

Adapting to Coastal Hazards: Summary of Survey Results

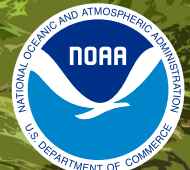
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Disclaimer

Mention of trade names or commercial products does not constitute endorsement or recommendation for their use by the United States government.

1. Overview of Study

The Seacoast Region of New Hampshire (Figure 1) includes the eastern portion of Rockingham County and the southern portion of Strafford County. It stretches 18 miles along the Atlantic Ocean and contains over 326 miles of tidal shoreline, including marine and estuarine salt marsh. The region is home to roughly 11% of the state’s population and has experienced greater population growth since 2010 than the rest of the state (U.S. Census Bureau, 2020). Due to an increase in impervious surfaces from extensive development (NOAA C-CAP, 2016), this region is vulnerable to both salt water and freshwater flooding from storm events (Rockingham Planning Commission, 2005).

In response to worsening coastal hazards, several state and local groups have formed in New Hampshire to increase public awareness and understanding of coastal risks and adaptations, as well as provide funding and other resources to help communities prepare. Understanding the relationships between risk perception and preparedness is critical to developing and implementing coastal

management plans and disaster risk reduction measures. The purpose of this study was to understand coastal New Hampshire residents’ experiences, perceptions, and preferences related to coastal hazards and adaptation. Section 2 provides an overview of the survey methods, Section 3 provides a summary of respondent characteristics, and Section 4 provides summaries of survey questions. Both the survey and a summary table of weighted responses are provided in the Appendices.

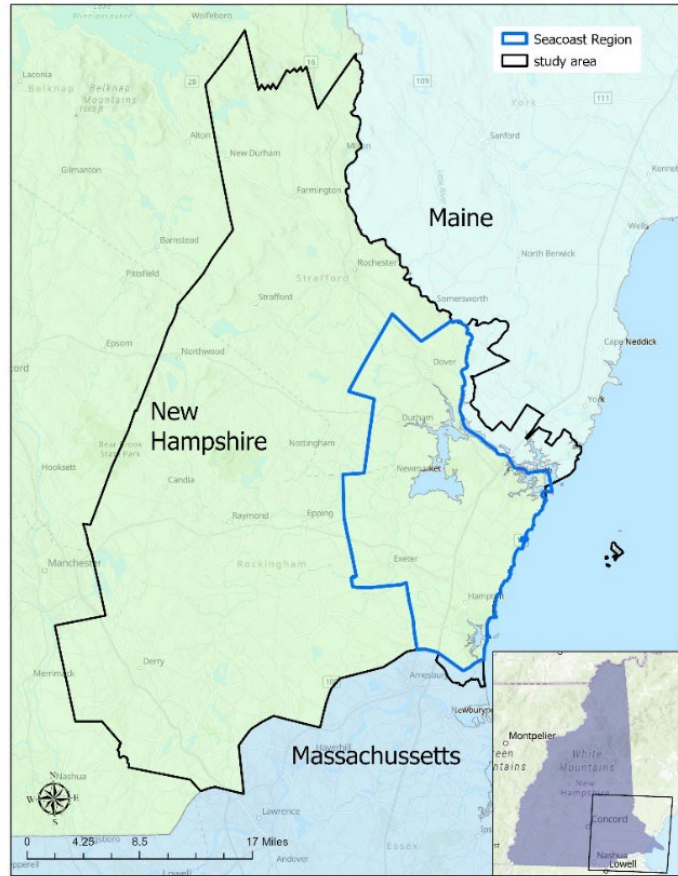


Figure 1. Map of the full study area (black outline), including the Seacoast Region (blue outline).

2. Survey Methods

A random, household survey of residents 18 years of age or older was conducted from August to November 2021 in Strafford and Rockingham counties in New Hampshire and households in Massachusetts and Maine near the Hampton-Seabrook Estuary and the Piscataqua River, respectively (Figure 1, Table 1). The study area was stratified by census block based on proximity to three major water bodies (the Hampton-Seabrook Estuary, the Great Bay Estuary, and the Piscataqua River) and inclusion within the Seacoast Region. An Address Based Sample was purchased from Marketing Systems Group in Horsham, PA. Addresses were included or excluded based on recommendations and specifications for general population studies. For example, seasonal addresses were included, PO Boxes were only included if they were the only way to get mail, and addresses where mail is delivered by a private firm contracted by the USPS (U.S. Postal Service; highway contract) were also included. Following the Dillman Tailored

Design Method (Dillman et al., 2014), potential respondents were contacted up to five times, including a letter of invitation with a survey link and unique ID, follow-up reminder postcards, and a paper version of the survey. Potential respondents were also provided a \$2 incentive enclosed with the first invitation letter.

