

A Survey of Waterfowl Professionals: Insights in Support of the 2017 Future of Waterfowl Management Workshop and the 2018 Update of the North American Waterfowl Management Plan

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**Submitted by the Future of Waterfowl Management
Workshop Steering Committee**

EXECUTIVE SUMMARY

- A survey of waterfowl professionals (n=597) was conducted as an opportunity for the management community to provide general feedback on implementation of the 2012 NAWMP Revision. The survey provides an evaluation from 367 survey respondents (61%) about progress on the recommendations from the 2012 NAWMP Revision and priorities for the community's work over the next 5-10 years.
- Most respondents were familiar with the NAWMP and have worked to implement Plan objectives. Most perceived waterfowl management to be performing well; however, they indicated changes are needed in stakeholder collaboration and university training of biologists.
- Relatively low success was noted for incorporating hunter satisfaction metrics into waterfowl management. Similarly, low success was perceived regarding progress on rallying conservation initiative among aesthetic-oriented users, birders / birdwatchers, and the general public.
- At least 50% of respondents agreed with the need to re-allocate resources among important waterfowl landscapes and increase attention on monitoring and evaluation. Respondents also indicated that an inordinate amount of time is spent on regulations, and federal and state level emphasis on waterfowl and wetlands protection and management has declined.
- Respondents indicated more progress and impact has been apparent on habitat and waterfowl populations than on constituent support, awareness of the need for wetland conservation, or interest in waterfowl hunting. "Don't know" was a common response, indicating a need for communication with professionals, although the broader population of professionals surveyed (compared to the 2008 survey) may account for the increased frequency of "don't know."
- Only moderate progress was perceived on 2012 NAWMP recommendations; however, each was viewed as important to include in the 2018 NAWMP Update. "Don't know" also was a common response related to implementing 2012 recommendations, again indicating a need for communication with professionals regarding progress on NAWMP.
- Most survey respondents agreed that existing waterfowl management institutions largely are functional; however, most also agreed that on-going review and possible restructuring will be appropriate. Solutions include increased integration among policy groups, stronger linkage between technical working groups and the NAWMP Committee, and coordination of adaptive management across institutions.
- The top 5 areas of priority emphasis for the Update include habitat protection and management, monitoring waterfowl habitat trends and conservation success, monitoring waterfowl population abundance and demographics, policy efforts to conserve waterfowl, and engaging support from the general public.

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BACKGROUND

The North American Waterfowl Management Plan (NAWMP or Plan) was implemented in 1986. It has since been periodically updated at about five year intervals as required of the NAWMP Committee. In 2012, after extensive stakeholder engagement, the Plan was fundamentally revised adding an explicit goal for waterfowl conservation supporters, complementing existing goals for sustainable populations and sufficient habitat.

The next Plan update, anticipated in 2018, will follow a continuum of implementation (2012-17), assessment (2016-17), and stakeholder engagement (2017-18). Reported here are results from a survey of the waterfowl community's perspectives about 2012 Plan implementation progress and future Plan emphasis. Results are intended to inform the agenda and planning for the Future of Waterfowl Management Workshop II (FoW2; similar to a survey and workshop conducted in 2008) and the direction and emphasis of the 2018 update.

Primary objectives for the survey included:

- Provide opportunity for the management community (those responsible for providing waterfowl hunting and viewing opportunities and conserving important habitats) to provide general feedback on implementation of the 2012 NAWMP Revision.
- Obtain an evaluation from survey participants on:
 - Progress on the recommendations from the 2012 NAWMP Revision Action Plan (listed later in the survey)
 - How well these recommendations capture needs over the next 5-10 years.
 - The priorities for focusing the community's work over the next 5-10 years.

Design and conduct of the survey was a collaborative effort among organizers of the FoW2 and human dimensions specialists. A number of the questions included in this survey (2017) were identical to selected questions posed in 2008. This was intended to provide a general sense of changes in the community and waterfowl management perspectives over the last decade. Specific objectives here related to changes in vocational and avocational characteristics, familiarity and involvement with the Plan and its implementation, and perspectives on institutions and processes in support of waterfowl management.

Table 1. Survey Collaborators

Dave Case	D.J. Case and Associates
Bob Clark	Environment and Climate Change Canada
Diane Eggeman	Florida Fish and Wildlife Conservation Commission
David Fulton	USGS, Minnesota Cooperative Wildlife Research Unit
Howie Harshaw	University of Alberta
Dale Humburg	Ducks Unlimited, Inc.
Holly Miller	USGS, Fort Collins Science Center
Paul Padding	US Fish and Wildlife Service
Andrew Raedeke	Missouri Department of Conservation
Dean Smith	Association of Fish and Wildlife Agencies

METHODS

A web-based survey (Qualtrics Survey Software) was administered through the University of Minnesota with an initial mailing on 19 April 2017, followed by weekly reminders until the survey closed on 7 May 2017. A total of 597 individuals with valid email addresses were invited to complete the survey (Appendix A and B). Of those, 367 (61%) individuals in the sample recorded some responses; however, fewer (~339 - 57%) completed the majority of general questions early in the survey, and fewer yet (317 - 53%) completed most or all of the survey questions. Assuming an unbiased response, the completed sample provides estimates within 4% confidence with respect to the sample frame. We cannot generalize beyond that sample frame as folks not on the e-mail list had a 0% chance of selection. That said, the selected sample was extensive, with contacts throughout the waterfowl management community. Here, and in the selection of those surveyed, “waterfowl management” is inclusive of habitat management, regulations, policy, research/monitoring, and human dimensions. Although the focus of the Plan is on waterfowl and landscapes predominated by wetlands, the professional community involved is much broader and responsibilities often go well beyond waterfowl. Thus, the survey (and the sampled population) was intended to engage a broader audience even though much of the context is specific to waterfowl.

We offer brief narratives and summary points based on simple frequencies and selected cross-tabulations (references to the survey are included throughout in the titles of tables). More extensive tables of selected cross-tabulations as well as verbatim responses are included in appendices. Numerous comments were provided by respondents; these are recorded verbatim in various appendices. A synthesis of comments provides common themes and bottom lines (see Appendix N). Because the 2017 survey engaged a more inclusive population than in 2008, when those directly involved in waterfowl were surveyed (162 of 188 survey recipients responded), comparisons between responses from the two are offered in general terms only.

RESULTS

Characteristics of Survey Respondents

In general, respondents to the 2017 survey were distributed similarly among length of professional involvement, current role, agency and flyway affiliation, and involvement in waterfowl hunting (note, birding was asked only in 2017). Although not particularly significant, deviations from characteristics in 2008 included the following (see Table 2):

- A somewhat shorter time involved in waterfowl management for respondents in 2017 (68% 20 years or less) than those responding in 2008 (55%).
- Fewer responses from those in administrative / coordinator positions (38% in 2017 vs. 44% in 2008) and proportionately greater response from researchers / academic respondents (7% vs. 3%).
- Greater representation from NGOs and less from state / provincial agency (although both groups were well represented in both surveys).
- Representation increased for Canada and Mexico
- A greater proportion of respondents in 2017 were either less than 45 years of age or older than 64 than among those surveyed in 2008.

Table 2. Characteristics of respondents to the 2017 survey of waterfowl professionals compared to the same questions in 2008 (note shaded cells were questions not included in the 2008 survey)

Survey question	Response choices	2008 Survey		2017 Survey	
		No.	%	No.	%
How long have you been active in waterfowl management?	0-1 Year	5	3%	19	6%
	2-5 Years	18	11%	46	14%
	6-10 Years	26	16%	53	16%
	11-20 Years	41	25%	110	32%
	21-30 years	49	30%	65	19%
	> 30 years	22	14%	47	14%
Many of us wear several hats--but which ONE hat do you most frequently find yourself wearing when it comes to waterfowl management?	Agency Director/Executive Director	28	18%	58	17%
	Administrator/Coordinator of a program	71	44%	129	38%
	Biologist/Scientist	50	31%	124	37%
	Researcher/Academic	5	3%	23	7%
	Regulations Committee Member	6	4%	5	1%
What is your primary employment affiliation? If you have more than one affiliation, please select the one where you spend more time.	Federal agency	47	30%	97	29%
	Non-Government Organization	30	19%	96	28%
	Private business	3	2%	2	1%
	State/Provincial agency	74	47%	132	39%
	University	4	3%	11	3%
Which ONE best describes the geography where you work?	Atlantic Flyway (including Canada)			69	20%
	Mississippi Flyway (including Canada)			66	19%
	Central Flyway (including Canada)			70	21%
	Pacific Flyway (including Canada)			54	16%
	National/multiple Flyways			77	23%
	Mexico and Latin America			5	1%
On average, about what percent of your duty time do you usually spend on waterfowl management each month?	0%	1	1%	9	3%
	1% to 25%	68	42%	141	41%
	26% to 50%	21	13%	43	13%
	51% to 75%	21	13%	59	17%
	76% to 100%	50	31%	90	26%
How important is waterfowl hunting to you?	It's my most important	22	14%	47	15%
	It's one of my most important	66	41%	106	33%
	It's no more important than my other	38	24%	53	17%
	It's less important than my other	12	7%	25	8%
	It's one of my least important	3	2%	12	4%
	I don't hunt waterfowl	19	12%	74	23%
How important is birding / birdwatching to you?	It's my most important			9	3%
	It's one of my most important			78	25%
	It's no more important than my other			121	38%
	It's less important than my other			60	19%
	It's one of my least important			30	9%
	I do not spend time birding/ birdwatching			19	6%
Currently, you reside in which country	Canada	22	14%	74	23%
	Mexico	0	--	4	1%
	United States	137	86%	237	75%
You are:	24 or under	0	-	0	-
	25-44	38	24%	104	33%
	45-64	122	76%	197	62%
	65 or over	0	-	16	5%

Similar to 2008, most respondents (~56%) spend less than half their duty time on waterfowl management (Table 3). Those who defined themselves as agency/executive directors in 2017 reported greater time involved with waterfowl management than their counterparts from 2008. The opposite was true for respondents defining themselves as biologist/scientist.

Table 3 (Q5 vs. Q9). Time spent on waterfowl management by professional position (shaded cells are responses to the survey in 2008).

Position	Valid n	0	1% to 25%	26% to 50%	51% to 75%	76% to 100%
Agency Director/Executive Director	58	3%	48%	10%	26%	12%
2008 survey	28	4%	71%	7%	7%	11%
Administrator/Coordinator of a program	129	2%	45%	14%	15%	25%
2008 survey	71	0%	51%	11%	11%	27%
Biologist/Scientist	123	3%	30%	13%	16%	37%
2008 survey	50	0%	8%	16%	22%	54%
Researcher/Academic	23	0%	48%	13%	22%	17%
2008 survey	5	0%	100%	0%	0%	0%
Regulations Committee Member	5	20%	60%	0%	0%	20%
2008 survey	6	0%	33%	50%	0%	17%
Total 2017 Survey	338	3%	41%	13%	17%	27%
Total 2008 Survey	161	1%	42%	13%	13%	31%

Time spent on waterfowl management varies depending on organizational position and the specific aspect of management involved (Table 4). General observations follow:

- Overall, most time is allocated to habitat conservation while least emphasis reported by respondents involves aspects of viewing and public use. Notably, these job responsibilities may not lie with those surveyed.
- More time was spent on habitat conservation and partners/cooperative dealings by agency/executive directors and administrators/coordinators of programs than by biologists/scientists who reported greater proportions of their time involved with population management and regulation/hunter dealings.
- With the exception of time spent on habitat conservation by agency/executive directors and administrator/coordinators of programs, no position reported spending more than 25% of their time on a single aspect of waterfowl management.
- However, 56% of respondents reported ~56% of their duty time involved with waterfowl management overall. The implication here is that individuals' time is distributed among the range of waterfowl management responsibilities.

Table 4 (Q5 vs. Q10). Distribution of time spent among aspects of waterfowl management by different organizational affiliations (shaded cells are responses to the survey in 2008).

Habitat conservation	Valid n	0%	1% to 25%	26% to 50%	51% to 75%	76% to 100%
Agency Director/Executive Director	56	9%	29%	20%	25%	18%
Administrator/Coordinator of a program	124	3%	45%	19%	23%	10%
Biologist/Scientist	122	13%	54%	9%	15%	9%
Researcher/Academic	22	23%	32%	27%	14%	5%
Regulations Committee Member	5	40%	40%	20%	0%	0%
	329	10%	45%	16%	19%	11%
2008 survey	158	8%	49%	24%	12%	7%

Population management	Valid n	0%	1% to 25%	26% to 50%	51% to 75%	76% to 100%
Agency Director/Executive Director	47	55%	32%	11%	2%	0%
Administrator/Coordinator of a program	105	37%	43%	10%	10%	1%
Biologist/Scientist	112	22%	37%	29%	11%	2%
Researcher/Academic	23	30%	26%	22%	13%	9%
Regulations Committee Member	5	20%	60%	20%	0%	0%
	292	34%	38%	18%	9%	2%
2008 survey	148	19%	51%	24%	4%	2%
Regulations / hunter dealings	Valid n	0%	1% to 25%	26% to 50%	51% to 75%	76% to 100%
Agency Director/Executive Director	48	33%	50%	15%	0%	2%
Administrator/Coordinator of a program	106	39%	39%	19%	4%	0%
Biologist/Scientist	112	33%	38%	25%	3%	2%
Researcher/Academic	21	43%	43%	10%	5%	0%
Regulations Committee Member	5	40%	40%	20%	0%	0%
	292	36%	40%	20%	3%	1%
2008 survey	144	21%	42%	26%	8%	3%
Partners/cooperative dealings	Valid n	0%	1% to 25%	26% to 50%	51% to 75%	76% to 100%
Agency Director/Executive Director	53	9%	47%	25%	9%	9%
Administrator/Coordinator of a program	123	7%	58%	24%	4%	7%
Biologist/Scientist	120	11%	59%	23%	4%	3%
Researcher/Academic	22	36%	45%	18%	0%	0%
Regulations Committee Member	5	60%	40%	0%	0%	0%
	323	11%	55%	23%	5%	5%
2008 survey	154	2%	56%	29%	12%	1%
Viewing / public use	Valid n	0%	1% to 25%	26% to 50%	51% to 75%	76% to 100%
Agency Director/Executive Director	48	40%	54%	6%	0%	0%
Administrator/Coordinator of a program	106	40%	58%	1%	0%	1%
Biologist/Scientist	109	46%	50%	4%	0%	0%
Researcher/Academic	22	59%	36%	5%	0%	0%
Regulations Committee Member	5	40%	60%	0%	0%	0%
	290	43%	53%	3%	0%	0%
	Viewing / Public use not asked on the 2008 survey					

The breadth of involvement across the waterfowl management community is evident in respondents' roles among various committees, boards, and working groups (Table 5), an average of ~2 positions per respondent (339 total respondents on 682 total board, committee, or working group positions). A considerable number of "other affiliations" also were reported by survey respondents (Appendix C). Representation across committees (Appendix D) provides insights into the degree of existing integration. In most instances, the individuals serving on any particular group are well distributed among other groups which should ensure cross-community integration and collaboration. The diversity of organizations and professional roles should ensure comprehensive perspectives in the report that follows.

Table 5 (Q6). Representation across Boards, Committees, and Working Groups

Are you currently serving on:			
	Valid n	Yes	No
Joint Venture Management Board	314	24.8%	75.2%
Flyway Council	310	15.5%	84.5%
Joint Venture Staff or Technical Committee	320	40.9%	59.1%
Flyway Game Technical Section	311	28.0%	72.0%
Flyway Nongame Technical Section	305	13.8%	86.2%
Flyway Webless Committee	306	15.0%	85.0%
NA Waterfowl Management Plan Committee	304	5.9%	94.1%
NAWMP Science Support Team (NSST)	307	8.5%	91.5%
Harvest Management Working Group (HMGW)	304	9.9%	90.1%
Human Dimensions Working Group (HDWG)	302	7.0%	93.0%
Public Engagement Team (PET)	303	4.0%	96.0%
North American Bird Conservation Initiative (NABCI)	306	14.4%	85.6%
North American Wetlands Conservation Council (NAWCC)	303	8.9%	91.1%
Other affiliations?	271	26.6%	73.4%

Familiarity and Involvement with the NAWMP

Overall, the majority of survey respondents were either somewhat (42%) or very familiar (39%) with the NAWMP. This level of familiarity was consistent regardless of respondents' professional roles, organizational affiliations, or flyway affiliations. The level of familiarity increased with an individuals' time spent each year on waterfowl management (see Appendix E). Most respondents (68%) participated in discussions leading up to the 2012 NAWMP Revision although fewer were involved with other aspects of that process. Less than 30% attended the first Future of Waterfowl Management Workshop held in 2008, attended stakeholder workshops during 2009 and 2011, or served on steering committee, writing team, or technical committees (Table 6). Involvement during the years to follow in implementing the Revision, however, has been substantial. Most have become familiar with the Plan (72%), ensured others were familiar (53%), worked to integrate goals into organizational planning (61%), or to implement related strategic actions in support of the Revision (58%, Table 7).

