Section I: Agency Information and Evaluation of Conservation Actions

Questions 1 – 3 excluded from this report

Directions:
The purpose of this survey is to gather information to update Indiana's State Wildlife Action Plan (SWAP). You will be asked to (1) provide information on the evaluation of conservation actions, and (2) identify threats to and relevant conservation actions for fish and wildlife habitats in each of the six SWAP planning regions of Indiana. Your responses will remain confidential. No personal information or individual responses will be discussed or disclosed in the final SWAP documentation. Please provide your honest assessment and opinions.

4. Within your agency/organization, at which of the following spatial scale are you responsible for implementing/overseeing conservation actions for fish and wildlife habitats? (Check all that apply)

	Local		Regional		Statewide		Multi-State		National		Total Responses
		N		N		N		N		N	
Scale	57.9	191	38.2	126	30.9	102	6.7	22	12.1	40	330

5. How do you plan conservation actions that you are responsible for implementing/overseeing? (Check only one for each spatial scale)

	I do not have a written plan to guide conservation actions; all conservation actions are taken ad hoc.		I have a written annual plan to guide conservation actions.		I have a written 2- to 5-year plan to guide conservation actions.		I have a written 10-year plan to guide conservation actions.		Other, please specify:		Total Responses
		N		N		N		N		N	
Local	31.5	52	12.1	20	33.9	56	6.1	10	16.4	27	165

6. How do you effectiveness of actions that you

Regional	24.3	27	17.1	19	33.3	37	9.9	11	15.3	17	111
Statewide	27.8	25	13.3	12	26.7	24	5.6	5	26.7	24	90
Multi-state	25.0	9	16.7	6	19.4	7	11.1	4	27.8	10	36
National	26.3	5	15.8	3	5.3	1	21.1	4	31.6	6	19

evaluate the conservation are responsible for

implementing/overseeing? (Check only one for each spatial scale)

	Evaluation is done on an action-by-action basis.		Evaluation is done for all conservation actions as a whole.		Evaluation is not conducted.		Other, please specify:		Total Responses
		N		N		N		N	
Local	65.9	108	15.9	26	11.0	18	7.3	12	164
Regional	62.7	69	20.9	23	7.3	8	9.1	10	110
Statewide	55.1	49	20.2	18	9.0	8	15.7	14	89
Multi-state	55.6	20	22.2	8	8.3	3	13.9	5	36
National	47.4	9	31.6	6	15.8	3	5.3	1	19

7. How frequently do you evaluate the effectiveness of conservation actions that you are responsible for implementing/overseeing? (Check only one for each spatial scale)

	Evaluation is done on an annual basis.		Evaluation is done about every 2-5 years.		Evaluation is done about every 10 years.		Evaluation is not conducted.		Evaluation frequency varies depending on specific conditions or circumstances. Please specify:		Total Responses
		N		N		N		N		N	
Local	51.8	85	15.9	26	1.2	2	14.0	23	17.1	28	164
Regional	39.3	44	26.8	30	2.7	3	10.7	12	20.5	23	112
Statewide	40.4	36	14.6	13	3.4	3	12.4	11	29.2	26	89
Multi-state	19.4	7	22.2	8	2.8	1	16.7	6	38.9	14	36
National	21.1	4	21.1	4	0.0	0	26.3	5	31.6	6	19

8. Please indicate the extent to which you agree or disagree with the following statements. (Check one for each line item)

	Strongly agree		Moderately agree		Slightly agree		Disagree		I don't know		Total Responses
		N		N		N		N		N	
My agency/organization has a clear policy that the effectiveness of its conservation actions should be measured.	23.9	68	34.0	97	20.7	59	15.8	45	5.6	16	285
My agency/organization has a clear process for measuring the effectiveness of its conservation actions.	10.3	29	35.9	101	27.8	78	20.3	57	5.7	16	281
My agency/organization has a set of metrics that can be used to measure the effectiveness of its conservation actions.	12.3	35	27.8	79	24.6	70	26.1	74	9.2	26	284
My agency/organization is willing to take advantage of unexpected and/or emerging opportunities to further our conservation agenda.	40.1	114	35.2	100	14.8	42	3.2	9	6.7	19	284

Section II: Habitats for Fish and Wildlife in Indiana

Directions:

When selecting SWAP planning regions, keep in mind that you will be asked to respond to 12 questions for each planning region you select. Specifically, you will be asked to describe the status of various habitat types as they relate to fish and wildlife in Indiana, identify threats to these habitat types, and assess and prioritize a range of conservation actions for these habitat types. Please only select planning regions where you feel you are knowledgeable to provide such information.

9. For which of the following SWAP planning regions do you consider yourself knowledgeable to provide information on the status of, threats to, and relevant conservation actions for fish and wildlife habitats? (Check all that apply)

		N
Great Lakes (Region 1)	30.1	87
Kankakee (Region 2)	21.8	63
Corn Belt (Region 3)	43.9	127
Valleys and Hills (Region 4)	21.1	61
Interior Plateau (Region 5)	27.7	80
Drift Plains (Region 6)	18.7	54
None of these	7.3	21

Definition of habitat types used in this section:
- **Aquatic systems:** All water habitats, both flowing and stationary, excluding wetlands.
- **Agricultural lands:** Lands devoted to commodity production, including intensively managed nonnative grasses, row crops, fruit and nut-bearing trees.
- **Barren lands:** Lands dominated by exposed rock or minerals with sparse vegetation, including glades.
- **Developed lands**: Highly impacted lands, intensively modified to support human habitation, transportation, commerce, and recreation.
- **Forests**: A plant community extending over a large area and dominated by trees, the crowns of which form an unbroken covering layer or canopy.
- **Grasslands:** Open area dominated by grass species, for example, prairies or reclaimed minelands.
- **Subterranean systems:** Surface openings of subterranean features reaching as far as natural light can penetrate (i.e., twilight zone) and connected underground rooms and passages beyond natural light penetration, including karsts.
- **Wetlands:** Area temporarily or permanently flooded, supporting woody and/or herbaceous vegetation.

10. Within REGION, for which of the following habitat types are you able to provide information on threats to fish and wildlife habitats? (Check all that apply)

	Great Lakes (Region 1)		Kankakee (Region 2)		Corn Belt (Region 3)		Valleys and Hills (Region 4)		Interior Plateau (Region 5)		Drift Plains (Region 6)	
		N		N		N		N		N		N
Aquatic	65.1	56	50.0	31	54.4	68	42.4	25	41.3	33	34.6	18

systems												
Agricultural lands	27.9	8	54.8	5	48.0	14	40.7	24	36.3	16	42.3	8
Barren lands	9.3	8	8.1	5	11.2	14	13.6	8	20.0	16	15.4	8
Developed Lands	20.9	18	32.3	20	24.8	31	15.3	9	16.3	13	11.5	6
Forests	44.2	38	51.6	32	58.4	73	62.7	37	78.8	63	75.0	39
Grasslands	33.7	29	62.9	39	36.8	46	40.7	24	26.3	21	40.4	21
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.8	15	9.6	5
Wetlands	57.0	49	69.4	43	44.0	55	57.6	34	37.5	30	48.1	25

Section III: Threats to Fish and Wildlife Habitats

11. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in the REGION? (Check only one)

All Regions	Very poor		Poor		Satisfactory		Good		Very good		I don't know		Total Responses
		N		N		N		N		N		N	
Total	7.7	61	36.1	288	34.8	277	16.6	132	3.8	30	1.1	9	797

12. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the REGION since 2005? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

All Regions	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Total	14.5	116	41.3	331	40.2	322	4.0	32	801

Quality of fish and wildlife habitats within HABITAT since 2005

All Regions	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Total	13.3	106	43.7	348	38.5	307	4.5	36	797

13. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the REGION <u>over the next 10 years</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

All Regions	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Total	14.4	115	35.6	285	47.2	378	2.9	23	801

Quality of fish and wildlife habitats within HABITAT over the next 10 years

All Regions	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Total	13.4	107	35.1	281	47.9	383	3.6	29	800

14. **Currently**, to what extent do you think the following general categories of threats apply to fish and wildlife habitats within **HABITAT** in the REGION? (Check one for each line item)

		Significant Threat		Moderate Threat		Minor Threat		Not a threat		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
Entire State	Residential and commercial development	43.0	334	38.8	301	15.0	114	2.7	21	0.8	6	1.77	776
	Agriculture and aquaculture	49.5	384	31.7	246	35.7	277	3.4	26	2.3	18	1.69	775
	Energy production and mining	11.9	92	24.3	187	35.9	310	19.2	148	8.7	67	2.68	771
	Transportation and service corridors	16.3	126	32.5	251	40.1	331	7.2	56	3.9	30	2.40	773
	Biological resource use	8.4	65	19.6	151	43	195	22.6	174	6.4	49	2.85	770
	Human intrusion and disturbance	29.6	228	36.1	278	25.3	171	5.1	39	3.9	30	2.06	770
	Natural systems modifications	32.4	250	36.7	283	22.2	110	5.2	40	3.6	28	1.66	772
	Invasives and other problematic species and genes	51.9	403	30.3	235	14.2	205	1.9	15	1.7	13	2.00	776
	Pollution	27.3	210	38.2	294	26.6	202	3.8	29	4.2	32	2.07	770
	Climate change and severe weather	20.8	161	29.1	225	26.1	226	15.4	119	8.7	67	2.39	774

	13.1	94	27.2	195	31.5	226	7.0	50	21.2	152	2.41	717
Other stressors												

15. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the REGION. Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the REGION and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total	How will the significance of this threat change over the next 10 years?								Total
	Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't know				Increase		Remain the Same		Decrease		I Don't know		
	%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Residential and Commercial Development																					
Housing and urban areas	46.0	284	43.2	267	9.7	60	0.6	4	0.5	3	1.82	618	74.7	416	22.3	124	0.4	2	2.7	15	557
Commercial and industrial areas	36.0	217	45.6	275	15.9	96	1.2	7	1.3	8	1.65	603	62.6	340	31.1	169	1.1	6	5.2	28	543
Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	46.0	284	43.2	267	9.7	60	0.6	4	0.5	3	1.82	618	74.7	416	22.3	124	0.4	2	2.7	15	557
Agriculture and Aquaculture																					
Annual and perennial nontimber crops	44.9	276	30.4	187	16.4	101	5.5	34	2.8	17	1.82	615	52.6	299	39.1	222	1.6	9	6.7	38	568

			Wood and pulp plantations	Livestock farming and ranching	Aquaculture	Conversion of habitat to annual crops	Energy Production and Mining — Oil and gas drilling
To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?	Significant Threat	%	3.6	19.3	2.4	54.7	21.6
		N	22	119	14	335	59
	Moderate Threat	%	13.1	40.3	8.8	29.7	30.4
		N	80	248	52	182	83
	Minor Threat	%	34.8	28.5	25.1	10.9	29.7
		N	212	175	148	67	81
	Not a Threat	%	32.7	7	33.9	2.3	10.3
		N	199	43	200	14	28
	I Don't know	%	15.8	4.9	29.8	2.3	8.1
		N	96	30	176	14	22
	Mean		3.29	1.60	2.24	3.15	2.07
	Total		609	615	590	612	273
How will the significance of this threat change over the next 10 years?	Increase	%	10.9	34	9.4	69.1	53.1
		N	61	193	50	392	135
	Remain the Same	%	62.5	51.3	51.7	24.5	35.4
		N	350	291	275	139	90
	Decrease	%	2.7	4.4	0.8	1.8	0
		N	15	25	4	10	0
	I Don't know	%	23.9	10.2	38.2	4.6	11.4
		N	134	58	203	26	29
	Total		560	567	532	567	254

			Mining and quarrying	Renewable energy production	Fossil fuel energy production	Shale gas development (e.g., fracking)	Transportation and Service Corridors: Roads and railroads
To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?	Significant Threat	%	23.9	9.7	29.4	30.1	35.9
		N	64	26	80	82	133
	Moderate Threat	%	36.6	34.9	34.9	24.3	46.8
		N	98	94	95	66	173
	Minor Threat	%	25	30.9	20.2	19.1	14.9
		N	67	83	55	52	55
	Not a Threat	%	8.6	15.6	7.7	9.9	1.4
		N	23	42	21	27	5
	I Don't know	%	6	8.9	7.7	16.5	1.1
		N	16	24	21	45	4
	Mean		2.19	2.31	2.58	2.11	3.17
	Total		268	269	272	272	370
How will the significance of this threat change over the next 10 years?	Increase	%	46.4	49.8	44.3	53.8	65.4
		N	117	122	112	136	225
	Remain the Same	%	41.7	34.7	41.5	25.3	31.7
		N	105	85	105	64	109
	Decrease	%	2	1.2	2.8	0	0.3
		N	5	3	7	0	1
	I Don't know	%	9.9	14.3	11.5	20.9	2.6
		N	25	35	29	53	9
	Total		252	245	253	253	344

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total	How will the significance of this threat change over the next 10 years?								Total
	Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't know				Increase		Remain the Same		Decrease		I Don't know		
	%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Utility and service lines	8.9	33	50.4	186	32.5	120	6.2	23	1.9	7	1.81	369	44.2	152	51.7	178	0.3	1	3.8	13	344
Flight paths	3.8	14	13.2	49	33.8	125	35.7	132	13.5	50	3.29	370	16.4	55	63	211	0.3	1	20.3	68	335
Shipping lanes	6.6	24	11.9	43	15.7	57	49.4	179	16.3	59	2.37	362	13.4	44	58.7	193	1.2	4	26.7	88	329
Biological Resource Use																					
Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)	26.8	56	37.8	79	17.7	37	11	23	6.7	14	2.14	209	45.1	87	43.5	84	0	0	11.4	22	193
Human Intrusion and Disturbance																					
Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	17.8	88	47.5	234	29.6	146	4.1	20	1	5	2.20	493	59.4	176	37.4	176	0.2	1	3	14	471

			Dams and water management and use	Fire and fire suppression	Log jam removal	Over-mowing of natural areas	Conversion of natural habitats to other land uses
Natural Systems Modification							
To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?	Significant Threat	%	18.9	13.1	10.8	17.9	64.7
		N	98	67	56	91	334
	Moderate Threat	%	36	25	23.8	33.9	28.3
		N	187	128	123	172	146
	Minor Threat	%	27.6	27.3	28.6	28.4	6
		N	143	140	148	144	31
	Not a Threat	%	10.8	27.3	24.8	11.8	0.6
		N	56	140	128	60	3
	I Don't know	%	6.7	7.4	12	7.9	0.4
		N	35	38	62	40	2
	Mean		2.32	2.74	2.76	2.37	1.42
	Total		519	513	517	507	516
How will the significance of this threat change over the next 10 years?	Increase	%	38.6	19.1	22.9	30	75
		N	184	91	108	143	363
	Remain the Same	%	49.9	68.3	58.6	54.5	23.1
		N	238	326	276	260	112
	Decrease	%	0.6	1	1.5	1.5	0.6
		N	3	5	7	7	3
	I Don't know	%	10.9	11.5	17	17	1.2
		N	52	55	80	80	6
	Total		477	477	471	471	484

Invasives and Other Problematic Species

Question	Response		Invasive and alien species	Problematic native species (e.g. overabundant native deer or algae)	Plant diseases	Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)	Pollution	Runoff from roads and service corridors
To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?	Significant Threat	%	69.5	27.8	17.6	16.4		32.5
		N	422	171	109	101		160
	Moderate Threat	%	27.8	38.8	31.4	26.8		47.2
		N	169	239	194	165		232
	Minor Threat	%	1.6	23.7	22.8	26.5		18.1
		N	10	146	141	163		89
	Not a Threat	%	0	7.6	8.4	8.3		1
		N	0	47	52	51		5
	I Don't know	%	1	2.1	19.7	22		1.2
		N	6	13	122	135		6
	Mean		1.31	2.11	2.27	2.34		1.73
	Total		607	616	618	615		492
How will the significance of this threat change over the next 10 years?	Increase	%	88.7	49.7	42.7	42		59.3
		N	504	286	247	242		275
	Remain the Same	%	9	43.4	31.1	33.3		37.1
		N	51	250	180	192		172
	Decrease	%	0.9	1.2	0.2	0.3		0.2
		N	5	7	1	2		1
	I Don't know	%	1.4	5.7	26.1	24.3		3.4
		N	8	33	151	140		16
	Total		568	576	579	576		464

Garbage and solid waste	Agriculture, residential, and forestry effluents	Household sewage and urban water waste	Air pollution (e.g., smoke, mercury emissions)	Point source pollution from commercial/industrial sources	Chemical spills	%/N		
17.9	41.9	28.2	24.2	30.2	20.2	%	**Significant Threat**	**To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?**
87	205	138	118	147	98	N		
35.5	42.1	40.7	34.8	46.4	40	%	**Moderate Threat**	
172	206	199	170	226	194	N		
36.5	13.3	25.4	30.9	21.1	34.6	%	**Minor Threat**	
177	65	124	151	103	168	N		
5.8	1.2	2.7	3.7	0.6	1.4	%	**Not a Threat**	
28	6	13	18	3	7	N		
4.3	1.4	3.1	6.4	1.6	3.7	%	**I Don't know**	
21	7	15	31	8	18	N		
1.92	2.03	2.31	2.38	2.18	2.15			**Mean**
485	489	489	488	487	485			**Total**
43.6	56.2	46.4	35.9	41.7	34.2	%	**Increase**	**How will the significance of this threat change over the next 10 years?**
200	260	214	166	193	156	N		
47.7	35.9	40.8	47.2	50.3	57.9	%	**Remain the Same**	
219	166	188	218	233	264	N		
2	3.7	6.9	8	4.1	0.4	%	**Decrease**	
9	17	32	37	19	2	N		
6.8	4.3	5.9	8.9	3.9	7.5	%	**I Don't know**	
31	20	27	41	18	34	N		
459	463	461	462	463	456			**Total**

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total	How will the significance of this threat change over the next 10 years?								Total
	Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't know				Increase		Remain the Same		Decrease		I Don't know		
	%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Excess energy (e.g., noise/light pollution, warm water discharge, etc.)	17.5	84	33.1	159	33.3	160	10	48	6	29	1.87	480	42.4	190	46.9	210	1.1	5	9.6	43	448
Climate Change and Other Severe Weather																					
Changing frequency, duration, and intensity of drought	47.6	180	41.3	156	9	34	0.8	3	1.3	5	1.62	378	82.2	291	11	39	0	0	6.8	24	354
Changing frequency, duration, and intensity of floods	47.2	178	40.8	154	8.2	31	1.6	6	2.1	8	1.63	377	80.9	284	12.5	44	0	0	6.6	23	351
Shifting and alteration of habitats due to climate change	38.1	144	47.1	178	12.2	46	1.3	5	1.3	5	1.76	378	78.5	277	14.4	51	0	0	7.1	25	353
Temperature extremes	34.8	130	46	172	17.1	64	1.3	5	0.8	3	1.82	374	79	278	15.1	53	0	0	6	21	352

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total	How will the significance of this threat change over the next 10 years?								Total
	Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't know				Increase		Remain the Same		Decrease		I Don't know		
	%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Shifting seasons/phenology	35.1	131	45.3	169	13.9	52	1.9	7	3.8	14	1.85	373	75.5	265	15.7	55	0	0	8.8	31	351
Other Stressors																					
Low genetic diversity (due to reduced population size, species inbreeding, etc.)	33.5	94	34.5	97	19.9	56	5.3	15	6.8	19	1.79	281	57.1	152	32.3	86	0.8	2	9.8	26	266
Diseases	33.9	76	47.3	106	12.1	27	0.9	2	5.8	13	1.97	224	66.7	146	22.4	49	0.5	1	10.5	23	219

16. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the **REGION** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Question 16 responses excluded from this report.

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the REGION.

17. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the REGION over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the **REGION** since 2005 or have plans to do so.

Entire State

	To what extent do you think this category of conservation action is important for fish and wildlife habitats within HABITAT in the REGION over the next 10 years?											Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within HABITAT in the REGION?						
	Significant Threat		Moderate Threat		Minor Threat		Not a threat		I Don't Know		Mean	Total Responses	Yes		No		I Don't Know		Total Responses
	%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	
Land/water Protection	63.9	477	22.0	164	10.4	78	2.7	20	1.1		1.51	747	63.0	374	25.1	149	12.0	71	594
Land/water/ Species Management	66.4	491	23.9	177	7.0	52	0.8	6	1.9	14	1.41	740	75.0	440	15.3	90	9.7	57	587
Education and Awarenes	55.7	427	28.6	219	14.1	108	0.1		1.4	11	1.58	766	78.5	464	13.4	79	8.1	48	591

External Capacity Building	Livelihood, Economic, and Other Incentives	Law and Policy
33.4	31.8	40.0
247	236	297
30.1	41.2	33.8
223	306	251
23.8	16.8	19.1
176	125	142
3.9	4.2	2.2
29	31	16
8.8	5.9	5.0
65	44	37
1.98	1.93	1.83
740	742	743
32.8	29.2	36.1
191	171	211
36.4	43.8	38.4
212	256	224
30.9	27.0	25.5
180	158	149
583	585	584

18. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the **REGION** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the REGION. You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

Entire State		Very Important		Moderately Important		Somewhat Important		Not important		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
Land/Water Protection														

Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	60.6	94	31.6	49	6.5	10	0.6	1	0.6	1	1.47	155
Acquire currently unprotected barren lands	68.2	15	13.6	3	13.6	3	4.5	1	0	0	1.55	22
Acquire currently unprotected forests	59.8	76	24.4	31	13.4	17	2.4	3	0	0	1.58	127
Acquire currently unprotected grasslands	74.4	61	19.5	16	4.9	4	1.2	1	0	0	1.33	82
Acquire currently unprotected wetlands	85.3	87	11.8	12	1	1	1	1	1	1	1.17	102
Acquire currently unprotected subterranean habitats	81.8	9	9.1	1	9.1	1	0	0	0	0	1.27	11
Preserve currently existing corridors	73.4	458	19.6	122	6.1	38	0.5	3	0.5	3	1.33	624
Acquire conservation easements to protect important wildlife habitats	62.9	394	27.8	174	7.7	48	1.6	10	0	0	1.48	626

Reduce conversion to cropland	66.1	413	20.6	129	9.4	59	2.6	16	1.3	8	1.48	625
Build/strengthen CRP partnerships	51.9	325	30.5	191	9.3	58	4.2	26	4.2	26	1.64	626
Land/Water/Species Management												
Control invasive species in agricultural lands	44.8	47	34.3	36	18.1	19	2.9	3	0	0	1.79	105
Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	63.7	100	23.6	37	10.8	17	1.9	3	0	0	1.51	157
Control invasive species in barren lands	75	15	5	1	20	4	0	0	0	0	1.45	20
Control invasive species in developed lands	60	21	31.4	11	8.6	3	0	0	0	0	1.49	35
Control invasive species in forests	75.4	107	17.6	25	6.3	9	0.7	1	0	0	1.32	142

	1	2	3	4	5	6	7	8	9	10	11	12
Control invasive species in grasslands	65.1	56	16.3	14	15.1	13	3.5	3	0	0	1.57	86
Control invasive species in wetlands	69.3	70	20.8	21	3.5	3	0	0	0	0	1.41	101
Control invasive species in subterranean systems	87.5	7	18.1	0	18.1	19	12.5	1	0	0	1.38	8
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	33	35	9.9	39	100	101	2.8	3	0	0	2.00	106
Control problematic native species in aquatic systems	33.1	52	26.8	42	34.4	54	5.1	8	0	1	2.12	157
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	35	7	35	7	30	6	0	0	0	0	1.91	20
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	40	14	34.3	12	20	7	5.7	2	0	0	1.95	35
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	40.8	58	33.1	47	23.2	33	2.1	3	0.7	1	1.87	142

Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	17.4	15	23.3	20	39.5	34	17.4	15	2.3	2	2.58	86
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	24.2	24	35.4	35	29.3	29	8.1	8	3	3	2.22	99
Control problematic native species in subterranean systems	37.5	3	25	2	2.9	3	25	2	12.5	1	2.14	8
Dam removal	16.1	41	28	71	32.7	83	18.1	46	5.1	13	2.56	254
Decrease E. coli counts	30	74	27.5	68	32.4	80	6.5	16	3.6	9	2.16	247
Decrease number of combined sewer overflow events	44.2	114	35.3	91	15.9	41	3.1	8	1.6	4	1.78	258
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	59.5	390	27.2	178	9.6	63	3.4	22	0.3	2	1.57	655
Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	7.1	43	13.4	81	20.2	122	27.2	164	32.1	194	2.99	604

Improve drainage management	42.3	271	29	186	18.9	121	6.2	40	3.6	23	1.89	641
Improve integrated pest management	32.4	34	38.1	40	25.7	27	1.9	2	1.9	2	1.97	105
Increase acres of riparian buffers	55.6	300	33.1	179	9.6	52	1.1	6	0.6	3	1.56	540
Increase acres enrolled in the Classified Forest and Wildlands Program	35.2	230	36	235	20.1	131	5.8	38	2.9	19	1.96	653
Link existing habitat blocks through corridor enhancement in agricultural lands	65.7	69	28.6	30	3.8	4	1	1	1	1	1.39	105
Link existing habitat blocks through corridor enhancement in aquatic systems	48.7	76	34.6	54	11.5	18	0.6	1	4.5	7	1.62	156
Link existing habitat blocks through corridor enhancement in barren lands	60	12	25	5	10	2	0	0	5	1	1.47	20
Link existing habitat blocks through corridor enhancement in developed lands	62.9	22	25.7	9	11.4	4	0	0	0	0	1.49	35

Action												
Link existing habitat blocks through corridor enhancement in forests	55.6	79	30.3	43	13.4	19	0.7	1	0	0	1.59	142
Link existing habitat blocks through corridor enhancement in grasslands	56.8	50	28.4	25	11.4	10	3.4	3	0	0	1.61	88
Link existing habitat blocks through corridor enhancement in wetlands	55	55	32	32	12	12	1	1	0	0	1.59	100
Enhance corridors in subterranean systems	0	0	25	2	0	0	50	4	25	2	3.33	8
Manage biofuel grasslands	12.5	24	26.6	51	36.5	70	11.5	22	13	25	2.54	192
Manage urban woodlots	51.4	18	40	14	2.9	1	5.7	2	0	0	2.64	35
Mine reclamation	21.2	112	17	90	18	95	28.7	152	15.1	80	1.63	529
Promote diversity of forest types and successional stages	59.3	83	24.3	34	12.9	18	3.6	5	0	0	1.61	140

Promote diversity of grassland types and successional stages	59.8	52	29.9	26	8	7	2.3	2	0	0	1.48	87
Promote diversity of wetland types and successional stages	59.4	60	29.7	30	8.9	9	0	0	2	2	1.53	101
Protect and enhance undeveloped shorelines	49.4	124	28.7	72	15.1	38	4.4	11	2.4	6	1.74	251
Protect natural water regimes (e.g., withdraws, warm-water discharge)	47.8	87	36.3	66	13.2	24	2.2	4	0.5	1	1.70	182
Protect adjacent buffer zones	59.1	143	32.2	78	8.3	20	0.4	1	0	0	1.50	242
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	76.3	498	17.2	112	5.5	36	0.6	4	0.5	3	1.30	653
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	53.8	351	27.8	181	15	98	2.5	16	0.9	6	1.66	652
Reduce recreational overuse of aquatic systems	18.7	29	12.5	48	26.6	51	20	31	0.6	1	2.51	155

Reduce recreational overuse of forests	15.2	21	29	40	39.1	54	14.5	20	2.2	3	2.54	138
Reduce recreational overuse of grasslands	19.5	17	24.1	21	31	27	21.8	19	3.4	3	2.57	87
Reduce recreational overuse of wetlands	21	21	26	26	36	36	15	15	2	2	2.46	100
Reduce recreational overuse of subterranean systems	12.5	1	62.5	5	25	2	0	0	0	0	2.13	8
Reduce stream bank erosion	56.4	88	35.3	55	7.1	11	0.6	1	0.6	1	1.52	156
Reduce stream head cutting	36.4	47	36.4	47	14.7	19	2.3	3	10.1	13	1.81	129
Reestablish natural disturbance regimes in barren lands	78.9	15	15.8	3	5.3	1	0	0	0	0	1.26	19
Reestablish natural disturbance regimes in forests	47.5	67	34.8	49	13.5	19	2.1	3	2.1	3	1.70	141

Reestablish natural disturbance regimes in grasslands	68.2	60	26.1	23	3.4	3	1.1	1	1.1	1	1.37	88
Reestablish natural disturbance regimes in wetlands	45.1	41	35.2	32	15.4	14	0	0	4.4	4	1.69	91
Reestablish natural disturbance regimes in subterranean systems	0	0	28.6	2	28.6	2	0	0	42.9	3	2.50	7
Remove log jams	9	14	17.4	27	31	48	29	45	4.5	7	2.93	155
Restore and integrate diversity of habitats into crop-production dominated landscapes	66	70	27.4	29	5.7	6	0	0	0.9	1	1.39	106
Restore and integrate diversity of habitats into developed landscapes	65.7	23	22.9	8	8.6	3	2.9	1	0	0	1.49	35
Restore habitats and natural systems in aquatic systems	59	92	30.8	48	9	14	1.3	2	0	0	1.53	156
Restore habitats and natural systems in barren lands	70	14	25	5	5	1	0	0	0	0	1.35	20

Restore habitats and natural systems in forests	58.5	83	31.7	45	9.2	13	0.7	1	0	0	1.52	142
Restore habitats and natural systems in grasslands	79.5	70	18.2	16	2.3	2	0	0	0	0	1.23	88
Restore habitats and natural systems in wetlands	77	77	20	20	2	2	0	0	1	1	1.24	100
Restore habitats and natural systems in subterranean systems	50	4	25	2	25	2	0	0	0	0	1.75	8
Species reintroduction. Please specify:	24.9	55	14	31	15.4	34	12.7	28	33	73	2.24	221
Education and Awareness												
Educational programs in general	58.3	368	33.9	214	7.4	47	0.2	1	0.2	1	1.49	631
Educational programs specifically for K-12	52.5	332	33.9	214	12.7	80	0.6	4	0.3	2	1.61	632

Improvement of signage and other communication materials in conservation areas	25.4	160	38.1	240	33.5	211	2.5	16	0.5	3	2.13	630
Training programs for stakeholders	42.9	268	41	256	12.8	80	2.1	13	1.3	8	1.74	625
Law and Policy												
Increase regulations on invasive species	50.5	270	31.6	169	15.1	81	2.2	12	0.6	3	1.69	535
Change current laws, policies, and regulations. Please specify:	29.2	140	23.6	113	15	72	3.1	15	29	139	1.89	479
Set private sector standards and codes	25.8	137	34.2	181	23.2	123	3.8	20	13	69	1.62	530
Improve compliance with and enforcement of current policies	48.7	260	37.6	201	10.3	55	0.6	3	2.8	15	1.67	534
Reduce urban sprawl through planning and zoning	51.3	274	30.1	161	14.4	77	2.4	13	1.7	9	2.06	534

Establish legal lake levels	22	27	22	27	33.3	41	9.8	12	13	16	2.36	123
Establish rules and guidelines for piers and other structures	21.1	26	27.6	34	31.7	39	9.8	12	9.8	12	2.33	123
Increase compliance of existing rules and regulations for aquatic systems	52.4	65	25.8	32	17.7	22	0.8	1	3.2	4	1.66	124
Establish submergent vegetation control guidelines	31.5	39	37.9	47	18.5	23	3.2	4	8.9	11	1.93	124

Livelihood, Economic, and Other Incentives

Link natural resources to livelihoods through nature tourism	15.6	129	26.1	216	19.2	159	2.4	20	1	8	2.13	532
Support substitution of alternatives for environmentally harmful products and processes	19.8	164	25.8	213	14.5	120	0.8	7	3	25	1.94	529
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	13.7	113	22.2	184	17.8	147	3.1	26	7	58	2.18	528

Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	27.3	226	26.2	217	7.9	65	1.3	11	1.2	10	1.73	529
Promote nonmonetary values of natural systems within the state	29.3	242	22.5	186	10.2	84	0.8	7	0.7	6	1.72	525
Manage recreational opportunities to be compatible with fish and wildlife habitats	31.6	261	20.4	169	9.9	82	1.5	12	0.4	3	1.70	527
External Capacity Building												
Develop institutions and civil society	21.1	96	30.5	139	24.1	110	4.4	20	20	91	2.15	456
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	62.4	287	30.4	140	6.3	29	0	0	0.9	4	1.43	460
Strengthen conservation financing	66.8	306	22.9	105	8.7	40	0.2	1	1.3	6	1.42	458
Increase state's capacity for research and monitoring of conservation actions	50.4	230	38.2	174	11	50	0.2	1	0.2	1	1.61	456

Promote green infrastructure	42.7	197	35.4	163	16.3	75	2.8	13	2.8	13	1.79	461
Promote use of research and science in conservation decision-making processes	65.1	299	27.5	126	6.8	31	0	0	0.7	3	1.43	459

Directions:

To inform the process of prioritizing conservation actions in the **REGION** for the next 10 years, the SWAP team is working to construct landscape-level models of habitat suitability for a set of indicator species. Once the models are constructed, they will be applied to alternative future landscape scenarios which represent the potential outcomes of different combinations of conservation actions listed previously. These landscape-level models will be constructed in a GIS environment, thus only conservation actions that directly result in changing habitat type classifications of some portion of the regional landscape can be simulated. Please note that the landscape-level models will not be the sole determinant of the prioritization of conservation actions in a given region, and the actual prioritization of conservation actions for the overall SWAP process will encompass other considerations beyond the landscape-level models.

