Pennsylvania's Wildlife Action Plan include hunters and anglers, Hispanics, and young residents.

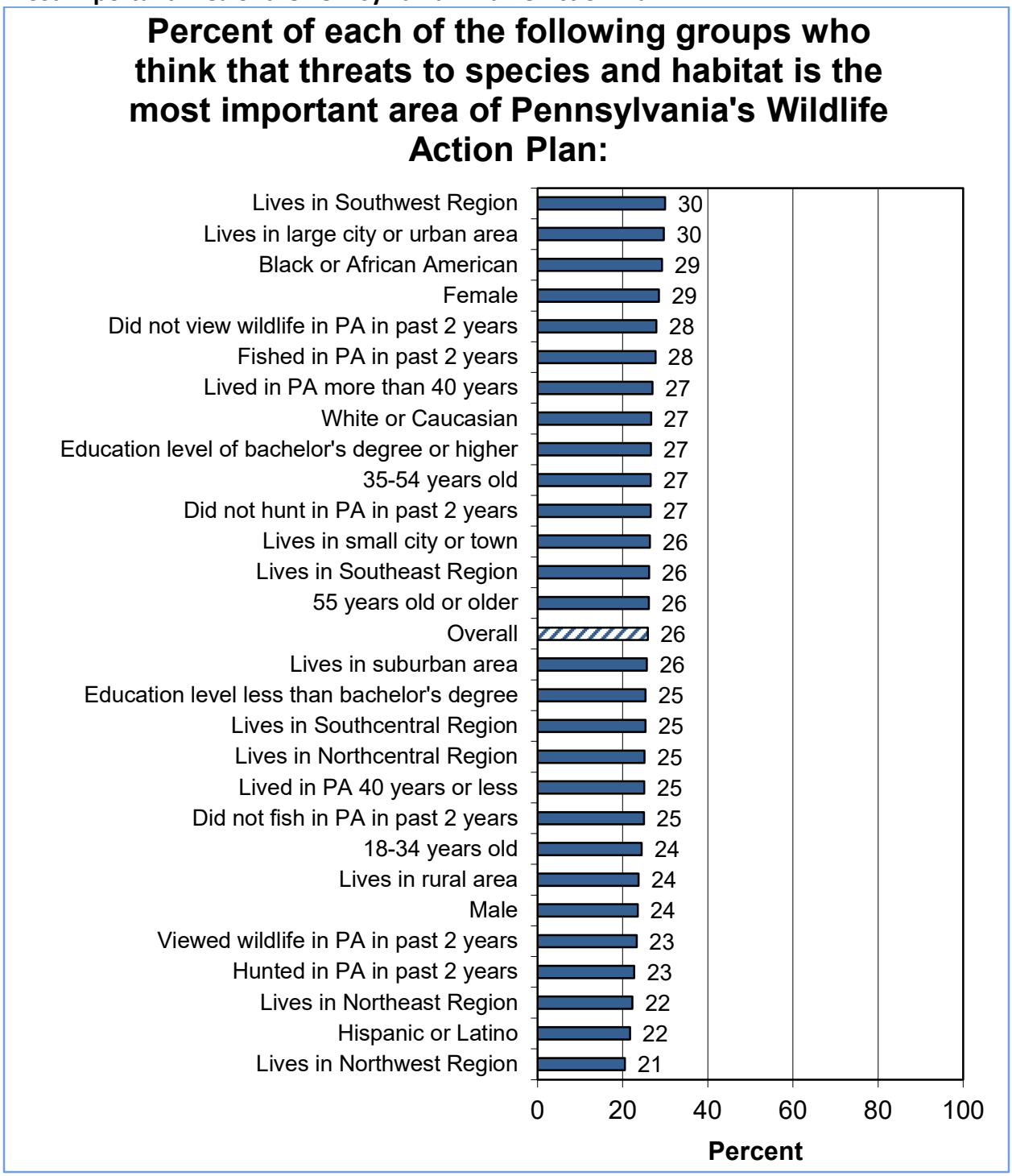
Figure 62. Demographic Analyses Graph of Familiarity With the Pennsylvania Wildlife Action Plan



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

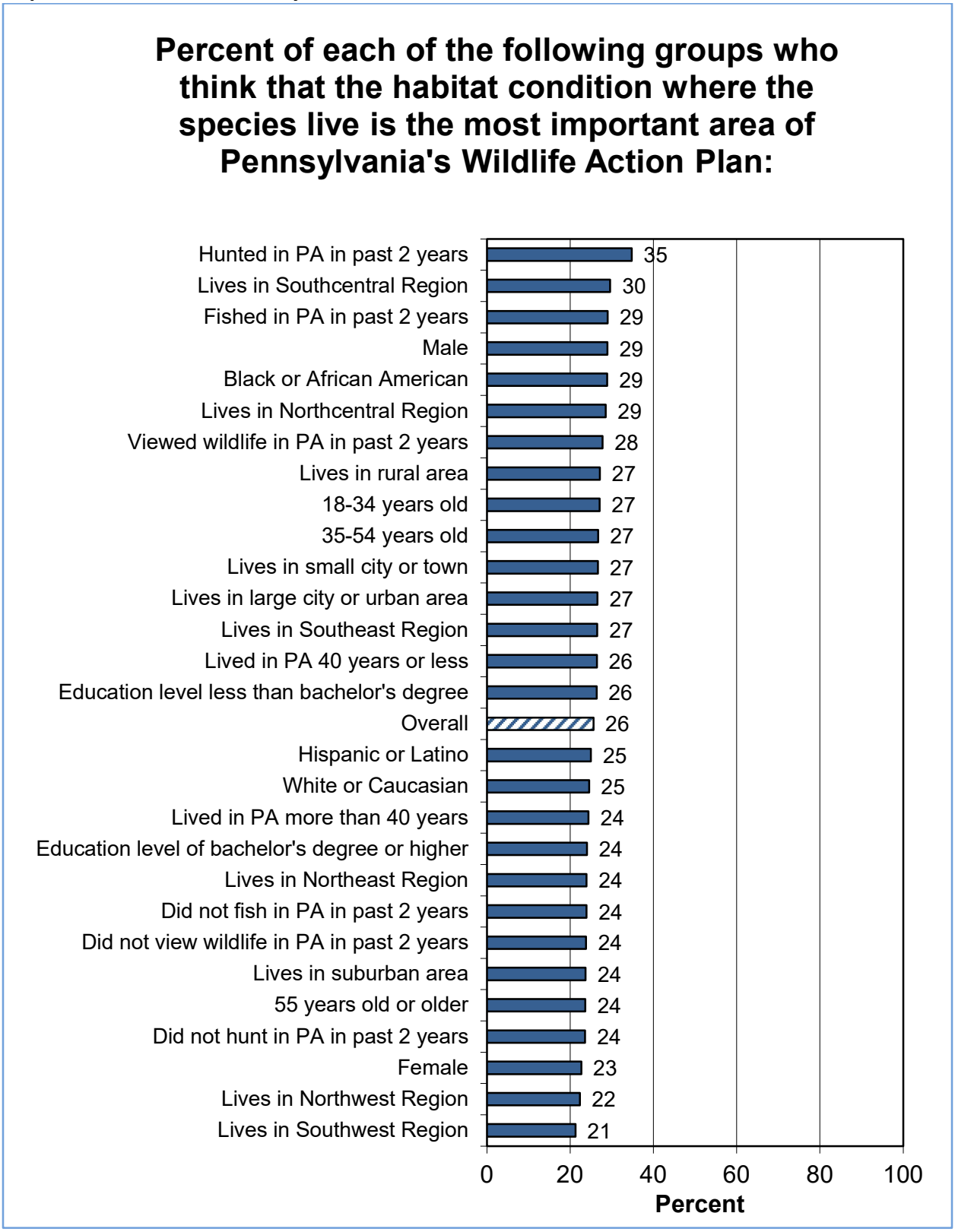
Overall, groups in the demographic analyses were not markedly different from each other. On two of the four areas of information, no group was markedly more likely than residents overall to select it. Hunters are the only group markedly more likely to select habitat condition where the species live, and Northwest Region residents are the only group more likely to select conservation actions to lessen the threats.

Figure 63. Demographic Analyses Graph of Thinking That Threats to Species and Habitat Is the Most Important Area of the Pennsylvania Wildlife Action Plan



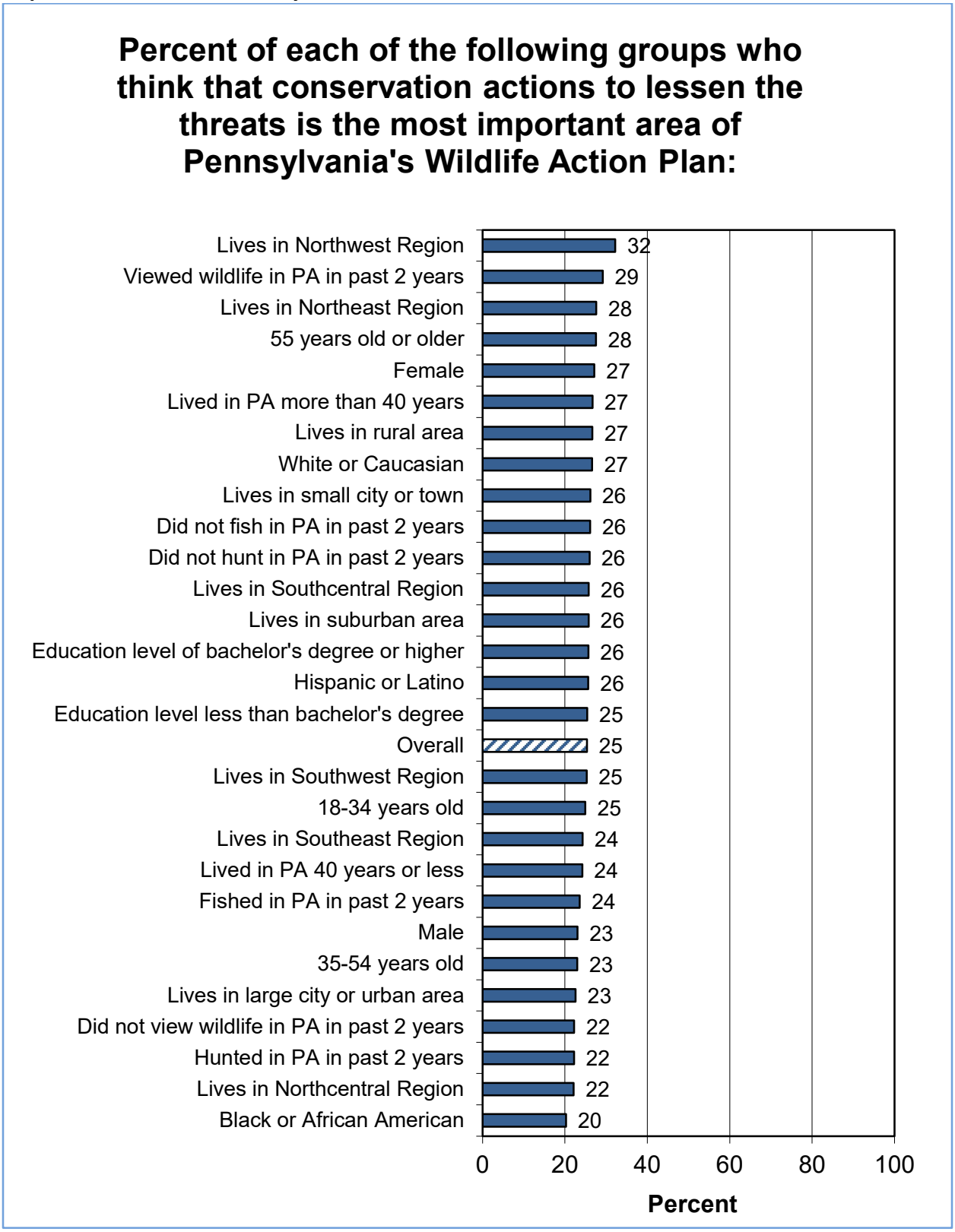
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 64. Demographic Analyses Graph of Thinking That Habitat Condition Is the Most Important Area of the Pennsylvania Wildlife Action Plan



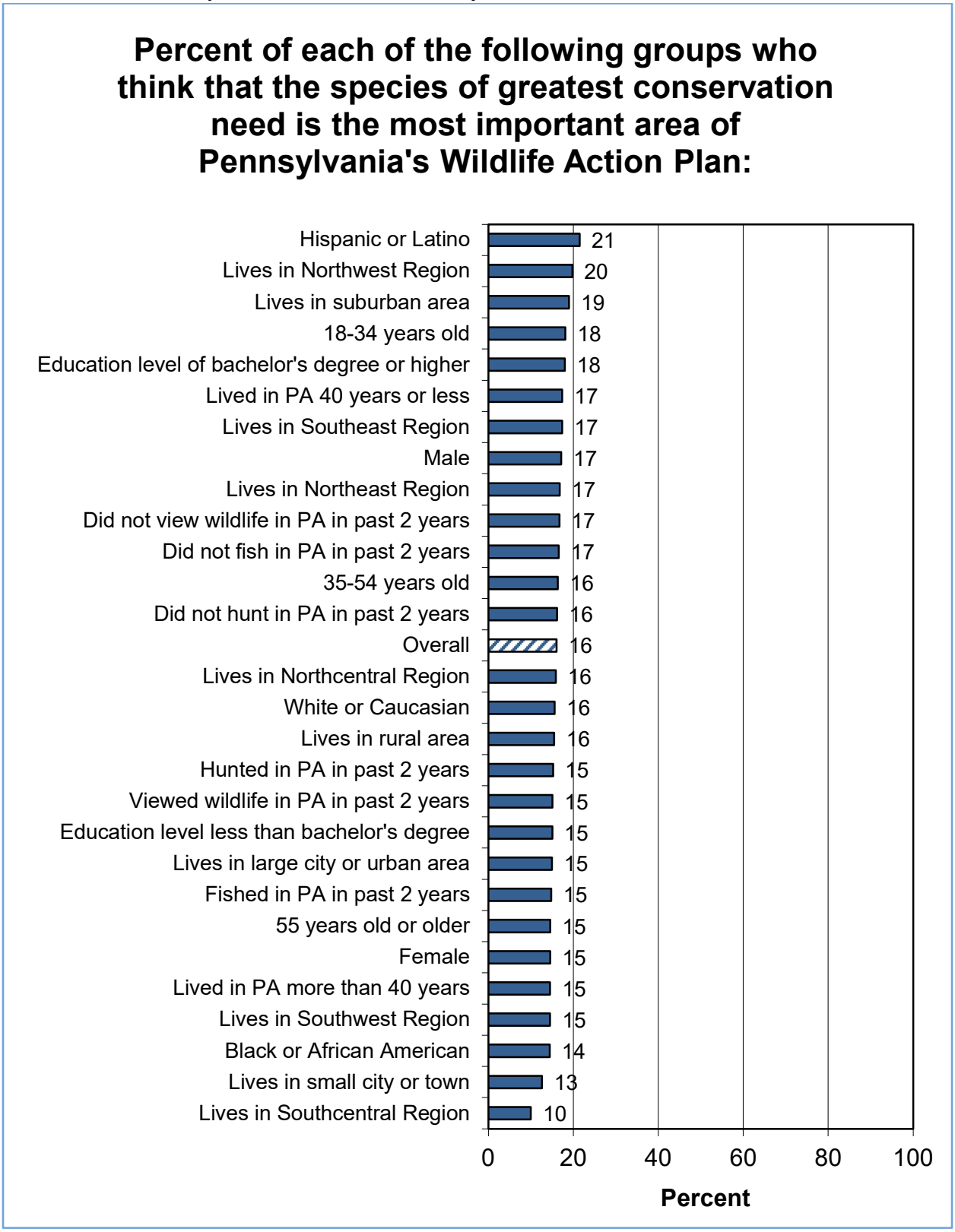
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 65. Demographic Analyses Graph of Thinking That Conservation Actions Is the Most Important Area of the Pennsylvania Wildlife Action Plan



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 66. Demographic Analyses Graph of Thinking That Species of Greatest Conservation Need Is the Most Important Area of the Pennsylvania Wildlife Action Plan



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

The trends graph shows a relatively large rise in the perceived importance of threats to species and habitats between 2014 and 2024.

Figure 67. Trends Graph of Importance Placed on the Four Main Areas of the Pennsylvania Wildlife Action Plan

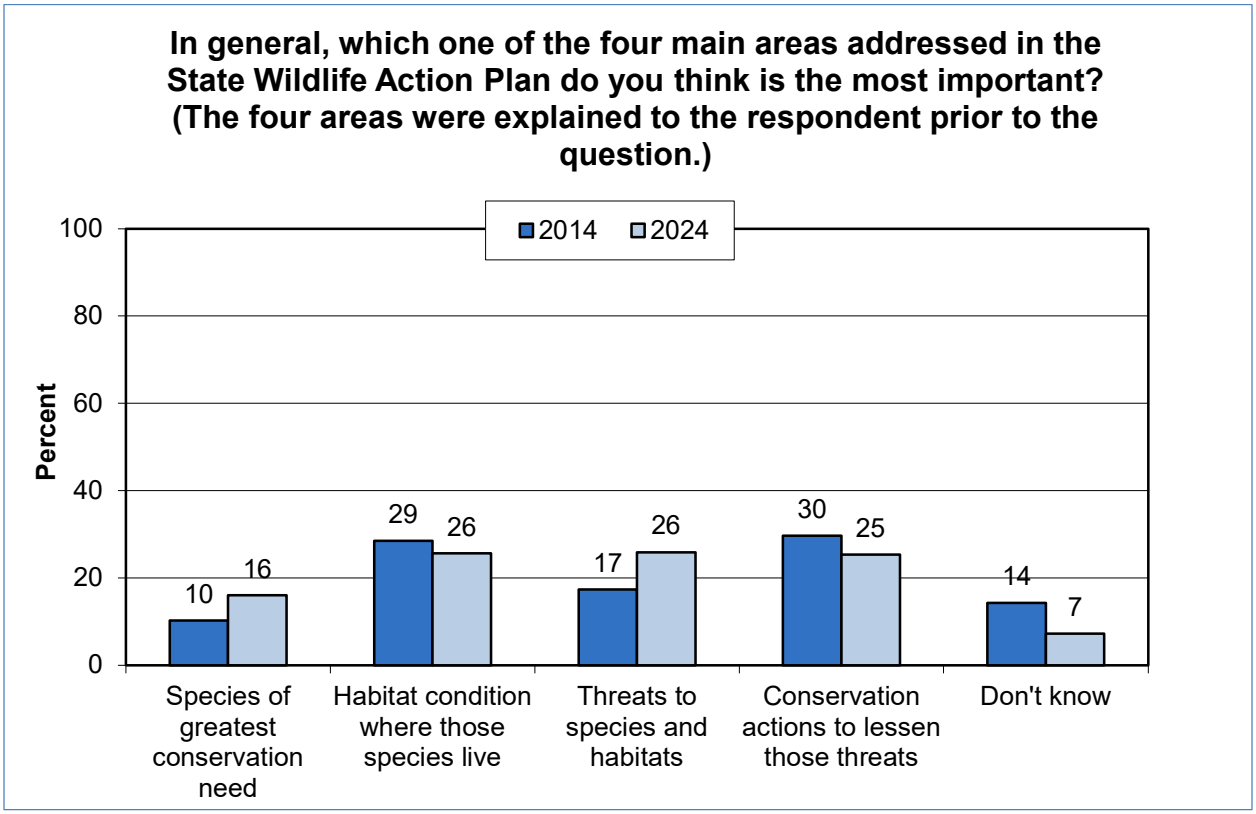


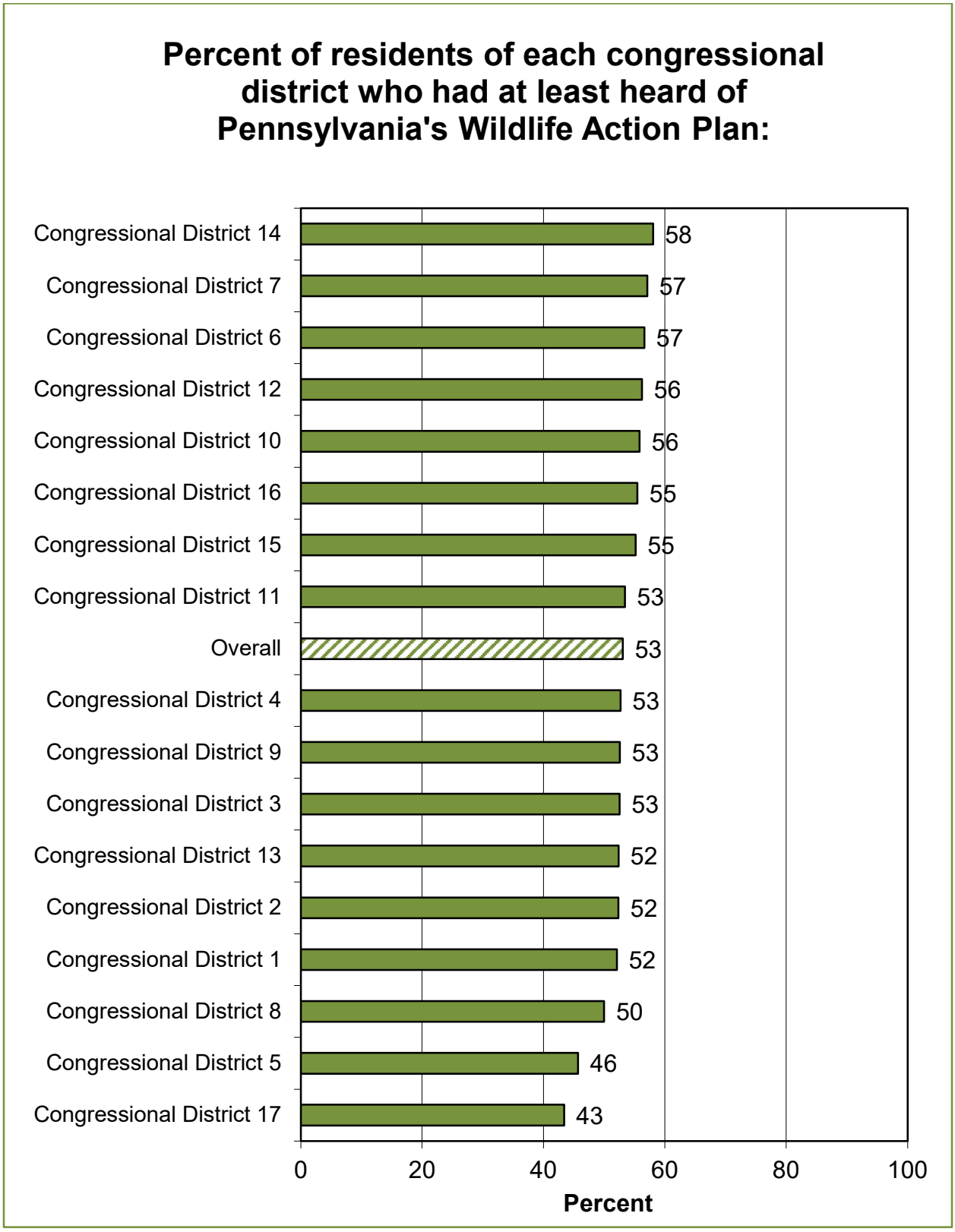
Table 29. How familiar are you with Pennsylvania's Wildlife Action Plan? (Graph shows percentages giving response.)

District	Very familiar	Somewhat familiar	Not at all familiar but had heard of the plan	Not at all familiar and had not heard of the plan	Don't know
1	3	17	32	47	1
2	7	15	30	46	1
3	9	14	30	41	7
4	8	16	29	45	2
5	4	18	24	53	2
6	2	18	37	41	2
7	6	17	34	41	2
8	4	10	36	49	1
9	5	23	25	45	2
10	5	21	29	40	4
11	1	20	32	41	6
12	6	17	33	40	3
13	2	26	24	46	2
14	6	21	31	38	4
15	6	20	29	43	2
16	3	21	32	43	1
17	4	13	26	52	4
Overall	5	18	30	44	3

Table 30. In general, which one of the four main areas addressed in the plan do you think is the most important? (Graph shows percentages giving response.)

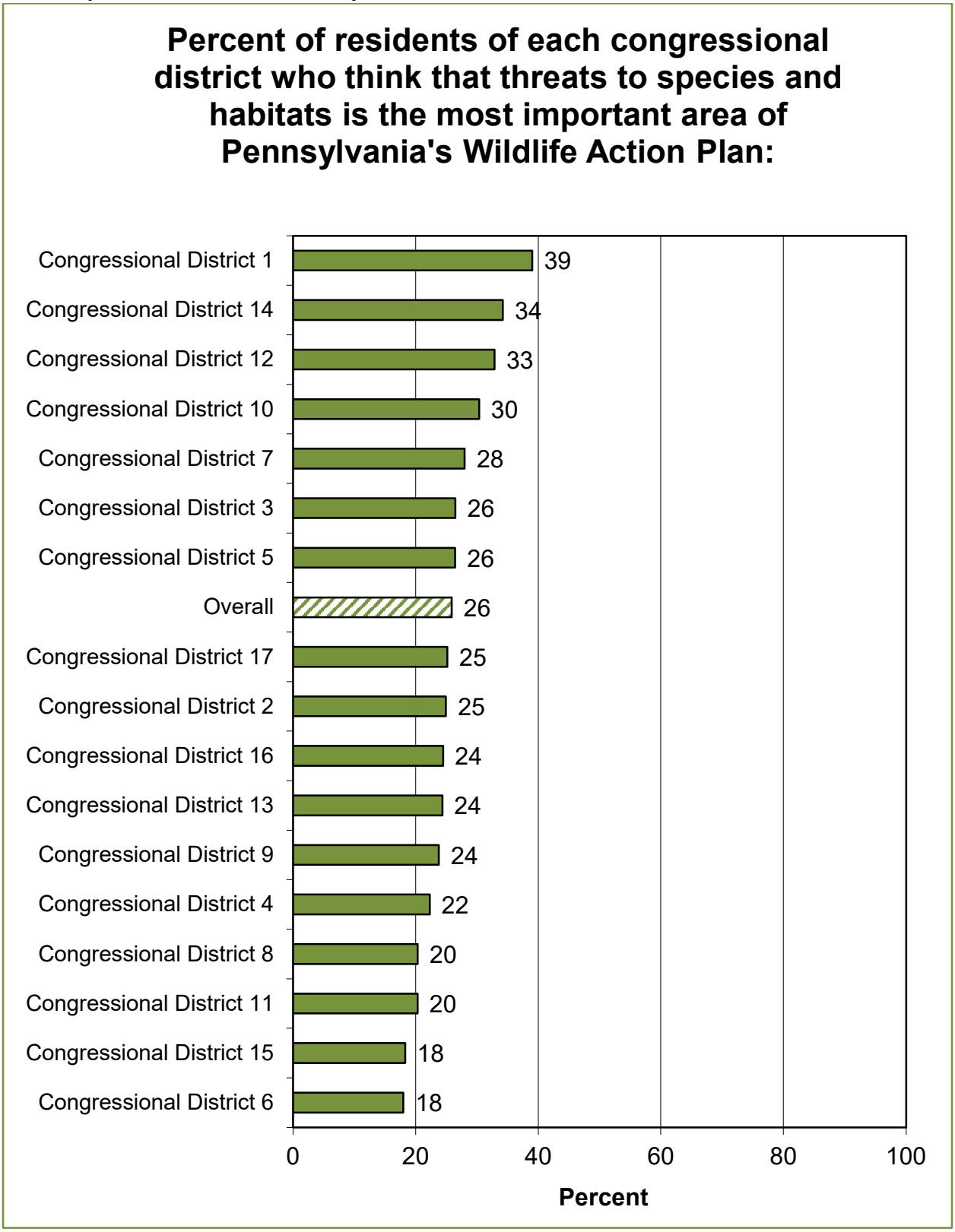
District	Habitat condition where those species live	Threats to species and habitats	Conservation actions to lessen those threats	Species of greatest conservation need	Don't know
1	18	39	19	20	4
2	29	25	23	19	5
3	23	26	20	19	12
4	26	22	28	16	7
5	21	26	29	18	5
6	33	18	26	20	4
7	31	28	21	17	3
8	21	20	28	18	12
9	31	24	25	14	6
10	27	30	27	9	7
11	33	20	24	14	9
12	21	33	25	15	6
13	25	24	28	10	12
14	20	34	22	16	8
15	30	18	24	20	8
16	23	24	33	15	5
17	25	25	27	13	10
Overall	26	26	25	16	7

Figure 68. Congressional District Graph of Familiarity With the Pennsylvania Wildlife Action Plan



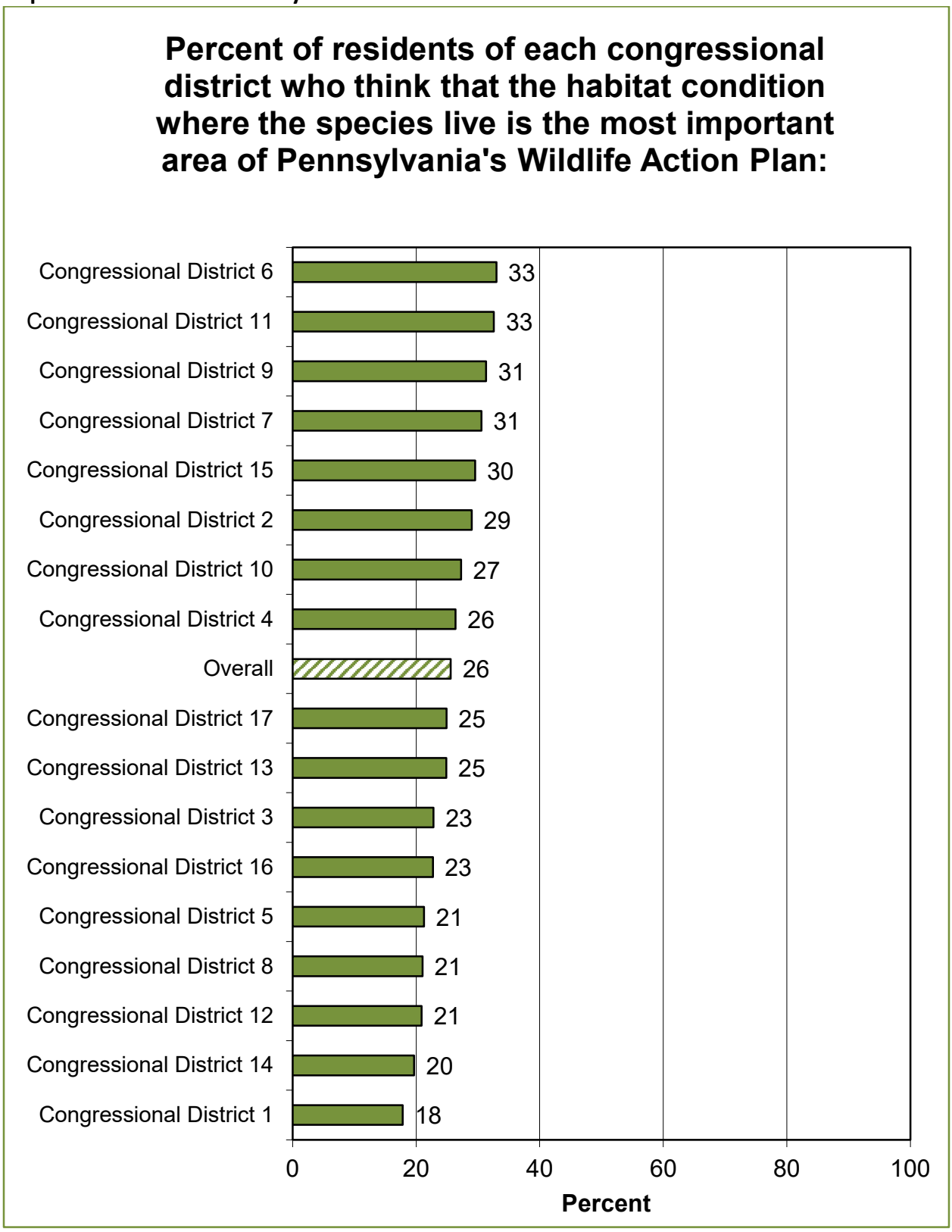
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 69. Congressional District Graph of Thinking That Threats to Species and Habitat Is the Most Important Area of the Pennsylvania Wildlife Action Plan



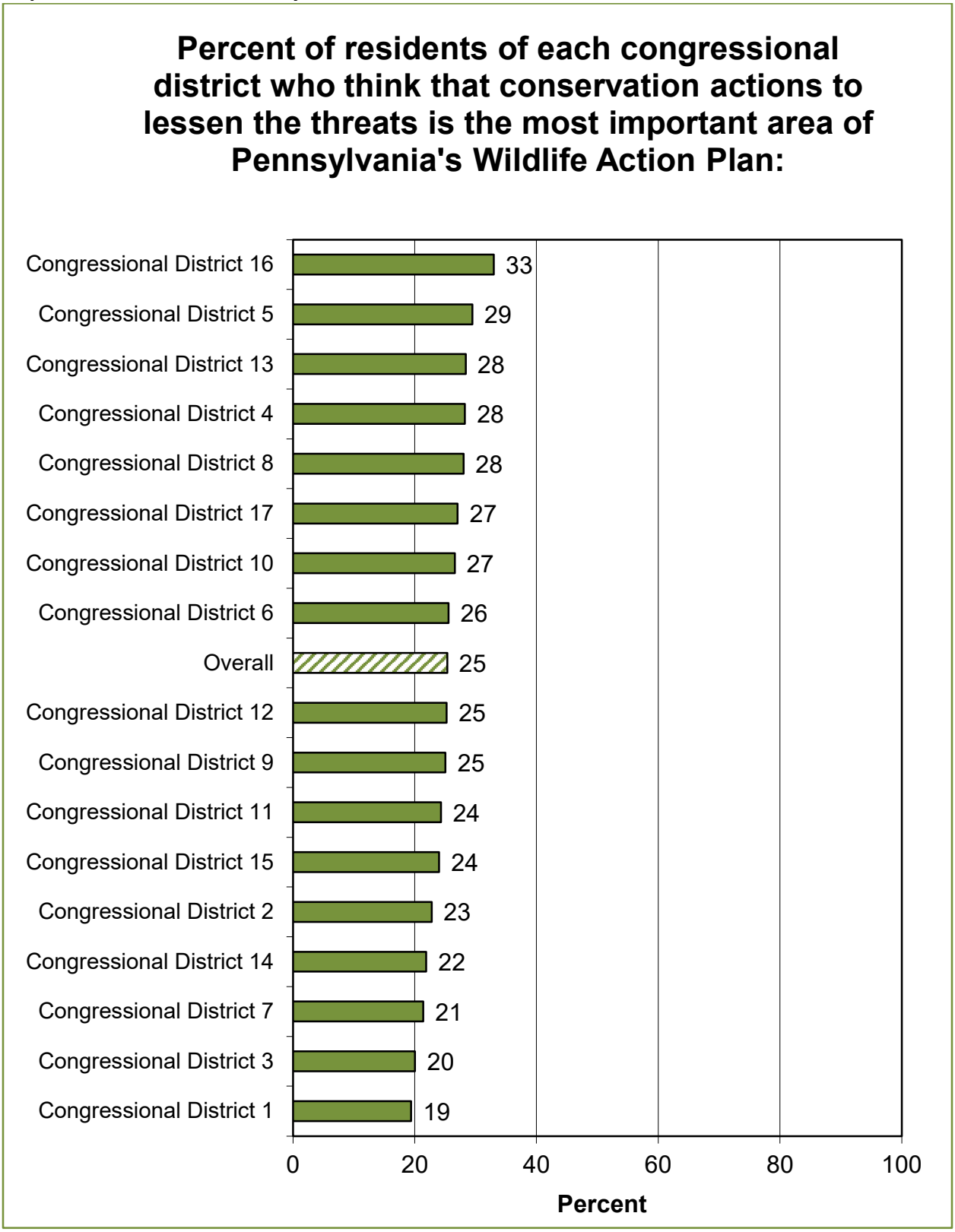
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 70. Congressional District Graph of Thinking That Habitat Condition Is the Most Important Area of the Pennsylvania Wildlife Action Plan



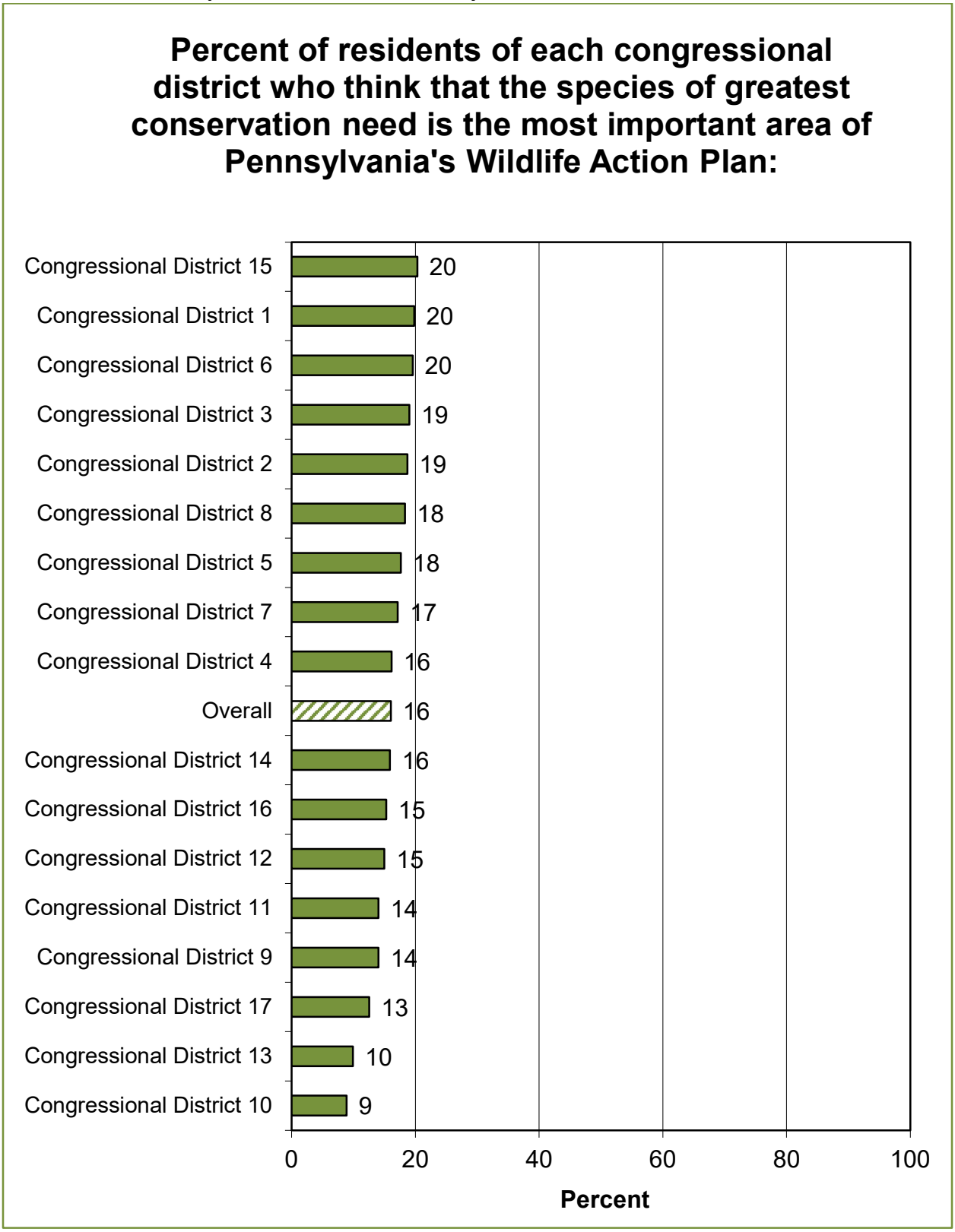
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 71. Congressional District Graph of Thinking That Conservation Actions Is the Most Important Area of the Pennsylvania Wildlife Action Plan



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 72. Congressional District Graph of Thinking That Species of Greatest Conservation Need Is the Most Important Area of the Pennsylvania Wildlife Action Plan



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

AGENCY RELEVANCY

The survey presented eight statements about the Commissions' values and communications to Pennsylvania residents and asked them if they agreed or disagreed with each. One set of questions was specific to the Game Commission, and the second set was specific to the Fish and Boat Commission. Six statements were exactly the same (e.g., Is a trusted source of information), and two statements were similar but not exactly the same (the Game Commission questions asked about managing nongame wildlife while the Fish and Boat Commission questions asked about managing nongame fish and other aquatic animals).

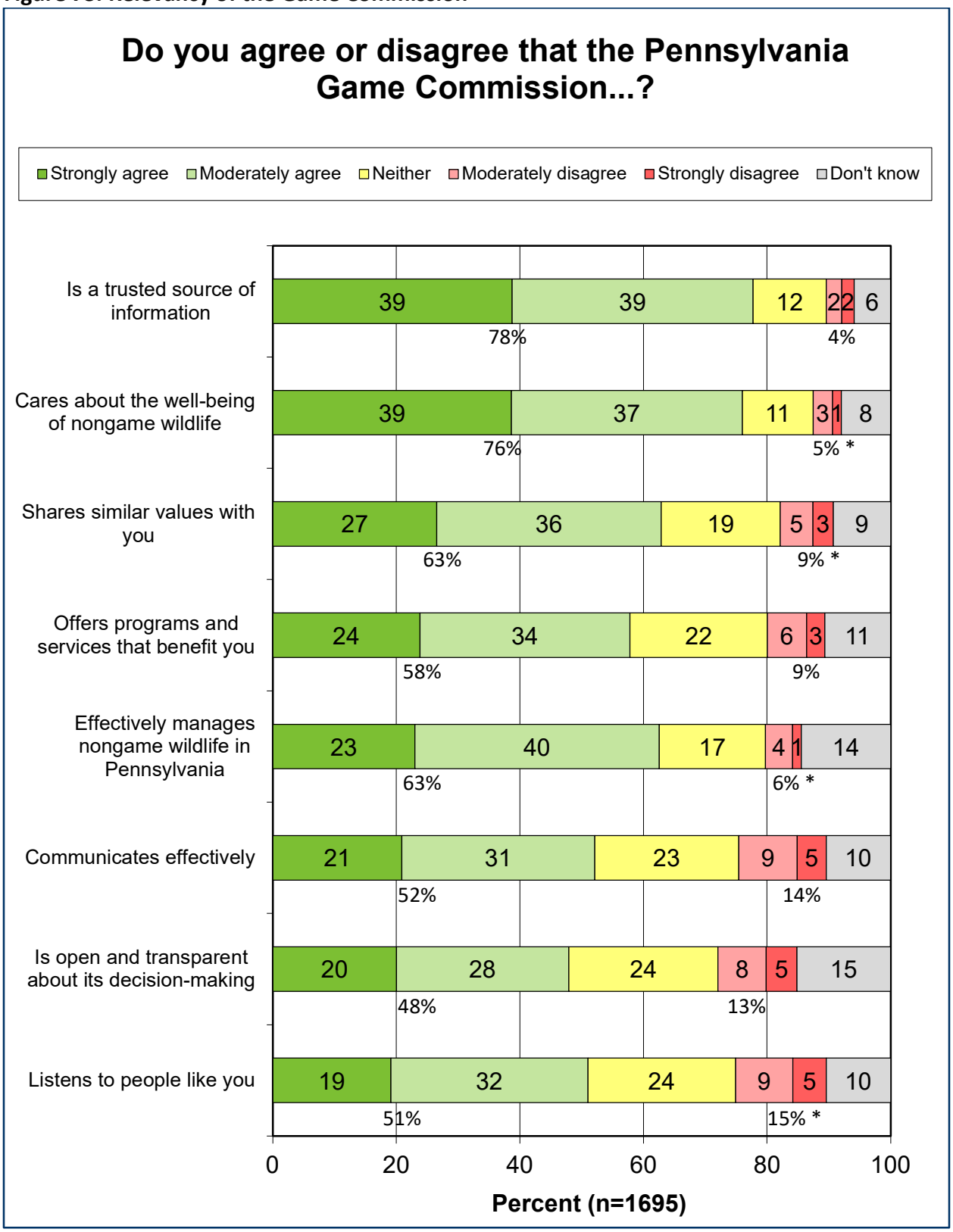
The overall results regarding the Game Commission are shown first, followed by the overall results regarding the Fish and Boat Commission. These graphs are sorted by *strongly* agree percentages from highest to lowest.

More than three quarters of respondents agree that the Game Commission is a trusted source of information and cares about the well-being of nongame wildlife. All but one statement has a majority agreeing with it, the exception being that the Game Commission is open and transparent about its decision-making, on which 48% agree. Note that lack of agreement is not the same as disagreement, as relatively large percentages responded with *neither* or *don't know*. In fact, the most disagreement for any statement is only 15%.

The results regarding the Fish and Boat Commission are similar, with essentially the same statements at top, each with three quarters of Pennsylvania residents agreeing that it is a trusted source of information and that it cares about the well-being of nongame fish and aquatic animals. The rest of the statements have at least half of residents agreeing.