Table 6. Involvement in development of the 2012 NAWMP Revision

(Q2) Please indicate whether you participated in the following activities leading up to the 2012 NAWMP Revision.			
	n	Yes	No
Attended the Future of Waterfowl Management Workshop in Minneapolis in 2008.	346	20.2%	79.8%
Attended NAWMP stakeholder workshops during 2009 to 2011.	347	28.2%	71.8%
Participated in discussions at Flyway, Joint Venture, or other meetings about the proposed revision.	352	68.2%	31.8%
Served on steering committee, writing team, or revision technical committee.	345	9.6%	90.4%
Reviewed or commented on drafts of the 2012 NAWMP Revision.	346	40.5%	59.5%

Table 7. Involvement during implementation of the 2012 NAWMP Revision

(Q3) Please indicate whether you have been involved in the following activities during implementation of the 2012 NAWMP Revision.			
	Valid n	Yes	No
Personally became familiar with the 2012 NAWMP Revision and the Action Plan.	346	72.5%	27.5%
Ensured that others in your agency or organization were aware of the 2012 NAWMP Revision.	345	52.8%	47.2%
Served on one or more working groups implementing the 2012 NAWMP Revision.	340	24.4%	75.6%
Worked within your agency or organization to integrate NAWMP goals into conservation planning.	345	60.6%	39.4%
Worked within your agency or organization to implement strategic actions in support of the 2012 NAWMP Revision.	346	57.5%	42.5%

Assessing the Performance of Waterfowl Management

Waterfowl management performance, related primarily to institutional arrangements, was viewed favorably both in 2008 and again in 2017 (Table 8). About 80% rated the Flyway System, Joint Ventures, collaboration between U.S. and Canada, and waterfowl monitoring as at least good. Other aspects were rated somewhat lower (but still ~50% rated as good to excellent) including university training of biologists, AHM, and collaboration with Mexico.

Table 8. Performance of Waterfowl Management (shaded cells are responses to the survey in 2008).

(Q11) Please evaluate the performance of each of the following in contributing to the success of waterfowl management in North America						
	Valid n	Excellent	Good	Fair	Poor	Don't Know
Flyway system	338	45%	38%	7%	2%	9%
	159	38%	49%	10%	1%	3%
University training of waterfowl biologists	336	11%	42%	27%	6%	15%
	157	10%	49%	28%	8%	5%
Joint Ventures	339	40%	44%	12%	2%	3%
	159	31%	49%	18%	2%	1%
Collaboration between U.S. and Canada	337	30%	48%	12%	1%	9%
	158	21%	51%	22%	2%	5%
Adaptive Harvest Management (AHM) as a system of regulations recommendations	338	14%	44%	19%	3%	20%
	159	9%	48%	33%	4%	6%
Waterfowl monitoring (e.g., surveys, banding, etc.)	339	29%	51%	11%	1%	7%
	159	31%	53%	14%	1%	1%
Collaboration among U.S., Canada, and Mexico	338	9%	35%	30%	7%	18%
	NA	(Question not asked in 2008)				

Despite a generally favorable assessment of waterfowl management performance, respondents appear open to some changes (Table 9). Collaboration between the U.S. and Canada was viewed as the aspect needing the least change (17% major or moderate change). Among all other aspects of waterfowl management, 25% or more of the respondents suggested that moderate or major change was needed. In most instances, a smaller proportion of 2017 respondents than in 2008 perceived a need for moderate or major change. Exceptions included a continued need for university training of waterfowl biologists and collaboration with stakeholders like birders and hunters. The latter was the feature perceived as most needing change with >75% of respondents indicating the need for moderate or major change.

Table 9. Change Required to Achieve Future Advances in Waterfowl Management (shaded cells are responses to the survey in 2008).

(Q12) To what extent will change be required in each of the following to achieve future advances in waterfowl management?						
	Valid n	Needs major change	Needs moderate change	Needs minor change	Fine as is	Don't Know
Flyway system	339	3%	20%	27%	33%	17%
	159	4%	31%	26%	32%	6%
University training of waterfowl biologists	339	12%	38%	22%	9%	20%
	160	17%	37%	20%	16%	11%
Joint Ventures	339	4%	31%	37%	20%	9%
	160	6%	39%	34%	16%	4%
Collaboration between U.S. and Canada	339	1%	16%	35%	31%	17%
	158	6%	31%	33%	20%	9%
Adaptive Harvest Management (AHM) as a system of regulations recommendations	338	5%	25%	30%	13%	27%
	158	8%	42%	26%	9%	15%
Waterfowl monitoring (e.g., surveys, banding, etc.)	338	4%	26%	38%	17%	14%
	158	11%	32%	37%	16%	4%
Collaboration among U.S., Canada, and Mexico	339	7%	29%	24%	12%	28%
	NA	(Question not asked in 2008)				
Collaborating with stakeholders like birders and hunters	340	28%	49%	14%	4%	6%
	NA	(Question not asked in 2008)				

Respondents' perspectives about success attained in waterfowl management provide insights into areas where gains are apparent and other areas where greater progress is needed. Medium to high success was perceived by more than 50% of respondents for institutional arrangements (54%), rallying conservation initiative among hunters (51%), conserving habitat (88%), and funding for conservation and management (64%, Table 10). Relatively low success (<25% rated medium or high) was identified for incorporating hunter satisfaction metrics (24%) and rallying conservation initiative among aesthetic-oriented users (17%), birders / birdwatchers (12%), and the general public (18%). All other attributes

were intermediate in respondents' rankings. Notably, "don't know" was recorded by more than 20% of the respondents in some instances in 2017. The survey in 2017 was sent to a broader audience than in 2008, when the surveyed population included only those specifically involved in waterfowl management. This points to a possible need to focus on communication efforts among the conservation community in the future as a broader focus for waterfowl management is considered.

Table 10. Degree of Success Attained in Waterfowl Management (shaded cells are responses to the survey in 2008).

(Q14) What is the degree of success you think we've attained with each of the following attributes of waterfowl management in North America? (responses to the same option in 2008 are in the shaded cells; NA=not asked in 2008)						
Management attributes	Valid n	High	Medium	Low	No Success	Don't know
Simplified waterfowl regulations.	339	4%	41%	26%	8%	21%
	160	4%	44%	37%	10%	5%
Goals for harvest and habitat management that are complementary and consistent.	339	6%	41%	30%	3%	20%
	160	3%	30%	48%	16%	3%
Monitoring waterfowl hunter expectations and satisfactions.	339	5%	32%	40%	4%	19%
	160	4%	39%	45%	6%	6%
Incorporating hunter satisfaction metrics into waterfowl management goals.	339	4%	20%	47%	8%	21%
	160	4%	19%	53%	16%	8%
Management coherence among waterfowl populations, habitat, and hunter participation.	339	1%	28%	42%	10%	19%
	159	3%	19%	50%	13%	15%
Institutional arrangements that will support achieving NAWMP objectives.	339	6%	48%	24%	2%	20%
	160	8%	53%	28%	3%	8%
Understanding private landowners' expectations.	339	3%	31%	42%	5%	19%
	160	8%	46%	37%	3%	6%
Rallying the conservation initiative of the waterfowl hunting community (harvest-oriented users).	339	8%	43%	33%	3%	13%
	160	13%	48%	34%	2%	3%
Rallying the conservation initiative of aesthetic-oriented wetland conservationists.	339	1%	16%	55%	15%	13%
	160	4%	21%	61%	11%	3%
Clear process for setting/revising population goals.	339	7%	36%	34%	5%	18%
	160	2%	28%	53%	13%	4%
Conservation of waterfowl habitats.	339	20%	68%	8%	0%	4%
	159	6%	76%	16%	1%	1%
Rallying the conservation initiative of birders / birdwatchers.	340	1%	11%	64%	16%	8%
	NA	(Question not asked in 2008)				
Funding for waterfowl conservation and management.	339	9%	55%	29%	4%	3%
	NA	(Question not asked in 2008)				
Fostering broader public awareness, support, and involvement in NAWMP conservation efforts.	339	0%	18%	61%	12%	9%
	NA	(Question not asked in 2008)				

Additional probing presents greater detail about the relative emphasis among areas of waterfowl management. At least 50% of respondents agreed somewhat or strongly about the need to re-allocate resources among important waterfowl landscapes (51%) and increase attention on monitoring and evaluation (53%, Table 11). Apparent disagreement with the allocation of management emphasis was evident from those who indicated an inordinate amount of time spent on regulations (53%), decline at the federal (71%) and state level (54%) on waterfowl and wetlands protection and management, and decline in university emphasis on waterfowl and wetlands management (59%). There was less concern about a decline in emphasis on waterfowl and wetlands protection by NGOs (19%). Sentiment about these areas of emphasis did not appear as strong as in 2008.

Table 11. Relative Emphasis on Aspects of Waterfowl Management (shaded cells are responses to the survey in 2008).

(Q13) Indicate the degree to which you agree, disagree, or are neutral about, the following statements (responses to the same option in 2008 are in the shaded cells; NA=not asked in 2008)						
	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly disagree	Don't know
Resources dedicated to waterfowl habitat conservation should be re-allocated among important waterfowl landscapes.	13%	39%	18%	13%	6%	11%
	28%	36%	18%	10%	3%	6%
An inordinate amount of time is spent on the annual regulations setting process.	13%	40%	16%	12%	5%	15%
	28%	39%	16%	10%	1%	5%
Greater attention should be placed on monitoring and evaluation.	15%	38%	29%	10%	2%	5%
	29%	49%	15%	8%	0%	0%
Attention to waterfowl and wetlands protection and management has declined at the federal level.	37%	33%	9%	9%	4%	8%
	27%	45%	14%	9%	4%	1%
Attention to waterfowl and wetlands protection and management has declined at the state/province level.	18%	36%	12%	15%	9%	9%
	16%	44%	11%	21%	5%	2%
Attention to waterfowl and wetlands protection and management has declined among NGOs.	3%	16%	27%	29%	16%	10%
	3%	16%	25%	37%	18%	2%
Emphasis on waterfowl and wetlands conservation and management has declined in universities.	32%	27%	11%	5%	1%	24%
	(Question not asked in 2008)					

Assessing Institutional Arrangements

A central theme of the 2012 NAWMP Revision involved integration, i.e., considering the linkages among multiple objectives and management actions for waterfowl management. The processes and institutions in support of integration were assessed by posing a number of statements to which respondents agreed or disagreed (Table 12). Notable conclusions include:

- The majority of respondents (68%) agree somewhat or strongly that existing waterfowl management institutions largely are functional. However, a similar proportion (65%) agreed that on-going review and possible restructuring will be appropriate in the future.
- Most (58%) agreed somewhat or strongly that the depth and breadth of technical expertise is adequate; however, the majority (69%) also agreed that integration across working groups should be improved.
- Greater coordination across Joint Ventures (66% agree somewhat or strongly) and between Joint Ventures and Flyways (67%) is needed.
- A smaller proportion of respondents (44% agree strongly or somewhat) indicated that the depth and breadth at policy levels is adequate and that current institutions and processes are sufficient (32%).
- Possible solutions involve increased integration among policy groups (70% agree somewhat or strongly), stronger linkage between technical working groups and the NAWMP Committee (62%), and coordination of adaptive management across institutions (62%).

- Institutional arrangements were not viewed as sufficient to ensure progress towards achieving NAWMP goals for waterfowl populations, habitat, and “people” (41%, 35%, and 9%, respectively agreed that institutional arrangements were sufficient).

Table 12. Assessment of Institutional Arrangements in Waterfowl Management

(Q15) Indicate the degree to which you agree, disagree, or are neutral about, the following statements							
	Valid n	Strongly agree	Agree somewhat	Neutral	Somewhat disagree	Strongly disagree	Don't know
Existing institutions and processes of waterfowl management largely are functional.	339	11.8%	55.8%	15.9%	9.7%	0.9%	5.9%
On-going review and possible restructuring of waterfowl management institutions will be appropriate in the future.	339	19.8%	44.8%	20.6%	4.4%	1.8%	8.6%
Integration across waterfowl working groups (e.g., HDWG, NSST, HMWG, PET, etc.) should be improved.	339	28.6%	40.7%	13.3%	2.7%	0.9%	13.9%
The depth and breadth of technical expertise is currently adequate among various working groups (e.g., HMWG, HDWG, NSST, PET, Flyway technical committees).	339	15.3%	42.2%	14.7%	10.6%	2.7%	14.5%
The depth and breadth at the policy level currently is adequate (e.g., Flyway Councils, JV management boards, NAWMP Committee).	339	7.1%	37.2%	17.1%	19.8%	3.2%	15.6%
Greater coordination across Joint Ventures is needed.	339	23.9%	42.5%	18.9%	4.4%	0.9%	9.4%
Greater coordination between Joint Ventures and Flyways is needed.	339	24.5%	42.8%	17.4%	4.7%	0.9%	9.7%
Integration among policy groups (e.g., NAWMP Committee, NABCI, NAWCC, etc.) should be increased.	339	24.5%	45.4%	15.9%	2.7%	1.2%	10.3%
A revitalized, strong linkage between technical working groups and the NAWMP Committee is needed.	339	23.6%	38.6%	20.4%	2.7%	0.6%	14.2%
Coordination of adaptive management across institutions should be improved.	339	18.3%	44.0%	18.6%	4.7%	1.5%	13.0%
Current institutions and processes are sufficient to ensure the future relevance of waterfowl management.	339	4.1%	28.0%	18.0%	33.6%	6.8%	9.4%
Institutional arrangements are sufficient to ensure progress towards achieving the population goal of the 2012 NAWMP revision (“Abundant and resilient waterfowl populations ...”).	339	5.6%	35.1%	20.6%	21.5%	2.9%	14.2%
Institutional arrangements are sufficient to ensure progress towards achieving the habitat goal of the 2012 NAWMP revision (“Wetlands and related habitats sufficient to sustain waterfowl populations...”).	339	2.4%	32.4%	18.9%	30.7%	2.9%	12.7%
Institutional arrangements are sufficient to ensure progress towards achieving the “people” goal of the 2012 NAWMP revision (“Growing numbers of waterfowl hunters, other conservationists...”).	339	1.2%	8.0%	18.6%	40.4%	16.2%	15.6%

A general assessment of waterfowl management over the last 5 years provides perspectives about gains as well as areas where greater focus might be needed. Respondents indicated somewhat or significantly more impact from habitat conservation (72%) and impact on populations (66%) than on constituent support (37%), awareness of the need for wetland/upland conservation (45%), interest in waterfowl hunting (18%), or outdoor recreation related to wetlands (23%).

Table 13. Effect of Waterfowl Management on Habitat, Populations, and Supporters

(Q16) Please indicate the degree to which you believe current waterfowl management through the NAWMP has affected waterfowl habitat, populations, and supporters over the last 5 years.						
	Valid n	Significantly more	Somewhat more	No change	Somewhat less	Significantly less
Conserved/protected habitat	324	17%	55%	22%	5%	1%
Positively impacted waterfowl populations	323	16%	49%	31%	2%	1%
Positively impacted hunter, viewer and public support for wetland conservation	320	3%	35%	53%	8%	2%
Increased awareness of the need for wetland/upland conservation	323	5%	40%	47%	7%	2%
Increased interest in waterfowl hunting	322	2%	16%	55%	25%	2%
Increased interest in outdoor recreation related to wetlands	320	2%	20%	61%	14%	3%

Progress Towards 2012 NAWMP Goals

Respondents were asked to rate progress on the 3 goals of the 2012 NAWMP. In each instance, they were asked about a range of implementation features:

- With regard to progress towards Goal 1: "Abundant and resilient waterfowl populations ..." more than 50% of the respondents indicated moderate to significant progress on habitat management (55%) and technical / science support (53%, Table 14). Progress on elements of coordination (19% to 25% moderate to significant progress), adaptive management (35%), and funding support (17%) was viewed less favorably.
- Perceptions related to Goal 2: "Wetlands and related habitats ..." followed a similar trend to respondents' views about progress towards Goal 1; however, progress on none exceeded that reported for Goal 1 (Table 15).
- In each implementation aspect of Goal 3; "Growing numbers of waterfowl hunters ..." respondents reported less than 25% moderate to significant progress (Table 16).
- Similar trends were perceived for integration across the 3 goals (Table 17).
- Two important caveats are important to note. In every instance, ratings of at least limited progress exceeded respondents' views that no progress had been achieved. Additionally, 25% or more of the respondents indicate "don't know" with regard to progress on Plan implementation. Again, this points to the need for communication efforts in the future.
- Respondents provided several comments that further add to perspectives about 2012 NAWMP implementation (Appendix F).