19. As part of the landscape-level model construction process, we need your inputs to help us develop potential future landscape scenarios for **HABITAT** in the REGION as fish and wildlife habitats. Please rank the conservation actions listed below using the following framework: If the conservation community in the REGION collectively has a total of 100 units of effort (i.e., a combination of funds, expertise, and man-hours/labor) to invest in conservation actions for **HABITAT** over the next 10 years, how would you recommend the conservation community invest those units in conservation actions for **HABITAT** across the **entire** REGION? (Note: Units of effort must sum to 100.)

Action	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Total	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N

Aquatic systems-Other landscape-altering conservation action, please specify:	2.52	48	0.22	23	1.34	56	5.12	17	1.73	26	2.27	11	1.98	181
Aquatic systems-Protect (through fee title or easement acquisition) currently unprotected aquatic systems	15.25	48	12.70	23	11.13	55	17.35	17	12.88	26	14.09	11	13.45	180
Aquatic systems-Control invasive species (e.g., Asian carp, zebra mussels, invasive aquatic plants)	21.04	49	9.61	23	14.11	56	10.88	17	13.19	26	10.45	11	14.75	182
Aquatic systems-Improve drainage management (e.g., two-stage ditches)	11.76	49	12.17	23	11.61	56	10.00	17	8.46	26	10.45	11	11.05	182
Aquatic systems-Improve water quality	12.35	49	7.22	23	15.13	56	12.06	17	11.69	26	12.27	11	12.43	182
Aquatic systems-Reduce urban sprawl	8.74	49	6.26	23	6.55	56	5.59	17	7.35	26	7.45	11	7.18	182
Aquatic systems-Restore aquatic systems	12.05	49	11.22	23	10.89	56	9.59	17	9.77	26	7.55	11	10.76	182
Aquatic systems-Restore riparian zones	10.04	48	8.48	23	11.48	56	12.94	17	13.00	26	12.27	11	11.12	181

Aquatic systems-Restrict recreational overuse	4.56	49	4.04	23	3.88	56	2.35	17	2.16	25	2.73	11	3.63	181
Aquatic systems-Protect adjacent buffer zones	9.81	49	8.30	23	10.34	56	8.24	17	8.69	26	11.36	11	9.57	182
Agricultural lands-Other landscape-altering conservation action, please specify:	0.63	16	2.05	22	0.77	47	0.00	14	0.26	19	1.25	12	0.85	130
Agricultural lands-Control invasive plant and animal species (e.g., bush honeysuckle, wild pigs)	15.00	16	6.27	22	9.28	47	6.40	15	12.79	19	5.83	12	9.34	131
Agricultural lands-Convert marginal cropland to other vegetative cover that benefits wildlife through CRP partnerships	16.88	16	12.59	22	13.57	47	13.13	15	16.16	19	12.50	12	14.04	131
Agricultural lands-Modify drainage management (e.g., two-stage ditches)	8.31	16	5.77	22	7.15	47	6.53	15	4.84	19	2.17	12	6.20	131
Agricultural lands-Improve soil health (e.g., cover crops, conservation tillage)	8.00	16	4.00	22	9.70	47	8.20	15	4.53	19	5.25	12	7.21	131
Agricultural lands-Manage nuisance wildlife populations (e.g., deer, raccoons, Canada geese)	3.13	16	2.36	22	5.41	46	3.47	15	6.47	19	3.08	12	4.33	130

Action	Value	n	Value	n	Value	n	Value	n	Value	n	Value	n	Value	n
Agricultural lands-Preserve/create corridors between wildlife habitat within agricultural matrix	13.13	16	10.55	22	10.57	47	7.67	15	8.32	19	4.42	12	9.66	131
Agricultural lands-Reduce conversion of wildlife habitat to cropland	10.63	16	9.82	22	13.54	46	18.47	15	9.89	19	7.92	12	12.07	130
Agricultural lands-Reduce urban sprawl	6.56	16	4.68	22	6.53	47	4.73	15	9.21	19	5.08	12	6.27	131
Agricultural lands-Restore wildlife habitat within agricultural matrix	9.06	16	8.59	22	8.47	47	9.20	15	6.26	19	4.42	12	7.95	131
Agricultural lands-Enhance pasture and hayland for wildlife	1.38	16	3.91	22	2.89	47	4.80	15	2.68	19	2.50	12	3.03	131
Agricultural lands-Reduce mowing of hay and pasture during nesting season	2.31	16	5.14	22	4.00	47	4.07	15	2.79	19	3.92	12	3.81	131
Barren lands-Other landscape-altering conservation action, please specify:	0.83	6	0.00	2	0.00	6	0.00	4	0.00	12	6.25	4	0.88	34
Barren lands-Protect (through fee title or easement acquisition) currently unprotected barren lands	12.50	6	0.00	2	14.17	6	25.00	4	25.08	12	1.25	4	16.65	34

Barren lands-Control invasive species (e.g., Amur honeysuckle, wild pigs)	16.67	6	0.00	2	16.67	6	5.00	4	20.00	12	1.25	4	13.68	34
Barren lands-Manage nuisance wildlife populations (e.g., deer, raccoons)	3.33	6	0.00	2	5.83	6	2.50	4	8.33	12	1.25	4	5.00	34
Barren lands-Preserve/create corridors between habitat	5.00	6	0.00	2	17.50	6	3.75	4	11.42	12	3.75	4	8.88	34
Barren lands-Reduce urban sprawl	2.50	6	0.00	2	14.17	6	0.00	4	9.17	12	3.75	4	6.62	34
Barren lands-Reestablish fire regimes in barrens and glades	6.67	6	0.00	2	4.17	6	12.50	4	10.42	12	3.75	4	7.50	34
Barren lands-Restore barren lands	19.17	6	0.00	2	10.83	6	1.25	4	7.25	12	3.75	4	8.44	34
Forests-Other landscape-altering conservation action, please specify:	0.40	25	0.00	16	0.14	51	0.00	23	0.33	46	0.96	26	0.30	187
Forests-Protect (through fee title or easement acquisition) currently unprotected forests	12.60	25	15.63	16	9.94	51	12.26	23	12.30	46	8.19	26	11.41	187

Forests-Control forest pests (e.g., gypsy moth, emerald ash borer)	7.10	25	4.38	16	8.86	49	4.43	23	7.63	46	6.19	26	7.00	185
Forests-Control invasive species (e.g., Amur honeysuckle, garlic mustard, wild pigs)	19.10	25	13.75	16	17.55	51	9.17	23	14.02	46	12.35	26	14.81	187
Forests-Diversify forest types (e.g., create forest openings)	5.82	25	4.06	16	4.24	51	10.37	23	12.39	46	10.12	26	8.01	187
Forests-Increase acres enrolled in the Classified Forest Program	6.20	25	5.63	16	7.04	51	6.17	23	5.65	46	6.27	26	6.25	187
Forests-Manage nuisance species (e.g., white-tailed deer, raccoons)	2.80	25	2.81	16	5.45	51	5.83	23	4.15	46	3.85	26	4.37	187
Forests-Preserve/create corridors between forest habitats	6.98	25	7.81	16	8.24	51	8.41	23	7.71	45	8.88	26	8.02	186
Forests-Prevent conversion of forests to cropland	10.18	25	6.75	16	12.02	51	8.48	23	6.11	46	8.92	26	9.00	187
Forests-Reduce urban sprawl	5.74	25	3.13	16	6.61	51	4.70	23	5.61	46	4.23	26	5.38	187

Forests-Reestablish fire regimes	4.90	25	6.44	16	4.02	51	4.35	23	5.38	45	5.88	26	4.98	186
Forests-Restore forests	8.10	25	3.75	16	5.25	51	6.24	23	4.78	46	6.00	26	5.61	187
Forests-Restrict recreational overuse	2.08	25	0.88	16	1.88	51	2.20	23	1.39	46	2.77	26	1.86	187
Grasslands-Other landscape-altering conservation action, please specify:	0.00	18	1.04	24	2.07	27	2.89	18	3.67	12	2.50	12	1.86	111
Grasslands-Protect (through fee title or easement acquisition) currently unprotected grasslands	17.22	18	17.50	24	15.19	27	20.00	18	12.25	12	9.58	12	15.87	111
Grasslands-Control invasive species (e.g., wild pigs, invasive plants)	15.00	18	11.00	24	12.19	27	6.17	18	16.50	12	10.83	12	11.73	111
Grasslands-Implement fire regimes	13.61	18	10.83	24	7.59	27	11.89	18	8.58	12	12.50	12	10.60	111
Grasslands-Preserve/create corridors between grassland habitats	8.06	18	10.83	24	11.48	27	12.33	18	5.58	12	10.42	12	10.17	111

Grasslands-Prevent conversion of grasslands to cropland	13.89	18	11.88	24	16.48	27	9.67	18	9.83	12	14.17	12	12.99	111
Grasslands-Reduce urban sprawl	6.39	18	4.79	24	7.78	27	3.28	18	6.25	12	6.25	12	5.85	111
Grasslands-Restore grasslands	11.67	18	12.50	24	10.19	27	15.56	18	9.33	12	15.00	12	12.23	111
Grasslands-Reduce mowing of hay and pasture during nesting season	3.06	18	7.13	24	5.93	27	7.11	18	3.00	12	10.42	12	6.08	111
Wetlands-Other landscape-altering conservation action, please specify:	0.16	32	1.00	25	0.00	30	0.41	22	0.00	19	0.00	13	0.28	141
Wetlands-Protect (through fee title or easement acquisition) currently unprotected wetlands	13.26	31	14.20	25	11.23	30	18.41	22	13.58	19	16.54	13	14.15	140
Wetlands-Control invasive species (e.g., purple loosestrife)	12.91	32	10.48	25	8.50	30	5.00	22	5.26	19	4.65	13	8.51	141
Wetlands-Create new wetlands	4.63	32	6.00	25	4.90	30	7.25	20	7.26	19	7.88	13	5.97	139

Wetlands-Reduce negative impacts of drainage management (e.g., pattern tiling)	6.69	32	3.80	25	5.57	30	3.50	22	2.58	19	2.69	13	4.52	141
Wetlands-Improve the quality of water that drains into a wetland (through improving agricultural practices, forestry practices, etc.)	7.69	32	7.00	25	8.17	30	6.64	22	6.58	19	7.46	13	7.33	141
Wetlands-Manage nuisance wildlife populations (e.g., deer, raccoons, Canada geese)	2.41	32	1.44	25	1.97	30	0.86	22	1.58	19	1.31	13	1.69	141
Wetlands-Reduce conversion to other land uses	5.56	32	7.00	25	8.50	30	7.27	22	4.84	19	6.69	13	6.72	141
Wetlands-Reduce urban sprawl	3.59	32	3.20	25	4.33	30	3.05	22	1.95	19	2.23	13	3.25	141
Wetlands-Restore wetlands	10.50	32	10.28	25	8.17	30	8.86	22	7.63	19	9.31	13	9.21	141
Wetlands-Enhance wetland connectivity by linking riparian/upland habitat	3.75	32	6.60	25	7.13	30	7.55	22	6.05	19	6.62	13	6.14	141
Wetlands-Create adequate vegetative buffers around wetlands	4.84	32	6.20	25	5.67	30	7.18	22	3.63	19	5.15	13	5.49	141

Wetlands-Actively manage wetlands for habitat quality (e.g., water levels, vegetation management)	5.69	32	6.80	25	9.20	30	6.50	22	2.21	19	6.00	13	6.32	141
Subterranean systems- Improve water quality									32.27	11	3.33	3	26.07	14
Subterranean systems- Protect (through fee title or easement acquisition) currently unprotected cave systems									25.91	11	13.33	3	23.21	14
Subterranean systems- Restore degraded cave habitat									13.18	11	13.33	3	13.21	14
Subterranean systems- Restrict recreational overuse									7.73	11	1.67	3	6.43	14
Subterranean systems- Manage nuisance wildlife populations (e.g., deer, raccoons)									2.73	11	1.67	3	2.50	14
Subterranean systems- Other landscape-altering conservation action, please specify:									0.00	11	0.00	3	0.00	14

20. For any of the above options, please provide details wherever possible (i.e., specify priority locations for restoration or implementation of actions, amount of land suggested for restoration or protection, targeted species for control, or specific methods), especially for actions you highly recommend for **HABITAT** in the **REGION**. These details will be used in conjunction with expert input to realistically map the landscape-level outcomes of conservation actions that will be fed into the models

Question 20 responses are excluded from this report.

21. You identified the following conservation actions as very important for fish and wildlife habitats in the **REGION**. If the conservation community in the REGION collectively has a total of 100 units of effort (i.e., a combination of funds, expertise, and man-hours/labor) to invest in these conservation actions over the next 10 years, how would you recommend the conservation community to invest the 100 units of effort across the following conservation actions for the **entire** REGION? (Note: Units of effort must sum to 100).

	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Statewide	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Acquire conservation easements to protect important wildlife habitats	4.00	53	4.81	32	2.80	80	4.15	33	3.39	49	3.78	27	3.63	274
Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	2.25	53	1.56	32	1.00	80	1.39	33	0.67	49	2.04	27	1.40	274
Acquire currently unprotected barren lands	0.08	53	0.00	32	0.15	80	0.00	33	1.33	49	0.00	27	0.30	274
Acquire currently unprotected forests	0.00	53	1.97	32	1.84	80	1.21	33	4.31	49	0.96	27	1.78	274

Acquire currently unprotected grasslands	0.00	53	2.81	32	1.35	80	5.15	33	1.20	49	1.96	27	1.75	274
Acquire currently unprotected subterranean habitats	0.00	53	0.00	32	0.00	80	0.00	33	1.53	49	1.11	27	0.38	274
Acquire currently unprotected wetlands	3.25	53	4.81	32	1.23	80	5.91	33	3.33	49	4.67	27	3.31	274
American chestnut in forest	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274
Assist private landowners financially and with management plans in agricultural lands	0.09	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.02	274
Broad public education - "smoky bear" levels so that awareness is raised on a societal level, not just among those already "linked-in" in agr	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274
Build/strengthen CRP partnerships	1.21	53	0.59	32	2.41	80	1.15	33	2.69	49	2.19	27	1.84	274
Change current laws, policies, and regulations	0.75	53	0.50	32	0.38	80	0.27	33	1.33	49	0.07	27	0.59	274

Control invasive species in wetlands	Control invasive species in subterranean systems	Control invasive species in grasslands	Control invasive species in forests	Control invasive species in developed lands	Control invasive species in barren lands	Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	Control invasive species in agricultural lands
1.87	0.00	0.00	0.00	0.00	0.08	6.42	0.00
53	53	53	53	53	53	53	53
3.50	0.00	2.06	3.06	0.00	0.00	1.50	0.31
32	32	32	32	32	32	32	32
0.16	0.00	0.45	3.20	0.18	0.13	2.34	0.33
80	80	80	80	80	80	80	80
0.91	0.00	0.88	2.00	0.00	0.00	1.09	0.24
33	33	33	33	33	33	33	33
1.22	0.51	0.65	5.20	0.00	0.31	1.53	0.61
49	49	49	49	49	49	49	49
0.41	0.37	0.19	5.63	0.00	0.00	0.56	0.00
27	27	27	27	27	27	27	27
1.19	0.13	0.61	3.02	0.05	0.11	2.56	0.27
274	274	274	274	274	274	274	274

Management action													
Control problematic native species in aquatic systems	2.17	53	0.13	32	0.50	80	0.03	33	0.00	49	0.15	27	0.60	274
Control problematic native species in subterranean systems	0.00	53	0.00	32	0.00	80	0.00	33	0.31	49	0.00	27	0.05	274
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	0.47	53	0.63	32	1.15	80	1.94	33	1.86	49	1.59	27	1.22	274
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	0.00	53	0.31	32	0.06	80	0.03	33	0.00	49	0.11	27	0.07	274
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	0.00	53	0.00	32	0.11	80	0.09	33	1.10	49	1.30	27	0.37	274
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	0.19	53	0.00	32	0.01	80	0.09	33	0.00	49	0.00	27	0.05	274
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	0.00	53	0.00	32	0.03	80	0.00	33	0.31	49	0.00	27	0.06	274
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	0.00	53	0.31	32	0.26	80	0.45	33	0.00	49	0.11	27	0.18	274

Strategy													
Dam removal	0.79	53	0.03	32	0.69	80	0.30	33	0.27	49	0.00	27	0.44	274
Decrease E. coli counts	1.11	53	0.19	32	0.48	80	0.15	33	0.45	49	0.26	27	0.50	274
Decrease number of combined sewer overflow events	2.15	53	0.38	32	1.26	80	0.45	33	0.45	49	0.96	27	1.06	274
Develop a backyard habitat effort and monitor its effectiveness in developed lands	0.00	53	0.00	32	0.05	80	0.00	33	0.00	49	0.00	27	0.01	274
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	1.74	53	1.09	32	2.15	80	1.73	33	2.00	49	2.04	27	1.86	274
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	4.64	53	3.22	32	4.96	80	5.62	33	3.04	49	5.67	27	4.50	274
Develop institutions and civil society	0.19	53	0.00	32	0.15	80	0.15	33	0.00	49	0.19	27	0.12	274
Develop markets for producing crops compatible with sustainable grassland management (e.g. prairie hay or Bison ranching) in grasslands	0.00	53	0.00	32	0.03	80	0.00	33	0.00	49	0.00	27	0.01	274

Action														
Educate private landowners in grasslands	0.19	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.04	274
Educational programs in general	4.28	53	4.16	32	4.09	80	3.06	33	1.96	49	3.33	27	3.55	274
Educational programs specifically for K-12	2.60	53	0.31	32	2.38	80	2.42	33	1.08	49	1.00	27	1.82	274
Enhance corridors in subterranean systems	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274
Ensure that grassland managers are given and allowed the use of all the proper tools to manage grasslands in grasslands	0.00	53	0.00	32	0.13	80	0.00	33	0.00	49	0.00	27	0.04	274
Establish legal lake levels	0.19	53	0.16	32	0.08	80	0.00	33	0.04	49	0.00	27	0.08	274
Establish rules and guidelines for piers and other structures	0.00	53	0.31	32	0.08	80	0.00	33	0.20	49	0.00	27	0.09	274
Establish submergent vegetation control guidelines	0.75	53	0.31	32	0.35	80	0.00	33	0.02	49	0.04	27	0.29	274

Ex situ conservation (protection of a species outside of its natural habitat)	0.25	53	0.00	32	0.05	80	0.00	33	0.00	49	0.37	27	0.10	274
Formulate Umbrella plan / stepped-down strategic plans for DNR properties in grasslands	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274
Get public to support wetland conservation and management in wetlands	0.00	106	0.00	64	0.00	160	0.00	66	0.00	98	0.00	54	0.00	548
Hoosier Riverwatch in aquatic systems	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274
Identify and educate about specific high need areas in aquatic systems	0.00	53	0.00	32	0.06	80	0.00	33	0.00	49	0.00	27	0.02	274
Improve compliance with and enforcement of current policies	2.08	53	0.72	32	1.19	80	0.73	33	1.31	49	0.56	27	1.21	274
Improve drainage management	2.43	53	3.16	32	1.80	80	0.45	33	0.73	49	0.19	27	1.57	274
Improve integrated pest management	0.00	53	0.34	32	0.26	80	0.06	33	0.02	49	0.11	27	0.14	274

Strategy														
Improvement of signage and other communication materials in conservation areas	0.43	53	0.47	32	0.53	80	0.06	33	0.84	49	0.22	27	0.47	274
Increase acres enrolled in the Classified Forest and Wildlands Program	0.70	53	0.63	32	1.35	80	1.55	33	1.47	49	1.00	27	1.15	274
Increase acres of riparian buffers	2.68	53	3.22	32	3.54	80	2.79	33	0.10	49	2.59	27	2.54	274
Increase compliance of existing rules and regulations for aquatic systems	0.00	53	1.47	32	1.06	80	0.00	33	0.96	49	0.00	27	0.65	274
Increase prairie filter strips in agricultural fields for water quality AND invertebrate diversity in grasslands	0.00	53	0.00	32	0.03	80	0.00	33	0.00	49	0.00	27	0.01	274
Increase public value of conservation/resources in agricultural lands	0.09	318	0.21	192	0.00	480	0.00	198	0.00	294	0.00	162	0.04	1644
Increase public value of conservation/resources in grasslands	0.09	318	0.00	192	0.06	480	0.00	198	0.00	294	0.00	162	0.04	1644
Increase public value of conservation/resources in wetlands	0.00	159	0.00	96	0.00	240	0.00	99	0.00	147	0.01	81	0.00	822

Increase recycling in aquatic systems	0.00	53	0.00	32	0.03	80	0.00	33	0.00	49	0.00	27	0.01	274
Increase regulations on invasive species	3.21	53	1.66	32	1.93	80	0.85	33	1.31	49	2.04	27	1.91	274
Increase state's capacity for research and monitoring of conservation actions	1.49	53	0.72	32	1.38	80	0.76	33	1.14	49	0.48	27	1.12	274
Instead of more laws, better outreach and education could motivate citizens to do the right things in developed lands	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274
Larger-scale timber harvests in forests	0.00	53	0.00	32	0.00	80	0.00	33	0.82	49	0.00	27	0.15	274
Learn to manage rights of way in grasslands	0.00	53	0.00	32	0.00	80	0.00	33	0.08	49	0.00	27	0.01	274
Link existing habitat blocks through corridor enhancement in agricultural lands	0.36	53	1.50	32	1.50	80	0.82	33	0.08	49	0.56	27	0.85	274
Link existing habitat blocks through corridor enhancement in aquatic systems	0.38	53	0.28	32	0.58	80	0.45	33	0.24	49	0.63	27	0.43	274

Link existing habitat blocks through corridor enhancement in barren lands	0.06	53	0.00	32	0.00	80	0.00	33	0.20	49	0.00	27	0.05	274
Link existing habitat blocks through corridor enhancement in developed lands	0.09	53	0.28	32	0.11	80	0.06	33	0.00	49	0.00	27	0.09	274
Link existing habitat blocks through corridor enhancement in forests	0.60	53	0.44	32	0.74	80	0.91	33	2.71	49	2.48	27	1.22	274
Link existing habitat blocks through corridor enhancement in grasslands	0.49	53	0.77	32	0.24	80	1.03	33	0.04	49	0.00	27	0.39	274
Link existing habitat blocks through corridor enhancement in wetlands	0.28	53	1.47	32	0.24	80	0.67	33	0.04	49	0.30	27	0.41	274
Link natural resources to livelihoods through nature tourism	0.30	53	0.22	32	0.13	80	0.18	33	0.41	49	0.19	27	0.23	274
Manage biofuel grasslands	0.02	53	0.00	32	0.06	80	0.06	33	0.00	49	0.00	27	0.03	274
Manage habitats in agricultural lands	0.00	106	0.00	64	0.00	160	0.00	66	0.00	98	0.00	54	0.00	548

Manage recreational opportunities to be compatible with fish and wildlife habitats	0.83	53	0.91	32	1.14	80	0.58	33	0.22	49	0.56	27	0.76	274
Manage urban woodlots	0.00	53	0.03	32	0.03	80	0.03	33	0.00	49	0.00	27	0.01	274
Mine reclamation	0.08	53	0.00	32	0.09	80	4.47	33	1.00	49	0.96	27	0.85	274
Mitigation land banks in wetlands	0.00	53	0.00	32	0.00	80	0.09	33	0.00	49	0.00	27	0.01	274
Preserve currently existing corridors	4.06	53	4.70	32	4.60	80	6.12	33	4.27	49	5.15	27	4.68	274
Professional, Science based education with peer review in aquatic systems	0.00	53	0.00	32	0.00	80	0.00	33	0.06	49	0.00	27	0.01	274
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	0.00	53	0.88	32	0.74	80	0.61	33	0.86	49	3.00	27	0.84	274
Promote diversity of forest types and successional stages	0.42	53	0.81	32	1.29	80	4.09	33	3.98	49	6.37	27	2.38	274

Promote diversity of grassland types and successional stages	0.32	53	1.28	32	0.53	80	1.30	33	0.04	49	1.93	27	0.72	274
Promote diversity of wetland types and successional stages	0.21	53	0.44	32	0.18	80	0.91	33	0.45	49	0.26	27	0.36	274
Promote green infrastructure	0.72	53	0.34	32	0.44	80	0.48	33	0.47	49	0.22	27	0.47	274
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	0.00	53	0.16	32	0.59	80	0.91	33	0.06	49	0.00	27	0.31	274
Promote nonmonetary values of natural systems within the state	1.08	53	1.50	32	0.69	80	0.23	33	0.51	49	0.93	27	0.79	274
Promote use of research and science in conservation decision-making processes	2.45	53	1.66	32	1.89	80	1.92	33	1.78	49	1.44	27	1.91	274
Protect adjacent buffer zones	1.46	53	0.00	32	0.88	80	0.39	33	0.88	49	0.30	27	0.77	274
Protect and enhance undeveloped shorelines	2.32	53	0.41	32	1.28	80	0.27	33	0.02	49	0.15	27	0.92	274

Protect natural water regimes (e.g., withdraws, warm-water discharge)	0.00	53	0.56	32	0.81	80	0.09	33	0.22	49	0.26	27	0.38	274
Reduce conversion to cropland	3.64	53	5.13	32	5.54	80	5.41	33	5.10	49	3.48	27	4.83	274
Reduce litter, especially plastics/styrofoam in aquatic systems	0.00	53	0.00	32	0.03	80	0.00	33	0.00	49	0.00	27	0.01	274
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	4.36	53	2.25	32	5.56	80	3.32	33	5.57	49	2.96	27	4.42	274
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	4.26	53	1.94	32	3.18	80	2.58	33	2.37	49	1.33	27	2.84	274
Reduce recreational overuse of aquatic systems	0.58	53	0.03	32	0.14	80	0.00	33	0.20	49	0.00	27	0.19	274
Reduce recreational overuse of forests	0.00	53	0.03	32	0.03	80	0.00	33	0.20	49	0.00	27	0.05	274
Reduce recreational overuse of grasslands	0.00	53	0.03	32	0.10	80	0.12	33	0.00	49	0.00	27	0.05	274

Reestablish natural disturbance regimes in grasslands	Reestablish natural disturbance regimes in forests	Reestablish natural disturbance regimes in barren lands	Reduce urban sprawl through planning and zoning	Reduce stream head cutting	Reduce stream bank erosion	Reduce recreational overuse of wetlands	Reduce recreational overuse of subterranean systems
0.81	0.57	0.09	1.62	0.15	1.43	0.09	0.00
53	53	53	53	53	53	53	53
1.44	0.09	0.00	0.88	0.03	0.34	0.03	0.00
32	32	32	32	32	32	32	32
0.50	0.45	0.00	1.29	0.25	0.71	0.04	0.00
80	80	80	80	80	80	80	80
2.03	1.42	0.00	0.97	0.00	0.61	0.00	0.00
33	33	33	33	33	33	33	33
0.31	2.24	0.20	1.80	0.00	1.12	0.00	0.00
49	49	49	49	49	49	49	49
1.48	2.04	0.00	1.74	0.37	0.74	0.04	0.00
27	27	27	27	27	27	27	27
0.92	1.03	0.05	1.40	0.14	0.87	0.04	0.00
274	274	274	274	274	274	274	274

Action														
Reestablish natural disturbance regimes in subterranean systems	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274
Reestablish natural disturbance regimes in wetlands	0.58	53	0.66	32	0.20	80	0.82	33	0.00	49	0.19	27	0.36	274
Reform "Indiana Drainage Code" in aquatic systems	0.00	53	0.00	32	0.11	80	0.00	33	0.00	49	0.00	27	0.03	274
Reform/eliminate unscientific/destructive local bodies - Surveyors/Drainage boards/Conservation districts/Flood districts/etc. in aquatic systems	0.00	53	0.00	32	0.11	80	0.00	33	0.00	49	0.00	27	0.03	274
Remove log jams	0.02	53	0.00	32	0.10	80	0.00	33	0.12	49	0.00	27	0.05	274
Restore and integrate diversity of habitats into crop-production dominated landscapes	0.00	53	0.53	32	0.64	80	0.45	33	0.31	49	0.04	27	0.36	274
Restore and integrate diversity of habitats into developed landscapes	0.00	53	0.03	32	0.46	80	0.00	33	0.00	49	0.00	27	0.14	274
Restore habitats and natural systems in aquatic systems	1.46	53	2.53	32	1.36	80	0.64	33	0.00	49	0.19	27	1.07	274

Restore habitats and natural systems in barren lands	0.09	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.02	274
Restore habitats and natural systems in forests	0.00	53	0.41	32	1.11	80	1.24	33	2.04	49	2.70	27	1.15	274
Restore habitats and natural systems in grasslands	1.13	53	2.09	32	0.50	80	0.97	33	0.06	49	0.41	27	0.78	274
Restore habitats and natural systems in subterranean systems	0.00	53	0.00	32	0.00	80	0.00	33	0.31	49	0.56	27	0.11	274
Restore habitats and natural systems in wetlands	1.57	53	3.13	32	0.19	80	1.42	33	0.18	49	0.44	27	0.97	274
Rewrite "Indiana Drainage Handbook" in aquatic systems	0.00	53	0.00	32	0.11	80	0.00	33	0.00	49	0.00	27	0.03	274
Set private sector standards and codes	0.51	53	0.06	32	0.53	80	0.24	33	0.24	49	0.41	27	0.37	274
Set up program on inventory, cataloging, and/or modeling rare wetland habitats such as fens, bogs, and calcareous seeps in wetlands	0.00	53	0.00	32	0.06	80	0.00	33	0.00	49	0.00	27	0.02	274

Set up umbrella plan with stepped-down strategic plans at each DNR property to manage for a variety of habitats according to science	0.00	53	0.00	32	0.06	80	0.00	33	0.00	49	0.00	27	0.02	274
Spanish Language Signage in aquatic systems	0.00	53	0.00	32	0.06	80	0.00	33	0.00	49	0.00	27	0.02	274
Species reintroduction	0.13	53	0.22	32	0.43	80	0.00	33	0.10	49	0.93	27	0.28	274
Strengthen conservation financing	2.64	53	3.47	32	5.00	80	1.85	33	4.53	49	3.85	27	3.79	274
Stronger wetlands and watershed protection/regulation in agricultural lands	0.00	53	0.00	32	0.00	80	0.61	33	0.00	49	0.00	27	0.07	274
Support substitution of alternatives for environmentally harmful products and processes	0.42	53	0.09	32	0.55	80	0.21	33	0.00	49	0.44	27	0.32	274
Tax jet skis and ski boats on most natural lakes in wetlands	0.00	53	0.00	32	0.03	80	0.00	33	0.00	49	0.00	27	0.01	274
There can never be enough education for the "general population" in developed lands	0.00	53	0.00	32	0.00	80	0.00	33	0.00	49	0.00	27	0.00	274

Training of volunteer firefighters on grassland management in grasslands	0.00	53	0.00	32	0.03	80	0.00	33	0.00	49	0.00	27	0.01	274
Training programs for stakeholders	1.45	53	3.28	32	1.39	80	0.27	33	2.76	49	1.74	27	1.77	274
Watershed-based planning/regulation in aquatic systems	0.00	53	0.00	32	0.11	80	0.00	33	0.00	49	0.00	27	0.03	274

Section VI: Adaptation to Changing Conditions

22. Now, think generally about your own agency/organization. What **barriers** does your agency/organization face when implementing/planning conservation actions for fish and wildlife habitats in **Indiana** and what **resources** would your agency/organization need to overcome these barriers?