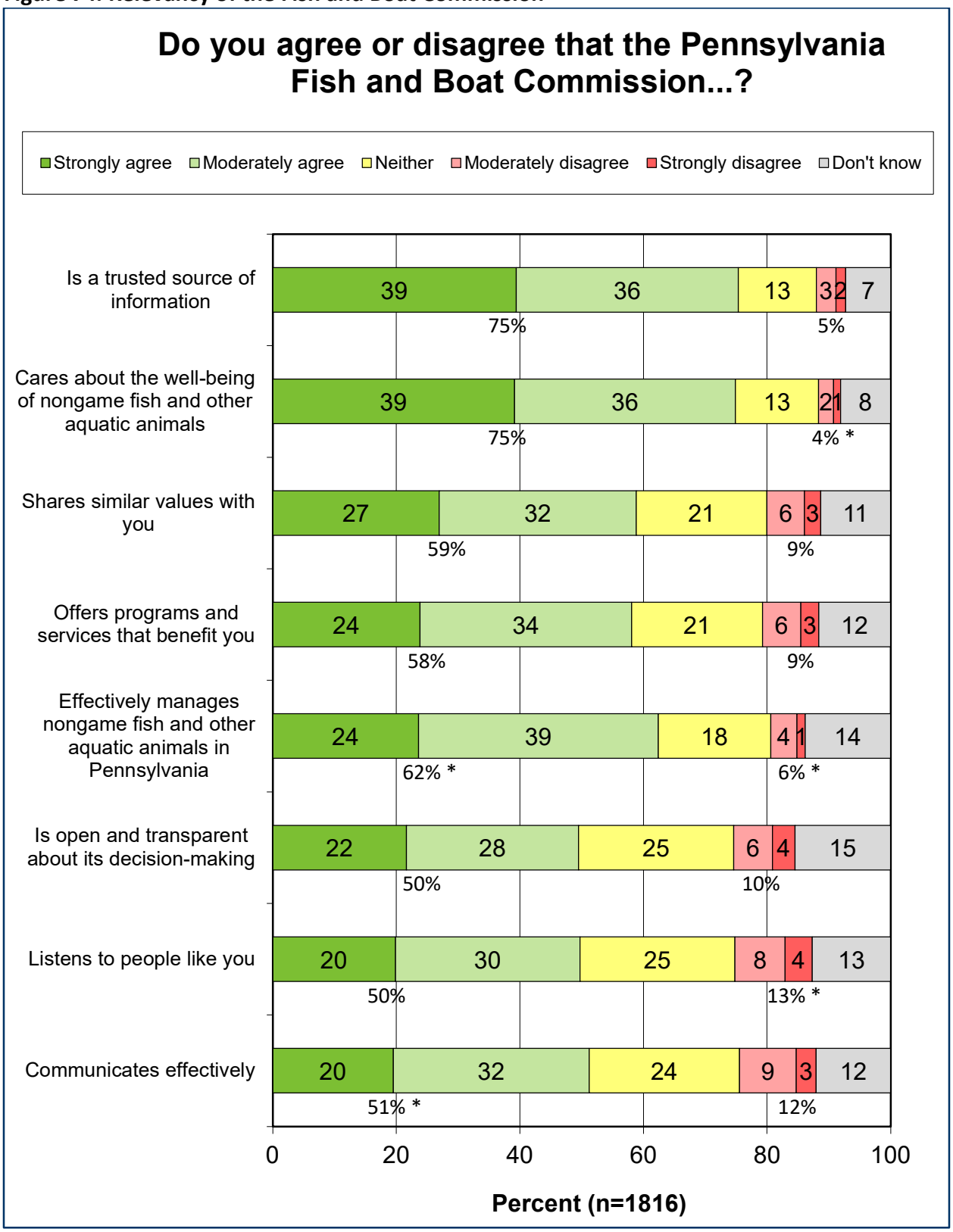
In comparing the ratings of each Commission, there are no marked differences. Ranges of agreement are 48% to 78% regarding the Game Commission and 50% to 75% regarding the Fish and Boat Commission. Disagreement ranges from 4% to 15% (Game Commission) and 4% to 13% (Fish and Boat Commission).

Figure 73. Relevancy of the Game Commission



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

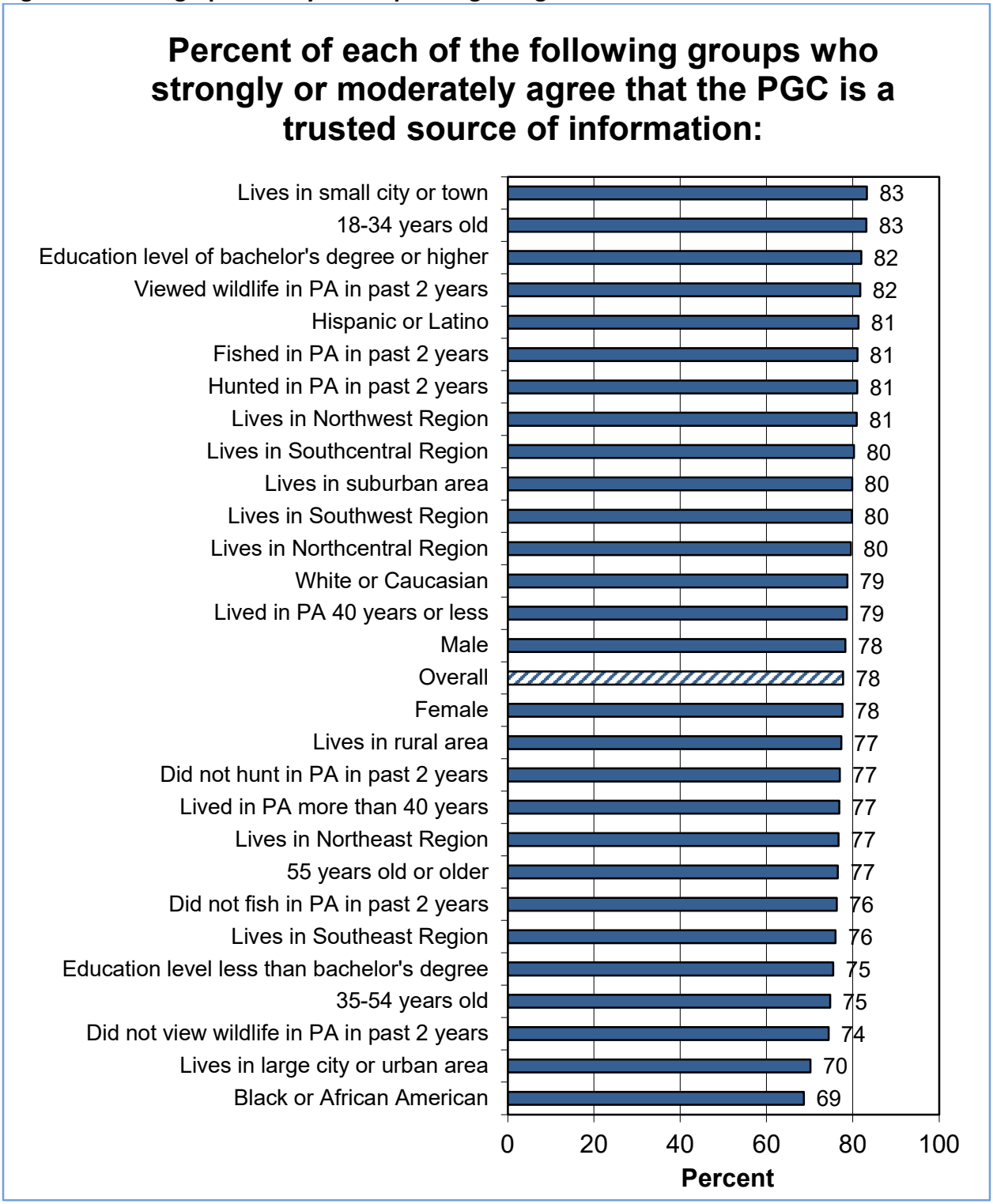
Figure 74. Relevancy of the Fish and Boat Commission



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Two questions from each series (the Game Commission series and the Fish and Boat Commission series) were selected for demographic analyses. Those from a small city or town and young residents are the most likely to agree that Game Commission is a trusted source of information.

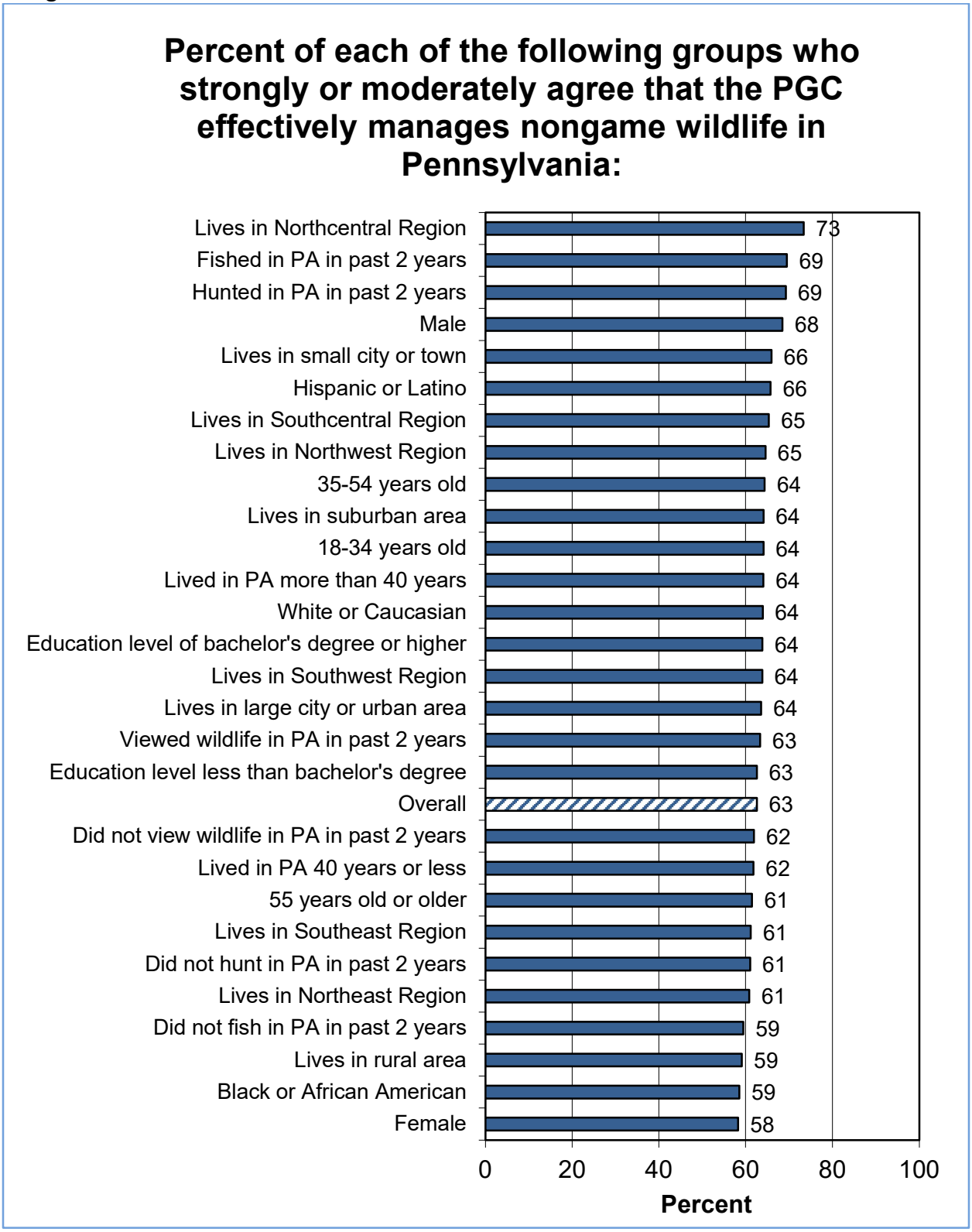
Figure 75. Demographic Analyses Graph of Agreeing That the PGC Is a Trusted Source



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

The groups most likely to agree that the Game Commission effectively manages nongame wildlife in Pennsylvania are Northcentral Region residents, anglers, hunters, and males.

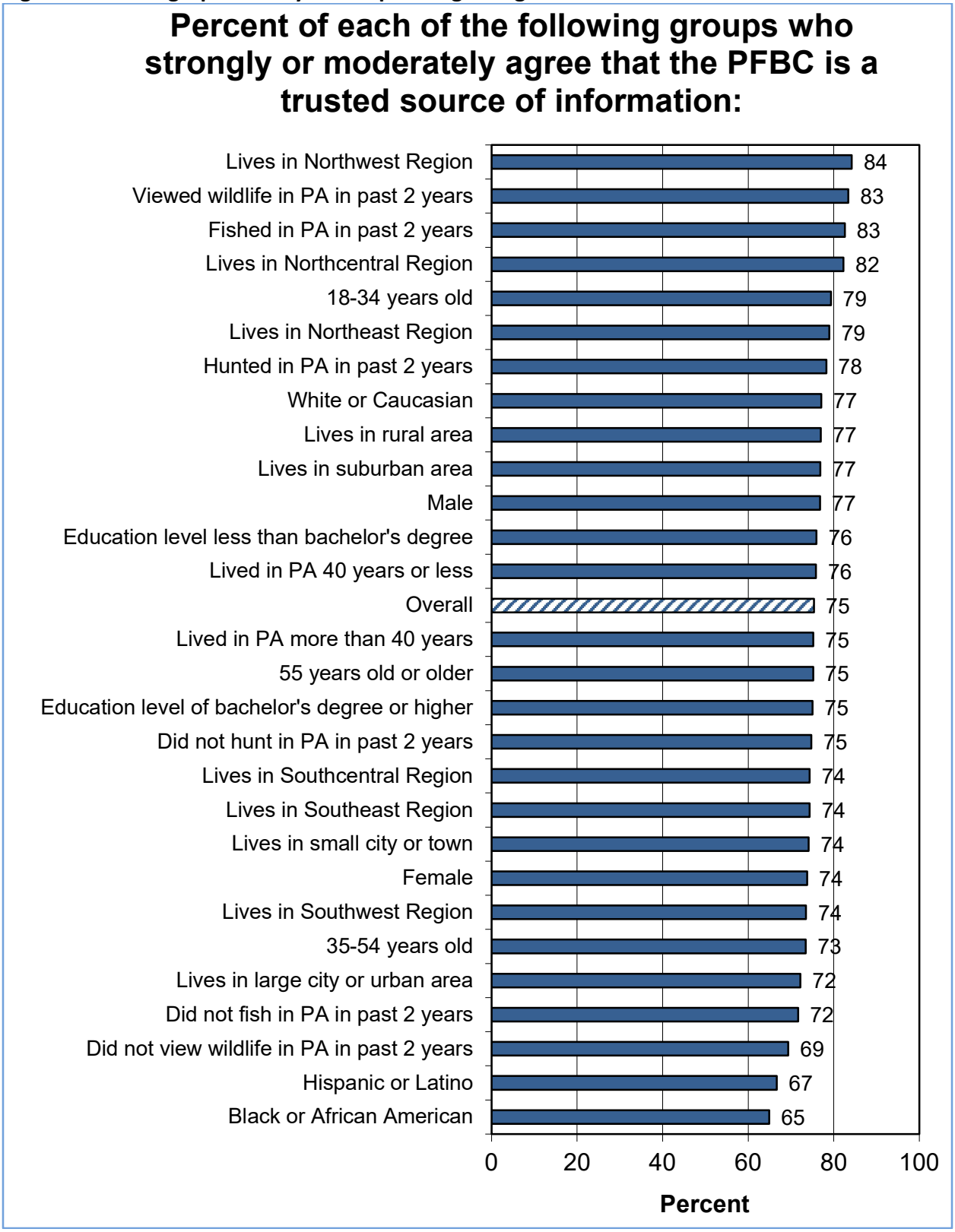
Figure 76. Demographic Analyses Graph of Agreeing That the PGC Effectively Manages Nongame Wildlife



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Trust in the Fish and Boat Commission is highest among Northwest and Northcentral Region residents, wildlife viewers, and anglers.

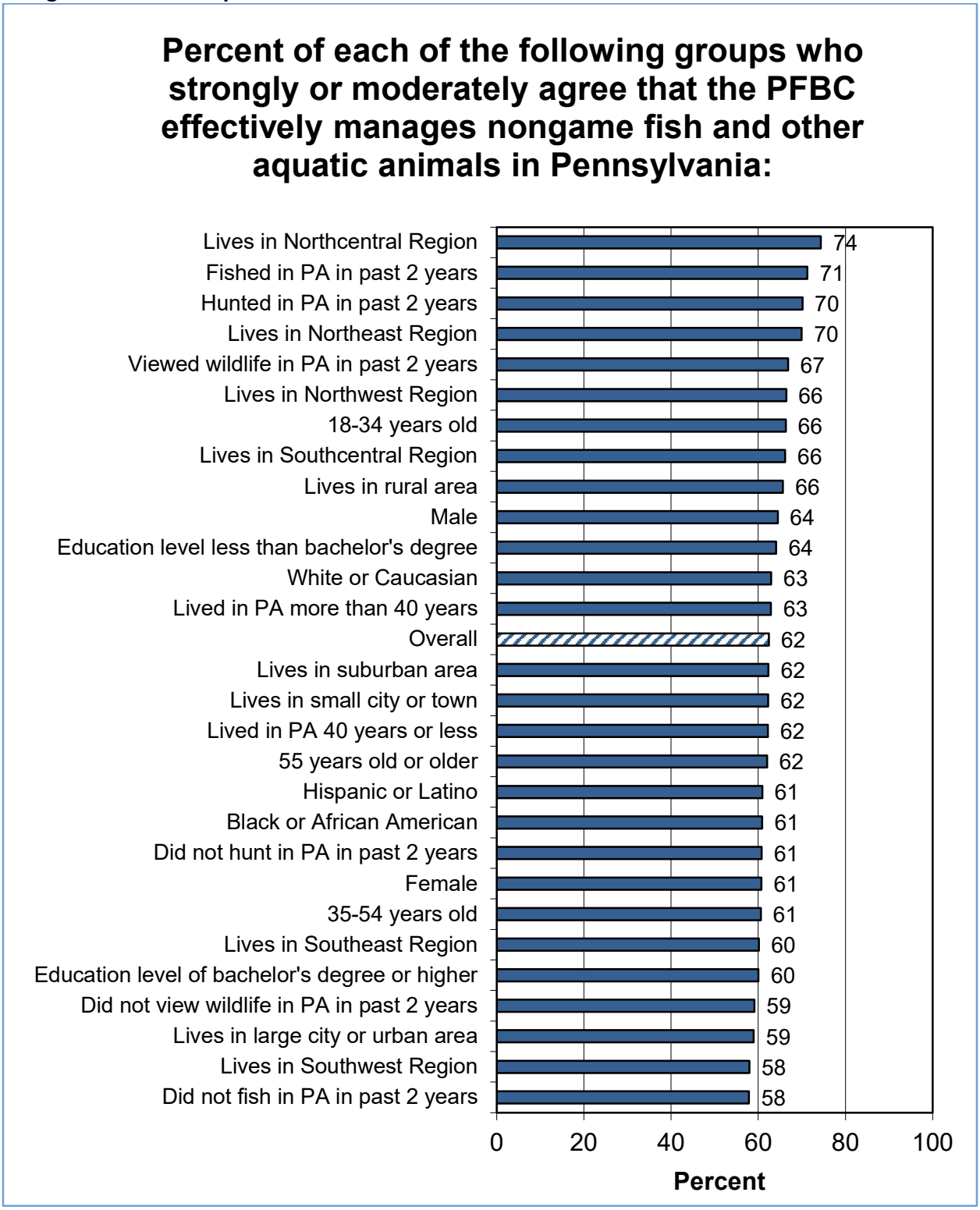
Figure 77. Demographic Analyses Graph of Agreeing That the PFBC Is a Trusted Source



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

The groups most likely to agree that the Fish and Boat Commission effectively manages nongame fish and other aquatic animals in Pennsylvania are residents of the Northcentral and Northeast Regions, anglers, and hunters.

Figure 78. Demographic Analyses Graph of Agreeing That the PFBC Effectively Manages Nongame Fish and Aquatic Animals



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Table 31. Is a trusted source of information (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	37	42	10	2	1	9
2	23	42	23	7	0	4
3	34	39	22	0	0	5
4	50	23	14	1	2	10
5	29	50	13	0	1	8
6	32	41	17	2	1	7
7	32	48	5	2	3	9
8	48	30	13	3	1	7
9	53	27	13	3	4	0
10	43	38	10	0	1	8
11	25	61	4	1	5	4
12	41	46	7	1	1	4
13	32	46	9	5	3	5
14	46	32	10	4	1	6
15	53	29	4	4	5	4
16	50	24	14	3	3	6
17	28	46	14	3	1	7
Overall	39	39	12	2	2	6

Table 32. Cares about the well-being of nongame wildlife (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	35	36	13	5	2	9
2	36	37	14	7	2	3
3	40	39	13	2	1	5
4	40	34	11	1	2	13
5	22	57	10	4	2	4
6	46	33	7	3	0	11
7	41	35	9	1	3	11
8	45	37	11	1	0	7
9	43	37	12	3	1	4
10	37	42	14	0	0	7
11	33	46	9	4	0	7
12	41	35	11	5	0	8
13	41	21	15	3	3	17
14	44	33	8	5	2	7
15	33	42	9	2	3	11
16	40	36	14	3	0	7
17	41	35	13	3	2	6
Overall	39	37	11	3	1	8

Table 33. Shares similar values with you (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	26	30	18	6	3	16
2	21	31	26	5	11	7
3	30	32	26	3	0	8
4	26	34	16	6	2	17
5	19	43	20	7	3	8
6	25	36	20	3	2	14
7	29	35	19	3	5	9
8	31	33	19	1	2	15
9	37	36	10	9	2	5
10	24	46	11	2	6	11
11	21	48	17	10	2	3
12	26	35	27	5	1	6
13	28	40	13	9	3	7
14	36	30	21	4	3	6
15	28	38	11	7	8	8
16	28	37	21	5	4	6
17	14	34	32	3	2	15
Overall	27	36	19	5	3	9

Table 34. Offers programs and services that benefit you (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	24	39	18	4	2	13
2	21	24	25	9	11	10
3	24	36	25	6	2	7
4	26	24	22	8	0	21
5	12	42	27	8	5	7
6	22	40	21	4	1	11
7	24	34	25	4	3	9
8	29	33	18	3	2	16
9	31	37	20	7	0	4
10	24	29	24	10	0	13
11	23	28	22	8	5	13
12	26	38	25	2	3	6
13	25	29	18	11	1	16
14	30	35	21	3	3	8
15	28	42	11	5	6	9
16	23	29	26	11	2	9
17	13	34	30	6	5	13
Overall	24	34	22	6	3	11

Table 35. Effectively manages nongame wildlife in Pennsylvania (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	23	37	19	5	1	15
2	20	36	29	7	1	6
3	28	36	24	2	0	11
4	26	32	19	2	0	20
5	14	50	14	8	1	13
6	28	33	17	3	0	19
7	27	35	15	2	3	18
8	33	25	23	4	0	15
9	20	42	19	6	1	11
10	20	50	14	2	0	14
11	16	47	16	4	1	16
12	26	43	16	5	1	9
13	19	41	14	7	2	17
14	33	34	14	6	3	10
15	18	37	10	4	4	28
16	24	47	11	5	3	10
17	17	44	20	2	3	15
Overall	23	40	17	4	1	14

Table 36. Communicates effectively (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	23	21	26	13	5	12
2	18	26	33	15	4	4
3	29	27	30	6	2	6
4	25	19	23	10	4	19
5	11	45	24	9	2	10
6	14	32	24	9	5	16
7	22	31	26	4	6	10
8	28	30	26	6	2	9
9	27	36	16	6	9	6
10	15	35	26	4	5	14
11	18	24	27	19	1	11
12	27	30	21	10	3	10
13	20	31	25	9	4	10
14	27	33	15	11	7	7
15	22	44	6	13	9	8
16	16	31	27	7	8	11
17	13	29	26	12	1	19
Overall	21	31	23	9	5	10

Table 37. Is open and transparent about its decision-making (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	21	28	22	9	3	17
2	21	30	28	3	10	8
3	22	33	23	7	2	13
4	25	15	23	6	4	26
5	13	38	26	9	0	15
6	24	28	23	5	1	19
7	24	31	18	6	6	16
8	24	27	27	2	4	16
9	27	27	19	17	4	6
10	16	31	19	5	11	18
11	12	25	25	15	4	20
12	15	37	31	5	2	11
13	22	25	18	11	7	17
14	29	27	19	6	7	12
15	15	19	32	10	10	13
16	15	23	32	8	6	16
17	16	28	27	5	5	19
Overall	20	28	24	8	5	15

Table 38. Listens to people like you (Do you agree or disagree that the Pennsylvania Game Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	22	17	30	13	3	16
2	17	28	28	18	4	5
3	18	40	25	7	2	8
4	26	25	19	7	2	20
5	14	43	28	6	2	8
6	15	33	22	10	5	16
7	33	27	18	4	8	9
8	26	31	23	8	3	8
9	22	41	12	9	11	4
10	13	31	25	12	7	12
11	12	27	25	16	3	17
12	20	31	23	12	4	10
13	17	32	25	9	6	11
14	21	33	21	7	11	6
15	21	26	25	8	12	9
16	20	29	27	11	5	7
17	9	39	31	4	2	15
Overall	19	32	24	9	5	10

Table 39. Is a trusted source of information (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	31	39	18	3	1	8
2	36	36	7	6	4	11
3	35	28	20	0	3	14
4	29	45	18	1	0	6
5	44	32	16	0	0	7
6	37	43	13	1	2	4
7	33	42	16	3	4	2
8	43	39	9	0	0	9
9	42	36	4	7	5	6
10	42	41	14	2	0	1
11	41	25	20	2	0	11
12	39	36	11	1	3	10
13	40	33	11	11	1	4
14	38	31	5	15	3	9
15	43	38	8	1	2	8
16	56	31	8	3	0	3
17	43	31	13	1	0	11
Overall	39	36	13	3	2	7

Table 40. Cares about the well-being of nongame fish and other aquatic animals (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	39	31	18	3	2	8
2	48	30	8	2	3	9
3	34	34	15	0	1	17
4	36	38	18	1	1	7
5	42	30	19	0	0	7
6	42	37	11	2	1	7
7	38	39	16	2	1	4
8	48	30	5	1	2	14
9	40	35	8	6	5	5
10	35	41	13	5	0	5
11	37	36	18	1	0	9
12	39	34	12	4	2	9
13	37	43	11	4	0	5
14	37	37	17	1	0	8
15	35	41	10	3	0	11
16	48	31	14	3	1	3
17	34	40	12	4	1	10
Overall	39	36	13	2	1	8

Table 41. Shares similar values with you (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	18	31	25	13	4	8
2	27	34	18	3	3	16
3	28	27	17	6	3	19
4	24	29	33	5	0	9
5	22	35	29	2	0	12
6	23	39	16	12	4	6
7	24	29	23	10	5	9
8	36	31	11	3	2	17
9	34	33	14	5	7	6
10	30	32	26	3	1	8
11	33	18	32	3	1	13
12	19	32	19	9	5	16
13	31	35	17	5	2	10
14	27	36	18	4	2	14
15	28	41	11	6	2	13
16	31	36	19	7	1	6
17	25	28	27	5	3	12
Overall	27	32	21	6	3	11

Table 42. Offers programs and services that benefit you (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	16	37	28	7	2	11
2	23	35	23	4	3	12
3	21	24	25	4	5	21
4	22	36	28	3	0	11
5	28	31	26	3	1	10
6	25	37	18	8	3	9
7	17	46	24	3	4	5
8	26	33	16	9	2	14
9	28	39	15	7	2	9
10	20	33	22	7	1	17
11	24	32	17	14	1	12
12	15	33	19	8	7	17
13	30	37	19	3	5	6
14	32	19	24	10	4	11
15	28	39	11	7	3	12
16	37	33	19	4	1	6
17	18	36	23	4	5	14
Overall	24	34	21	6	3	12

Table 43. Effectively manages nongame fish and other aquatic animals in Pennsylvania (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	19	38	24	5	2	12
2	29	33	13	4	6	15
3	22	32	17	0	3	25
4	22	40	25	4	0	10
5	23	42	17	5	0	13
6	24	46	14	8	1	7
7	19	37	22	9	0	13
8	28	44	9	1	1	18
9	26	42	13	6	2	11
10	23	40	19	1	1	17
11	24	33	23	3	1	16
12	22	33	26	1	2	15
13	23	41	19	7	0	11
14	28	33	21	3	2	14
15	25	45	8	4	1	17
16	29	40	13	12	1	6
17	17	41	24	1	1	17
Overall	24	39	18	4	1	14

Table 44. Is open and transparent about its decision-making (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	16	22	36	9	3	15
2	31	21	23	6	3	15
3	21	24	21	9	4	23
4	17	27	31	7	0	18
5	29	28	25	2	1	14
6	23	34	27	3	3	10
7	16	29	32	6	5	13
8	24	35	15	3	5	19
9	17	35	16	10	7	14
10	25	28	26	5	1	15
11	36	15	27	4	0	18
12	13	21	41	4	4	16
13	14	32	25	10	7	12
14	25	29	19	7	3	16
15	18	35	15	9	7	16
16	28	34	14	9	5	11
17	16	28	26	5	5	20
Overall	22	28	25	6	4	15

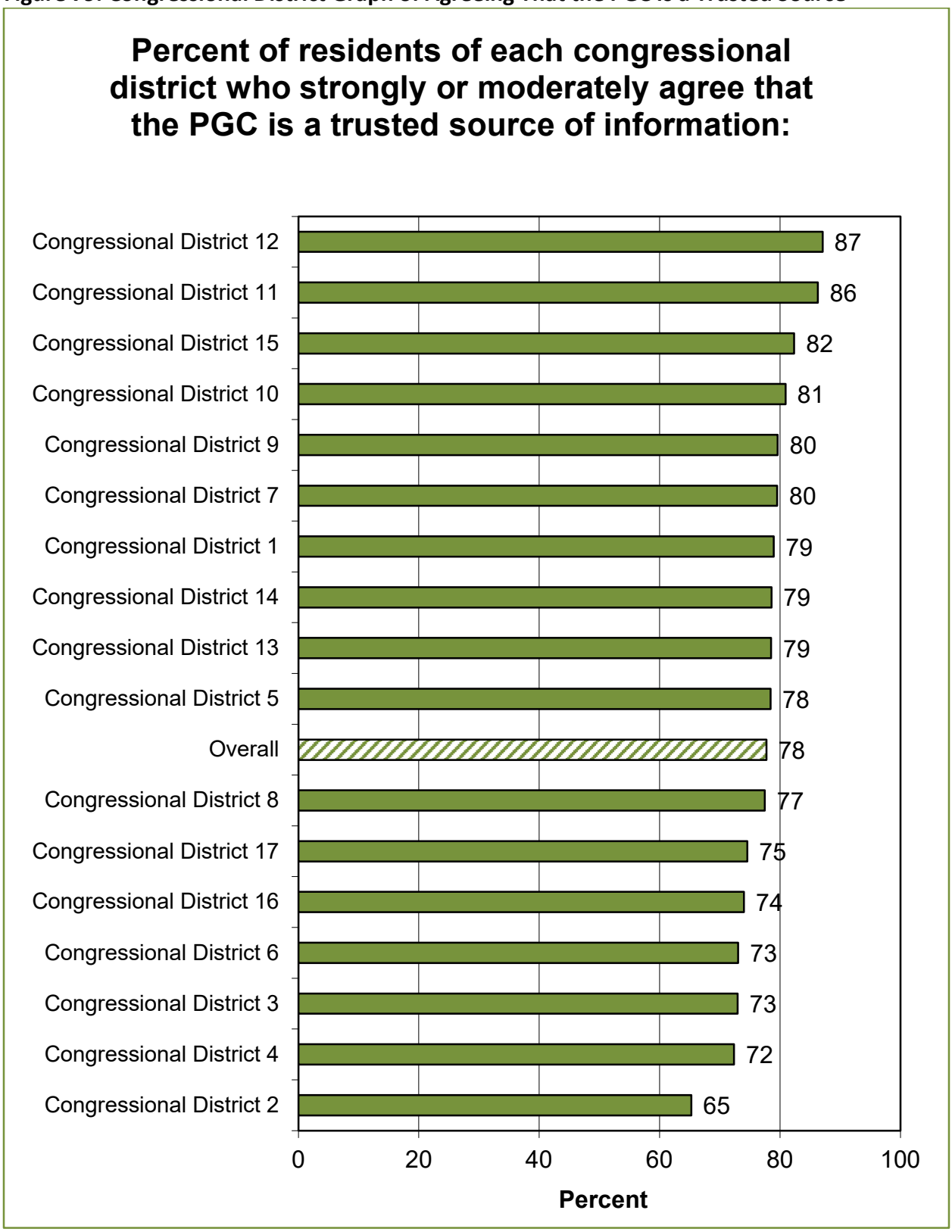
Table 45. Listens to people like you (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	16	31	31	4	4	13
2	17	31	27	5	8	13
3	21	21	25	4	6	23
4	11	39	29	4	4	13
5	28	31	23	6	0	12
6	22	25	36	8	2	6
7	20	28	26	13	5	8
8	22	27	18	9	4	19
9	19	33	17	9	9	13
10	18	35	20	8	6	13
11	27	20	32	7	2	12
12	14	25	28	13	3	17
13	17	37	23	11	4	9
14	25	33	19	9	4	10
15	23	31	15	10	7	15
16	24	31	22	9	3	10
17	18	29	29	8	4	12
Overall	20	30	25	8	4	13

Table 46. Communicates effectively (Do you agree or disagree that the Pennsylvania Fish and Boat Commission…?) (Graph shows percentages giving response.)

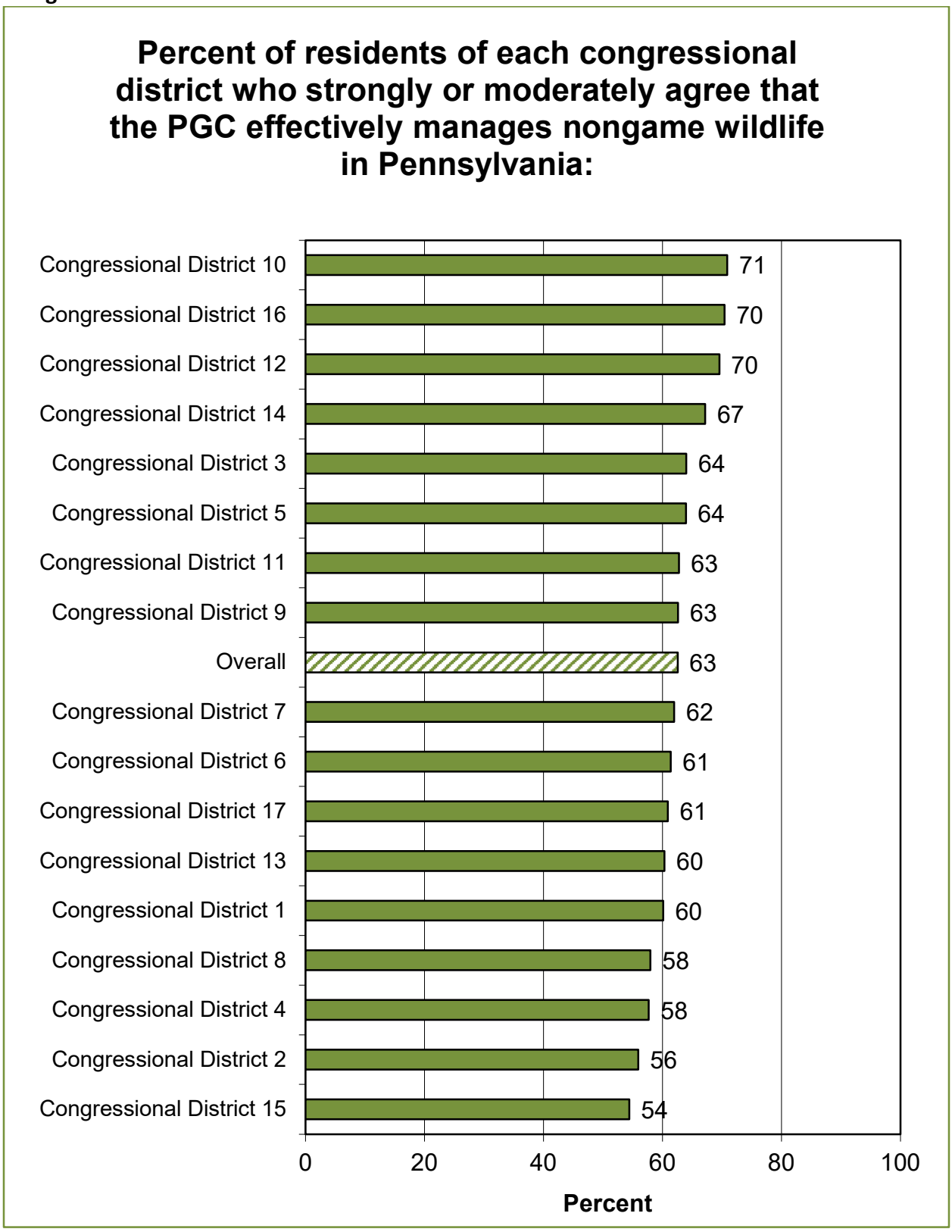
District	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Don't know
1	13	29	33	11	1	13
2	24	26	26	7	6	11
3	18	28	26	3	3	21
4	16	29	32	9	0	14
5	29	28	24	8	2	10
6	18	34	27	11	3	8
7	17	38	29	5	2	8
8	21	34	19	11	2	14
9	21	36	13	13	5	12
10	16	35	19	15	3	12
11	29	29	24	7	0	11
12	14	23	34	5	6	18
13	23	38	21	10	2	6
14	26	29	20	11	5	10
15	22	38	9	13	6	12
16	18	39	20	12	4	7
17	11	30	31	8	5	16
Overall	20	32	24	9	3	12

Figure 79. Congressional District Graph of Agreeing That the PGC Is a Trusted Source



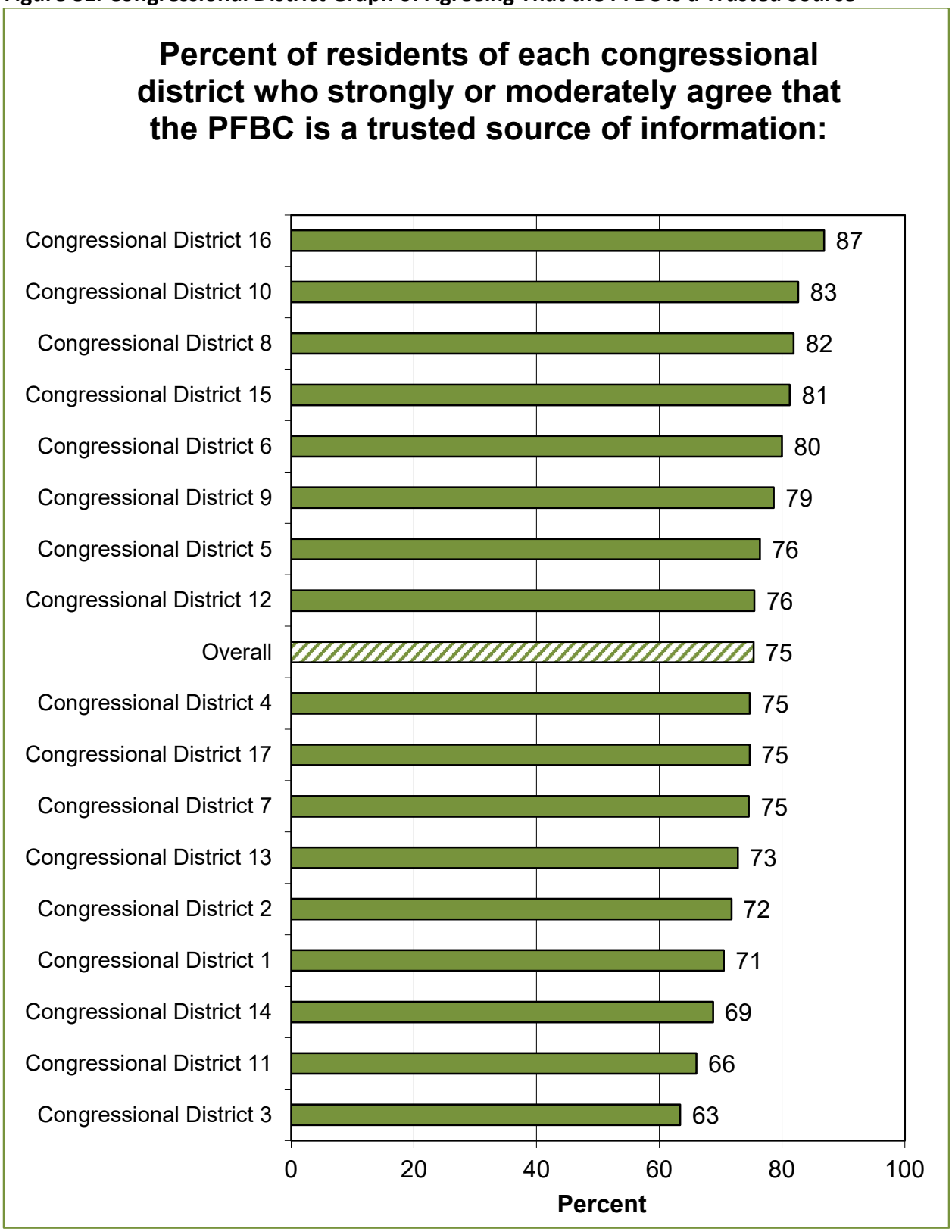
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 80. Congressional District Graph of Agreeing That the PGC Effectively Manages Nongame Wildlife



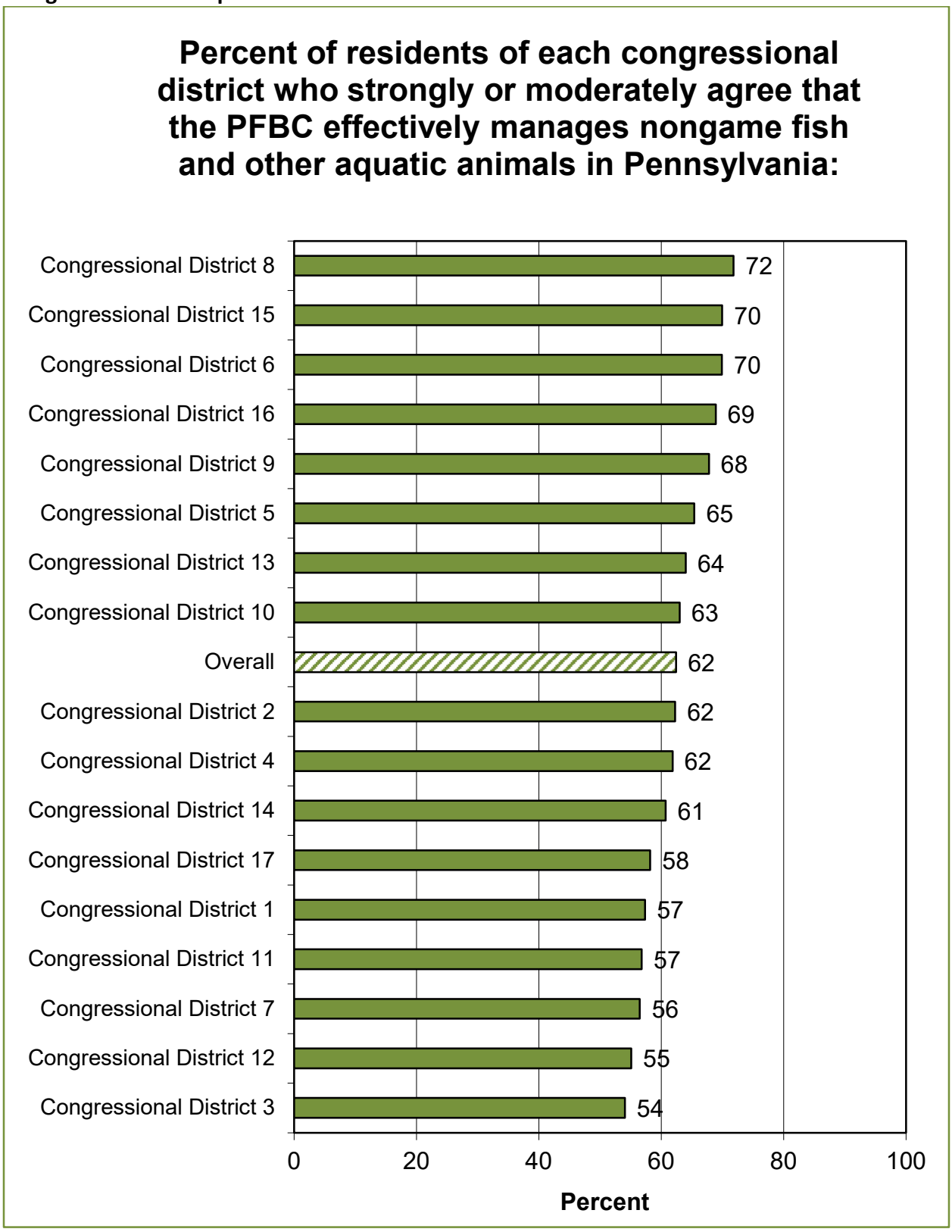
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 81. Congressional District Graph of Agreeing That the PFBC Is a Trusted Source



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 82. Congressional District Graph of Agreeing That the PFBC Effectively Manages Nongame Fish and Aquatic Animals



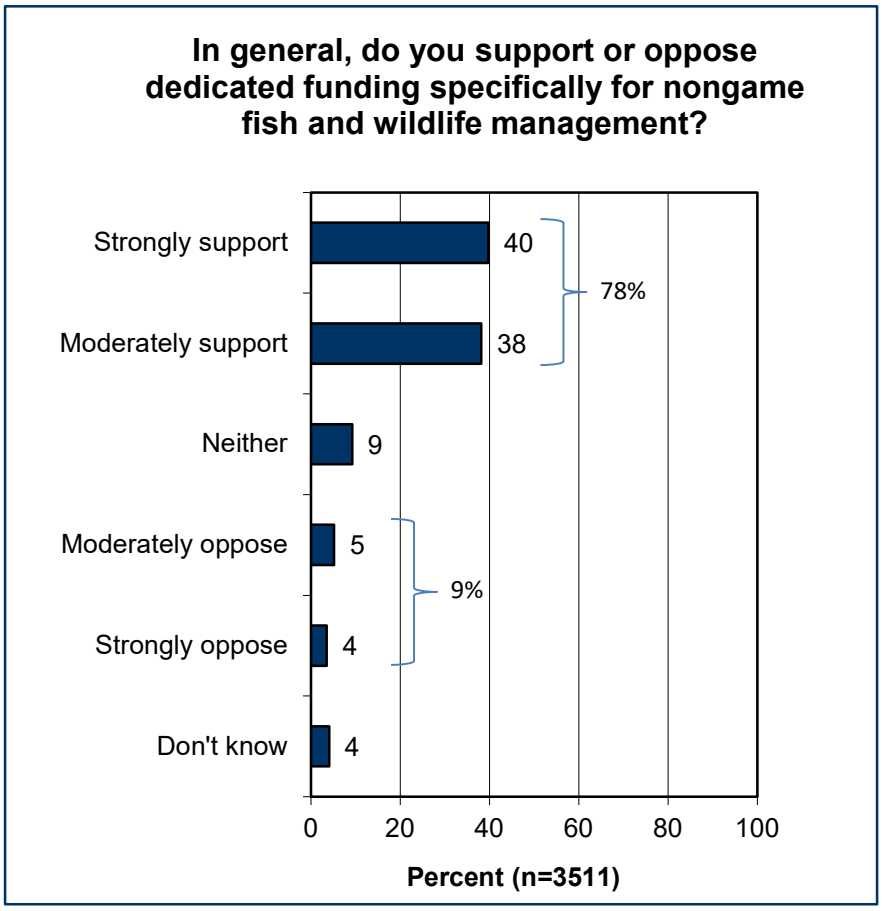
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

FUNDING

Prior to the funding question, the survey informed residents of the following (also keep in mind that a random half of the sample had the Game Commission first in the statement below, and the other random half had the Fish and Boat Commission first in the statement):

> Both the Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission are funded by a variety of sources, including hunting and fishing license fees, oil and gas revenue, timber sales, and federal excise taxes on hunting and fishing equipment and motorboat fuel. These taxes have been in place and help to fund fish and wildlife management and conservation, primarily for game species, for 75 years.
>
> (IF ASKED: The manufacturers pay the federal excise tax, but the cost is most likely passed on to the customer in the retail price of the equipment.)
>
> These sources come mainly from license sales and added taxes; they are not *dedicated funding* sources. *Dedicated funding* is money allotted for a specific purpose and received directly from the government.