Table 14. Progress Made on Goal 1 "Abundant and resilient waterfowl populations ..."

(Q17) Indicate the degree of progress you believe has been made on Goal 1: "Abundant and resilient waterfowl populations to support hunting and other uses without imperiling habitat"						
	Valid n	Significant progress	Moderate progress	Limited progress	No progress is apparent	Don't know
Habitat management	339	9%	46%	24%	5%	16%
Technical / science support	339	9%	42%	27%	5%	17%
Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	339	2%	23%	35%	9%	31%
Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	339	1%	18%	35%	15%	31%
Coordination between working groups and policy groups	339	1%	18%	37%	12%	32%
Adaptive management and evaluation	339	5%	30%	32%	9%	24%
Funding support	339	1%	16%	27%	37%	18%

Table 15. Progress Made on Goal 2 "Wetlands and related habitats ..."

(Q18) Indicate the degree of progress you believe has been made on Goal 2: "Wetlands and related habitats sufficient to sustain waterfowl populations at desired levels, while providing places to recreate and ecological services that benefit society"						
	Valid n	Significant progress	Moderate progress	Limited progress	No progress is apparent	Don't know
Habitat management	339	6%	43%	30%	5%	16%
Technical / science support	339	6%	40%	29%	6%	20%
Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	339	1%	22%	32%	10%	35%
Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	339	0%	18%	31%	15%	35%
Coordination between working groups and policy groups	339	0%	18%	31%	13%	37%
Adaptive management and evaluation	339	3%	23%	32%	13%	29%
Funding support	339	1%	17%	29%	33%	20%

Table 16. Progress Made on Goal 3 "Growing numbers of waterfowl hunters, other conservationists ..."

(Q19) Indicate the degree of progress you believe has been made on Goal 3; "Growing numbers of waterfowl hunters, other conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation"						
	Valid n	Significant progress	Moderate progress	Limited progress	No progress is apparent	Don't know
Habitat management	339	2%	16%	36%	22%	23%
Technical / science support	339	2%	19%	36%	19%	23%
Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	339	1%	14%	31%	18%	36%
Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	339	1%	11%	31%	19%	39%
Coordination between working groups and policy groups	339	0%	12%	30%	22%	36%
Adaptive management and evaluation	339	1%	12%	30%	26%	31%
Funding support	339	1%	9%	26%	39%	25%

Table 17. Progress Made to Integrate NAWMP Implementation

(Q20) Indicate the degree to which you believe progress has been made to integrate NAWMP implementation across the three goals of the 2012 NAWMP Revision with respect to the following:						
	Valid n	Significant progress	Moderate progress	Limited progress	No progress is apparent	Don't know
Habitat management	339	4%	32%	33%	7%	24%
Technical / science support	339	4%	34%	30%	8%	25%
Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	339	2%	17%	35%	10%	37%
Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	339	1%	15%	33%	14%	37%
Coordination between working groups and policy groups	339	1%	14%	35%	13%	37%
Adaptive management and evaluation	339	2%	21%	32%	13%	32%
Funding support	339	1%	11%	29%	31%	28%

Assessing Progress on 2012 NAWMP Recommendations

Specific recommendations in the 2012 NAWMP addressed key objectives related to waterfowl populations, habitat, supporters, adaptive management, harvest management, integration, human dimensions, and public engagement. Assessing progress on Plan recommendations involved both progress to date as well as focus for the future.

Moderate to significant progress among Plan recommendations ranged from 17% to 46% (Table 18). Greatest gains were reported for focusing resources on important landscapes (46%). Intermediate progress was perceived for revision of NAWMP objectives (38% moderate to significant progress), adaptation of harvest management strategies (39%), and development of objectives for human dimensions (36%). Somewhat less progress was reported for management integration (27%) and increases in adaptive capacity (28%). The least amount of progress was apparent on efforts to build support for waterfowl conservation (17%). As with other aspects of the survey, a high proportion of respondents (13% to 26%) answered “Don’t Know” indicating the need for increased communications. Comments related to Plan progress (Appendix G) add to background / understanding about respondents’ views.

Table 18. Progress on 2012 NAWMP Recommendations

(Q21a to Q27a) Degree of progress on 2012 NAWMP Revision recommendations						
2012 NAWMP Recommendation	Valid n	Significant progress	Moderate progress	Limited progress	No progress is apparent	Don't know
Develop, revise, or reaffirm NAWMP objectives so that all facets of North American waterfowl management share a common benchmark.	315	5%	33%	31%	4%	26%
Integrate waterfowl management to ensure programs are complementary, inform resource investments, and allow managers to understand and weigh tradeoffs among potential actions.	312	3%	23%	43%	10%	21%
Increase adaptive capacity so structured learning expands as part of the culture of waterfowl management and program effectiveness increases.	311	3%	24%	38%	11%	23%
Build support for waterfowl conservation by reconnecting people with nature through waterfowl, and by highlighting the environmental benefits associated with waterfowl habitat conservation.	312	2%	15%	51%	19%	13%
Focus resources on important landscapes that have the greatest influence on waterfowl populations and those who hunt and view waterfowl.	313	8%	38%	32%	4%	19%
Adapt harvest management strategies to support attainment of NAWMP objectives.	312	4%	36%	28%	7%	26%
The Human Dimensions Working Group was established in 2013. Indicate the degree of NAWMP progress to “... support development of objectives for people and ensure those actions are informed by science	303	8%	29%	31%	9%	24%

Focus for the 2018 NAWMP Update

Despite questions about the degree of progress on 2012 Plan recommendations, a substantial majority of respondents agreed that each recommendation is important to include in the 2018 NAWMP Update. More than 80% believed that it was somewhat or very important to continue to build support for waterfowl conservation (88%), focus resources on important landscapes (87%), and integrate waterfowl management programs (82%, Table 19). Perceived nearly as important were to continue to develop objectives for people (79%); develop, revise, or reaffirm NAWMP objectives (75%); and increase adaptive capacity (71%). Adapting harvest strategies was somewhat less important (63%) although still a priority for more than 50% of the respondents. A range of 9% to 31% were neutral as to the importance of including recommendations from the 2012 Plan in the next update. Comments about each recommendation provide greater insight into respondents' thoughts about emphasis for the 2018 Update (Appendices H to O).

Table 19. Elements important to Include in the 2018 NAWMP Update

(Q21b to Q27b) Importance for inclusion in the 2018 Update						
2012 NAWMP Recommendation	Valid n	Very important to include	Somewhat important to include	Neutral	Somewhat unimportant	Not important at all
Develop, revise, or reaffirm NAWMP objectives so that all facets of North American waterfowl management share a common benchmark.	310	35%	40%	19%	2%	4%
Integrate waterfowl management to ensure programs are complementary, inform resource investments, and allow managers to understand and weigh tradeoffs among potential actions.	309	44%	38%	16%	2%	1%
Increase adaptive capacity so structured learning expands as part of the culture of waterfowl management and program effectiveness increases.	309	38%	34%	23%	4%	2%
Build support for waterfowl conservation by reconnecting people with nature through waterfowl, and by highlighting the environmental benefits associated with waterfowl habitat conservation.	311	69%	19%	9%	2%	1%
Focus resources on important landscapes that have the greatest influence on waterfowl populations and those who hunt and view waterfowl.	309	55%	32%	11%	1%	1%
Adapt harvest management strategies to support attainment of NAWMP objectives.	311	29%	34%	31%	3%	3%
A Human Dimensions Working Group was established in 2013. Should a similar focus "... to support development of objectives for people and ensure those actions are informed by science" be included in the 2018 Update?	311	41%	38%	16%	4%	2%

Greater specificity is gained from respondents' ranks of the highest priority areas of increased emphasis for the 2018 NAWMP Update. Among 12 possible areas of priority emphasis, respondents were asked to rank their top 5 (Table 20). Habitat protection and management was viewed as the highest priority by

more than half of the respondents and was among the top 5 priority areas of emphasis according to 88% of those answering the question (n=312). In descending order, the next 4 highest priorities were monitoring waterfowl habitat trends and conservation success (62% among top 5), monitoring waterfowl population abundance and demographics (52%), policy efforts to conserve waterfowl (52%), and engaging support from the general public (48%). In every instance, each of the 12 possible priorities received at least 1 “vote” for a 1 through 5 priority.

Table 20. Priority Emphasis for the 2018 NAWMP Update

(Q28) Consider the following possible areas of increased emphasis for the 2018 Update of the NAWMP. Of all the options listed below, please rank your top five to indicate your highest priorities. Use the numbers 1, 2, 3, 4, and 5 with 1 being your highest priority. Use each number only once.							
	1	2	3	4	5	Row Total	Percent who listed among top 5
Hunter recruitment, retention, and reactivation	22	18	31	24	27	122	39%
Monitoring waterfowl habitat trends and success of conservation efforts	25	47	52	37	32	193	62%
Ecological goods and services as a fundamental goal of waterfowl management	15	30	28	31	21	125	40%
Monitoring waterfowl population abundance and demographics.	26	35	45	32	24	162	52%
Monitoring waterfowl hunter participation, demographics, expectations and satisfactions	5	6	11	23	22	67	21%
Habitat protection and management	158	52	29	20	14	273	88%
Close integration of objectives for harvest, habitat, and “people”	10	9	14	19	25	77	25%
Waterfowl harvest regulations	1	7	8	12	17	45	14%
Engaging support from general public	22	26	33	34	34	149	48%
Incorporating private landowners' expectations into management programs	3	10	19	25	24	81	26%
Policy efforts to conserve waterfowl	22	51	20	39	29	161	52%
Engaging support from birders/bird watchers	2	20	21	15	42	100	32%

Assessing variation in priorities among regions (flyways), professional roles, and organizational affiliations provides insights into areas where views are consistent versus those where perspectives present possible coordination challenges. For example, habitat protection and management was rated consistently high across regions, roles, and organization (Table 21). Consistently high ranks were evident for monitoring waterfowl habitat trends and engaging support from the general public. Engaging

support from birders/birdwatchers was consistent but intermediate in rank. Greater variation was evident for close integration of objectives, with researchers, those associated with universities, and with multiple flyways ranking this priority higher than other roles and affiliations. Those associated with state/provincial agencies ranked hunter recruitment and retention, monitoring waterfowl hunter participation, and waterfowl harvest regulations higher than other organizational affiliations. NGOs ranked policy efforts to conserve waterfowl higher than other affiliations. Inclusion of ecological goods and services as a fundamental goal was ranked higher by agency directors, and those affiliated with federal agencies, NGOs, and multiple flyways.

Table 21. Priorities for 2018 NAWMP Update Based on Affiliation and Professional Roles

Q28 vs. Q5, Q7, and Q8) Responses to the survey question: "Consider the following possible areas of increased emphasis for the 2018 Update of the NAWMP. Of all the options listed below, please rank your top five to indicate your highest priorities." Tallies reflect respondents' "top 5" relative to flyway affiliation, professional role, and organizational affiliation (valid n)

	Flyway Affiliation						Professional Role					Organizational Affiliation					Top Five - Overall Average
	Atlantic Flyway (69)	Mississippi Flyway (66)	Central Flyway (70)	Pacific Flyway (54)	Multiple Flyways (77)	Mexico & Latin America (5)	Agency Director/Exec. Director (58)	Administrator/Coordinator (129)	Biologist/Scientist (124)	Researcher/Academic (23)	Regulations Committee Member (5)	Federal agency (97)	Non-Government Organization (96)	Private business (2)	State/Provincial agency (132)	University (11)	
Hunter recruitment, retention, and reactivation	32%	45%	41%	44%	19%	20%	43%	36%	35%	22%	20%	23%	27%	50%	52%	36%	39%
Monitoring waterfowl habitat trends and success of conservation efforts	64%	56%	54%	54%	52%	80%	48%	47%	66%	65%	60%	63%	56%	0%	52%	64%	62%
Ecological goods and services as a fundamental goal of waterfowl management	30%	36%	31%	31%	51%	40%	48%	34%	31%	39%	60%	46%	50%	100%	20%	27%	40%
Monitoring waterfowl population abundance and demographics.	61%	48%	49%	46%	35%	40%	33%	44%	57%	52%	40%	51%	26%	0%	60%	64%	52%
Monitoring waterfowl hunter participation, demographics, expectations and satisfactions	26%	26%	17%	17%	13%	20%	12%	22%	21%	17%	20%	14%	8%	100%	30%	18%	21%
Habitat protection and management	86%	83%	81%	74%	73%	100%	76%	75%	85%	78%	100%	84%	78%	50%	80%	73%	88%
Close integration of objectives for harvest, habitat, and "people"	25%	27%	14%	11%	34%	0%	17%	22%	21%	43%	20%	22%	28%	100%	17%	45%	25%
Waterfowl harvest regulations	19%	14%	13%	13%	5%	60%	12%	12%	16%	13%	0%	13%	4%	0%	20%	9%	14%
Engaging support from general public	38%	38%	49%	48%	45%	60%	48%	45%	41%	43%	20%	47%	48%	0%	37%	55%	48%
Incorporating private landowners' expectations into management programs	14%	20%	29%	20%	31%	40%	28%	26%	16%	30%	60%	27%	29%	50%	16%	36%	26%
Policy efforts to conserve waterfowl	43%	45%	46%	48%	53%	40%	55%	47%	43%	43%	60%	47%	71%	50%	30%	45%	52%
Engaging support from birders/bird watchers	33%	30%	26%	28%	30%	0%	28%	27%	31%	30%	40%	32%	27%	0%	30%	27%	32%

Respondents to the survey also were asked about their participation in waterfowl hunting and birding / birdwatching. The distribution of responses reflects the diversity of the broader waterfowl management community with respect to recreational activity. Waterfowl hunting was reported to be one of the most important or most important recreational activity for 48% of the respondents while birding /

birdwatching was a preferred activity by 28% of those surveyed (Table 22). Interestingly, 23% reported not hunting waterfowl, but only 6% reported not spending time birding / birdwatching. Of the waterfowl hunters and birders who indicated the activity was most or one of the most important recreational activities, 66% and 70%, respectively began before 1990.

Table 22. Importance of Waterfowl Hunting vs. Birding/Birdwatching

(Q29 and Q31) How important is waterfowl hunting - How important is birding / birdwatching to you?								
Valid n = 317		Importance of Birding/Birdwatching as a Recreational Activity						
		It's my most important recreational	It's one of my most important recreational	It's no more important than my other recreational	It's less important than my other recreational	It's one of my least important recreational	I do not spend time birding / birdwatching	
Importance of Waterfowl Hunting as a Recreational Activity	It's my most important recreational activity.	0	12	15	12	6	2	15%
	It's one of my most important recreational activities.	0	29	43	20	9	5	33%
	It's no more important than my other recreational activities.	0	5	34	10	3	1	17%
	It's less important than my other recreational activities.	2	7	5	6	4	1	8%
	It's one of my least important recreational activities.	1	2	3	2	2	2	4%
	I don't hunt waterfowl.	6	23	21	10	6	8	23%
		3%	25%	38%	19%	9%	6%	

Appendix A. Cover letter

The North American Waterfowl Management Plan (NAWMP or Plan) was implemented in 1986. It has since been periodically updated at about five year intervals as required of the NAWMP Committee. In 2012, after extensive stakeholder engagement the Plan was fundamentally revised adding an explicit goal for waterfowl conservation supporters, complementing existing goals for sustainable populations and sufficient habitat.



A process again is in place to update the Plan, and we invite you to provide input. Please take the time to complete the attached survey which is intended to:

- Provide opportunity for the management community (those responsible for providing waterfowl hunting and viewing opportunities and conserving important habitats) to provide general feedback on implementation of the 2012 NAWMP Revision.
- Obtain an evaluation from survey participants on:
 - a) Progress on the recommendations from the 2012 NAWMP Revision Action Plan (listed later in the survey).
 - b) How well these recommendations capture needs over the next 5-10 years.
 - c) The priorities for focusing the community's work over the next 5-10 years.

Waterfowl management is part of the overall community of migratory bird and habitat conservation. Throughout the survey, the term "waterfowl management" is inclusive of habitat management, regulations, policy, research/monitoring, and human dimensions. Although the focus of the Plan is on waterfowl and landscapes predominated by wetlands, the professional community involved is much broader and responsibilities often go well beyond waterfowl. Thus, the survey is intended to engage a broader audience even though much of the context is specific to waterfowl.

Thank you in advance for your insights and perspectives.