Table 1. Strata, Sample Size, and Communities.¹

Strata	Sample Size	Towns included in Selected Census Block Groups
Piscataqua	1,500	Dover, Eliot (ME), Kittery (ME), Kittery Point (ME), Newcastle, Portsmouth, Rollinsford, Somersworth, South Berwick (ME)
Great Bay	1,500	Dover, Durham, Exeter, Greenland, Madbury, Newfields, Newington, Newmarket, Portsmouth, Stratham
Hampton-Seabrook	1,500	Hampton, Hampton Falls, Salisbury (MA), Seabrook
Other coastal NH	1,500	Dover, Durham, Exeter, Hampton, Newmarket, North Hampton, Portsmouth, Rye, Rye Beach, Seabrook, Stratham
Rockingham/Strafford Counties (inland)^{1F2}	3,000	Atkinson, Auburn, Barrington, Brentwood, Candia, Chester, Danville, Deerfield, Derry, East Derry, East Kingston, Epping, Exeter, Farmington, Fremont, Hampstead, Kensington, Kingston, Lee, Londonderry, Middleton, Milton, New Durham, Newton, Northwood, Nottingham, Plaistow, Raymond, Rochester, Salem, Sandown, Somersworth, Strafford, Windham

From a sample of 9,000 households, 2,050 completed the survey, but 50 respondents were removed as they answered less than half of the survey, leading to an overall response rate of 22.2%. There were 1,445 respondents from the Seacoast region, 398 respondents from inland New Hampshire, 134 respondents from York County, ME, and 23 respondents from Essex County, MA. The rest of this report will focus on results from New Hampshire residents and provide comparisons between Seacoast and inland residents.

Responses were weighted using iterative proportional fitting (raking) to account for the complex sample design, nonresponse, and other factors affecting imbalance between the population and the sample. The following control variables (U.S. Census Bureau, 2019) were used as weighting factors: sex, age group, race (White), ethnicity (Hispanic), education, and household income. Weights were trimmed during iteration to be no less than 0.2 and no greater than five in order to reduce the mean squared error of key outcome estimates (Kolenikov, 2014). Unless otherwise stated, all values presented are weighted.

3. Resident Characteristics

Seacoast and inland residents have similar demographic characteristics (Table 2). However, there are a few key differences. Seacoast residents are less likely to be white, are likely to be older, more educated, and have high household incomes, and they are more likely to rent and have lived in the Seacoast/their town longer (Table 2).

¹ Some towns are listed in more than one stratum based on their location within the strata’s geographic boundary.

² This sample was proportionately selected among Rockingham and Strafford county selected block groups.

Table 2. Weighted respondent characteristics by geography, including significance tests. Standard errors in parentheses.

Characteristic		Seacoast	Inland	Significance test
Live on/near water	Yes	0.54 (0.02)	0.53 (0.04)	t=0.75, p=0.45
Seacoast resident/visitor	Year-round resident	0.93 (0.01)	--	--
	Visitor	--	1.00 (0.00)	--
Sex	Female	0.51 (0.02)	0.44 (0.04)	t=1.40, p=0.16
Age	Years	57.6 (0.7)	56.2 (1.5)	t=1.88, p=0.08
Race	White	0.94 (0.01)	0.99 (0.00)	t=3.25, p<0.01
Ethnicity	Hispanic	0.09 (0.02)	0.04 (0.02)	t=1.01, p=0.32
Education level	Less than 9th grade	0.00 (0.00)	0.01 (0.01)	F=2.62, p=0.03
	9th to 12th grade, no diploma	0.02 (0.01)	0.08 (0.03)	
	High school graduate	0.07 (0.01)	0.11 (0.02)	
	Some college, no degree	0.25 (0.02)	0.31 (0.04)	
	Associate's degree	0.15 (0.02)	0.14 (0.02)	
	Bachelor's degree	0.18 (0.01)	0.13 (0.02)	
	Graduate or professional degree	0.33 (0.02)	0.23 (0.03)	
Employment status	Employed	0.63 (0.02)	0.58 (0.04)	t=0.65, p=0.52
Household income	Less than \$10,000	0.03 (0.01)	0.03 (0.02)	F=1.64, p=0.10
	\$10,000 to \$19,999	0.04 (0.01)	0.06 (0.02)	
	\$20,000 to \$29,999	0.06 (0.01)	0.05 (0.01)	
	\$30,000 to \$39,999	0.06 (0.01)	0.08 (0.02)	
	\$40,000 to \$49,999	0.06 (0.01)	0.11 (0.03)	
	\$50,000 to \$59,999	0.07 (0.01)	0.09 (0.02)	
	\$60,000 to \$74,999	0.07 (0.01)	0.08 (0.02)	
	\$75,000 to \$99,999	0.11 (0.01)	0.12 (0.02)	
	\$100,000 - \$149,999	0.16 (0.01)	0.13 (0.03)	
	\$150,000 to \$199,999	0.19 (0.02)	0.20 (0.03)	
	\$200,000 or more	0.14 (0.01)	0.04 (0.01)	
Tenure	Seacoast/Town	27.0 (0.8)	19.2 (1.1)	t=6.12, p<0.01
	State	30.5 (0.8)	32.1 (1.5)	t=0.57, p=0.57
Ownership status	Rent	0.21 (0.02)	0.11 (0.02)	F=3.28, p=0.04
	Own	0.75 (0.02)	0.83 (0.03)	
Household size	Total	2.4 (0.1)	2.5 (0.1)	t=1.24, p=0.22
	Children	0.3 (0.0)	0.4 (0.1)	t=0.68, p=0.50

4. Question Summaries³

How much of a problem do you think each of the following are in your community?

Respondents were asked to rate four coastal hazards in terms of how problematic they are for their community (Figure 2). Seacoast residents appear to be generally concerned about all four coastal hazards, whereas inland residents are generally less concerned ($12.38 < F < 56.39$, $p < 0.01$). In particular, they are less likely to believe shoreline erosion and coastal flooding are problems compared to riverine flooding and coastal storms ($3.82 < t < 6.98$, $p < 0.01$).