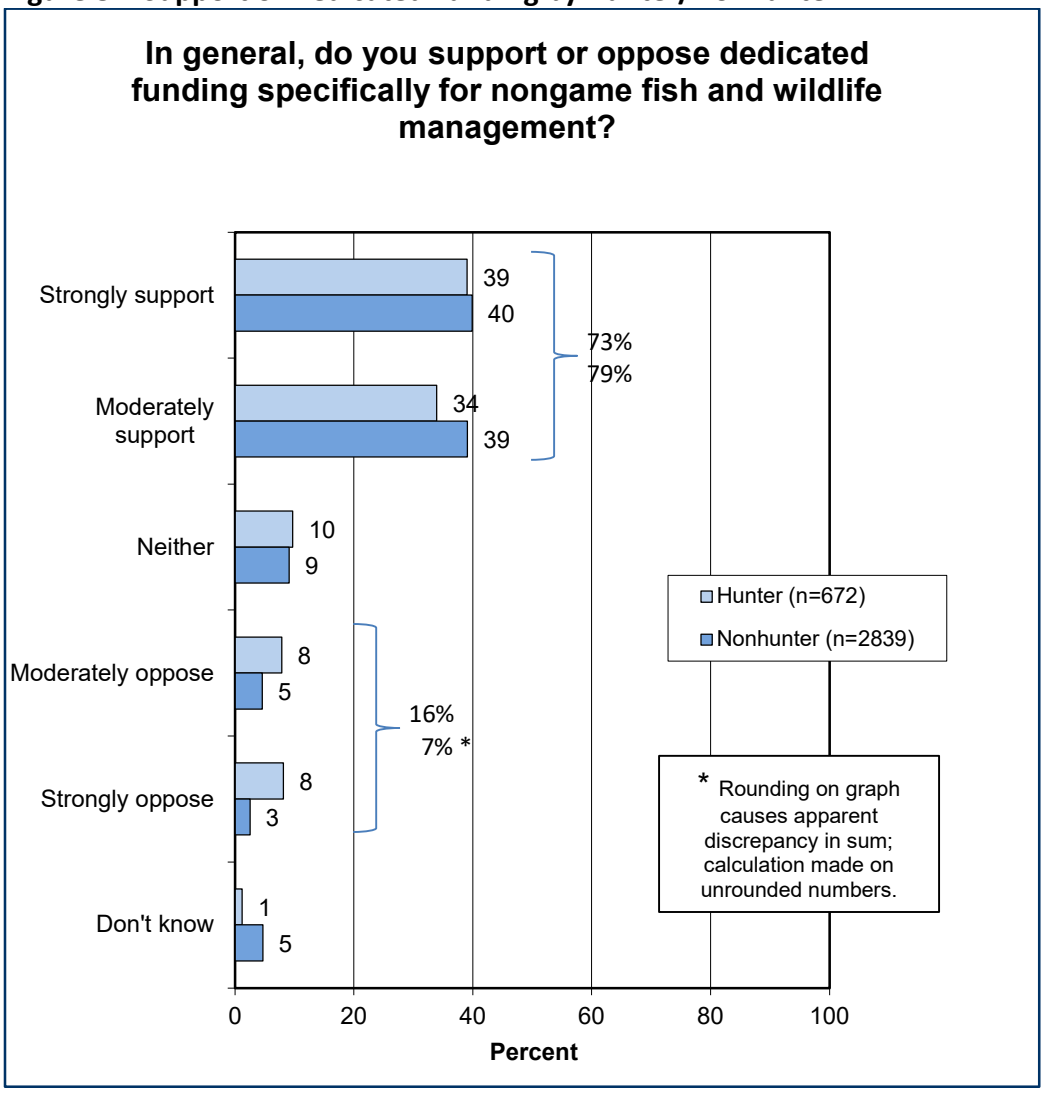
Figure 83. Support of Dedicated Funding



There is much greater support for than opposition to dedicated funding specifically for nongame fish and wildlife management. Among Pennsylvania residents overall, 78% are in support, while 9% oppose (the remainder giving one of the neutral responses).

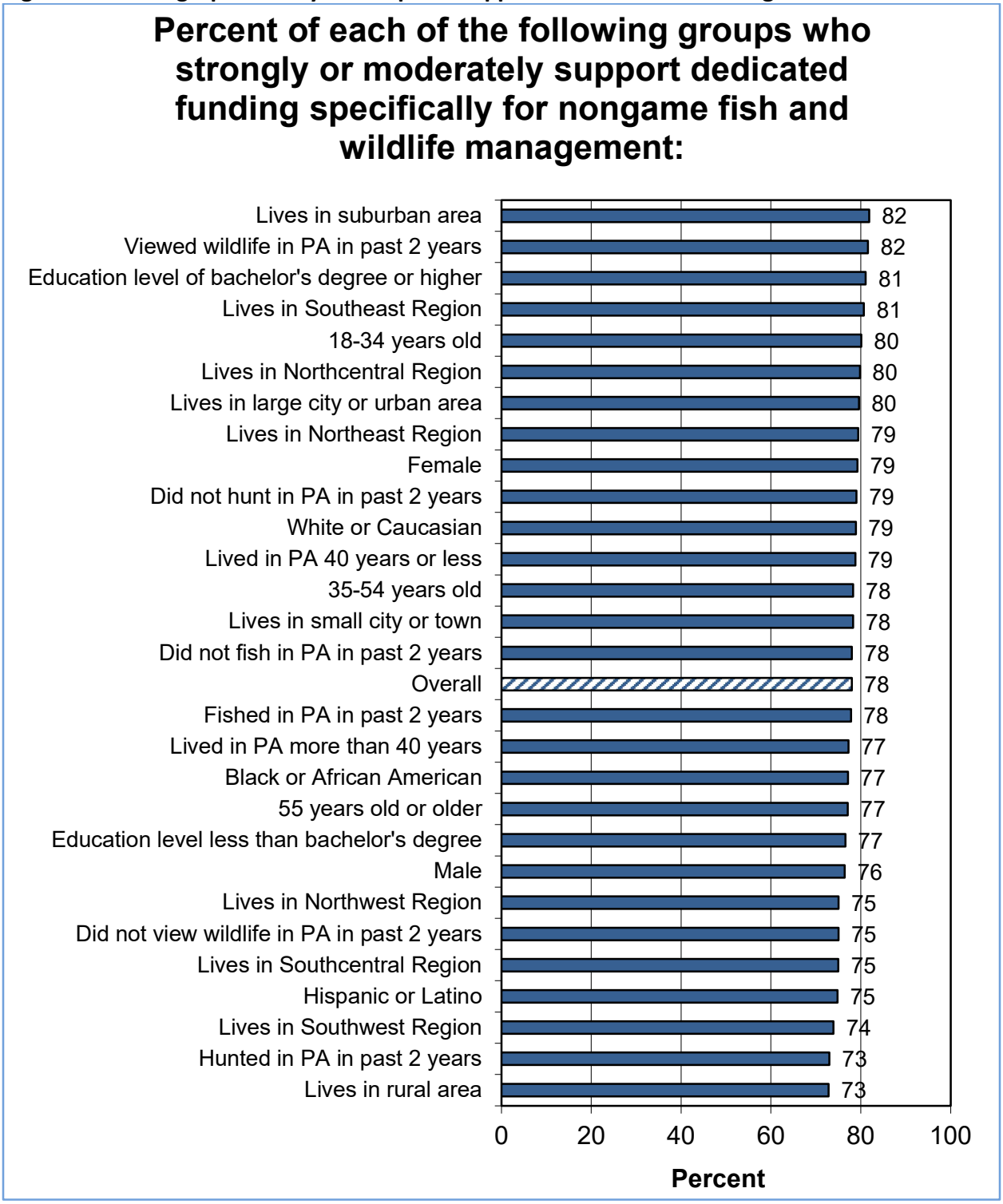
The differences in support are small, but hunters are less likely to support. The differences in opposition are more marked, with hunters much more likely to oppose. One could conjecture that some hunters might think of the question dichotomously—that more nongame funding would automatically mean less game funding—and thus be less likely to support/more likely to oppose. Nonetheless, not to be overlooked is that large majorities of both hunters (73%) and nonhunters (79%) support this dedicated funding for nongame wildlife.

Figure 84. Support of Dedicated Funding by Hunter/Nonhunter



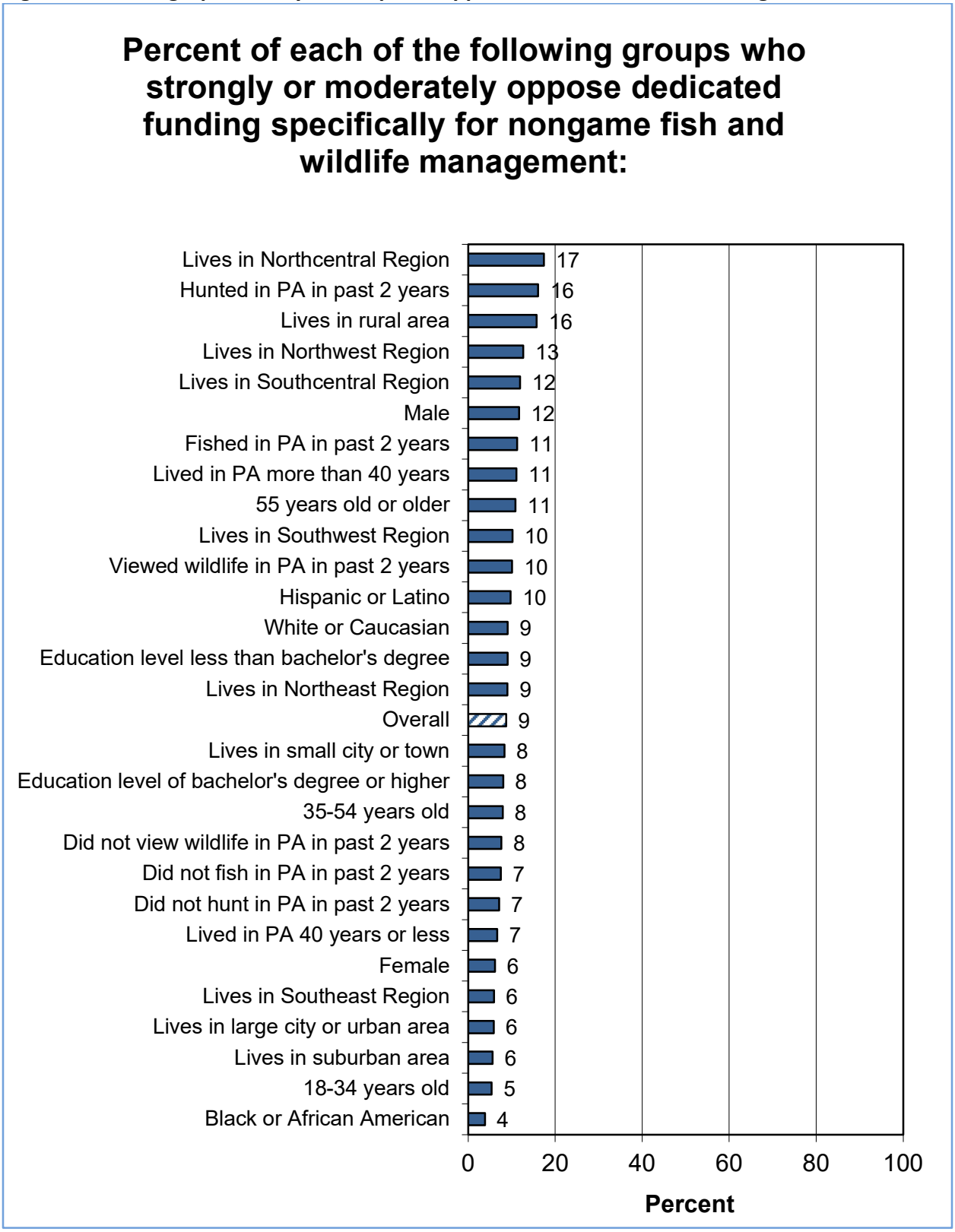
In the demographic analyses, no group was markedly more likely than residents overall to support dedicated funding specifically for nongame fish and wildlife management. The highest group on the graph is less than 5 percentage points away from residents overall. However, opposition (overall, only 9% are in opposition) is markedly higher among Northcentral Region residents, hunters, and rural residents.

Figure 85. Demographic Analyses Graph of Support of Dedicated Funding



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 86. Demographic Analyses Graph of Opposition to Dedicated Funding

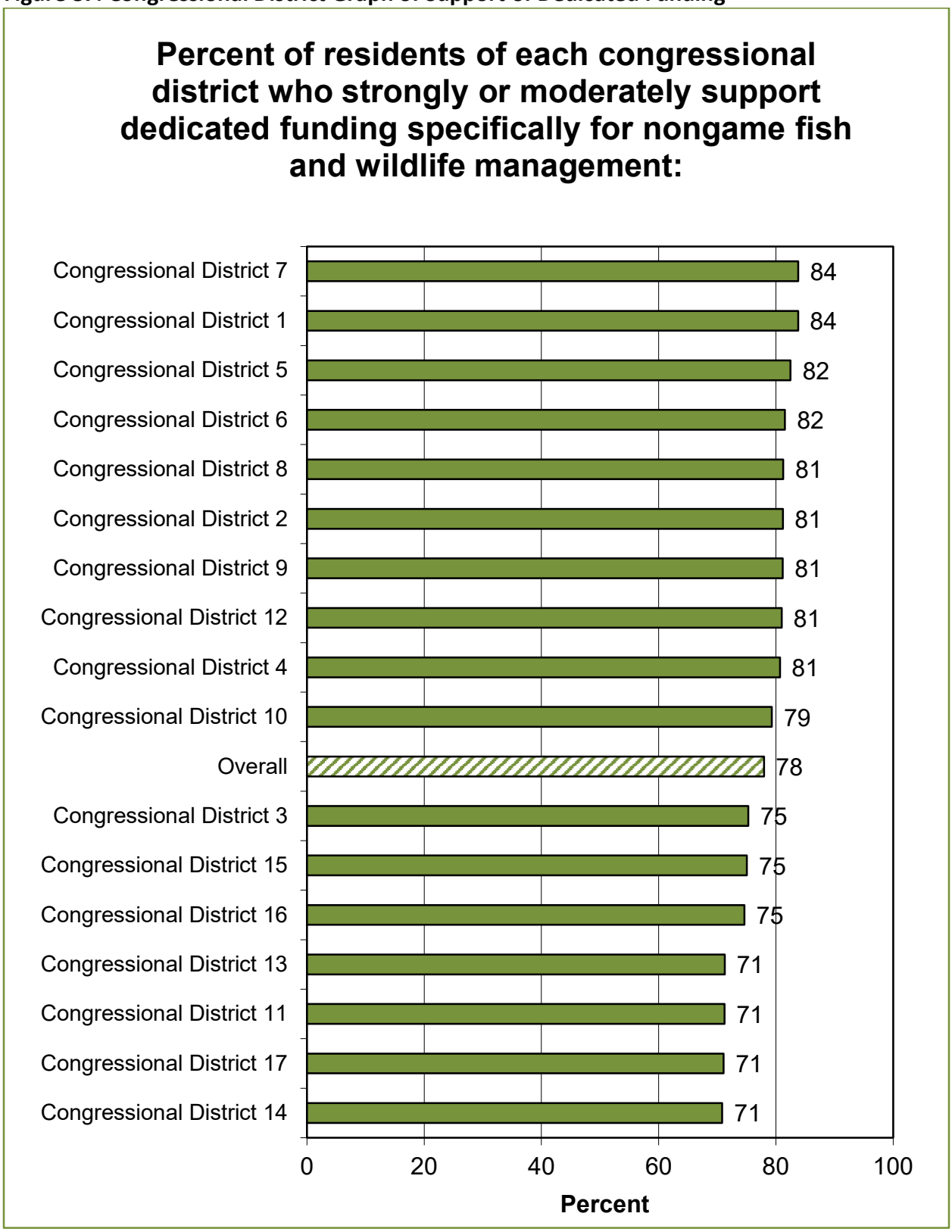


A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Table 47. In general, do you support or oppose dedicated funding specifically for nongame fish and wildlife management? (Graph shows percentages giving response.)

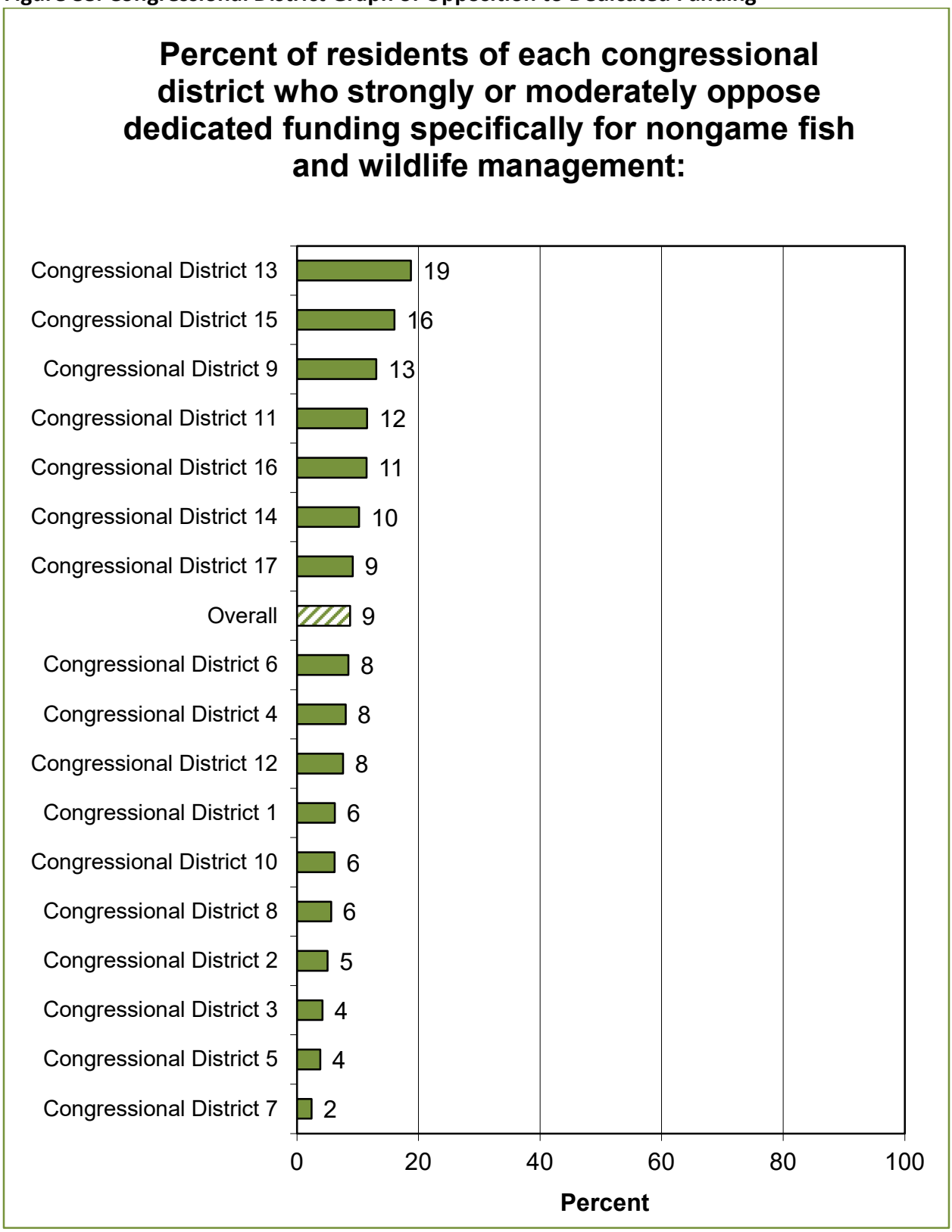
District	Strongly support	Moderately support	Neither	Moderately oppose	Strongly oppose	Don't know
1	36	48	6	4	2	4
2	41	40	9	3	2	5
3	44	32	12	3	1	8
4	38	43	5	1	7	6
5	34	48	10	2	2	3
6	39	43	7	5	3	3
7	47	37	11	1	1	3
8	47	34	9	4	2	4
9	42	39	4	9	4	1
10	36	43	12	4	2	2
11	37	34	11	8	3	7
12	44	37	7	4	3	4
13	37	34	9	10	8	1
14	38	33	13	6	4	6
15	42	33	7	9	7	2
16	39	35	10	5	7	4
17	34	37	15	8	1	5
Overall	40	38	9	5	4	4

Figure 87. Congressional District Graph of Support of Dedicated Funding



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 88. Congressional District Graph of Opposition to Dedicated Funding

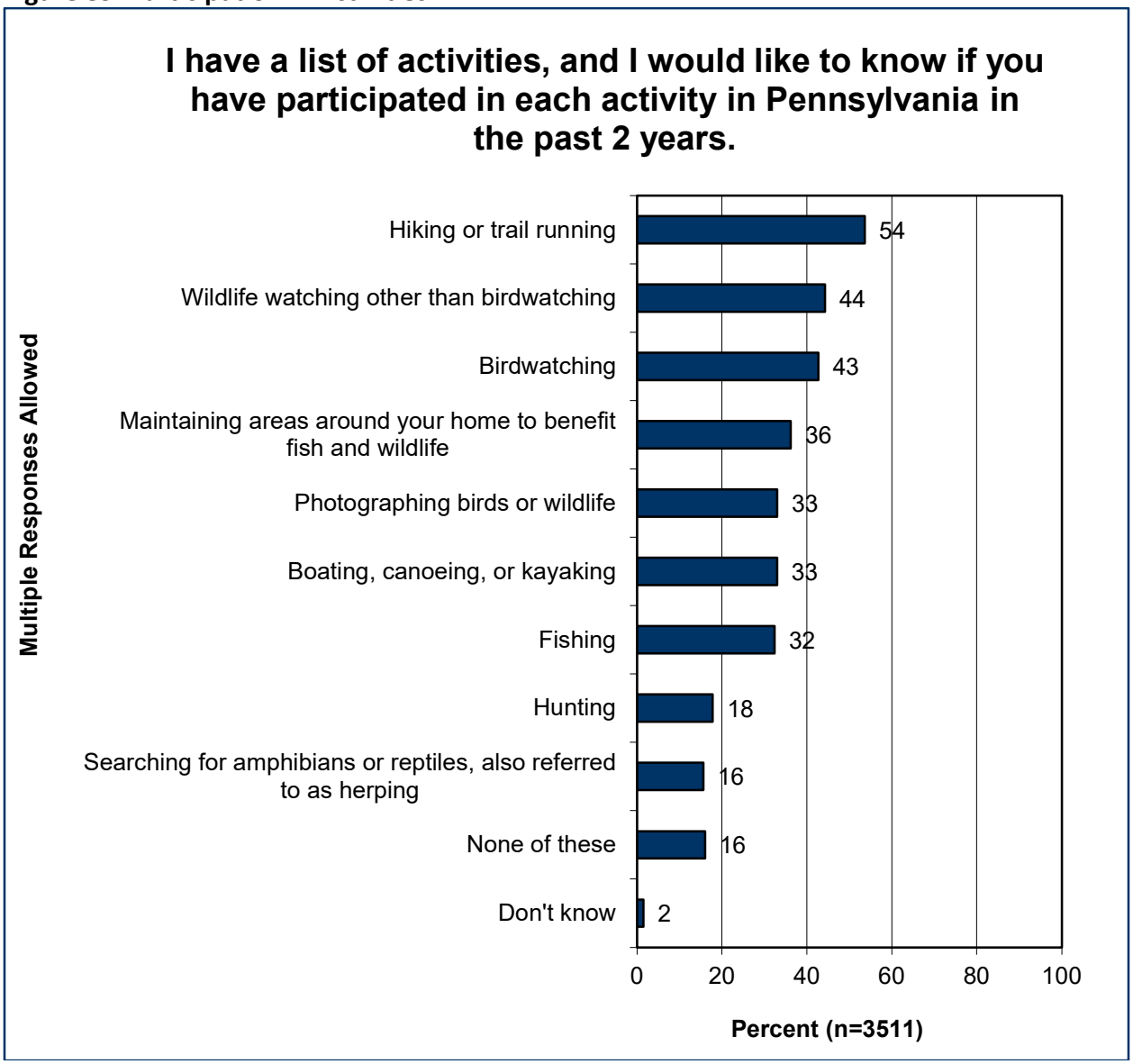


A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

PARTICIPATION IN WILDLIFE-RELATED ACTIVITIES AND USE OF APPS AND ONLINE TOOLS

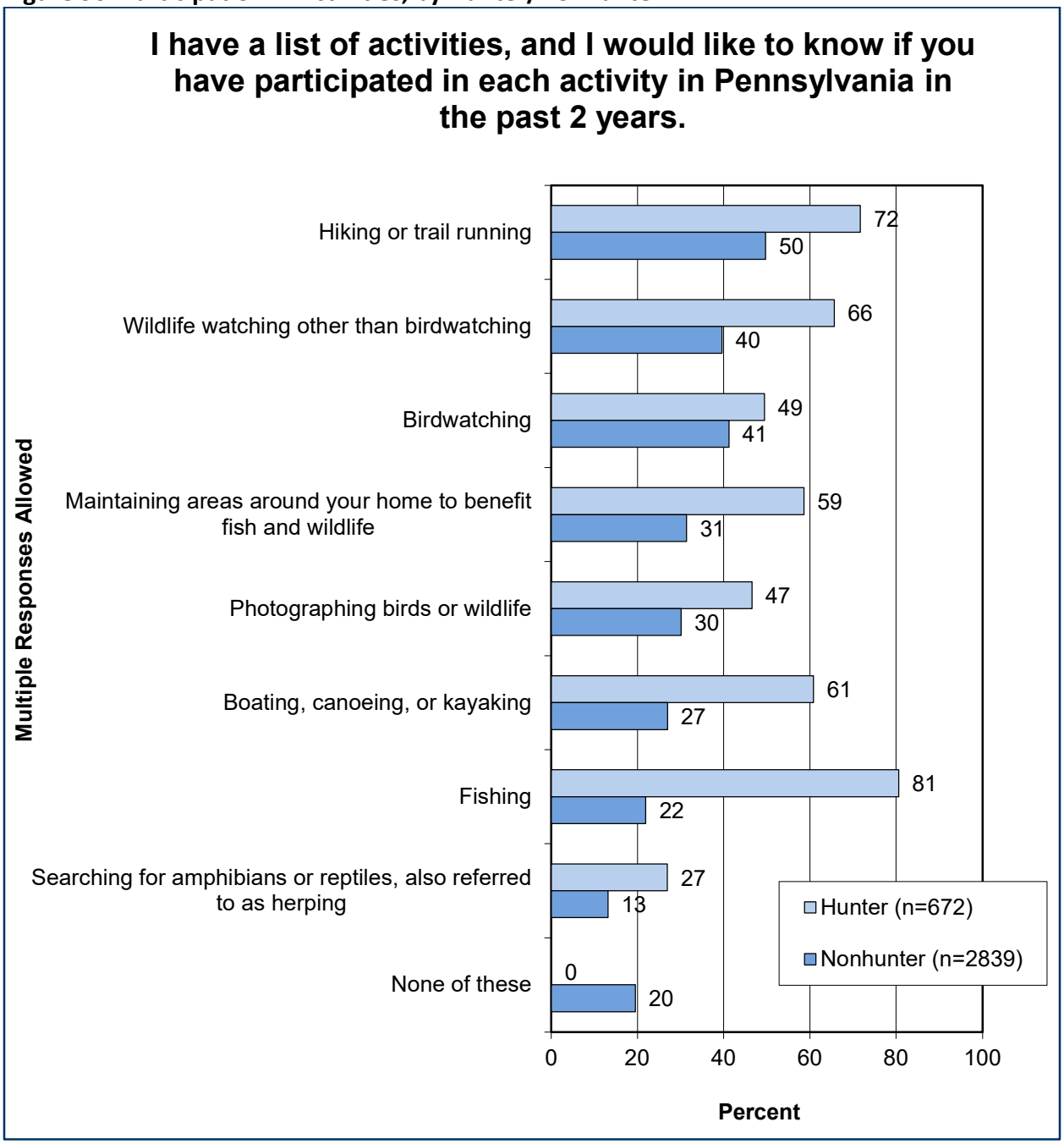
The majority of Pennsylvania residents indicate that they have been hiking or trail running in Pennsylvania in the past 2 years. Other top activities are wildlife watching and birdwatching—both engaged in by more than 40%. A word of caution, however, about the participation rates: a 2-year timeframe captures data on casual participants who might only go every couple of years. However, there might also be "telescoping" when respondents remember things just outside the timeframe as being within that 2-year period. This may cause a slight inflation to the participation rates. (As the main purpose of the survey was to get information on opinions regarding nongame wildlife, this rate was not an essential number to pin down; rather, it was used for further analysis of the opinion questions. See the explanation of demographic analyses that were run to see where these activities are included.)

Figure 89. Participation in Activities



Hunters are much more active in all the other activities compared to nonhunters. In particular, they fish and boat at a much greater rate (81% of hunters also go fishing, while only 22% of nonhunters go fishing). (This graph is ranked in the same order as the overall graph previously shown.)

Figure 90. Participation in Activities, by Hunter/Nonhunter



There was a rise from 2014 to 2024 in participation in birdwatching and hiking. There was a relatively large drop in maintaining areas around home for the benefit of wildlife, fishing, and hunting. (Note that wildlife viewing and birdwatching were combined in the trends to allow comparisons to the previous data.)

Figure 91. Trends Graph of Participation in Activities

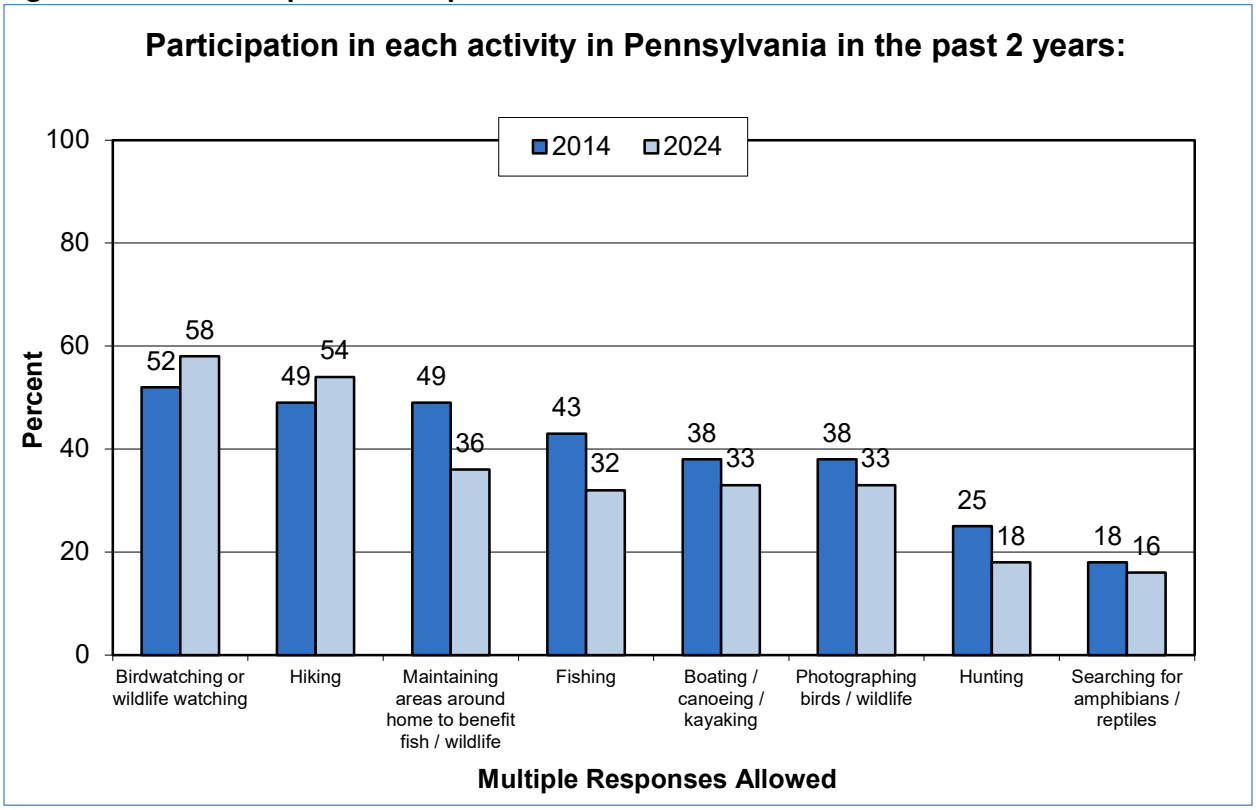
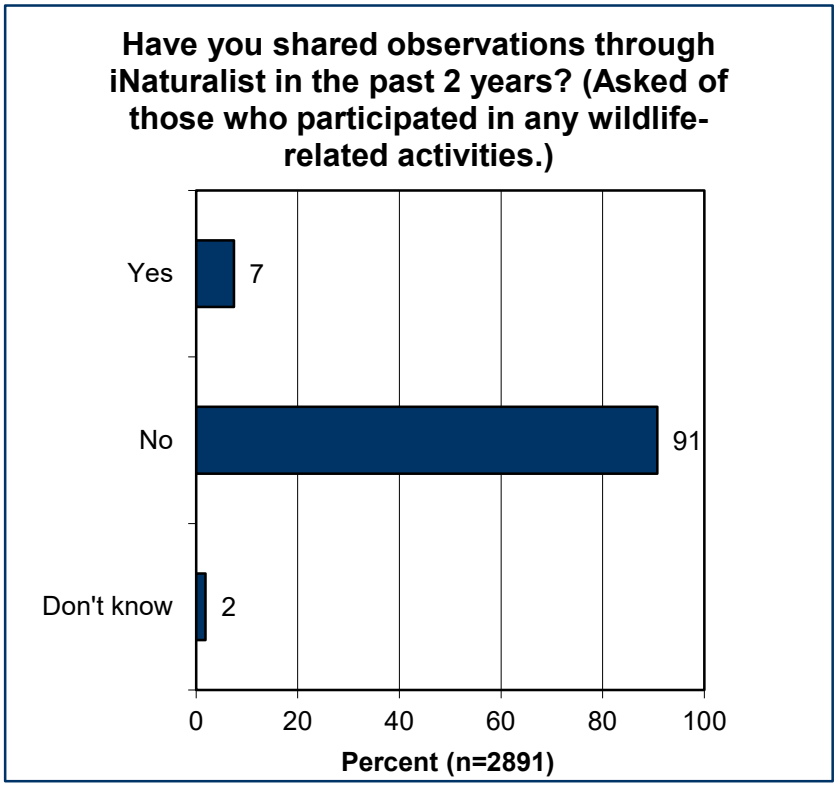
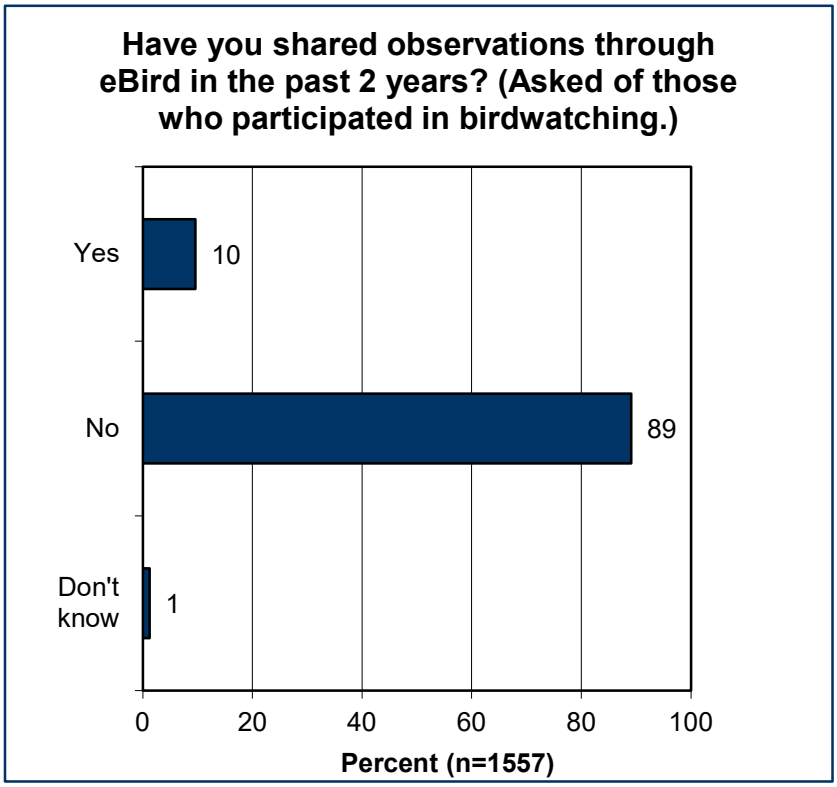


Figure 92. Use of iNaturalist



The previous question was used as survey skip control for the questions that follow regarding use of online tools. Among those who engaged in wildlife-related recreation, 7% shared their observations on iNaturalist, which (as was explained in the survey) is an online tool or social network for people to share their experiences and encounters with nature, including fish, wildlife, insects, plants, and other organisms, which helps both nature enthusiasts and scientists by sharing observation data.

Figure 93. Use of eBird



Similar to the online tool discussed previously, eBird is an online tool for birdwatchers to track and share their bird observations, which helps both birders and scientists by sharing observation data. Among birdwatchers, 10% indicate sharing observations on eBird.

Finally in this section, those who had maintained areas around their home to benefit fish and wildlife were asked about Pennsylvania's Conservation Opportunity Area Tool, which is a free online tool for residents and landowners to understand beneficial actions for species of greatest conservation need in an area of interest. The rate of use among those who maintained areas for wildlife is 8%.

Figure 94. Use of the Conservation Opportunity Area Tool

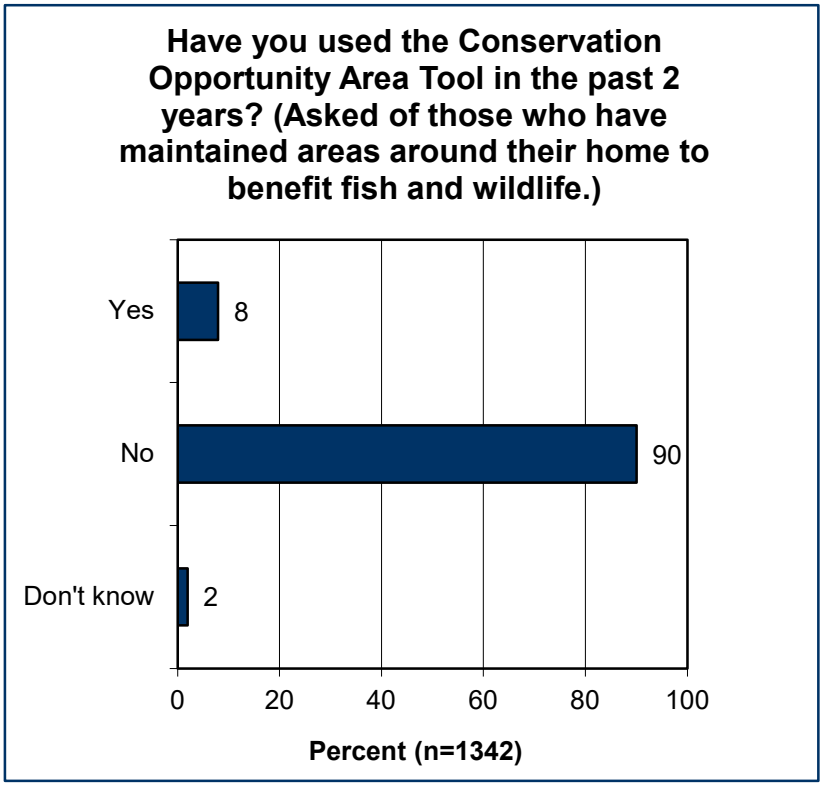


Table 48. Have you shared observations through iNaturalist in the past 2 years? (Asked of those who participated in any wildlife-related activities.) (Graph shows percentages giving response.)

District	Yes	No	Don't know
1	5	92	3
2	13	81	6
3	20	78	2
4	9	90	2
5	7	91	2
6	9	90	1
7	12	86	2
8	6	93	2
9	5	94	1
10	4	94	2
11	4	95	1
12	5	94	1
13	3	95	2
14	4	94	2
15	6	92	2
16	11	87	2
17	6	91	2
Overall	7	91	2

Table 49. Have you shared observations through eBird in the past 2 years? (Asked of those who participated in birdwatching.) (Graph shows percentages giving response.)

District	Yes	No	Don't know
1	3	97	0
2	29	71	0
3	17	76	7
4	16	84	0
5	17	83	0
6	8	89	2
7	11	87	1
8	6	91	2
9	7	92	2
10	4	96	0
11	11	89	0
12	12	86	1
13	12	88	1
14	5	94	1
15	8	91	1
16	5	95	1
17	5	91	4
Overall	10	89	1

Table 50. Have you used the Conservation Opportunity Area Tool in the past 2 years? (Asked of those who have maintained areas around their home to benefit fish and wildlife.) (Graph shows percentages giving response.)

District	Yes	No	Don't know
1	5	91	4
2	31	56	14
3	17	79	4
4	9	85	6
5	2	98	0
6	13	86	1
7	20	80	0
8	10	88	2
9	1	98	1
10	5	92	3
11	2	98	0
12	8	88	3
13	4	96	1
14	5	92	3
15	9	90	1
16	4	96	0
17	4	95	1
Overall	8	90	2

USE OF STATE GAME LANDS AND WATERS

The survey first described State Game Lands to respondents:

> The Pennsylvania Game Commission owns and manages more than 1.6 million acres of State Game Lands throughout the Commonwealth. The primary purpose of these lands is the management of habitat for wildlife and to provide opportunities for lawful hunting and trapping. Secondary recreational uses are sometimes permitted, depending on regulations. The State Game Lands do not include other types of public land, such as the Allegheny National Forest or any of the many state parks and forests.

The survey then asked about recreating on State Game Lands other than for hunting or trapping. Nearly a quarter of Pennsylvania residents indicated that they had engaged in recreation on State Game Lands for activities other than hunting or trapping in the past 2 years. Hunters had done so much more often than nonhunters. (Despite being given a description of State Game Lands, it may be that some respondents misidentified where they had engaged in recreation.)