Question 22 is excluded from this report.

23. Considering your responsibility within your agency/organization, to what extent are you able to respond to the following new or changing **ecological** information or conditions? (Check one for each line item)

Total	Extremely able		Moderately able		Somewhat able		Not able		I don't know		Total Responses
		N		N		N		N		N	
Changing species populations	6.5	13	24.1	48	40.7	81	22.1	44	6.5	13	199
Changing habitat conditions	9.1	18	31.5	62	42.1	83	13.7	27	3.6	7	197
Shifting species distribution	5.0	10	17.6	35	35.7	71	34.7	69	7.0	14	199
Introduction of invasive species	8.7	17	24.0	47	39.8	78	23.5	46	4.1	8	196
Human changes to hydrology (e.g.,	3.5	7	15.1	30	32.2	64	42.7	85	6.5	13	199

											Total Responses
field tiles, ditches, irrigation, wetlands)											
Emerging diseases	2.0	4	8.5	17	25.6	51	54.3	108	9.5	19	199
Changing water availability and use	1.0	2	7.1	14	27.3	54	58.6	116	6.1	12	198
Increasing frequency, duration, and intensity of drought	1.0	2	3.6	7	19.3	38	68.0	134	8.1	16	197
Increasing frequency, duration, and intensity of floods	1.0	2	4.0	8	23.7	47	63.6	126	7.6	15	198
Increasing frequency of extreme weather	1.5	3	3.0	6	16.7	33	71.7	142	7.1	14	198
Changing temperatures (e.g., water, seasonal, or extreme event temperature)	1.5	3	5.5	11	18.1	36	66.3	132	8.5	17	199
Genetically modified species spreading into natural systems	1.5	3	6.1	12	24.4	48	52.3	103	15.7	31	197

24. To what extent do you think your agency/organization is able to respond to the following new or changing **economic** information or conditions? (Check one for each line item)

Total	Extremely able		Moderately able		Somewhat able		Not able		I don't know		Total Responses
		N		N		N		N		N	
Changes in demand for commodity crops and biofuel crops	0.5	1	6.0	12	15.6	31	68.3	136	9.5	19	199
Changing renewable	4.1	8	12.7	25	29.9	59	46.2	91	7.1	14	197

energy production footprint in the state										
Changing non-renewable energy production footprint in the state	1.0	2	3.0	6	16.6	33	69.3	138	10.1	20	199
Changing availability of funding for wildlife conservation and management	1.0	2	3.6	7	12.2	24	72.1	142	11.2	22	197

25. To what extent do you think your agency/organization is able to respond to new or changing **social/political** information or conditions? (Check one for each line item)

	Total	Extremely able		Moderately able		Somewhat able		Not able		I don't know		Total Responses
			N		N		N		N		N	
Changing public support for natural resource management and conservation activities	3.5	7	21.7	43	60.6	120	9.6	19	4.5	9	198
Changing participation in wildlife-dependent and other recreational	4.1	8	21.9	43	50.5	99	18.9	37	4.6	9	196

activities										
Urbanization (resulting in changing connection of people to nature/outdoors)	3.0	6	11.1	22	38.7	77	40.2	80	7.0	14	199
Changes in land use	1.5	3	10.3	20	34.9	68	47.2	92	6.2	12	195
Changes to organizational structure of resource management agencies or conservation organizations	2.0	4	15.6	31	35.2	70	41.2	82	6.0	12	199
Changes in the Endangered Species Act (e.g., adding or removing species)	3.6	7	9.1	18	29.9	59	50.3	99	7.1	14	197
Changes in the Clean Water Act (e.g., redefining jurisdictional waterway)	2.0	4	9.1	18	22.2	44	59.1	117	7.6	15	198
Changes in the Clean Air Act (e.g., changing regulations on greenhouse gas emissions)	1.5	3	6.1	12	18.7	37	65.2	129	8.6	17	198

26. Please provide any additional information or comments that you would like to share with the SWAP team using the box below:

Question 26 is excluded from this report.

Survey About Threats and Conservation Needs for Fish and Wildlife Habitats in Indiana.

Great Lakes Region

Section I: Agency Information and Evaluation of Conservation Actions

Questions 1 – 10 excluded from this report

11. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in the Great Lakes (Region 1)? (Check only one)

	Very Poor		Poor		Satisfactory		Good		Very good		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	%	N	Responses
Aquatic systems	0.0	0	33.3	18	33.3	18	27.8	15	5.6	3	0.0	0	54
Agricultural lands	0.0	0	56.3	9	31.3	5	6.3	1	6.3	1	0.0	0	16
Barren lands	20.0	1	0.0	0	80.0	4	0.0	0	0.0	0	0.0	0	5
Developed Lands	36.4	4	36.4	4	9.1	1	9.1	1	9.1	1	0.0	0	11
Forests	4.0	1	12.0	3	52.0	13	28.0	7	0.0	0	4.0	1	25

	%	N	%	N	%	N	%	N	%	N	%	N	Total
Grasslands	11.8	2	47.1	8	41.2	7	0.0	0	0.0	0	0.0	0	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	0.0	0	37.0	10	48.1	13	14.8	4	0.0	0	0.0	0	27
Total	5.2	8	33.5	52	39.4	61	18.1	28	3.2	5	0.6	1	155

12. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Great Lakes (Region 1) <u>since 2005</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	20.4	11	48.1	26	25.9	14	5.6	3	54
Agricultural lands	5.9	1	29.4	5	58.8	10	5.9	1	17
Barren lands	20.0	1	60.0	3	0.0	0	20.0	1	5
Developed Lands	20.0	2	20.0	2	50.0	5	10.0	1	10
Forests	8.3	2	37.5	9	41.7	10	12.5	3	24
Grasslands	5.9	1	29.4	5	52.9	9	11.8	2	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	11.1	3	25.9	7	59.3	16	3.7	1	27
Total	13.6	21	37.0	57	41.6	64	7.8	12	154

Quality of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	
Aquatic systems	20.4	11	50.0	27	27.8	15	1.9	1	54
Agricultural lands	11.8	2	35.3	6	47.1	8	5.9	1	17
Barren lands	20.0	1	20.0	1	40.0	2	20.0	1	5
Developed Lands	40.0	4	10.0	1	40.0	4	10.0	1	10
Forests	8.0	2	40.0	10	40.0	10	12.0	3	25
Grasslands	17.6	3	23.5	4	41.2	7	17.6	3	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	14.8	4	29.6	8	48.1	13	7.4	2	27
Total	17.4	27	36.8	57	38.1	59	7.7	12	155

22. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Great Lakes (Region 1) <u>over the next 10 years</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

	Increase		About the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	
Aquatic systems	20.4	11	38.9	21	31.5	17	9.3	5	54
Agricultural lands	17.6	3	17.6	3	64.7	11	0.0	0	17
Barren lands	40.0	2	0.0	0	60.0	3	0.0	0	5
Developed Lands	20.0	2	30.0	3	50.0	5	0.0	0	10
Forests	8.0	2	36.0	9	52.0	13	4.0	1	25
Grasslands	11.8	2	35.3	6	52.9	9	0.0	0	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	7.4	2	33.3	9	59.3	16	0.0	0	27
Total	15.5	24	32.9	51	47.7	74	3.9	6	155

Quality of fish and wildlife habitats within HABITAT over the next 10 years

Great Lakes (Region 1)	Increase		About the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	
Aquatic systems	24.1	13	25.9	14	38.9	21	11.1	6	54
Agricultural lands	17.6	3	23.5	4	58.8	10	0.0	0	17
Barren lands	40.0	2	0.0	0	60.0	3	0.0	0	5

	%	N	%	N	%	N	%	N	%	N	
Developed Lands	20.0	2	40.0	4	40.0	4	0.0	0			10
Forests	12.0	3	36.0	9	44.0	11	8.0	2			25
Grasslands	23.5	4	17.6	3	58.8	10	0.0	0			17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			N/A
Wetlands	14.8	4	25.9	7	55.6	15	3.7	1			27
Total	20.0	31	26.5	41	47.7	74	5.8	9			155

Section III: Threats to Fish and Wildlife Habitats

23. **Currently**, to what extent do you think the following general categories of threats apply to fish and wildlife habitats within **HABITAT** in the REGION? (Check one for each line item)

Entire Region 1		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
	Residential and commercial development	50.3%	77	37.9%	58	9.2%	14	2.0%	3	0.7%	1	1.63	153
	Agriculture and aquaculture	50.3%	77	28.1%	43	14.4%	22	3.9%	6	3.3%	5	1.71	153
	Energy production and mining	6.7%	10	23.3%	35	31.3%	47	24.0%	36	14.7%	22	2.85	150
	Transportation and service corridors	17.9%	27	39.7%	60	33.1%	50	4.6%	7	4.6%	7	2.26	151
	Biological resource use	7.2%	11	21.1%	32	43.4%	66	21.1%	32	7.2%	11	2.84	152
	Human intrusion and disturbance	30.9%	47	42.8%	65	19.7%	30	1.3%	2	5.3%	8	1.91	152
	Natural systems modifications	40.8%	62	37.5%	57	14.5%	22	2.6%	4	4.6%	7	1.78	152
	Invasives and other problematic species and genes	66.7%	102	30.7%	47	2.0%	3	0.7%	1	0.0%	0	1.37	153
	Pollution	36.0%	54	41.3%	62	18.7%	28	2.0%	3	2.0%	3	1.86	150
	Climate change and severe weather	27.6%	42	32.2%	49	22.4%	34	9.2%	14	8.6%	13	2.14	152
	Other stressors	12.2%	17	28.1%	39	32.4%	45	5.0%	7	22.3%	31	2.39	139

24. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the REGION. Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the REGION and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

		To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total Responses	How will the significance of this threat change over the next 10 years?								Total Responses
		Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't Know				Increase		Remain the Same		Decrease		I don't know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Entire Region 1	Housing and urban areas	47.7%	62	41.5%	54	10.0%	13	0.0%	0	0.8%	1	1.62	130	71.7%	81	23.9%	27	1.8%	2	2.7%	3	113
	Commercial and industrial areas	44.6%	58	46.2%	60	7.7%	10	1.5%	2	0.0%	0	1.66	130	58.8%	67	36.0%	41	2.6%	3	2.6%	3	114
	Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	6.3%	8	35.2%	45	50.8%	65	6.3%	8	1.6%	2	2.58	128	34.8%	39	55.4%	62	2.7%	3	7.1%	8	112
	Agriculture and Aquaculture																					
	Annual and perennial nontimber crops	46.1%	53	36.5%	42	10.4%	12	3.5%	4	3.5%	4	1.70	115	44.1%	45	41.2%	42	2.9%	3	11.8%	12	102
	Wood and pulp plantations	1.8%	2	12.4%	14	32.7%	37	28.3%	32	24.8%	28	3.16	113	3.9%	4	53.9%	55	3.9%	4	38.2%	39	102

	Transportation and Service Corridors					Energy Production and Mining		
	Shale gas development (e.g., fracking)	Fossil fuel energy production	Renewable energy production	Mining and quarrying	Oil and gas drilling	Conversion of habitat to annual crops	Aquaculture	Livestock farming and ranching
	20.5%	32.6%	7.1%	2.4%	15.9%	53.5%	5.4%	25.9%
	9	14	3	1	7	61	6	30
	11.4%	32.6%	31.0%	26.2%	18.2%	28.9%	9.0%	36.2%
	5	14	13	11	8	33	10	42
	9.1%	7.0%	38.1%	28.6%	18.2%	14.0%	25.2%	21.6%
	4	3	16	12	8	16	28	25
	15.9%	11.6%	9.5%	16.7%	22.7%	1.8%	22.5%	6.9%
	7	5	4	7	10	2	25	8
	43.2%	16.3%	14.3%	26.2%	25.0%	1.8%	37.8%	9.5%
	19	7	6	11	11	2	42	11
	2.36	1.97	2.58	2.81	2.64	1.63	3.04	2.10
	44	43	42	42	44	114	111	116
	20.5%	32.5%	51.3%	12.5%	22.5%	61.2%	13.3%	35.6%
	8	13	20	5	9	63	13	37
	33.3%	45.0%	28.2%	52.5%	42.5%	29.1%	36.7%	35.6%
	13	18	11	21	17	30	36	37
	0.0%	0.0%	2.6%	0.0%	0.0%	4.9%	1.0%	7.7%
	0	0	1	0	0	5	1	8
	46.2%	22.5%	17.9%	35.0%	35.0%	4.9%	49.0%	21.2%
	18	9	7	14	14	5	48	22
	39	40	39	40	40	103	98	104

	Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)	Shipping lanes	Flight paths	Utility and service lines	Roads and railroads
	11.2%	9.8%	4.9%	6.0%	4.8%	36.5%
	12	4	4	5	4	31
	53.3%	39.0%	20.7%	16.7%	56.6%	45.9%
	57	16	17	14	47	39
	29.9%	22.0%	20.7%	32.1%	33.7%	17.6%
	32	9	17	27	28	15
Biological Resource Use	3.7%	14.6%	32.9%	28.6%	2.4%	0.0%
	4	6	27	24	2	0
	1.9%	14.6%	20.7%	16.7%	2.4%	0.0%
	2	6	17	14	2	0
	2.27	2.49	3.03	3.00	2.35	1.81
	107	41	82	84	83	85
Human Intrusion and Disturbance	55.6%	16.2%	15.6%	12.7%	39.2%	60.8%
	55	6	12	10	31	48
	40.4%	64.9%	50.6%	64.6%	55.7%	36.7%
	40	24	39	51	44	29
	1.0%	0.0%	3.9%	0.0%	0.0%	0.0%
Natural Systems Modification	1	0	3	0	0	0
	3.0%	18.9%	29.9%	22.8%	5.1%	2.5%
	3	7	23	18	4	2
	99	37	77	79	79	79

Problematic native species (e.g. overabundant native deer or algae)	Invasive/alien species	Invasives and Other Problematic Species	Conversion of natural habitats to other land uses	Over-mowing of natural areas	Log jam removal	Fire and fire suppression	Dams and water management/use
26.8%	72.9%		65.5%	15.3%	13.4%	18.2%	21.9%
38	102		74	17	15	20	25
43.0%	24.3%		24.8%	36.0%	23.2%	25.5%	40.4%
61	34		28	40	26	28	46
22.5%	1.4%		8.0%	26.1%	28.6%	26.4%	26.3%
32	2		9	29	32	29	30
4.2%	0.0%		1.8%	11.7%	20.5%	20.9%	6.1%
6	0		2	13	23	23	7
3.5%	1.4%		0.0%	10.8%	14.3%	9.1%	5.3%
5	2		0	12	16	10	6
2.04	1.28		1.46	2.38	2.66	2.55	2.18
142	140		113	111	112	110	114
44.5%	92.2%		72.4%	24.5%	30.4%	23.1%	39.0%
57	118		76	25	31	24	41
43.8%	5.5%		25.7%	55.9%	47.1%	57.7%	48.6%
56	7		27	57	48	60	51
3.1%	0.8%		1.0%	3.9%	2.9%	3.8%	1.0%
4	1		1	4	3	4	1
8.6%	1.6%		1.0%	15.7%	19.6%	15.4%	11.4%
11	2		1	16	20	16	12
128	128		105	102	102	104	105

Household sewage and urban water waste	Air pollution (e.g., smoke, mercury emissions)	Point source pollution from commercial/industrial sources	Chemical spills	Runoff from roads/service corridors	Pollution	Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)	Plant diseases
27.5%	22.7%	34.5%	22.9%	34.8%		18.4%	17.6%
30	25	38	25	39		26	25
48.6%	36.4%	45.5%	41.3%	49.1%		22.0%	24.6%
53	40	50	45	55		31	35
14.7%	27.3%	18.2%	28.4%	11.6%		22.7%	20.4%
16	30	20	31	13		32	29
2.8%	2.7%	0.9%	0.9%	0.0%		4.3%	7.0%
3	3	1	am	0		6	10
6.4%	10.9%	0.9%	6.4%	4.5%		32.6%	30.3%
7	12	1	7	5		46	43
1.92	2.11	1.85	2.08	1.76		2.19	2.24
109	110	110	109	112		141	142
42.7%	28.4%	30.5%	27.7%	58.7%		36.2%	36.4%
44	29	32	28	61		47	47
41.7%	48.0%	60.0%	61.4%	34.6%		28.5%	27.1%
43	49	63	62	36		37	35
6.8%	7.8%	6.7%	1.0%	0.0%		0.0%	0.8%
7	8	7	1	0		0	1
8.7%	15.7%	2.9%	9.9%	6.7%		35.4%	35.7%
9	16	3	10	7		46	46
103	102	105	101	104		130	129

Shifting seasons/phenology	Temperature extremes	Shifting and alteration of habitats due to climate	Changing frequency, duration, and intensity of	Changing frequency, duration, and intensity of drought	Climate Change and Other Severe Weather	Excess energy (e.g., noise/light pollution, warm water discharge, etc.)	Garbage and solid waste	Agriculture, residential, and forestry effluents
34.1%	43.3%	46.1%	50.6%	51.1%		10.9%	10.1%	41.4%
30	39	41	45	46		12	11	46
50.0%	46.7%	44.9%	38.2%	38.9%		40.0%	45.0%	41.4%
44	42	40	34	35		44	49	46
10.2%	7.8%	7.9%	10.1%	8.9%		30.9%	32.1%	11.7%
9	7	7	9	8		34	35	13
2.3%	2.2%	1.1%	1.1%	1.1%		7.3%	4.6%	2.7%
2	2	1	1	1		8	5	3
3.4%	0.0%	0.0%	0.0%	0.0%		10.9%	8.3%	2.7%
3	0	0	0	0		12	9	3
1.80	1.69	1.64	1.62	1.60		2.39	2.34	1.75
88	90	89	89	90		110	109	111
82.9%	81.7%	79.3%	81.7%	79.3%		29.4%	38.2%	50.5%
68	67	65	67	65		30	39	52
13.4%	11.0%	13.4%	11.0%	13.4%		54.9%	48.0%	41.7%
11	9	11	9	11		56	49	43
0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	2.9%	3.9%
0	0	0	0	0		0	3	4
3.7%	7.3%	7.3%	7.3%	7.3%		15.7%	10.8%	3.9%
3	6	6	6	6		16	11	4
82	82	82	82	82		102	102	103

Other Stressor																					
Low genetic diversity (due to reduced population size, species inbreeding, etc.)	27.3%	15	40.0%	22	14.5%	8	7.3%	4	10.9%	6	2.02	55	42.6%	23	37.0%	20	1.9%	1	18.5%	10	54
Diseases	25.0%	10	45.0%	18	17.5%	7	0.0%	0	12.5%	5	1.91	40	57.5%	23	27.5%	11	0.0%	0	15.0%	6	40

25. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the **REGION** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Question 16 responses excluded from this report.

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the REGION.

26. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the REGION over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the **REGION** since 2005 or have plans to do so.

Entire Region 1

External capacity building	Livelihood, economic, and other incentives	Law and policy	Education and awareness	Land/water/ species management	Land/ water protection			
37.5%	32.9%	44.1%	63.6%	72.5%	72.4%	%	Significant Threat	To what extent do you think this category of conservation action is important for fish and wildlife habitats within **HABITAT** in the **REGION** over the next 10 years?
54	47	63	91	103	105	N		
31.3%	45.5%	37.1%	31.5%	19.7%	15.9%	%	Moderate Threat	
45	65	53	45	28	23	N		
22.9%	11.2%	11.9%	4.2%	6.3%	7.6%	%	Minor Threat	
33	16	17	6	9	11	N		
2.1%	4.2%	1.4%	0.7%	0.7%	4.1%	%	Not a threat	
3	6	2	1	1	6	N		
6.3%	6.3%	5.6%	0.0%	0.7%	0.0%	%	I Don't Know	
9	9	8	0	1	0	N		
1.89	1.86	1.69	1.42	1.35	1.43	Mean		
144	143	143	143	142	145	Total Response		
34.6%	28.3%	30.2%	81.5%	74.5%	64.2%	%	Yes	Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within **HABITAT** in the **REGION**?
37	30	32	88	79	70	N		
37.4%	45.3%	49.1%	11.1%	17.9%	23.9%	%	No	
40	48	52	12	19	26	N		
28.0%	26.4%	20.8%	7.4%	7.5%	11.9%	%	I Don't Know	
30	28	22	8	8	13	N		
107	106	106	108	106	109	Responses		

27. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the **REGION** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the REGION. You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

		Very Important		Moderately Important		Somewhat Important		Not important		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
	Land/Water Protection												
Entire Region 1	Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	66.7%	28	31.0%	13	2.4%	1	0.0%	0	0.0%	0	1.36	42
	Acquire currently unprotected barren lands	100.0%	4	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	4
	Acquire currently unprotected forests	84.2%	16	10.5%	2	5.3%	1	0.0%	0	0.0%	0	1.21	19
	Acquire currently unprotected grasslands	73.3%	11	20.0%	3	6.7%	1	0.0%	0	0.0%	0	1.33	15
	Acquire currently unprotected wetlands	91.3%	21	8.7%	2	0.0%	0	0.0%	0	0.0%	0	1.09	23
	Acquire currently unprotected subterranean habitats	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A

Preserve currently existing corridors	78.7%	96	18.0%	22	2.5%	3	0.0%	0	0.8%	1	1.23	122
Acquire conservation easements to protect important wildlife habitats	74.6%	91	19.7%	24	5.7%	7	0.0%	0	0.0%	0	1.31	122
Reduce conversion to cropland	62.8%	76	23.1%	28	7.4%	9	3.3%	4	3.3%	4	1.50	121
Build/strengthen CRP partnerships	52.5%	64	35.2%	43	6.6%	8	0.8%	1	4.9%	6	1.53	122
Land/Water/Species Management												
Control invasive species in agricultural lands	60.0%	9	33.3%	5	6.7%	1	0.0%	0	0.0%	0	1.47	15
Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	75.6%	34	22.2%	10	2.2%	1	0.0%	0	0.0%	0	1.27	45
Control invasive species in barren lands	100.0%	3	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	3
Control invasive species in developed lands	62.5%	5	37.5%	3	0.0%	0	0.0%	0	0.0%	0	1.38	8

Control invasive species in forests	84.2%	16	10.5%	2	5.3%	1	0.0%	0	0.0%	0	1.21	19
Control invasive species in grasslands	78.6%	11	14.3%	2	7.1%	1	0.0%	0	0.0%	0	1.29	14
Control invasive species in wetlands	78.3%	18	21.7%	5	0.0%	0	0.0%	0	0.0%	0	1.22	23
Control invasive species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	46.7%	7	40.0%	6	13.3%	2	0.0%	0	0.0%	0	1.67	15
Control problematic native species in aquatic systems	46.7%	21	26.7%	12	22.2%	10	2.2%	1	2.2%	1	1.80	45
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	0.0%	0	100.0%	3	0.0%	0	0.0%	0	0.0%	0	2.00	3
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	37.5%	3	37.5%	3	25.0%	2	0.0%	0	0.0%	0	1.88	8

Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	47.4%	9	31.6%	6	21.1%	4	0.0%	0	0.0%	0	1.74	19
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	6.7%	1	26.7%	4	40.0%	6	20.0%	3	6.7%	1	2.79	15
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	26.1%	6	26.1%	6	30.4%	7	4.3%	1	13.0%	3	2.15	23
Control problematic native species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Dam removal	23.9%	16	28.4%	19	29.9%	20	11.9%	8	6.0%	4	2.32	67
Decrease E. coli counts	39.1%	25	25.0%	16	26.6%	17	7.8%	5	1.6%	1	2.03	64
Decrease number of combined sewer overflow events	51.5%	35	26.5%	18	19.1%	13	2.9%	2	0.0%	0	1.74	68
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	62.5%	80	25.8%	33	8.6%	11	2.3%	3	0.8%	1	1.50	128

Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	7.8%	9	16.5%	19	13.9%	16	25.2%	29	36.5%	42	2.89	115
Improve drainage management	56.8%	71	23.2%	29	10.4%	13	5.6%	7	4.0%	5	1.63	125
Improve integrated pest management	33.3%	5	40.0%	6	26.7%	4	0.0%	0	0.0%	0	1.93	15
Increase acres of riparian buffers	60.6%	77	26.8%	34	9.4%	12	2.4%	3	0.8%	1	1.53	127
Increase acres enrolled in the Classified Forest and Wildlands Program	35.4%	45	28.3%	36	22.0%	28	7.9%	10	6.3%	8	2.03	127
Link existing habitat blocks through corridor enhancement in agricultural lands	73.3%	11	26.7%	4	0.0%	0	0.0%	0	0.0%	0	1.27	15
Link existing habitat blocks through corridor enhancement in aquatic systems	45.5%	20	31.8%	14	15.9%	7	2.3%	1	4.5%	2	1.74	44
Link existing habitat blocks through corridor enhancement in barren lands	33.3%	1	66.7%	2	0.0%	0	0.0%	0	0.0%	0	1.67	3

Link existing habitat blocks through corridor enhancement in developed lands	75.0%	6	12.5%	1	12.5%	1	0.0%	0	0.0%	0	1.38	8
Link existing habitat blocks through corridor enhancement in forests	84.2%	16	5.3%	1	10.5%	2	0.0%	0	0.0%	0	1.26	19
Link existing habitat blocks through corridor enhancement in grasslands	73.3%	11	6.7%	1	13.3%	2	6.7%	1	0.0%	0	1.53	15
Link existing habitat blocks through corridor enhancement in wetlands	47.8%	11	34.8%	8	13.0%	3	4.3%	1	0.0%	0	1.74	23
Enhance corridors in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Manage biofuel grasslands	16.7%	5	23.3%	7	26.7%	8	10.0%	3	23.3%	7	2.39	30
Manage urban woodlots	37.5%	3	62.5%	5	0.0%	0	0.0%	0	0.0%	0	3.25	8
Mine reclamation	9.5%	10	6.7%	7	10.5%	11	42.9%	45	30.5%	32	1.63	105

Promote diversity of forest types and successional stages	63.2%	12	15.8%	3	21.1%	4	0.0%	0	0.0%	0	1.58	19
Promote diversity of grassland types and successional stages	46.7%	7	33.3%	5	20.0%	3	0.0%	0	0.0%	0	1.73	15
Promote diversity of wetland types and successional stages	60.9%	14	30.4%	7	8.7%	2	0.0%	0	0.0%	0	1.48	23
Protect and enhance undeveloped shorelines	70.6%	48	25.0%	17	4.4%	3	0.0%	0	0.0%	0	1.34	68
Protect natural water regimes (e.g., withdraws, warm-water discharge)	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Protect adjacent buffer zones	68.6%	48	27.1%	19	4.3%	3	0.0%	0	0.0%	0	1.36	70
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	85.0%	108	9.4%	12	3.1%	4	1.6%	2	0.8%	1	1.21	127
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	65.6%	82	23.2%	29	8.0%	10	2.4%	3	0.8%	1	1.47	125

Reduce recreational overuse of aquatic systems	22.7%	10	36.4%	16	29.5%	13	11.4%	5	0.0%	0	2.30	44
Reduce recreational overuse of forests	0.0%	0	38.9%	7	55.6%	10	0.0%	0	5.6%	1	2.59	18
Reduce recreational overuse of grasslands	13.3%	2	33.3%	5	20.0%	3	26.7%	4	6.7%	1	2.64	15
Reduce recreational overuse of wetlands	26.1%	6	26.1%	6	26.1%	6	17.4%	4	4.3%	1	2.36	23
Reduce recreational overuse of subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Reduce stream bank erosion	64.4%	29	24.4%	11	8.9%	4	0.0%	0	2.2%	1	1.43	45
Reduce stream head cutting	40.9%	18	36.4%	16	13.6%	6	0.0%	0	9.1%	4	1.70	44
Reestablish natural disturbance regimes in barren lands	100.0%	3	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	3