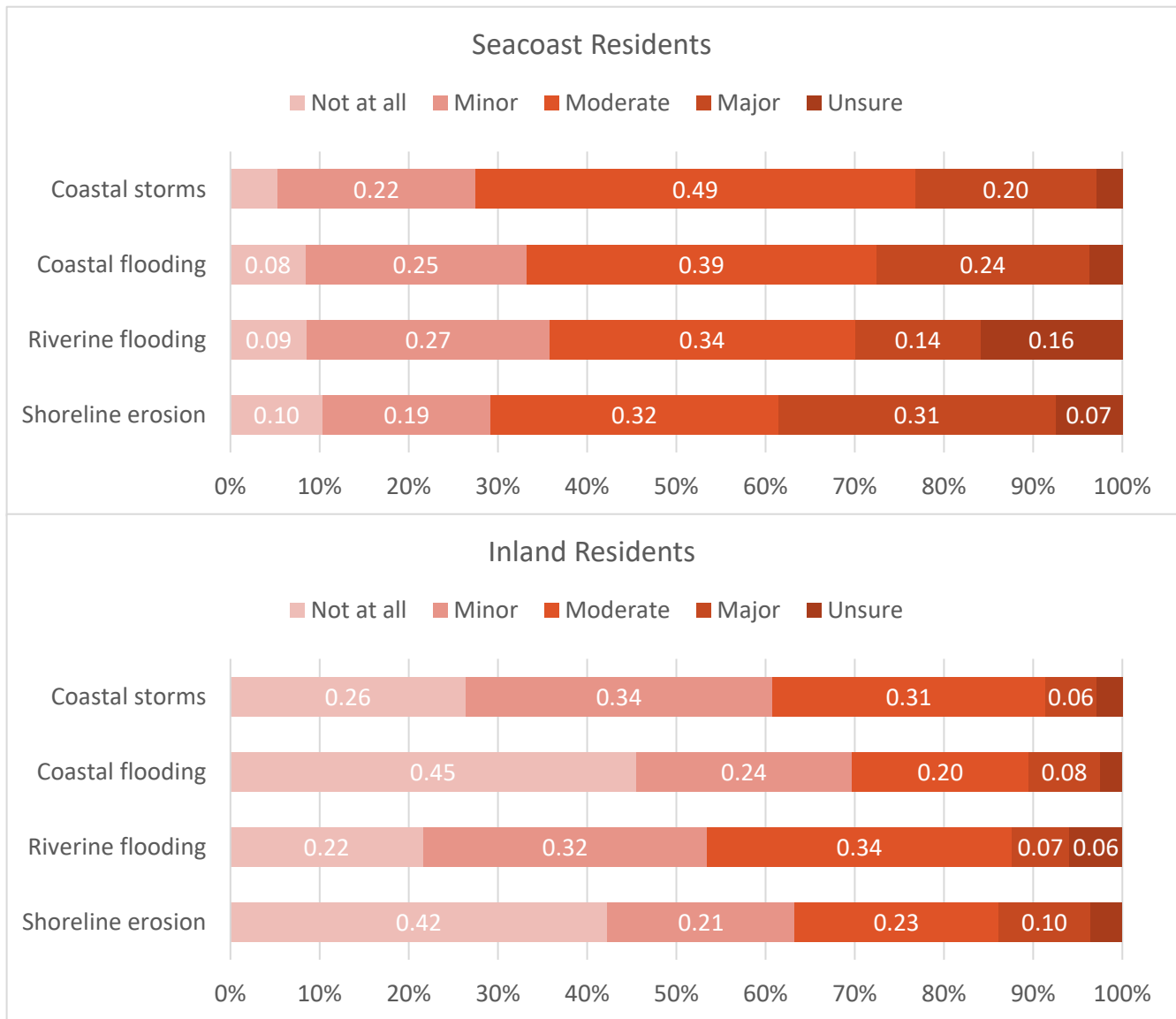


Figure 2. Seacoast and inland residents' perceptions of the community problem level of coastal storms, coastal flooding, riverine flooding, and shoreline erosion.

³ The choice experiment questions (16-29) are excluded as they require statistical modeling to properly interpret.

How do you think the following will change in the next 10 years?

Respondents were asked to indicate how they believed coastal hazards would change in the future (Figure 3). Both Seacoast and inland residents believe that coastal hazards will increase in the future, with some uncertainty regarding riverine flooding ($2.44 < t < 8.06$, $p < 0.01$). However, inland residents are more likely to believe coastal hazards will decrease or stay about the same ($3.37 < F < 4.27$, $p < 0.02$) than Seacoast residents.