Appendix B. Survey

Default Question Block

Assessment of the North American Waterfowl Management Plan: Current Progress and Future Priorities

Thank you for participating in this survey! Throughout the survey, the term "waterfowl management" is inclusive of habitat management, regulations, policy, research/monitoring, and human dimensions. Please answer all questions as best you can. If you have any questions or comments, contact us using the information at the bottom of the page. We very much appreciate you taking the time to provide your input!

1. Please indicate your level of familiarity of the 2012 North American Waterfowl Management Plan revision (check one).

☐ Very familiar
☐ Somewhat familiar
☐ Slightly familiar
☐ Not familiar at all

2. Please indicate whether you participated in the following activities leading up to the 2012 NAWMP Revision.

	Yes	No
Attended the Future of Waterfowl Management Workshop in Minneapolis in 2008.	<input type="radio"/>	<input type="radio"/>
Attended NAWMP stakeholder workshops during 2009 to 2011.	<input type="radio"/>	<input type="radio"/>
Participated in discussions at Flyway, Joint Venture, or other meetings about the proposed revision.	<input type="radio"/>	<input type="radio"/>
Served on steering committee, writing team, or revision technical committee.	<input type="radio"/>	<input type="radio"/>
Reviewed or commented on drafts of the 2012 NAWMP Revision.	<input type="radio"/>	<input type="radio"/>

3. Please indicate whether you have been involved in the following activities during implementation of the 2012 NAWMP Revision.

	Yes	No
Personally became familiar with the 2012 NAWMP Revision and the Action Plan.	<input type="radio"/>	<input type="radio"/>
Ensured that others in your agency or organization were aware of the 2012 NAWMP Revision.	<input type="radio"/>	<input type="radio"/>
Served on one or more working groups implementing the 2012 NAWMP Revision.	<input type="radio"/>	<input type="radio"/>
Worked within your agency or organization to integrate NAWMP goals into conservation planning.	<input type="radio"/>	<input type="radio"/>
Worked within your agency or organization to implement strategic actions in support of the 2012 NAWMP Revision.	<input type="radio"/>	<input type="radio"/>

Others (please list)

4. How long have you been active in waterfowl management?

☐ 0-1 Year
☐ 2-5 Years
☐ 6-10 Years
☐ 11-20 Years
☐ 21-30 Years
☐ More than 30 Years

5. Many of us wear many hats--but which ONE hat do you most frequently find yourself wearing when it comes to waterfowl management--the hat which reads...?

☐ Director/Executive Director
☐ Administrator/Coordinator of a program
☐ Biologist/Scientist
☐ Researcher/Academic
☐ Regulations Committee Member

6. Are you currently serving on:

	Yes	No
Joint Venture Management Board	<input type="radio"/>	<input type="radio"/>
Flyway Council	<input type="radio"/>	<input type="radio"/>
Joint Venture Staff or Technical Committee	<input type="radio"/>	<input type="radio"/>
Flyway Game Technical Section	<input type="radio"/>	<input type="radio"/>
Flyway Nongame Technical Section	<input type="radio"/>	<input type="radio"/>
Flyway Webless Committee	<input type="radio"/>	<input type="radio"/>
NA Waterfowl Management Plan Committee	<input type="radio"/>	<input type="radio"/>
NAWMP Science Support Team (NSST)	<input type="radio"/>	<input type="radio"/>
Harvest Management Working Group (HMGW)	<input type="radio"/>	<input type="radio"/>
Human Dimensions Working Group (HDWG)	<input type="radio"/>	<input type="radio"/>
Public Engagement Team (PET)	<input type="radio"/>	<input type="radio"/>
North American Bird Conservation Initiative (NABCI)	<input type="radio"/>	<input type="radio"/>
North American Wetlands Conservation Council (NAWCC)	<input type="radio"/>	<input type="radio"/>
Other affiliations?	<input type="radio"/>	<input type="radio"/>

What other affiliations? Other (please specify)

7. What is your primary employment affiliation? (If you have more than one affiliation, please select the one where you spend more time).

- ☐ Federal agency
☐ Non-Government Organization
☐ Private business
☐ State/Provincial agency
☐ University
☐ Other

Other? (please specify)

8. Which ONE best describes the geography within which you work?

- ☐ Atlantic Flyway (including Canada)
☐ Mississippi Flyway (including Canada)
☐ Central Flyway (including Canada)
☐ Pacific Flyway (including Canada)
☐ National/multiple Flyways (including Canada)
☐ Mexico and Latin America

9. On average, about what percent of your duty time do you usually spend on waterfowl management each month? (Remember the term "waterfowl management" is inclusive of habitat management, regulations, policy, research/monitoring, and human dimensions).

- ☐ 0%
☐ 1% to 25%
☐ 26% to 50%
☐ 51% to 75%
☐ 76% to 100%

10. What percent of your waterfowl management time/attention is devoted to (check one in each row):

	0%	1% to 25%	26% to 50%	51% to 75%	76% to 100%
a. Habitat conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Population management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Regulations / hunter dealings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Partners/cooperative dealings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Viewing / public use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please evaluate the performance of each of the following in contributing to the success of waterfowl management in North America (check one in each row)?

	Excellent	Good	Fair	Poor	Don't Know
Flyway system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
University training of waterfowl biologists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joint Ventures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaboration between U.S. and Canada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adaptive Harvest Management (AHM) as a system of regulations recommendations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waterfowl monitoring (e.g., surveys, banding, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaboration among U.S., Canada, and Mexico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. To what extent will change be required in each of the following to achieve future advances in waterfowl management (check one in each)?

	Needs major change	Needs moderate change	Needs minor change	Fine as is	Don't know
a. Flyway system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. University training of waterfowl biologists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Joint Ventures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Collaboration between U.S. and Canada	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Adaptive Harvest Management (AHM) as a system of regulations recommendations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Waterfowl population monitoring (e.g., surveys, banding, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Collaboration among U.S., Canada, and Mexico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Collaborating with stakeholders like birders and hunters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Indicate the degree to which you agree, disagree, or are neutral about the following statements (check one in each row).

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	Don't Know
Resources dedicated to waterfowl habitat conservation should be re-allocated among important waterfowl landscapes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An inordinate amount of time is spent on the annual regulations setting process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greater attention should be placed on monitoring and evaluation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attention to waterfowl and wetlands protection and management has declined at the federal level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attention to waterfowl and wetlands protection and management has declined at the state/province level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attention to waterfowl and wetlands protection and management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. What is the degree of success you think we've attained with each of the following attributes of waterfowl management in North America (check one in each row)?

	High	Medium	Low	No Success	Don't Know
a. Simplified waterfowl regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Goals for harvest and habitat management that are complementary and consistent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Monitoring waterfowl hunter expectations and satisfactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Incorporating hunter satisfaction metrics into waterfowl management goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Management coherence among waterfowl populations, habitat, and hunter participation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Continued. What is the degree of success you think we've attained with each of the following attributes of waterfowl management in North America (check one in each row)?

	High	Medium	Low	No Success	Don't Know
f. Institutional arrangements that will support achieving NAWMP objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Understanding private landowners' expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Rallying the conservation initiative of the waterfowl hunting community (harvest-oriented users)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Rallying the conservation initiative of aesthetic-oriented wetland conservationists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Clear process for setting/revising population goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Please indicate the degree to which you believe current waterfowl management through the NAWMP has affected waterfowl habitat, populations, and supporters over the last 5 years. (check one in each row):

	Significantly Improved	Somewhat Improved	No change	Somewhat Declined	Significantly Declined
Conserved/protected habitat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positively impacted waterfowl populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positively impacted hunter, viewer and public support for wetland conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased awareness of the need for wetland/upland conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased interest in waterfowl hunting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased interest in outdoor recreation related to wetlands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The 2012 NAWMP included three fundamental goals that resulted from extensive stakeholder engagement prior to plan development. In the following questions, please indicate the degree to which you believe progress has been made toward achieving each goal.

17. Indicate the degree of progress you believe has been made on Goal 1: "Abundant and resilient waterfowl populations to support hunting and other uses without imperiling habitat" (check one in each row):

	Significant Progress	Moderate Progress	Limited Progress	No progress is apparent	Don't Know
a. Habitat management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Technical / science support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Coordination between working groups and policy groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Adaptive management and evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Funding support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Indicate the degree of progress you believe has been made on Goal 2: "Wetlands and related habitats sufficient to sustain waterfowl populations at desired levels, while providing places to recreate and ecological services that benefit society" (check one in each row):

	Significant Progress	Moderate Progress	Limited Progress	No progress is apparent	Don't Know
a. Habitat management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Technical / science support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Coordination between working groups and policy groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Adaptive management and evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Funding support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Indicate the degree of progress you believe has been made on Goal 3: "Growing numbers of waterfowl hunters, other conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation" (check one in each row):

	Significant Progress	Moderate Progress	Limited Progress	No progress is apparent	Don't Know
a. Habitat management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Technical / science support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Coordination between working groups and policy groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Adaptive management and evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Funding support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Indicate the degree to which you believe progress has been made to integrate NAWMP implementation across the three goals of the 2012 NAWMP Revision with respect to the following:

	Significant Progress	Moderate Progress	Limited Progress	No progress is apparent	Don't Know
a. Habitat management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Technical / science support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Coordination across working groups (e.g., HDWG, NSST, HMWG, PET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Coordination across policy groups (e.g., NAWMP Committee, NABCI, NAWCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Coordination between working groups and policy groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Adaptive management and evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Funding support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any additional insights or recommendations regarding implementation of the [2012 revision](#).

The 2012 NAWMP included recommendations to guide implementation towards achieving Plan objectives. In the questions that follow, please indicate the degree to which you believe progress has been made and whether these or similar recommendations should be foci for the 2018 update.

21a) Indicate the degree of NAWMP progress to "Develop, revise, or reaffirm NAWMP objectives so that all facets of North American waterfowl management share a common benchmark."

Degree of progress (check one):

- ☐ Significant progress
☐ Moderate Progress
☐ Limited Progress
☐ No progress is apparent
☐ Don't Know

21b) How important is this element to include in the 2018 NAWMP update (check one)?

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Somewhat unimportant
☐ Not important at all

Comments / suggestions:

22a) Indicate the degree of NAWMP progress to "Integrate waterfowl management to ensure programs are complementary, inform resource investments, and allow managers to understand and weigh tradeoffs among potential actions."

Degree of progress (check one):

- ☐ Significant progress
☐ Moderate Progress
☐ Limited Progress
☐ No progress is apparent
☐ Don't Know

22b) How important is this element to include in the 2018 NAWMP update (check one)?

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Somewhat unimportant
☐ Not important at all

Comments / suggestions:

23a) Indicate the degree of NAWMP progress to "Increase adaptive capacity so structured learning expands as part of the culture of waterfowl management and program effectiveness increases."

Degree of progress (check one):

- ☐ Significant progress
☐ Moderate Progress
☐ Limited Progress
☐ No progress is apparent
☐ Don't Know

23b) How important is this element to include in the 2018 NAWMP update (check one)?

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Somewhat unimportant
☐ Not important at all

Comments / suggestions:

24a) Indicate the degree of NAWMP progress to *"Build support for waterfowl conservation by reconnecting people with nature through waterfowl, and by highlighting the environmental benefits associated with waterfowl habitat conservation."*

Degree of progress (check one):

- ☐ Significant Progress
☐ Moderate Progress
☐ Limited Progress
☐ No progress is apparent
☐ Don't Know

24b) How important is this element to include in the 2018 NAWMP update (check one)?

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Somewhat unimportant
☐ Not important at all

Comments / suggestions:

25a) Indicate the degree of NAWMP progress to *"Focus resources on important landscapes that have the greatest influence on waterfowl populations and those who hunt and view waterfowl."*

Degree of progress (check one):

- ☐ Significant Progress
☐ Moderate Progress
☐ Limited Progress
☐ No progress is apparent
☐ Don't Know

25b) How important is this element to include in the 2018 NAWMP update (check one)?

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Somewhat unimportant
☐ Not important at all

Comments / suggestions:

26a) Indicate the degree of NAWMP progress to *"Adapt harvest management strategies to support attainment of NAWMP objectives."*

Degree of progress (check one):

- ☐ Significant Progress
☐ Moderate Progress
☐ Limited Progress
☐ No progress is apparent
☐ Don't Know

26b) How important is this element to include in the 2018 NAWMP update (check one)?

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Somewhat unimportant
☐ Not important at all

Comments / suggestions:

27a) The Human Dimensions Working Group was established in 2013. Indicate the degree of NAWMP progress by this group with respect to the recommendation to *"... support development of objectives for people and ensure those actions are informed by science."*

Degree of progress (check one):

- ☐ Significant Progress
☐ Moderate Progress
☐ Limited Progress
☐ No progress is apparent
☐ Don't Know

27b) How important is this element to include in the 2018 NAWMP update (check one)?

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Somewhat unimportant
☐ Not important at all

Comments / suggestions:

Please provide any additional insights or recommendations regarding implementation of the [2012 NAWMP Revision](#).

Please provide any additional insights or recommendations regarding development and implementation of the [2018 NAWMP update](#). What ideas do you have about the critical issues that need to be more fully addressed by the waterfowl community over the next 5-10 years? Please provide a brief rationale for your perspectives.

Please provide the following basic information:

29. How important is waterfowl hunting to you?

- ☐ It's my most important recreational activity.
☐ It's one of my most important recreational activities.
☐ It's no more important than my other recreational activities.
☐ It's less important than my other recreational activities.
☐ It's one of my least important recreational activities.
☐ I don't hunt waterfowl.

30. When did you start hunting waterfowl?

- ☐ Before 1970
☐ 1970 to 1979
☐ 1980 to 1989
☐ 1989 to 1996
☐ 1997 to 2008
☐ I don't hunt waterfowl

28. Consider the following possible areas of increased emphasis for the 2018 Update of the NAWMP. Of all the options listed below, please rank your **top five** to indicate your highest priorities.

Use the numbers 1, 2, 3, 4, and 5 with 1 being your highest priority. Use each number only once.

- ☐ a. Hunter recruitment, retention, and reactivation
☐ b. Monitoring waterfowl habitat trends and success of conservation efforts
☐ c. Ecological goods and services as a fundamental goal of waterfowl management
☐ d. Monitoring waterfowl population abundance and demographics
☐ e. Monitoring waterfowl hunter participation, demographics, expectations and satisfactions
☐ f. Habitat protection and management
☐ g. Close integration of objectives for harvest, habitat, and "people"
☐ h. Waterfowl harvest regulations
☐ i. Engaging support from general public
☐ j. Incorporating private landowners' expectations into management programs
☐ k. Policy efforts to conserve waterfowl
☐ l. Engaging support from birders/bird watchers

31. How important is birding/birdwatching to you?

- ☐ It's my most important recreational activity.
☐ It's one of my most important recreational activities.
☐ It's no more important than my other recreational activities.
☐ It's less important than my other recreational activities.
☐ It's one of my least important recreational activities.
☐ I don't spend time birding/birdwatching.

32. When did you start birding/birdwatching?

- ☐ Before 1970
☐ 1970 to 1979
☐ 1980 to 1989
☐ 1989 to 1996
☐ 1997 to 2008
☐ I don't spend time birding/birdwatching

33. Currently in which country do you reside?

- ☐ Canada
☐ Mexico
☐ United States

34. You are?

- ☐ 24 or under
☐ 25-44
☐ 45-64
☐ 65 or over

Thank you for your participation in this survey and for all you do for migratory bird conservation and management.