	%	n	%	n	%	n	%	n	%	n	Mean	N
Reestablish natural disturbance regimes in forests	57.9%	11	26.3%	5	10.5%	2	0.0%	0	5.3%	1	1.50	19
Reestablish natural disturbance regimes in grasslands	53.3%	8	33.3%	5	6.7%	1	6.7%	1	0.0%	0	1.67	15
Reestablish natural disturbance regimes in wetlands	43.5%	10	39.1%	9	13.0%	3	0.0%	0	4.3%	1	1.68	23
Reestablish natural disturbance regimes in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Remove log jams	7.0%	3	23.3%	10	27.9%	12	32.6%	14	9.3%	4	2.95	43
Restore and integrate diversity of habitats into crop-production dominated landscapes	80.0%	12	20.0%	3	0.0%	0	0.0%	0	0.0%	0	1.20	15
Restore and integrate diversity of habitats into developed landscapes	75.0%	6	12.5%	1	12.5%	1	0.0%	0	0.0%	0	1.38	8
Restore habitats and natural systems in aquatic systems	71.1%	32	17.8%	8	6.7%	3	4.4%	2	0.0%	0	1.44	45

											Mean	N
Restore habitats and natural systems in barren lands	100.0%	3	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	3
Restore habitats and natural systems in forests	78.9%	15	15.8%	3	5.3%	1	0.0%	0	0.0%	0	1.26	19
Restore habitats and natural systems in grasslands	73.3%	11	20.0%	3	6.7%	1	0.0%	0	0.0%	0	1.33	15
Restore habitats and natural systems in wetlands	87.0%	20	13.0%	3	0.0%	0	0.0%	0	0.0%	0	1.13	23
Restore habitats and natural systems in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Species reintroduction. Please specify:	17.5%	7	12.5%	5	5.0%	2	20.0%	8	45.0%	18	2.50	40
Education and Awareness												
Educational programs in general	57.1%	76	34.6%	46	7.5%	10	0.0%	0	0.8%	1	1.50	133
Educational programs specifically for K-12	38.3%	51	45.1%	60	15.0%	20	0.0%	0	1.5%	2	1.76	133

Improvement of signage and other communication materials in conservation areas	31.1%	41	35.6%	47	29.5%	39	1.5%	2	2.3%	3	2.02	132
Training programs for stakeholders	31.3%	40	41.4%	53	21.1%	27	3.1%	4	3.1%	4	1.96	128
Law and Policy											
Increase regulations on invasive species	54.4%	62	36.0%	41	6.1%	7	1.8%	2	1.8%	2	1.54	114
Change current laws, policies, and regulations. Please specify:	35.9%	37	21.4%	22	8.7%	9	2.9%	3	31.1%	32	1.69	103
Set private sector standards and codes	27.7%	31	38.4%	43	19.6%	22	2.7%	3	11.6%	13	1.55	112
Improve compliance with and enforcement of current policies	49.1%	55	43.8%	49	5.4%	6	0.0%	0	1.8%	2	1.97	112
Reduce urban sprawl through planning and zoning	51.8%	58	33.0%	37	10.7%	12	0.9%	1	3.6%	4	1.59	112
Establish legal lake levels	29.7%	11	16.2%	6	35.1%	13	10.8%	4	8.1%	3	2.29	37

Establish rules and guidelines for piers and other structures	29.7%	11	29.7%	11	40.5%	15	0.0%	0	0.0%	0	2.11	37
Increase compliance of existing rules and regulations for aquatic systems	71.1%	27	15.8%	6	13.2%	5	0.0%	0	0.0%	0	1.42	38
Establish submergent vegetation control guidelines	42.1%	16	34.2%	13	15.8%	6	2.6%	1	5.3%	2	1.78	38
Livelihood, Economic, and Other Incentives												
Link natural resources to livelihoods through nature tourism	31.8%	35	47.3%	52	17.3%	19	3.6%	4	0.0%	0	1.93	110
Support substitution of alternatives for environmentally harmful products and processes	32.1%	35	46.8%	51	11.9%	13	1.8%	2	7.3%	8	1.82	109
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	20.2%	22	33.0%	36	25.7%	28	4.6%	5	16.5%	18	2.18	109
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	32.4%	35	46.3%	50	15.7%	17	1.9%	2	3.7%	4	1.87	108
Promote nonmonetary values of natural systems within the state	43.5%	47	41.7%	45	13.9%	15	0.9%	1	0.0%	0	1.72	108

	%	N	%	N	%	N	%	N	%	N	Mean	Total
Manage recreational opportunities to be compatible with fish and wildlife habitats	54.1%	59	33.9%	37	10.1%	11	0.0%	0	1.8%	2	1.55	109
External Capacity Building												
Develop institutions and civil society	23.2%	22	31.6%	30	17.9%	17	4.2%	4	23.2%	22	2.04	95
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	60.0%	57	32.6%	31	5.3%	5	0.0%	0	2.1%	2	1.44	95
Strengthen conservation financing	61.1%	58	29.5%	28	6.3%	6	0.0%	0	3.2%	3	1.43	95
Increase state's capacity for research and monitoring of conservation actions	50.0%	47	41.5%	39	8.5%	8	0.0%	0	0.0%	0	1.59	94
Promote green infrastructure	46.9%	45	38.5%	37	8.3%	8	1.0%	1	5.2%	5	1.62	96
Promote use of research and science in conservation decision-making processes	73.2%	71	22.7%	22	4.1%	4	0.0%	0	0.0%	0	1.31	97

Questions 19 – 26 have been excluded from this report

Kankakee Region

Questions 1 – 10 excluded from this report

28. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in Kankakee (Region 2)? (Check only one)

	Very Poor		Poor		Satisfactory		Good		Very good		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	%	N	Responses
Aquatic systems	0.0	0	42.9	9	33.3	7	19.0	4	4.8	1	0.0	0	21
Agricultural lands	15.0	3	60.0	12	10.0	2	15.0	3	0.0	0	0.0	0	20
Barren lands	0.0	0	100.0	1	0.0	0	0.0	0	0.0	0	0.0	0	1
Developed Lands	0.0	0	57.1	4	28.6	2	0.0	0	14.3	1	0.0	0	7
Forests	7.1	1	42.9	6	35.7	5	14.3	2	0.0	0	0.0	0	14
Grasslands	9.5	2	38.1	8	38.1	8	14.3	3	0.0	0	0.0	0	21
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	4.8	1	38.1	8	33.3	7	23.8	5	0.0	0	0.0	0	21
Total	6.7	7	45.7	48	29.5	31	16.2	17	1.9	2	0.0	0	105

29. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in Kankakee (Region 2) <u>since 2005</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
		N		N		N		N	Total Responses
Aquatic systems	28.6	6	57.1	12	14.3	3	0.0	0	21
Agricultural lands	15.0	3	30.0	6	55.0	11	0.0	0	20
Barren lands	0.0	0	0.0	0	100.0	1	0.0	0	1
Developed Lands	37.5	3	37.5	3	25.0	2	0.0	0	8
Forests	0.0	0	42.9	6	50.0	7	7.1	1	14
Grasslands	54.5	12	18.2	4	27.3	6	0.0	0	22
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	33.3	7	33.3	7	33.3	7	0.0	0	21
Total	29.0	31	35.5	38	34.6	37	0.9	1	107

Quality of fish and wildlife habitats within HABITAT since 2005

	Increase	N	About the same	N	Decrease	N	I don't know	N	Total Responses
Aquatic systems	28.6	6	57.1	12	14.3	3	0.0	0	21
Agricultural lands	10.0	2	40.0	8	50.0	10	0.0	0	20
Barren lands	0	0	0	0	0	0	0	0	0
Developed Lands	37.5	3	37.5	3	25.0	2	0.0	0	8
Forests	7.1	1	42.9	6	42.9	6	7.1	1	14
Grasslands	38.1	8	19.0	4	42.9	9	0.0	0	21
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	23.8	5	28.6	6	47.6	10	0.0	0	21
Total	23.8	25	37.1	39	38.1	40	1.0	1	105

30. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in Kankakee (Region 2) over the next 10 years? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

	Increase	N	About the same	N	Decrease	N	I don't know	N	Total Responses
Aquatic systems	28.6	6	57.1	12	14.3	3	0.0	0	21
Agricultural lands	30.0	6	25.0	5	45.0	9	0.0	0	20
Barren lands	0.0	0	0.0	0	100.0	1	0.0	0	1
Developed Lands	12.5	1	50.0	4	37.5	3	0.0	0	8
Forests	7.1	1	28.6	4	57.1	8	7.1	1	14
Grasslands	27.3	6	40.9	9	27.3	6	4.5	1	22
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	23.8	5	33.3	7	42.9	9	0.0	0	21
Total	23.4	25	38.3	41	36.4	39	1.9	2	107

Quality of fish and wildlife habitats within HABITAT over the next 10 years

Great Lakes (Region 1)	Increase	N	About the same	N	Decrease	N	I don't know	N	Total Responses
Aquatic systems	33.3	7	38.1	8	28.6	6	0.0	0	21
Agricultural lands	15.0	3	40.0	8	45.0	9	0.0	0	20
Barren lands	0	0	0	0	0	0	0	0	0
Developed Lands	25.0	2	25.0	2	50.0	4	0.0	0	8

	%	N	%	N	%	N	%	N	N
Forests	14.3	2	14.3	2	64.3	9	7.1	1	14
Grasslands	27.3	6	31.8	7	36.4	8	4.5	1	22
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	19.0	4	28.6	6	52.4	11	0.0	0	21
Total	22.6	24	31.1	33	44.3	47	1.9	2	106

Section III: Threats to Fish and Wildlife Habitats

31. **Currently**, to what extent do you think the following general categories of threats apply to fish and wildlife habitats within **HABITAT** in the REGION? (Check one for each line item)

		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know			
		%	N	%	N	%	N	%	N	%	N	Mean	Total Responses
Entire Region 2	Residential and commercial development	38.8%	40	43.7%	45	15.5%	16	1.0%	1	1.0%	1	1.78	103
	Agriculture and aquaculture	62.5%	65	23.1%	24	9.6%	10	3.8%	4	1.0%	1	1.54	104
	Energy production and mining	7.8%	8	15.5%	16	37.9%	39	30.1%	31	8.7%	9	2.99	103
	Transportation and service corridors	12.4%	13	36.2%	38	41.9%	44	6.7%	7	2.9%	3	2.44	105
	Biological resource use	9.6%	10	13.5%	14	49.0%	51	22.1%	23	5.8%	6	2.89	104
	Human intrusion and disturbance	32.7%	34	39.4%	41	22.1%	23	2.9%	3	2.9%	3	1.95	104
	Natural systems modifications	41.3%	43	36.5%	38	17.3%	18	1.9%	2	2.9%	3	1.79	104
	Invasives and other problematic species and genes	57.7%	60	28.8%	30	10.6%	11	1.9%	2	1.0%	1	1.56	104
	Pollution	18.3%	19	40.4%	42	28.8%	30	2.9%	3	9.6%	10	2.18	104
	Climate change and severe weather	24.0%	25	38.5%	40	20.2%	21	8.7%	9	8.7%	9	2.15	104
	Other stressors	12.9%	12	31.2%	29	31.2%	29	7.5%	7	17.2%	16	2.40	93

32. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the REGION. Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the REGION and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

		To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total Respondes	How will the significance of this threat change over the next 10 years?								Total Respondes
		Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't Know				Increase		Remain the Same		Decrease		I don't know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Entire Region 2	Housing and urban areas	43.9%	36	41.5%	34	11.0%	9	2.4%	2	1.2%	1	1.72	82	76.6%	59	18.2%	14	0.0%	0	5.2%	4	77
	Commercial and industrial areas	35.0%	28	38.8%	31	22.5%	18	1.3%	1	2.5%	2	1.90	80	69.3%	52	21.3%	16	0.0%	0	9.3%	7	75
	Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	7.4%	6	29.6%	24	54.3%	44	6.2%	5	2.5%	2	2.61	81	35.1%	27	51.9%	40	0.0%	0	13.0%	10	77
	Agriculture and Aquaculture																					
	Annual and perennial nontimber crops	55.8%	48	25.6%	22	14.0%	12	3.5%	3	1.2%	1	1.65	86	63.0%	51	32.1%	26	0.0%	0	4.9%	4	81
	Wood and pulp plantations	0.0%	0	10.6%	9	35.3%	30	38.8%	33	15.3%	13	3.33	85	5.1%	4	69.6%	55	1.3%	1	24.1%	19	79
	Livestock farming and ranching	15.1%	13	41.9%	36	26.7%	23	14.0%	12	2.3%	2	2.40	86	32.5%	26	55.0%	44	5.0%	4	7.5%	6	80

Roads and railroads	Transportation and Service Corridors	Shale gas development (e.g., fracking)	Fossil fuel energy	Renewable energy production	Mining and quarrying	Oil and gas drilling	Energy Production and Mining	Conversion of habitat to annual crops	Aquaculture
38.0%		18.2%	13.6%	27.3%	13.6%	18.2%		61.2%	0.0%
19		4	3	6	3	4		52	0
52.0%		9.1%	18.2%	45.5%	9.1%	4.5%		24.7%	6.0%
26		2	4	10	2	1		21	5
10.0%		45.5%	45.5%	18.2%	59.1%	54.5%		10.6%	28.6%
5		10	10	4	13	12		9	24
0.0%		18.2%	18.2%	4.5%	13.6%	18.2%		1.2%	35.7%
0		4	4	1	3	4		1	30
0.0%		9.1%	4.5%	4.5%	4.5%	4.5%		2.4%	29.8%
0		2	1	1	1	1		2	25
1.72		2.70	2.71	2.00	2.76	2.76		1.51	3.42
50		22	22	22	22	22		85	84
69.4%		20.0%	20.0%	60.0%	26.3%	30.0%		71.6%	3.8%
34		4	4	12	5	6		58	3
30.6%		60.0%	65.0%	30.0%	63.2%	60.0%		23.5%	52.6%
15		12	13	6	12	12		19	41
0.0%		0.0%	5.0%	0.0%	0.0%	0.0%		0.0%	0.0%
0		0	1	0	0	0		0	0
0.0%		20.0%	10.0%	10.0%	10.5%	10.0%		4.9%	43.6%
0		4	2	2	2	2		4	34
49		20	20	20	19	20		81	78

Natural Systems Modification		Human Intrusion and Disturbance	Biological Resource Use			
Fire and fire	Dams and water management/us	Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)	Shipping lanes	Flight paths	Utility and service lines
24.7%	25.6%	20.5%	21.7%	2.0%	0.0%	12.0%
19	20	15	5	1	0	6
24.7%	29.5%	53.4%	34.8%	4.1%	12.0%	58.0%
19	23	39	8	2	6	29
26.0%	28.2%	17.8%	17.4%	14.3%	36.0%	28.0%
20	22	13	4	7	18	14
15.6%	11.5%	8.2%	17.4%	61.2%	38.0%	2.0%
12	9	6	4	30	19	1
9.1%	5.1%	0.0%	8.7%	18.4%	14.0%	0.0%
7	4	0	2	9	7	0
2.36	2.27	2.14	2.33	3.65	3.30	2.20
77	78	73	23	49	50	50
28.6%	48.6%	58.6%	36.4%	0.0%	8.2%	63.3%
20	34	41	8	0	4	31
57.1%	41.4%	41.4%	50.0%	75.0%	71.4%	36.7%
40	29	29	11	36	35	18
1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1	0	0	0	0	0	0
12.9%	10.0%	0.0%	13.6%	25.0%	20.4%	0.0%
9	7	0	3	12	10	0
70	70	70	22	48	49	49

Runoff from roads/service corridors	Pollution	Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)	Plant diseases	Problematic native species (e.g. overabundant native deer or algae)	Invasive/alien species	Invasives and Other Problematic Species	Conversion of natural habitats to other land uses	Over-mowing of natural areas	Log jam removal
33.9%		10.5%	8.0%	20.9%	71.8%		72.7%	21.8%	16.7%
20		9	7	18	61		56	17	13
47.5%		36.0%	29.9%	37.2%	27.1%		20.8%	42.3%	28.2%
28		31	26	32	23		16	33	22
16.9%		31.4%	26.4%	30.2%	1.2%		5.2%	23.1%	23.1%
10		27	23	26	1		4	18	18
0.0%		3.5%	9.2%	10.5%	0.0%		1.3%	6.4%	25.6%
0		3	8	9	0		1	5	20
1.7%		18.6%	26.4%	1.2%	0.0%		0.0%	6.4%	6.4%
1		16	23	1	0		0	5	5
1.83		2.34	2.50	2.31	1.29		1.35	2.15	2.62
59		86	87	86	85		77	78	78
62.1%		47.0%	28.9%	45.8%	91.3%		72.2%	30.6%	21.4%
36		39	24	38	73		52	22	15
32.8%		28.9%	33.7%	50.6%	6.3%		25.0%	59.7%	58.6%
19		24	28	42	5		18	43	41
0.0%		0.0%	0.0%	0.0%	1.3%		2.8%	1.4%	1.4%
0		0	0	0	1		2	1	1
5.2%		24.1%	37.3%	3.6%	1.3%		0.0%	8.3%	18.6%
3		20	31	3	1		0	6	13
58		83	83	83	80		72	72	70

Changing frequency, duration, and intensity of drought		Excess energy (e.g., noise/light pollution, warm water discharge, etc.)	Garbage and solid waste	Agriculture, residential, and forestry effluents	Household sewage and urban water waste	Air pollution (e.g., smoke, mercury emissions)	Point source pollution from commercial/industrial sources	Chemical spills
46.0%		20.7%	18.6%	40.7%	15.3%	25.4%	25.9%	22.0%
29		12	11	24	9	15	15	13
42.9%		27.6%	37.3%	42.4%	42.4%	25.4%	53.4%	33.9%
27		16	22	25	25	15	31	20
7.9%		37.9%	39.0%	15.3%	32.2%	40.7%	17.2%	39.0%
5	**Climate Change and Other Severe Weather**	22	23	9	19	24	10	23
0.0%		8.6%	1.7%	0.0%	3.4%	0.0%	0.0%	0.0%
0		5	1	0	2	0	0	0
3.2%		5.2%	3.4%	1.7%	6.8%	8.5%	3.4%	5.1%
2		3	2	1	4	5	2	3
1.61		2.36	2.25	1.74	2.25	2.17	1.91	2.18
63		58	59	59	59	59	58	59
86.4%		35.1%	41.4%	62.1%	37.9%	34.5%	43.1%	36.8%
51		20	24	36	22	20	25	21
5.1%		52.6%	50.0%	27.6%	48.3%	50.0%	44.8%	49.1%
3		30	29	16	28	29	26	28
0.0%		1.8%	1.7%	1.7%	3.4%	1.7%	3.4%	0.0%
0		1	1	1	2	1	2	0
8.5%		10.5%	6.9%	8.6%	10.3%	13.8%	8.6%	14.0%
5		6	4	5	6	8	5	8
59		57	58	58	58	58	58	57

Changing frequency, duration, and intensity of floods	51.6%	32	38.7%	24	6.5%	4	0.0%	0	3.2%	2	1.53	62	86.0%	49	5.3%	3	0.0%	0	8.8%	5	57
Shifting and alteration of habitats due to climate change	30.2%	19	54.0%	34	12.7%	8	0.0%	0	3.2%	2	1.82	63	86.4%	51	5.1%	3	0.0%	0	8.5%	5	59
Temperature extremes	26.2%	16	52.5%	32	19.7%	12	0.0%	0	1.6%	1	1.93	61	86.0%	49	5.3%	3	0.0%	0	8.8%	5	57
Shifting seasons/phenology	30.2%	19	47.6%	30	17.5%	11	0.0%	0	4.8%	3	1.87	63	81.4%	48	10.2%	6	0.0%	0	8.5%	5	59
Other Stressor																				
Low genetic diversity (due to reduced population size, species inbreeding, etc.)	23.1%	9	41.0%	16	23.1%	9	7.7%	3	5.1%	2	2.16	39	52.8%	19	36.1%	13	0.0%	0	11.1%	4	36
Diseases	18.2%	6	51.5%	17	18.2%	6	3.0%	1	9.1%	3	2.07	33	46.7%	14	26.7%	8	0.0%	0	26.7%	8	30

33. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the **REGION** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Question 16 responses excluded from this report.

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the REGION.

34. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the REGION over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the **REGION** since 2005 or have plans to do so.

		To what extent do you think this category of conservation action is important for fish and wildlife habitats within HABITAT in the REGION over the next 10 years?											Mean	Total Responses	Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within HABITAT in the REGION?						Total Responses
		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know				Yes		No		I Don't Know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	
Entire Region 2	Land/water protection	73.5%	75	19.6%	20	6.9%	7	0.0%	0	0.0%	0	1.33	102	70.4%	57	14.8%	12	14.8%	12	81
	Land/water/ species management	79.4%	81	17.6%	18	2.9%	3	0.0%	0	0.0%	0	1.24	102	88.9%	72	3.7%	3	7.4%	6	81
	Education and awareness	53.4%	55	35.9%	37	10.7%	11	0.0%	0	0.0%	0	1.57	103	81.5%	66	7.4%	6	11.1%	9	81
	Law and policy	41.6%	42	42.6%	43	10.9%	11	1.0%	1	4.0%	4	1.70	101	30.4%	24	38.0%	30	31.6%	25	79

	%	N	%	N	%	N	%	N	%	N	Mean	Total	%	N	%	N	%	N	Total
Livelihood, economic, and other incentives	26.7%	27	50.5%	51	15.8%	16	1.0%	1	5.9%	6	1.91	101	31.6%	25	36.7%	29	31.6%	25	79
External capacity building	37.0%	37	30.0%	30	22.0%	22	1.0%	1	10.0%	10	1.86	100	32.1%	26	30.9%	25	37.0%	30	81

35. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the **REGION** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the REGION. You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

		Very Important		Moderately Important		Somewhat Important		Not important		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
	Land/Water Protection												
	Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	68.4%	13	26.3%	5	5.3%	1	0.0%	0	0.0%	0	1.37	19
	Acquire currently unprotected barren lands	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
	Acquire currently unprotected forests	63.6%	7	27.3%	3	9.1%	1	0.0%	0	0.0%	0	1.45	11
	Acquire currently unprotected grasslands	84.2%	16	15.8%	3	0.0%	0	0.0%	0	0.0%	0	1.16	19
	Acquire currently unprotected wetlands	95.0%	19	5.0%	1	0.0%	0	0.0%	0	0.0%	0	1.05	20
Entire Region 2	Acquire currently unprotected subterranean habitats	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
	Preserve currently existing corridors	86.5%	77	7.9%	7	4.5%	4	1.1%	1	0.0%	0	1.20	89
	Acquire conservation easements to protect important wildlife habitats	71.1%	64	21.1%	19	7.8%	7	0.0%	0	0.0%	0	1.37	90
	Reduce conversion to cropland	72.2%	65	15.6%	14	11.1%	10	1.1%	1	0.0%	0	1.41	90
	Build/strengthen CRP partnerships	46.7%	42	34.4%	31	10.0%	9	6.7%	6	2.2%	2	1.76	90
	Land/Water/Species Management												
	Control invasive species in agricultural lands	41.2%	7	47.1%	8	5.9%	1	5.9%	1	0.0%	0	1.76	17
	Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	60.0%	12	25.0%	5	10.0%	2	5.0%	1	0.0%	0	1.60	20
	Control invasive species in barren lands	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
	Control invasive species in developed lands	50.0%	2	50.0%	2	0.0%	0	0.0%	0	0.0%	0	1.50	4
	Control invasive species in forests	83.3%	10	16.7%	2	0.0%	0	0.0%	0	0.0%	0	1.17	12

Control invasive species in grasslands	70.0%	14	25.0%	5	5.0%	1	0.0%	0	0.0%	0	1.35	20
Control invasive species in wetlands	81.0%	17	14.3%	3	4.8%	1	0.0%	0	0.0%	0	1.24	21
Control invasive species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	11.8%	2	52.9%	9	35.3%	6	0.0%	0	0.0%	0	2.24	17
Control problematic native species in aquatic systems	20.0%	4	30.0%	6	45.0%	9	5.0%	1	0.0%	0	2.35	20
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	25.0%	1	50.0%	2	25.0%	1	0.0%	0	0.0%	0	2.00	4
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	33.3%	4	41.7%	5	25.0%	3	0.0%	0	0.0%	0	1.92	12
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	15.0%	3	30.0%	6	40.0%	8	15.0%	3	0.0%	0	2.55	20
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	28.6%	6	47.6%	10	19.0%	4	4.8%	1	0.0%	0	2.00	21
Control problematic native species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Dam removal	12.2%	5	31.7%	13	19.5%	8	29.3%	12	7.3%	3	2.71	41
Decrease E. coli counts	15.8%	6	26.3%	10	36.8%	14	10.5%	4	10.5%	4	2.47	38
Decrease number of combined sewer overflow events	29.3%	12	41.5%	17	12.2%	5	12.2%	5	4.9%	2	2.08	41
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	63.0%	58	26.1%	24	9.8%	9	1.1%	1	0.0%	0	1.49	92
Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	3.8%	3	17.5%	14	25.0%	20	25.0%	20	28.8%	23	3.00	80
Improve drainage management	38.0%	35	42.4%	39	13.0%	12	4.3%	4	2.2%	2	1.83	92
Improve integrated pest management	29.4%	5	41.2%	7	17.6%	3	11.8%	2	0.0%	0	2.12	17
Increase acres of riparian buffers	46.7%	43	40.2%	37	13.0%	12	0.0%	0	0.0%	0	1.66	92
Increase acres enrolled in the Classified Forest and Wildlands Program	20.2%	19	42.6%	40	24.5%	23	10.6%	10	2.1%	2	2.26	94
Link existing habitat blocks through corridor enhancement in agricultural lands	70.6%	12	23.5%	4	5.9%	1	0.0%	0	0.0%	0	1.35	17
Link existing habitat blocks through corridor enhancement in aquatic systems	45.0%	9	35.0%	7	20.0%	4	0.0%	0	0.0%	0	1.75	20
Link existing habitat blocks through corridor enhancement in barren lands	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Link existing habitat blocks through corridor enhancement in developed lands	75.0%	3	25.0%	1	0.0%	0	0.0%	0	0.0%	0	1.25	4
Link existing habitat blocks through corridor enhancement in forests	58.3%	7	33.3%	4	0.0%	0	8.3%	1	0.0%	0	1.58	12
Link existing habitat blocks through corridor enhancement in grasslands	65.0%	13	20.0%	4	10.0%	2	5.0%	1	0.0%	0	1.55	20
Link existing habitat blocks through corridor enhancement in wetlands	61.9%	13	28.6%	6	9.5%	2	0.0%	0	0.0%	0	1.48	21
Enhance corridors in subterranean systems	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Manage biofuel grasslands	10.8%	4	32.4%	12	32.4%	12	16.2%	6	8.1%	3	2.59	37
Manage urban woodlots	75.0%	3	25.0%	1	0.0%	0	0.0%	0	0.0%	0	3.37	4
Mine reclamation	6.9%	5	4.2%	3	20.8%	15	47.2%	34	20.8%	15	1.25	72
Promote diversity of forest types and successional stages	41.7%	5	33.3%	4	8.3%	1	16.7%	2	0.0%	0	2.00	12

Promote diversity of grassland types and successional stages	65.0%	13	25.0%	5	10.0%	2	0.0%	0	0.0%	0	1.45	20
Promote diversity of wetland types and successional stages	57.1%	12	33.3%	7	9.5%	2	0.0%	0	0.0%	0	1.52	21
Protect and enhance undeveloped shorelines	35.9%	14	25.6%	10	33.3%	13	5.1%	2	0.0%	0	2.08	39
Protect natural water regimes (e.g., withdraws, warm-water discharge)	48.8%	20	39.0%	16	9.8%	4	2.4%	1	0.0%	0	1.66	41
Protect adjacent buffer zones	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	75.3%	70	18.3%	17	6.5%	6	0.0%	0	0.0%	0	1.31	93
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	46.2%	43	34.4%	32	16.1%	15	1.1%	1	2.2%	2	1.71	93
Reduce recreational overuse of aquatic systems	15.8%	3	31.6%	6	36.8%	7	15.8%	3	0.0%	0	2.53	19
Reduce recreational overuse of forests	16.7%	2	33.3%	4	33.3%	4	16.7%	2	0.0%	0	2.50	12
Reduce recreational overuse of grasslands	26.3%	5	26.3%	5	21.1%	4	26.3%	5	0.0%	0	2.47	19
Reduce recreational overuse of wetlands	15.0%	3	20.0%	4	45.0%	9	15.0%	3	5.0%	1	2.63	20
Reduce recreational overuse of subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Reduce stream bank erosion	45.0%	9	45.0%	9	10.0%	2	0.0%	0	0.0%	0	1.65	20
Reduce stream head cutting	25.0%	5	30.0%	6	30.0%	6	0.0%	0	15.0%	3	2.06	20
Reestablish natural disturbance regimes in barren lands	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Reestablish natural disturbance regimes in forests	41.7%	5	41.7%	5	16.7%	2	0.0%	0	0.0%	0	1.75	12
Reestablish natural disturbance regimes in grasslands	80.0%	16	20.0%	4	0.0%	0	0.0%	0	0.0%	0	1.20	20
Reestablish natural disturbance regimes in wetlands	52.4%	11	33.3%	7	9.5%	2	0.0%	0	4.8%	1	1.55	21
Reestablish natural disturbance regimes in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Remove log jams	5.0%	1	20.0%	4	45.0%	9	30.0%	6	0.0%	0	3.00	20
Restore and integrate diversity of habitats into crop-production dominated landscapes	58.8%	10	29.4%	5	11.8%	2	0.0%	0	0.0%	0	1.53	17
Restore and integrate diversity of habitats into developed landscapes	50.0%	2	50.0%	2	0.0%	0	0.0%	0	0.0%	0	1.50	4
Restore habitats and natural systems in aquatic systems	55.0%	11	35.0%	7	10.0%	2	0.0%	0	0.0%	0	1.55	20
Restore habitats and natural systems in barren lands	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Restore habitats and natural systems in forests	58.3%	7	33.3%	4	8.3%	1	0.0%	0	0.0%	0	1.50	12
Restore habitats and natural systems in grasslands	95.0%	19	5.0%	1	0.0%	0	0.0%	0	0.0%	0	1.05	20
Restore habitats and natural systems in wetlands	85.7%	18	9.5%	2	4.8%	1	0.0%	0	0.0%	0	1.19	21
Restore habitats and natural systems in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Species reintroduction. Please specify:	29.0%	9	16.1%	5	22.6%	7	12.9%	4	19.4%	6	2.24	31
Education and Awareness												
Educational programs in general	47.7%	42	46.6%	41	5.7%	5	0.0%	0	0.0%	0	1.58	88
Educational programs specifically for K-12	29.9%	26	54.0%	47	16.1%	14	0.0%	0	0.0%	0	1.86	87
Improvement of signage and other communication materials in conservation areas	21.8%	19	50.6%	44	24.1%	21	3.4%	3	0.0%	0	2.09	87
Training programs for stakeholders	42.0%	37	45.5%	40	8.0%	7	3.4%	3	1.1%	1	1.72	88
Law and Policy												
Increase regulations on invasive species	51.9%	41	34.2%	27	12.7%	10	1.3%	1	0.0%	0	1.63	79
Change current laws, policies, and regulations. Please specify:	19.1%	13	32.4%	22	13.2%	9	2.9%	2	32.4%	22	2.00	68
Set private sector standards and codes	15.4%	12	32.1%	25	29.5%	23	6.4%	5	16.7%	13	1.64	78
Improve compliance with and enforcement of current policies	48.1%	38	38.0%	30	12.7%	10	0.0%	0	1.3%	1	2.32	79
Reduce urban sprawl through planning and zoning	52.5%	42	27.5%	22	17.5%	14	2.5%	2	0.0%	0	1.70	80
Establish legal lake levels	16.7%	3	38.9%	7	44.4%	8	0.0%	0	0.0%	0	2.28	18