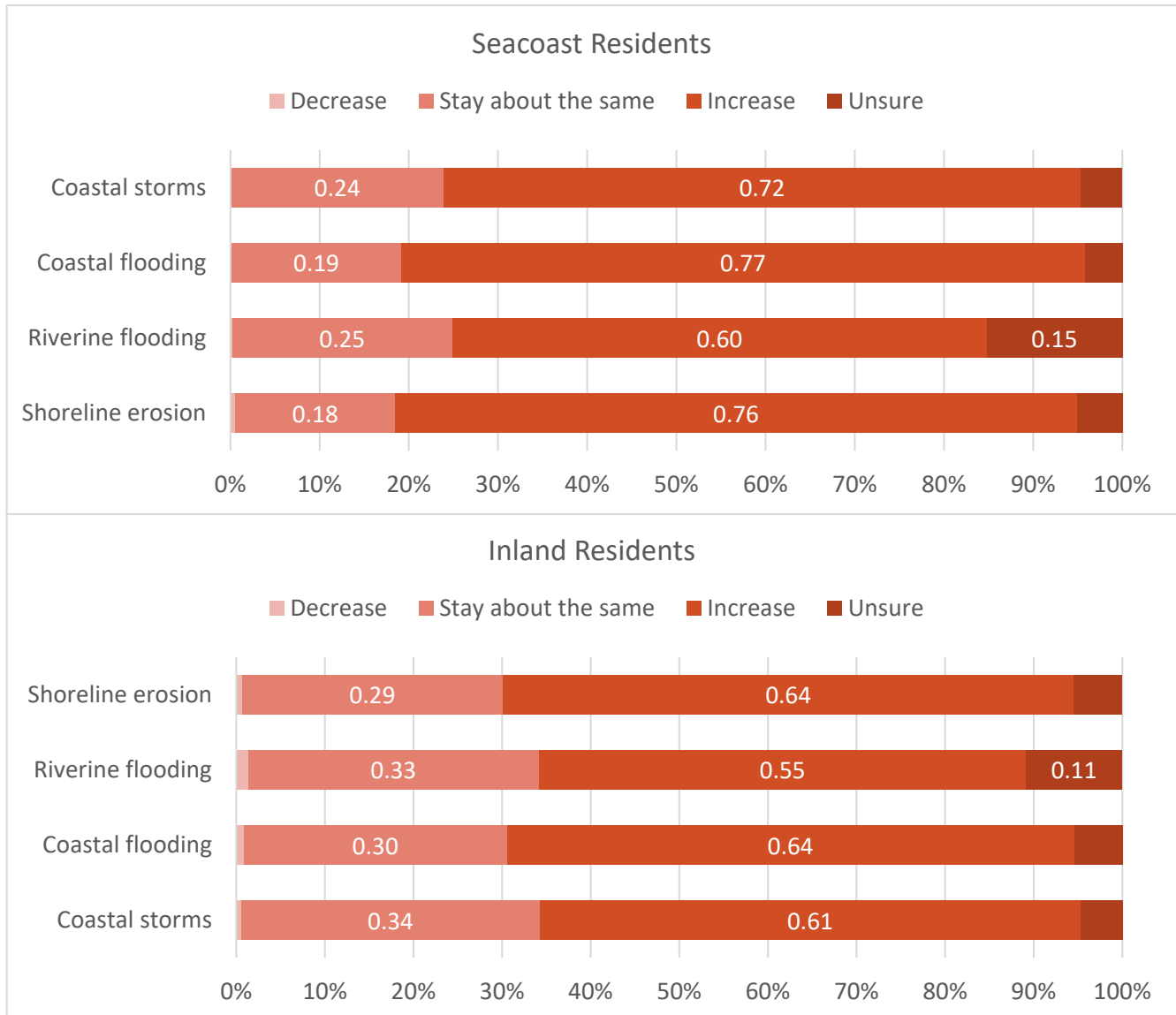


Figure 3. Seacoast and inland residents' perceptions of how coastal storms, coastal flooding, riverine flooding, and shoreline erosion will change in the next 10 years.

Has your home or property been damaged from the following in the past five years?

Respondents were asked if their home or property had been damaged from coastal hazards (Figure 4). Few New Hampshire residents have experienced damages from coastal hazards. Seacoast residents are less likely to have experienced past damage from riverine flooding ($F=3.76$, $p<0.03$) and coastal storms ($F=5.20$, $p<0.01$) than inland residents.