Figure 95. Other Activities on State Game Lands

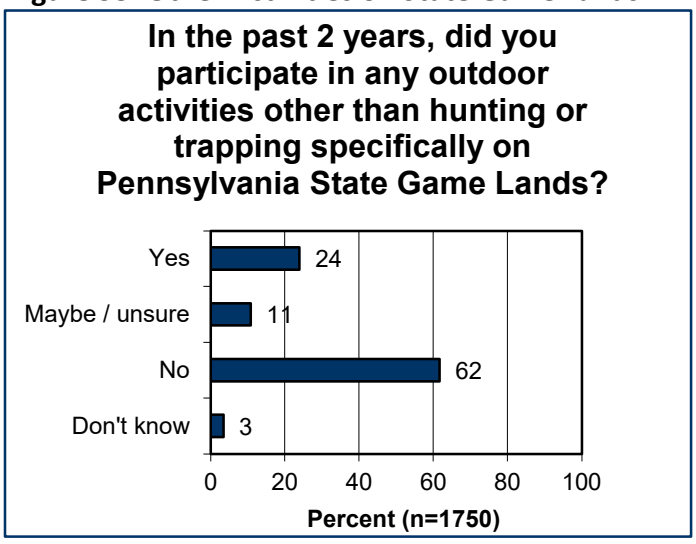
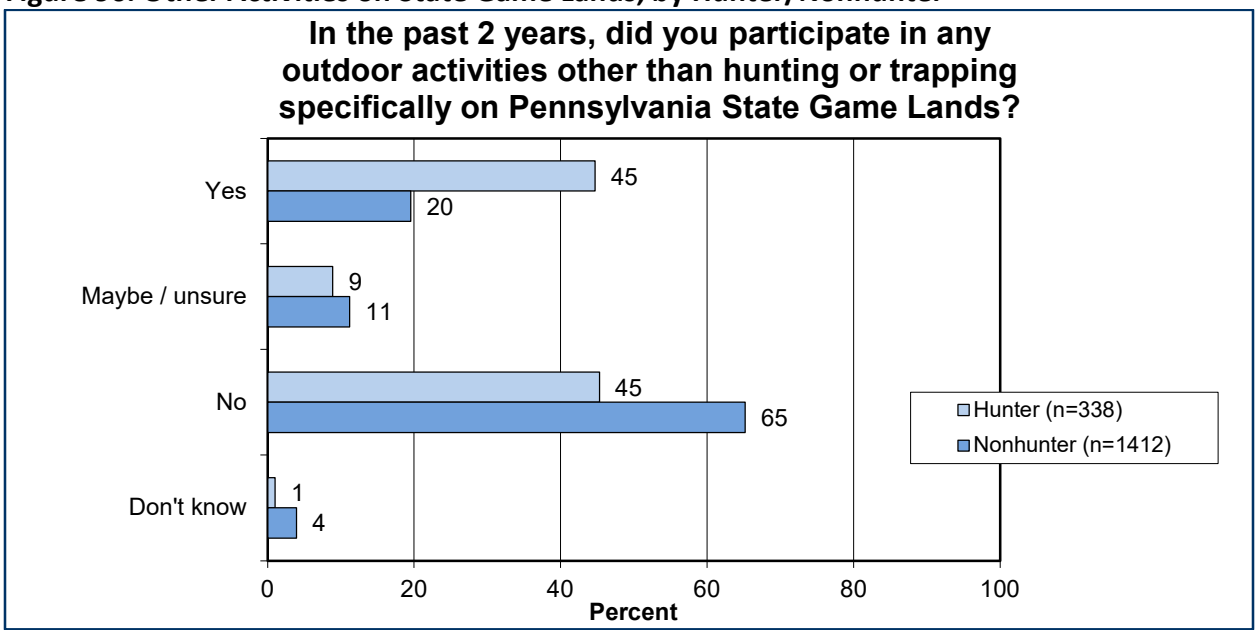
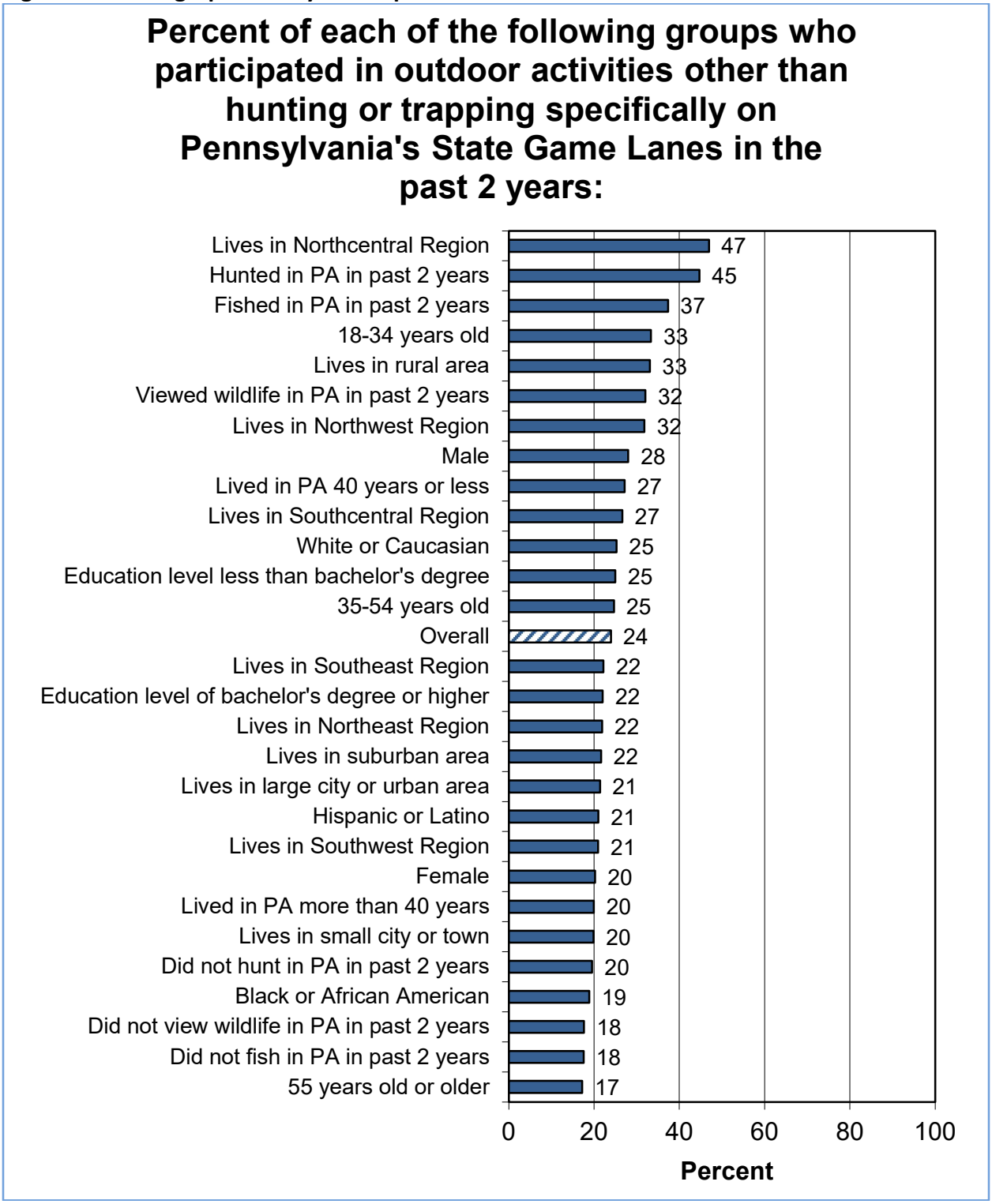


Figure 96. Other Activities on State Game Lands, by Hunter/Nonhunter



The groups more likely to use State Game Lands for activities other than hunting or trapping, relative to residents overall, are Northcentral Region residents, hunters, anglers, young residents, rural residents, wildlife viewers, and Northwest Region residents.

Figure 97. Demographic Analyses Graph of Other Activities on State Game Lands

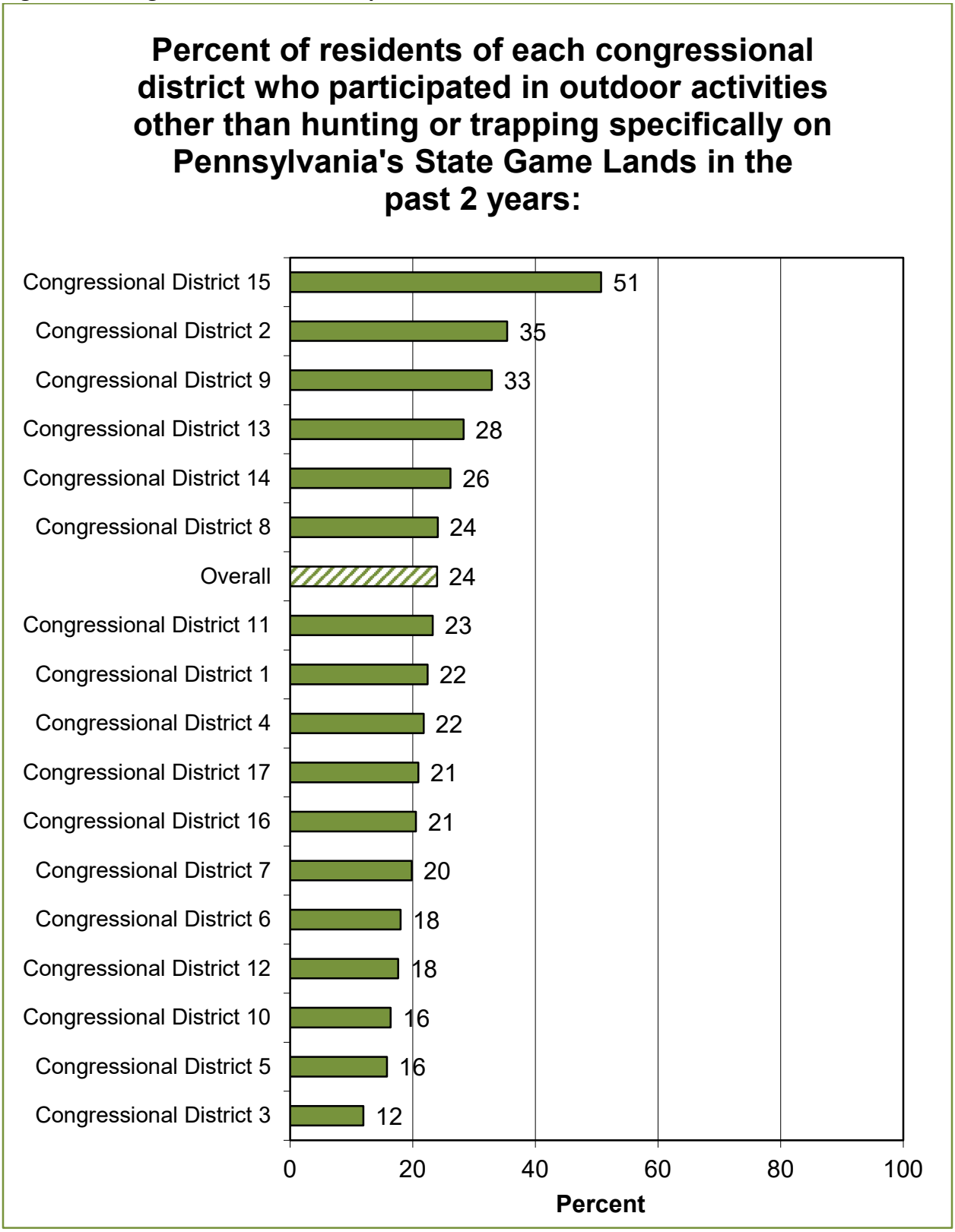


A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Table 51. In the past 2 years, did you participate in any outdoor activities other than hunting or trapping specifically on Pennsylvania State Game Lands? (Graph shows percentages giving response.)

District	Yes	Maybe / unsure	No	Don't know
1	22	14	57	6
2	35	11	51	3
3	12	16	70	2
4	22	10	62	6
5	16	11	73	0
6	18	18	63	1
7	20	14	64	1
8	24	10	61	5
9	33	9	56	2
10	16	7	68	8
11	23	8	66	3
12	18	22	58	3
13	28	11	58	3
14	26	7	61	6
15	51	3	41	5
16	21	7	70	2
17	21	6	70	3
Overall	24	11	62	3

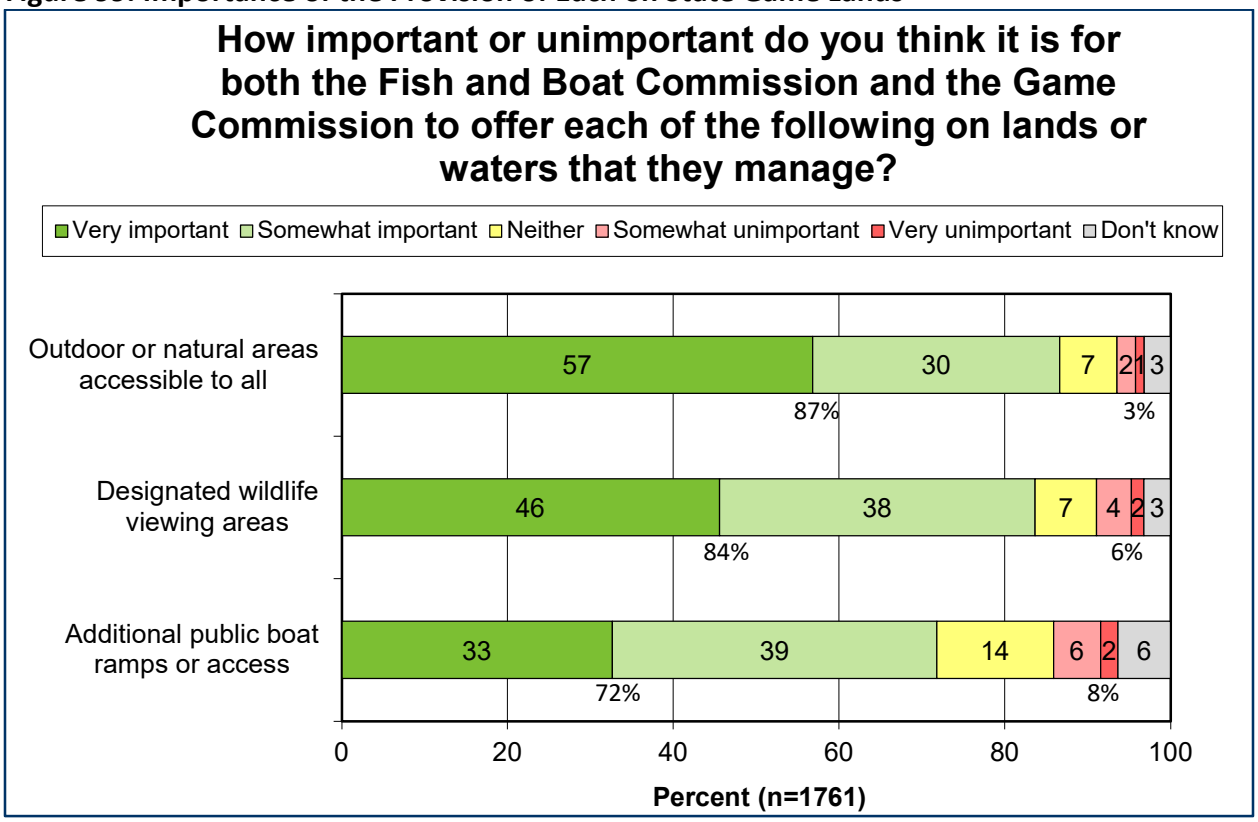
Figure 98. Congressional District Graph of Other Activities on State Game Lands



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Additionally, the survey asked about the importance of accessibility, viewing areas, and boat ramps on lands or waters managed by either Commission. Of the three, the one deemed most important is that the state offer outdoor or natural areas accessible to all: a large majority (57%) perceive these areas as *very* important, and another 30% deem these as *somewhat* important (a sum of 87%). Next in the ranking are designated wildlife viewing areas (46% say this is *very* important, 84% say *very* or *somewhat* important). At the bottom are boat ramps or boat access, but still considered important overall by a majority of Pennsylvanians (72%).

Figure 99. Importance of the Provision of Each on State Game Lands



Hunters consider the importance of additional boat ramps and boat access more highly than do nonhunters. On this, 81% of hunters consider it important, while only 69% of nonhunters do so. On the other two items, the groups are fairly similar.

Figure 100. Importance of the Provision of Each on State Game Lands, Hunters

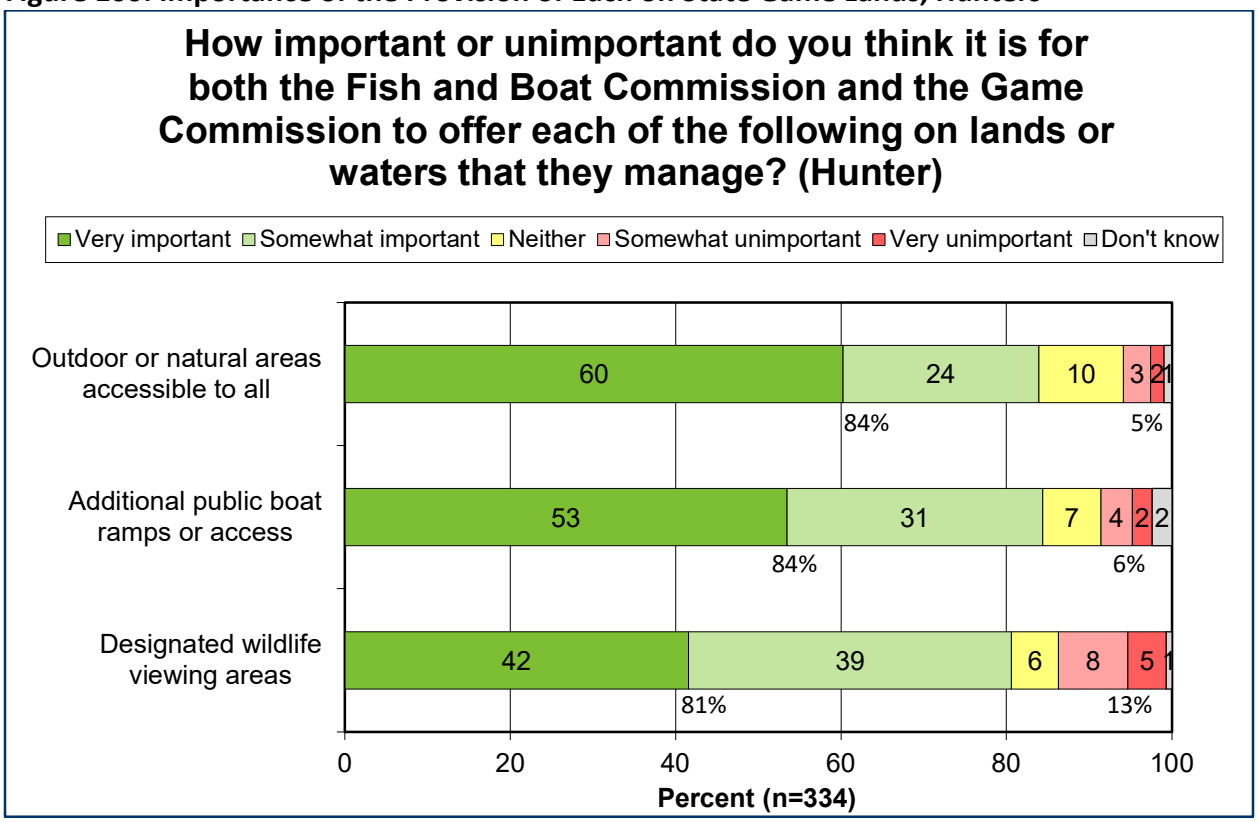
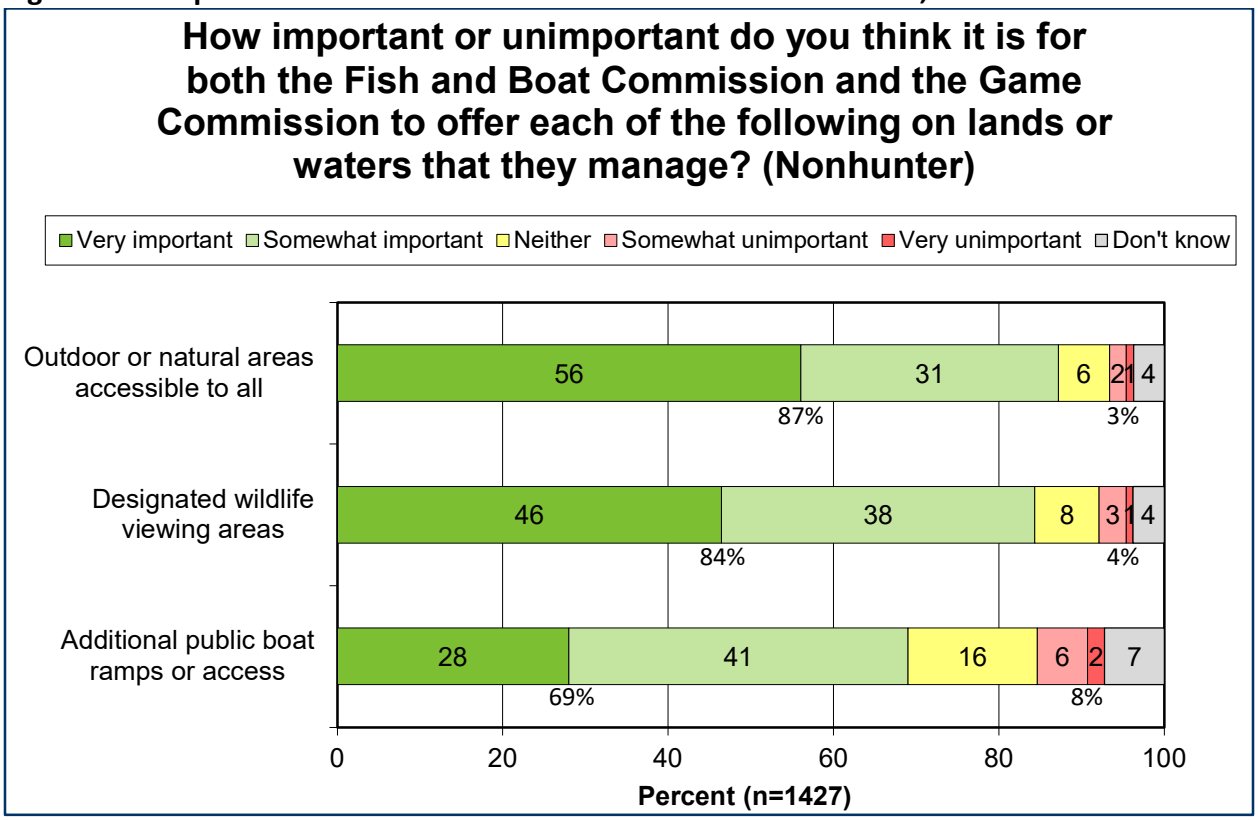
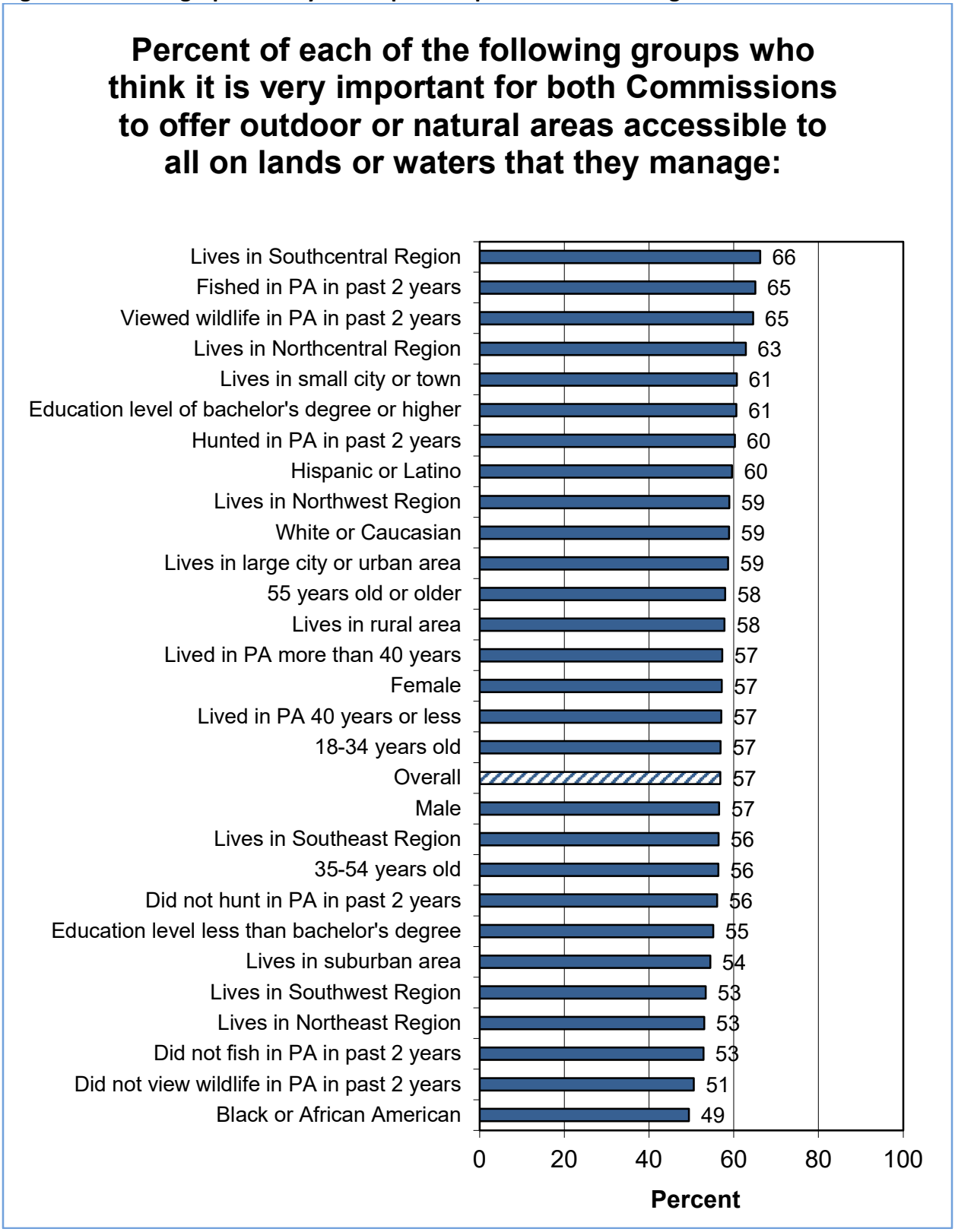


Figure 101. Importance of the Provision of Each on State Game Lands, Nonhunters



Natural areas accessible to all are of most importance to Southcentral and Northcentral Region residents, anglers, and wildlife viewers.

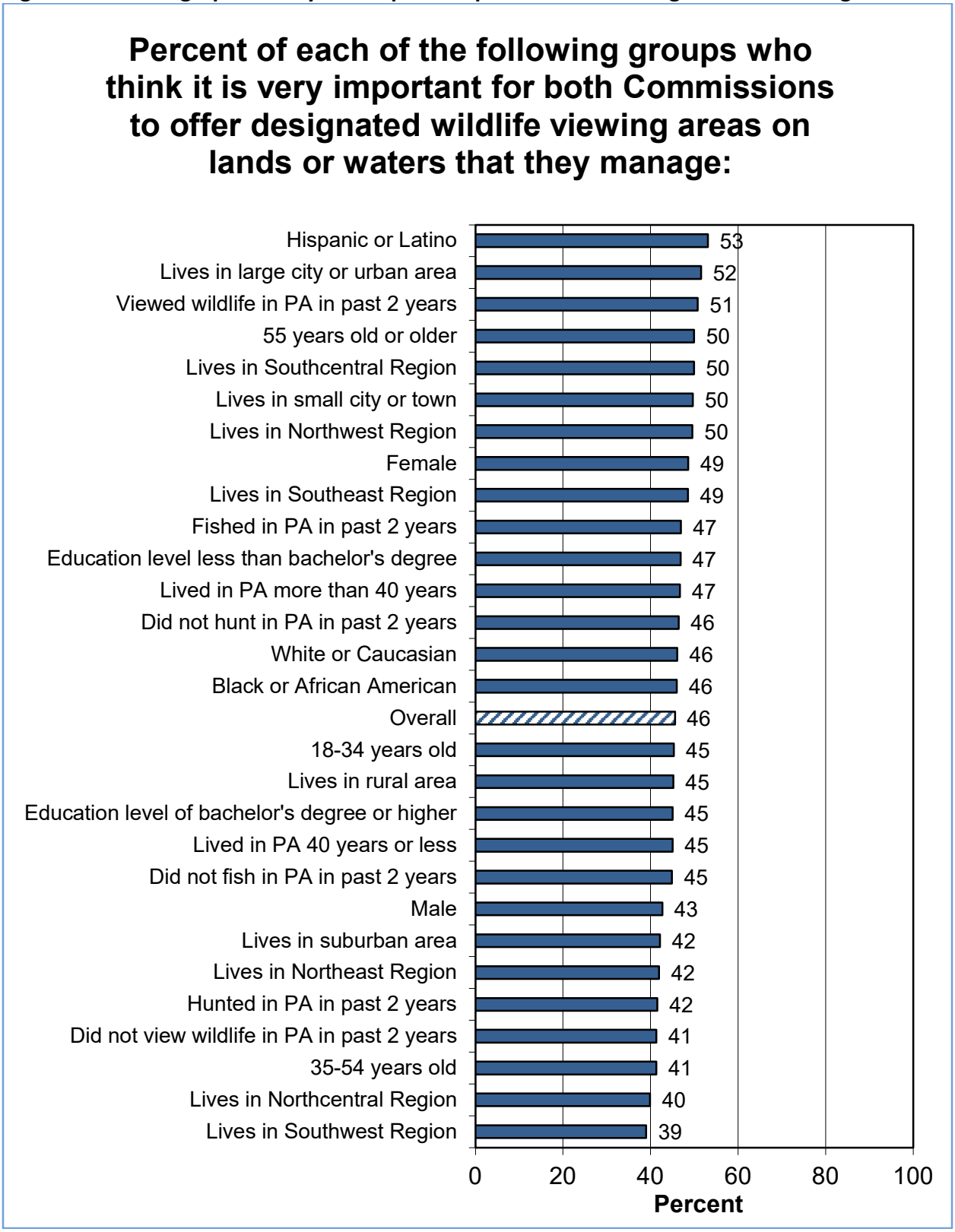
Figure 102. Demographic Analyses Graph of Importance of Offering Outdoor or Natural Areas



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Designated wildlife viewing areas are of most importance to Hispanics, residents of large cities/urban areas, and wildlife viewers.

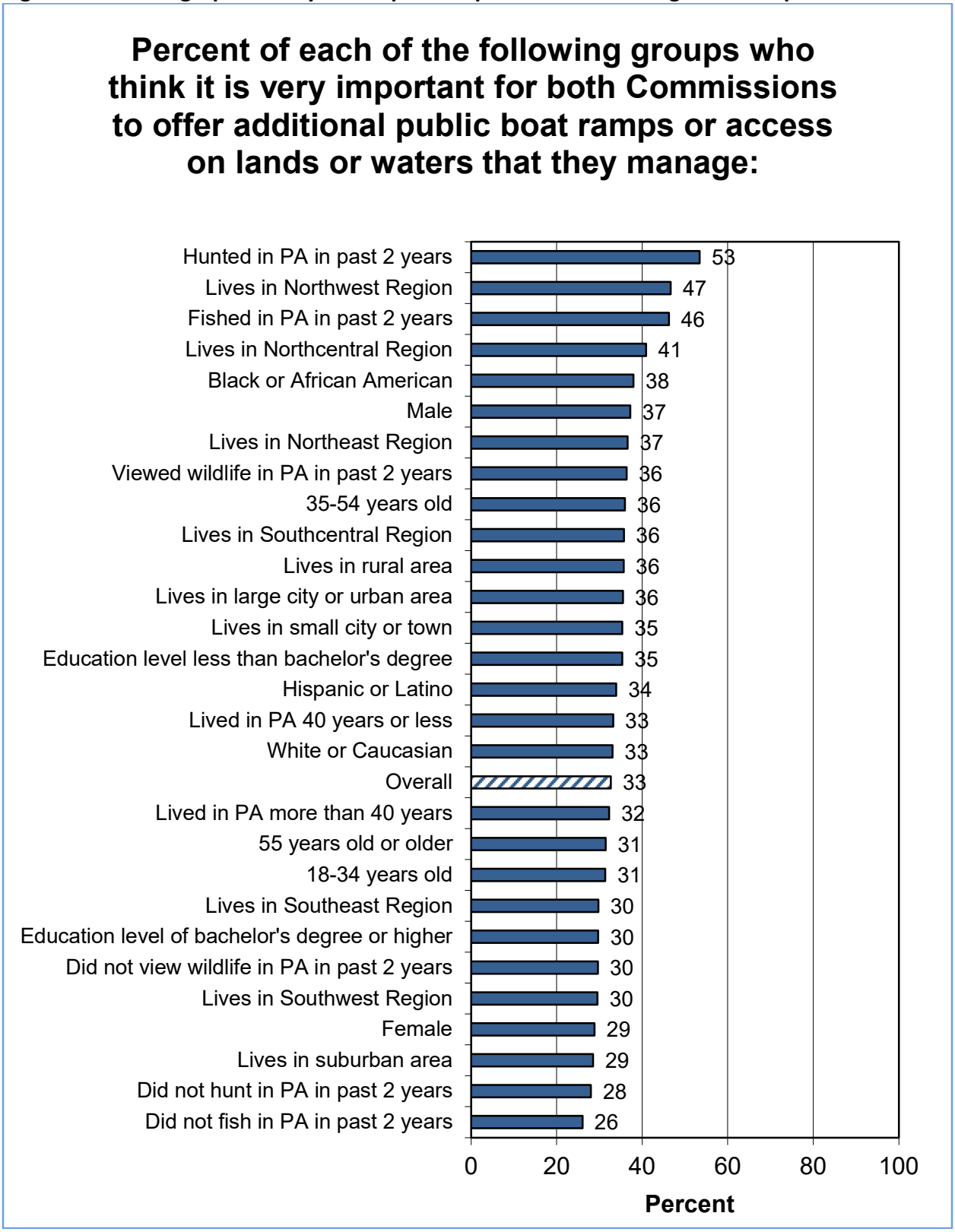
Figure 103. Demographic Analyses Graph of Importance of Offering Wildlife Viewing Areas



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Additional boat ramps and access points are of most importance to hunters, Northwest and Northcentral Region residents, anglers, and Blacks.

Figure 104. Demographic Analyses Graph of Importance of Offering Boat Ramps and Access



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Table 52. Outdoor or natural areas accessible to all (How important or unimportant do you think it is for both the Fish and Boat Commission and the Game Commission to offer each of the following on lands or waters that they manage?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	64	25	3	4	1	3
2	63	29	6	1	0	1
3	48	31	10	2	0	9
4	54	31	7	3	1	5
5	55	32	8	1	0	3
6	57	30	8	1	2	2
7	62	28	4	0	3	3
8	50	39	6	3	0	1
9	58	30	6	1	2	4
10	62	26	6	3	3	1
11	51	32	9	5	0	3
12	54	27	11	3	1	3
13	67	22	4	2	0	4
14	52	28	15	0	2	3
15	66	27	2	4	1	1
16	56	28	5	5	2	4
17	50	38	7	1	1	3
Overall	57	30	7	2	1	3

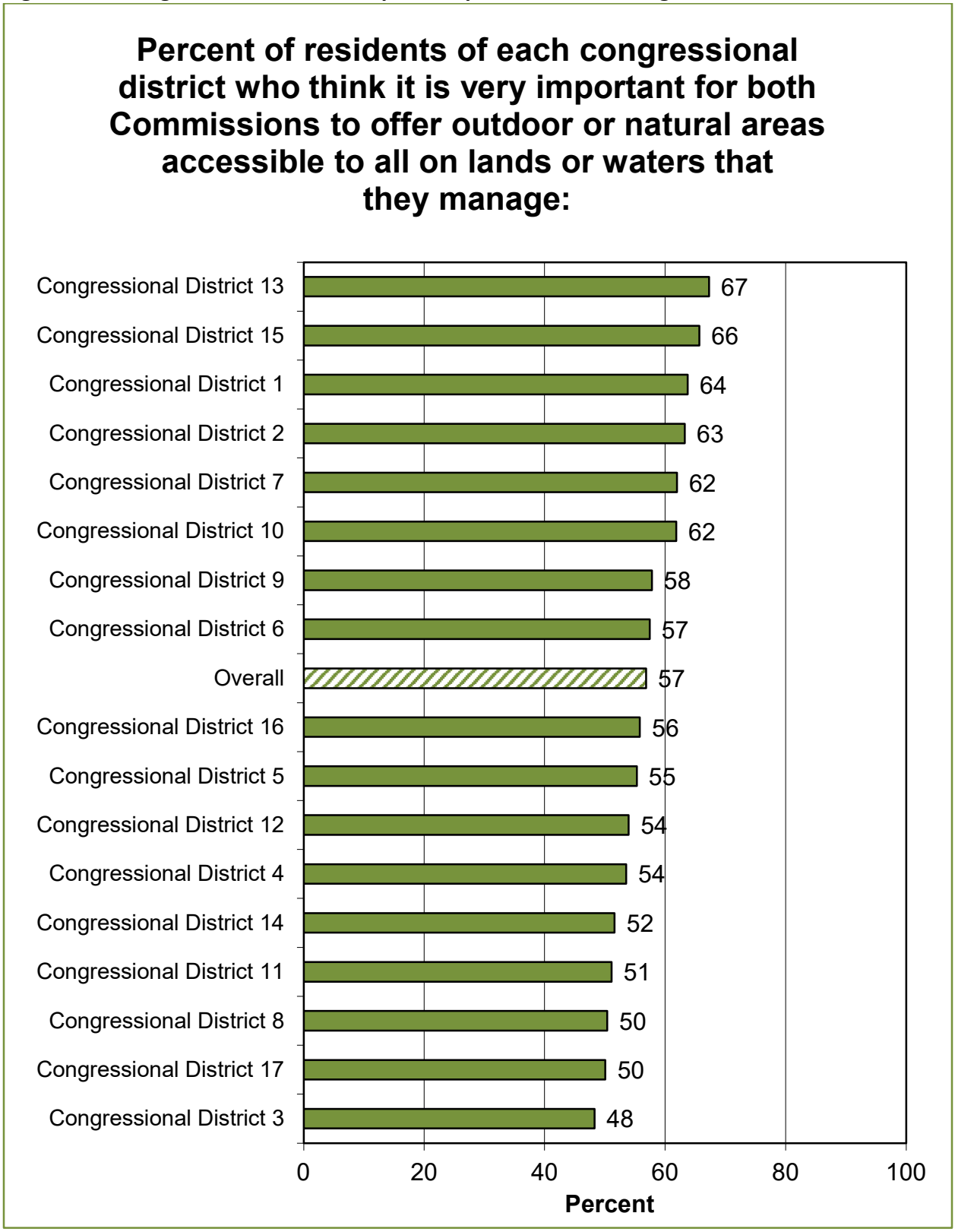
Table 53. Designated wildlife viewing areas (How important or unimportant do you think it is for both the Fish and Boat Commission and the Game Commission to offer each of the following on lands or waters that they manage?) (Graph shows percentages giving response.)

District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	44	46	7	0	0	3
2	56	28	13	2	0	1
3	41	31	15	2	2	9
4	50	31	8	5	2	4
5	53	33	8	3	0	2
6	48	41	7	3	1	2
7	49	38	6	2	0	6
8	38	52	6	2	1	1
9	47	35	5	5	5	4
10	53	35	8	2	1	2
11	52	38	2	4	1	3
12	44	44	6	3	0	3
13	44	36	7	7	3	3
14	35	38	9	11	4	3
15	38	43	5	10	3	1
16	47	31	7	8	2	4
17	41	49	6	2	0	2
Overall	46	38	7	4	2	3

Table 54. Additional public boat ramps or access (How important or unimportant do you think it is for both the Fish and Boat Commission and the Game Commission to offer each of the following on lands or waters that they manage?) (Graph shows percentages giving response.)

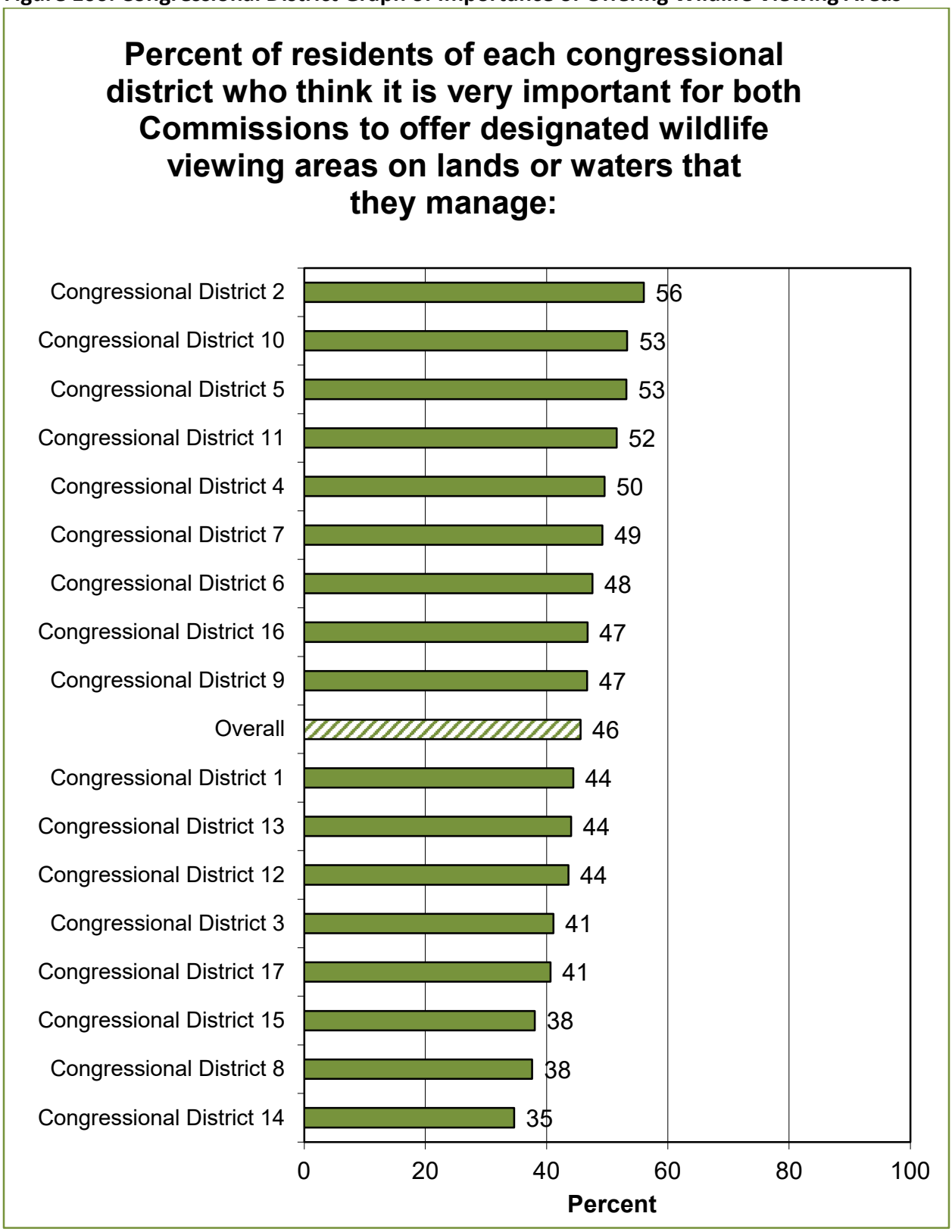
District	Very important	Somewhat important	Neither	Somewhat unimportant	Very unimportant	Don't know
1	28	40	19	4	3	6
2	43	24	18	10	1	5
3	27	42	13	2	2	14
4	29	33	18	8	5	9
5	32	44	12	3	3	7
6	20	50	14	9	2	5
7	31	35	19	6	0	10
8	28	49	13	9	1	1
9	47	36	5	5	1	6
10	41	33	21	2	1	2
11	24	42	10	10	2	12
12	30	44	11	5	5	4
13	37	42	15	1	1	3
14	33	37	15	2	4	8
15	45	34	11	6	1	3
16	42	35	7	8	2	6
17	22	43	20	7	0	9
Overall	33	39	14	6	2	6

Figure 105. Congressional District Graph of Importance of Offering Outdoor or Natural Areas



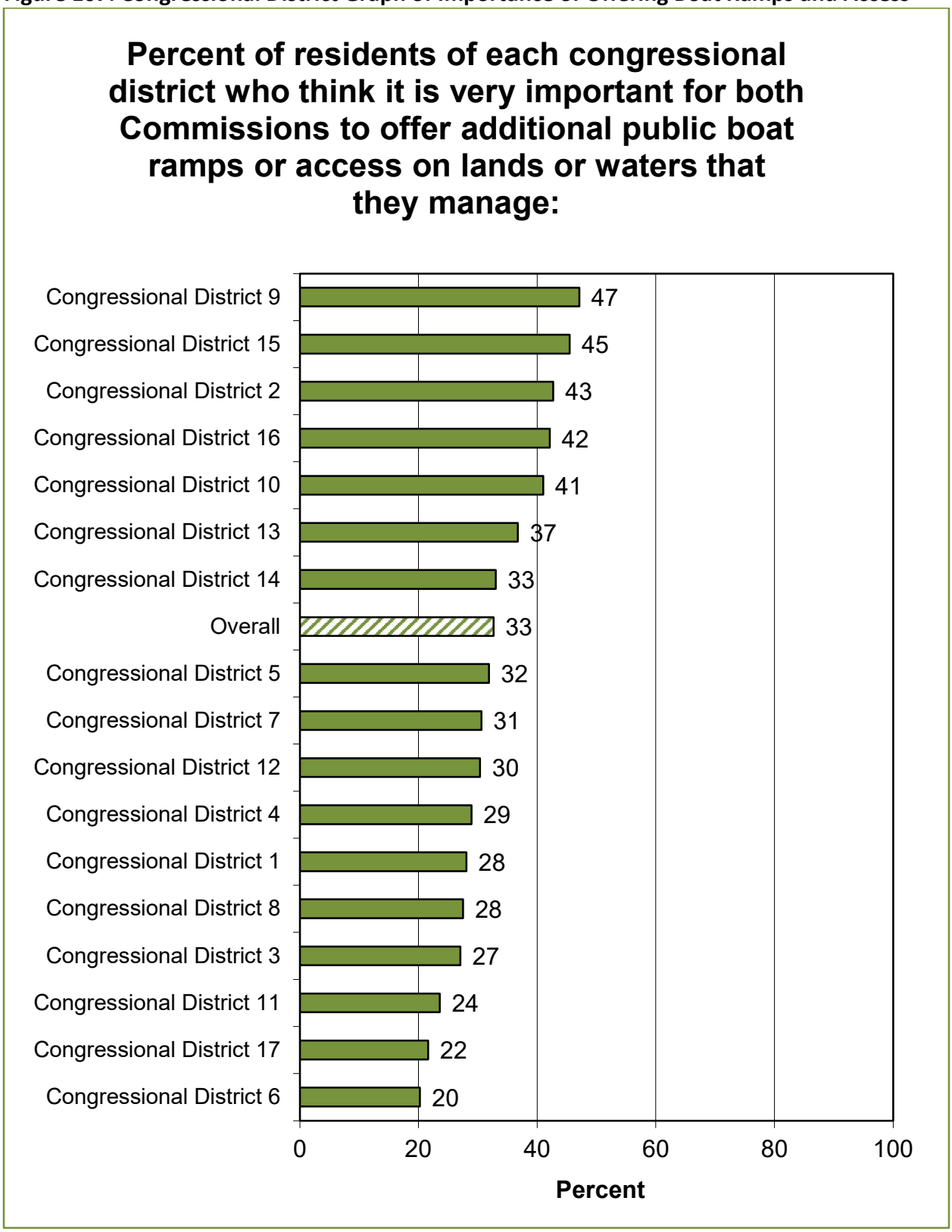
A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 106. Congressional District Graph of Importance of Offering Wildlife Viewing Areas



A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

Figure 107. Congressional District Graph of Importance of Offering Boat Ramps and Access

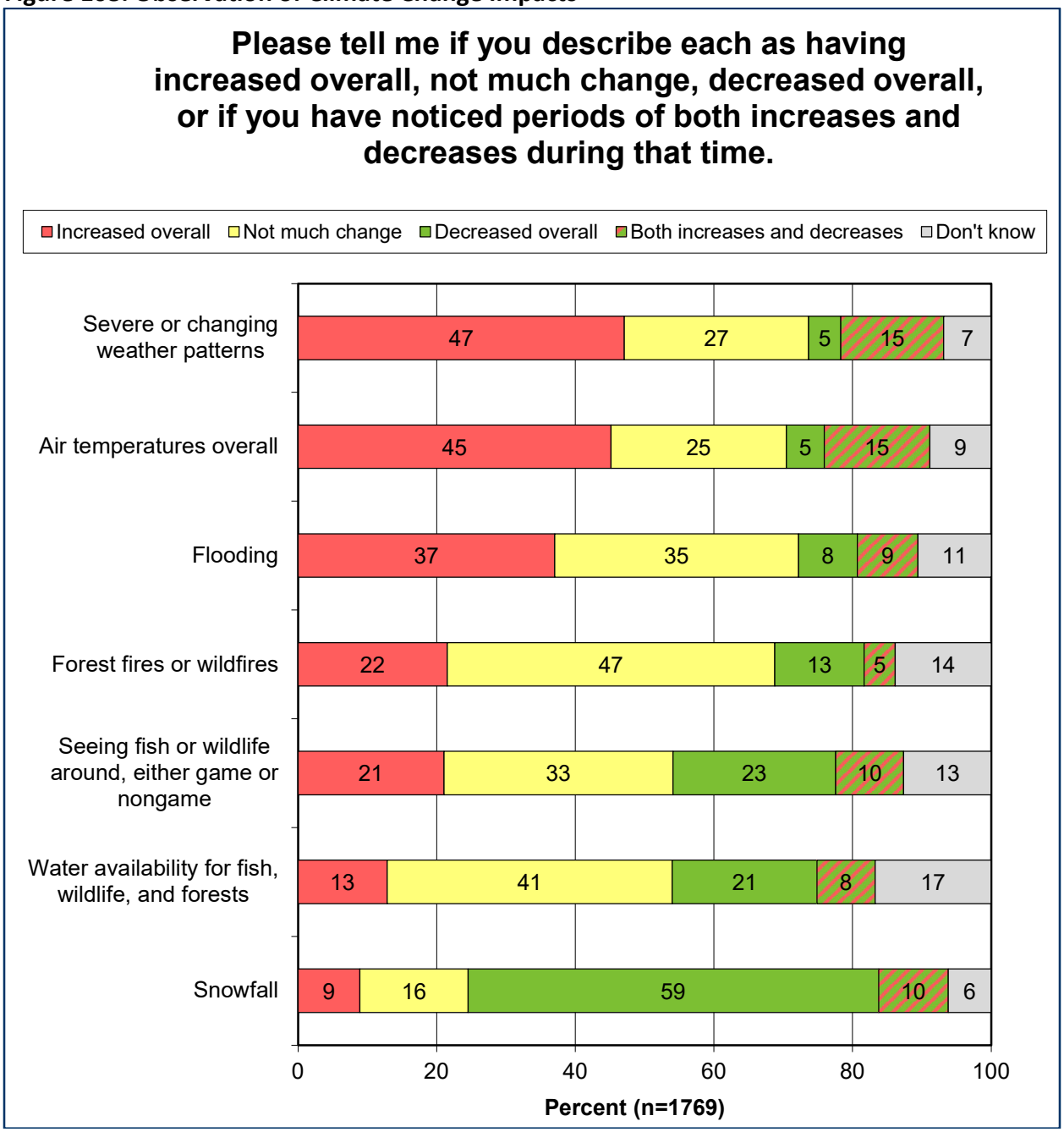


A rule of thumb is that the difference should be 5 percentage points or more for the difference to be noteworthy.