	22.2%	4	33.3%	6	33.3%	6	11.1%	2	0.0%	0	2.33	18
Establish rules and guidelines for piers and other structures	22.2%	4	33.3%	6	33.3%	6	11.1%	2	0.0%	0	2.33	18
Increase compliance of existing rules and regulations for aquatic systems	50.0%	9	33.3%	6	16.7%	3	0.0%	0	0.0%	0	1.67	18
Establish submergent vegetation control guidelines	27.8%	5	50.0%	9	16.7%	3	5.6%	1	0.0%	0	2.00	18
Livelihood, Economic, and Other Incentives												
Link natural resources to livelihoods through nature tourism	27.4%	20	41.1%	30	27.4%	20	2.7%	2	1.4%	1	2.06	73
Support substitution of alternatives for environmentally harmful products and processes	28.8%	21	49.3%	36	13.7%	10	1.4%	1	6.8%	5	1.87	73
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	11.1%	8	47.2%	34	26.4%	19	5.6%	4	9.7%	7	2.29	72
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	56.2%	41	32.9%	24	9.6%	7	0.0%	0	1.4%	1	1.53	73
Promote nonmonetary values of natural systems within the state	59.7%	43	29.2%	21	11.1%	8	0.0%	0	0.0%	0	1.51	72
Manage recreational opportunities to be compatible with fish and wildlife habitats	69.4%	50	18.1%	13	9.7%	7	2.8%	2	0.0%	0	1.46	72
External Capacity Building												
Develop institutions and civil society	11.1%	7	44.4%	28	28.6%	18	3.2%	2	12.7%	8	2.27	63
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	65.1%	41	28.6%	18	6.3%	4	0.0%	0	0.0%	0	1.41	63
Strengthen conservation financing	77.8%	49	17.5%	11	4.8%	3	0.0%	0	0.0%	0	1.27	63
Increase state's capacity for research and monitoring of conservation actions	60.3%	38	23.8%	15	15.9%	10	0.0%	0	0.0%	0	1.56	63
Promote green infrastructure	36.5%	23	42.9%	27	15.9%	10	1.6%	1	3.2%	2	1.82	63
Promote use of research and science in conservation decision-making processes	58.1%	36	27.4%	17	11.3%	7	3.2%	2	0.0%	0	1.60	62

Questions 19 – 26 have been excluded from this report

Corn Belt Region

Section I: Agency Information and Evaluation of Conservation Actions

Questions 1 – 10 excluded from this report

36. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in The Corn Belt (Region 3)? (Check only one)

	Very Poor		Poor		Satisfactory		Good		Very good		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	%	N	Responses
Aquatic systems	5.1	3	45.8	27	35.6	21	13.6	8	0.0	0	0.0	0	59
Agricultural lands	22.2	10	51.1	23	22.2	10	2.2	1	2.2	1	0.0	0	45
Barren lands	33.3	2	16.7	1	33.3	2	16.7	1	0.0	0	0.0	0	6
Developed Lands	5.6	1	61.1	11	16.7	3	11.1	2	0.0	0	5.6	1	18
Forests	14.9	7	34.0	16	27.7	13	12.8	6	8.5	4	2.1	1	47
Grasslands	28.0	7	28.0	7	24.0	6	12.0	3	8.0	2	0.0	0	25
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	17.2	5	37.9	11	37.9	11	3.4	1	0.0	0	3.4	1	29
Total	15.3	35	41.9	96	28.8	66	9.6	22	3.1	7	1.3	3	229

37. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in The Corn Belt (Region 3) since 2005? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	10.2	6	57.6	34	25.4	15	6.8	4	59
Agricultural lands	4.4	2	22.2	10	71.1	32	2.2	1	45
Barren lands	0.0	0	40.0	2	60.0	3	0.0	0	5
Developed Lands	20.0	4	25.0	5	50.0	10	5.0	1	20
Forests	6.4	3	31.9	15	59.6	28	2.1	1	47
Grasslands	11.5	3	26.9	7	61.5	16	0.0	0	26
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	6.9	2	37.9	11	48.3	14	6.9	2	29
Total	8.7	20	36.4	84	51.1	118	3.9	9	231

Quality of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	13.6	8	52.5	31	27.1	16	6.8	4	59
Agricultural lands	6.7	3	20.0	9	71.1	32	2.2	1	45
Barren lands	16.7	1	33.3	2	50.0	3	0.0	0	6
Developed Lands	16.7	3	22.2	4	55.6	10	5.6	1	18
Forests	6.4	3	40.4	19	51.1	24	2.1	1	47
Grasslands	4.0	1	52.0	13	44.0	11	0.0	0	25
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	6.9	2	48.3	14	37.9	11	6.9	2	29
Total	9.2	21	40.2	92	46.7	107	3.9	9	229

38. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in The Corn Belt (Region 3) <u>over the next 10 years</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	15.3	9	39.0	23	40.7	24	5.1	3	59
Agricultural lands	8.9	4	15.6	7	75.6	34	0.0	0	45
Barren lands	0.0	0	66.7	4	33.3	2	0.0	0	6
Developed Lands	15.0	3	10.0	2	70.0	14	5.0	1	20
Forests	6.4	3	29.8	14	57.4	27	6.4	3	47
Grasslands	8.0	2	24.0	6	68.0	17	0.0	0	25
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	10.3	3	20.7	6	65.5	19	3.4	1	29
Total	10.4	24	26.8	62	59.3	137	3.5	8	231

Quality of fish and wildlife habitats within HABITAT over the next 10 years

Corn Belt (Region 3)	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	15.5	9	31.0	18	46.6	27	6.9	4	58

Agricultural lands	11.1	5	13.3	6	75.6	34	0.0	0	45
Barren lands	0.0	0	66.7	4	33.3	2	0.0	0	6
Developed Lands	15.0	3	20.0	4	60.0	12	5.0	1	20
Forests	4.3	2	27.7	13	61.7	29	6.4	3	47
Grasslands	8.3	2	29.2	7	62.5	15	0.0	0	24
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	10.3	3	24.1	7	58.6	17	6.9	2	29
Total	10.5	24	25.8	59	59.4	136	4.4	10	229

Section III: Threats to Fish and Wildlife Habitats

39. **Currently**, to what extent do you think the following general categories of threats apply to fish and wildlife habitats within **HABITAT** in the REGION? (Check one for each line item)

		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know			
		%	N	%	N	%	N	%	N	%	N	Mean	Total Responses
Entire Region 3	Residential and commercial development	42.3%	93	41.4%	91	13.2%	29	2.7%	6	0.5%	1	1.76	220
	Agriculture and aquaculture	55.0%	121	27.3%	60	10.9%	24	3.6%	8	3.2%	7	1.62	220
	Energy production and mining	7.3%	16	26.9%	59	32.9%	72	24.2%	53	8.7%	19	2.81	219
	Transportation and service corridors	12.3%	27	35.5%	78	38.6%	85	9.5%	21	4.1%	9	2.47	220
	Biological resource use	8.7%	19	22.5%	49	42.7%	93	22.0%	48	4.1%	9	2.81	218
	Human intrusion and disturbance	33.9%	74	31.7%	69	28.0%	61	5.5%	12	0.9%	2	2.05	218
	Natural systems modifications	33.6%	74	37.7%	83	24.1%	53	2.3%	5	2.3%	5	1.95	220
	Invasives and other problematic species and genes	50.2%	111	32.1%	71	14.5%	32	1.8%	4	1.4%	3	1.67	221
	Pollution	30.4%	66	41.0%	89	24.9%	54	2.3%	5	1.4%	3	1.99	217
	Climate change and severe weather	20.5%	45	32.0%	70	26.5%	58	12.3%	27	8.7%	19	2.34	219
	Other stressors	14.3%	30	32.4%	68	27.1%	57	6.2%	13	20.0%	42	2.32	210

40. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the REGION. Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the REGION and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

		To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total Respondes	How will the significance of this threat change over the next 10 years?								Total Responses
		Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't Know				Increase		Remain the Same		Decrease		I don't know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Entire Region 3	Housing and urban areas	45.0%	81	44.4%	80	10.0%	18	0.0%	0	0.6%	1	1.65	180	71.9%	120	25.7%	43	0.0%	0	2.4%	4	167
	Commercial and industrial areas	34.9%	60	44.8%	77	18.6%	32	1.2%	2	0.6%	1	1.86	172	61.0%	97	32.1%	51	1.9%	3	5.0%	8	159
	Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	8.4%	15	33.5%	60	43.6%	78	11.2%	20	3.4%	6	2.60	179	31.5%	52	60.6%	100	1.8%	3	6.1%	10	165
	Agriculture and Aquaculture																					
	Annual and perennial nontimber crops	51.1%	91	19.7%	35	16.3%	29	10.7%	19	2.2%	4	1.86	178	51.8%	86	41.6%	69	2.4%	4	4.2%	7	166
	Wood and pulp plantations	5.1%	9	6.8%	12	36.2%	64	43.5%	77	8.5%	15	3.29	177	8.6%	14	70.6%	115	4.3%	7	16.6%	27	163
	Livestock farming and ranching	29.9%	53	35.0%	62	28.8%	51	5.1%	9	1.1%	2	2.09	177	43.6%	72	46.1%	76	6.1%	10	4.2%	7	165

Roads and railroads	Transportation and Service Corridors	Shale gas development (e.g. fracking)	Fossil fuel energy	Renewable energy production	Mining and quarrying	Oil and gas drilling	Energy Production and Mining	Conversion of habitat to annual crops	Aquaculture
25.7%		36.5%	18.7%	17.3%	11.0%	18.7%		55.6%	2.4%
27		27	14	13	8	14		99	4
53.3%		21.6%	29.3%	46.7%	37.0%	30.7%		27.5%	11.8%
56		16	22	35	27	23		49	20
18.1%		23.0%	32.0%	29.3%	34.2%	32.0%		12.9%	27.6%
19		17	24	22	25	24		23	47
1.9%		6.8%	12.0%	4.0%	13.7%	13.3%		2.8%	38.2%
2	Transportation and Service Corridors	5	9	3	10	10	Energy Production and Mining	5	65
1.0%		12.2%	8.0%	2.7%	4.1%	5.3%		1.1%	20.0%
1		9	6	2	3	4		2	34
1.96		2.00	2.41	2.21	2.53	2.42		1.63	3.27
105		74	75	75	73	75		178	170
65.3%		55.7%	37.7%	73.5%	40.3%	58.0%		68.1%	10.1%
62		39	26	50	27	40		113	16
31.6%		27.1%	47.8%	20.6%	55.2%	36.2%		26.5%	59.5%
30		19	33	14	37	25		44	94
1.1%		0.0%	5.8%	1.5%	0.0%	0.0%		2.4%	1.3%
1		0	4	1	0	0		4	2
2.1%		17.1%	8.7%	4.4%	4.5%	5.8%		3.0%	29.1%
2		12	6	3	3	4		5	46
95		70	69	68	67	69		166	158

Natural Systems Modification		Human Intrusion and Disturbance	Biological Resource Use			
Fire and fire	Dams and water management/us	Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)	Shipping lanes	Flight paths	Utility and service lines
7.2%	22.1%	22.0%	30.3%	1.0%	3.8%	12.4%
11	34	31	20	1	4	13
17.0%	37.0%	41.8%	31.8%	11.8%	15.4%	47.6%
26	57	59	21	12	16	50
30.1%	22.1%	30.5%	18.2%	14.7%	39.4%	27.6%
46	34	43	12	15	41	29
37.9%	11.7%	4.3%	12.1%	57.8%	31.7%	9.5%
58	18	6	8	59	33	10
7.8%	7.1%	1.4%	7.6%	14.7%	9.6%	2.9%
12	11	2	5	15	10	3
3.07	2.25	2.17	2.13	3.52	3.10	2.35
153	154	141	66	102	104	105
12.5%	40.7%	56.9%	42.6%	5.7%	14.7%	42.7%
18	59	78	26	5	14	41
78.5%	50.3%	38.7%	42.6%	63.6%	67.4%	52.1%
113	73	53	26	56	64	50
0.0%	0.7%	0.0%	0.0%	1.1%	1.1%	0.0%
0	1	0	0	1	1	0
9.0%	8.3%	4.4%	14.8%	29.5%	16.8%	5.2%
13	12	6	9	26	16	5
144	145	137	61	88	95	96

Runoff from roads/service corridors	Pollution	Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)	Plant diseases	Problematic native species (e.g. overabundant native deer or algae)	Invasive/alien species	Invasives and Other Problematic Species	Conversion of natural habitats to other land uses	Over-mowing of natural areas	Log jam removal
32.7%		20.9%	19.3%	35.1%	71.3%		63.6%	20.9%	10.4%
50		37	34	61	122		98	31	16
51.0%		31.1%	38.6%	37.9%	24.6%		30.5%	37.8%	26.6%
78		55	68	66	42		47	56	41
15.7%		22.0%	21.0%	19.5%	2.3%		4.5%	25.0%	26.0%
24		39	37	34	4		7	37	40
0.7%		9.6%	5.1%	6.9%	0.0%		0.0%	8.8%	23.4%
1		17	9	12	0		0	13	36
0.0%		16.4%	15.9%	0.6%	1.8%		1.3%	7.4%	13.6%
0		29	28	1	3		2	11	21
1.84		2.24	2.14	1.98	1.30		1.40	2.23	2.72
153		177	176	174	171		154	148	154
63.9%		48.2%	52.4%	59.0%	83.0%		74.5%	33.1%	23.3%
94		81	87	98	137		108	47	34
33.3%		32.7%	28.3%	36.7%	13.3%		24.1%	52.8%	60.3%
49		55	47	61	22		35	75	88
0.7%		1.2%	0.0%	1.2%	1.2%		0.0%	2.8%	0.7%
1		2	0	2	2		0	4	1
2.0%		17.9%	19.3%	3.0%	2.4%		1.4%	11.3%	15.8%
3		30	32	5	4		2	16	23
147		168	166	166	165		145	142	146

Changing frequency, duration, and intensity of drought		Excess energy (e.g., noise/light pollution, warm water discharge, etc.)	Garbage and solid waste	Agriculture, residential, and forestry effluents	Household sewage and urban water waste	Air pollution (e.g., smoke, mercury emissions)	Point source pollution from commercial/industrial sources	Chemical spills
46.9%		19.7%	19.2%	48.3%	34.0%	28.3%	30.9%	17.8%
53		29	29	73	52	43	47	27
38.9%		36.1%	33.8%	38.4%	37.3%	30.3%	47.4%	45.4%
44		53	51	58	57	46	72	69
11.5%		31.3%	39.1%	12.6%	25.5%	32.9%	19.1%	31.6%
13	**Climate Change and Other Severe Weather**	46	59	19	39	50	29	48
0.9%		8.2%	4.6%	0.7%	1.3%	3.3%	0.0%	1.3%
1		12	7	1	2	5	0	2
1.8%		4.8%	3.3%	0.0%	2.0%	5.3%	2.6%	3.9%
2		7	5	0	3	8	4	6
1.66		2.29	2.30	1.66	1.94	2.12	1.88	2.17
113		147	151	151	153	152	152	152
76.8%		45.7%	44.1%	58.5%	47.9%	34.2%	46.9%	35.7%
86		64	64	86	70	50	69	51
14.3%		45.0%	48.3%	31.3%	37.0%	45.2%	44.9%	58.7%
16		63	70	46	54	66	66	84
0.0%		1.4%	2.8%	6.1%	9.6%	13.7%	4.1%	0.0%
0		2	4	9	14	20	6	0
8.9%		7.9%	4.8%	4.1%	5.5%	6.8%	4.1%	5.6%
10		11	7	6	8	10	6	8
112		140	145	147	146	146	147	143

Changing frequency, duration, and intensity of floods	50.0%	57	36.8%	42	8.8%	10	1.8%	2	2.6%	3	1.61	114	77.7%	87	15.2%	17	0.0%	0	7.1%	8	112
Shifting and alteration of habitats due to climate change	36.8%	42	45.6%	52	16.7%	19	0.0%	0	0.9%	1	1.80	114	76.8%	86	14.3%	16	0.0%	0	8.9%	10	112
Temperature extremes	31.3%	35	42.9%	48	24.1%	27	0.9%	1	0.9%	1	1.95	112	77.7%	87	15.2%	17	0.0%	0	7.1%	8	112
Shifting seasons/phenology	34.5%	39	41.6%	47	16.8%	19	2.7%	3	4.4%	5	1.87	113	72.3%	81	17.0%	19	0.0%	0	10.7%	12	112
Other Stressor																					
Low genetic diversity (due to reduced population size, species inbreeding, etc.)	40.4%	38	25.5%	24	20.2%	19	6.4%	6	7.4%	7	1.92	94	64.1%	59	28.3%	26	0.0%	0	7.6%	7	92
Diseases	33.8%	25	52.7%	39	8.1%	6	1.4%	1	4.1%	3	1.76	74	77.3%	58	17.3%	13	0.0%	0	5.3%	4	75

41. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the **REGION** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Question 16 responses excluded from this report.

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the REGION.

42. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the REGION over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the **REGION** since 2005 or have plans to do so.

		To what extent do you think this category of conservation action is important for fish and wildlife habitats within HABITAT in the REGION over the next 10 years?										Mean	Total Responses	Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within HABITAT in the REGION?						Total Responses
		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know				Yes		No		I Don't Know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	
Entire Region 3	Land/water protection	60.4%	128	24.1%	51	11.8%	25	2.4%	5	1.4%	3	1.56	212	57.4%	105	32.8%	60	9.8%	18	183
	Land/water/ species management	66.5%	141	24.5%	52	7.5%	16	0.0%	0	1.4%	3	1.40	212	72.5%	129	18.0%	32	9.6%	17	178
	Education and awareness	64.4%	141	23.7%	52	11.4%	25	0.0%	0	0.5%	1	1.47	219	84.4%	152	10.0%	18	5.6%	10	180
	Law and policy	48.8%	104	27.7%	59	17.8%	38	1.9%	4	3.8%	8	1.72	213	40.0%	72	41.1%	74	18.9%	34	180
	Livelihood, economic, and other incentives	40.8%	87	34.7%	74	12.7%	27	7.0%	15	4.7%	10	1.85	213	33.3%	60	42.8%	77	23.9%	43	180
	External capacity building	43.6%	92	27.5%	58	18.5%	39	5.7%	12	4.7%	10	1.86	211	39.7%	71	35.8%	64	24.6%	44	179

43. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the **REGION** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the REGION. You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

	Very Important		Moderately Important		Somewhat Important		Not important		I Don't Know		Mean	Total Responses
	%	N	%	N	%	N	%	N	%	N		
Land/Water Protection												
Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	57.4%	27	31.9%	15	6.4%	3	2.1%	1	2.1%	1	1.52	47
Acquire currently unprotected barren lands	50.0%	3	33.3%	2	16.7%	1	0.0%	0	0.0%	0	1.67	6
Acquire currently unprotected forests	54.1%	20	21.6%	8	21.6%	8	2.7%	1	0.0%	0	1.73	37
Acquire currently unprotected grasslands	77.8%	14	16.7%	3	5.6%	1	0.0%	0	0.0%	0	1.28	18
Acquire currently unprotected wetlands	79.2%	19	12.5%	3	0.0%	0	4.2%	1	4.2%	1	1.26	24
Acquire currently unprotected subterranean habitats	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Preserve currently existing corridors	73.9%	130	17.6%	31	8.0%	14	0.0%	0	0.6%	1	1.34	176
Acquire conservation easements to protect important wildlife habitats	59.9%	106	26.0%	46	10.2%	18	4.0%	7	0.0%	0	1.58	177
Reduce conversion to cropland	68.9%	122	18.6%	33	8.5%	15	4.0%	7	0.0%	0	1.47	177
Build/strengthen CRP partnerships	55.9%	99	26.0%	46	9.6%	17	6.8%	12	1.7%	3	1.67	177
Land/Water/Species Management												
Control invasive species in agricultural lands	47.4%	18	34.2%	13	15.8%	6	2.6%	1	0.0%	0	1.74	38
Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	64.0%	32	18.0%	9	16.0%	8	2.0%	1	0.0%	0	1.56	50
Control invasive species in barren lands	100.0%	4	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	4
Control invasive species in developed lands	76.9%	10	15.4%	2	7.7%	1	0.0%	0	0.0%	0	1.31	13
Control invasive species in forests	78.0%	32	17.1%	7	4.9%	2	0.0%	0	0.0%	0	1.27	41
Control invasive species in grasslands	68.2%	15	18.2%	4	4.5%	1	9.1%	2	0.0%	0	1.55	22
Control invasive species in wetlands	69.6%	16	17.4%	4	13.0%	3	0.0%	0	0.0%	0	1.43	23
Control invasive species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	34.2%	13	34.2%	13	31.6%	12	0.0%	0	0.0%	0	1.97	38
Control problematic native species in aquatic systems	32.0%	16	26.0%	13	38.0%	19	4.0%	2	0.0%	0	2.14	50
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	50.0%	2	25.0%	1	25.0%	1	0.0%	0	0.0%	0	1.75	4
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	46.2%	6	38.5%	5	15.4%	2	0.0%	0	0.0%	0	1.69	13
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	39.0%	16	36.6%	15	22.0%	9	2.4%	1	0.0%	0	1.88	41
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	27.3%	6	27.3%	6	36.4%	8	9.1%	2	0.0%	0	2.27	22
Control problematic species (e.g., deer, raccoon, domestic cat,	31.8%	7	27.3%	6	31.8%	7	9.1%	2	0.0%	0	2.18	22

Entire Region 3

feral hog, exotic/aggressive vegetation) in wetlands												
Control problematic native species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Dam removal	20.5%	15	24.7%	18	26.0%	19	20.5%	15	8.2%	6	2.51	73
Decrease E. coli counts	36.6%	26	23.9%	17	28.2%	20	7.0%	5	4.2%	3	2.06	71
Decrease number of combined sewer overflow events	54.8%	40	34.2%	25	8.2%	6	1.4%	1	1.4%	1	1.56	73
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	64.9%	124	23.6%	45	7.3%	14	4.2%	8	0.0%	0	1.51	191
Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	10.8%	20	10.8%	20	21.0%	39	23.7%	44	33.9%	63	2.87	186
Improve drainage management	47.6%	89	31.0%	58	14.4%	27	4.3%	8	2.7%	5	1.75	187
Improve integrated pest management	42.1%	16	36.8%	14	15.8%	6	0.0%	0	5.3%	2	1.72	38
Increase acres of riparian buffers	59.4%	111	31.6%	59	7.5%	14	0.5%	1	1.1%	2	1.49	187
Increase acres enrolled in the Classified Forest and Wildlands Program	41.8%	79	33.3%	63	17.5%	33	4.8%	9	2.6%	5	1.85	189
Link existing habitat blocks through corridor enhancement in agricultural lands	68.4%	26	23.7%	9	2.6%	1	2.6%	1	2.6%	1	1.38	38
Link existing habitat blocks through corridor enhancement in aquatic systems	54.0%	27	32.0%	16	4.0%	2	0.0%	0	10.0%	5	1.44	50
Link existing habitat blocks through corridor enhancement in barren lands	75.0%	3	0.0%	0	0.0%	0	0.0%	0	25.0%	1	1.00	4
Link existing habitat blocks through corridor enhancement in developed lands	53.8%	7	30.8%	4	15.4%	2	0.0%	0	0.0%	0	1.62	13
Link existing habitat blocks through corridor enhancement in forests	39.0%	16	46.3%	19	14.6%	6	0.0%	0	0.0%	0	1.76	41
Link existing habitat blocks through corridor enhancement in grasslands	63.6%	14	27.3%	6	4.5%	1	4.5%	1	0.0%	0	1.50	22
Link existing habitat blocks through corridor enhancement in wetlands	63.6%	14	22.7%	5	13.6%	3	0.0%	0	0.0%	0	1.50	22
Enhance corridors in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Manage biofuel grasslands	16.7%	10	23.3%	14	38.3%	23	13.3%	8	8.3%	5	2.53	60
Manage urban woodlots	61.5%	8	30.8%	4	7.7%	1	0.0%	0	0.0%	0	2.74	13
Mine reclamation	16.9%	25	21.6%	32	15.5%	23	33.1%	49	12.8%	19	1.46	148
Promote diversity of forest types and successional stages	57.5%	23	20.0%	8	17.5%	7	5.0%	2	0.0%	0	1.70	40
Promote diversity of grassland types and successional stages	61.9%	13	28.6%	6	4.8%	1	4.8%	1	0.0%	0	1.52	21
Promote diversity of wetland types and successional stages	60.9%	14	13.0%	3	17.4%	4	0.0%	0	8.7%	2	1.52	23
Protect and enhance undeveloped shorelines	52.2%	36	30.4%	21	13.0%	9	1.4%	1	2.9%	2	1.63	69
Protect natural water regimes (e.g., withdraws, warm-water discharge)	56.2%	41	32.9%	24	6.8%	5	2.7%	2	1.4%	1	1.56	73
Protect adjacent buffer zones	57.9%	44	34.2%	26	6.6%	5	1.3%	1	0.0%	0	1.51	76
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	77.4%	147	16.3%	31	5.8%	11	0.0%	0	0.5%	1	1.28	190
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	61.3%	117	25.1%	48	12.6%	24	1.0%	2	0.0%	0	1.53	191
Reduce recreational overuse of aquatic systems	20.0%	10	32.0%	16	22.0%	11	24.0%	12	2.0%	1	2.51	50
Reduce recreational overuse of forests	20.0%	8	27.5%	11	32.5%	13	20.0%	8	0.0%	0	2.53	40
Reduce recreational overuse of grasslands	22.7%	5	36.4%	8	22.7%	5	13.6%	3	4.5%	1	2.29	22
Reduce recreational overuse of wetlands	34.8%	8	30.4%	7	17.4%	4	17.4%	4	0.0%	0	2.17	23
Reduce recreational overuse of subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Reduce stream bank erosion	59.2%	29	32.7%	16	6.1%	3	2.0%	1	0.0%	0	1.51	49

Reduce stream head cutting	39.1%	9	30.4%	7	8.7%	2	4.3%	1	17.4%	4	1.74	23
Reestablish natural disturbance regimes in barren lands	100.0%	4	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	4
Reestablish natural disturbance regimes in forests	36.6%	15	36.6%	15	17.1%	7	4.9%	2	4.9%	2	1.90	41
Reestablish natural disturbance regimes in grasslands	68.2%	15	31.8%	7	0.0%	0	0.0%	0	0.0%	0	1.32	22
Reestablish natural disturbance regimes in wetlands	47.8%	11	34.8%	8	8.7%	2	0.0%	0	8.7%	2	1.57	23
Reestablish natural disturbance regimes in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Remove log jams	10.0%	5	14.0%	7	38.0%	19	32.0%	16	6.0%	3	2.98	50
Restore and integrate diversity of habitats into crop-production dominated landscapes	76.3%	29	18.4%	7	2.6%	1	0.0%	0	2.6%	1	1.24	38
Restore and integrate diversity of habitats into developed landscapes	84.6%	11	7.7%	1	7.7%	1	0.0%	0	0.0%	0	1.23	13
Restore habitats and natural systems in aquatic systems	58.0%	29	32.0%	16	10.0%	5	0.0%	0	0.0%	0	1.52	50
Restore habitats and natural systems in barren lands	75.0%	3	25.0%	1	0.0%	0	0.0%	0	0.0%	0	1.25	4
Restore habitats and natural systems in forests	41.5%	17	36.6%	15	19.5%	8	2.4%	1	0.0%	0	1.83	41
Restore habitats and natural systems in grasslands	81.8%	18	13.6%	3	4.5%	1	0.0%	0	0.0%	0	1.23	22
Restore habitats and natural systems in wetlands	68.2%	15	22.7%	5	4.5%	1	0.0%	0	4.5%	1	1.33	22
Restore habitats and natural systems in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Species reintroduction. Please specify:	26.6%	17	9.4%	6	15.6%	10	15.6%	10	32.8%	21	2.30	64
Education and Awareness												
Educational programs in general	62.8%	118	28.7%	54	8.5%	16	0.0%	0	0.0%	0	1.46	188
Educational programs specifically for K-12	58.5%	110	26.1%	49	14.4%	27	1.1%	2	0.0%	0	1.58	188
Improvement of signage and other communication materials in conservation areas	25.9%	49	37.6%	71	31.7%	60	4.8%	9	0.0%	0	2.15	189
Training programs for stakeholders	47.6%	89	35.8%	67	13.9%	26	2.7%	5	0.0%	0	1.72	187
Law and Policy												
Increase regulations on invasive species	48.4%	78	30.4%	49	17.4%	28	3.7%	6	0.0%	0	1.76	161
Change current laws, policies, and regulations. Please specify:	34.5%	50	20.0%	29	13.8%	20	4.1%	6	27.6%	40	1.83	145
Set private sector standards and codes	27.5%	44	30.6%	49	19.4%	31	6.3%	10	16.3%	26	1.62	160
Improve compliance with and enforcement of current policies	50.3%	81	33.5%	54	13.0%	21	0.0%	0	3.1%	5	2.05	161
Reduce urban sprawl through planning and zoning	46.3%	74	36.9%	59	11.3%	18	4.4%	7	1.3%	2	1.73	160
Establish legal lake levels	17.8%	8	20.0%	9	31.1%	14	8.9%	4	22.2%	10	2.40	45
Establish rules and guidelines for piers and other structures	13.3%	6	24.4%	11	28.9%	13	11.1%	5	22.2%	10	2.49	45
Increase compliance of existing rules and regulations for aquatic systems	42.2%	19	24.4%	11	22.2%	10	2.2%	1	8.9%	4	1.83	45
Establish submergent vegetation control guidelines	28.9%	13	31.1%	14	20.0%	9	2.2%	1	17.8%	8	1.95	45
Livelihood, Economic, and Other Incentives												
Link natural resources to livelihoods through nature tourism	20.8%	33	44.0%	70	28.3%	45	5.0%	8	1.9%	3	2.18	159
Support substitution of alternatives for environmentally harmful products and processes	32.1%	51	38.4%	61	25.2%	40	0.6%	1	3.8%	6	1.94	159
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	22.6%	36	35.2%	56	25.8%	41	4.4%	7	11.9%	19	2.14	159
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	40.3%	64	39.6%	63	13.8%	22	5.0%	8	1.3%	2	1.83	159
Promote nonmonetary values of natural systems within the state	49.7%	78	29.3%	46	16.6%	26	1.9%	3	2.5%	4	1.70	157
Manage recreational opportunities to be compatible with fish	50.3%	80	28.3%	45	18.9%	30	1.9%	3	0.6%	1	1.72	159

and wildlife habitats												
External Capacity Building												
Develop institutions and civil society	26.4%	39	26.4%	39	25.0%	37	3.4%	5	18.9%	28	2.07	148
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	64.4%	96	28.2%	42	6.7%	10	0.0%	0	0.7%	1	1.42	149
Strengthen conservation financing	66.9%	99	23.6%	35	8.1%	12	0.0%	0	1.4%	2	1.40	148
Increase state's capacity for research and monitoring of conservation actions	52.1%	76	35.6%	52	11.6%	17	0.7%	1	0.0%	0	1.61	146
Promote green infrastructure	41.6%	62	34.9%	52	19.5%	29	2.7%	4	1.3%	2	1.83	149
Promote use of research and science in conservation decision-making processes	67.8%	101	23.5%	35	8.7%	13	0.0%	0	0.0%	0	1.41	149