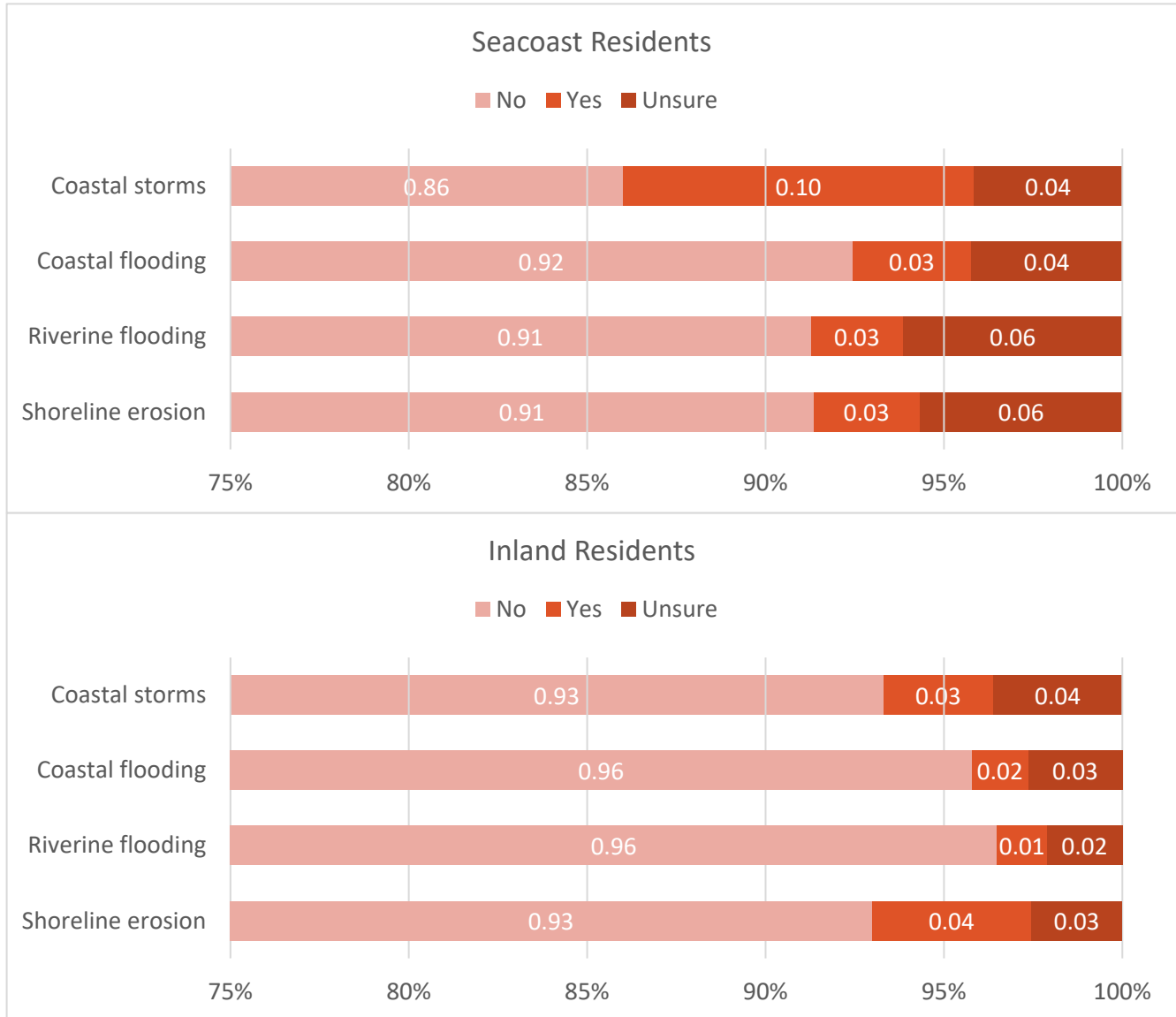


Figure 4. Whether Seacoast and inland residents have experienced damages from coastal storms, coastal flooding, riverine flooding, or shoreline erosion in the past five years.

Have any of the following been done on your home or property in the past five years?

Respondents were asked if they had adapted their home or property in the past (Figure 5). Seacoast residents are more likely to have installed shoreline walls or riprap ($F=5.63$, $p=0.02$), planted restored, or preserved natural shoreline ($F=4.35$, $p=0.04$), put all or part of their property into a conservation easement ($F=7.24$, $p<0.01$), or installed wet floodproofing ($F=3.30$, $p=0.07$) than inland residents.