CLIMATE CHANGE IN PENNSYLVANIA

Without mentioning the phrase, "climate change," the survey asked whether Pennsylvanians had seen phenomena related to climate change. For each item, residents indicated whether they perceive it as increasing, staying about the same, or decreasing (or if they had seen both periods of increase and periods of decrease). Both severe or changing weather patterns and air temperatures overall are seen by nearly half of residents as having increased, and more than a third have seen increases in flooding. For two of the items, a much greater percentage perceive a decrease than perceive an increase: water availability and snow. Hunters' and nonhunters' results are shown on succeeding pages; they are quite similar to one another on this series.

Figure 108. Observation of Climate Change Impacts



"That time" refers to since the respondent has been living in Pennsylvania.

Table 55. Severe or changing weather patterns (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) (Graph shows percentages giving response.)

District	Increased overall	Not much change	Decreased overall	Both increases and decreases	Don't know
1	49	28	5	16	1
2	52	17	14	10	7
3	45	26	2	13	14
4	54	18	4	16	8
5	47	26	3	19	6
6	52	25	7	14	2
7	41	30	3	16	10
8	47	20	9	17	7
9	39	32	6	19	4
10	51	31	0	13	4
11	47	21	3	20	9
12	51	28	3	10	7
13	34	39	4	17	5
14	39	28	2	17	14
15	48	32	5	12	3
16	42	29	6	16	6
17	63	14	5	9	9
Overall	47	27	5	15	7

Table 56. Air temperatures overall (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) (Graph shows percentages giving response.)

District	Increased overall	Not much change	Decreased overall	Both increases and decreases	Don't know
1	50	34	6	6	4
2	43	24	9	14	10
3	34	21	8	21	15
4	53	15	4	14	13
5	41	22	6	22	9
6	46	33	5	11	6
7	36	26	3	22	13
8	48	24	2	14	12
9	44	33	6	15	3
10	39	35	8	9	9
11	46	23	8	12	12
12	52	29	3	10	5
13	43	32	5	18	2
14	56	17	5	9	14
15	49	20	9	16	5
16	40	23	4	27	6
17	49	16	4	17	13
Overall	45	25	5	15	9

Table 57. Flooding (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) (Graph shows percentages giving response.)

District	Increased overall	Not much change	Decreased overall	Both increases and decreases	Don't know
1	61	26	2	5	5
2	47	20	8	5	21
3	42	30	3	8	16
4	50	26	8	5	10
5	41	35	5	11	7
6	41	37	8	9	5
7	34	25	11	16	14
8	40	31	4	18	7
9	44	35	11	5	4
10	17	49	19	7	7
11	35	38	6	11	10
12	42	31	6	9	13
13	31	49	9	4	7
14	26	43	9	5	17
15	26	43	16	8	6
16	18	40	12	13	17
17	37	33	5	10	16
Overall	37	35	8	9	11

Table 58. Forest fires or wildfires (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) (Graph shows percentages giving response.)

District	Increased overall	Not much change	Decreased overall	Both increases and decreases	Don't know
1	16	59	12	2	10
2	30	35	14	4	18
3	22	36	8	8	25
4	28	35	17	4	16
5	25	38	15	12	10
6	16	59	16	3	7
7	25	45	11	3	16
8	25	44	12	3	17
9	19	54	13	3	11
10	19	57	5	8	12
11	15	56	14	5	10
12	23	43	15	5	15
13	22	54	15	1	8
14	18	47	12	4	19
15	28	47	14	6	5
16	11	52	15	2	20
17	25	38	14	3	20
Overall	22	47	13	5	14

Table 59. Seeing fish or wildlife around, either game or nongame (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) (Graph shows percentages giving response.)

District	Increased overall	Not much change	Decreased overall	Both increases and decreases	Don't know
1	13	43	26	5	13
2	28	18	32	7	15
3	13	37	18	12	20
4	26	36	13	13	12
5	25	30	21	9	14
6	20	34	23	14	9
7	18	40	22	8	12
8	18	28	27	13	14
9	31	40	20	8	2
10	17	34	29	10	11
11	14	43	22	6	15
12	22	37	16	10	15
13	12	23	44	15	6
14	25	31	15	13	17
15	28	27	28	11	6
16	33	24	23	8	12
17	17	32	20	5	25
Overall	21	33	23	10	13

Table 60. Water availability for fish, wildlife, and forests (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) (Graph shows percentages giving response.)

District	Increased overall	Not much change	Decreased overall	Both increases and decreases	Don't know
1	18	35	29	5	13
2	15	46	14	10	15
3	15	37	9	7	32
4	14	39	17	8	21
5	10	40	26	8	15
6	17	42	20	9	13
7	9	35	23	14	19
8	7	37	23	14	19
9	9	51	16	6	18
10	13	43	18	9	17
11	10	40	26	5	18
12	14	41	17	8	21
13	10	44	28	7	12
14	18	40	19	9	13
15	16	47	24	9	4
16	17	44	21	7	11
17	7	39	23	9	22
Overall	13	41	21	8	17

Table 61. Snowfall (Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?) (Graph shows percentages giving response.)

District	Increased overall	Not much change	Decreased overall	Both increases and decreases	Don't know
1	9	18	54	17	3
2	14	12	62	7	5
3	13	20	47	6	13
4	13	18	55	8	6
5	15	15	46	21	3
6	11	18	57	11	2
7	12	22	36	20	10
8	5	16	65	10	5
9	7	18	66	7	2
10	11	21	58	4	6
11	8	9	63	11	9
12	3	21	63	9	5
13	6	13	70	7	3
14	4	9	65	6	15
15	6	12	73	7	2
16	9	6	67	14	4
17	6	15	62	6	11
Overall	9	16	59	10	6

Those who perceived increases or decreases (or some of both) were asked a follow-up question, and the results are shown out of everyone in that survey path (which is a random half of the sample, fully representative of Pennsylvania residents overall). A majority are concerned about the effects of the changes that they have seen on nongame fish and wildlife and their habitats. Hunters and nonhunters are not greatly different on this question.

Figure 109. Concern About Climate Change Impacts

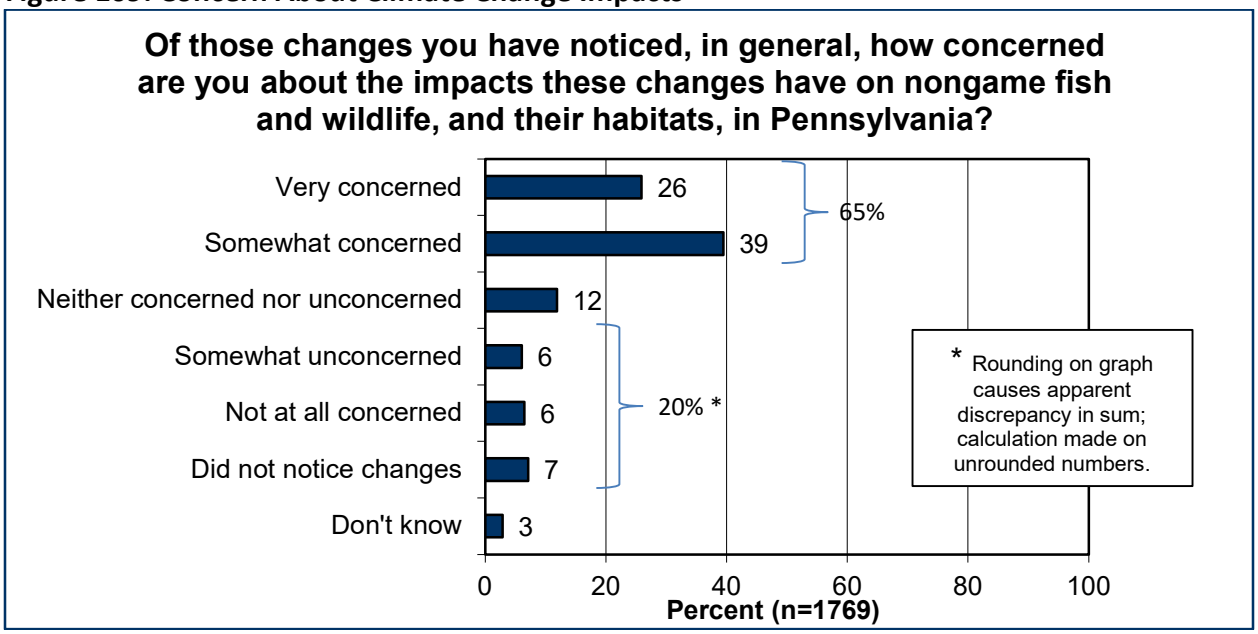


Table 62. Of those changes you have noticed, in general, how concerned are you about the impacts these changes have on nongame fish and wildlife, and their habitats, in Pennsylvania? (Graph shows percentages giving response.)

District	Very concerned	Somewhat concerned	Neither concerned nor unconcerned	Somewhat unconcerned	Not at all concerned	Did not notice changes	Don't know	Prefer not to say
1	21	43	24	2	3	3	2	2
2	27	40	7	14	3	7	3	0
3	30	25	14	4	5	19	2	0
4	35	39	8	4	1	7	5	1
5	25	43	13	6	5	6	3	0
6	26	52	9	4	6	1	0	0
7	31	35	14	9	1	9	1	0
8	32	42	15	3	1	6	1	0
9	21	44	12	6	14	3	2	0
10	25	39	11	11	7	3	5	0
11	25	41	8	5	5	6	10	0
12	27	40	9	9	3	13	0	0
13	18	43	12	4	13	5	4	0
14	27	32	8	6	12	12	3	0
15	27	40	11	6	12	3	0	1
16	24	33	16	6	14	5	3	0
17	23	39	13	7	4	11	4	0
Overall	26	39	12	6	6	7	3	0

Crosstabulations by gender, age, and ethnicity of the question regarding concern about climate change impacts show more concern among women and Whites. There was little difference in concern by age.

Figure 110. Concern About Climate Change Impacts, by Gender

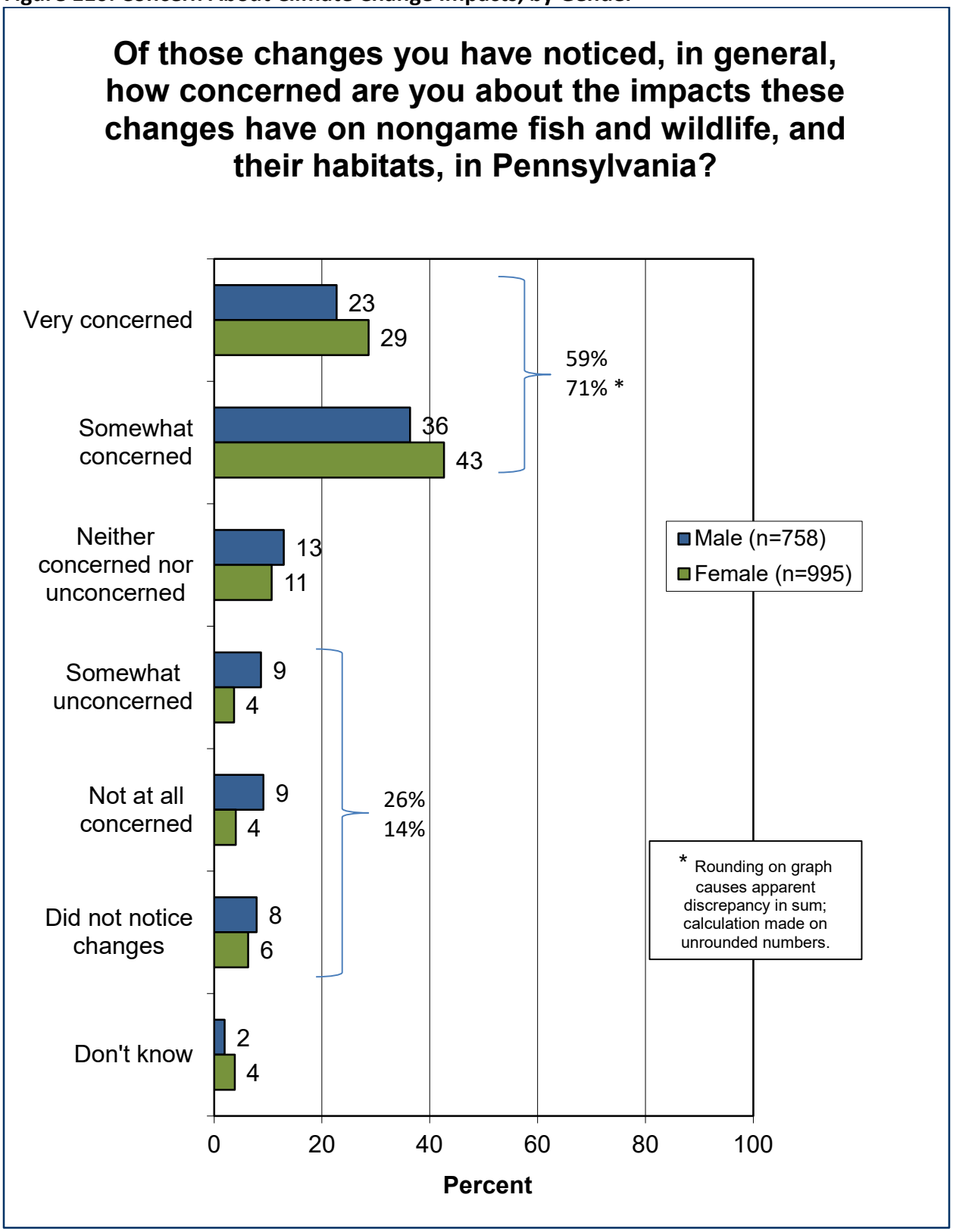


Figure 111. Concern About Climate Change Impacts by Age

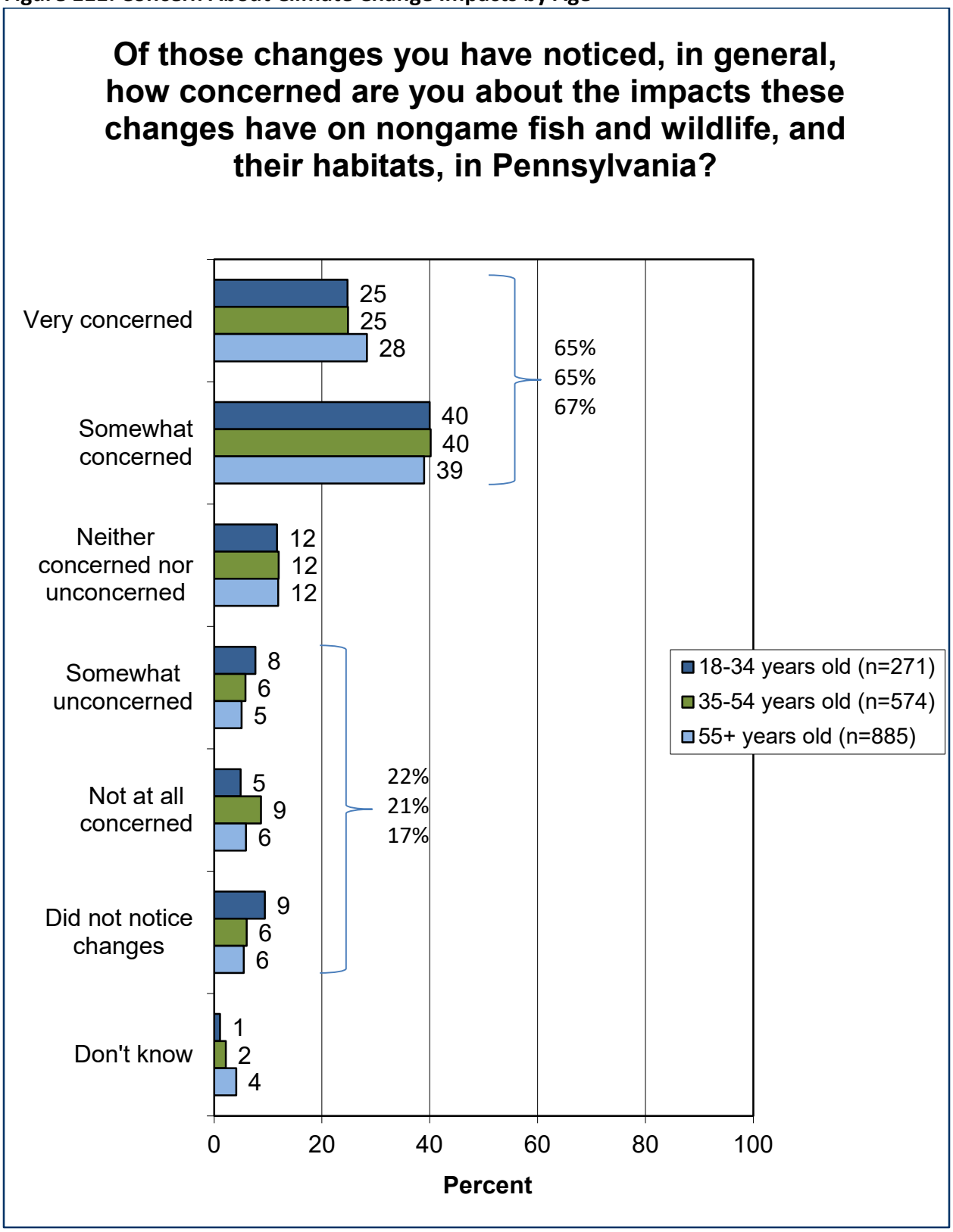
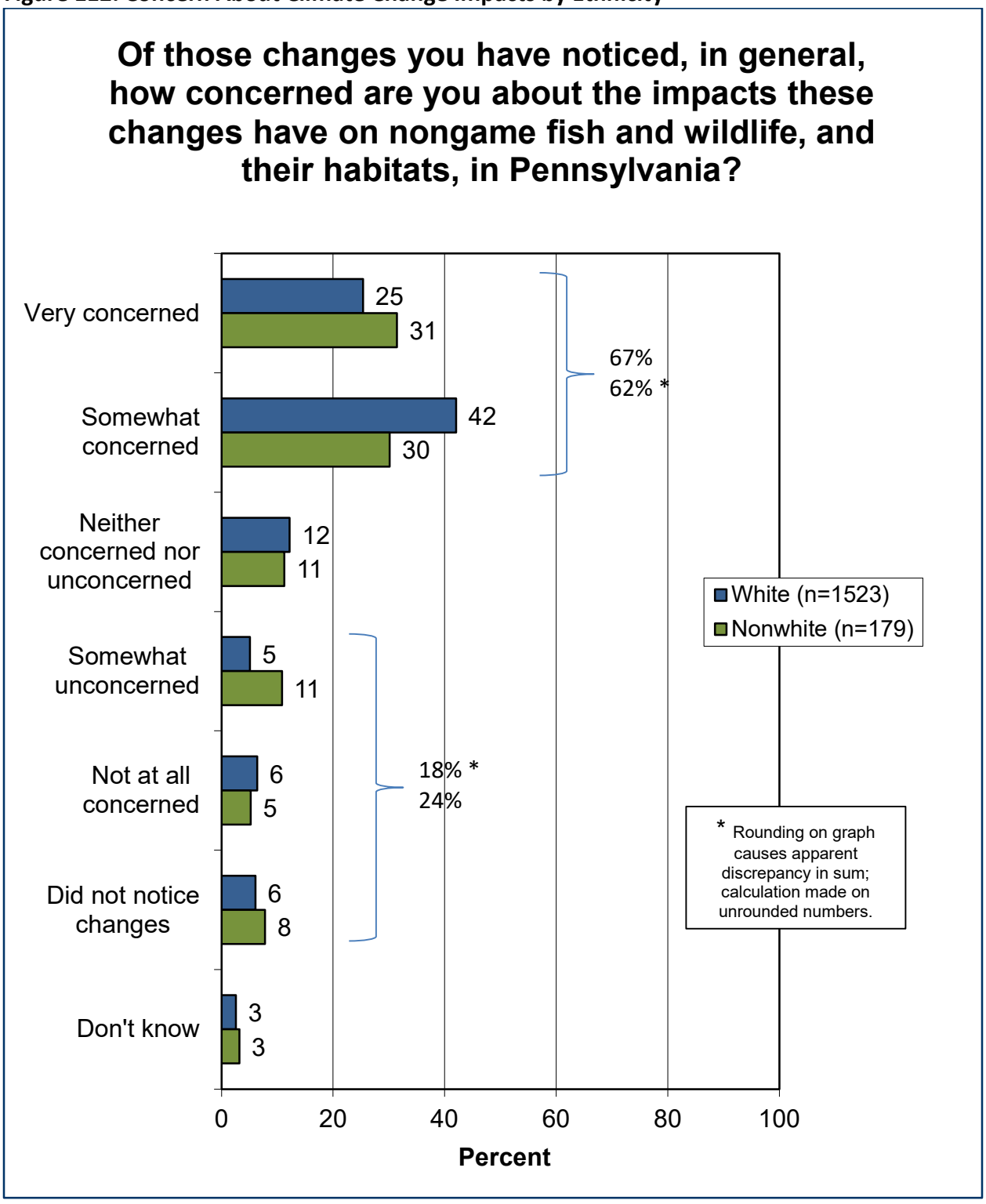


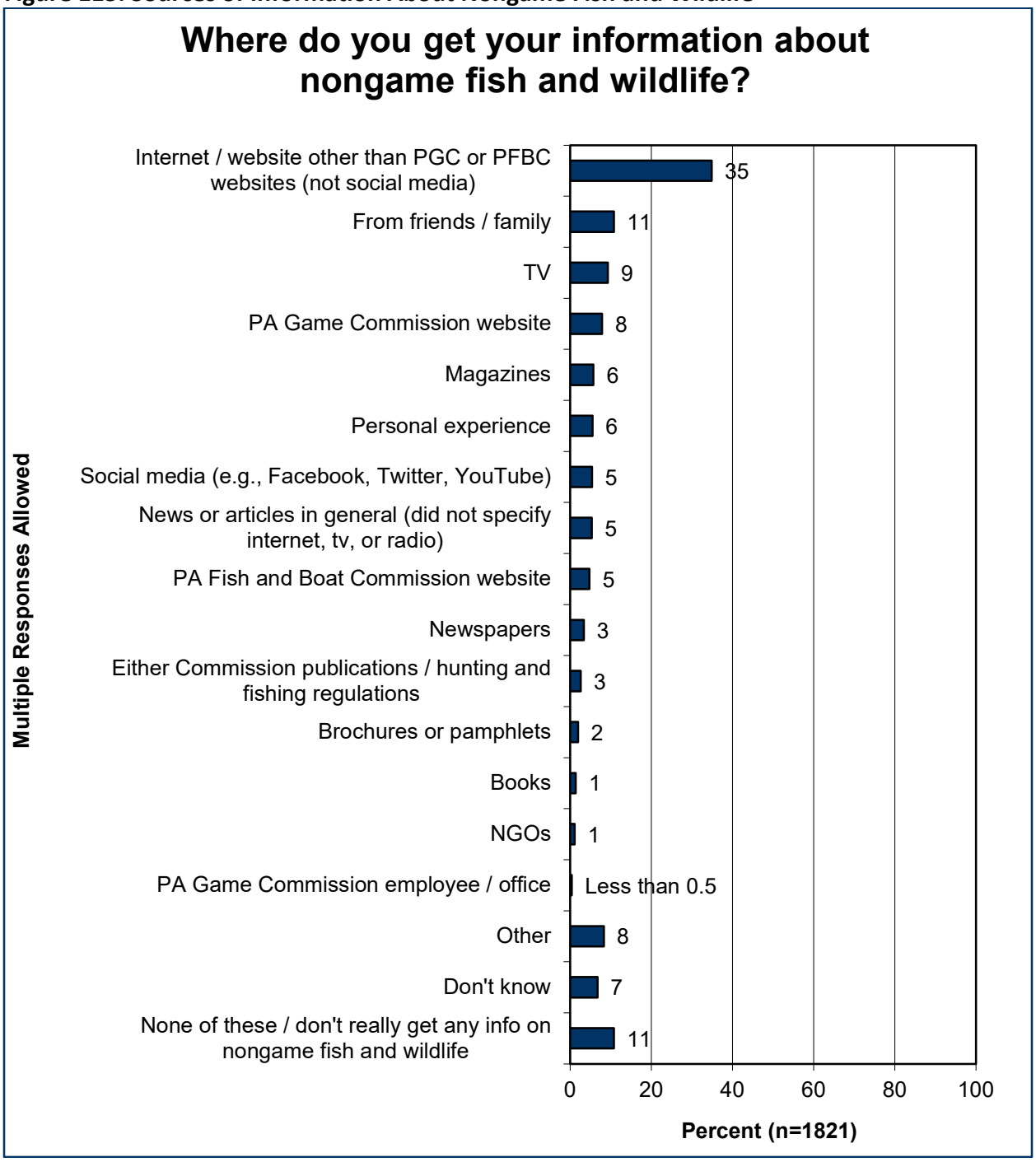
Figure 112. Concern About Climate Change Impacts by Ethnicity



SOURCES OF INFORMATION

Among the findings of the open-ended question that asked about sources of information regarding nongame fish and wildlife, 35% get their nongame fish and wildlife information from websites other than Commission websites. Also, 8% of Pennsylvania residents indicate visiting the Game Commission's website, and 5% visit the Fish and Boat Commission website.

Figure 113. Sources of Information About Nongame Fish and Wildlife



The crosstabulation by congressional district shows only those sources named by 5% or more.

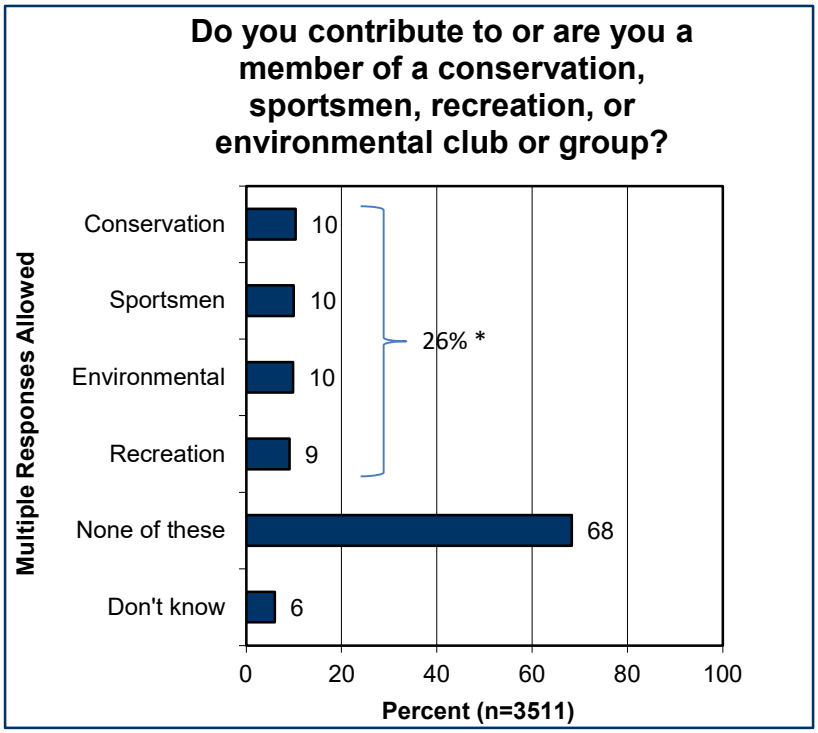
Table 63. Where do you get your information about nongame fish and wildlife? (Graph shows percentages giving response.)

District	Internet / website other than PGC or PFBC websites (not social media)	From friends / family	TV	PA Game Commission website	Magazines	Personal experience	Social media (e.g., Facebook, Twitter, YouTube)	News or articles in general (did not specify internet, tv, or radio)	PA Fish and Boat Commission website
1	36	6	6	7	4	3	7	10	5
2	34	15	9	2	4	2	12	2	2
3	38	2	11	2	3	4	4	8	2
4	35	12	10	3	6	2	3	7	2
5	29	10	15	6	7	3	10	7	3
6	48	14	4	4	1	7	3	5	1
7	39	8	11	7	2	7	6	7	1
8	28	17	7	7	12	7	7	6	2
9	32	8	9	5	5	15	7	4	4
10	45	15	7	17	3	5	3	4	16
11	24	11	11	6	7	4	6	3	4
12	31	7	14	12	6	6	2	8	6
13	32	11	6	4	9	11	5	3	1
14	39	7	8	10	8	6	6	2	7
15	39	12	7	22	5	6	3	3	16
16	41	10	11	7	8	5	4	7	1
17	22	17	10	8	6	3	2	4	3
Overall	35	11	9	8	6	6	5	5	5

NATURAL RESOURCE-RELATED ORGANIZATIONS

Just over a quarter of Pennsylvania residents contribute to or are a member of a non-governmental organization: 26% named one of the types of organizations. Two thirds indicated that they definitely do not donate to nor are a member of such an organization, and the rest are unsure. (These are not sums, as respondents could select more than one response.)

Figure 114. Membership in Organizations



There has been a rise in the percentage who donate to or are members of any of the four types of organizations.

Figure 115. Trends Graph of Membership in Organizations

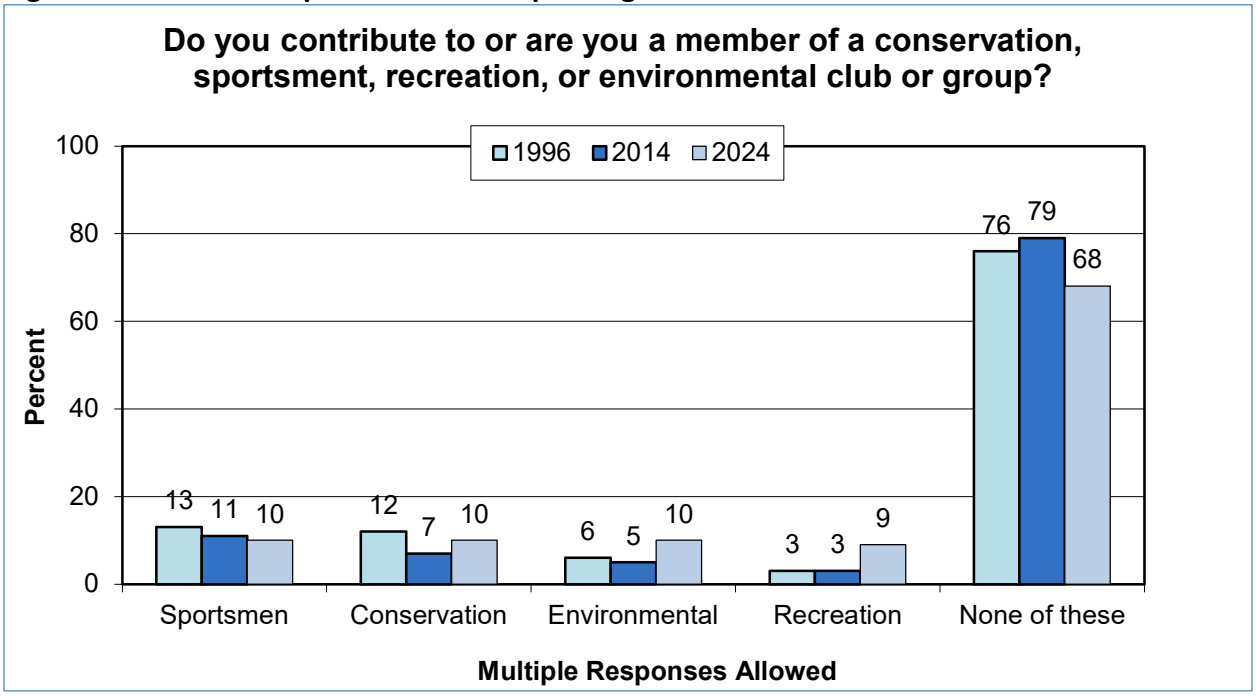


Table 64. Do you contribute to or are you a member of a conservation, sportsmen, recreation, or environmental club or group? (Graph shows percentages giving response.)

District	Sportsmen	Conservation	Environmental	Recreation	None of these	Don't know	Refused
1	4	10	13	12	69	2	2
2	7	7	9	12	67	8	2
3	7	8	12	18	64	9	2
4	10	10	15	15	64	4	2
5	9	18	16	12	66	2	3
6	9	8	14	5	71	3	1
7	9	13	15	12	70	2	1
8	6	10	5	3	76	5	3
9	16	7	9	6	66	5	2
10	7	8	6	9	72	6	1
11	6	10	7	10	71	7	2
12	8	9	10	6	76	1	1
13	22	14	4	7	60	4	1
14	16	11	8	6	64	3	2
15	15	13	7	9	67	2	1
16	13	7	7	6	71	4	2
17	6	15	12	6	68	6	0
Overall	10	10	10	9	68	4	2

DEMOGRAPHIC INFORMATION

The following demographic information was gathered in the survey, primarily for use in crosstabulations and further analyses. Nonetheless, the results are of interest on their own. The survey asked about:

- Gender.
- Age.
- Length of time living in Pennsylvania.
- Ethnicity.
- Education.
- Type of residential area (urban-rural continuum).