Questions 19 – 26 have been excluded from this report

Valleys and Hills Region

Section I: Agency Information and Evaluation of Conservation Actions

Questions 1 – 10 excluded from this report

44. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in the Valleys and Hills (Region 4)? (Check only one)

	Very Poor		Poor		Satisfactory		Good		Very good		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	%	N	**Responses**
Aquatic systems	0.0	0	18.8	3	68.8	11	12.5	2	0.0	0	0.0	0	16
Agricultural lands	14.3	2	42.9	6	21.4	3	21.4	3	0.0	0	0.0	0	14
Barren lands	0.0	0	0.0	0	33.3	1	33.3	1	0.0	0	33.3	1	3
Developed Lands	0.0	0	60.0	3	20.0	1	0.0	0	0.0	0	20.0	1	5
Forests	0.0	0	28.6	6	38.1	8	23.8	5	4.8	1	4.8	1	21
Grasslands	11.8	2	47.1	8	23.5	4	5.9	1	5.9	1	5.9	1	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	5.3	1	31.6	6	36.8	7	21.1	4	0.0	0	5.3	1	19
Total	5.3	5	33.7	32	36.8	35	16.8	16	2.1	2	5.3	5	95

45. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Valleys and Hills (Region 4) <u>since 2005</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	11.8	2	76.5	13	11.8	2	0.0	0	17
Agricultural lands	7.1	1	7.1	1	78.6	11	7.1	1	14
Barren lands	0.0	0	66.7	2	0.0	0	33.3	1	3
Developed Lands	0.0	0	20.0	1	60.0	3	20.0	1	5
Forests	13.6	3	36.4	8	45.5	10	4.5	1	22
Grasslands	11.8	2	29.4	5	52.9	9	5.9	1	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	26.3	5	10.5	2	52.6	10	10.5	2	19
Total	13.4	13	33.0	32	46.4	45	7.2	7	97

Quality of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	0.0	0	70.6	12	29.4	5	0.0	0	17
Agricultural lands	7.1	1	7.1	1	78.6	11	7.1	1	14
Barren lands	0.0	0	66.7	2	0.0	0	33.3	1	3
Developed Lands	0.0	0	0.0	0	80.0	4	20.0	1	5
Forests	13.6	3	45.5	10	31.8	7	9.1	2	22
Grasslands	5.9	1	35.3	6	52.9	9	5.9	1	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	26.3	5	31.6	6	31.6	6	10.5	2	19
Total	10.3	10	38.1	37	43.3	42	8.2	8	97

46. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Valleys and Hills (Region 4) <u>over the next 10 years</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	17.6	3	52.9	9	29.4	5	0.0	0	17
Agricultural lands	15.4	2	15.4	2	69.2	9	0.0	0	13
Barren lands	33.3	1	0.0	0	33.3	1	33.3	1	3

	%	N	%	N	%	N	%	N	Total Responses
Developed Lands	20.0	1	0.0	0	80.0	4	0.0	0	5
Forests	14.3	3	23.8	5	57.1	12	4.8	1	21
Grasslands	11.8	2	29.4	5	52.9	9	5.9	1	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	31.6	6	26.3	5	36.8	7	5.3	1	19
Total	18.9	18	27.4	26	49.5	47	4.2	4	95

Quality of fish and wildlife habitats within HABITAT over the next 10 years

Valleys and Hills (Region 4)	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	5.9	1	70.6	12	23.5	4	0.0	0	17
Agricultural lands	21.4	3	14.3	2	64.3	9	0.0	0	14
Barren lands	0.0	0	33.3	1	33.3	1	33.3	1	3
Developed Lands	0.0	0	20.0	1	80.0	4	0.0	0	5
Forests	4.5	1	36.4	8	54.5	12	4.5	1	22
Grasslands	5.9	1	35.3	6	58.8	10	0.0	0	17
Subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	15.8	3	52.6	10	26.3	5	5.3	1	19
Total	9.3	9	41.2	40	46.4	45	3.1	3	97

Section III: Threats to Fish and Wildlife Habitats

47. **Currently**, to what extent do you think the following general categories of threats apply to fish and wildlife habitats within **HABITAT** in the REGION? (Check one for each line item)

		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know			
		%	N	%	N	%	N	%	N	%	N	Mean	Total Responses
Entire Region 4	Residential and commercial development	39.6%	36	29.7%	27	25.3%	23	4.4%	4	1.1%	1	1.94	91
	Agriculture and aquaculture	60.0%	54	33.3%	30	5.6%	5	0.0%	0	1.1%	1	1.45	90
	Energy production and mining	30.8%	28	37.4%	34	25.3%	23	5.5%	5	1.1%	1	2.06	91
	Transportation and service corridors	20.2%	18	20.2%	18	50.6%	45	5.6%	5	3.4%	3	2.43	89
	Biological resource use	8.8%	8	11.0%	10	42.9%	39	31.9%	29	5.5%	5	3.03	91
	Human intrusion and disturbance	22.2%	20	36.7%	33	25.6%	23	8.9%	8	6.7%	6	2.23	90
	Natural systems modifications	23.1%	21	34.1%	31	29.7%	27	8.8%	8	4.4%	4	2.25	91
	Invasives and other problematic species and genes	37.0%	34	37.0%	34	21.7%	20	2.2%	2	2.2%	2	1.89	92
	Pollution	27.5%	25	31.9%	29	29.7%	27	7.7%	7	3.3%	3	2.18	91
	Climate change and severe weather	15.4%	14	15.4%	14	28.6%	26	28.6%	26	12.1%	11	2.80	91
	Other stressors	9.3%	8	12.8%	11	40.7%	35	9.3%	8	27.9%	24	2.69	86

48. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the REGION. Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the REGION and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

		To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total Respondes	How will the significance of this threat change over the next 10 years?								Total Responses
		Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't Know				Increase		Remain the Same		Decrease		I don't know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Entire Region 4	Housing and urban areas	50.0%	31	46.8%	29	3.2%	2	0.0%	0	0.0%	0	1.53	62	75.9%	41	20.4%	11	0.0%	0	3.7%	2	54
	Commercial and industrial areas	33.9%	20	54.2%	32	11.9%	7	0.0%	0	0.0%	0	1.78	59	71.2%	37	25.0%	13	0.0%	0	3.8%	2	52
	Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	0.0%	0	38.7%	24	41.9%	26	16.1%	10	3.2%	2	2.77	62	25.9%	14	59.3%	32	0.0%	0	14.8%	8	54
	Agriculture and Aquaculture																					
	Annual and perennial nontimber crops	48.2%	40	37.3%	31	9.6%	8	3.6%	3	1.2%	1	1.68	83	65.8%	50	28.9%	22	1.3%	1	3.9%	3	76
	Wood and pulp plantations	2.4%	2	12.0%	10	32.5%	27	33.7%	28	19.3%	16	3.21	83	8.1%	6	56.8%	42	2.7%	2	32.4%	24	74

	Shale gas development (e.g., fracking)	Fossil fuel energy	Renewable energy production	Mining and quarrying	Oil and gas drilling		Conversion of habitat to annual crops	Aquaculture	Livestock farming and ranching
Transportation and Service Corridors	23.3%	40.0%	0.0%	50.8%	23.3%	**Energy Production and Mining**	60.2%	1.2%	8.4%
	14	24	0	30	14		50	1	7
	25.0%	33.3%	15.0%	42.4%	36.7%		31.3%	4.9%	38.6%
	15	20	9	25	22		26	4	32
	16.7%	15.0%	40.0%	6.8%	33.3%		4.8%	18.5%	41.0%
	10	9	24	4	20		4	15	34
	15.0%	3.3%	26.7%	0.0%	1.7%		1.2%	44.4%	7.2%
	9	2	16	0	1		1	36	6
	20.0%	8.3%	18.3%	0.0%	5.0%		2.4%	30.9%	4.8%
	12	5	11	0	3		2	25	4
	2.29	1.80	3.14	1.56	2.14		1.46	3.54	2.49
	60	60	60	59	60		83	81	83
	59.6%	46.4%	25.0%	64.9%	64.3%		78.7%	7.1%	17.3%
	34	26	14	37	36		59	5	13
	14.0%	39.3%	46.4%	22.8%	28.6%		16.0%	51.4%	68.0%
	8	22	26	13	16		12	36	51
	0.0%	3.6%	0.0%	8.8%	0.0%		0.0%	0.0%	4.0%
	0	2	0	5	0		0	0	3
	26.3%	10.7%	28.6%	3.5%	7.1%		5.3%	41.4%	10.7%
	15	6	16	2	4		4	29	8
	57	56	56	57	56		75	70	75

Dams and water management/us	Natural Systems Modification	Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	Human Intrusion and Disturbance	Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)	Biological Resource Use	Shipping lanes	Flight paths	Utility and service lines	Roads and railroads
8.0%		11.5%		11.8%		14.7%	0.0%	8.6%	51.4%
4		6		2		5	0	3	18
28.0%		32.7%		47.1%		5.9%	2.9%	37.1%	25.7%
14		17		8		2	1	13	9
32.0%		50.0%		35.3%		20.6%	28.6%	42.9%	17.1%
16		26		6		7	10	15	6
24.0%		3.8%		5.9%		47.1%	51.4%	11.4%	2.9%
12		2		1		16	18	4	1
8.0%		1.9%		0.0%		11.8%	17.1%	0.0%	2.9%
4		1		0		4	6	0	1
2.78		2.47		2.35		3.13	3.59	2.57	1.71
50		52		17		34	35	35	35
23.4%		57.1%		46.7%		21.4%	14.8%	33.3%	63.3%
11		28		7		6	4	10	19
57.4%		40.8%		46.7%		42.9%	40.7%	60.0%	33.3%
27		20		7		12	11	18	10
2.1%		0.0%		0.0%		0.0%	0.0%	3.3%	0.0%
1		0		0		0	0	1	0
17.0%		2.0%		6.7%		35.7%	44.4%	3.3%	3.3%
8		1		1		10	12	1	1
47		49		15		28	27	30	30

Pollution				Invasives and Other Problematic Species			
Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)	Plant diseases	Problematic native species (e.g. overabundant native deer or algae)	Invasive/alien species	Conversion of natural habitats to other land uses	Over-mowing of natural areas	Log jam removal	Fire and fire
12.1%	10.6%	19.1%	61.2%	62.0%	12.2%	4.0%	7.8%
8	7	13	41	31	6	2	4
19.7%	27.3%	38.2%	38.8%	30.0%	18.4%	14.0%	23.5%
13	18	26	26	15	9	7	12
28.8%	24.2%	30.9%	0.0%	8.0%	34.7%	36.0%	23.5%
19	16	21	0	4	17	18	12
15.2%	22.7%	8.8%	0.0%	0.0%	32.7%	34.0%	43.1%
10	15	6	0	0	16	17	22
24.2%	15.2%	2.9%	0.0%	0.0%	2.0%	12.0%	2.0%
16	10	2	0	0	1	6	1
2.62	2.70	2.30	1.39	1.46	2.90	3.14	3.04
66	66	68	67	50	49	50	51
29.0%	31.1%	41.9%	91.8%	73.9%	13.0%	15.6%	13.0%
18	19	26	56	34	6	7	6
41.9%	42.6%	48.4%	8.2%	23.9%	60.9%	62.2%	73.9%
26	26	30	5	11	28	28	34
0.0%	0.0%	1.6%	0.0%	0.0%	13.0%	0.0%	0.0%
0	0	1	0	0	6	0	0
29.0%	26.2%	8.1%	0.0%	2.2%	13.0%	22.2%	13.0%
18	16	5	0	1	6	10	6
62	61	62	61	46	46	45	46

	Excess energy (e.g., noise/light pollution, warm water discharge, etc.)	Garbage and solid waste	Agriculture, residential, and forestry effluents	Household sewage and urban water waste	Air pollution (e.g., smoke, mercury emissions)	Point source pollution from commercial/industrial sources	Chemical spills	Runoff from roads/service corridors
	9.8%	7.5%	34.0%	13.2%	18.9%	30.8%	17.0%	17.0%
	5	4	18	7	10	16	9	9
	27.5%	28.3%	49.1%	52.8%	41.5%	40.4%	35.8%	52.8%
	14	15	26	28	22	21	19	28
	39.2%	41.5%	9.4%	26.4%	26.4%	26.9%	39.6%	26.4%
	20	22	5	14	14	14	21	14
	19.6%	17.0%	1.9%	5.7%	7.5%	0.0%	3.8%	3.8%
	10	9	1	3	4	0	2	2
	3.9%	5.7%	5.7%	1.9%	5.7%	1.9%	3.8%	0.0%
	2	3	3	1	3	1	2	0
	2.71	2.72	1.78	2.25	2.24	1.96	2.31	2.17
	51	53	53	53	53	52	53	53
Climate Change and Other Severe Weather	43.5%	28.6%	44.9%	32.7%	30.6%	38.8%	24.5%	46.9%
	20	14	22	16	15	19	12	23
	43.5%	59.2%	42.9%	46.9%	49.0%	49.0%	61.2%	49.0%
	20	29	21	23	24	24	30	24
	2.2%	0.0%	4.1%	14.3%	12.2%	8.2%	2.0%	0.0%
	1	0	2	7	6	4	1	0
	10.9%	12.2%	8.2%	6.1%	8.2%	4.1%	12.2%	4.1%
	5	6	4	3	4	2	6	2
	46	49	49	49	49	49	49	49

Changing frequency, duration, and intensity of drought	63.0%	17	22.2%	6	14.8%	4	0.0%	0	0.0%	0	1.52	27	92.0%	23	4.0%	1	0.0%	0	4.0%	1	25
Changing frequency, duration, and intensity of floods	66.7%	18	29.6%	8	3.7%	1	0.0%	0	0.0%	0	1.37	27	88.0%	22	8.0%	2	0.0%	0	4.0%	1	25
Shifting and alteration of habitats due to climate change	40.7%	11	37.0%	10	14.8%	4	7.4%	2	0.0%	0	1.89	27	92.0%	23	4.0%	1	0.0%	0	4.0%	1	25
Temperature extremes	42.3%	11	30.8%	8	23.1%	6	3.8%	1	0.0%	0	1.88	26	88.0%	22	8.0%	2	0.0%	0	4.0%	1	25
Shifting seasons/phenology	60.0%	15	8.0%	2	24.0%	6	4.0%	1	4.0%	1	1.71	25	80.0%	20	16.0%	4	0.0%	0	4.0%	1	25
Other Stressor																					
Low genetic diversity (due to reduced population size, species inbreeding, etc.)	33.3%	6	44.4%	8	16.7%	3	0.0%	0	5.6%	1	1.82	18	50.0%	7	42.9%	6	0.0%	0	7.1%	1	14
Diseases	35.7%	5	50.0%	7	14.3%	2	0.0%	0	0.0%	0	1.79	14	71.4%	10	28.6%	4	0.0%	0	0.0%	0	14

49. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the **REGION** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Question 16 responses excluded from this report.

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the REGION.

50. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the REGION over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the **REGION** since 2005 or have plans to do so.

		To what extent do you think this category of conservation action is important for fish and wildlife habitats within HABITAT in the REGION over the next 10 years?												Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within HABITAT in the REGION?						
		Signficant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know		Mean	Total Responses	Yes		No		I Don't Know		Total Responses
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	
Entire Region 4	Land/water protection	58.4%	52	25.8%	23	11.2%	10	1.1%	1	3.4%	3	1.53	89	61.2%	41	26.9%	18	11.9%	8	67
	Land/water/ species management	57.3%	51	29.2%	26	7.9%	7	0.0%	0	5.6%	5	1.48	89	67.2%	45	16.4%	11	16.4%	11	67
	Education and awareness	46.2%	43	26.9%	25	21.5%	20	0.0%	0	5.4%	5	1.74	93	67.2%	45	23.9%	16	9.0%	6	67

	Very Important %	N	Moderately Important %	N	Somewhat Important %	N	Not important %	N	I Don't Know %	N	Mean	Total Responses	%	N	%	N	%	N	Total
Law and policy	30.3%	27	32.6%	29	24.7%	22	4.5%	4	7.9%	7	2.04	89	37.3%	25	37.3%	25	25.4%	17	67
Livelihood, economic, and other incentives	24.7%	22	42.7%	38	22.5%	20	3.4%	3	6.7%	6	2.05	89	14.9%	10	58.2%	39	26.9%	18	67
External capacity building	18.4%	16	43.7%	38	26.4%	23	4.6%	4	6.9%	6	2.19	87	25.4%	16	49.2%	31	25.4%	16	63

51. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the **REGION** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the REGION. You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

		Very Important		Moderately Important		Somewhat Important		Not important		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
Entire Region 4	**Land/Water Protection**												
	Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	66.7%	10	33.3%	5	0.0%	0	0.0%	0	0.0%	0	1.33	15
	Acquire currently unprotected barren lands	50.0%	1	0.0%	0	50.0%	1	0.0%	0	0.0%	0	2.00	2
	Acquire currently unprotected forests	33.3%	5	53.3%	8	13.3%	2	0.0%	0	0.0%	0	1.80	15
	Acquire currently unprotected grasslands	73.3%	11	20.0%	3	6.7%	1	0.0%	0	0.0%	0	1.33	15
	Acquire currently unprotected wetlands	86.7%	13	13.3%	2	0.0%	0	0.0%	0	0.0%	0	1.13	15
	Acquire currently unprotected subterranean habitats	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
	Preserve currently existing corridors	65.3%	49	32.0%	24	2.7%	2	0.0%	0	0.0%	0	1.37	75
	Acquire conservation easements to protect important wildlife habitats	61.3%	46	34.7%	26	4.0%	3	0.0%	0	0.0%	0	1.43	75
	Reduce conversion to cropland	73.3%	55	20.0%	15	5.3%	4	0.0%	0	1.3%	1	1.31	75
	Build/strengthen CRP partnerships	52.0%	39	33.3%	25	8.0%	6	0.0%	0	6.7%	5	1.53	75
	Land/Water/Species Management												
	Control invasive species in agricultural lands	33.3%	4	16.7%	2	41.7%	5	8.3%	1	0.0%	0	2.25	12

Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	61.5%	8	30.8%	4	0.0%	0	7.7%	1	0.0%	0	1.54	13
Control invasive species in barren lands	50.0%	1	0.0%	0	50.0%	1	0.0%	0	0.0%	0	2.00	2
Control invasive species in developed lands	0.0%	0	100.0%	3	0.0%	0	0.0%	0	0.0%	0	2.00	3
Control invasive species in forests	68.8%	11	12.5%	2	18.8%	3	0.0%	0	0.0%	0	1.50	16
Control invasive species in grasslands	50.0%	7	14.3%	2	28.6%	4	7.1%	1	0.0%	0	1.93	14
Control invasive species in wetlands	56.3%	9	25.0%	4	18.8%	3	0.0%	0	0.0%	0	1.63	16
Control invasive species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	25.0%	3	33.3%	4	33.3%	4	8.3%	1	0.0%	0	2.25	12
Control problematic native species in aquatic systems	23.1%	3	15.4%	2	53.8%	7	7.7%	1	0.0%	0	2.46	13
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	0.0%	0	50.0%	1	50.0%	1	0.0%	0	0.0%	0	2.50	2
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	33.3%	1	33.3%	1	0.0%	0	33.3%	1	0.0%	0	2.33	3
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	43.8%	7	18.8%	3	31.3%	5	0.0%	0	6.3%	1	1.87	16
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	21.4%	3	7.1%	1	35.7%	5	28.6%	4	7.1%	1	2.77	14
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	12.5%	2	43.8%	7	31.3%	5	12.5%	2	0.0%	0	2.44	16
Control problematic native species in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Dam removal	3.7%	1	33.3%	9	44.4%	12	18.5%	5	0.0%	0	2.78	27
Decrease E. coli counts	10.7%	3	39.3%	11	42.9%	12	3.6%	1	3.6%	1	2.41	28
Decrease number of combined sewer overflow events	20.7%	6	51.7%	15	24.1%	7	0.0%	0	3.4%	1	2.04	29
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	58.4%	45	27.3%	21	13.0%	10	1.3%	1	0.0%	0	1.57	77
Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	5.4%	4	4.1%	3	21.6%	16	31.1%	23	37.8%	28	3.26	74
Improve drainage management	28.4%	21	32.4%	24	25.7%	19	10.8%	8	2.7%	2	2.19	74
Improve integrated pest management	16.7%	2	41.7%	5	41.7%	5	0.0%	0	0.0%	0	2.25	12
Increase acres of riparian buffers	48.6%	35	36.1%	26	12.5%	9	2.8%	2	0.0%	0	1.69	72
Increase acres enrolled in the Classified Forest and Wildlands Program	36.4%	28	41.6%	32	14.3%	11	5.2%	4	2.6%	2	1.88	77
Link existing habitat blocks through corridor enhancement in agricultural lands	58.3%	7	41.7%	5	0.0%	0	0.0%	0	0.0%	0	1.42	12
Link existing habitat blocks through corridor enhancement in aquatic systems	46.2%	6	53.8%	7	0.0%	0	0.0%	0	0.0%	0	1.54	13
Link existing habitat blocks through corridor enhancement in barren lands	0.0%	0	100.0%	2	0.0%	0	0.0%	0	0.0%	0	2.00	2
Link existing habitat blocks through corridor enhancement in developed lands	66.7%	2	0.0%	0	33.3%	1	0.0%	0	0.0%	0	1.67	3
Link existing habitat blocks through corridor enhancement in forests	68.8%	11	12.5%	2	18.8%	3	0.0%	0	0.0%	0	1.50	16
Link existing habitat blocks through corridor enhancement in grasslands	46.7%	7	40.0%	6	13.3%	2	0.0%	0	0.0%	0	1.67	15
Link existing habitat blocks through corridor enhancement in wetlands	50.0%	8	50.0%	8	0.0%	0	0.0%	0	0.0%	0	1.50	16
Enhance corridors in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A

Manage biofuel grasslands	3.7%	1	29.6%	8	37.0%	10	3.7%	1	25.9%	7	2.55	27
Manage urban woodlots	33.3%	1	33.3%	1	0.0%	0	33.3%	1	0.0%	0	1.63	3
Mine reclamation	52.4%	33	31.7%	20	12.7%	8	1.6%	1	1.6%	1	2.33	63
Promote diversity of forest types and successional stages	66.7%	10	26.7%	4	6.7%	1	0.0%	0	0.0%	0	1.40	15
Promote diversity of grassland types and successional stages	66.7%	10	26.7%	4	6.7%	1	0.0%	0	0.0%	0	1.40	15
Promote diversity of wetland types and successional stages	68.8%	11	31.3%	5	0.0%	0	0.0%	0	0.0%	0	1.31	16
Protect and enhance undeveloped shorelines	31.0%	9	37.9%	11	17.2%	5	10.3%	3	3.4%	1	2.07	29
Protect natural water regimes (e.g., withdraws, warm-water discharge)	31.0%	9	48.3%	14	20.7%	6	0.0%	0	0.0%	0	1.90	29
Protect adjacent buffer zones	43.3%	13	40.0%	12	16.7%	5	0.0%	0	0.0%	0	1.73	30
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	72.7%	56	19.5%	15	6.5%	5	1.3%	1	0.0%	0	1.36	77
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	40.8%	31	27.6%	21	26.3%	20	5.3%	4	0.0%	0	1.96	76
Reduce recreational overuse of aquatic systems	0.0%	0	46.2%	6	30.8%	4	23.1%	3	0.0%	0	2.77	13
Reduce recreational overuse of forests	12.5%	2	12.5%	2	68.8%	11	6.3%	1	0.0%	0	2.69	16
Reduce recreational overuse of grasslands	13.3%	2	6.7%	1	40.0%	6	33.3%	5	6.7%	1	3.00	15
Reduce recreational overuse of wetlands	6.3%	1	25.0%	4	56.3%	9	12.5%	2	0.0%	0	2.75	16
Reduce recreational overuse of subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Reduce stream bank erosion	46.2%	6	53.8%	7	0.0%	0	0.0%	0	0.0%	0	1.54	13
Reduce stream head cutting	30.8%	4	46.2%	6	15.4%	2	0.0%	0	7.7%	1	1.83	13
Reestablish natural disturbance regimes in barren lands	100.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	1
Reestablish natural disturbance regimes in forests	60.0%	9	26.7%	4	13.3%	2	0.0%	0	0.0%	0	1.53	15
Reestablish natural disturbance regimes in grasslands	66.7%	10	20.0%	3	6.7%	1	0.0%	0	6.7%	1	1.36	15
Reestablish natural disturbance regimes in wetlands	43.8%	7	18.8%	3	37.5%	6	0.0%	0	0.0%	0	1.94	16
Reestablish natural disturbance regimes in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Remove log jams	0.0%	0	23.1%	3	53.8%	7	23.1%	3	0.0%	0	3.00	13
Restore and integrate diversity of habitats into crop-production dominated landscapes	50.0%	6	41.7%	5	8.3%	1	0.0%	0	0.0%	0	1.58	12
Restore and integrate diversity of habitats into developed landscapes	0.0%	0	66.7%	2	33.3%	1	0.0%	0	0.0%	0	2.33	3
Restore habitats and natural systems in aquatic systems	53.8%	7	30.8%	4	15.4%	2	0.0%	0	0.0%	0	1.62	13
Restore habitats and natural systems in barren lands	50.0%	1	50.0%	1	0.0%	0	0.0%	0	0.0%	0	1.50	2
Restore habitats and natural systems in forests	62.5%	10	37.5%	6	0.0%	0	0.0%	0	0.0%	0	1.38	16
Restore habitats and natural systems in grasslands	80.0%	12	20.0%	3	0.0%	0	0.0%	0	0.0%	0	1.20	15
Restore habitats and natural systems in wetlands	75.0%	12	25.0%	4	0.0%	0	0.0%	0	0.0%	0	1.25	16
Restore habitats and natural systems in subterranean systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Species reintroduction. Please specify:	21.4%	6	17.9%	5	28.6%	8	7.1%	2	25.0%	7	2.29	28
Education and Awareness												
Educational programs in general	55.2%	37	35.8%	24	9.0%	6	0.0%	0	0.0%	0	1.54	67
Educational programs specifically for K-12	60.3%	41	32.4%	22	7.4%	5	0.0%	0	0.0%	0	1.47	68
Improvement of signage and other communication materials in conservation areas	17.9%	12	35.8%	24	46.3%	31	0.0%	0	0.0%	0	2.28	67
Training programs for stakeholders	36.8%	25	54.4%	37	8.8%	6	0.0%	0	0.0%	0	1.72	68
Law and Policy												
Increase regulations on invasive species	34.5%	19	36.4%	20	27.3%	15	1.8%	1	0.0%	0	1.96	55
Change current laws, policies, and regulations. Please specify:	25.0%	13	11.5%	6	30.8%	16	1.9%	1	30.8%	16	2.14	52

Set private sector standards and codes	23.6%	13	27.3%	15	34.5%	19	0.0%	0	14.5%	8	1.62	55
Improve compliance with and enforcement of current policies	51.8%	29	28.6%	16	12.5%	7	1.8%	1	5.4%	3	2.13	56
Reduce urban sprawl through planning and zoning	44.6%	25	25.0%	14	23.2%	13	3.6%	2	3.6%	2	1.85	56
Establish legal lake levels	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Establish rules and guidelines for piers and other structures	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Increase compliance of existing rules and regulations for aquatic systems	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Establish submergent vegetation control guidelines	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Livelihood, Economic, and Other Incentives												
Link natural resources to livelihoods through nature tourism	8.3%	5	45.0%	27	40.0%	24	5.0%	3	1.7%	1	2.42	60
Support substitution of alternatives for environmentally harmful products and processes	23.7%	14	37.3%	22	33.9%	20	3.4%	2	1.7%	1	2.17	59
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	33.3%	20	30.0%	18	20.0%	12	5.0%	3	11.7%	7	1.96	60
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	48.3%	29	43.3%	26	8.3%	5	0.0%	0	0.0%	0	1.60	60
Promote nonmonetary values of natural systems within the state	33.3%	20	36.7%	22	25.0%	15	3.3%	2	1.7%	1	1.98	60
Manage recreational opportunities to be compatible with fish and wildlife habitats	38.3%	23	36.7%	22	18.3%	11	6.7%	4	0.0%	0	1.93	60
External Capacity Building												
Develop institutions and civil society	17.0%	9	30.2%	16	26.4%	14	3.8%	2	22.6%	12	2.22	53
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	61.1%	33	38.9%	21	0.0%	0	0.0%	0	0.0%	0	1.39	54
Strengthen conservation financing	57.4%	31	31.5%	17	9.3%	5	0.0%	0	1.9%	1	1.51	54
Increase state's capacity for research and monitoring of conservation actions	37.0%	20	51.9%	28	11.1%	6	0.0%	0	0.0%	0	1.74	54
Promote green infrastructure	44.4%	24	33.3%	18	11.1%	6	9.3%	5	1.9%	1	1.85	54
Promote use of research and science in conservation decision-making processes	57.4%	31	38.9%	21	3.7%	2	0.0%	0	0.0%	0	1.46	54

Questions 19 – 26 have been excluded from this report

Interior Plateau Region

Section I: Agency Information and Evaluation of Conservation Actions

Questions 1 – 10 excluded from this report

52. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5)? (Check only one)