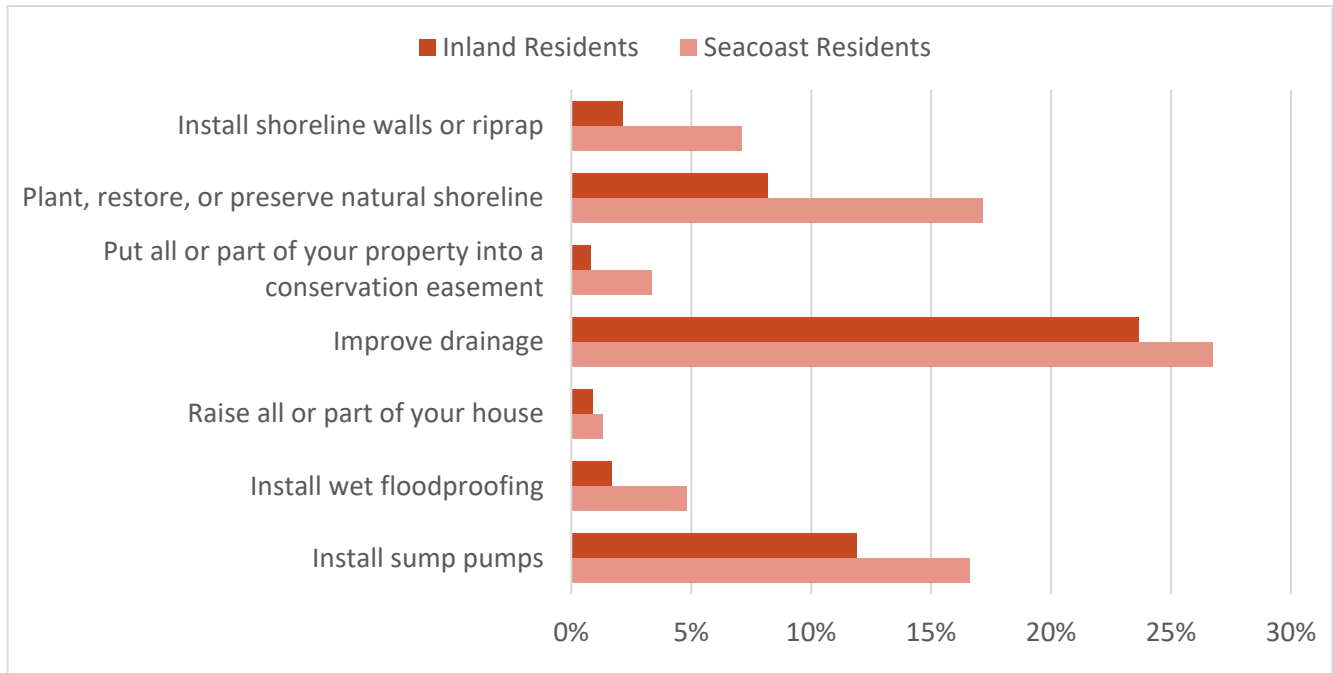


Figure 5. Whether Seacoast or inland residents have adapted to coastal hazards in the past five years.

How likely are you to do any of the following on your home or property in the next 10 years?

Respondents were asked how likely they were to adapt their home or property in the future (Figure 6). New Hampshire residents are generally not likely to intend to adapt on their home or property. Seacoast residents are more likely to intend to install shoreline walls or riprap ($F=3.05$, $p=0.03$), plant, restore, or preserve natural shoreline ($F=3.23$, $p=0.01$), put all or part of your property into a conservation easement ($F=2.78$, $p=0.04$), improve drainage ($F=4.32$, $p<0.02$), install wet floodproofing ($F=2.32$, $p=0.06$), install sump pumps ($F=3.75$, $p<0.01$), or move away because of flooding, storms, and/or erosion ($F=2.47$, $p=0.05$) than inland residents.

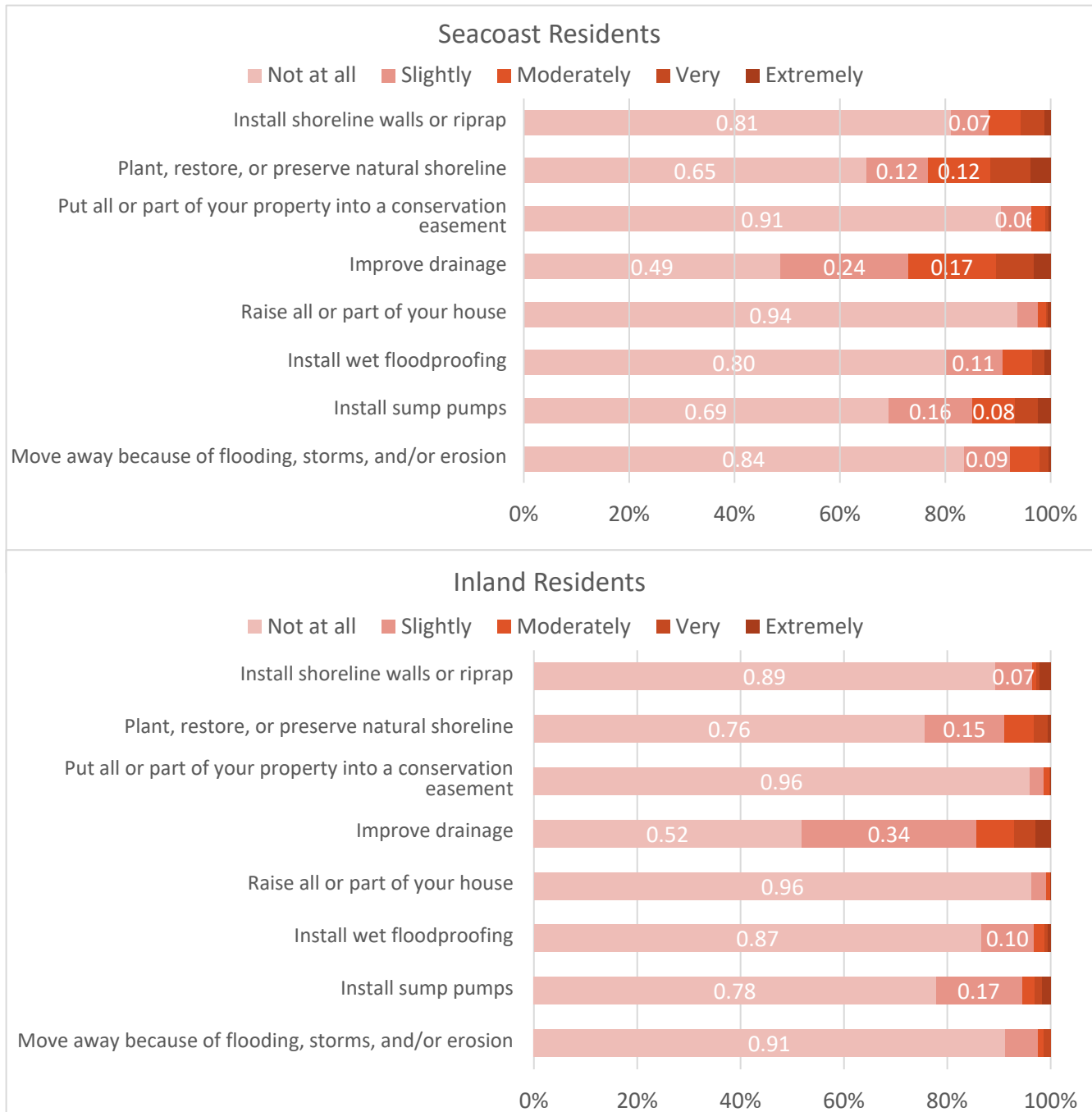


Figure 6. Seacoast and inland residents' intentions to adapt to coastal hazards in the next 10 years.