Appendix C. (Q6) Other Affiliations reported by respondents - “Are you currently serving on:”

- A habitat and species joint venture
- academe
- AFWA BCC & MSUGB WWG
- AFWA Webless Committee
- Alaska Migratory Bird Co-Management Council, Sea Duck Joint Venture
- Alaska Migratory Bird Co-Management Council
- AMBCC Chair
- Assistant to the MF Flyway Representative
- AWFA
- Canadian Roundtable Sustainable Beef - NGO/conservation representative
- Canadian Wetland Roundtable
- Canadian Wildlife Service Waterfowl Technical Committee
- CCMB
- Central Flyway Habitat subcommittee
- Chair, PHJV Science Committee
- Ducks Unlimited
- Ducks Unlimited Coastal Restoration Coordinator
- EAAFP
- EHJV Board
- Eider Recovery team
- EMU Dove Technical Committee, Lower MS River Joint Venture Forestry Working Group
- Environmentalist
- Interim Integration Committee
- IWJV SCP Co-Chair
- James C. Kennedy Endowed Waterfowl and Wetlands Conservation Center programs; NADS Board
- Joint Venture Policy Committee
- LCC Management Board
- midcontinent mallard AHM revision team
- Midwest Coordinated Bird Monitoring Partnership steering committee, Southern Wings technical committee, Iowa Bird Conservation Area Coordinator
- NABCI HD Subcommittee & NABCI Private Lands Subcommittee
- Natural Protected Area Biologist
- NAWCA Staff
- NAWCA/NAWMP Policy
- NAWCC staffer for Atlantic Flyway rep, chair SEAFWA Wetlands Wildlife Committee
- NAWMP Mapping Committee
- NAWMP Institutions Task Group
- NAWMP Update Steering Committee
- ND Action Group, Northern Gt Plains Working Group
- NFC, SRC
- Non-waterfowl bird conservation groups (many)
- NAWCC (Canada)
- NRCS Working Lands for Wildlife Black Duck Project; NAWCA grant coordinator multiple times
- Pacific Americas Shorebird Strategy
- Partners in Flight
- partners in Flight, Tri-initiative Unified Science Team
- Pertaining to NAWCC---I help review NAWCA proposals for the GCJV
- PHJV Policy Committee; Canadian Wildlife Directors Committee (support role)
- PHJV Policy Cttee, Science Cttee and Manitoba Implementation Cttee
- Prev PET, HWWG, Game Tech Section, NAWMP Committee member
- Providing a link to the Wildlife Viewing and Nature Tourism Working Group within AFWA
- Provincial JV Steering Committee
- Region 4 FWS Waterfowl Plan Team
- regional association of fish and wildlife agencies
- SARAC
- sit on the Atlantic Migratory Game Bird Technical Committee
- Species-specific action plans (pintails, scaup)
- State steering committee
- The Trumpeter Swan Society
- Trinational Unified Science Team
- Urban Bird Treaty Program National Coordinator, Partners In Flight, Atlantic Flyway Shorebird Initiative, Neotropical Migratory Bird Conservation Act
- USDA-NRCS
- USFWS DMBM
- wetlands leadership roundtable

Appendix D. Affiliations Cross-tabulation

Are you currently serving on: (n=314)	JV Management Board	Flyway Council	JV Staff or Technical Committee	Flyway Game Tech Section	Flyway Nongame Tech Section	Flyway Webless Committee	NAWMP Committee	NAWMP Science Support Team	Harvest Mgt Working Group	Human Dimensions WG	Public Engagement Team (PET)	NA Bird Cons Initiative (NABCI)	NA Wetlands Cons. Council
JV Management Board	78	20	18	7	8	5	4	1	3	3	2	11	1
Flyway Council	20	48	9	14	6	8	3	2	5	2	2	7	3
JV Staff or Technical Committee	18	9	131	51	22	24	5	21	19	9	6	16	4
Flyway Game Tech Section	7	14	51	87	19	40	3	7	21	9	3	3	2
Flyway Nongame Tech Section	8	6	22	19	42	16	2	2	7	2	1	9	2
Flyway Webless Committee	5	8	24	40	16	46	2	2	13	6	1	4	2
NAWMP Committee	4	3	5	3	2	2	18	3	2	3	2	3	8
NAWMP Science Support Team	1	2	21	7	2	2	3	26	2	2	1	1	1
Harvest Mgt Working Group	3	5	19	21	7	13	2	2	30	6	3	2	1
Human Dimensions Working Group	3	2	9	9	2	6	3	2	6	21	8	5	3
Public Engagement Team (PET)	2	2	6	3	1	1	2	1	3	8	12	6	3
NA Bird Conservation Initiative (NABCI)	11	7	16	3	9	4	3	1	2	5	6	44	8
NA Wetlands Conservation Council	1	3	4	2	2	2	8	1	1	3	3	8	27

Appendix E: Familiarity with the NAWMP

Familiarity with the NAWMP relative to position, organizational affiliation, flyway affiliation, and percent of duty time spent on waterfowl management					
Position	Valid n	Very familiar	Somewhat familiar	Slightly familiar	Not familiar at all
Agency/Executive Director	58	50%	41%	3%	5%
Coordinator of a program	129	38%	46%	12%	4%
Biologist/Scientist	124	42%	39%	15%	4%
Researcher/Academic	23	39%	52%	9%	0%
Regulations Comm. Member	5	20%	60%	0%	20%
Organizational Affiliation	Valid n	Very familiar	Somewhat familiar	Slightly familiar	Not familiar at all
Federal agency	97	51%	36%	10%	3%
Non-Gov't Organization	96	43%	49%	4%	4%
Private business	2	50%	50%	0%	0%
State/Provincial agency	132	33%	44%	17%	5%
University	11	36%	64%	0%	0%
Flyway Affiliation	Valid n	Very familiar	Somewhat familiar	Slightly familiar	Not familiar at all
Atlantic Flyway	69	35%	48%	16%	1%
Mississippi Flyway	66	30%	53%	12%	3%
Central Flyway	70	43%	40%	13%	4%
Pacific Flyway	54	37%	48%	7%	7%
Multiple Flyways	77	56%	34%	5%	5%
Mexico and Latin Am.	5	40%	20%	40%	0%
Time spent on waterfowl management	Valid n	Very familiar	Somewhat familiar	Slightly familiar	Not familiar at all
0%	9	11%	44%	33%	11%
1% to 25%	141	30%	48%	14%	7%
26% to 50%	43	58%	28%	14%	0%
51% to 75%	59	41%	53%	7%	0%
76% to 100%	90	51%	39%	6%	3%

Appendix F. Comments related to: “Please provide any additional insights or recommendations regarding implementation of the 2012 revision. “

- The 2012 update has made little to no meaningful progress on engaging stakeholders or increasing public awareness in meaningful ways. Habitat continues to be lost, despite progress and good achievements through direct programs stronger policy support and political capital to support requisite funding is needed. Stronger attention is needed on species of concern like sea ducks and less continued attention to traditionally harvested species like mallards.
- the structure and associated committees need reinvigoration..."
- As a member of the Human Dimensions Working Group, I know little about implementation of the 2012 revision beyond our part.
- There is still much work to be done in terms of the waterfowl community engaging the non-waterfowl bird conservation community and their constituents to work together to conserve wetland habitat for birds and people (all types -- not just hunters)."
- As a Nongame person, I focus on nongame things and let the waterfowl people focus on NAWMP, thus my knowledge about many of the specifics is limited. The reverse is likely true as well.
- As an administrator, I have limited insight into the details regarding implementation and successes of the refined 2012 NAWMP. While most people in administrative positions are spread pretty thin, it does occur to me that my lack of knowledge and/or familiarity does not bode well for the success of the plan to date, inasmuch as my duties have a lot to do with the potential success of such plans. This is not a criticism of the dedicated folks implementing the plan, but simply an observation regarding the daunting task associated with changing a conservation paradigm. Like so many things in life, education, outreach and communications are key to our success; this from a management-oriented wildlife biologist.
- As someone who works in institutions dedicated to bird conservation, but not from a waterfowl hunting perspective, NAWMP needs to do a much better job reaching out to and integrating with the non-hunting communities -- starting with a broadened scope for the Migratory Bird Stamp, significantly more outreach to birders and other "watchers", breaking down silos within agencies, and helping all of us to speak with a unified voice to support habitats for all birds. Clinging to a high reliance on waterfowl hunters to support the future of wetlands and habitat conservation in America is a dangerous proposition.
- Coordination among groups is valuable and room for improvement exists. However, roles are to some extent "stove piped" and complete coordination is neither necessary nor practical. I think all the functional pieces are in place and structural overhaul/integration should be considered with a good deal of caution. What I believe is called for at this point in time is improved communication between groups to ensure participants are more aware of how all the pieces fit together and to look for unintentional cross-purpose actions or missed opportunities for synergy.
- Efforts to direct even more resources towards 'priority areas and landscapes' have really limited our ability to raise awareness and support outside of those areas, and made it very difficult to create a truly continental perspective and effort. We have also potentially limited the ability of non-priority areas to provide suitable replacement habitat if (when) climate change reduces the capacity of priority landscapes.
- EHJV, which includes the half of Canada and falls into six provincial jurisdictions, was listed in evaluations prior to the 2012 revision as a JV that would require to perform better. At first sight, little was done to improve its performance.
- "First a comment on one of the questions. In 12H, I think major change is required, but I think hunters and bird watchers are the wrong stakeholder groups upon which to focus.

- Regarding progress towards implementing the 2012 revision, I think expectations at the start were set far higher than have materialized. I not sure whether the case for integration was made sufficiently compelling at the outset, and accomplishing integration has proven much harder than expected. In some situations, discussion of progress towards integration has devolved to one of progress towards ""human dimensions"". This is quite reductionist and, still lacking a framework for evaluating tradeoffs, I'm not sure how to consider whether progress towards human dimensions is positive, neutral or negative. I think an honest re-think of the approach is warranted."
- Focus of NAWMP has remained on habitat management to support ducks and duck hunters. Many duck populations are near record levels, yet we continue to tell the public that we need more habitat to address "deficits." The "industry" of duck habitat management hopes to ensure that money continues to flow to the US and Canadian prairies. The plan does not address well some of waterfowl management's biggest challenges such as overabundant light geese and Canada geese and resulting impacts on habitats and human conflicts.
- Funding in Canada in the BC region (Prov especially, federal), and NGO has declined during 2012 revision, and thereby reducing rate of implementation of NAWMP goals.
- Goal 3 has not been well implemented or supported, particularly in Canada
- Great need to harness additional support beyond waterfowl and waterfowl hunters- align goals and energies across all "wet birds" and better engage non-hunters in wetland conservation. In my opinion, NAWMP is to a large degree seen as a "game group" whose primary focus is hunters and hunter needs. With declining funding and declining numbers of hunters, our future is alignment- de-emphasizing the focus on waterfowl and hunting and increasing the emphasis on wetland birds for everyone.
- Habitat is the key to attaining success for the NAWMP and for sustaining waterfowl populations. Increased funding is desirable for NAWCA and for habitat management agencies. Also, waterfowl hunter numbers are declining and will soon reach a somewhat critical mass. Somehow we need to recruit hunters interested in hunting ducks and geese.
- I am not sure that this survey addresses the real "elephant in the room." National trends show continuing and significant declines in numbers of waterfowl hunters and with that comes continuing declines in both state and national sales of waterfowl stamps. I do not see that any state or federal efforts at hunter recruitment will prevent that decline because we are seeing a societal shift away from the hunter traditions we grew up with in which families passed on their hunting traditions to their children and they typically were close to the areas that they hunted. Most families do not now have parents or grandparents who hunt who can pass on the waterfowl hunting tradition and the current demands on young people for other types of sports do not leave much time for hunter-associated outings on weekends other than perhaps deer hunting in fall and turkey hunting in spring. Mentoring sponsored by state departments of natural resources simply does not reach enough people to shift the declining trends in waterfowl hunting. Ironically, the popularity of clay-target leagues for youths has grown significantly in Minnesota, but I have not seen any indication that such interest in clay-target shooting results in any significant subsequent interest in hunting waterfowl or even other types of hunting. This is a significant dilemma for natural resource agencies because they benefit from the sales of the ammo through PR funding, but there is no resulting benefit from the sales of hunting licenses, waterfowl stamps, or involvement with organizations like Ducks Unlimited. I think the impact of DU is also threatened by the decline in hunters and membership because many of the former members were community leaders and affluent business people who donated significantly to the cause of waterfowl conservation. I believe that component of the equation for waterfowl conservation funding is also eroding. I feel that lots of meetings for the typical organizations and committees of duck

- I apologize for all the "Don't Knows" regarding recent progress. I have largely been out of the loop on waterfowl issues for the last 4 years. Responses to earlier questions are based on experience from approximately 4 years ago.
- I believe this is among the most visionary plans in all of wildlife management. Although many will argue on its success related to waterfowl populations, NAWMP creates a critical base of research, management, and political voices to act on behalf of natural resources important to waterfowl and other wildlife.
- I couldn't respond to many of your questions because I don't really work on waterfowl but on the non-game side. There is some intersection between those worlds through NABCI and TrUST, but I think a main consideration is the need to integrate conservation action across bird groups. We should not have separate wetland programs for game and non-game species and need to do additional work to break those divisions. This is particularly true in Canada.
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- I honestly don't have much knowledge of how the plan has impacted waterfowl or stakeholder outreach communication. I answered to the best to my ability from working in the nongame arena.
- I just don't know what have been the progresses toward the implementation of the 2012 revision; maybe a progress report could have been provided to see what these progresses are. What were the metrics to help follow progress? Maybe I'm just ignorant, but I haven't seen such a way to follow the progress since the 2012 revision...
- I see very limited Canadian involvement or interest in the recent revision, in terms of participation by provincial representatives. In Canada, it is mainly NGOs and federal staff that are involved in NAWMP and its JVs- most provinces have insufficient staff to contribute meaningfully to the JVs. If you looked at membership in the JVs and participation in flyway meetings, you'd see only a handful of provinces have reps that are regularly involved. Lack of involvement/interest in waterfowl management among Provinces is a worsening problem, with potential for long term repercussions. Most provinces now have either 1 or zero dedicated waterfowl staff, and have seen monitoring programs lost due to budget reductions. With long term high waterfowl pops, and decreasing and small hunter populations, there is little advocacy for harvest monitoring programs, hunter recruitment, or habitat work. I think loss of provincial involvement in monitoring programs has been a major factor in the reduced international cooperation in waterfowl management.
- I think it has been tough to sell our product of habitat and population goals when populations continue to grow, despite losing habitat. Therefore, we (feds) continue to see less and less funding for waterfowl. Also, it has been tough to evaluate AHM because duck populations have been good to great the last 20 years.
- I think more is to be gained for waterfowl conservation (and therefore hunters) by garnering broad public support for the values wetlands provide society than focusing so much on hunter satisfaction as the Human Dimensions metric of concern.
- I think that more coordination is needed among managers from Mexico with Canada and US. Also, lack of enforcement in Mexico linked to US hunters that seems to forget rules when in Mexico produce uncontrolled hunting in Sonora coast (Pacific Black Brants especially)
- I was disappointed with many of the questions in the previous section. Many questions implied that the proposed thought was already "correct" and that managers have something to say about the progress towards that thought. Many/most of the questions I gave a low score to were not to imply generally that the waterfowl management community had not made progress

in that arena, but rather that we do not need to make progress or that should not be on the agenda for other reasons.

- "I work exclusively in BC (Canada) so my comments are focused here.
- Habitat loss in a key, continentally significant waterfowl landscape (the Fraser Estuary) is accelerating. There is nowhere else in Canada that provides this much waterfowl wintering habitat. Local land values now far exceed the limited pool of funding to acquire land for waterfowl habitat.
- In the last 5 years we have seen major declines in NAWCA funding for BC. This is due to a decline in availability of US non-federal match. This decline is getting worse.
- At the same time our provincial government is not active in the JVs nor the Pacific Flyway Council. They have no regulations in place to protect wetlands and no funding programs to conserve wetlands.
- Funding decisions from the Canadian 'duck stamp' program are not driven by NAWMP priorities (though recently there has been some limited progress in this regard). This program also has essentially stopped funding land securement.
- There are few states investing in BC via State Grants.
- The Federal Government's National Wetlands Conservation Fund is helpful, but again not completely aligned with NAWMP priorities.
- Overall the outlook for waterfowl habitat conservation in BC is not very good."
- In 2008 a significant issue was what point in the population curve was chosen to set harvest goals. One point would improve hunting quotas but might result in lower population goals. I'm not sure how that debate was concluded (or if it was) but that was a significant issue to conservationists versus hunting advocates.
- Many aspects of the 2012 revision made the most sense from a US perspective but may not have been as applicable to Canada and Mexico. Many of the poor scores I gave were in instances when the relevance to Canada was low. While I support producing a coherent continental vision, it is important to also recognize that the focus in each of the countries may be different. Looking forward to seeing the next revision/update proceed.
- More effort in monitoring populations (ducks and geese) in Mexico.
- "NAWMP is the grandest model of ecosystems management worldwide. It functions to conserve wetland and associated habitats for waterfowl and diverse other species of wildlife. Moreover, it's natural and economic values to planet earth and its biota, including humans, are unknown. For example, what is the cumulative value of NAWMP to providing clean air and water that is needed by all humans and other biota? Thus, all humans with a source of revenue, who may NOT need to "hunt or view waterfowl," need clean air and water for survival and therefore should help support NAWMP and other natural resource conservation initiatives. The state of Missouri has a significant solution to these needs; i.e., 1/8% tax on ALL sales statewide. Everyone with buying power thus should contribute to sustaining natural resources, regardless if they hunt ducks or not. State legislators should be informed of the diverse eco-values of NAWMP, leading to legislation to create state sales tax for natural resources such as in Missouri.
- Also, JVs should emphasize habitat science and conservation more so than species, because all species depend on suitable habitat. For example, the Atlantic Coast JV has 3 flagship species, two of which are not waterfowl species (i.e., saltmarsh sparrow and black rail). The third species is the black duck which is now rare in the southern Atlantic Flyway where mottled ducks are more abundant. Is the black duck flagship species in the ACJV a "token" duck for a NA WATERFOWL MP JV, given that the other flagship species are a sparrow and rail? And, is the black duck flagship species of the ACJV redundant with the Black Duck JV? Should we not focus

on habitats that sustain waterfowl and other wetland dependent wildlife? I think that's real function of an ecosystems management plan such as NAWMP."