	Very Poor		Poor		Satisfactory		Good		Very good		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	%	N	Responses
Aquatic systems	0.0	0	16.0	4	40.0	10	36.0	9	8.0	2	0.0	0	25
Agricultural lands	6.3	1	37.5	6	43.8	7	6.3	1	6.3	1	0.0	0	16
Barren lands	0.0	0	18.2	2	54.5	6	18.2	2	9.1	1	0.0	0	11
Developed Lands	11.1	1	55.6	5	22.2	2	11.1	1	0.0	0	0.0	0	9
Forests	0.0	0	11.1	5	37.8	17	37.8	17	13.3	6	0.0	0	45
Grasslands	0.0	0	60.0	6	40.0	4	0.0	0	0.0	0	0.0	0	10
Subterranean systems	0.0	0	30.0	3	50.0	5	20.0	2	0.0	0	0.0	0	10
Wetlands	7.7	1	38.5	5	30.8	4	23.1	3	0.0	0	0.0	0	13
Total	2.2	3	25.9	36	39.6	55	25.2	35	7.2	10	0.0	0	139

53. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5) <u>since 2005</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	72.0	18	20.0	5	0.0	0	25
Agricultural lands	6.3	1	50.0	8	43.8	7	0.0	0	16
Barren lands	18.2	2	54.5	6	18.2	2	9.1	1	11
Developed Lands	11.1	1	44.4	4	44.4	4	0.0	0	9
Forests	20.0	9	53.3	24	26.7	12	0.0	0	45
Grasslands	20.0	2	40.0	4	40.0	4	0.0	0	10
Subterranean systems	0.0	0	88.9	8	11.1	1	0.0	0	9
Wetlands	7.7	1	53.8	7	38.5	5	0.0	0	13
Total	13.0	18	57.2	79	29.0	40	.7	1	138

Quality of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	76.0	19	16.0	4	0.0	0	25
Agricultural lands	6.3	1	50.0	8	43.8	7	0.0	0	16
Barren lands	9.1	1	63.6	7	18.2	2	9.1	1	11
Developed Lands	0.0	0	55.6	5	44.4	4	0.0	0	9

	%	N	%	N	%	N	%	N	Total
Forests	18.2	8	52.3	23	27.3	12	2.3	1	44
Grasslands	0.0	0	50.0	5	40.0	4	10.0	1	10
Subterranean systems	0.0	0	40.0	4	60.0	6	0.0	0	10
Wetlands	7.7	1	61.5	8	30.8	4	0.0	0	13
Total	9.4	13	57.2	79	31.2	43	2.2	3	138

54. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5) <u>over the next 10 years</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	60.0	15	32.0	8	0.0	0	25
Agricultural lands	6.3	1	25.0	4	68.8	11	0.0	0	16
Barren lands	18.2	2	45.5	5	36.4	4	0.0	0	11
Developed Lands	11.1	1	22.2	2	66.7	6	0.0	0	9
Forests	15.6	7	55.6	25	24.4	11	4.4	2	45
Grasslands	10.0	1	30.0	3	60.0	6	0.0	0	10
Subterranean systems	0.0	0	80.0	8	20.0	2	0.0	0	10
Wetlands	7.7	1	38.5	5	53.8	7	0.0	0	13
Total	10.8	15	48.2	67	39.6	55	1.4	2	139

Quality of fish and wildlife habitats within HABITAT over the next 10 years

Interior Plateau (Region 5)	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	60.0	15	28.0	7	4.0	1	25
Agricultural lands	6.3	1	43.8	7	50.0	8	0.0	0	16
Barren lands	9.1	1	63.6	7	27.3	3	0.0	0	11
Developed Lands	0.0	0	33.3	3	66.7	6	0.0	0	9
Forests	13.3	6	48.9	22	35.6	16	2.2	1	45
Grasslands	10.0	1	40.0	4	50.0	5	0.0	0	10
Subterranean systems	0.0	0	50.0	5	40.0	4	10.0	1	10
Wetlands	7.7	1	46.2	6	46.2	6	0.0	0	13
Total	8.6	12	49.6	69	39.6	55	2.2	3	139

Section III: Threats to Fish and Wildlife Habitats

55. **Currently**, to what extent do you think the following general categories of threats apply to fish and wildlife habitats within **HABITAT** in the REGION? (Check one for each line item)

		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
	Residential and commercial development	45.6%	62	33.1%	45	14.7%	20	5.1%	7	1.5%	2	1.79	136
Entire Region 5	Agriculture and aquaculture	26.7%	36	41.5%	56	23.0%	31	5.9%	8	3.0%	4	2.08	135
	Energy production and mining	14.8%	20	23.0%	31	44.4%	60	11.1%	15	6.7%	9	2.56	135
	Transportation and service corridors	23.0%	31	29.6%	40	35.6%	48	8.1%	11	3.7%	5	2.30	135
	Biological resource use	6.8%	9	23.3%	31	40.6%	54	20.3%	27	9.0%	12	2.82	133
	Human intrusion and disturbance	23.9%	32	34.3%	46	29.1%	39	8.2%	11	4.5%	6	2.23	134
	Natural systems modifications	24.8%	33	34.6%	46	24.1%	32	10.5%	14	6.0%	8	2.22	133
	Invasives and other problematic species and genes	46.3%	62	29.1%	39	18.7%	25	3.0%	4	3.0%	4	1.78	134
	Pollution	25.9%	35	31.9%	43	28.1%	38	7.4%	10	6.7%	9	2.18	135
	Climate change and severe weather	15.6%	21	28.1%	38	31.9%	43	16.3%	22	8.1%	11	2.53	135
	Other stressors	11.7%	14	27.5%	33	30.8%	37	9.2%	11	20.8%	25	2.47	120

56. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the REGION. Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the REGION and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

57.

		To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?										Mean	Total Responses	How will the significance of this threat change over the next 10 years?								Total Responses
		Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't Know				Increase		Remain the Same		Decrease		I don't know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Entire Region 5																						
	Housing and urban areas	44.8%	47	40.0%	42	15.2%	16	0.0%	0	0.0%	0	1.70	105	79.6%	74	19.4%	18	0.0%	0	1.1%	1	93

Oil and gas drilling	Energy Production and Mining	Conversion of habitat to annual crops	Aquaculture	Livestock farming and ranching	Wood and pulp plantations	Annual and perennial nontimber crops	Agriculture and Aquaculture	Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	Commercial and industrial areas
21.6%		38.9%	2.3%	9.9%	5.6%	26.4%		9.5%	30.1%
11		35	2	9	5	24		10	31
45.1%		40.0%	4.6%	49.5%	25.6%	38.5%		29.5%	43.7%
23		36	4	45	23	35		31	45
27.5%		13.3%	26.4%	29.7%	33.3%	28.6%		42.9%	21.4%
14		12	23	27	30	26		45	22
0.0%	**Energy Production and Mining**	3.3%	32.2%	3.3%	20.0%	3.3%	**Agriculture and Aquaculture**	14.3%	0.0%
0		3	28	3	18	3		15	0
5.9%		4.4%	34.5%	7.7%	15.6%	3.3%		3.8%	4.9%
3		4	30	7	14	3		4	5
2.06		1.80	3.35	2.29	2.80	2.09		2.64	1.91
51		90	87	91	90	91		105	103
62.0%		58.1%	12.8%	30.2%	26.7%	43.0%		47.3%	57.1%
31		50	10	26	23	37		44	52
28.0%		33.7%	52.6%	59.3%	54.7%	47.7%		45.2%	35.2%
14		29	41	51	47	41		42	32
0.0%		1.2%	1.3%	0.0%	1.2%	1.2%		0.0%	0.0%
0		1	1	0	1	1		0	0
10.0%		7.0%	33.3%	10.5%	17.4%	8.1%		7.5%	7.7%
5		6	26	9	15	7		7	7
50		86	78	86	86	86		93	91

	Shipping lanes	Flight paths	Utility and service lines	Roads and railroads		Shale gas development (e.g...	Fossil fuel energy	Renewable energy production	Mining and quarrying
Biological Resource Use	10.0%	2.8%	5.6%	40.6%	**Transportation and Service Corridors**	38.0%	34.0%	2.0%	27.5%
	7	2	4	28		19	17	1	14
	8.6%	11.3%	49.3%	42.0%		42.0%	50.0%	40.8%	49.0%
	6	8	35	29		21	25	20	25
	15.7%	31.0%	36.6%	13.0%		14.0%	12.0%	22.4%	21.6%
	11	22	26	9		7	6	11	11
	52.9%	42.3%	7.0%	1.4%		0.0%	0.0%	26.5%	0.0%
	37	30	5	1		0	0	13	0
	12.9%	12.7%	1.4%	2.9%		6.0%	4.0%	8.2%	2.0%
	9	9	1	2		3	2	4	1
	3.28	3.29	2.46	1.75		1.74	1.77	2.80	1.94
	70	71	71	69		50	50	49	51
	19.7%	23.4%	45.6%	67.6%		79.2%	63.3%	42.2%	60.0%
	13	15	31	46		38	31	19	30
	60.6%	62.5%	50.0%	26.5%		12.5%	24.5%	40.0%	32.0%
	40	40	34	18		6	12	18	16
	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	2.2%	0.0%
	0	0	0	0		0	0	1	0
	19.7%	14.1%	4.4%	5.9%		8.3%	12.2%	15.6%	8.0%
	13	9	3	4		4	6	7	4
	66	64	68	68		48	49	45	50

Conversion of natural habitats to other land uses	Over-mowing of natural areas	Log jam removal	Fire and fire suppression	Dams and water management/use	Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)
64.6%	11.7%	8.9%	10.3%	13.9%	16.9%	35.9%
51	9	7	8	11	13	14
31.6%	26.0%	16.5%	33.3%	39.2%	50.6%	51.3%
25	20	13	26	31	39	20
3.8%	39.0%	38.0%	29.5%	32.9%	29.9%	7.7%
3	30	30	23	26	23	3
0.0%	15.6%	26.6%	20.5%	7.6%	2.6%	2.6%
0	12	21	16	6	2	1
0.0%	7.8%	10.1%	6.4%	6.3%	0.0%	2.6%
0	6	8	5	5	0	1
1.39	2.63	2.92	2.64	2.36	2.18	1.76
79	77	79	78	79	77	39
81.3%	35.1%	19.4%	21.6%	40.3%	60.5%	71.8%
61	26	14	16	29	46	28
16.0%	52.7%	66.7%	67.6%	47.2%	34.2%	23.1%
12	39	48	50	34	26	9
0.0%	1.4%	1.4%	0.0%	0.0%	0.0%	0.0%
0	1	1	0	0	0	0
2.7%	10.8%	12.5%	10.8%	12.5%	5.3%	5.1%
2	8	9	8	9	4	2
75	74	72	74	72	76	39

Row-group labels (right to left): **Invasives and Other Problematic Species**; **Natural Systems Modification**; **Human Intrusion and Disturbance**

Air pollution (e.g., smoke, mercury emissions)	Point source pollution from commercial/industrial sources	Chemical spills	Runoff from roads/service corridors		Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)	Plant diseases	Problematic native species (e.g. overabundant native deer or algae)	Invasive/alien species
21.3%	26.3%	20.3%	28.9%		15.2%	23.0%	27.3%	64.3%
16	20	15	22		15	23	27	63
46.7%	44.7%	35.1%	42.1%		23.2%	28.0%	35.4%	32.7%
35	34	26	32		23	28	35	32
24.0%	26.3%	43.2%	26.3%		30.3%	27.0%	24.2%	3.1%
18	20	32	20		30	27	24	3
4.0%	2.6%	1.4%	2.6%		12.1%	7.0%	10.1%	0.0%
3	2	1	2		12	7	10	0
4.0%	0.0%	0.0%	0.0%	**Pollution**	19.2%	15.0%	3.0%	0.0%
3	0	0	0		19	15	3	0
2.11	2.05	2.26	2.03		2.49	2.21	2.18	1.39
75	76	74	76		99	100	99	98
49.3%	44.3%	41.7%	53.4%		43.0%	45.4%	49.5%	89.2%
36	31	30	39		40	44	47	83
46.6%	52.9%	55.6%	45.2%		36.6%	33.0%	45.3%	9.7%
34	37	40	33		34	32	43	9
0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	1.1%
0	0	0	0		0	0	0	1
4.1%	2.9%	2.8%	1.4%		20.4%	21.6%	5.3%	0.0%
3	2	2	1		19	21	5	0
73	70	72	73		93	97	95	93

Temperature extremes	Shifting and alteration of habitats due to climate change	Changing frequency, duration, and intensity of floods	Changing frequency, duration, and intensity of drought	Climate Change and Other Severe Weather	Excess energy (e.g., noise/light pollution, warm water discharge, etc.)	Garbage and solid waste	Agriculture, residential, and forestry effluents	Household sewage and urban water waste
29.3%	32.8%	22.4%	34.5%		23.7%	28.4%	36.8%	36.8%
17	19	13	20		18	21	28	28
51.7%	55.2%	63.8%	62.1%		26.3%	31.1%	46.1%	28.9%
30	32	37	36		20	23	35	22
19.0%	10.3%	6.9%	3.4%		31.6%	32.4%	17.1%	30.3%
11	6	4	2		24	24	13	23
0.0%	1.7%	3.4%	0.0%		13.2%	5.4%	0.0%	3.9%
0	1	2	0		10	4	0	3
0.0%	0.0%	3.4%	0.0%		5.3%	2.7%	0.0%	0.0%
0	0	2	0		4	2	0	0
1.90	1.81	1.91	1.69		2.36	2.15	1.80	2.01
58	58	58	58		76	74	76	76
81.5%	88.7%	81.5%	88.7%		50.0%	50.7%	58.3%	60.6%
44	47	44	47		35	36	42	43
14.8%	9.4%	14.8%	9.4%		42.9%	45.1%	40.3%	36.6%
8	5	8	5		30	32	29	26
0.0%	0.0%	0.0%	0.0%		1.4%	0.0%	0.0%	1.4%
0	0	0	0		1	0	0	1
3.7%	1.9%	3.7%	1.9%		5.7%	4.2%	1.4%	1.4%
2	1	2	1		4	3	1	1
54	53	54	53		70	71	72	71

Shifting seasons/phenology	26.3%	15	61.4%	35	12.3%	7	0.0%	0	0.0%	0	1.86	57	82.7%	43	13.5%	7	0.0%	0	3.8%	2	52
Other Stressor																					
Low genetic diversity (due to reduced population size, species inbreeding, etc.)	34.0%	16	36.2%	17	27.7%	13	0.0%	0	2.1%	1	1.93	47	64.4%	29	31.1%	14	0.0%	0	4.4%	2	45
Diseases	51.2%	21	39.0%	16	4.9%	2	0.0%	0	4.9%	2	1.51	41	67.5%	27	20.0%	8	0.0%	0	12.5%	5	40

58. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the **REGION** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Question 16 respones excluded from this report.

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the REGION.

59. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the REGION over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the **REGION** since 2005 or have plans to do so.

		To what extent do you think this category of conservation action is important for fish and wildlife habitats within HABITAT in the REGION over the next 10 years?											Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within HABITAT in the REGION?					
		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know		Mean	Total Responses	Yes		No		I Don't Know	Total Responses
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	
Entire Region 5	Land/water protection	61.4%	81	24.2%	32	10.6%	14	2.3%	3	1.5%	2	1.53	132	69.1%	76	19.1%	21	11.8%	13	110
	Land/water/ species management	57.4%	74	27.9%	36	9.3%	12	3.1%	4	2.3%	3	1.57	129	72.7%	80	18.2%	20	9.1%	10	110
	Education and awareness	44.0%	59	32.1%	43	21.6%	29	0.0%	0	2.2%	3	1.77	134	71.8%	79	20.0%	22	8.2%	9	110
	Law and policy	34.6%	45	28.5%	37	29.2%	38	2.3%	3	5.4%	7	1.99	130	40.7%	44	29.6%	32	29.6%	32	108
	Livelihood, economic, and other incentives	27.5%	36	35.9%	47	26.0%	34	3.1%	4	7.6%	10	2.05	131	23.9%	26	49.5%	54	26.6%	29	109
	External capacity building	22.9%	30	25.2%	33	30.5%	40	3.8%	5	17.6%	23	2.19	131	23.1%	25	39.8%	43	37.0%	40	108

60. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the **REGION** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the REGION. You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

		Very Important		Moderately Important		Somewhat Important		Not important		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
Entire Region 5	**Land/Water Protection**												
	Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	43.5%	10	39.1%	9	17.4%	4	0.0%	0	0.0%	0	1.74	23
	Acquire currently unprotected barren lands	77.8%	7	11.1%	1	0.0%	0	11.1%	1	0.0%	0	1.44	9
	Acquire currently unprotected forests	63.3%	19	26.7%	8	6.7%	2	3.3%	1	0.0%	0	1.50	30
	Acquire currently unprotected grasslands	62.5%	5	25.0%	2	12.5%	1	0.0%	0	0.0%	0	1.50	8

Acquire currently unprotected wetlands	81.8%	9	18.2%	2	0.0%	0	0.0%	0	0.0%	0	1.18	11
Acquire currently unprotected subterranean habitats	80.0%	8	10.0%	1	10.0%	1	0.0%	0	0.0%	0	1.30	10
Preserve currently existing corridors	63.7%	72	25.7%	29	8.0%	9	1.8%	2	0.9%	1	1.47	113
Acquire conservation easements to protect important wildlife habitats	56.3%	63	36.6%	41	5.4%	6	1.8%	2	0.0%	0	1.53	112
Reduce conversion to cropland	56.6%	64	23.0%	26	15.9%	18	2.7%	3	1.8%	2	1.64	113
Build/strengthen CRP partnerships	46.9%	53	31.9%	36	10.6%	12	4.4%	5	6.2%	7	1.71	113
Land/Water/Species Management												
Control invasive species in agricultural lands	42.9%	6	42.9%	6	14.3%	2	0.0%	0	0.0%	0	1.71	14
Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	57.1%	12	28.6%	6	14.3%	3	0.0%	0	0.0%	0	1.57	21
Control invasive species in barren lands	70.0%	7	10.0%	1	20.0%	2	0.0%	0	0.0%	0	1.50	10
Control invasive species in developed lands	66.7%	4	16.7%	1	16.7%	1	0.0%	0	0.0%	0	1.50	6
Control invasive species in forests	64.7%	22	26.5%	9	5.9%	2	2.9%	1	0.0%	0	1.47	34
Control invasive species in grasslands	57.1%	4	0.0%	0	42.9%	3	0.0%	0	0.0%	0	1.86	7
Control invasive species in wetlands	50.0%	5	30.0%	3	20.0%	2	0.0%	0	0.0%	0	1.70	10
Control invasive species in subterranean systems	85.7%	6	0.0%	0	0.0%	0	14.3%	1	0.0%	0	1.43	7
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	40.0%	6	20.0%	3	26.7%	4	13.3%	2	0.0%	0	2.13	15
Control problematic native species in aquatic systems	28.6%	6	28.6%	6	28.6%	6	14.3%	3	0.0%	0	2.29	21
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	50.0%	5	20.0%	2	30.0%	3	0.0%	0	0.0%	0	1.80	10
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	50.0%	3	16.7%	1	16.7%	1	16.7%	1	0.0%	0	2.00	6
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	38.2%	13	35.3%	12	20.6%	7	5.9%	2	0.0%	0	1.94	34
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	14.3%	1	0.0%	0	71.4%	5	14.3%	1	0.0%	0	2.86	7
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	10.0%	1	30.0%	3	40.0%	4	20.0%	2	0.0%	0	2.70	10
Control problematic native species in subterranean systems	42.9%	3	14.3%	1	0.0%	0	28.6%	2	14.3%	1	2.17	7
Dam removal	13.3%	4	20.0%	6	50.0%	15	16.7%	5	0.0%	0	2.70	30
Decrease E. coli counts	33.3%	10	26.7%	8	36.7%	11	3.3%	1	0.0%	0	2.10	30
Decrease number of combined sewer overflow events	45.2%	14	32.3%	10	22.6%	7	0.0%	0	0.0%	0	1.77	31
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	46.4%	51	33.6%	37	15.5%	17	3.6%	4	0.9%	1	1.76	110
Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	2.9%	3	22.1%	23	18.3%	19	29.8%	31	26.9%	28	3.03	104
Improve drainage management	37.4%	40	21.5%	23	30.8%	33	4.7%	5	5.6%	6	2.03	107
Improve integrated pest management	14.3%	2	50.0%	7	35.7%	5	0.0%	0	0.0%	0	2.21	14
Increase acres of riparian buffers	42.9%	3	42.9%	3	14.3%	1	0.0%	0	0.0%	0	1.71	7
Increase acres enrolled in the Classified Forest and Wildlands Program	37.6%	41	41.3%	45	18.3%	20	1.8%	2	0.9%	1	1.84	109
Link existing habitat blocks through corridor enhancement in agricultural lands	60.0%	9	26.7%	4	13.3%	2	0.0%	0	0.0%	0	1.53	15
Link existing habitat blocks through corridor enhancement in aquatic systems	52.4%	11	38.1%	8	9.5%	2	0.0%	0	0.0%	0	1.57	21
Link existing habitat blocks through corridor enhancement in	80.0%	8	10.0%	1	10.0%	1	0.0%	0	0.0%	0	1.30	10

barren lands												
Link existing habitat blocks through corridor enhancement in developed lands	50.0%	3	50.0%	3	0.0%	0	0.0%	0	0.0%	0	1.50	6
Link existing habitat blocks through corridor enhancement in forests	52.9%	18	32.4%	11	14.7%	5	0.0%	0	0.0%	0	1.62	34
Link existing habitat blocks through corridor enhancement in grasslands	28.6%	2	28.6%	2	42.9%	3	0.0%	0	0.0%	0	2.14	7
Link existing habitat blocks through corridor enhancement in wetlands	40.0%	4	30.0%	3	30.0%	3	0.0%	0	0.0%	0	1.90	10
Enhance corridors in subterranean systems	0.0%	0	28.6%	2	0.0%	0	57.1%	4	14.3%	1	3.33	7
Manage biofuel grasslands	9.1%	2	27.3%	6	54.5%	12	4.5%	1	4.5%	1	2.57	22
Manage urban woodlots	50.0%	3	33.3%	2	0.0%	0	16.7%	1	0.0%	0	2.20	6
Mine reclamation	31.6%	30	23.2%	22	24.2%	23	12.6%	12	8.4%	8	1.83	95
Promote diversity of forest types and successional stages	61.8%	21	26.5%	9	8.8%	3	2.9%	1	0.0%	0	1.53	34
Promote diversity of grassland types and successional stages	28.6%	2	57.1%	4	0.0%	0	14.3%	1	0.0%	0	2.00	7
Promote diversity of wetland types and successional stages	50.0%	5	40.0%	4	10.0%	1	0.0%	0	0.0%	0	1.60	10
Protect and enhance undeveloped shorelines	40.0%	12	30.0%	9	20.0%	6	6.7%	2	3.3%	1	1.93	30
Protect natural water regimes (e.g., withdraws, warm-water discharge)	41.9%	13	32.3%	10	22.6%	7	3.2%	1	0.0%	0	1.87	31
Protect adjacent buffer zones	60.4%	29	29.2%	14	10.4%	5	0.0%	0	0.0%	0	1.50	48
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	70.6%	77	22.0%	24	5.5%	6	0.9%	1	0.9%	1	1.36	109
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	50.9%	56	25.5%	28	17.3%	19	3.6%	4	2.7%	3	1.73	110
Reduce recreational overuse of aquatic systems	23.8%	5	14.3%	3	33.3%	7	28.6%	6	0.0%	0	2.67	21
Reduce recreational overuse of forests	15.6%	5	34.4%	11	31.3%	10	15.6%	5	3.1%	1	2.48	32
Reduce recreational overuse of grasslands	14.3%	1	0.0%	0	57.1%	4	28.6%	2	0.0%	0	3.00	7
Reduce recreational overuse of wetlands	10.0%	1	40.0%	4	30.0%	3	20.0%	2	0.0%	0	2.60	10
Reduce recreational overuse of subterranean systems	14.3%	1	71.4%	5	14.3%	1	0.0%	0	0.0%	0	2.00	7
Reduce stream bank erosion	47.6%	10	42.9%	9	9.5%	2	0.0%	0	0.0%	0	1.62	21
Reduce stream head cutting	33.3%	7	47.6%	10	4.8%	1	9.5%	2	4.8%	1	1.90	21
Reestablish natural disturbance regimes in barren lands	70.0%	7	20.0%	2	10.0%	1	0.0%	0	0.0%	0	1.40	10
Reestablish natural disturbance regimes in forests	50.0%	17	35.3%	12	14.7%	5	0.0%	0	0.0%	0	1.65	34
Reestablish natural disturbance regimes in grasslands	57.1%	4	28.6%	2	14.3%	1	0.0%	0	0.0%	0	1.57	7
Reestablish natural disturbance regimes in wetlands	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0		0
Reestablish natural disturbance regimes in subterranean systems	0.0%	0	33.3%	2	33.3%	2	0.0%	0	33.3%	2	2.50	6
Remove log jams	23.8%	5	9.5%	2	42.9%	9	23.8%	5	0.0%	0	2.67	21
Restore and integrate diversity of habitats into crop-production dominated landscapes	53.3%	8	40.0%	6	6.7%	1	0.0%	0	0.0%	0	1.53	15
Restore and integrate diversity of habitats into developed landscapes	66.7%	4	33.3%	2	0.0%	0	0.0%	0	0.0%	0	1.33	6
Restore habitats and natural systems in aquatic systems	42.9%	9	47.6%	10	9.5%	2	0.0%	0	0.0%	0	1.67	21
Restore habitats and natural systems in barren lands	70.0%	7	20.0%	2	10.0%	1	0.0%	0	0.0%	0	1.40	10
Restore habitats and natural systems in forests	55.9%	19	38.2%	13	5.9%	2	0.0%	0	0.0%	0	1.50	34
Restore habitats and natural systems in grasslands	42.9%	3	57.1%	4	0.0%	0	0.0%	0	0.0%	0	1.57	7
Restore habitats and natural systems in wetlands	60.0%	6	40.0%	4	0.0%	0	0.0%	0	0.0%	0	1.40	10
Restore habitats and natural systems in subterranean systems	42.9%	3	28.6%	2	28.6%	2	0.0%	0	0.0%	0	1.86	7

	%	n	%	n	%	n	%	n	%	n	Avg	Total
Species reintroduction. Please specify:	15.4%	6	17.9%	7	15.4%	6	7.7%	3	43.6%	17	2.27	39
Education and Awareness												
Educational programs in general	58.4%	59	32.7%	33	7.9%	8	1.0%	1	0.0%	0	1.51	101
Educational programs specifically for K-12	63.7%	65	24.5%	25	11.8%	12	0.0%	0	0.0%	0	1.48	102
Improvement of signage and other communication materials in conservation areas	26.7%	27	35.6%	36	35.6%	36	2.0%	2	0.0%	0	2.13	101
Training programs for stakeholders	51.5%	52	37.6%	38	6.9%	7	1.0%	1	3.0%	3	1.56	101
Law and Policy												
Increase regulations on invasive species	58.0%	47	23.5%	19	14.8%	12	2.5%	2	1.2%	1	1.61	81
Change current laws, policies, and regulations. Please specify:	25.4%	18	33.8%	24	11.3%	8	0.0%	0	29.6%	21	1.80	71
Set private sector standards and codes	30.9%	25	44.4%	36	18.5%	15	0.0%	0	6.2%	5	1.62	81
Improve compliance with and enforcement of current policies	48.1%	39	39.5%	32	8.6%	7	1.2%	1	2.5%	2	1.87	81
Reduce urban sprawl through planning and zoning	65.9%	54	19.5%	16	12.2%	10	1.2%	1	1.2%	1	1.48	82
Establish legal lake levels	23.5%	4	17.6%	3	29.4%	5	17.6%	3	11.8%	2	2.47	17
Establish rules and guidelines for piers and other structures	23.5%	4	29.4%	5	11.8%	2	29.4%	5	5.9%	1	2.50	17
Increase compliance of existing rules and regulations for aquatic systems	52.9%	9	41.2%	7	5.9%	1	0.0%	0	0.0%	0	1.53	17
Establish submergent vegetation control guidelines	23.5%	4	52.9%	9	17.6%	3	5.9%	1	0.0%	0	2.06	17
Livelihood, Economic, and Other Incentives												
Link natural resources to livelihoods through nature tourism	30.1%	25	27.7%	23	39.8%	33	2.4%	2	0.0%	0	2.14	83
Support substitution of alternatives for environmentally harmful products and processes	36.6%	30	31.7%	26	25.6%	21	1.2%	1	4.9%	4	1.91	82
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	29.3%	24	29.3%	24	31.7%	26	6.1%	5	3.7%	3	2.15	82
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	43.4%	36	41.0%	34	13.3%	11	1.2%	1	1.2%	1	1.72	83
Promote nonmonetary values of natural systems within the state	45.1%	37	40.2%	33	12.2%	10	1.2%	1	1.2%	1	1.69	82
Manage recreational opportunities to be compatible with fish and wildlife habitats	42.0%	34	42.0%	34	13.6%	11	2.5%	2	0.0%	0	1.77	81
External Capacity Building												
Develop institutions and civil society	17.5%	11	33.3%	21	20.6%	13	4.8%	3	23.8%	15	2.17	63
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	58.7%	37	31.7%	20	7.9%	5	0.0%	0	1.6%	1	1.48	63
Strengthen conservation financing	74.6%	47	14.3%	9	11.1%	7	0.0%	0	0.0%	0	1.37	63
Increase state's capacity for research and monitoring of conservation actions	49.2%	31	39.7%	25	9.5%	6	0.0%	0	1.6%	1	1.60	63
Promote green infrastructure	54.0%	34	27.0%	17	15.9%	10	1.6%	1	1.6%	1	1.65	63
Promote use of research and science in conservation decision-making processes	59.0%	36	36.1%	22	3.3%	2	1.6%	1	0.0%	0	1.48	61

Questions 19 – 26 have been excluded from this report

Drift Plains Region

Section I: Agency Information and Evaluation of Conservation Actions

Questions 1 – 10 excluded from this report

Section III: Threats to Fish and Wildlife Habitats

61. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in the Drift Plains REGION? (Check only one)

	Very Poor		Poor		Satisfactory		Good		Very good		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	%	N	Responses
Aquatic systems	0.0	0	8.3	1	25.0	3	50.0	6	16.7	2	0.0	0	12
Agricultural lands	10.0	1	50.0	5	30.0	3	10.0	1	0.0	0	0.0	0	10
Barren lands	0.0	0	50.0	1	50.0	1	0.0	0	0.0	0	0.0	0	2
Developed Lands	0.0	0	100.0	1	0.0	0	0.0	0	0.0	0	0.0	0	1
Forests	4.0	1	16.0	4	52.0	13	20.0	5	8.0	2	0.0	0	25
Grasslands	9.1	1	81.8	9	9.1	1	0.0	0	0.0	0	0.0	0	11
Subterranean systems	0.0	0	0.0	0	50.0	1	50.0	1	0.0	0	0.0	0	2
Wetlands	0.0	0	27.3	3	63.6	7	9.1	1	0.0	0	0.0	0	11
Total	4.1	3	32.4	24	39.2	29	18.9	14	5.4	4	0.0	0	74

62. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Drift Plains REGION since 2005? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Aquatic systems	16.7	2	75.0	9	8.3	1	0.0	0	12
Agricultural lands	0.0	0	40.0	4	60.0	6	0.0	0	10
Barren lands	0.0	0	100.0	2	0.0	0	0.0	0	2
Developed Lands	0.0	0	0.0	0	100.0	1	0.0	0	1
Forests	20.0	5	56.0	14	16.0	4	8.0	2	25
Grasslands	27.3	3	27.3	3	45.5	5	0.0	0	11
Subterranean systems	0.0	0	100.0	2	0.0	0	0.0	0	2
Wetlands	27.3	3	63.6	7	9.1	1	0.0	0	11
Total	17.6	13	55.4	41	24.3	18	2.7	2	74

Quality of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Aquatic systems	25.0	3	66.7	8	8.3	1	0.0	0	12
Agricultural lands	0.0	0	60.0	6	40.0	4	0.0	0	10
Barren lands	0.0	0	100.0	2	0.0	0	0.0	0	2
Developed Lands	0.0	0	0.0	0	100.0	1	0.0	0	1
Forests	12.0	3	56.0	14	20.0	5	12.0	3	25
Grasslands	27.3	3	36.4	4	36.4	4	0.0	0	11
Subterranean systems	0.0	0	100.0	2	0.0	0	0.0	0	2
Wetlands	10.0	1	80.0	8	10.0	1	0.0	0	10
Total	13.7	10	60.3	44	21.9	16	4.1	3	73

63. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Drift Plains REGION <u>over the next 10 years</u>? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Aquatic systems	8.3	1	66.7	8	25.0	3	0.0	0	12
Agricultural lands	0.0	0	30.0	3	70.0	7	0.0	0	10
Barren lands	0.0	0	50.0	1	50.0	1	0.0	0	2
Developed Lands	0.0	0	0.0	0	100.0	1	0.0	0	1
Forests	16.0	4	52.0	13	32.0	8	0.0	0	25
Grasslands	27.3	3	27.3	3	45.5	5	0.0	0	11
Subterranean systems	0.0	0	50.0	1	0.0	0	50.0	1	2
Wetlands	9.1	1	81.8	9	9.1	1	0.0	0	11
Total	12.2	9	51.4	38	35.1	26	1.4	1	74

Quality of fish and wildlife habitats within HABITAT over the next 10 years

Drift Plains (Region 6)	Increase		About the same		Decrease		I don't know		Total Responses
		N		N		N		N	
Aquatic systems	8.3	1	66.7	8	25.0	3	0.0	0	12
Agricultural lands	0.0	0	40.0	4	60.0	6	0.0	0	10
Barren lands	0.0	0	100.0	2	0.0	0	0.0	0	2
Developed Lands	0.0	0	0.0	0	100.0	1	0.0	0	1
Forests	8.0	2	48.0	12	40.0	10	4.0	1	25
Grasslands	27.3	3	36.4	4	36.4	4	0.0	0	11
Subterranean systems	0.0	0	50.0	1	0.0	0	50.0	1	2
Wetlands	9.1	1	72.7	8	18.2	2	0.0	0	11
Total	9.5	7	52.7	39	35.1	26	2.7	2	74

64. **Currently**, to what extent do you think the following general categories of threats apply to fish and wildlife habitats within **HABITAT** in the Drift Plains REGION? (Check one for each line item)

		Significant Threat		Moderate Threat		Minor Threat		Nota a threat		I Don't Know		Mean	Total Responses
		%	N	%	N	%	N	%	N	%	N		
Entire State	Residential and commercial development	35.6%	26	47.9%	35	16.4%	12	0.0%	0	0.0%	0	1.81	73
	Agriculture and aquaculture	42.5%	31	45.2%	33	12.3%	9	0.0%	0	0.0%	0	1.70	73
	Energy production and mining	13.7%	10	16.4%	12	49.3%	36	11.0%	8	9.6%	7	2.64	73
	Transportation and service corridors	13.7%	10	23.3%	17	52.1%	38	6.8%	5	4.1%	3	2.54	73
	Biological resource use	11.1%	8	20.8%	15	38.9%	28	20.8%	15	8.3%	6	2.76	72
	Human intrusion and disturbance	29.2%	21	33.3%	24	26.4%	19	4.2%	3	6.9%	5	2.06	72

	%	N	%	N	%	N	%	N	%	N	Mean	Total
Natural systems modifications	23.6%	17	38.9%	28	26.4%	19	9.7%	7	1.4%	1	2.23	72
Invasives and other problematic species and genes	47.2%	34	19.4%	14	26.4%	19	2.8%	2	4.2%	3	1.84	72
Pollution	15.1%	11	39.7%	29	38.4%	28	1.4%	1	5.5%	4	2.28	73
Climate change and severe weather	19.2%	14	19.2%	14	27.4%	20	28.8%	21	5.5%	4	2.70	73
Other stressors	18.8%	13	21.7%	15	33.3%	23	5.8%	4	20.3%	14	2.33	69

65. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the Drift Plains REGION. Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the REGION and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

		To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the REGION?											Mean	Total Responses	How will the significance of this threat change over the next 10 years?								Total Responses
		Significant Threat		Moderate Threat		Minor Threat		Not a Threat		I Don't Know				Increase		Remain the Same		Decrease		I don't know		
		%	N	%	N	%	N	%	N	%	N			%	N	%	N	%	N	%	N	
Entire Region	**Residential and Commercial Development**																						
	Housing and urban areas	45.8%	27	47.5%	28	3.4%	2	3.4%	2	0.0%	0	1.64	59	77.4%	41	20.8%	11	0.0%	0	1.9%	1	53
	Commercial and industrial areas	33.9%	20	50.8%	30	11.9%	7	3.4%	2	0.0%	0	1.85	59	67.3%	35	30.8%	16	0.0%	0	1.9%	1	52
	Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	6.9%	4	27.6%	16	58.6%	34	5.2%	3	1.7%	1	2.63	58	50.0%	26	44.2%	23	1.9%	1	3.8%	2	52
	Agriculture and Aquaculture																						
	Annual and perennial nontimber crops	32.3%	20	35.5%	22	22.6%	14	3.2%	2	6.5%	4	1.97	62	52.6%	30	38.6%	22	0.0%	0	8.8%	5	57

Fossil fuel energy	Renewable energy	Mining and quarrying	Oil and gas drilling	Energy Production and Mining	Conversion of habitat to annual crops	Aquaculture	Livestock farming and ranching	Wood and pulp plantations
36.4%	14.3%	38.1%	42.9%		61.3%	1.8%	11.3%	6.6%
8	3	8	9		38	1	7	4
45.5%	33.3%	38.1%	28.6%		27.4%	15.8%	50.0%	19.7%
10	7	8	6		17	9	31	12
13.6%	28.6%	9.5%	14.3%		4.8%	19.3%	24.2%	39.3%
3	6	2	3		3	11	15	24
4.5%	23.8%	14.3%	14.3%		3.2%	28.1%	8.1%	18.0%
1	5	3	3		2	16	5	11
0.0%	0.0%	0.0%	0.0%		3.2%	35.1%	6.5%	16.4%
0	0	0	0		2	20	4	10
1.86	2.62	2.00	2.00		1.48	3.14	2.31	2.82
22	21	21	21		62	57	62	61
63.2%	41.2%	68.4%	68.4%		87.5%	6.0%	33.3%	17.9%
12	7	13	13		49	3	19	10
36.8%	58.8%	31.6%	31.6%		8.9%	54.0%	56.1%	64.3%
7	10	6	6		5	27	32	36
0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%
0	0	0	0		0	0	0	0
0.0%	0.0%	0.0%	0.0%		3.6%	40.0%	10.5%	17.9%
0	0	0	0		2	20	6	10
19	17	19	19		56	50	57	56

	Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)	Shipping lanes	Flight paths	Utility and service lines	Roads and railroads	Shale gas development (e.g., fracking)
	25.6%	47.8%	24.0%	11.5%	12.0%	38.5%	40.9%
	11	11	6	3	3	10	9
	53.5%	26.1%	16.0%	15.4%	48.0%	53.8%	31.8%
	23	6	4	4	12	14	7
	20.9%	13.0%	0.0%	26.9%	32.0%	3.8%	18.2%
	9	3	0	7	8	1	4
	0.0%	13.0%	40.0%	30.8%	4.0%	3.8%	9.1%
	0	3	10	8	1	1	2
	0.0%	0.0%	20.0%	15.4%	4.0%	0.0%	0.0%
	0	0	5	4	1	0	0
	1.95	1.91	2.70	2.91	2.29	1.73	1.95
	43	23	25	26	25	26	22
	80.0%	63.2%	36.4%	38.1%	36.4%	69.6%	68.4%
	32	12	8	8	8	16	13
	20.0%	36.8%	45.5%	47.6%	63.6%	30.4%	31.6%
	8	7	10	10	14	7	6
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	0	0	0	0	0	0	0
	0.0%	0.0%	18.2%	14.3%	0.0%	0.0%	0.0%
	0	0	4	3	0	0	0
	40	19	22	21	22	23	19

Row group labels: Natural Systems Modification; Human Intrusion and Disturbance; Biological Resource Use; Transportation and Service Corridors

Plant diseases	Problematic native species (e.g. overabundant native deer or algae)	Invasive/alien species		Conversion of natural habitats to other land uses	Over-mowing of natural areas	Log jam removal	Fire and fire suppression	Dams and water management/use
27.7%	29.8%	71.7%	**Invasives and Other Problematic Species**	55.8%	25.0%	6.8%	11.4%	9.1%
13	14	33		24	11	3	5	4
40.4%	40.4%	26.1%		34.9%	31.8%	31.8%	38.6%	36.4%
19	19	12		15	14	14	17	16
19.1%	19.1%	0.0%		9.3%	29.5%	22.7%	22.7%	34.1%
9	9	0		4	13	10	10	15
6.4%	8.5%	0.0%		0.0%	2.3%	25.0%	20.5%	9.1%
3	4	0		0	1	11	9	4
6.4%	2.1%	2.2%		0.0%	11.4%	13.6%	6.8%	11.4%
3	1	1		0	5	6	3	5
2.05	2.07	1.27		1.53	2.10	2.76	2.56	2.49
47	47	46		43	44	44	44	44
60.5%	47.6%	90.2%		78.0%	41.5%	19.4%	17.9%	26.3%
26	20	37		32	17	7	7	10
27.9%	42.9%	7.3%		22.0%	43.9%	63.9%	74.4%	63.2%
12	18	3		9	18	23	29	24
0.0%	0.0%	0.0%		0.0%	0.0%	2.8%	0.0%	0.0%
0	0	0		0	0	1	0	0
11.6%	9.5%	2.4%		0.0%	14.6%	13.9%	7.7%	10.5%
5	4	1		0	6	5	3	4
43	42	41		41	41	36	39	38

Garbage and solid waste	Agriculture, residential, and forestry effluents	Household sewage and urban water waste	Air pollution (e.g., smoke, mercury emissions)	Point source pollution from commercial/industrial sources	Chemical spills	Runoff from roads/service corridors	Pollution	Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)
28.2%	41.0%	30.8%	23.1%	28.2%	23.7%	51.3%		13.0%
11	16	12	9	11	9	20		6
30.8%	41.0%	35.9%	30.8%	46.2%	39.5%	28.2%		26.1%
12	16	14	12	18	15	11		12
35.9%	15.4%	33.3%	38.5%	25.6%	34.2%	20.5%		34.8%
14	6	13	15	10	13	8		16
5.1%	2.6%	0.0%	7.7%	0.0%	2.6%	0.0%		6.5%
2	1	0	3	0	1	0		3
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		19.6%
0	0	0	0	0	0	0		9
2.18	1.79	2.03	2.31	1.97	2.16	1.69		2.43
39	39	39	39	39	38	39		46
67.6%	64.7%	55.9%	47.1%	50.0%	41.2%	66.7%		42.5%
23	22	19	16	17	14	22		17
29.4%	32.4%	41.2%	47.1%	50.0%	58.8%	33.3%		40.0%
10	11	14	16	17	20	11		16
2.9%	2.9%	2.9%	5.9%	0.0%	0.0%	0.0%		0.0%
1	1	1	2	0	0	0		0
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		17.5%
0	0	0	0	0	0	0		7
34	34	34	34	34	34	33		40

Diseases	Low genetic diversity (due to reduced population size, species inbreeding, etc.)	Other Stressor	Shifting seasons/phenology	Temperature extremes	Shifting and alteration of habitats due to climate change	Changing frequency, duration, and intensity of floods	Changing frequency, duration, and intensity of drought	Climate Change and Other Severe Weather	Excess energy (e.g., noise/light pollution, warm water discharge, etc.)
40.9%	35.7%		48.1%	44.4%	44.4%	48.1%	55.6%		21.1%
9	10		13	12	12	13	15		8
40.9%	35.7%		40.7%	44.4%	37.0%	33.3%	29.6%		31.6%
9	10		11	12	10	9	8		12
18.2%	14.3%		0.0%	3.7%	7.4%	11.1%	7.4%		36.8%
4	4		0	1	2	3	2		14
0.0%	7.1%		3.7%	3.7%	3.7%	3.7%	3.7%		7.9%
0	2		1	1	1	1	1		3
0.0%	7.1%	Other Stressor	7.4%	3.7%	7.4%	3.7%	3.7%		2.6%
0	2		2	1	2	1	1		1
1.77	1.92		1.56	1.65	1.68	1.69	1.58		2.32
22	28		27	27	27	27	27		38
70.0%	60.0%		73.9%	71.4%	82.6%	71.4%	82.6%		63.6%
14	15		17	15	19	15	19	Climate Change and Other Severe Weather	21
25.0%	28.0%		17.4%	23.8%	13.0%	23.8%	13.0%		33.3%
5	7		4	5	3	5	3		11
5.0%	4.0%		0.0%	0.0%	0.0%	0.0%	0.0%		0.0%
1	1		0	0	0	0	0		0
0.0%	8.0%		8.7%	4.8%	4.3%	4.8%	4.3%		3.0%
0	2		2	1	1	1	1		1
20	25		23	21	23	21	23		33

66. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the Drift Plains **REGION** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Question 16 response excluded from this report.

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the Drift Plains REGION.

67. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the Drift Plains REGION over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the Drift Plains **REGION** since 2005 or have plans to do so.

<table>
<tr><th rowspan="3"></th><th rowspan="3"></th><th colspan="12">To what extent do you think this category of conservation action is important for fish and wildlife habitats within HABITAT in the REGION over the next 10 years?</th><th rowspan="3">Mean</th><th rowspan="3">Total Responses</th><th colspan="6">Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within HABITAT in the REGION?</th><th rowspan="3">Total Responses</th></tr>
<tr><th colspan="2">Significant Threat</th><th colspan="2">Moderate Threat</th><th colspan="2">Minor Threat</th><th colspan="2">Nota a threat</th><th colspan="2">I Don't Know</th><th colspan="2">Yes</th><th colspan="2">No</th><th colspan="2">I Don't Know</th></tr>
<tr><th>%</th><th>N</th><th>%</th><th>N</th><th>%</th><th>N</th><th>%</th><th>N</th><th>%</th><th>N</th><th>%</th><th>N</th><th>%</th><th>N</th><th>%</th><th>N</th></tr>
<tr><td rowspan="5">Entire State</td><td>Land/water protection</td><td>53.7</td><td>36</td><td>22.4</td><td>15</td><td>16.4</td><td>11</td><td>7.5</td><td>5</td><td>0.0</td><td>0</td><td>1.78</td><td>67</td><td>56.8</td><td>25</td><td>27.3</td><td>12</td><td>15.9</td><td>7</td><td>44</td></tr>
<tr><td>Land/water/ species management</td><td>62.1</td><td>41</td><td>25.8</td><td>17</td><td>7.6</td><td>5</td><td>1.5</td><td>1</td><td>3.0</td><td>2</td><td>1.47</td><td>66</td><td>77.8</td><td>35</td><td>11.1</td><td>5</td><td>11.1</td><td>5</td><td>45</td></tr>
<tr><td>Education and awareness</td><td>51.4</td><td>38</td><td>23.0</td><td>17</td><td>23.0</td><td>17</td><td>.0</td><td>0</td><td>2.7</td><td>2</td><td>1.71</td><td>74</td><td>75.6</td><td>34</td><td>11.1</td><td>5</td><td>13.3</td><td>6</td><td>45</td></tr>
<tr><td>Law and policy</td><td>23.9</td><td>16</td><td>44.8</td><td>30</td><td>23.9</td><td>16</td><td>3.0</td><td>2</td><td>4.5</td><td>3</td><td>2.06</td><td>67</td><td>31.8</td><td>14</td><td>25.0</td><td>11</td><td>43.2</td><td>19</td><td>44</td></tr>
<tr><td>Livelihood, economic, and</td><td>26.2</td><td>17</td><td>47.7</td><td>31</td><td>18.5</td><td>12</td><td>3.1</td><td>2</td><td>4.6</td><td>3</td><td>1.98</td><td>65</td><td>45.5</td><td>20</td><td>20.5</td><td>9</td><td>34.1</td><td>15</td><td>44</td></tr>
</table>

other incentives																		
External capacity building	26.9	18	28.4	19	28.4	19	6.0	4	10.4	7	2.15	67	35.6	16	20.0	9	44.4	20	45

68. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the Drift Plains **REGION** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the REGION. You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

	Very Important		Moderately Important		Somewhat Important		Not important		I Don't Know		Mean	Total Responses
	%	N	%	N	%	N	%	N	%	N		
Land/Water Protection												
Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	66.7%	6	22.2%	2	11.1%	1	0.0%	0	0.0%	0	1.44	9
Acquire currently unprotected barren lands	0.0%	0	0.0%	0	100.0%	1	0.0%	0	0.0%	0	3.00	1
Acquire currently unprotected forests	60.0%	9	13.3%	2	20.0%	3	6.7%	1	0.0%	0	1.73	15
Acquire currently unprotected grasslands	57.1%	4	28.6%	2	0.0%	0	14.3%	1	0.0%	0	1.71	7
Acquire currently unprotected wetlands	66.7%	6	22.2%	2	11.1%	1	0.0%	0	0.0%	0	1.44	9
Acquire currently unprotected subterranean habitats	100.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	1
Preserve currently existing corridors	69.4%	34	18.4%	9	12.2%	6	0.0%	0	0.0%	0	1.43	49
Acquire conservation easements to protect important wildlife habitats	48.0%	24	36.0%	18	14.0%	7	2.0%	1	0.0%	0	1.70	50
Reduce conversion to cropland	63.3%	31	26.5%	13	6.1%	3	2.0%	1	2.0%	1	1.46	49
Build/strengthen CRP partnerships	57.1%	28	20.4%	10	12.2%	6	4.1%	2	6.1%	3	1.61	49
Land/Water/Species Management												
Control invasive species in agricultural lands	33.3%	3	22.2%	2	44.4%	4	0.0%	0	0.0%	0	2.11	9
Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	25.0%	2	37.5%	3	37.5%	3	0.0%	0	0.0%	0	2.13	8
Control invasive species in barren lands	0.0%	0	0.0%	0	100.0%	1	0.0%	0	0.0%	0	3.00	1
Control invasive species in developed lands	0.0%	0	0.0%	0	100.0%	1	0.0%	0	0.0%	0	3.00	1
Control invasive species in forests	80.0%	16	15.0%	3	5.0%	1	0.0%	0	0.0%	0	1.25	20
Control invasive species in grasslands	55.6%	5	11.1%	1	33.3%	3	0.0%	0	0.0%	0	1.78	9
Control invasive species in wetlands	62.5%	5	25.0%	2	12.5%	1	0.0%	0	0.0%	0	1.50	8
Control invasive species in subterranean systems	100.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	1
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	44.4%	4	44.4%	4	11.1%	1	0.0%	0	0.0%	0	1.67	9
Control problematic native species in aquatic systems	25.0%	2	37.5%	3	37.5%	3	0.0%	0	0.0%	0	2.13	8
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	0.0%	0	0.0%	0	100.0%	1	0.0%	0	0.0%	0	3.00	1

(Entire Region)

Action	%	n	%	n	%	n	%	n	%	n	Mean	Total
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	0.0%	0	0.0%	0	100.0%	1	0.0%	0	0.0%	0	3.00	1
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	45.0%	9	30.0%	6	25.0%	5	0.0%	0	0.0%	0	1.80	20
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	12.5%	1	37.5%	3	25.0%	2	25.0%	2	0.0%	0	2.63	8
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	28.6%	2	42.9%	3	28.6%	2	0.0%	0	0.0%	0	2.00	7
Control problematic native species in subterranean systems	0.0%	0	100.0%	1	0.0%	0	0.0%	0	0.0%	0	2.00	1
Dam removal	0.0%	0	37.5%	6	56.3%	9	6.3%	1	0.0%	0	2.69	16
Decrease E. coli counts	25.0%	4	37.5%	6	37.5%	6	0.0%	0	0.0%	0	2.13	16
Decrease number of combined sewer overflow events	43.8%	7	37.5%	6	18.8%	3	0.0%	0	0.0%	0	1.75	16
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	56.1%	32	31.6%	18	3.5%	2	8.8%	5	0.0%	0	1.65	57
Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	8.9%	4	4.4%	2	26.7%	12	37.8%	17	22.2%	10	3.20	45
Improve drainage management	26.8%	15	23.2%	13	30.4%	17	14.3%	8	5.4%	3	2.34	56
Improve integrated pest management	44.4%	4	11.1%	1	44.4%	4	0.0%	0	0.0%	0	2.00	9
Increase acres of riparian buffers	56.4%	31	36.4%	20	7.3%	4	0.0%	0	0.0%	0	1.51	55
Increase acres enrolled in the Classified Forest and Wildlands Program	31.6%	18	33.3%	19	28.1%	16	5.3%	3	1.8%	1	2.07	57
Link existing habitat blocks through corridor enhancement in agricultural lands	50.0%	4	50.0%	4	0.0%	0	0.0%	0	0.0%	0	1.50	8
Link existing habitat blocks through corridor enhancement in aquatic systems	37.5%	3	25.0%	2	37.5%	3	0.0%	0	0.0%	0	2.00	8
Link existing habitat blocks through corridor enhancement in barren lands	0.0%	0	0.0%	0	100.0%	1	0.0%	0	0.0%	0	3.00	1
Link existing habitat blocks through corridor enhancement in developed lands	100.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	1
Link existing habitat blocks through corridor enhancement in forests	55.0%	11	30.0%	6	15.0%	3	0.0%	0	0.0%	0	1.60	20
Link existing habitat blocks through corridor enhancement in grasslands	33.3%	3	66.7%	6	0.0%	0	0.0%	0	0.0%	0	1.67	9
Link existing habitat blocks through corridor enhancement in wetlands	62.5%	5	25.0%	2	12.5%	1	0.0%	0	0.0%	0	1.50	8
Enhance corridors in subterranean systems	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%	1		1
Manage biofuel grasslands	12.5%	2	25.0%	4	31.3%	5	18.8%	3	12.5%	2	2.64	16
Manage urban woodlots	0.0%	0	100.0%	1	0.0%	0	0.0%	0	0.0%	0	2.68	1
Mine reclamation	19.6%	9	13.0%	6	32.6%	15	23.9%	11	10.9%	5	2.00	46
Promote diversity of forest types and successional stages	60.0%	12	30.0%	6	10.0%	2	0.0%	0	0.0%	0	1.50	20
Promote diversity of grassland types and successional stages	77.8%	7	22.2%	2	0.0%	0	0.0%	0	0.0%	0	1.22	9
Promote diversity of wetland types and successional stages	50.0%	4	50.0%	4	0.0%	0	0.0%	0	0.0%	0	1.50	8
Protect and enhance undeveloped shorelines	31.3%	5	25.0%	4	12.5%	2	18.8%	3	12.5%	2	2.21	16
Protect natural water regimes (e.g., withdraws, warm-water discharge)	50.0%	4	25.0%	2	25.0%	2	0.0%	0	0.0%	0	1.75	8
Protect adjacent buffer zones	50.0%	9	38.9%	7	11.1%	2	0.0%	0	0.0%	0	1.61	18
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)	70.2%	40	22.8%	13	7.0%	4	0.0%	0	0.0%	0	1.37	57

	%	n	%	n	%	n	%	n	%	n	Mean	N
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	38.6%	22	40.4%	23	17.5%	10	3.5%	2	0.0%	0	1.86	57
Reduce recreational overuse of aquatic systems	12.5%	1	12.5%	1	50.0%	4	25.0%	2	0.0%	0	2.88	8
Reduce recreational overuse of forests	20.0%	4	25.0%	5	30.0%	6	20.0%	4	5.0%	1	2.53	20
Reduce recreational overuse of grasslands	22.2%	2	22.2%	2	55.6%	5	0.0%	0	0.0%	0	2.33	9
Reduce recreational overuse of wetlands	25.0%	2	12.5%	1	62.5%	5	0.0%	0	0.0%	0	2.38	8
Reduce recreational overuse of subterranean systems	0.0%	0	0.0%	0	100.0%	1	0.0%	0	0.0%	0	3.00	1
Reduce stream bank erosion	62.5%	5	37.5%	3	0.0%	0	0.0%	0	0.0%	0	1.38	8
Reduce stream head cutting	50.0%	4	25.0%	2	25.0%	2	0.0%	0	0.0%	0	1.75	8
Reestablish natural disturbance regimes in barren lands	0.0%	0	100.0%	1	0.0%	0	0.0%	0	0.0%	0	2.00	1
Reestablish natural disturbance regimes in forests	50.0%	10	40.0%	8	5.0%	1	5.0%	1	0.0%	0	1.65	20
Reestablish natural disturbance regimes in grasslands	77.8%	7	22.2%	2	0.0%	0	0.0%	0	0.0%	0	1.22	9
Reestablish natural disturbance regimes in wetlands	25.0%	2	62.5%	5	12.5%	1	0.0%	0	0.0%	0	1.88	8
Reestablish natural disturbance regimes in subterranean systems	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%	1		1
Remove log jams	0.0%	0	12.5%	1	75.0%	6	12.5%	1	0.0%	0	3.00	8
Restore and integrate diversity of habitats into crop-production dominated landscapes	55.6%	5	33.3%	3	11.1%	1	0.0%	0	0.0%	0	1.56	9
Restore and integrate diversity of habitats into developed landscapes	0.0%	0	0.0%	0	0.0%	0	100.0%	1	0.0%	0	4.00	1
Restore habitats and natural systems in aquatic systems	57.1%	4	42.9%	3	0.0%	0	0.0%	0	0.0%	0	1.43	7
Restore habitats and natural systems in barren lands	0.0%	0	100.0%	1	0.0%	0	0.0%	0	0.0%	0	2.00	1
Restore habitats and natural systems in forests	75.0%	15	20.0%	4	5.0%	1	0.0%	0	0.0%	0	1.30	20
Restore habitats and natural systems in grasslands	77.8%	7	22.2%	2	0.0%	0	0.0%	0	0.0%	0	1.22	9
Restore habitats and natural systems in wetlands	75.0%	6	25.0%	2	0.0%	0	0.0%	0	0.0%	0	1.25	8
Restore habitats and natural systems in subterranean systems	100.0%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.00	1
Species reintroduction. Please specify:	52.6%	10	15.8%	3	5.3%	1	5.3%	1	21.1%	4	1.53	19
Education and Awareness												
Educational programs in general	66.7%	36	29.6%	16	3.7%	2	0.0%	0	0.0%	0	1.37	54
Educational programs specifically for K-12	72.2%	39	20.4%	11	3.7%	2	3.7%	2	0.0%	0	1.39	54
Improvement of signage and other communication materials in conservation areas	22.2%	12	33.3%	18	44.4%	24	0.0%	0	0.0%	0	2.22	54
Training programs for stakeholders	47.2%	25	39.6%	21	13.2%	7	0.0%	0	0.0%	0	1.66	53
Law and Policy												
Increase regulations on invasive species	51.1%	23	28.9%	13	20.0%	9	0.0%	0	0.0%	0	1.69	45
Change current laws, policies, and regulations. Please specify:	22.5%	9	25.0%	10	25.0%	10	7.5%	3	20.0%	8	2.22	40
Set private sector standards and codes	27.3%	12	29.5%	13	29.5%	13	4.5%	2	9.1%	4	1.72	44
Improve compliance with and enforcement of current policies	40.0%	18	44.4%	20	8.9%	4	2.2%	1	4.4%	2	2.13	45
Reduce urban sprawl through planning and zoning	47.7%	21	29.5%	13	22.7%	10	0.0%	0	0.0%	0	1.75	44
Establish legal lake levels	16.7%	1	33.3%	2	16.7%	1	16.7%	1	16.7%	1	2.40	6
Establish rules and guidelines for piers and other structures	16.7%	1	16.7%	1	50.0%	3	0.0%	0	16.7%	1	2.40	6
Increase compliance of existing rules and regulations for aquatic systems	16.7%	1	33.3%	2	50.0%	3	0.0%	0	0.0%	0	2.33	6
Establish submergent vegetation control guidelines	16.7%	1	33.3%	2	33.3%	2	0.0%	0	16.7%	1	2.20	6
Livelihood, Economic, and Other Incentives												
Link natural resources to livelihoods through nature tourism	23.4%	11	29.8%	14	38.3%	18	2.1%	1	6.4%	3	2.20	47
Support substitution of alternatives for environmentally harmful products and processes	27.7%	13	36.2%	17	34.0%	16	0.0%	0	2.1%	1	2.07	47

Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	6.5%	3	34.8%	16	45.7%	21	4.3%	2	8.7%	4	2.52	46
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	45.7%	21	43.5%	20	6.5%	3	0.0%	0	4.3%	2	1.59	46
Promote nonmonetary values of natural systems within the state	37.0%	17	41.3%	19	21.7%	10	0.0%	0	0.0%	0	1.85	46
Manage recreational opportunities to be compatible with fish and wildlife habitats	32.6%	15	39.1%	18	26.1%	12	2.2%	1	0.0%	0	1.98	46
External Capacity Building												
Develop institutions and civil society	23.5%	8	14.7%	5	32.4%	11	11.8%	4	17.6%	6	2.39	34
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	63.9%	23	22.2%	8	13.9%	5	0.0%	0	0.0%	0	1.50	36
Strengthen conservation financing	62.9%	22	14.3%	5	20.0%	7	2.9%	1	0.0%	0	1.63	35
Increase state's capacity for research and monitoring of conservation actions	50.0%	18	41.7%	15	8.3%	3	0.0%	0	0.0%	0	1.58	36
Promote green infrastructure	25.0%	9	33.3%	12	33.3%	12	2.8%	1	5.6%	2	2.15	36
Promote use of research and science in conservation decision-making processes	66.7%	24	25.0%	9	8.3%	3	0.0%	0	0.0%	0	1.42	36

Questions 19 – 26 have been excluded from this report