Figure 116. Gender

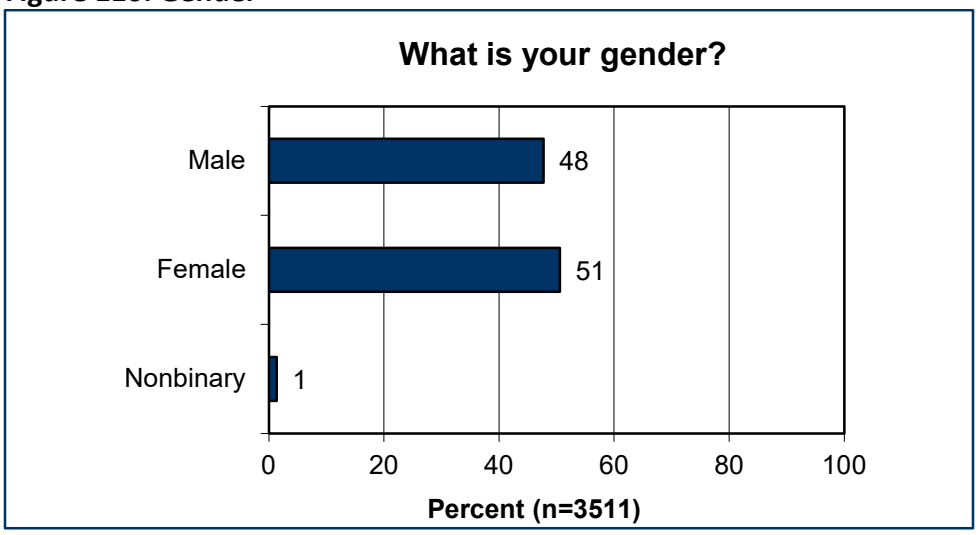


Figure 117. Age

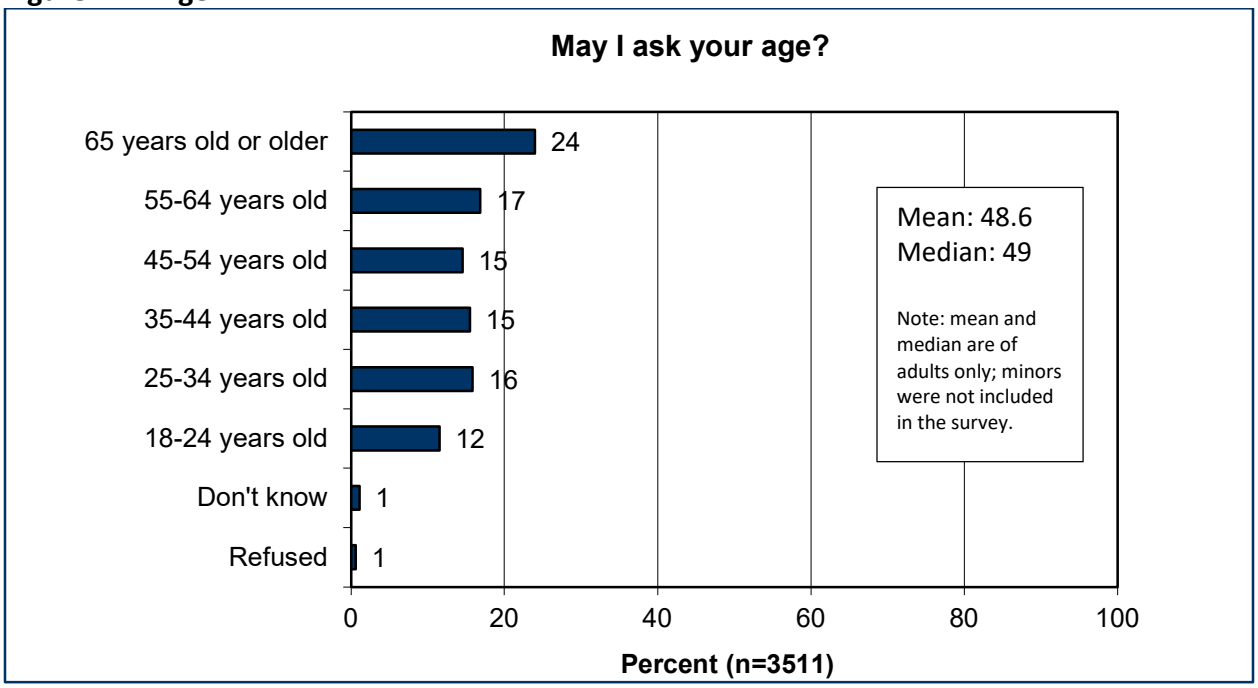


Figure 118. Length of Residency

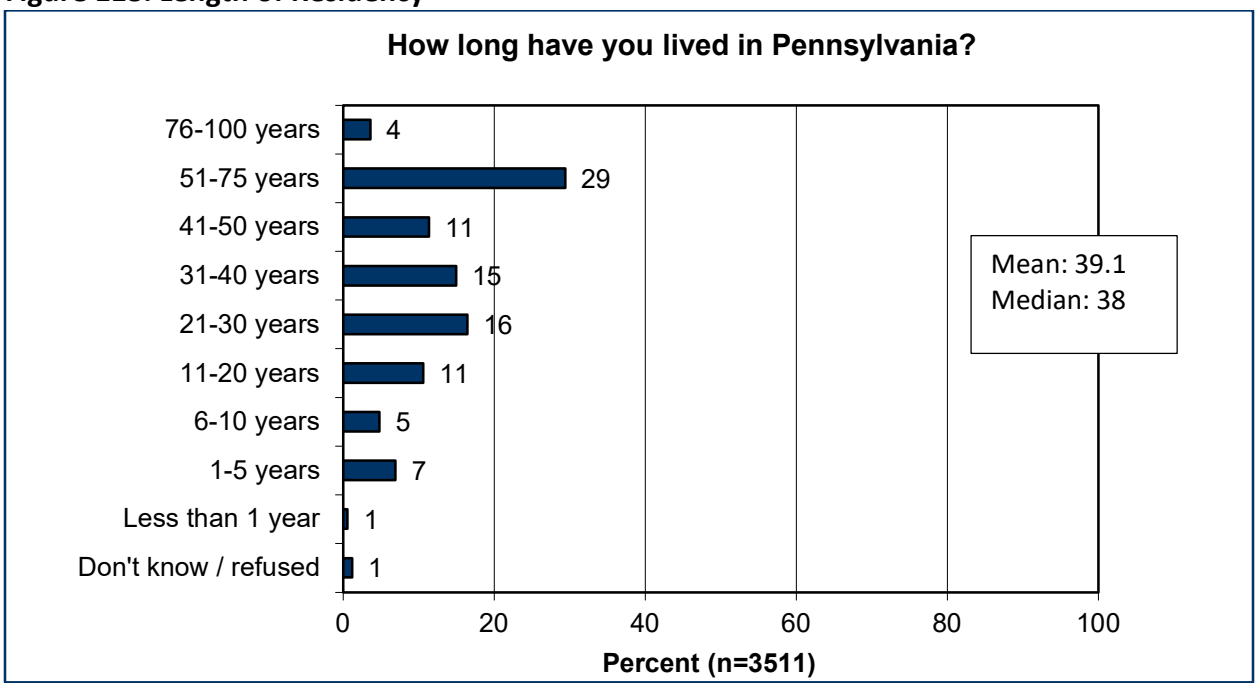


Figure 119. Ethnicity

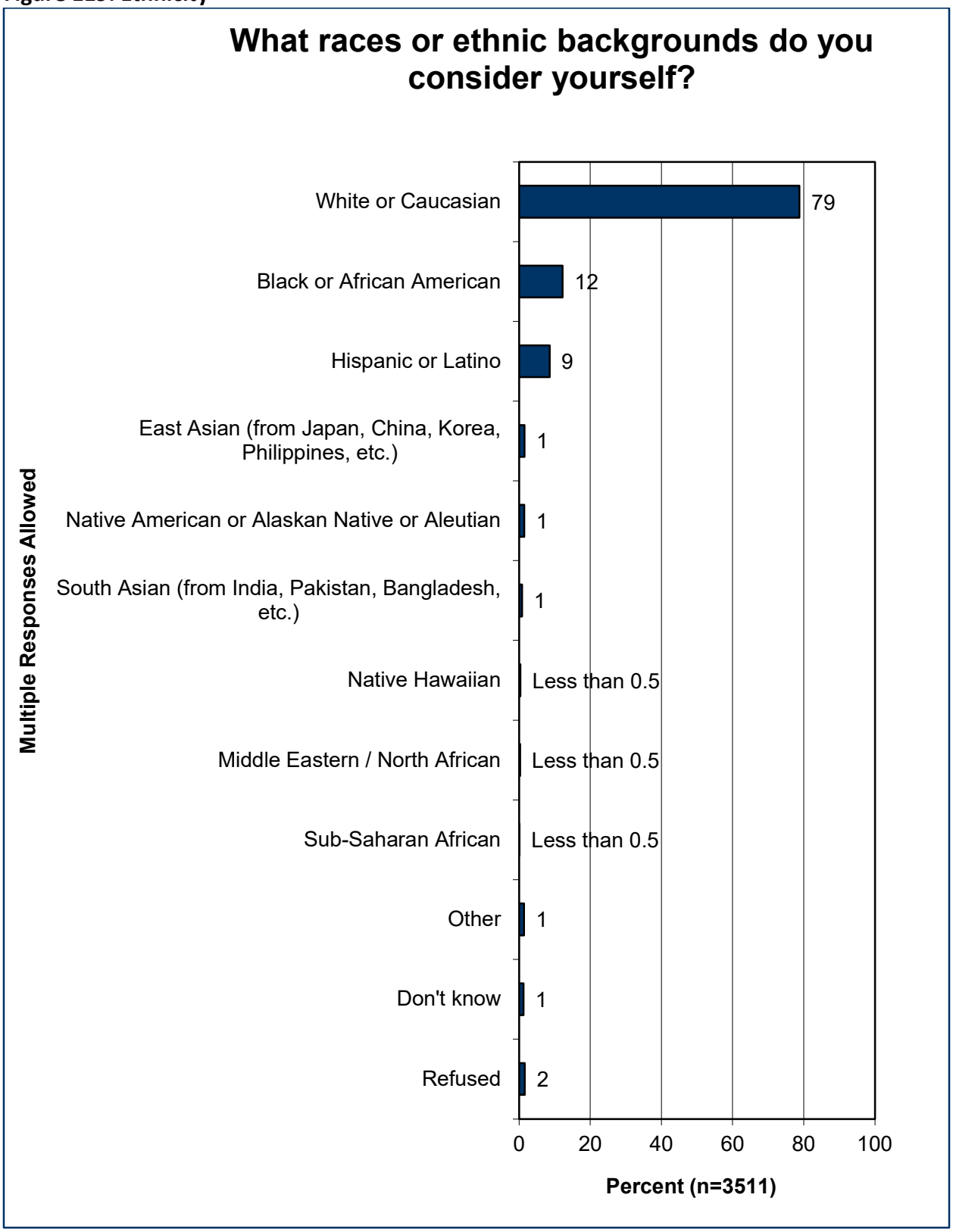


Figure 120. Education

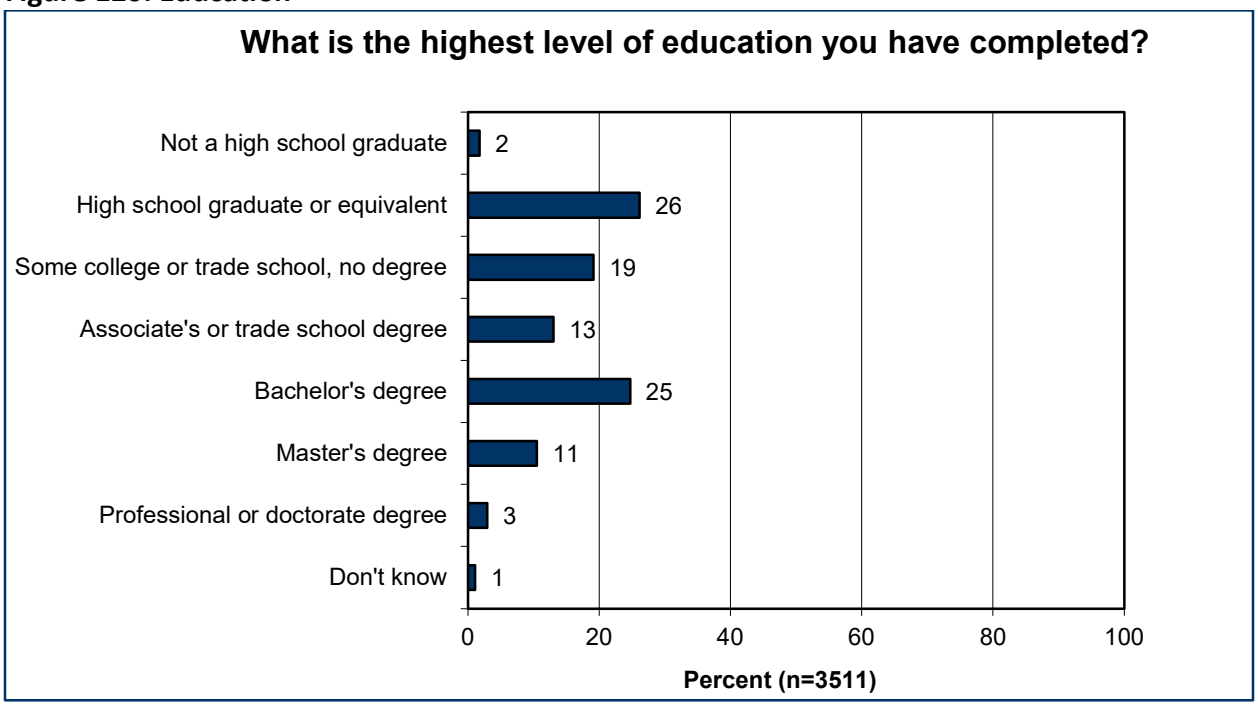


Figure 121. Residential Area

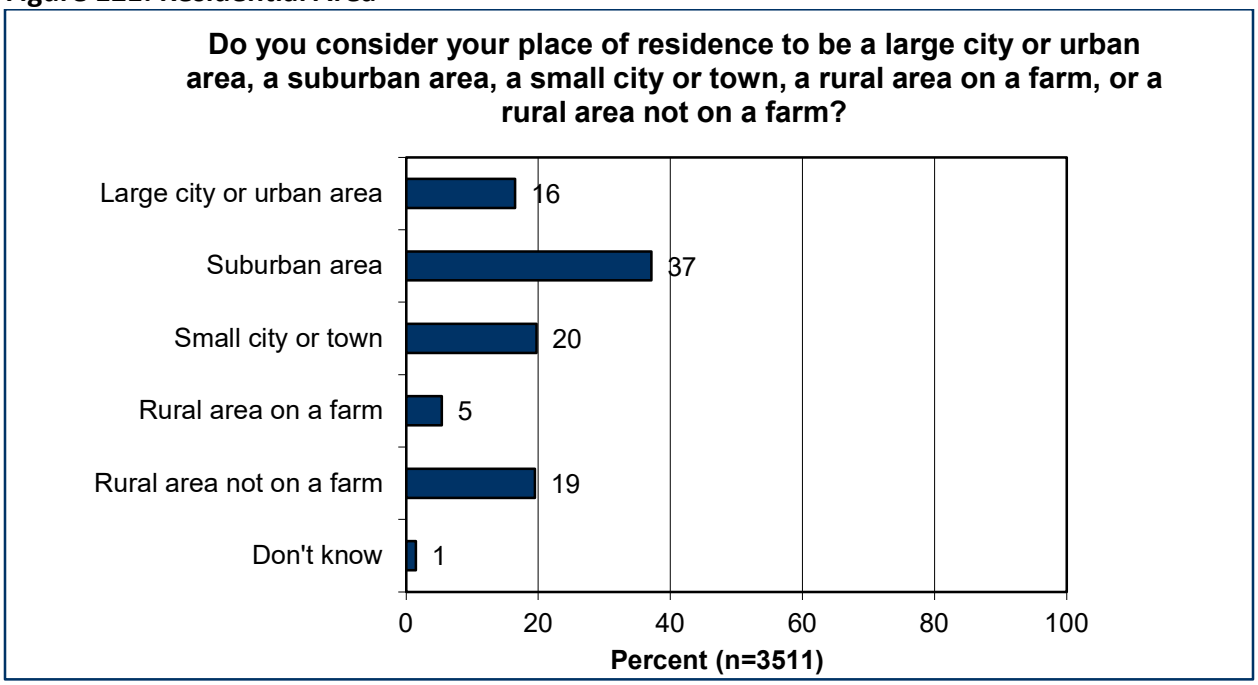


Table 65. What is your gender? (Graph shows percentages giving response.)			
District	Male	Female	Nonbinary
1	49	50	0
2	48	52	0
3	46	53	1
4	48	50	1
5	47	52	0
6	47	50	3
7	49	51	0
8	48	48	3
9	42	49	8
10	49	51	0
11	48	51	1
12	48	51	1
13	50	49	2
14	50	50	0
15	51	48	0
16	46	50	4
17	47	52	1
Overall	48	51	1

Table 66. May I ask your age? (Graph shows percentages giving response.)

District	65 years old or older	55-64 years old	45-54 years old	35-44 years old	25-34 years old	18-24 years old	Don't know	Refused
1	26	19	16	15	13	10	0	1
2	19	16	15	18	20	11	1	0
3	16	12	12	16	26	15	1	2
4	25	18	16	17	15	10	0	0
5	21	17	15	17	17	13	0	0
6	22	17	16	16	15	12	1	0
7	24	17	15	16	15	12	0	0
8	25	18	15	15	14	11	2	0
9	26	18	15	15	13	10	2	0
10	23	17	16	17	15	11	0	2
11	26	16	13	16	16	11	1	0
12	24	15	13	15	19	13	0	0
13	25	17	15	13	14	11	3	2
14	27	18	14	14	13	11	1	1
15	25	16	14	13	14	14	3	1
16	25	17	14	15	15	12	3	0
17	27	18	14	16	15	8	1	1
Overall	24	17	15	15	16	12	1	1

Table 67. How long have you lived in Pennsylvania? (Graph shows percentages giving response.)

District	76-100 years	51-75 years	41-50 years	31-40 years	21-30 years	11-20 years	6-10 years	1-5 years	Less than 1 year	Don't know / refused
1	2	32	14	15	16	15	4	3	0	0
2	2	25	9	16	18	8	6	16	1	1
3	1	20	8	16	17	13	8	13	2	1
4	3	34	13	15	17	9	6	4	0	0
5	2	27	15	16	12	13	6	8	1	0
6	5	22	12	14	17	11	9	8	0	1
7	2	25	12	11	14	18	4	11	2	1
8	3	20	9	20	17	19	5	6	0	1
9	4	37	11	13	19	5	4	3	0	4
10	4	31	10	22	15	5	8	4	0	1
11	5	24	9	12	19	12	7	10	0	1
12	2	30	14	13	16	10	5	9	0	0
13	5	30	13	19	18	8	1	2	1	3
14	4	42	11	12	19	1	1	6	2	2
15	4	33	12	12	15	15	2	4	0	3
16	5	35	10	12	18	8	4	5	0	3
17	7	33	11	15	14	11	2	6	1	1
Overall	4	29	11	15	16	11	5	7	1	1

Table 68. What races or ethnic backgrounds do you consider yourself? (Graph shows percentages giving response.)

District	White or Caucasian	Black or African American	Hispanic or Latino	Native American or Alaskan Native or Aleutian	East Asian (from Japan, China, Korea, Philippines, etc.)	South Asian (from India, Pakistan, Bangladesh, etc.)	Middle Eastern / North African	Native Hawaiian	Sub-Saharan African	Other	Don't know	Refused
1	85	5	8	1	1	1	0	0	0	0	0	3
2	47	33	25	1	6	0	0	0	0	4	1	0
3	36	59	9	4	6	1	1	0	0	1	1	2
4	83	8	8	1	2	1	0	0	0	1	0	3
5	66	25	10	1	1	2	1	0	0	0	0	0
6	76	5	19	0	0	0	0	0	0	1	1	1
7	77	11	13	1	1	1	0	0	0	0	0	2
8	82	6	11	2	0	3	0	0	0	1	1	2
9	86	6	13	6	2	2	2	2	2	5	3	2
10	84	7	7	1	2	0	0	3	0	1	1	2
11	84	4	14	1	3	0	0	0	0	2	1	2
12	80	18	0	1	2	0	0	1	0	0	0	1
13	92	1	3	0	0	1	0	0	0	2	2	2
14	91	7	2	0	0	0	0	0	0	1	1	1
15	92	3	2	1	0	1	0	0	0	2	2	3
16	91	4	2	0	0	0	0	0	0	3	3	1
17	86	7	3	1	0	1	0	0	0	1	2	1
Overall	79	12	9	1	1	1	0	0	0	1	1	2

Table 69. What is the highest level of education you have completed? (Graph shows percentages giving response.)

District	Not a high school graduate	High school graduate or equivalent	Some college or trade school, no degree	Associates or trade school degree	Bachelor's degree	Master's degree	Professional or doctorate degree	Don't know	Refused
1	0	25	13	13	29	11	6	1	2
2	6	31	24	14	18	5	1	1	0
3	2	19	26	11	27	11	3	1	0
4	0	23	13	11	30	18	5	0	1
5	1	23	21	10	33	6	5	0	0
6	0	21	23	8	31	12	4	1	0
7	3	31	20	14	20	10	1	0	1
8	4	26	20	18	20	7	4	1	1
9	1	30	20	17	17	12	0	2	0
10	4	33	17	9	21	12	4	1	1
11	1	33	19	9	25	10	2	1	0
12	1	18	18	14	33	14	2	1	0
13	2	39	17	10	20	5	4	2	1
14	4	25	18	22	22	8	0	1	1
15	1	29	22	12	17	13	3	2	1
16	1	21	18	17	27	12	1	3	0
17	0	19	16	13	30	14	6	1	0
Overall	2	26	19	13	25	11	3	1	1

Table 70. Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm, or a rural area not on a farm? (Graph shows percentages giving response.)

District	Large city or urban area	Suburban area	Small city or town	Rural area on a farm	Rural area not on a farm	Don't know	Refused
1	1	81	10	1	7	0	0
2	79	14	3	1	1	2	0
3	88	9	1	0	0	1	0
4	2	75	10	2	9	0	1
5	10	76	11	1	1	1	0
6	8	51	19	2	18	1	0
7	12	38	26	5	18	1	0
8	7	26	33	4	27	3	0
9	1	5	34	11	46	3	0
10	9	40	16	7	25	3	0
11	4	29	32	6	26	3	0
12	33	48	12	0	6	0	0
13	2	7	39	14	36	1	1
14	6	23	25	13	30	2	1
15	4	5	26	15	49	1	1
16	9	33	24	6	24	3	0
17	7	69	13	3	6	1	0
Overall	16	37	20	5	19	1	0

APPENDIX A: SURVEY QUESTIONNAIRE

PA NONGAME PHONE

RM CASE NUMBER: [invite('custom 1')]
DISTRICT: [invite('custom 2')]
COUNTY: [invite('custom 3')]
PHONE TYPE: [invite('custom 4')]
PHONE NUMBER: [contact('home phone')]

Hello, my name is _____, and I'm calling on behalf of the Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission to ask your opinion on fish and wildlife conservation programs.

We are not selling anything, and your opinions are entirely confidential.
Do you have a few minutes to answer some questions?*

SCREENERS

Are you 18 years old or older?*
Are you currently a resident of Pennsylvania?* (IF NECESSARY: Is your permanent home in Pennsylvania?) (Only interviewing those who currently live in PA.)

INTERVIEWER: OBSERVE AND RECORD RESPONDENT'S GENDER*

( ) Male
( ) Female
( ) Unable to determine

OPINIONS ON IMPORTANT NONGAME WILDLIFE ISSUES IN PENNSYLVANIA

[THE ORDER OF THE AGENCIES IS RANDOMLY SWITCHED]
Thank you.
The Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission manage all fish and wildlife in Pennsylvania. The Game Commission manages all wild birds and mammals while the Fish and Boat Commission manages all fish, reptiles, amphibians, and other aquatic animals.

Thank you.
The Pennsylvania Fish and Boat Commission and the Pennsylvania Game Commission manage all fish and wildlife in Pennsylvania. The Fish and Boat Commission manages all fish, reptiles, amphibians, and other aquatic animals, while the Game Commission manages all wild birds and mammals.

NONGAME wildlife are wild birds, mammals, fish, reptiles, amphibians, and other aquatic animals that are NOT hunted or fished.
In your opinion, what is the most important issue or concern facing NONGAME wildlife in Pennsylvania today?*
(DO NOT READ LIST; CHECK ONLY ONE ANSWER)

- ( ) There is no important issue
- ( ) Urban sprawl / over-development
- ( ) Population growth (humans)
- ( ) Habitat loss / fragmentation / degradation
- ( ) Climate change
- ( ) Management of threatened or endangered species
- ( ) Invasive species
- ( ) Diseases (rabies, CWD, EHD, WNS)
- ( ) Not enough water / water quantity
- ( ) Polluted water / water quality
- ( ) Air pollution / air quality
- ( ) Pollution in general (non-specific)
- ( ) Energy development
- ( ) Lack of funding / no dedicated funding
- ( ) Other (ENTER OTHER):: _____*
- ( ) Don't know

COMMISSION PROGRAM AREAS - OPENING STATEMENT

[THE ORDER OF THE AGENCIES IS RANDOMLY SWITCHED]
The Game and Fish and Boat Commissions support a variety of program areas that include nongame and game wildlife. I am going to list some of the areas, and I would like for you to tell me if you think each is an important or unimportant area for the Commission I mention to focus their efforts.

The Fish and Boat and Game Commissions support a variety of program areas that include nongame and game wildlife. I am going to list some of the areas, and I would like for you to tell me if you think each is an important or unimportant area for the Commission I mention to focus their efforts.

Please tell me if you think each one is very important, somewhat important, neither, somewhat unimportant, or very unimportant.
[ALL OF THESE QUESTIONS HAVE THE IMPORTANCE ANSWER SET BELOW, AND SEVERAL ARE RANDOMLY ORDERED]

( ) Very important
( ) Somewhat important
( ) Neither
( ) Somewhat unimportant
( ) Very unimportant
( ) (DNR) Don't know

Do you think providing opportunities for HUNTING is an important or unimportant function of the GAME Commission?*

Do you think providing opportunities for FISHING is an important or unimportant function of the FISH AND BOAT Commission?*

Do you think providing opportunities for VIEWING WILDLIFE in a natural setting is an important or unimportant function of the Game Commission?*

Do you think managing and conserving NONGAME WILDLIFE is an important or unimportant function of the GAME Commission? (IF ASKED: Nongame wildlife are species that are not hunted.)

Do you think managing and conserving NONGAME FISH AND OTHER AQUATIC ANIMALS is an important or unimportant function of the FISH AND BOAT Commission?* (IF ASKED: fish and other aquatic animals are species that are not fished.)

Do you think managing and conserving threatened and endangered species are important or unimportant functions of both the Game Commission AND the Fish and Boat Commission?* (IF ASKED: By threatened I mean fish and wildlife populations that are threatened by changes to the environment or habitat, and by endangered I mean fish and wildlife populations in danger of becoming extinct.) (IF ASKED FOR EXAMPLES: Bog Turtle, Little Brown Bat)

OPINIONS ON SPECIES POPULATIONS

Thank you. Next, I have some questions about some specific types of fish and wildlife.

OPINIONS ON SPECIES POPULATIONS - PGC

[ALL OF THESE HAVE THE IMPORTANCE ANSWER SET]

How important or unimportant do you think it is for the GAME Commission to manage and conserve Pennsylvania's NONGAME BIRDS, such as birds of prey, songbirds, and shorebirds? This does NOT include game birds like turkeys, pheasants, or grouse.*

How important or unimportant do you think it is for the GAME Commission to manage and conserve Pennsylvania's NONGAME MAMMALS, such as bats and northern flying squirrels? This does NOT include bear, ground hogs, or porcupines and other game animals.*

How important or unimportant do you think it is for the GAME Commission to manage and conserve Pennsylvania's NONGAME MAMMALS, such as bats and northern flying squirrels? This does NOT include bear, ground hogs, or porcupines and other game animals.*

How important or unimportant do you think it is for the GAME Commission to manage and conserve Pennsylvania's NONGAME BIRDS, such as birds of prey, songbirds, and shorebirds? This does NOT include game birds like turkeys, pheasants, or grouse.*

[ALL OF THESE HAVE THE EXCELLENT-POOR ANSWER SET]

( ) Excellent
( ) Good
( ) Fair
( ) Poor
( ) (DNR) Don't know

How would you rate the overall health or well-being of Pennsylvania's NONGAME BIRDS?* (IF ASKED: Nongame birds such as birds of prey, songbirds, and shorebirds. This does NOT include game birds like turkeys, pheasants, or grouse.)

How would you rate the overall health or well-being of Pennsylvania's NONGAME MAMMALS?* (IF ASKED: Examples of nongame mammals include bats and northern flying squirrels. This does NOT include bear, ground hogs, or porcupines and other game animals.)

How would you rate the overall health or well-being of Pennsylvania's NONGAME MAMMALS?* (IF ASKED: Examples of nongame mammals include bats and northern flying squirrels. This does NOT include bear, ground hogs, or porcupines and other game animals.)

How would you rate the overall health or well-being of Pennsylvania's NONGAME BIRDS?* (IF ASKED: Nongame birds such as birds of prey, songbirds, and shorebirds. This does NOT include game birds like turkeys, pheasants, or grouse.)

OPINIONS ON SPECIES POPULATIONS - PFBC

[ALL OF THESE HAVE THE IMPORTANCE ANSWER SET]

How important or unimportant do you think it is for the FISH AND BOAT Commission to manage and conserve Pennsylvania's NONGAME REPTILES, such as turtles, and AMPHIBIANS, such as salamanders? This does NOT include bullfrogs.* (IF ASKED FOR MORE SPECIFIC EXAMPLES: Red-bellied Turtle, Green Salamander)

How important or unimportant do you think it is for the FISH AND BOAT Commission to manage and conserve Pennsylvania's NONGAME FISH, such as darters, chubs, and shiners? This does NOT include game fish like bass or trout.*

How important or unimportant do you think it is for the FISH AND BOAT Commission to manage and conserve Pennsylvania's NONGAME FISH, such as darters, chubs, and shiners? This does NOT include game fish like bass or trout.*

How important or unimportant do you think it is for the FISH AND BOAT Commission to manage and conserve Pennsylvania's NONGAME REPTILES, such as turtles, and AMPHIBIANS, such as salamanders? This does NOT include bullfrogs.*

[ALL OF THESE HAVE THE EXCELLENT-POOR ANSWER SET]

How would you rate the overall health or well-being of Pennsylvania's NONGAME REPTILES AND AMPHIBIANS?* (IF ASKED: Examples of nongame reptiles include turtles and nongame amphibians include salamanders. More specific examples include the Red-bellied Turtle and the Green Salamander. This does NOT include bullfrogs.)

How would you rate the overall health or well-being of Pennsylvania's NONGAME FISH?* (IF ASKED: Examples of nongame fish include darters, chubs, and shiners. This does NOT include game fish like bass or trout.)

How would you rate the overall health or well-being of Pennsylvania's NONGAME FISH?* (IF ASKED: Examples of nongame fish include darters, chubs, and shiners. This does NOT include game fish like bass or trout.)

How would you rate the overall health or well-being of Pennsylvania's NONGAME REPTILES AND AMPHIBIANS?* (IF ASKED: Examples of nongame reptiles include turtles and nongame amphibians include salamanders. More specific examples include the Red-bellied Turtle and the Green Salamander. This does NOT include bullfrogs.)

In the next few questions, we will present you with a few Game Commission and Fish and Boat Commission programs. We need you to rate each program as important or unimportant.

In the next few questions, we will present you with a few Fish and Boat Commission and Game Commission programs. We need you to rate each program as important or unimportant.

COMMISSIONS' ACTIVITIES

[ALL OF THESE HAVE THE IMPORTANCE ANSWER SET AND THE REMINDER SHOWN]
(Do you think this is an important or unimportant activity for the Commissions?) (IF ASKED: An activity for BOTH the Pennsylvania Game Commission and the Fish and Boat Commission.)

Managing for a variety of nongame wildlife species as compared to managing for a particular species*
Informing the public about Pennsylvania's nongame wildlife*
Purchasing land for the purpose of providing needed habitat for species that are declining or in need of conservation (IF ASKED FOR EXAMPLES: Buying caves to protect bats or buying wetlands to protect turtles)*
Taking action to protect or recover nongame species (IF ASKED FOR EXAMPLES: Managing to take action for protection or recovery of nongame species)*
Reintroducing nongame species that once existed in Pennsylvania (IF ASKED FOR AN EXAMPLE: Bald eagle)*
Enforcing wildlife laws*
Restoring and improving habitat for wildlife*
Addressing problems and damage caused by nongame wild birds and mammals (IF ASKED FOR EXAMPLES: Bats in the attic, woodpecker on the house, blackbirds roosting in the fields)*
Addressing wildlife diseases (IF ASKED FOR EXAMPLES: Wildlife diseases such as White Nose Syndrome in bats and chytrid fungus in amphibians like frogs and salamanders)*
Preventing and controlling invasive species, that is, species that may adversely affect or disrupt habitats or other fish and wildlife (IF ASKED FOR EXAMPLES: Feral swine, Zebra mussels)*
Implementing conservation actions, such as habitat protection or improvement, for nongame species that are at risk before they become endangered*
Protecting threatened and endangered species*
Providing opportunities for nongame fish or wildlife viewing*

PENNSYLVANIA'S WILDLIFE ACTION PLAN

How familiar are you with Pennsylvania's Wildlife Action Plan?* Would you say you are...?

( ) Very familiar
( ) Somewhat familiar
( ) Not at all familiar but had heard of the plan
( ) Not at all familiar and had NOT heard of the plan
( ) (DNR) Don't know

The Pennsylvania Wildlife Action Plan contains information pertaining to four main areas:
1) Species of greatest conservation need
2) Habitat condition where those species live
3) Threats to species and habitats, and
4) Conservation actions to lessen those threats

In general, which ONE of the four main areas addressed in the plan do you think is the most important?*

( ) Species of greatest conservation need
( ) Habitat condition where those species live
( ) Threats to species and habitats
( ) Conservation actions to lessen those threats
( ) (DNR) Don't know

AGENCY RELEVANCY - PGC

Next, please tell me whether you agree or disagree with each of these statements specifically about the Pennsylvania GAME Commission ONLY.
Do you agree or disagree that the Pennsylvania GAME Commission...?
[ALL HAVE THE ANSWER SET SHOWN]

( ) Strongly agree
( ) Moderately agree
( ) Neither agree nor disagree
( ) Moderately disagree
( ) Strongly disagree
( ) (DNR) Don't know

Is a trusted source of information*
Is open and transparent about its decision-making*
Communicates effectively*
Listens to people like you*
Offers programs and services that benefit you*
Shares similar values with you*
Cares about the well-being of nongame wildlife*
Effectively manages nongame wildlife in Pennsylvania*

AGENCY RELEVANCY - PFBC

Next, please tell me whether you agree or disagree with each of these statements specifically about the Pennsylvania FISH AND BOAT Commission ONLY.
Do you agree or disagree that the Pennsylvania FISH AND BOAT Commission...?

Is a trusted source of information*
Is open and transparent about its decision-making*
Communicates effectively*
Listens to people like you*
Offers programs and services that benefit you*
Shares similar values with you*
Cares about the well-being of nongame wildlife*
Effectively manages nongame wildlife in Pennsylvania*

FUNDING

Both the Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission are funded by a variety of sources, including hunting and fishing license fees, oil and gas revenue, timber sales, and federal excise taxes on hunting and fishing equipment and motorboat fuel. These taxes have been in place and help to fund fish and wildlife management and conservation, primarily for game species, for 75 years.
(IF ASKED: The manufacturers pay the federal excise tax, but the cost is most likely passed on to the customer in the retail price of the equipment.)
These sources come mainly from license sales and added taxes; they are not DEDICATED FUNDING sources.
DEDICATED FUNDING is money allotted for a specific purpose and received directly from the government.

Both the Pennsylvania Fish and Boat Commission and the Pennsylvania Game Commission are funded by a variety of sources, including hunting and fishing license fees, oil and gas revenue, timber sales, and federal excise taxes on hunting and fishing equipment and motorboat fuel. These taxes have been in place and help to fund fish and wildlife management and conservation, primarily for game species, for 75 years.
[SAME IF ASKED STATEMENTS]

In general, do you support or oppose DEDICATED FUNDING specifically for nongame fish and wildlife management?* (IF ASKED: Dedicated funding is money allotted for a specific purpose and received directly from the government.)

( ) Strongly support
( ) Moderately support
( ) Neither
( ) Moderately oppose
( ) Strongly oppose
( ) (DNR) Don't know

CLIMATE CHANGE IN PENNSYLVANIA

Next, please tell me how you would describe any CHANGES you have seen in each of the following since you have been living in Pennsylvania.
Please tell me if you describe each as having increased overall, not much change, decreased overall, or if you have noticed periods of both increases and decreases during that time.
What about...?

[ALL GET THE REMINDER AND ANSWER SET SHOWN]
(Would you say this has increased overall, not changed much, decreased overall, or has had periods of both increases and decreases since you have been living in Pennsylvania?)

( ) Increased overall
( ) Not much change
( ) Decreased overall
( ) Both increases and decreases
( ) (DNR) Don't know

Air temperatures overall*
Flooding*
Water availability for fish, wildlife, and forests*
Snow*
Severe or changing weather patterns*
Forest fires or wildfires*
Seeing fish or wildlife, either game or nongame*

Page entry logic: [SHOWS WHEN ANSWERS ARE ANY OF THESE IN ANY QUESTION ("Increased overall", "Decreased overall", "Both increases and decreases")
Concern About the Impacts of Climate Change

Of those changes you have noticed, in general, how concerned are you about the impacts these changes have on nongame fish and wildlife, and their habitats, in Pennsylvania?*

( ) Very concerned
( ) Somewhat concerned
( ) Neither concerned nor unconcerned
( ) Somewhat unconcerned
( ) Not at all concerned
( ) (DNR) Don't know
( ) (DNR) Prefer not to say

SOURCES OF INFORMATION

As a reminder, NONGAME fish and wildlife are wild birds, mammals, fish, reptiles, amphibians, and other aquatic animals that are NOT hunted or fished.

Where do you get your information about nongame fish and wildlife?*
(DO NOT READ LIST; CHECK ALL THAT APPLY)

[ ] From friends / family
[ ] Word-of-mouth
[ ] Personal experience
[ ] PA Game Commission employee / office
[ ] PA Game Commission website
[ ] PA Fish and Boat Commission employee / office
[ ] PA Fish and Boat Commission website
[ ] Internet / website other than PGC website (not social media)
[ ] Social media (e.g., Facebook, Twitter, YouTube)
[ ] Email
[ ] Magazines
[ ] Brochures or pamphlets
[ ] TV
[ ] Other (ENTER OTHER):: _____*
[ ] Don't know

PARTICIPATION IN WILDLIFE-RELATED ACTIVITIES

Next, I have a list of activities, and I would like to know if you have participated in each activity in Pennsylvania in the past 2 years.* What about...?
(READ LIST; CHECK IF YES)

- [ ] Birdwatching
- [ ] Wildlife watching other than birdwatching
- [ ] Photographing birds or wildlife
- [ ] Fishing
- [ ] Hiking or trail running
- [ ] Boating, canoeing, or kayaking
- [ ] Searching for amphibians or reptiles
- [ ] Maintaining areas around your home to benefit fish and wildlife
- [ ] Hunting
- [ ] (DNR) None of these
- [ ] (DNR) Don't know

Page entry logic: This page will show when: #89 Question "Next, I have a list of activities, and I would like to know if you have participated in each activity in Pennsylvania in the past 2 years." is one of the following answers ("Visiting a state park","Car camping","Backpacking","Birdwatching","Wildlife watching other than birdwatching","Photographing birds or wildlife","Fishing","Hiking or trail running","Geocaching","Boating, canoeing, or kayaking","Searching for amphibians or reptiles","Maintaining areas around your home to benefit fish and wildlife","Hunting")
Apps and Online Tools

iNaturalist is an online tool or social network for people to share their experiences and encounters with nature, including fish, wildlife, insects, plants, and other organisms, which helps both nature enthusiasts and scientists by sharing observation data.

Have you shared observations through iNaturalist in the past 2 years?*

- ( ) Yes
- ( ) No
- ( ) (DNR) Don't know

Logic: Hidden unless: #89 Question "Next, I have a list of activities, and I would like to know if you have participated in each activity in Pennsylvania in the past 2 years." is one of the following answers ("Birdwatching")

You said you have been birdwatching.
eBird is an online tool or app for birdwatchers to track and share their bird observations, which helps both birders and scientists by sharing observation data.
Have you shared observations through eBird in the past 2 years?*

- ( ) Yes
- ( ) No
- ( ) (DNR) Don't know

Logic: Hidden unless: #89 Question "Next, I have a list of activities, and I would like to know if you have participated in each activity in Pennsylvania in the past 2 years." is one of the following answers ("Maintaining areas around your home to benefit fish and wildlife")

You said you have maintained areas around your home to benefit fish and wildlife. Pennsylvania's Conservation Opportunity Area Tool is a free online tool for residents and landowners to understand beneficial actions for species of greatest conservation need in an area of interest.
Have you used the Conservation Opportunity Area Tool in the past 2 years?*

( ) Yes
( ) No
( ) (DNR) Don't know

USE OF STATE GAME LANDS

The Pennsylvania Game Commission owns and manages more than 1.6 million acres of state game lands throughout the Commonwealth. The primary purpose of these lands is the management of habitat for wildlife and to provide opportunities for lawful hunting and trapping. Secondary recreational uses are sometimes permitted, depending on regulations. The State Game Lands do NOT include other types of public land, such as the Allegheny National Forest or any of the many state parks and forests.

In the past 2 years, did you participate in any outdoor activities other than hunting or trapping specifically on Pennsylvania State Game Lands?*

( ) Yes
( ) Maybe / unsure
( ) No
( ) (DNR) Don't know

STATE GAME LANDS AND WATERS

The Pennsylvania Game Commission owns and manages more than 1.6 million acres of state game lands throughout the Commonwealth. The primary purpose of these lands is the management of habitat for wildlife and to provide opportunities for lawful hunting and trapping. Secondary recreational uses are sometimes permitted, depending on regulations. The State Game Lands do NOT include other types of public land, such as the Allegheny National Forest or any of the many state parks and forests.

Next, how important or unimportant do you think it is for both the Game Commission AND the Fish and Boat Commission to offer each of the following on lands or waters that they manage? What about...?

Next, how important or unimportant do you think it is for both the Fish and Boat Commission AND the Game Commission to offer each of the following on lands or waters that they manage? What about...?

[ALL GET THE REMINDER AND ANSWER SET SHOWN]
(How important or unimportant do you think it is for both Game Commission AND the Fish and Boat Commission to offer this on lands or waters that they manage?)

( ) Very important
( ) Somewhat important
( ) Neither
( ) Somewhat unimportant
( ) Very unimportant
( ) (DNR) Don't know

Designated wildlife viewing areas*
Outdoor or natural areas accessible to all*
Additional public boat ramps or access*

NATURAL RESOURCE-RELATED ORGANIZATIONS

Do you contribute to or are you a member of a conservation, sportsmen, recreation, or environmental club or group?*
(CHECK ALL THAT APPLY)

[ ] Sportsmen
[ ] Conservation
[ ] Recreation
[ ] Environmental
[ ] None of these
[ ] (DNR) Don't know
[ ] (DNR) Refused

DEMOGRAPHICS

Great, we are just about through, the final few questions are for background information and help us analyze the results.

How long have you lived in Pennsylvania?*

_____

Do you consider your place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm, or a rural area NOT on a farm?*

( ) Large city or urban area
( ) Suburban area
( ) Small city or town
( ) Rural area on a farm
( ) Rural area NOT on a farm
( ) (DNR) Don't know
( ) (DNR) Refused

What county do you currently live in?*

( ) Adams
( ) Allegheny
( ) Armstrong
( ) Beaver
( ) Bedford
( ) Berks
( ) Blair
( ) Bradford
( ) Bucks
( ) Butler
( ) Cambria
( ) Cameron
( ) Carbon
( ) Centre
( ) Chester
( ) Clarion
( ) Clearfield
( ) Clinton
( ) Columbia
( ) Crawford
( ) Cumberland
( ) Dauphin
( ) Delaware
( ) Elk
( ) Erie
( ) Fayette
( ) Forest

( ) Franklin
( ) Fulton
( ) Greene
( ) Huntingdon
( ) Indiana
( ) Jefferson
( ) Juniata
( ) Lackawanna
( ) Lancaster
( ) Lawrence
( ) Lebanon
( ) Lehigh
( ) Luzerne
( ) Lycoming
( ) McKean
( ) Mercer
( ) Mifflin
( ) Monroe
( ) Montgomery
( ) Montour
( ) Northampton
( ) Northumberland
( ) Perry
( ) Philadelphia
( ) Pike
( ) Potter
( ) Schuylkill
( ) Snyder
( ) Somerset
( ) Sullivan
( ) Susquehanna
( ) Tioga
( ) Union
( ) Venango
( ) Warren
( ) Washington
( ) Wayne
( ) Westmoreland
( ) Wyoming
( ) York
( ) (DNR) Don't know
( ) (DNR) Refused

What is your zip code?*

_____

What is the highest level of education you have completed?*

( ) Not a high school graduate
( ) High school graduate or equivalent
( ) Some college or trade school, no degree
( ) Associate's or trade school degree
( ) Bachelor's degree
( ) Master's degree
( ) Professional or doctorate degree (e.g., M.D., Ph.D.)
( ) (DNR) Don't know
( ) (DNR) Refused

What races or ethnic backgrounds do you consider yourself?*
Please mention all that apply.
(DO NOT READ LIST; CHECK ALL THAT APPLY)

[ ] White or Caucasian
[ ] Black or African-American
[ ] Hispanic or Latino (includes Mexican, Central American, etc.)
[ ] Native American or Alaskan native or Aleutian
[ ] Native Hawaiian
[ ] Middle Eastern / North African
[ ] East Asian (from Japan, China, Korea, Philippines, etc.)
[ ] South Asian (from India, Pakistan, Bangladesh, etc.)
[ ] Sub-Saharan African (NOT African-American)
[ ] Other (ENTER OTHER):: _____*
[ ] Don't know
[ ] Refused

What is your gender?*

( ) Male
( ) Female
( ) Nonbinary
( ) Prefer to self-describe:: _____*
( ) (DNR) Prefer not to say / Refused

May I ask your age?*

_____

END SURVEY

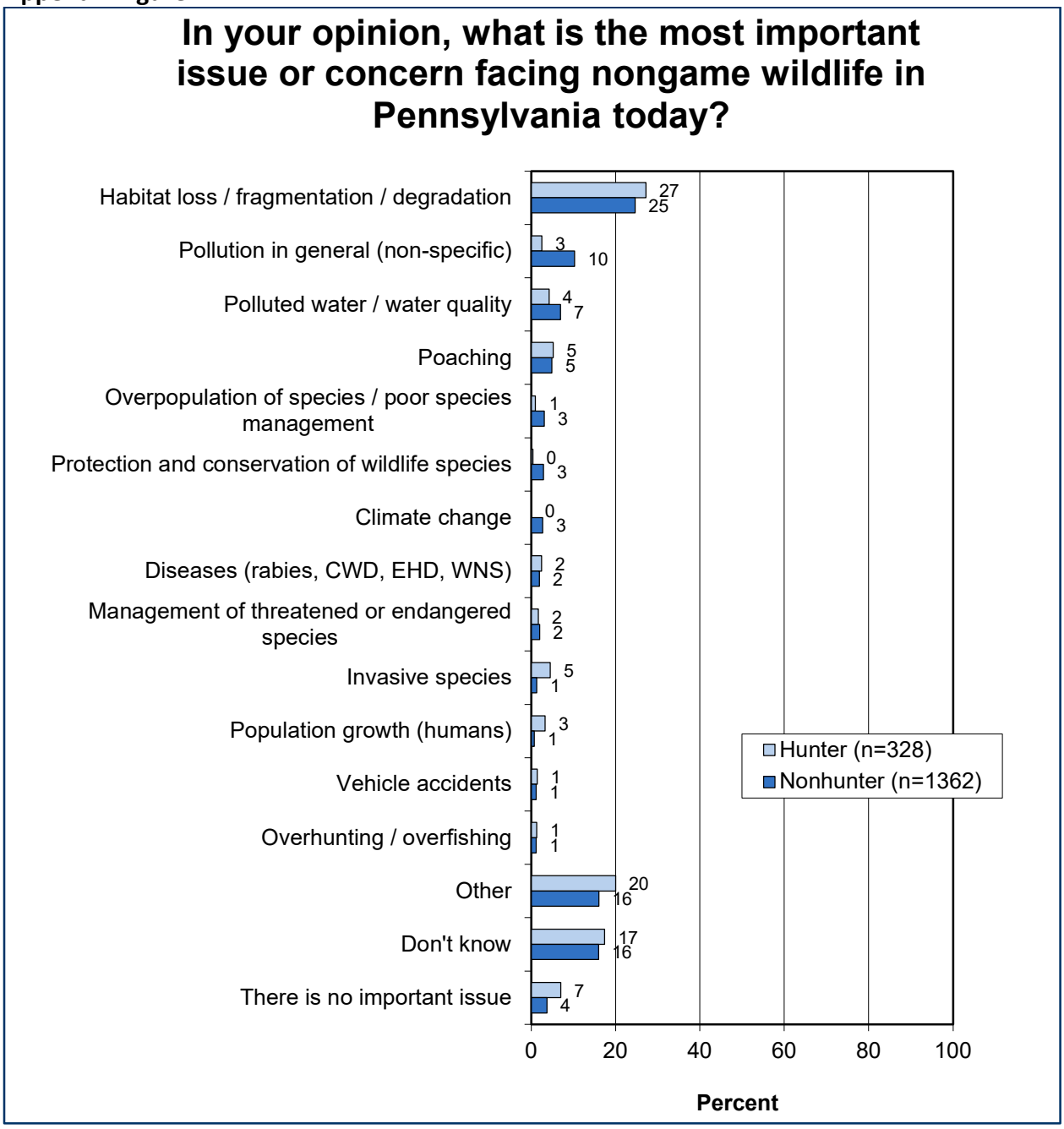
That’s the end of our survey, thank you very much for your time and cooperation. You have been very helpful.

APPENDIX B: ADDITIONAL CROSSTABULATION GRAPHS

Additional crosstabulation graphs are included in this appendix.

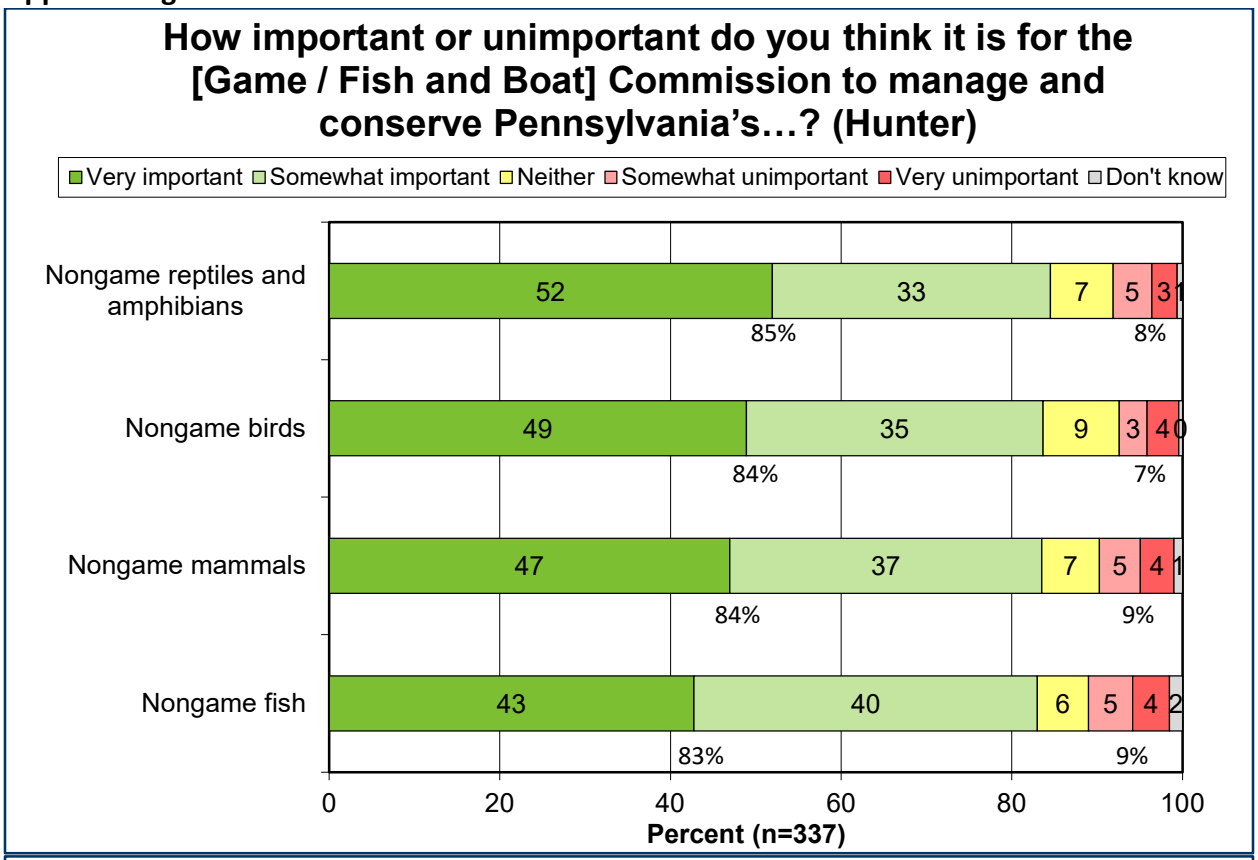
OPINIONS ON IMPORTANT NONGAME WILDLIFE ISSUES IN PENNSYLVANIA

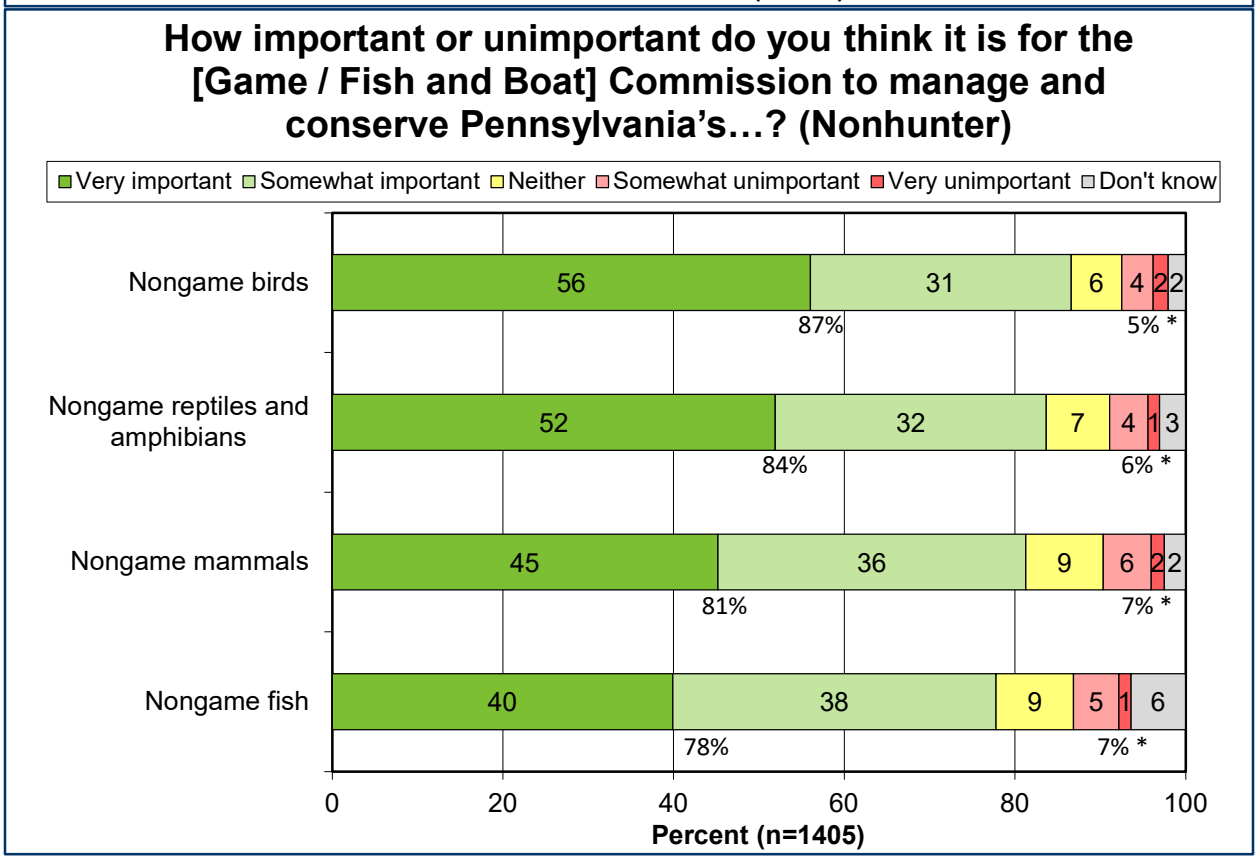
Appendix Figure 1.