- NAWMP needs quantitative goals linked geographic focal areas.
- None at this time.
- Note that these questions have been answered from the perspective of someone that is still very new to the role as coordinator of a habitat joint venture.
- Our waterfowl conservation community needs specialized help on the human dimensions front to successfully integrate the "people" goal of the Plan. We have too many biologists who are not trained in this field trying to "make do" and it is not being effective.
- Plan partners need to make further progress in implementing win-win strategies on agricultural working lands. Agricultural policy needs to be changed to end subsidies for inefficient production of food and fiber. Decision support technology should be promoted to enable producers to recognize efficiencies (profit zones) within fields. Conservation programs need to be maintained provide producers with fiscally and environmentally sound alternatives for unproductive portions of fields. See recommendations in Hohman, W.L., E. Lindstrom, B.S. Rashford, and J. Devries. 2014. Opportunities and Challenges Facing Waterfowl Habitat Conservation on Private Lands. Pp. 368-406 in Proceedings of the Ecology and Conservation of North American Waterfowl Conference Memphis, TN (January 2013). <http://wildfowl.wwt.org.uk/index.php/wildfowl/article/view/2613>.
- Please provide any additional insights or recommendations regarding implementation of the 2012 revision.
- Simply saying "we need more hunters" is not feasible. We also need more places to accommodate those hunters. Hunting and hunters have evolved and so have their expectations for what they experience during a hunt. Also, having waterfowl people spend a bunch of time chasing down birdwatchers, hoping to get their support for wetland habitats (especially those most imperiled in faraway places) is an effort that stands to have little return on investment.
- Some of the questions like progress on habitat management were difficult to answer. Example: NAWMP efforts made progress on protecting habitat, but there was a net loss due to agricultural and other development. Not sure if the question was supposed to just measure NAWMP efforts or if we were supposed to factor in how it was affected by impacts from development too and answer based on the net result.
- The 2012 revision puts us in an awkward position. It seems like NAWMP is having an identity crisis. I think we need to either retrench, simplify and just try to maintain as much wetland habitat as possible across north America (limited, focused approach), or somehow, go all-in and try to expand conservation beyond waterfowl and wetlands and expand support beyond the hunting community - this second approach might mean saying NAWMP has done what it could do and it's time for a new entity... I don't know if anyone has the stomach for that much risk, but one way to possibly mitigate the risk could be to keep NAWMP running at a low level and shift some attention and resources to try and build NABCI up as an eventual (expanded) replacement
- The 2012 revision was very appropriate and need to be able to update and identify priorities since the previous update. The problem with the implementation is the lack of support by the province of BC and even funding from the Federal Government for surveys, monitoring and implementation components of the objectives. Either the priorities have changed and or the lack of strong communication and outreach has reduced the focus on the JV's.
- The 2012 revision was very conceptual, and not prescriptive enough. It is very hard to measure progress toward goals/objectives when none (aside from population objectives) are that well-defined, quantifiable, etc. The 2012 revision outlines a general framework, and hopefully the next update will prescribe/include more specific objectives that can be measured, monitored, assessed, etc. Unified metrics/goals for habitat (breeding, migratory/staging, and winter),

hunter and bird watcher numbers (or Duck Stamp/License sales), desired densities of hunters on public lands, etc., etc. need to be developed/articulated. It seems difficult to integrate the 3 NAWMP goals (populations, habitat, users) without a framework that can be quantified, measured, and assessed.

- The degree to which the charge from the 2012 revision was something that most in the waterfowl management community could see themselves contributing too directly was pretty limited. It was very technical and I believe left a lot of people throwing up their hands and not seeing how they could contribute or fit in. Hopefully we will not make that mistake in the 2018 update.
- The difficulty in completing this survey was my responses changed depending if I was thinking at a national scale versus a statewide scale. At the federal level, I believe we have gone backwards in terms of funding and support in regards to wetlands and waterfowl whereas at the state level, I believe funding and support is still strong. I also believe the institutions that NAWMP put in place have contributed to slowing habitat losses/conversions happening on the breeding grounds; however, I am not convinced the 2012 revision, specifically, has changed much. I think most progress resulting from the 2012 revision has been made by incorporating social considerations although, from what I can tell, little if anything has actually been implemented. I also suspect increased coordination amongst working groups and policy groups and amongst Joint Ventures and Flyways would be beneficial.
- The goal of achieving 'coherence' among waterfowl, habitat, and hunter participation seems to be predicated on the assumption that one has anything to do with the other. The evidence that hunter participation has anything to do with waterfowl populations or habitat or hunting regulations seems very weak, especially in light of record high waterfowl populations, wet conditions on the prairies, and liberal hunting regulations in recent decades, with concomitant declines or stability in waterfowl hunter numbers. Factors other than waterfowl numbers, habitat conditions, and hunting regulations seem more likely to dictate hunter numbers (e.g., factors like cost, or access to land). Likewise, the evidence that populations of waterfowl have anything to do with habitat management or harvest management also seems weak (water conditions and agricultural policy probably have bigger effects), so the objective of having goals for harvest and habitat management that are 'complementary and consistent' does not seem to offer much of an advancement in terms of management. I support habitat protection and management, but not necessarily because I think such work will result in higher populations of waterfowl to shoot, or more waterfowl hunters to shoot them. Wetland habitats have obvious benefits for waterfowl and people (and many other species), regardless of hunting regulations or hunter numbers. Suggesting that habitat management has the ability to increase duck populations at more than a local level, even if implemented in concert with harvest restrictions, seems like a big stretch. Adaptive harvest management does not offer the opportunity to learn about the impacts of hunting on waterfowl populations, because hunting opportunities are restricted (or liberalized) in response to relatively arbitrary triggers, and hunting mortality accounts for less than half of annual mortality in most duck species. There seems to be little relationship between hunting regulations and harvest.
- The importance of waterfowl conservation, and of NAWMP and related bodies, has declined dramatically in my organization. Although I am a JV Chair, I have almost no time available to give to the JV due to competing priorities. We have increased the amount of funding available for wetland conservation, but the amount of management and executive attention waterfowl conservation receives is, and will remain for the foreseeable future, minimal. It is seen as more or less working, and therefore of a lower priority.
- The problem is the upper levels of government organizations and the lack of appreciation of understanding of NAWMP. In Canada, this remains a tremendous issue, with limited capacity

dedicated to NAWMP and virtually no understanding of the successes of NAWMP at higher levels of decision making.

- The third pillar will be difficult to achieve without dedicated funding. NAWCA has been key driver in success of population and habitat targets of NAWMP.
- The whole 2012 revision process seemed to lose a lot of steam towards the end of the implementation time line. Also, having served on the NSST for 3 years and seeing the lack of communication between the NSST and PC was difficult to deal with. I was hoping for more enthusiasm and leadership between the 2 groups. It also seemed the SDM workshops which I was part of leading did not appear to provide guidance for the whole plan as was being talked about.
- There can be significant differences in the status and state of waterfowl management activities in Canada and the US. These differences will not be captured when responding to questions at a North America scale. For example, the approach and complexity of harvest regulations and management is very different in Canada compared to the US.
- There is still a need for somebody to "own" and oversee the full suite of goals and associated actions under the 2012 NAWMP, and to lead efforts at assessing progress in all dimensions and making recommendations for adaptive adjustments going forward.
- To goal 2 include the habitat quality for guarantee waterfowl populations healthy a long term
- Too much reliance on waterfowl population size to assess success vs. failure (when most of that is probably stochastic variation unrelated to NAWMP and related activities).
- Unfortunately, NAWMP has become irrelevant in agencies at levels below administrators, and is rarely (if ever) discussed or mentioned at field or program levels. Few agency program or management staff think or talk about the NAWMP anymore, and little agency effort is expended on partnerships and outreach, whereas state NAWMP steering committees served this function a decade ago. Most new agency staff hired in last 10 years don't seem to know NAWMP at all. I've only heard reference to the NAWMP 2012 update once internally (NGO), and not once among state or federal agency staff with whom I work. There needs to be a major effort to reinvigorate the NAWMP at all levels below administrative to more fully engage the broader conservation community so we are all working towards the same habitat goals and objectives.
- We need more accurate landscape priority areas given that some do not align with the actual areas of importance.
- We need to do a better job (primarily) of trying to link waterfowl population and habitat goals in a coherent fashion. Although we need to do a much better job of understanding the desires of current and potential waterfowl hunters, viewers, and other recreationists, we can't get wrapped around the axle trying to formally integrate results into decision processes. We also need to better understand how the desire of the general public for clean water, flood attenuation, etc. can be marketed to achieve waterfowl-centric desires. By gaining such increased understanding, we can use the tools we have to provide better experiences and maintain or increase involvement by hunters and the general public in actions that improve waterfowl conservation.
- We really need to figure out a way to increase relevance for waterfowl and wetlands management. We are losing at every turn due to ESA focus in today's society. No one (agencies and policy makers) gets interested unless things are declining. We need to highlight how important actions taken many years ago, which continue today, are still important and taken for granted. A new branding concept is needed to gain more support.

Appendix G. Comments related to: Indicate the degree of NAWMP progress to “Develop, revise, or reaffirm NAWMP objectives so that all facets of North American waterfowl management share a common benchmark.”

- At minimum, a statement about what will trigger a revision of goals should be included. Will this be on a regular time interval or will the timing respond to some other signal?
- Combining NAWMP goals into harvest management causes a lot of problems. Duck hunters do not understand, or think that they should shoot fewer pintails, or whatever in a given year because of a population constraint.... especially when duck populations continue to rise. It ends up having a circular detriment that they wonder why they should worry about conserving habitats when they can never take advantage of some species when duck populations are record highs.
- Given that I wasn't in my current role at the inception of the 2012 revision, I've refrained from assessing the progress that has been made over the last 5 years in the past number of questions.
- Given the complexity, and number of players involved, this is an aspirational goal
- I am not convinced that a common benchmark is possible. I think more emphasis on tangible integration across the three objectives is a more realistic focus.
- I am uncertain what is meant by a "common benchmark"
- I don't believe there is a common benchmark that all facets agree upon, we are still stove-piped in the waterfowl community.
- I don't know what is meant by 'share a common benchmark'. I agree that NAWMP objectives should be developed, revised, or reaffirmed, but don't think that all objectives will follow a common formula. Most goose populations exceed any former population objectives, and as a result, aspirational objectives have changed to 'minimum thresholds', below which harvest restrictions could be considered. In many cases, the surveys and/or metrics used to monitor population status have also changed.
- I don't know what this means.
- I don't understand the question - if 2012 NAWMP had 3 areas of objectives covering habitat, populations and the public, how can they share benchmarks?
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- I have only been in my position for 4 months, thus most of this questionnaire is impossible for me to answer, as I was not part of the 2012 implementation group, nor am I part of the current 2018 updates.
- In the Mississippi Flyway we've been using population thresholds instead of population goals for goose harvest management plans. Basically- we've acknowledged the lack of control harvest exerts on most pops and will operate under liberal regs until we meet a harvest rate threshold and low pop threshold. In the AGJV we struggled with objectives for overabundant light geese- if we have pop objectives do we have to undertake some management action to lower the pop if we are consistently above it? Most of the pop objectives are arbitrary in my opinion- based on surveys with partial coverage and arrived at by inconsistent means...
- Integrate other birds group in 2018 NAWMP update.
- Integrated, coupled-system models need to be developed and used in management decision-making.

- It is wonderful to understand human dimensions and how it impacts waterfowl populations but the critical component in the Plan is habitat and how to increase habitat acres and improve management to increase quality of habitats.
- Much of the language in the North American Waterfowl Management Plans are vague/general and not very useful
- NAWMP population goals allocated among BCRs/Regions/JVs only became available in April 2017. Impossible to integrate what does not exist.
- Need much greater and additional development/description/clarity, etc. for habitat and user objectives. Waterfowl population objectives should be updated, as needed.
- Not sure what a common benchmark means, but population goals have not influenced habitat work in many locations, especially those with chronic habitat loss or degradation.
- Objectives should be tied to population goals
- Objectives to review regarding declining bird populations/groups/pillars should be a priority. e.g. NABCI birds other than waterfowl.
- The next challenge seems to be developing a protocol for how objectives will be revisited and potentially revised in the future. Also, the HD objectives adopted in 2014 were considered interim pending results of the current HDWG research.

Appendix H. Comments related to: Indicate the degree of NAWMP progress to “Integrate waterfowl management to ensure programs are complementary, inform resource investments, and allow managers to understand and weigh tradeoffs among potential actions.”

- Dollars and capacity are declining, and now more than ever it is important to be efficient going forward.
- I am not familiar enough with this to provide an opinion- our reg setting process is very simple in Canada.
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- Important to include this, much in the sense of an aspirational goal. No tool or example available for next update to inform a suite of programs at national or continental scale. Likely at least a decade away from that. Some limited regional examples could be highlighted in next update.
- Increasingly, we need to get away from a more single species or single group approach given the breadth of support we need and the different interests we are called to serve.
- Integration is a word that is poorly understood. It seems more like a buzz word without anything of real substance behind it.
- It's important; we just don't know how to do it.
- I've not seen any consequences from the "lack of integration" in the past and thus place a very low priority on it.
- Need to develop greater consensus around what this means, and identify the key decision problems (and scales) where integration seems most important to achieve.
- Really need to develop continental priority areas and associated costs... to develop a priority needs statement for NAWMP \$ and acres
- See previous comments.
- The importance will depend on the nature of the decisions (scale, impact), and the types of decisions where integration is needed required further exploration and grounding.
- This was the primary push for a re-visioning of NAWMP. To date, most progress has been on small-scale "pilot" projects with no formal way to evaluate trade-offs.

Appendix I. Comments related to: Indicate the degree of NAWMP progress to “Increase adaptive capacity so structured learning expands as part of the culture of waterfowl management and program effectiveness increases.”

- Do not think there is necessarily a need to expand structured learning, there is already a significant amount of learning. There is a lack of capacity/ability to adapt to current learning.
- Funds for and interest in monitoring that is designed to feed into the process are still limited and not seen as important. Monitoring programs must be designed to answer specific questions and how that information is to be used should be clear before the data are collected.
- I don't know if there has been a formal evaluation, but I am unaware of substantial new investments in building adaptive capacity.
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- I worry that this is legalese for "support AHM no matter what."
- It depends what we mean by 'increase adaptive capacity so structured learning expands'. If it means that use of the current AHM approach in concert with structured decision making workshops is the only way to manage harvest and learn about relationships between hunter numbers, harvest, habitat, and waterfowl population size, then I strongly disagree. In my opinion, stabilized regulations for a lengthy period of time, coupled with improved monitoring, offer more hope for real learning about such relationships.
- More people are using open standards, and should be. Conservation DOES NOT Look like it did even 5 years ago, much less 20 years ago, yet many waterfowl managers want to do conservation (just buy everything) as they did in the past. Less dollars, less capacity - more habitat loss, higher land costs, we have to adapt!
- Progress has been slow because of slow progress in identifying the most important nexus for linked decisions. General government retrenchment has made it difficult to move this issue forward as well.
- Regarding harvest, we often consider the "learning" that goes on in our AHM framework. But when current differences in harvest packages DON'T influence harvest rates but we suspect they WOULD influence hunter activity, it suggests a need to expand our capacity for learning regarding a different parameter than harvest rate.
- See my earlier comment about putting more emphasis on development of integrated coupled systems for use in modeling and decision-making.
- Structured learning is important. However, we can get stuck in an infinite refinement loop. Progress needs to be made.
- The degree to which JVs and other NAWMP partners consistently evaluate the impacts of alternate decisions (and investments) remains uncertain. This step should be a fundamental component of NAWMP "business" with respect to program and policy decisions.
- the NAWMP revision was a convoluted and painful process, but the underlying adaptive management imperative seems to have seeped further into the waterfowl management community. This may be one of the more important results of the revision.
- This takes funding, and we aren't getting it. Without additional funding, this won't be accomplished. We already have too many individuals who have had to take on additional duties as funding and staffs have been reduced. And we're on the verge of losing a lot of institutional memory in the next 5-10 years. If we don't get our capacity built back up, it won't happen.
- Various partners have made good progress especially in evaluating programmatic options, this needs to be encouraged and expanded but not sure it's an overarching or universal need.