To what degree would the following factors make you more likely to install shoreline walls or riprap on your home or property?

Respondents were asked to rate the effect of different factors on their likelihood of installing shoreline walls or riprap on their home or property (Figure 7). The factors that are more important for Seacoast residents than inland residents are: the effectiveness at reducing damage from flooding ($F=2.88$, $p=0.04$), municipal or state regulations and ordinances ($F=3.67$, $p=0.01$), whether their neighbors have installed shoreline walls or riprap ($F=2.49$, $p=0.07$), and installation costs ($F=2.39$, $p=0.07$).

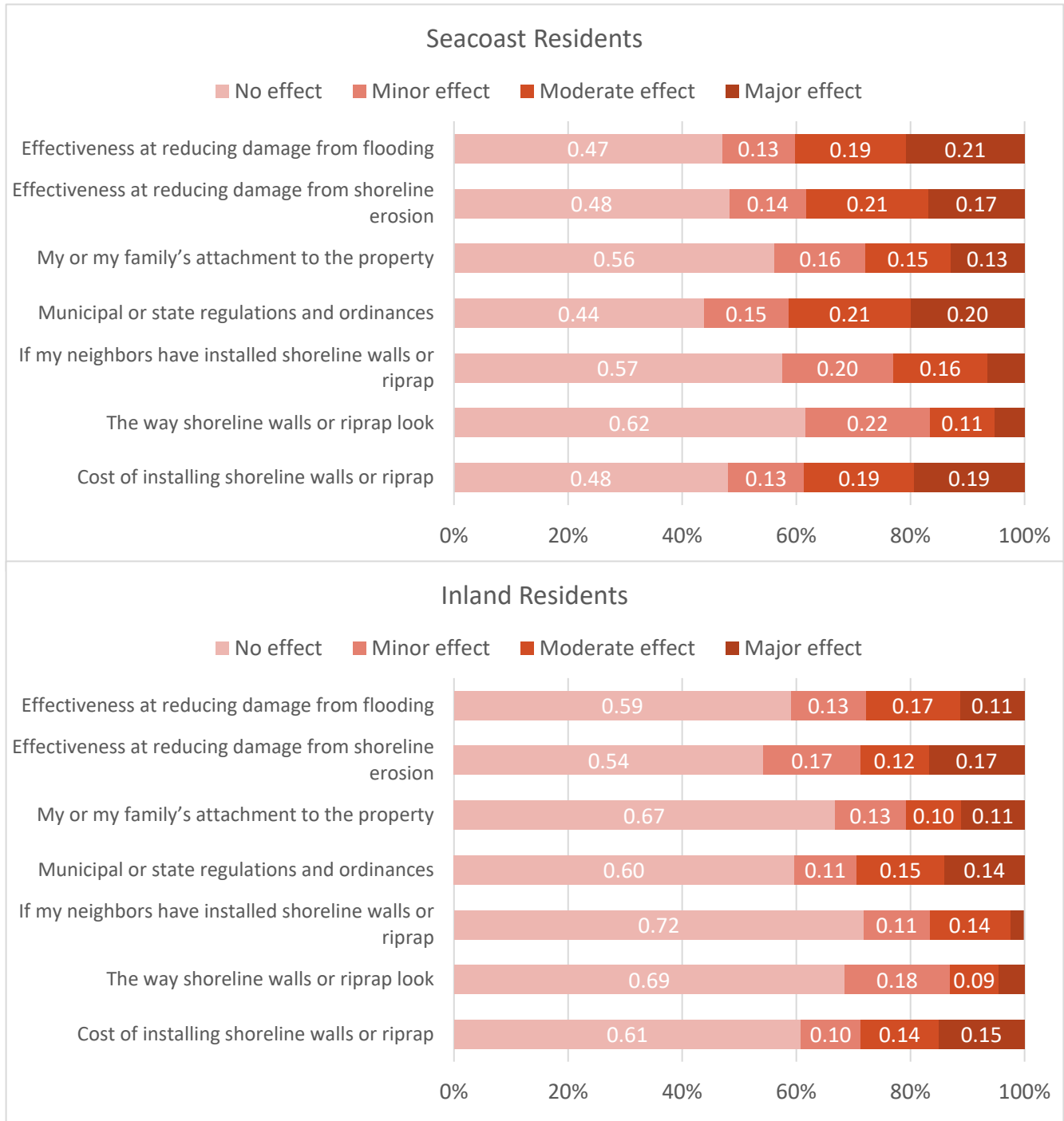


Figure 7. The effects of key factors on Seacoast and inland residents' likelihood to install shoreline walls or riprap.

To what degree would the following factors make you more likely to plant, restore, or preserve the natural shoreline on your home or property?