OPINIONS ON SPECIES POPULATIONS AND SPECIES MANAGEMENT

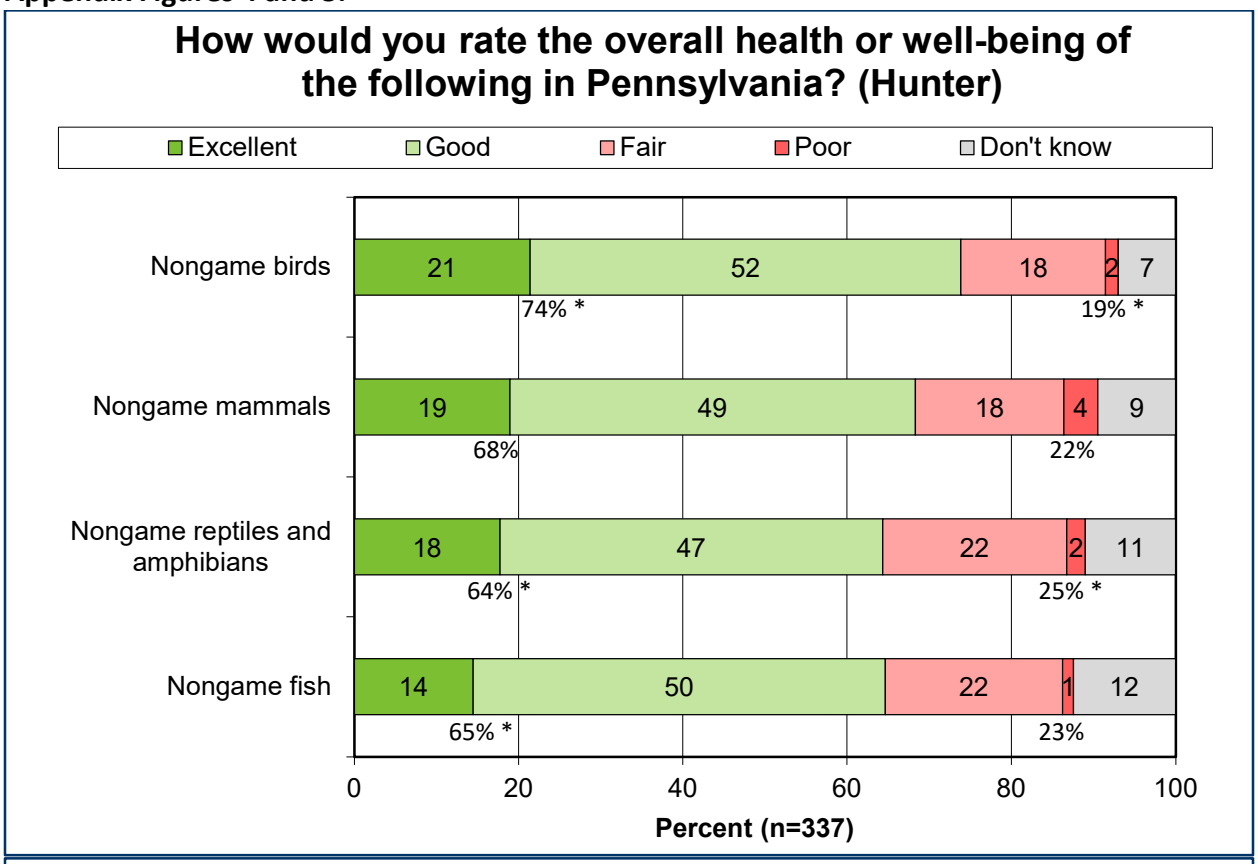
Appendix Figures 2 and 3.

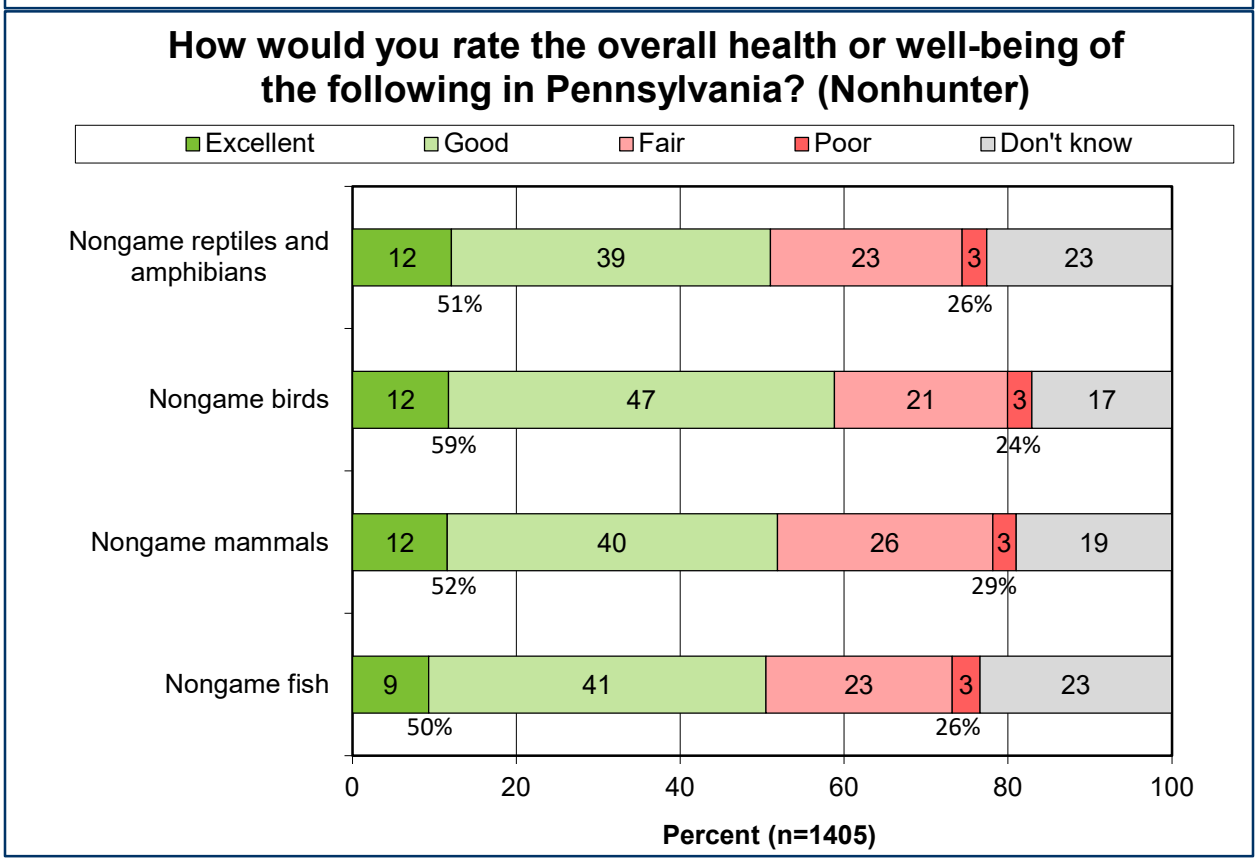




* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Appendix Figures 4 and 5.

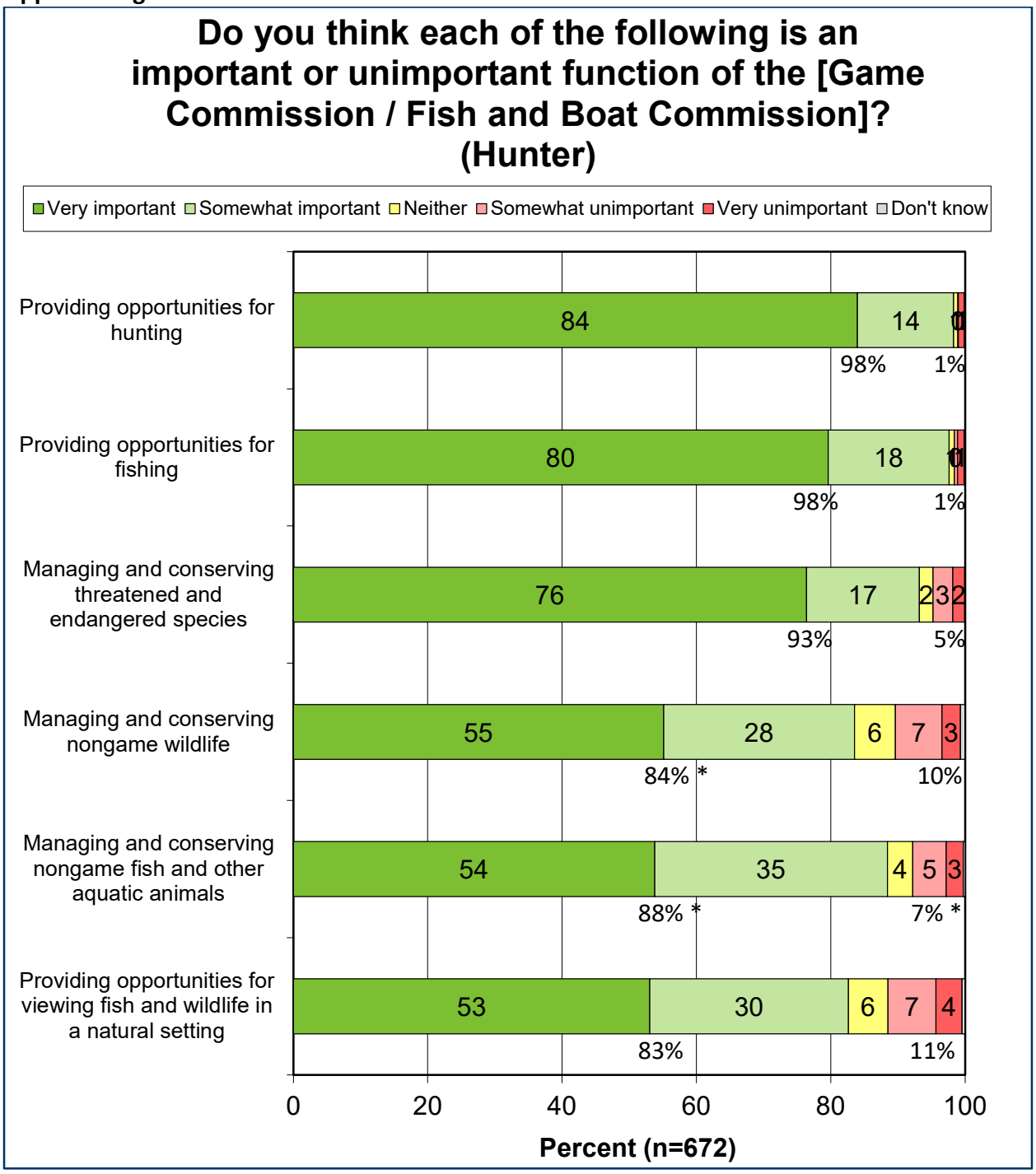




* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

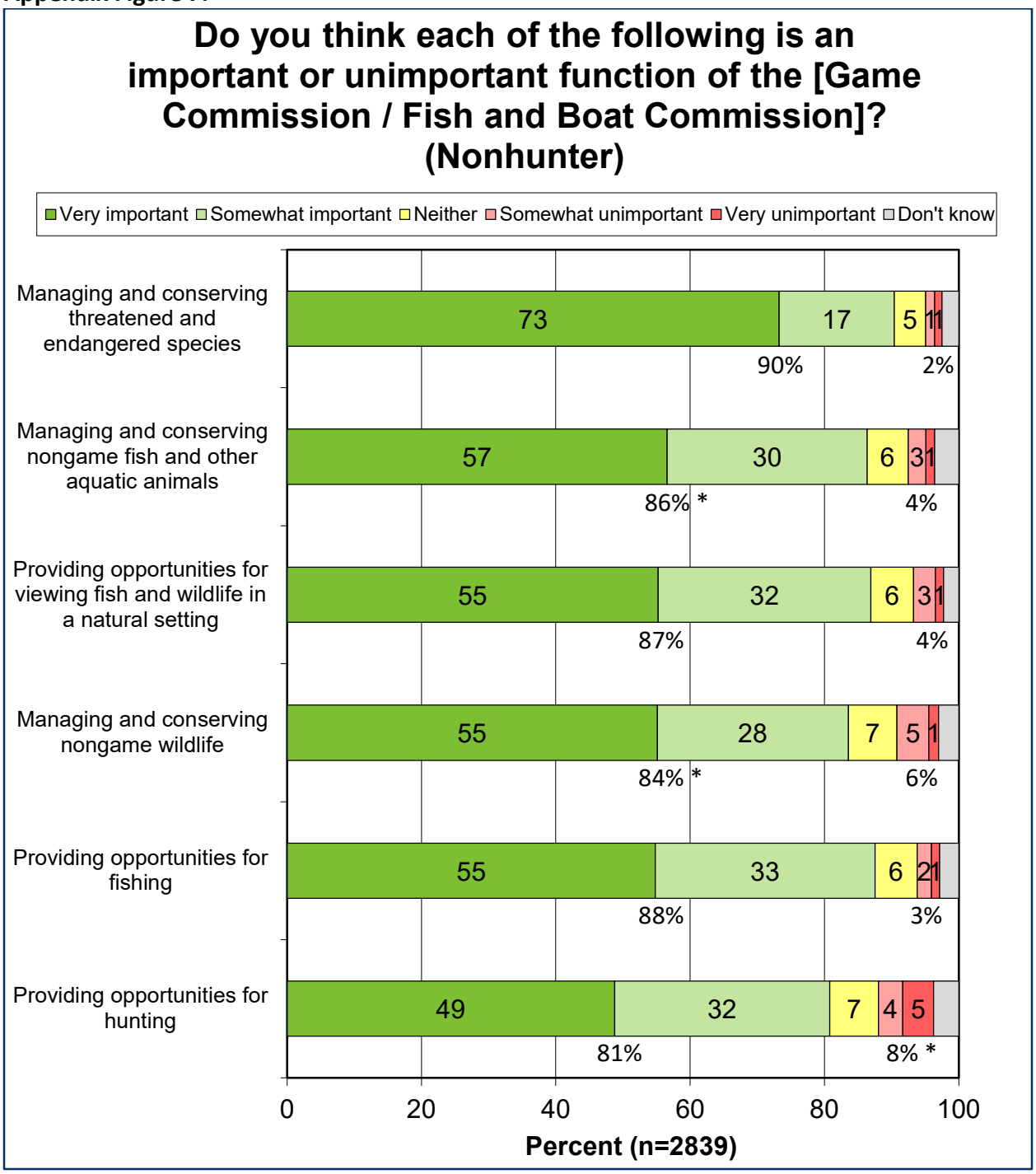
COMMISSION PROGRAM AREAS

Appendix Figure 6.



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

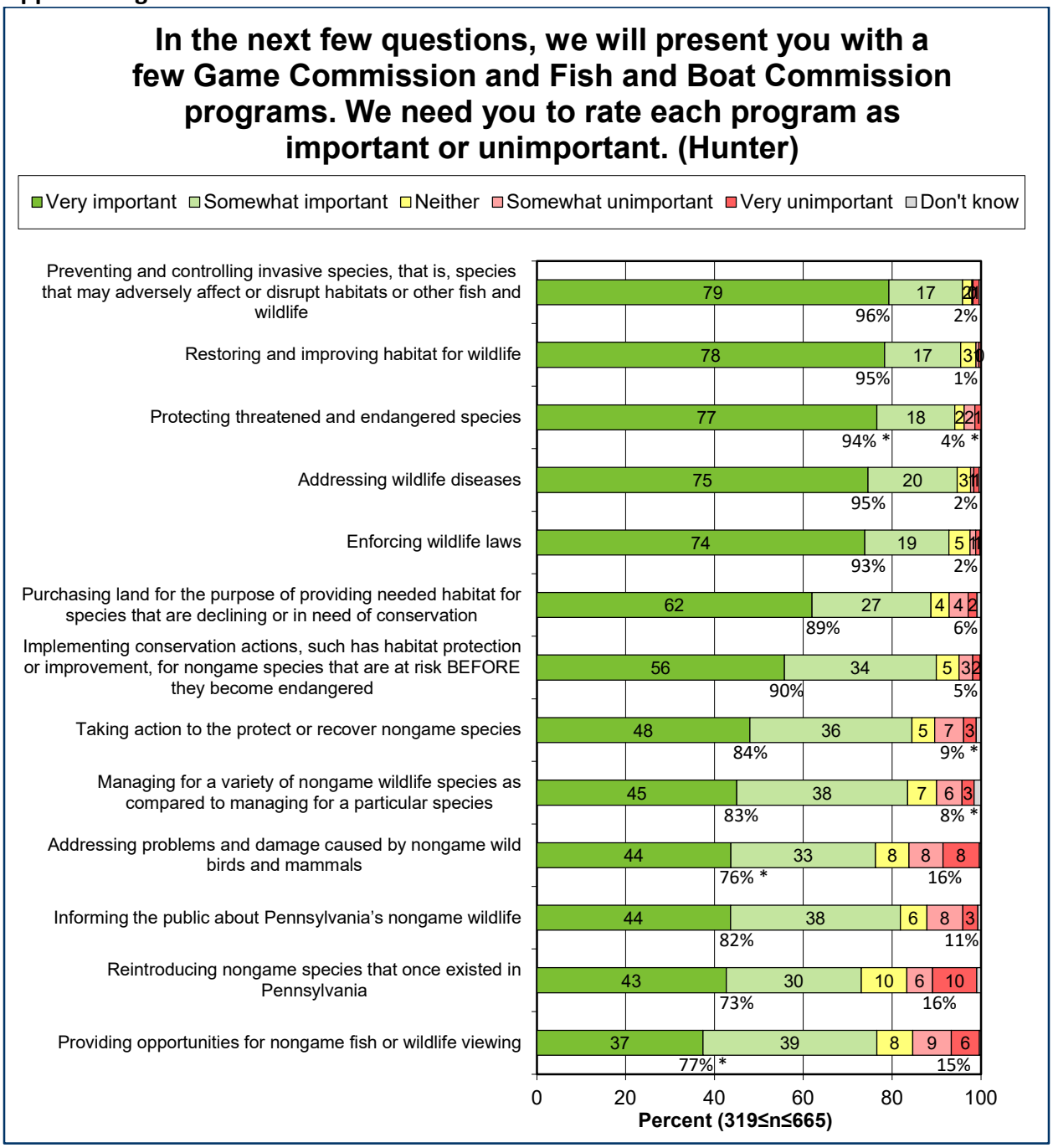
Appendix Figure 7.



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

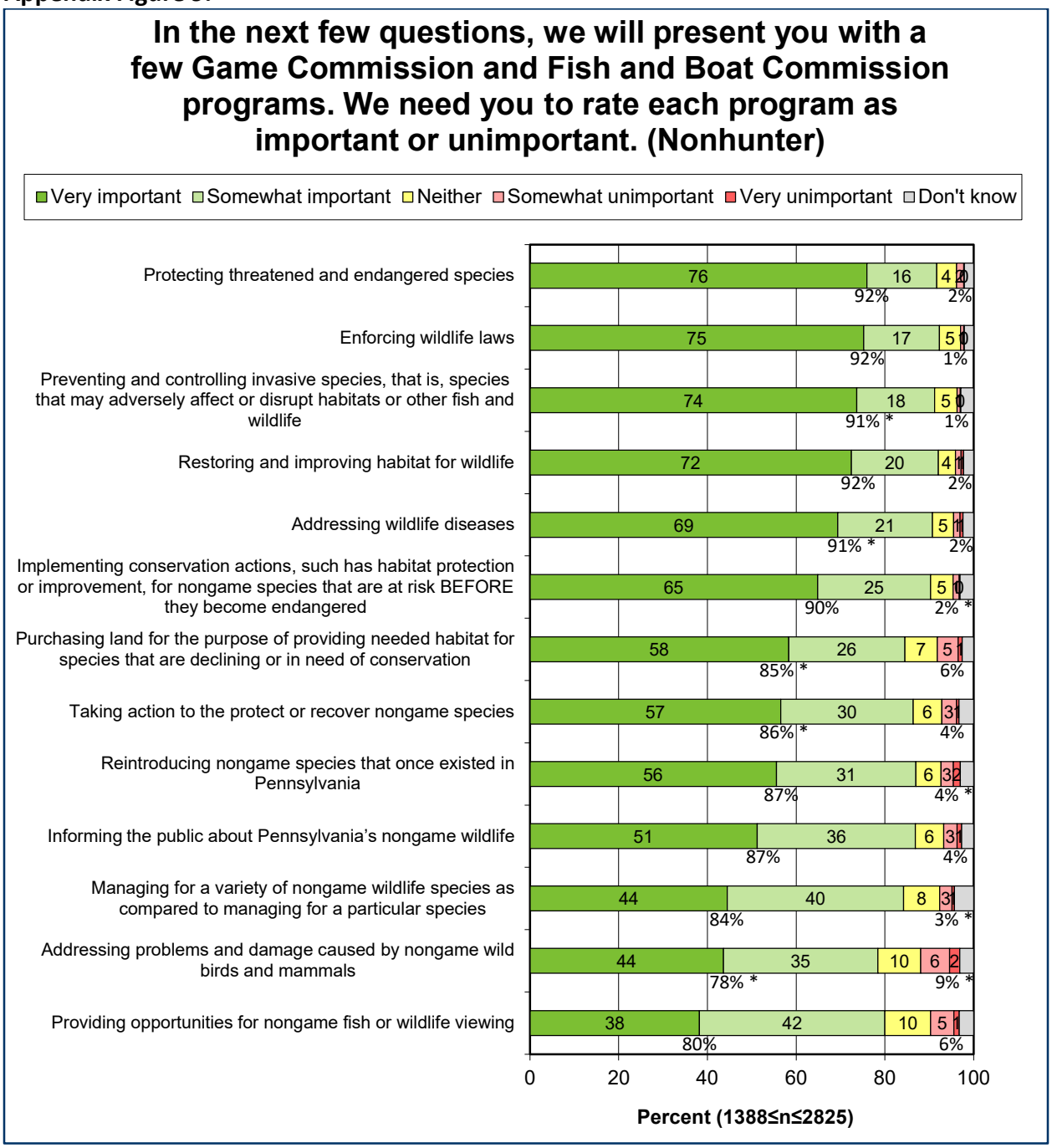
IMPORTANCE OF COMMISSIONS' ACTIVITIES

Appendix Figure 8.



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

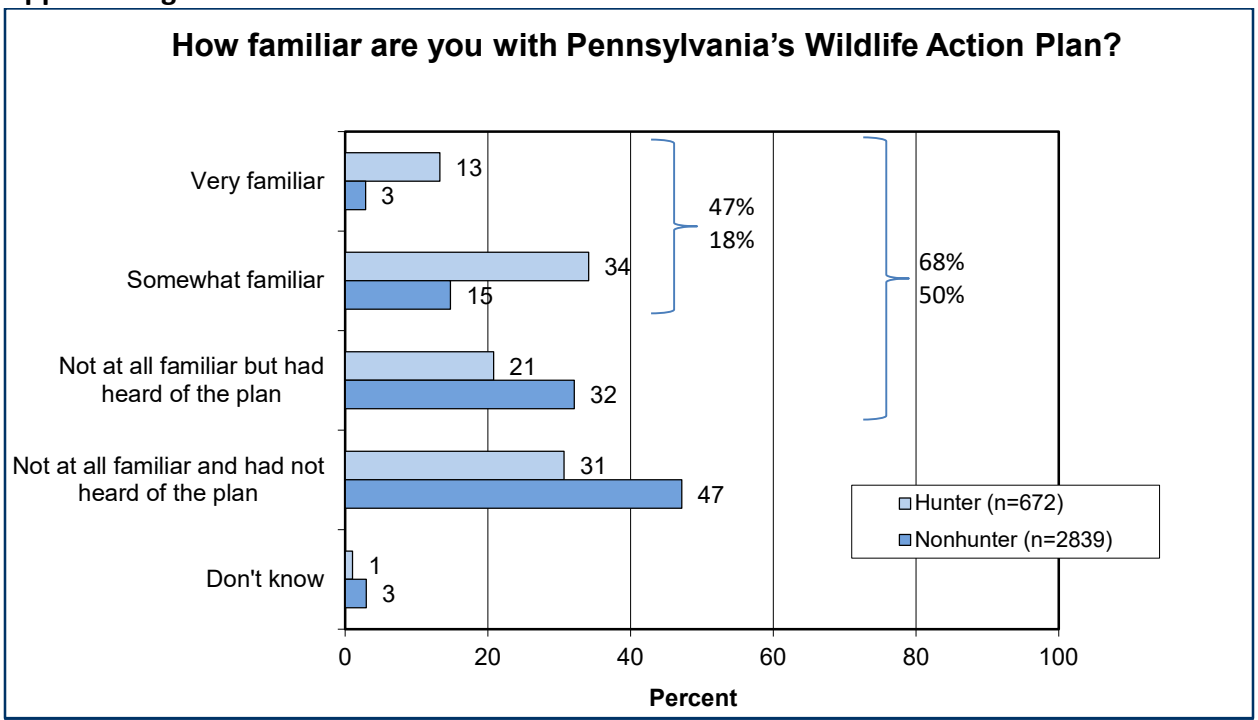
Appendix Figure 9.

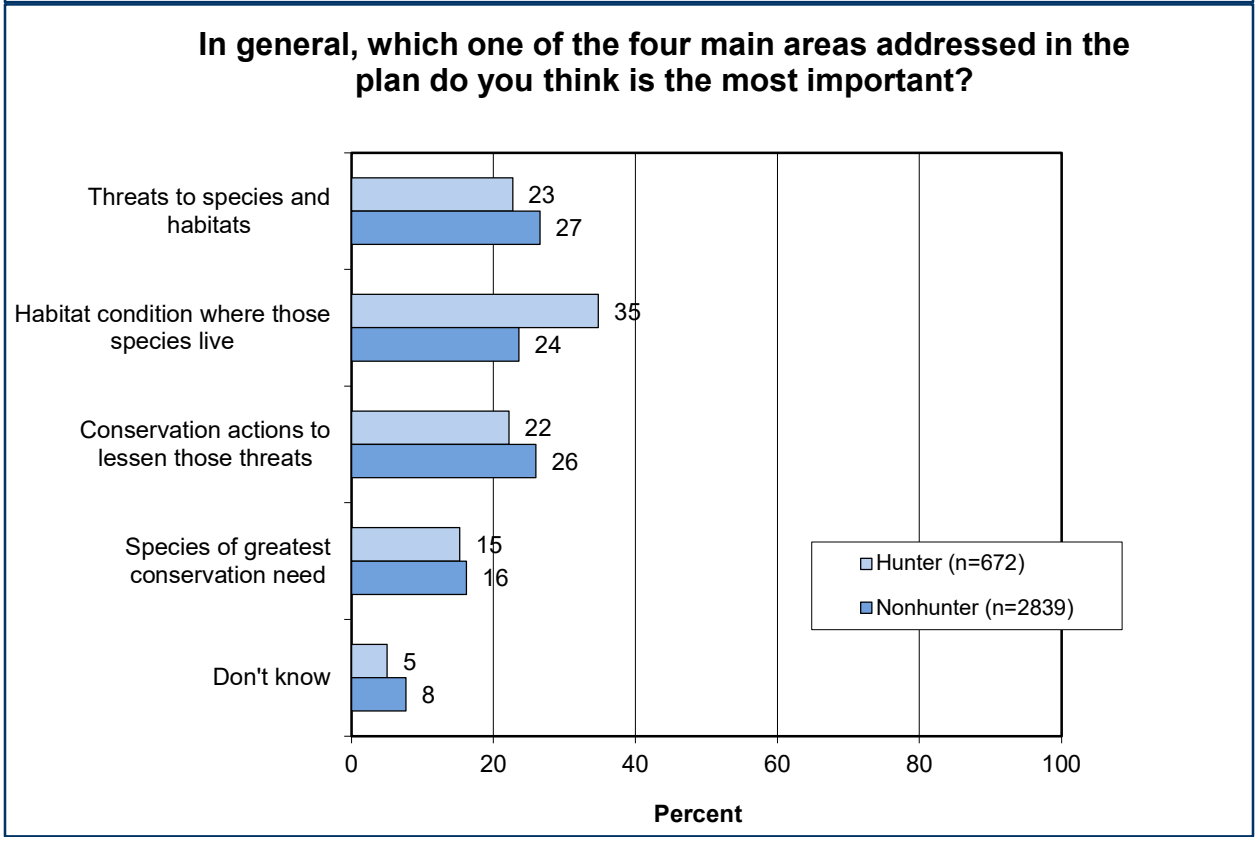


* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

PENNSYLVANIA'S WILDLIFE ACTION PLAN

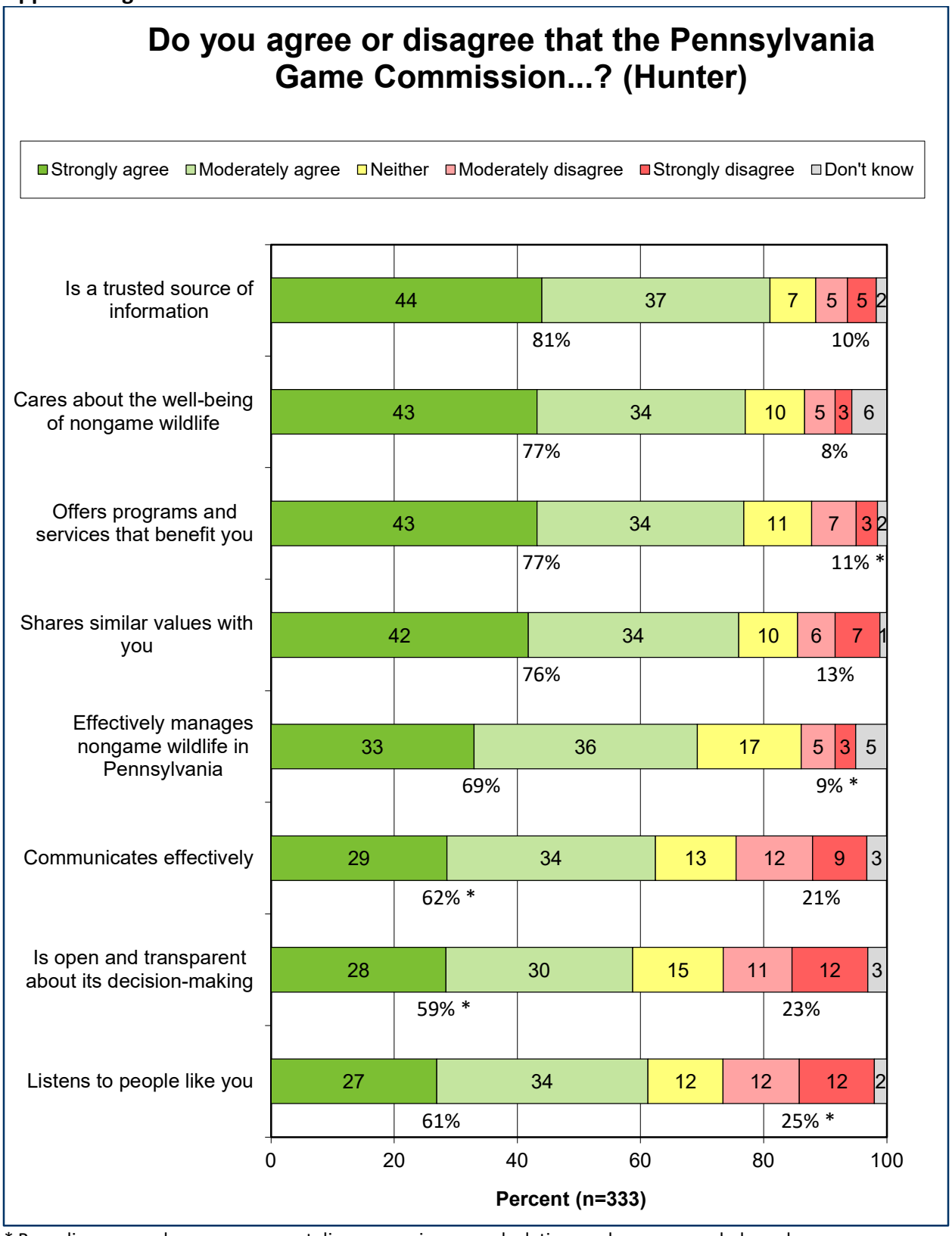
Appendix Figures 10 and 11.





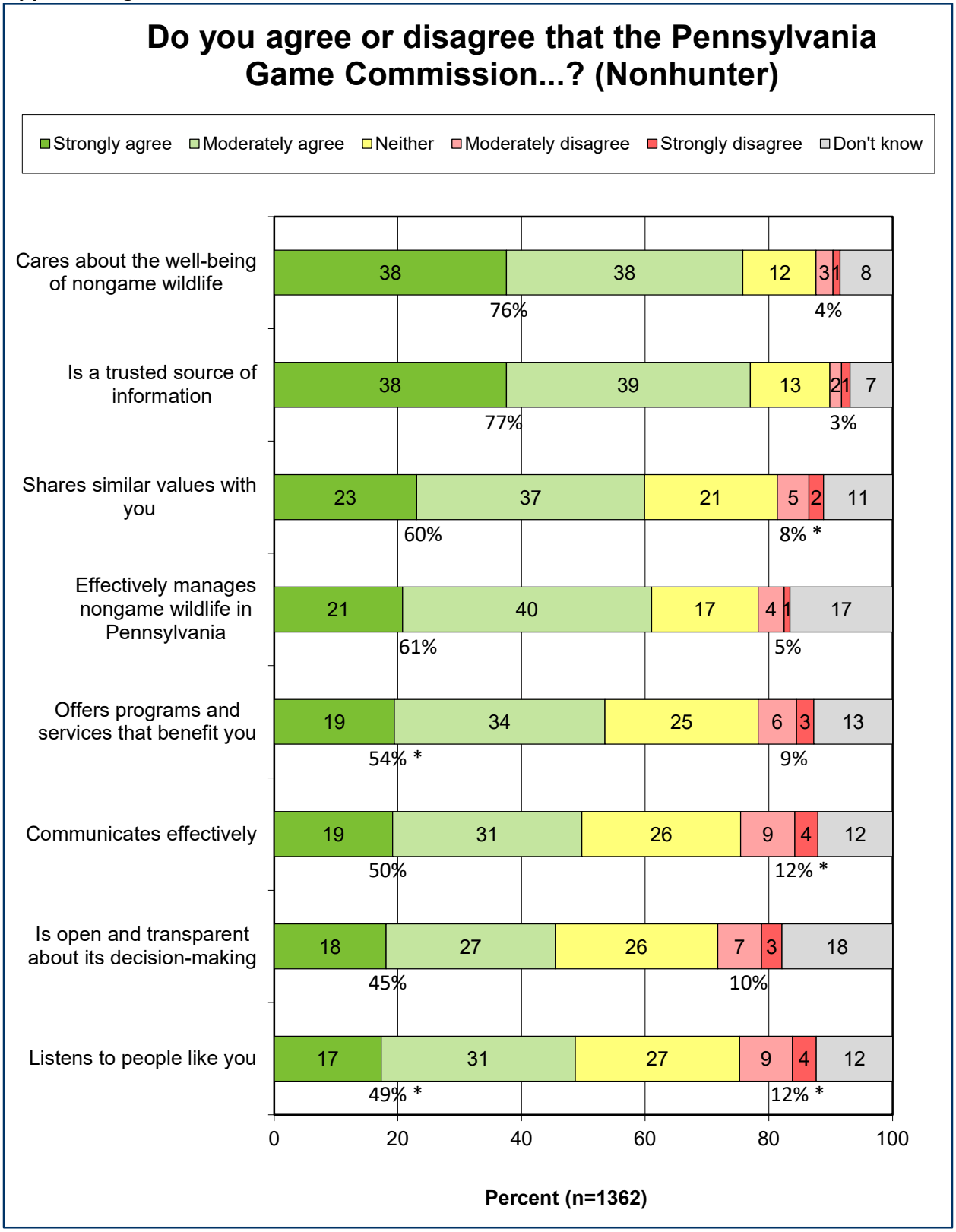
AGENCY RELEVANCY

Appendix Figure 12.



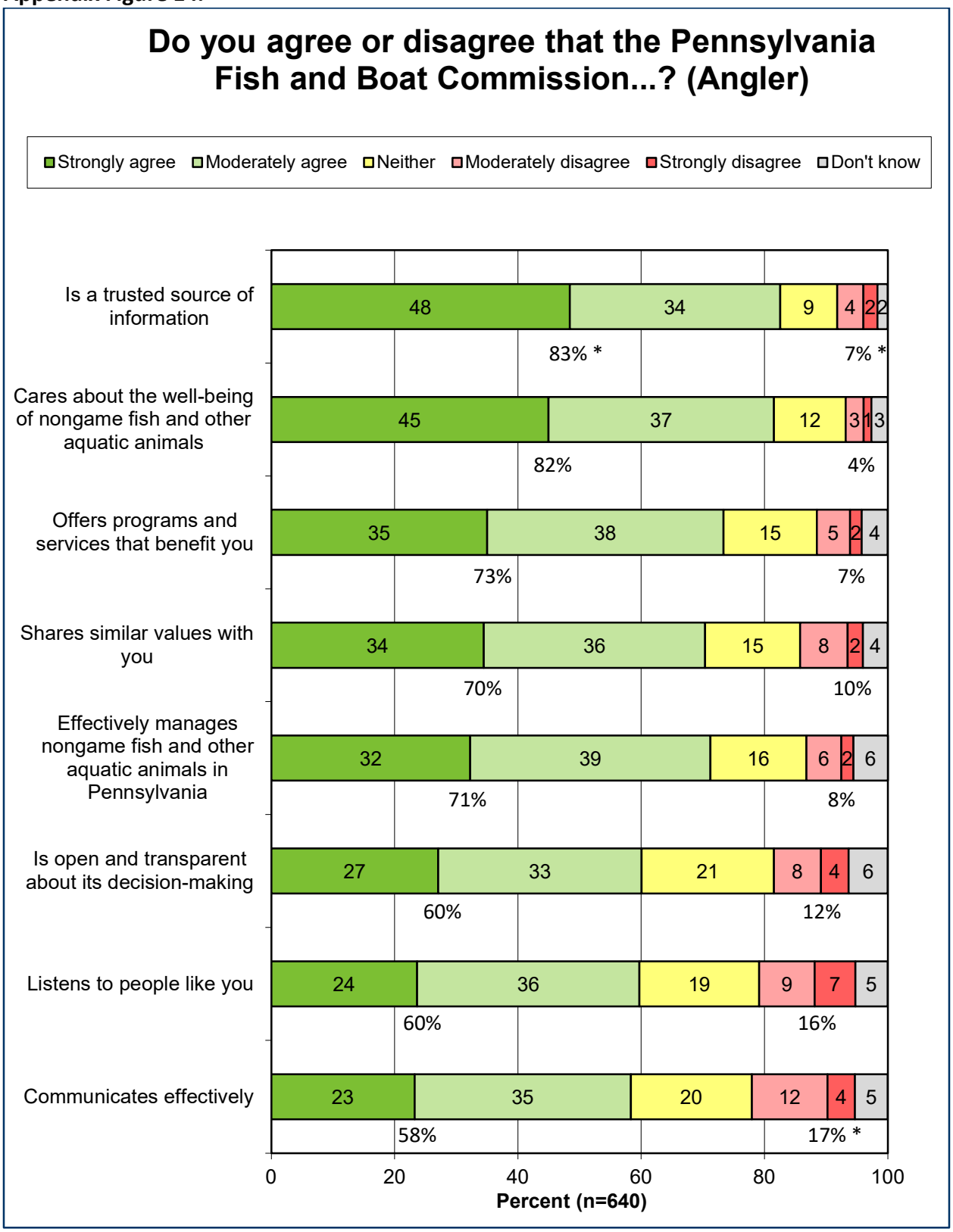
* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Appendix Figure 13.



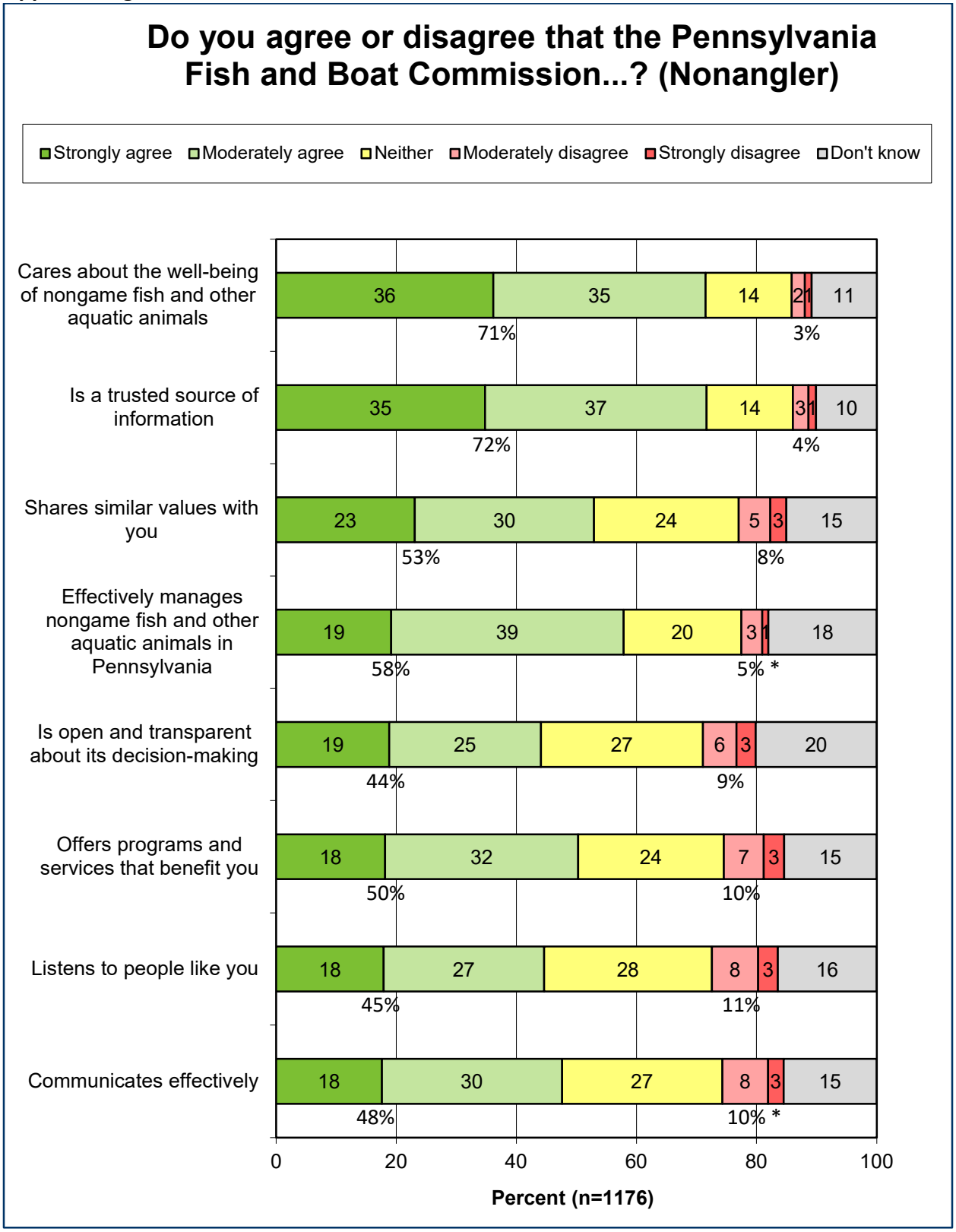
* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Appendix Figure 14.