- We did not learn as much in past 22 years of AHM as was envisioned when the process was introduced and implemented.
- We need to learn to the extent that we continue to understand that our models and input parameters continue to perform as expected. However, manipulating systems or procedures simply to answer questions is not needed.

Appendix J. Comments related to: Indicate the degree of NAWMP progress to “Build support for waterfowl conservation by reconnecting people with nature through waterfowl, and by highlighting the environmental benefits associated with waterfowl habitat conservation.

- Again, this is hugely important. Little explicit state agency effort has been put into this in our state thus far.
- At some point, serious attention will need to be paid to focusing more emphasis on human dimensions. The small group of people involved now is great, but woefully insufficient to make real progress.
- Great progress has been made to build the social science behind this, but limited in practical application, but that will come with time. Extremely important moving forward - much of conservation is political - funding, land use decisions, and we need people support, and understanding HOW to get that people support.
- I believe the most effective level for this work in state/local
- I cannot see how connecting people with nature will do anything to improve waterfowl management and conservation in this era
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- I realize a lot of effort has been put into this and some progress has been made but much remains to do.
- Isn't the goal actually to build support for the habitat waterfowl rely on by reconnecting people with whatever would make them care about the actions they need to take so that habitat is conserved? If people like waterbirds and that's why they want more habitat isn't that just as important? (Because ultimately it gets you places for waterfowl). I highly recommend you consider the outcome you want and not be picky about what motivations will get others there.
- It seems that we have not gotten past studying this question.
- Need to focus on things that REALLY matter to people like having clean drinking water, or not having their basements flooded due to wetland drainage. Need to come up with NEW, SEPARATE, and innovative ways of doing this, including getting funding, without manipulating or robbing current ventures.
- Need to link Plan goals with general measures of environmental quality, e.g., water amount and water quality.
- Not sure there is much support to build for waterfowl conservation, via reconnecting people with nature through waterfowl. We have been promoting NAWMP for 25+ years. To remain relevant and grow support, NAWMP should work more effectively via NABCI and other Conservation initiatives to build support of biodiversity conservation. The environmental and socio-economic benefits of habitat conservation.
- Our current waterfowl leaders do not know how to reach to general audiences. We have to make it exciting and something they will remember for a long time. Most practitioners of outreach are dry and bland.
- People have to support habitat programs because they enjoy seeing waterfowl and understand that to be able to observe the birds they have to support the places where the birds live.
- really need simple messaging on the value of wetlands to society (beyond hunters and birders) and communication of these messages to people, so political capital can be built to support broad scale conservation through policy
- Some progress in certain Joint Ventures. Much potential here to explore and expand.

- The focus has persistently been on hunters and to a less degree on bird watchers. There are a whole host of other groups that could find benefit from waterfowl or waterfowl habitats. These groups have been under-represented in NAWMP discussions, in my opinion. Similarly, much of conservation takes place on private lands. I'm not sure we have made adequate attempts to engage landowners.
- Waterfowl habitat conservation needs to be integrated with habitat conservation for a range of species and benefits.
- With 2012 revision, we began to identify how to do this and the research needed to more effectively tackle it. So, while it is unclear if we have actually made significant progress in delivering on building support, we have begun more earnestly planning for it and designing it.

Appendix K. Comments related to: Indicate the degree of NAWMP progress to “Focus resources on important landscapes that have the greatest influence on waterfowl populations and those who hunt and view waterfowl.”

- But, it is understandable that trade-offs may be required (i.e. habitat activities in lower-value regions) in order to garner/maintain continent-wide support.
- Critical, everybody wants to work in their backyard, but we should be science based focused on landscapes of greatest import to waterfowl and people. Can't work everywhere and please everyone!
- I disagree on how "important landscapes" are determined. Very important areas are being neglected because of the bias to the Prairies.
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- I think important landscapes is subjective terminology
- I think this needs to be revised to be important internationally, important regionally, and important at a flyway scale. In Canada, this has meant pouring almost all resources into the prairies, and that is NOT the only region that is important for all flyways.
- I would hope this is happening but, again, I am not sure to what extent the 2012 revision has changed what would have been done without a revision.
- in a time when resources are limited. They should be spent in areas that offer highest conservation return (biggest bang for buck)
- In my view, U.S. has overemphasized the Prairie Joint Venture area to the detriment of others on the simplistic view that making duck hatcheries will, on its own, produce more ducks.
- Little effort has been devoted to linking areas of importance for breeding waterfowl with location of the hunters at the continental scale.
- NAWMP can't be delivered on Important Landscapes only. If you do that, you ain't NAWMP anymore...
- Please pay greater attention to sea ducks. While certainly not the most highly- and easily-harvested among our waterfowl species, our limited knowledge of important landscapes and current understanding of limiting factors makes the basis for harvest management somewhat more difficult to communicate among the broader constituencies.
- Prioritizing resources/time/people/funding, etc. will likely become increasingly important. Hopefully, the 2018 update will better articulate quantifiable objectives and prioritize the specific actions need to develop, measure, achieve, etc. those objectives.
- Providing refined mapping and prioritizing habitat areas is important and this needs to be looked at from multiple criteria and at various scales.
- Public support needs to be widespread for policy changes and continued support of conservation programs
- Resource availability and allocation decisions are often made by people outside high-priority habitats. There absolutely has to be considerations for "spreading the wealth" or risk losing those resources.
- The focus, in my opinion needs to remain on landscapes that have the greatest influence on waterfowl populations - breeding and wintering. This places the onus on managers to show the influence of their actions on population vital rates either directly or indirectly.
- The most important landscapes for "waterfowl populations" (i.e. prairie pothole, boreal) are probably the least important to "those who hunt and view waterfowl" (since most people live in urban and/or coastal areas). This statement seems to conflict with itself.

- There is important work underway to inform this but progress, to date, has been slow to respond to new information from, for example, insights from scaup and pintail integrated population models.
- This gives undue weight to certain areas and decreases importance of regional resources
- This has been fairly well accomplished over the last 70 years; more progress is possible, but it seems like "fine-tuning".
- Waterfowl populations are at all-time highs. We need to focus on providing the "habitat" for easy access for hunters
- WAY too much emphasize on places that have practically no waterfowl. White spots on maps were filled in, joint ventures went all bird, now everything is spread way too thinly. Moreover, people have figured out how to write NAWCA grant applications to the extent that even though some place not hardly do anything for waterfowl populations or waterfowl hunters, the applications will compete well for a grant. NAWCA and NAWMP emphasize should remain in the places that show up as continental priorities for continental waterfowl and waterfowl hunter populations.
- What does it mean to have the greatest influence on those who hunt and view waterfowl? Influence them to do what?
- Within joint ventures there has been good use of targeting, but to my knowledge no one has looked at the bigger picture in any critical way.... where do the dollars need to flow to make the biggest difference and have longest term impacts, continentally? Seems there are still some significant dollars being spent in marginal waterfowl areas.

Appendix L. Comments related to: Indicate the degree of NAWMP progress to “Adapt harvest management strategies to support attainment of NAWMP objectives.”

- I believe some large-scale experiments with harvest management are needed to better understand the impacts of harvest on population trajectory.
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- I think of NAWMP as a predominantly habitat-based plan, and I don't think, for the most part, harvest should play a part in meeting population goals set based on habitat.
- I think this assumes we exert more control on populations via harvest than is reality...
- I truly don't believe harvest at today's levels matters to most species. However we are not giving due attention to those species where it obviously could matter..... sea ducks.... Yet we continue focus on species like canvasback, scaup and pintail, set regulations for these at 1 or 2 daily and move on.
- Integration of people objectives and harvest management/population objectives still has a long ways to develop.
- Limited evidence that current harvest is effecting attainment of NAWMP objectives. Increasing number of publications indicate no influence of current harvest levels on survival. Several populations are on long term increases, others cycle with wetland habitat availability on the breeding grounds.
- Most strategies aren't/won't have the impact on bird populations once thought or believed, but still have some capacity to change/influence participation.
- NAWMP is/was primarily aimed at habitat management that provides benefits to waterfowl and the people who enjoy them, and improvement of knowledge about waterfowl (e.g., through the species JVs) aimed at improving monitoring and management of particular groups of waterfowl. Harvest management existed before NAWMP came along, and there is no evidence to suggest that harvest management has ever worked against achievement of NAWMP objectives, or that NAWMP objectives would have been achieved sooner with a different harvest management strategy. Therefore, harvest management considerations needn't be included in NAWMP.
- See previous comments about interjecting population goals into places where they don't necessarily belong. Also, at some point, a choice needs to be made about simplifying systems and management protocol for sake of expenditure vs trying to optimize every single aspect and every single decision with everything under the sun.
- The population objectives in the NAWMP (1986-2008) need to be retained and used in AHM.
- This is an outstanding issue that has gone unaddressed and dormant. There are no institutional takers for "cohesion", which clearly says something about this issue. Technically, we know what needs to be done and how to do it yet, nobody is moving forward with this. Probably time to put this out of the table, as there are no takers for it...
- We currently have record high waterfowl populations. Harvest regulations apparently have either been somewhat helpful, or at least neutral/insignificant - but not detrimental - for record high populations to inhabit North America. Habitat and user objective need to be better defined/articulated, and it does not seem entirely apparent/known how harvest regulations do or would affect those objectives, until they are better defined/articulated.
- We still have limited understanding of the relationship (if any) between harvest regulations and public participation.

Appendix M. Comments related to: Indicate the degree of NAWMP progress to “The Human Dimensions Working Group was established in 2013. Indicate the degree of NAWMP progress by this group with respect to the recommendation to “... support development of objectives for people and ensure those actions are informed by science.’

- A very confusing statement: "for people" begs the question "which people" hunters? conservationists? or the rest of the population that are really themes important to reach out to.
- Current political environment undermines science as a basis for decision-making
- Good start; now to make operational with an appropriate level of dependable funding and adequate connections to the policy-level decision bodies of waterfowl management.
- Great progress has been made on the science and the surveys - now the actions can begin.
- Habitat remains the key but gaining support by people (public, hunters and policy makers) is necessary to have funding for habitat programs.
- "Hunters are generally easy they need(want) access to harvestable populations.
- Birders want birds ... rare and unusual or lots
- It's the general public that needs more attention... they need education on the value of wetlands and the EGS they provide, only if broad public support is attained can we increase funding and action to attain our goals, from what I have seen to date the focus has been on hunters and birders and questions more complicated than they need be"
- I am one that views the HD file as somewhat misdirected. There seems to be a view that the pre-eminent activity should be research. Did we not know enough in 2015 to at least begin to implement programs? Rather, it seems that JVs are "waiting around" to be guided by new science. This area is too important to be essentially idling.
- I am saying this is important but I am not saying that this should be a pillar of NAWMP.
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- I think we have overestimated our ability to measure "what hunters want," and formal integration into harvest and habitat management will continue to elude us.
- In my corner of the waterfowl management world I have not seen any influence of the HDWG.
- More work on objectives is needed; also, more work to integrate objectives of HDWG and PET is needed. Considering 2012 first revision with third "people" leg and that the establishment of HDWG represents a significant effort in change management across the waterfowl community, it is really significant progress (even though development and integration of objectives still needs work).
- Not sure what this even means.
- Opinions of constituents are important, but can't totally drive the system. Need to find out more what we can deliver to meet expectations for users.
- Significant progress because this topic was barely on the radar before, but obviously much still to do.
- Support any actions that result in a broadening of support for wetland protection
- The NAWMP group has done a GREAT job focusing on hunters and birdwatchers but there's more to be done, especially related to private lands.
- The studies being conducted have the potential to be informative (though see cautions above about engagement of other stakeholder groups), but it's not entirely clear to me that a separate working group is required to facilitate that research.
- We MUST identify the relationship between hunting regulations and hunter participation if we are going to actually address the Revision's 3rd objective. We/non-hunting constituents MUST

find ways to participate in funding wetland conservation outside traditional hunting mechanisms.

- While I know we need people to support waterfowl management trends are against expanding hunter base and that is still the focus of the 2012 NAWMP

Appendix N. Comments related to: “Please provide any additional insights or recommendations regarding implementation of the 2012 NAWMP Revision.”

- Dedicated funding will be required to support the Human Dimensions piece. Measurable objectives will need to be determined in order to determine success.
- Don't focus strictly on the "big number" species and the mid-continent landscapes that support them. Pay closer attention to sea ducks, which are lesser-known and have higher risk of over-harvest. They are also a group of species that are likely quite vulnerable to changes in the boreal forest/arctic and changes in benthic food resources in the marine environment.
- Having been in the field for over 30 year I have seen NAWMP grow stale, personally I have seen little progress since 2012. In fact, I would say interest has waned significantly. We need to reinvigorate and grow the partnership. Ducks are at all time high but habitat continues to be lost. We need to be less introspective and insular and reach out to the broader conservation community and public with simple messaging.... wetlands are important and valuable,
- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- It is critical to garner support for waterfowl conservation through a focus on habitat and how it benefits other species and provides services to human communities. Functional wetland systems are a good focus that will support waterfowl and achieve other goals.
- It seems that the Implementation committee is in a constant do loop of continual planning but has not come to solid recommendations of how to achieve the goals from the ground up. Most of the Managers that are making decisions on a daily basis on the habitat side are not involved or even aware in most instances.
- Mexico involvement in this process. Government, NGOs, and academia
- My understanding of the 2012 Revision is that it would bring the habitat, harvest and human elements of waterfowl conservation together. We are pretty good with meeting habitat objectives; we put way too much emphasis on our harvest management decision making - it is not a fine tuned racing machine and we should quit treating harvest management as if it is -; and I still don't see where we have made any progress in getting to the heart of what waterfowlers really want - is it more days in the field, more birds in the bag...., I don't think we know, and we should be asking them. We also have not done much yet to reach other audiences to support land use activities such as habitat conservation that also benefit a suite of other conservation objectives.
- Numbers of special committees, "partnerships" and directions this is all going is getting a little out of control. In the end, there is the same number of people (possibly less in the future) trying to do all this stuff. It's turned a whole bunch of really good biologists, managers, thinkers into professional meeting-goers. Not a lot more, if anything, is being accomplished than if it was all kept really simple, lean and mean and delivered dollars where they need to go.
- Over 90% of the landscape required to achieve NAWMP is privately owned. There is a need to grow broad public value and support for conservation of natural areas. Public demand will influence public policy and legislation that supports and values private land conservation. Without it we will continue to lose habitat due to private land cost-benefit decisions.
- Please note that all of my responses are from a Canadian Perspective
- Please provide any additional insights or recommendations regarding implementation of the 2012 NAWMP Revision.
- Really, really need senior levels of government to buy into NAWMP to make the revision implementation successful. They need to understand the benefit to their mandates.
- See above comments

- See previous comments. There is a huge need to reinvigorate NAWMP at conservation program implementation levels, and more work done to integrate with other state and federal nongame programs.
- The 2012 Revision was a major change in how we are thinking about waterfowl management. Lack of progress would stem from the fact that it's difficult to change existing paradigms, but people are trying, just need more time. Also, waterfowl populations are such that more resources needed toward accomplishing goals and objectives are constrained by lack of federal (primarily) and state agency investment.
- The impact of the new U.S. federal government is already being felt. U.S. climate change and environmental policies will likely be detrimental to making further progress on NAWMP. A "holding pattern" is probably a more realistic strategy.
- The waterfowl community needs to link itself more tightly to landscape planning efforts being conducted by the LCCs and others - they need a national vision for their habitat goals that is geographically specific, not just "sufficient to support...populations" which is ridiculously vague for a science endeavor. What type of habitat, where, how much, for which species? Restoration, management, or protection? And, an economic analysis of what it would take financially to get there.
- We have enjoyed an unusual long period of wetness on the Northern Prairie waterfowl breeding grounds but drought will return and populations will decline. We need support to be in place so people understand the decrease in populations is predictable and expected but when water returns, which it will, the components need to be in place to allow waterfowl populations to rapidly expand again. This has been the historic pattern of how populations ebb and wane depending upon water and habitat being in place to facilitate the boom years and carry through during the dry years.

Appendix O. Comments related to: “Please provide any additional insights or recommendations regarding development and implementation of the 2018 NAWMP update. What ideas do you have about the critical issues that need to be more fully addressed by the waterfowl community over the next 5-10 years? Please provide a brief rationale for your perspectives.”