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

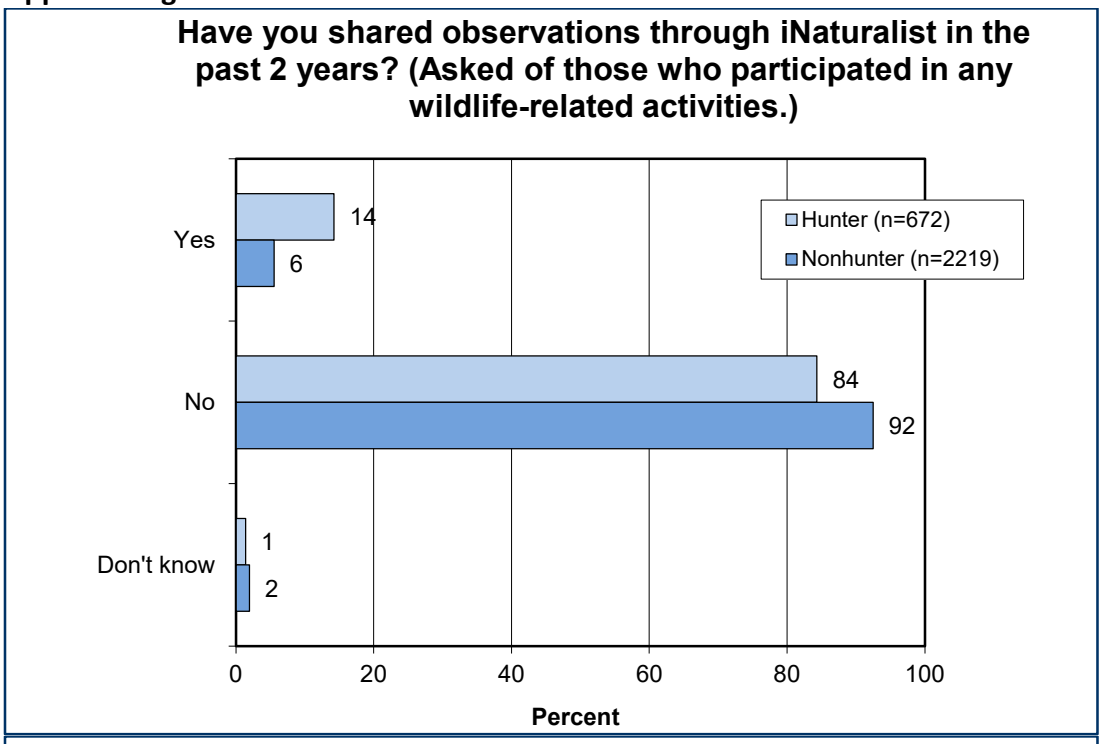
Appendix Figure 15.

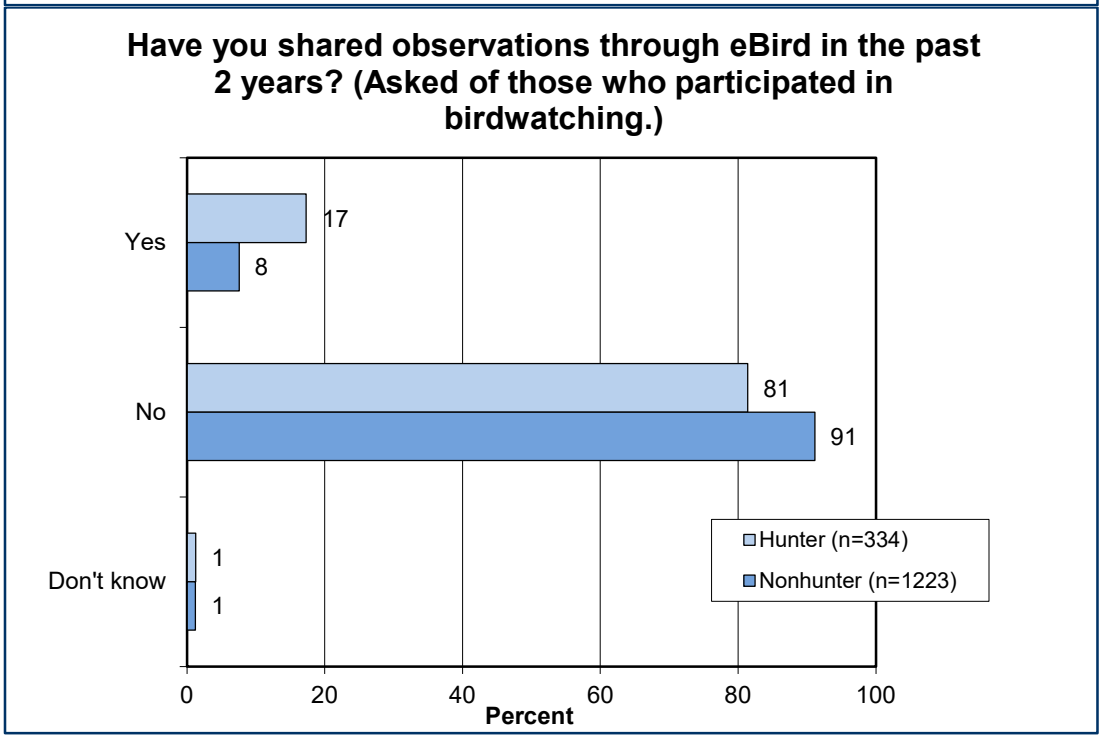


* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

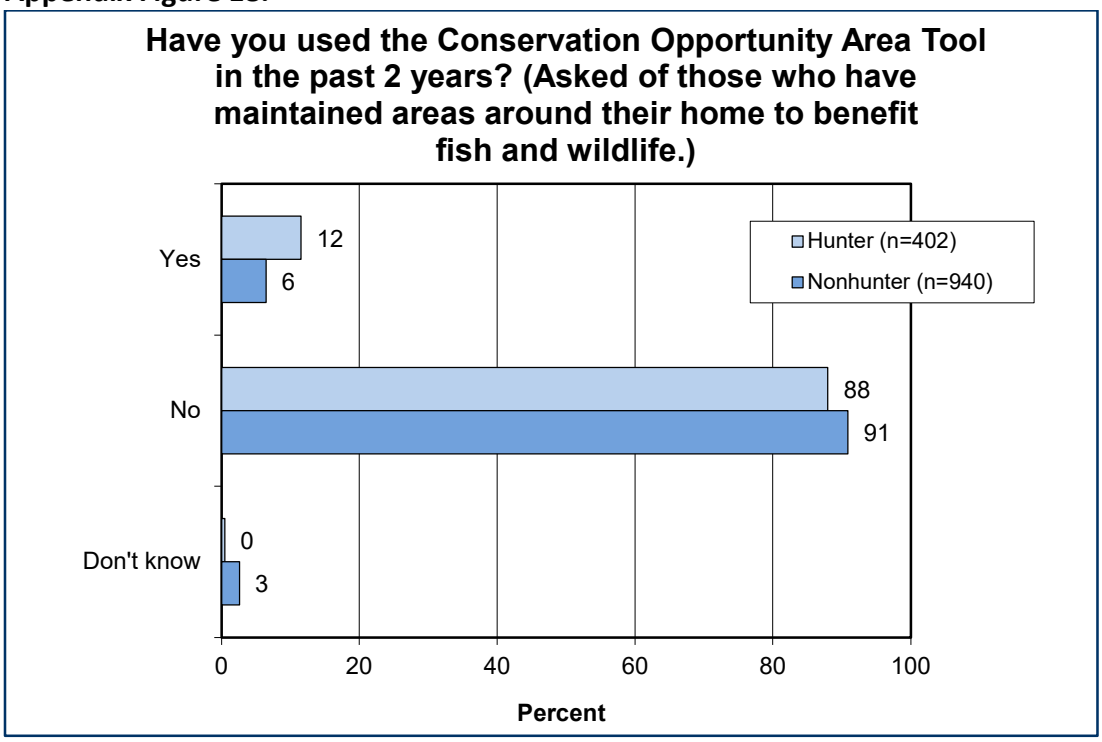
PARTICIPATION IN WILDLIFE-RELATED ACTIVITIES AND USE OF APPS AND ONLINE TOOLS

Appendix Figures 16 and 17.



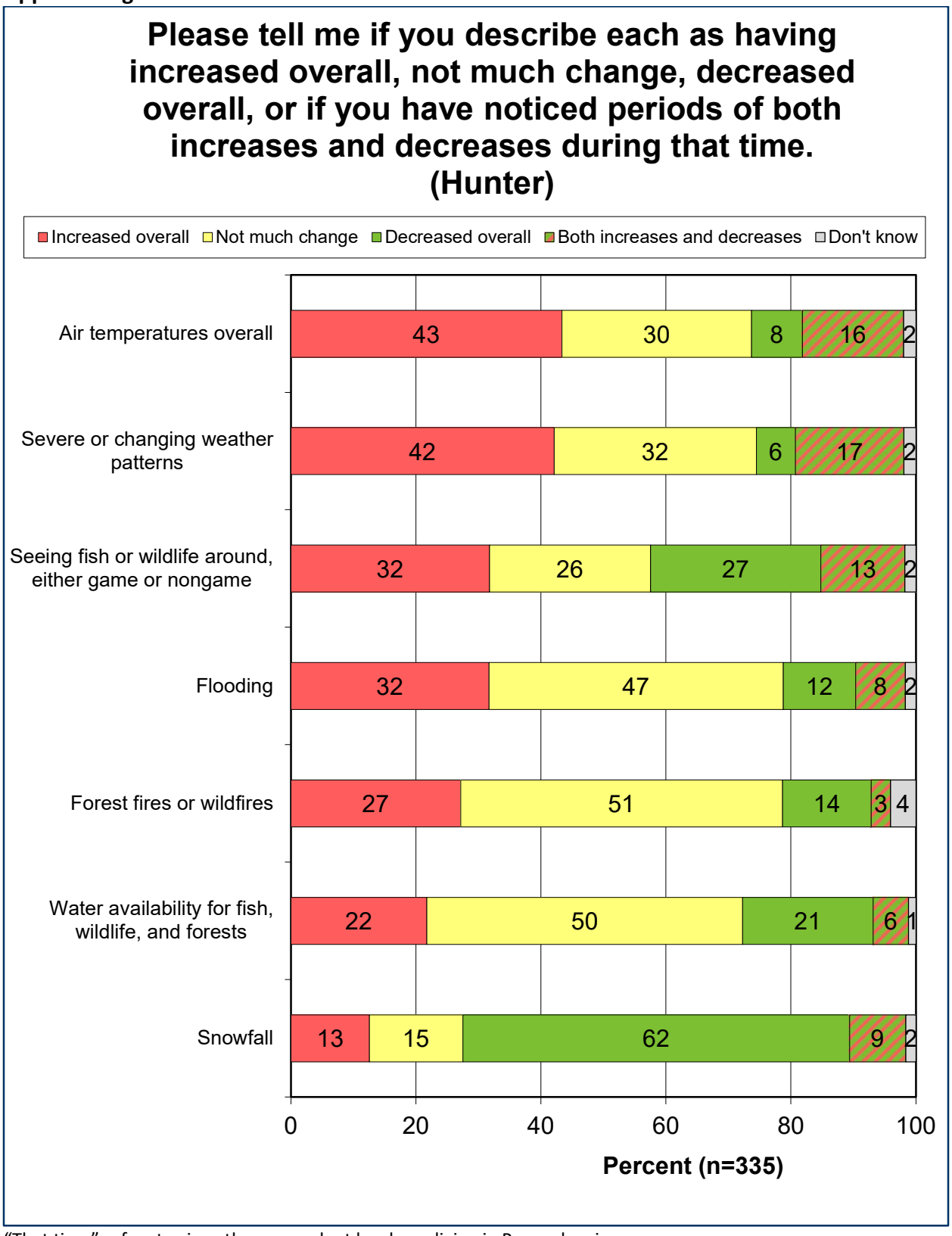


Appendix Figure 18.



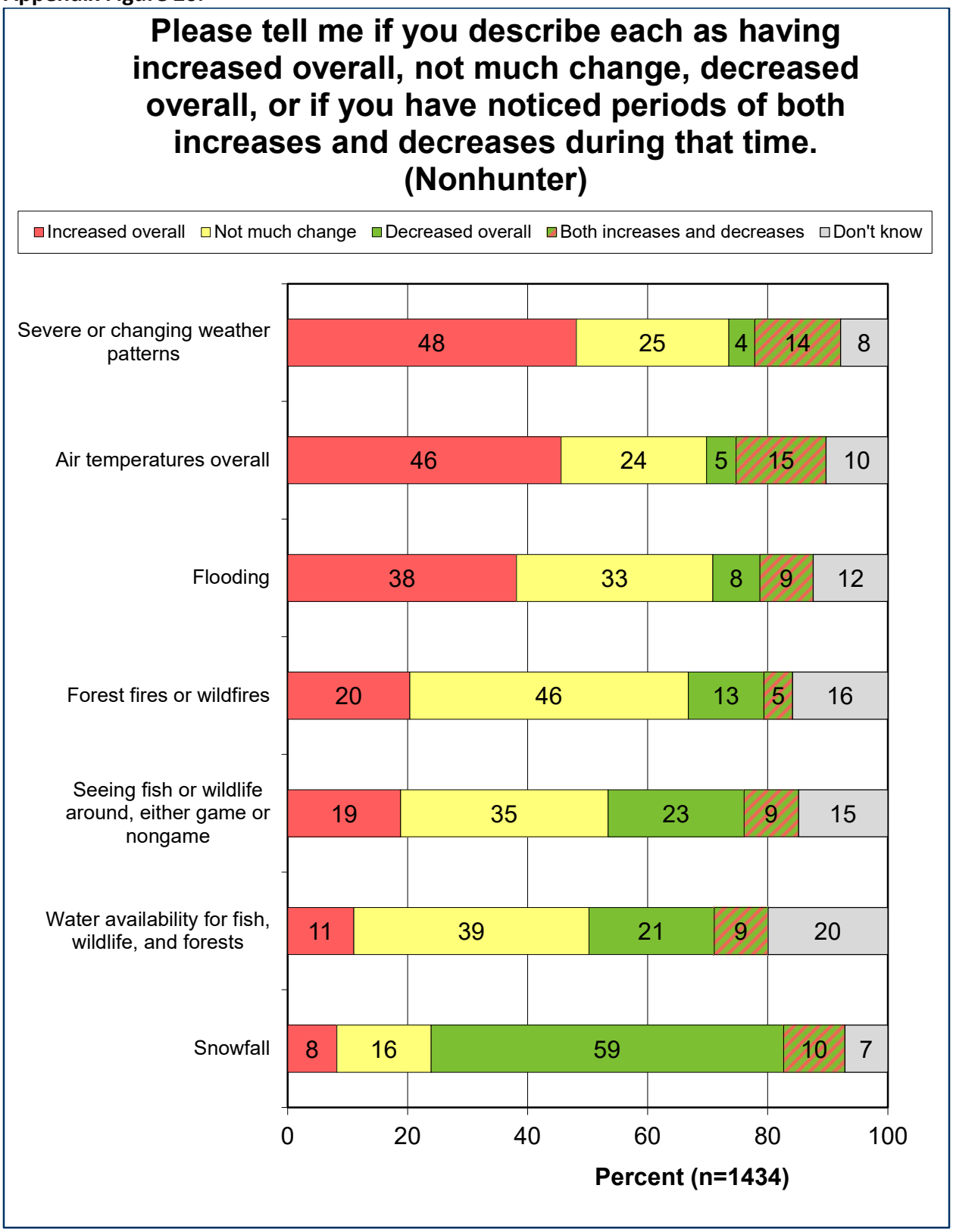
CLIMATE CHANGE IN PENNSYLVANIA

Appendix Figure 19.



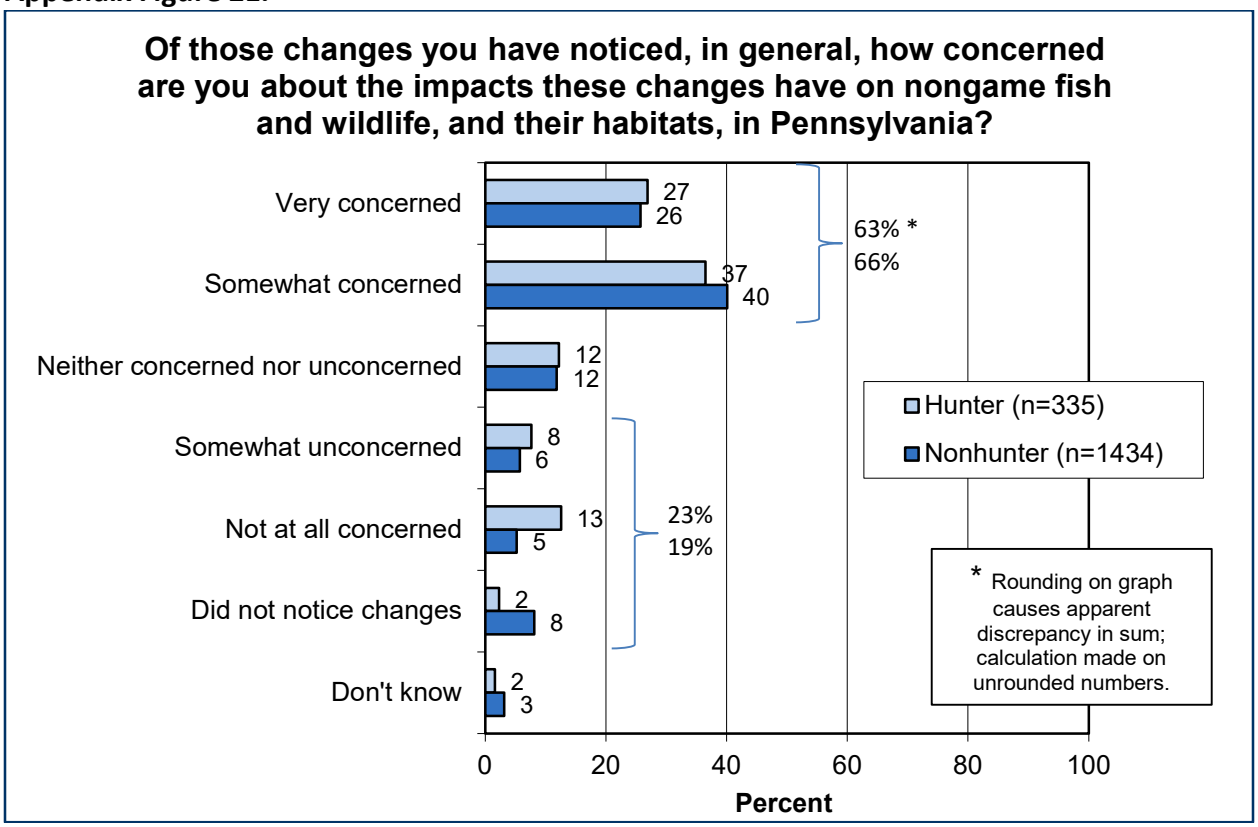
"That time" refers to since the respondent has been living in Pennsylvania.

Appendix Figure 20.



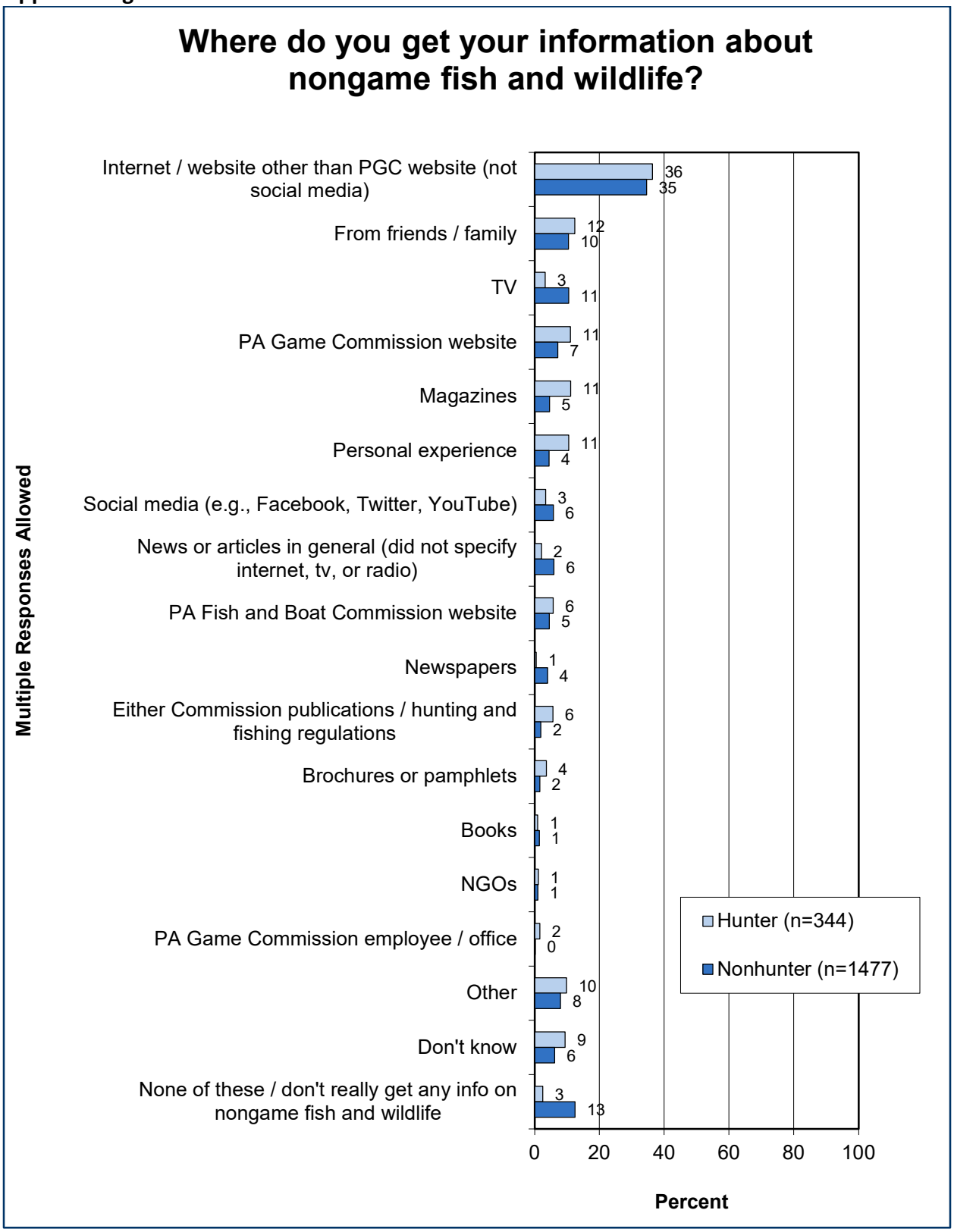
"That time" refers to since the respondent has been living in Pennsylvania.

Appendix Figure 21.



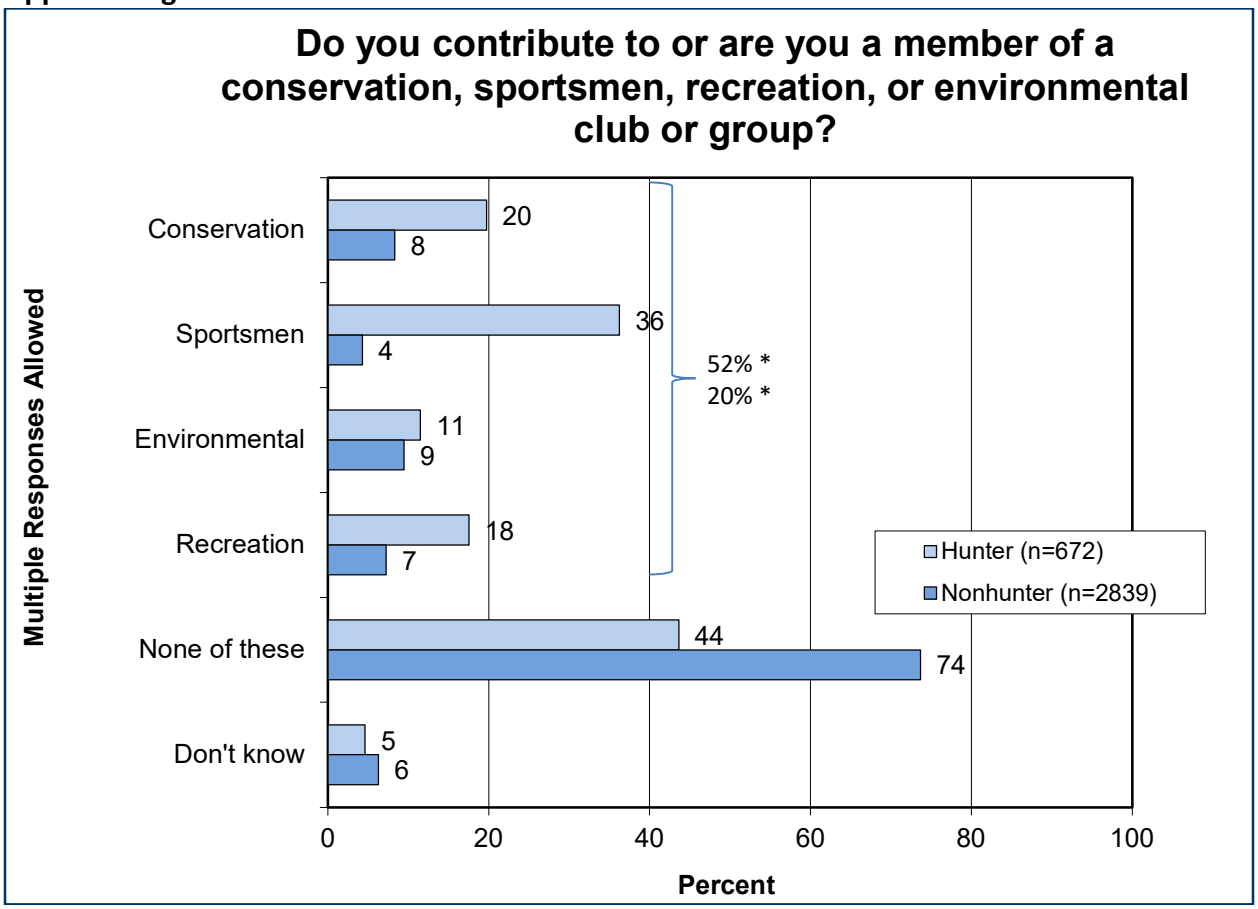
SOURCES OF INFORMATION

Appendix Figure 22.



NATURAL RESOURCE-RELATED ORGANIZATIONS

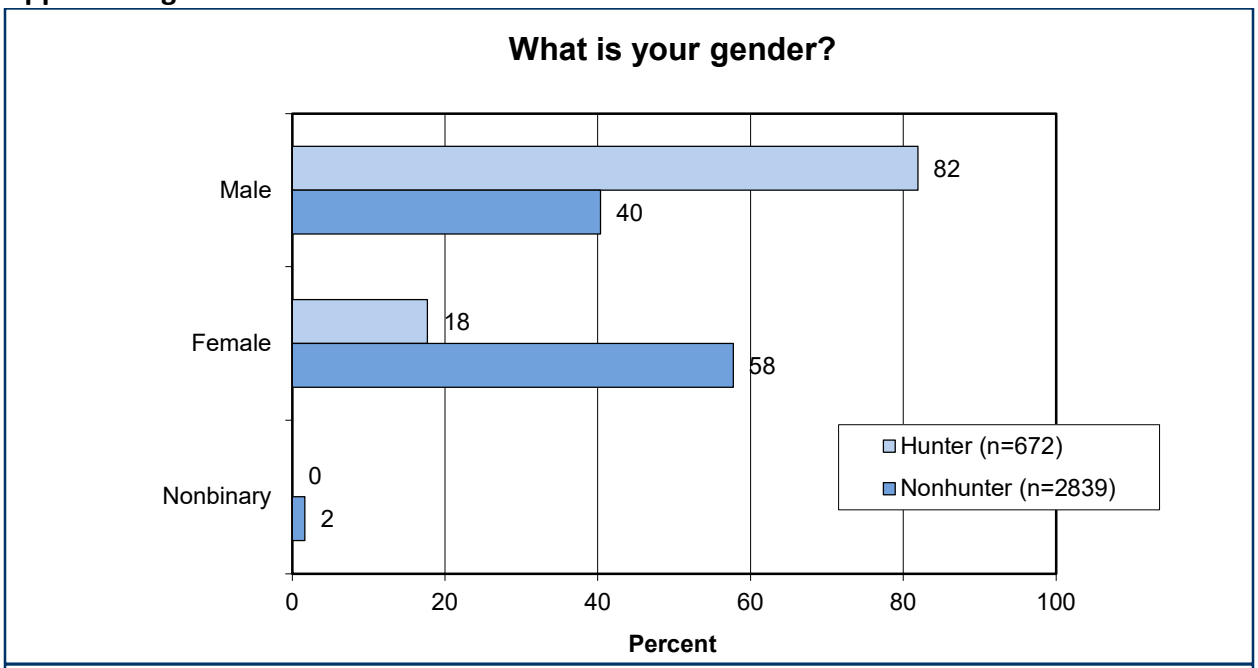
Appendix Figure 23.

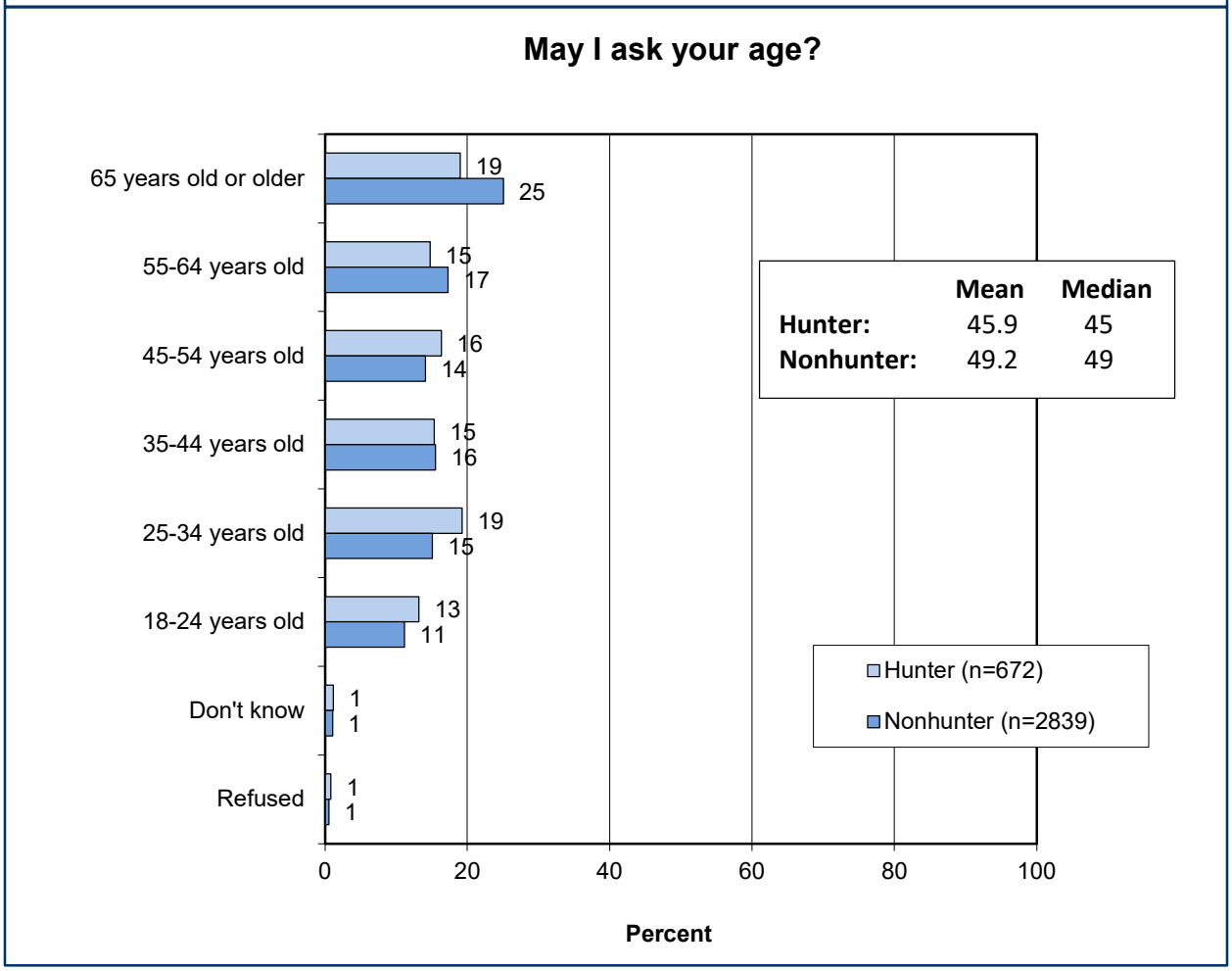


* Not a sum; respondents can select more than one.

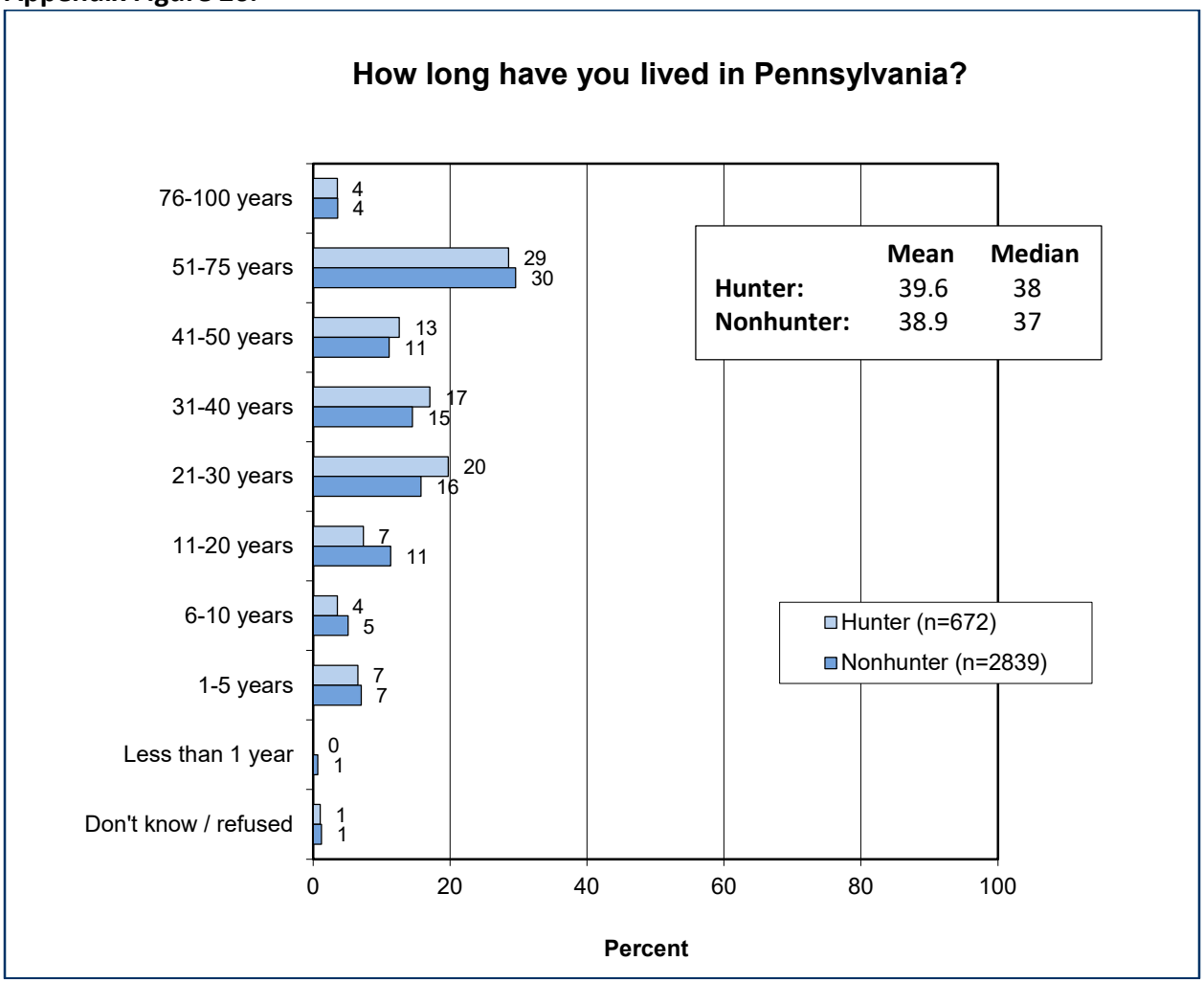
DEMOGRAPHIC INFORMATION

Appendix Figures 24 and 25.

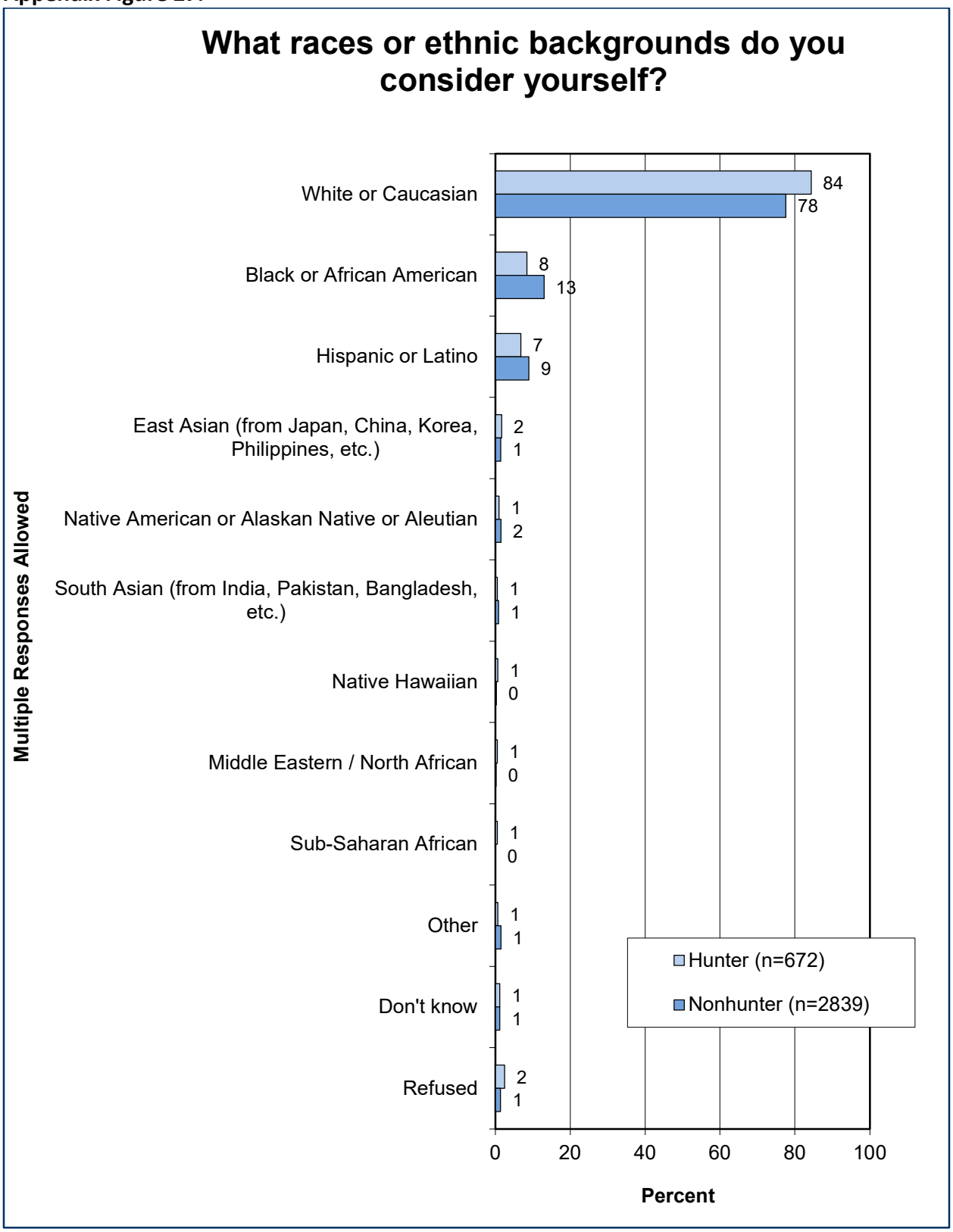




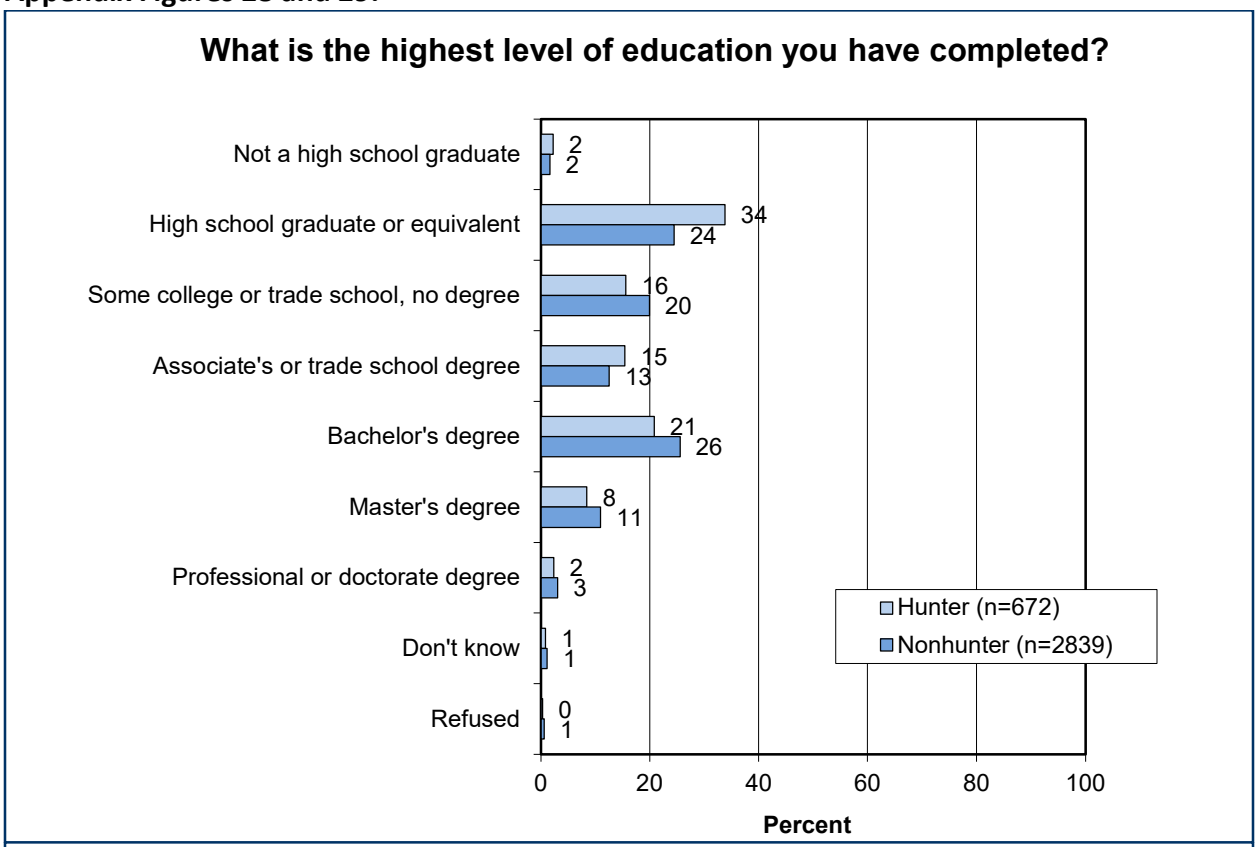
Appendix Figure 26.



Appendix Figure 27.



Appendix Figures 28 and 29.



ABOUT RESPONSIVE MANAGEMENT

Responsive Management is an internationally recognized survey research firm specializing in natural resource and outdoor recreation issues. Our mission is to help natural resource and outdoor recreation agencies, businesses, and organizations better understand and work with their constituents, customers, and the public.

Focusing only on natural resource and outdoor recreation issues, Responsive Management has conducted telephone, mail, and online surveys, as well as multimodal surveys, on-site intercepts, focus groups, public meetings, personal interviews, needs assessments, program evaluations, marketing and communication plans, and other forms of human dimensions research measuring how people relate to the natural world for more than 30 years. Utilizing our in-house, full-service survey facilities with 75 professional interviewers, we have conducted studies in all 50 states and 15 countries worldwide, totaling more than 1,000 human dimensions projects *only* on natural resource and outdoor recreation issues.

Responsive Management has conducted research for every state fish and wildlife agency and every federal natural resource agency, including the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, Bureau of Land Management, U.S. Coast Guard, and the National Marine Fisheries Service. Additionally, we have also provided research for all the major conservation NGOs including the Archery Trade Association, the American Sportfishing Association, the Association of Fish and Wildlife Agencies, Dallas Safari Club, Ducks Unlimited, Environmental Defense Fund, the Izaak Walton League of America, the National Rifle Association, the National Shooting Sports Foundation, the National Wildlife Federation, the Recreational Boating and Fishing Foundation, the Rocky Mountain Elk Foundation, Safari Club International, the Sierra Club, Trout Unlimited, and the Wildlife Management Institute.

Other nonprofit and NGO clients include the American Museum of Natural History, the BoatUS Foundation, the National Association of Conservation Law Enforcement Chiefs, the National Association of State Boating Law Administrators, and the Ocean Conservancy. As well, Responsive Management conducts market research and product testing for numerous outdoor recreation manufacturers and industry leaders, such as Winchester Ammunition, Vista Outdoor (whose brands include Federal Premium, CamelBak, Bushnell, Primos, and more), Trijicon, Yamaha, and others.

Responsive Management also provides data collection for the nation's top universities, including Auburn University, Clemson University, Colorado State University, Duke University, George Mason University, Michigan State University, Mississippi State University, North Carolina State University, Oregon State University, Penn State University, Rutgers University, Stanford University, Texas Tech, University of California-Davis, University of Pennsylvania, University of Montana, University of New Hampshire, University of Southern California, Virginia Commonwealth University, Virginia Tech, West Virginia University, Yale University, and many more.

Our research has been upheld in U.S. Courts, used in peer-reviewed journals, and presented at major wildlife and natural resource conferences around the world. Responsive Management's research has also been featured in many of the nation's top media, including *Newsweek*, *The Wall Street Journal*, *The New York Times*, CNN, National Public Radio, and on the front pages of *The Washington Post* and *USA Today*.

responsivemanagement.com