- Improved engagement of provincial/federal representatives to financially support wetland conservation. This will require both public awareness and strategic engagement of institutions. Rationale: reduced funding for habitat implementation has occurred due to general reduction in available funding and reallocation to other priorities that are non-wetland, non-waterfowl
- 2) Continue expansion of human dimension aspect developed in 2012, and include components such a) as how better to include ecological good/services in land use planning in land use decisions are regional/local levels, leveraging current focus/resources of Species at Risk towards broader ecosystem vision rather than narrower specific and habitat features. Rationale: hunting values don't cover all the needs to change management decisions/public perception and ultimate funding/resources and therefore need to use other aspects."
- Adapting to climate change; predicting how habitats will move and how to protect those habitats in advance of the climate impacts.
- Although not a new concept at all, given limited resources, engaging the larger birder/naturalist/conservation community is going to be important to implementing programs that support waterfowl and waterfowl habitat management.
- As hunters' ages advance, it will be critical to make others know the importance of waterfowl and wetlands conservation and protection; to engage a diverse audience in waterfowl and wetlands appreciation; to make waterfowl and wetlands relevant to a wide constituent base without which it will be difficult to effect policies critical to wetlands protection and conservation. The technical science and modeling behind our understanding of waterfowl populations and wetland conservation are continuing to advance; however, I see a smaller number of students and young professionals interested in only waterfowl populations; they see the system as a whole, and the whole wetland-dependent system needs to be emphasized. Water quality, quantity, and availability will be key issues that hit home with a wide audience into the future, and providing these services to humans will benefit the wetland-dependent system as a whole. Adjacent uplands, necessary for nesting and successful reproduction, will be critical to protect as well.
- As much as possible, expanding support beyond hunters, and ensuring that the focus is broader than waterfowl. Even if primary goals focus on waterfowl, ensuring that messages about clean water, benefits to communities, and economics are key.
- "As stated in 2012, NAWMP needs to continue to work toward a common working landscape vision that includes landowner perspectives, and trying to find the right balance. It will be critical to include general public goods and services and biodiversity conservation to remain relevant and reduce government policies and programs that run at cross purposes.
- Also mentioned in 2012 and bore out in long term hunting permit sales, 'old paradigm – abundant waterfowl and liberal regulations will result in more hunters – no longer applies.' Are current waterfowl population objectives required to achieve waterfowl stakeholder interests/satisfaction? Waterfowl stakeholder needs may be more related to waterfowl distribution and access, which are not necessarily achieved by larger continental populations. Past restrictions in harvest opportunity directed at supporting attainment of NAWMP population objectives may have unnecessarily reduced waterfowl stakeholder satisfaction and support for waterfowl conservation.

- Continued focus on 'Relevancy: Strengthening the Emotional and Pragmatic Ties to Waterfowl and Wetlands' as stated in NAWMP 2012 remains critical going forward."
- "Based on these questions I have a sense there may be a focus shift in some areas to people's expectations. I think this would be a mistake. No one in the management community is, or should be, managing expectations, that is a fool's errand. We can try to monitor use of waterfowl resources by people, and provide ease of access or means to support conservation, but expectations are beyond our control.
- Another concern I have is a consistent focus on complexity of harvest regulations. I see waterfowl regulations as less complex than big game and fishing regulations in many states, yet both those pursuits have been gaining support. Please provide evidence complex regulations impact users before making that goal a priority. There are many other factors that have been shown with studies to impact use more.
- I think the largest focus should be on habitat protection. One of the underused mechanisms to protect habitat is policy, at the national and local scale, and that is only superficially addressed in previous plans/updates.
- There is much talk about integration of harvest, habitat, and people, and I think it has been shown that should happen, but only at the appropriate scale. For example, integrating habitat and people can be done successfully at the state or joint venture scale, but flyway and national scales drown out any signal of success."
- Better address overabundant goose populations to maintain public support for waterfowl management.
- Capacity and funding to implement
- Continued focus on habitat protection and management, continued improvements to population monitoring and research, less emphasis on hunter recruitment and harvest management, more emphasis on broadening support for wetland conservation among the general public.
- Control hunting in Mexico and provide more funding to habitat protection, especially in coastal wetlands for Pacific Brant
- Ensure broad support at both continental and state levels (includes continued emphasis on "people"). Address continued loss/conversion of wetland habitat, particularly in the breeding grounds. Continue to place emphasis on resilient populations which likely includes addressing light goose population expansion and potential deleterious effects on other populations such as shorebirds.
- First and foremost is safeguarding vital waterfowl habitats, both ecologically (i.e., through conservation programs) and through political actions in Congress. I agree that the human dimensions of waterfowl management are important, but conserving habitats and population monitoring (BPOPs) must remain strong.
- For the 2018 NAWMP update to be successful longer term - we need to continue the good work being done on the habitat protection and management side, continue to address the science/knowledge gaps, address the lack of waterfowl management researchers in academia, increase general public understanding/awareness/support, maintain the relevancy of waterfowl conservation on all fronts, and find innovative ways of advancing conservation and these important aspects into the future.
- Habitat protection and management is, and will always be, the critical component of what we do. Nothing else comes close. But to maintain that focus we need hunters and conservation-minded citizens. We MUST address ways to maintain hunter numbers, outside of hunting regulations, for which I've seen little effect.

- I have not been involved in the NAWMP or the 2012 revision and only recently was assigned work on waterfowl so I have no background or frame of reference to answer these questions meaningfully.
- "I'll say is that we update the NAWMP almost too frequently. We're just working some of the kinks out of the 2012, and now we're updating again. Cripes, we spend more time and effort with these damn updates than doing the work to implement the last one. Need to go to a different time frame on updates.
- Institutional support for waterfowl from U.S. Fish and Wildlife Service needs to be increased."
- Improved public understanding of the linkage between wetlands, waterfowl, other wildlife, and broader issues such as flood attenuation, water quality, etc.
- In the Northeast, the EHJV faces the immense challenges of planning actions over a large area extending across six provincial jurisdictions and of, leveraging funds while being considered of low importance to waterfowl. Unsurprisingly, its implementation plan has not been updated since 2010. NAWMP should explore avenues that will allow EHJV to be more efficient in habitat conservation delivery.
- Increase habitat protection, restoration, enhancement and management; gain support of the public and policy makers for waterfowl habitat and populations hopefully by educating them about the goods and services provided by wetlands and grasslands; increase waterfowl hunter numbers.
- "Making waterfowl management more relevant to a broader set of stakeholders seems vital.
- Elaboration and integration in management plans/programs of the three broad goals from the 2012 revision seems like the basis for this.
- Assumptions and models of how these actions are expected to work need to be articulated, and adequate monitoring and evaluation efforts launched to allow for adaptive adjustments in both traditional and new programs needed going forward.
- We must create a culture and processes that allow the whole community to assess our results in pursuing all these objectives and make needed adaptive course corrections, whether in programs, plans, the models that guide us, or the institutions of waterfowl management."
- More focus on human dimensions efforts. Some of that can continue to be focused on waterfowl hunters, but much of it needs to focus on birders and naturalists.
- More integration of social science done by SOCIAL SCIENTISTS. There is a consistent desire by biologist to be social scientists without the training.
- NAWMP has had great successes to date. Time might need to be spent reviewing secured habitats to identify those which might require management in the form of maintenance of previous management efforts.
- NAWMP needs to work with the joint ventures, NGOs and others at a landscape scale to maintain habitat for waterfowl and other wetland-dependent species. The plethora of federal-state-international entities is confusing and seems redundant, while we likely are losing ground on habitat on a continental scale. It is critical to maintain and support waterfowl hunting and the hunting constituency, but NAWMP must go beyond that because we are losing ground with the broader public and politically in an increasingly urban society.
- Please provide any additional insights or recommendations regarding development and implementation of the 2018 NAWMP update. What ideas do you have about the critical issues that need to be more fully addressed by the waterfowl community over the next 5-10 years? Please provide a brief rationale for your perspectives.
- Population goals should fully embrace advances in Bayesian estimation and integrated population modeling. We don't need pintail goals based on failure to model overflight, or scaup goals based on erroneous estimates of > 7 million birds.
- Protection of habitat is #1

- The 2018 update should focus on a subset of the 2012 revision. I think it should focus on how we make the plan relevant to the current population. The hunting community alone will not be enough to support the waterfowl enterprise, we need the support of the broader public interested in water quality, habitat for other species, open space, etc. Many of these are urban/suburban populations who do not care about waterfowl hunting but will support complementary goals such as habitat protection even if it is for a different reason.
- The coherence concept has not gained traction... it should be abandoned and the focus needs to evolve to the value of wetlands to society...messaging needs to be simple, research needs to focus on economic evaluation of EGS, Policy and programming will only be achieved through broadening public support
- This may not be relevant to the discussion, but we need to shift our paradigm regarding lands being acquired and placed in public trust. While valuable in some areas, it is certainly not a magic bullet and in many instances, perhaps leads to declining habitat values, and thus, waterfowl populations. We need an increased focus on active and pro-active habitat management on both public and private lands.
- Those who support waterfowl conservation have bought in and there's not much more that can be done by focusing on them. What is needed is a broader public buy-in to wetland and other habitat conservation. To do this, a greater accounting and valuation of EGS has to begin to influence public interest and therefore public policy. Conservation "programs" should build on successes of the past, but ultimately, it will be conservation policy that will determine if we have a sustainable environment that provides what people want (and need).
- Waterfowl hunting has dropped over 50% in Canada in the past 40 years, a far greater drop than other forms of hunting. Only 1 in 10 licensed hunters in Ontario hunts waterfowl. Waterfowl hunter recruitment needs to focus more on licensed hunters as a source of increase.
- Waterfowl regulations are important, but handled separately. R-3 for hunters is important, but should really focus on places to hunt, not just getting more hunters. Population and habitat monitoring, along with harvest monitoring is really important to support the North American model of wildlife management. I really think explaining the benefits of waterfowl conservation work to sustaining ecological goods and services is important, but I do not think that ecological goods and services should be a priority in making decisions for habitat conservation. Generally, waterfowl work inherently brings a lot of those benefits along with it. We don't need to change our priorities, but we should do a better job showing others that we also benefit things they want.
- We cannot afford to not think about habitats as systems that support other species and provide services. Waterfowl hunting is not likely to see a dramatic increase, so it is key to engage other stakeholders that are increasing (birders, other outdoor recreationists) if you want to keep and increase support for waterfowls and their habitats.
- We need a better system to monitor habitat across all landscapes important to waterfowl, including quantity and quality. We invest If we don't know what we have, and how that landscape is changing over time (increases and decreases), then we have no way to effectively plan and implement habitat conservation to support our desired population levels. We need a broad-based landscape change detection monitoring effort. (This could be a good role for the LCC community)
- We need to develop means to engage the waterfowl hunting and watching community in state and national policy efforts, which will have a major effect on wetlands/habitat conservation programs and policies. If the NAWMP community does not engage in policy (and politics!) our conservation efforts, accomplishments and needs will be overshadowed by other societal needs. We also need a better connection to our habitat conservation work and the EGS they provide for society. DUC model is a great example.

- We need to find ways to engage the general public in order to address landscape level problems that contribute to issues like Gulf hypoxia.
- We should determine the ecological and economic values of derived from habitat conservation through NAWMP. With these data and knowledge of dollar values, we can inform the general public to support NAWMP and other natural resources conservation initiatives. As mentioned, all humankind with a revenue sources should support natural resources conservation (i.e., the Missouri Model). Simultaneously, we must continue to secure habitat, recruit and retain hunters, and seek support from all conservation minded humans.
- We will continue to fight an uphill battle conserving waterfowl habitat/wetlands and we will likely only be successful with grassroots support from the broader public. NAWMP remains relevant but may be suffering somewhat from message fade outside the waterfowl management and hunting community. It could be reinvigorated by further integration of NAWMP, NABCI and related, but that would mean some loss of control and focus for each. The best way to achieve hunter recruitment and retention is to expand/promote opportunity (robust populations) and access.
- Wetland habitat protection on key wintering and breeding areas - key protections in the US have been eroded and wetland drainage in prairie Canada continues at concerning rates. Significant progress will require policy-level changes grounded in information on ecological and societal impacts of wetland loss.
- Work to better develop/define/articulate specific, quantifiable habitat and user objectives. There seems to be sufficient groups and governance for NAWMP, and somewhat general agreement about inclusion related to the 3 over-arching goals (i.e., populations, habitat, & users). The 2012 revision outlined the framework; hopefully the 2018 update better defines specific, measurable objectives and prioritizes actions to undertake. It seems that there needs to be more work toward development and articulation of exactly what we are trying to do regarding habitat and users before substantial progress and sufficient integration of the 3 goals can be made. Overall, take a step-down approach from the 2012 framework; better define objectives related to the 3 goals (populations, habitat, and users), what metrics are going to be measured, prioritize actions by those that have the most effect on those metrics, and define how progress toward achieving those goals will be assessed.

Appendix N. Synthesis of Themes from a Survey of Waterfowl Professionals

Respondents to the survey of waterfowl professionals provided numerous comments about NAWMP emphasis and integration. Often the comments represented tradeoffs between legitimate but competing views, usually were focused on deficiencies or needed emphasis, and are summarized below among 8 themes.

Integration

- Although progress has been made, expectations in 2012 were greater than have materialized.
- Integration (initially termed “coherence”) has lacked compelling definition, relevant examples at different scales, and institutional support.
- Integrating habitat and people can be most successful at the state or joint venture scale.
- Institutionally, we still are “stove-piped” to a large degree.

Population Objectives / Harvest Management

- Questions remain about explicit connections between habitat and harvest objectives.
- The link between harvest management (regulations) and hunter participation also is questioned.
- “Common benchmark” in relation to objectives is not well defined
- Some species have not been well addressed (e.g., sea ducks, geese)

Habitat

- Maintain the habitat emphasis of the NAWMP
- Concern was expressed on habitat emphasis outside of “priority landscapes” as related to public support (“prairie bias” was referenced). A tradeoff between habitat for ducks vs. habitat for people is evident.
- Habitat-based as opposed to species-based as a model for waterfowl conservation
- Increased emphasis on private land is needed.

Public Engagement / Human Dimensions

- Acknowledged the need to increase relevance of the NAWMP
- The need to increase emphasis on public engagement was a predominant theme; however, there were numerous areas of emphasis, thus, potential tradeoffs involve focus vs. broader engagement:
 - non-waterfowl bird conservation community
 - non-hunting communities
 - all “wet birds”
 - General public - the values wetlands provide society (clean water, flood attenuation, etc.)
 - private landowner engagement
- Progress has been made on the science and the surveys - now the actions can begin. Don’t we know enough to at least begin to implement programs?
- Acknowledge the influence of public policy and legislation

Adaptive Capacity

- Limited investment in adaptive capacity (linked to reduced emphasis on monitoring).
- A possible definition issue – adaptive capacity is viewed as meaning Adaptive Harvest Management.
- Slow progress in identifying the most important nexus for linked decisions.

Institutions

- Need for reinvigoration within the waterfowl management community. It's difficult to change existing paradigms.
- Roles are partitioned ... e.g., "As a nongame person, I focus on nongame things and let the waterfowl people focus on NAWMP" ... and, "As an administrator, I have limited insight into the details - my lack of knowledge and/or familiarity does not bode well for the success of the plan.
- The functional pieces are in place, and structural overhaul/integration should be considered with caution.
- Improved communication between groups to ensure participants are more aware of how all the pieces fit together. Increased coordination amongst working groups and policy groups and amongst Joint Ventures and Flyways would be beneficial.
- Need for somebody to "own" and oversee the full suite of goals and associated actions under the 2012 NAWMP.
- Increasing numbers of special committees, "partnerships," and directions with the same number of people is confusing and seems redundant.

Implementation Challenges

- Funding
- Acknowledgement of the strength of the NAWMP as a conservation planning model Focus on habitat – however, concern about eroding:
 - Relevance of waterfowl management - waterfowl management is seen as more or less working, and therefore of a lower priority
 - Institutional memory
 - Dedicated funding
 - Federal engagement
- Potential solutions offered included:
 - Should not have separate wetland programs for game and non-game species
 - Prescribe more specific objectives that can be measured, monitored, assessed, etc.
 - Continue expansion of human dimension aspect – dedicated funding will be needed
 - Broader ecosystem vision
 - Continued focus on habitat protection and management
 - Engage the larger birder/naturalist/conservation community – beyond waterfowl hunters
 - Ultimately, it will be conservation policy that will determine if we have a sustainable waterfowl conservation
- The 2012 Revision was very technical and left a lot of people not seeing how they could contribute or fit in.

Plan Emphasis

- Developing a protocol for how objectives will be revisited and potentially revised in the future
- Focus on reversing the decline in funding and capacity
- Articulate quantifiable objectives and prioritize the specific actions needed to develop, measure, achieve, etc. those objectives
- Focus on habitat
- Increase relevance for waterfowl and wetlands management.