Respondents were asked to rate the effect of different factors on their likelihood of planting, restoring, or preserving the natural shoreline on their home or property (Figure 8). The factors that are more important for Seacoast residents than inland residents are: the effectiveness at reducing damage from flooding ($F=3.34, p=0.02$), the effectiveness at reducing damage from erosion ($F=2.83, p=0.04$), municipal or state regulations and ordinances ($F=2.38, p=0.07$), and whether their neighbors have planted, restored or preserved the natural shoreline ($F=3.47, p=0.02$) are more likely to make Seacoast residents plant, restore or preserve the natural shoreline than inland residents.

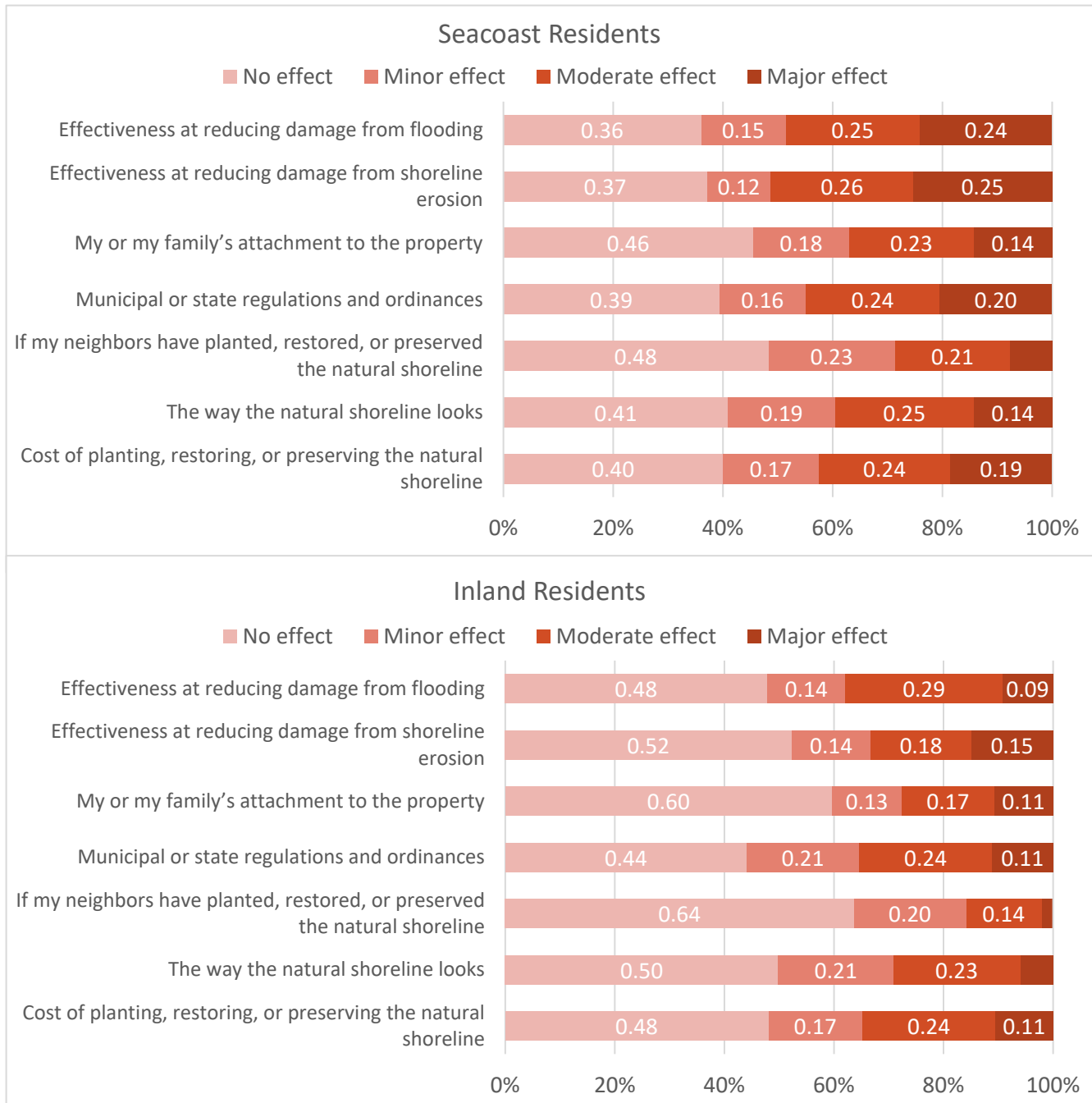


Figure 8. The effects of key factors on Seacoast and inland residents' likelihood to plant, restore, or preserve the natural shoreline.

How supportive would you be of each potential policy or ordinance?

Respondents were asked how supportive they would be of policies or ordinances related to buffer lands (Figure 9). Seacoast and inland residents are generally supportive of each potential policy or ordinance related to buffer lands. Seacoast residents are more supportive of limiting fertilizer and pesticide use within buffer lands ($F=2.93$, $p=0.01$), restricting new development within buffer lands ($F=2.69$, $p=0.02$), and restricting the cutting or removal of natural vegetation within buffer lands ($F=2.24$, $p=0.05$).



Figure 9. Seacoast and inland residents' support levels for potential policies or ordinances related to buffer lands.

How often do you use the following methods to get information on local environmental issues?

Respondents were asked how often they used certain methods to get information on local environmental issues (Figure 10). Seacoast and inland residents are most likely to get information on local environmental issues directly from people or from websites/apps for news outlets. There are no significant differences between regions ($0.81 < F < 1.79$, $0.13 < p < 0.52$).

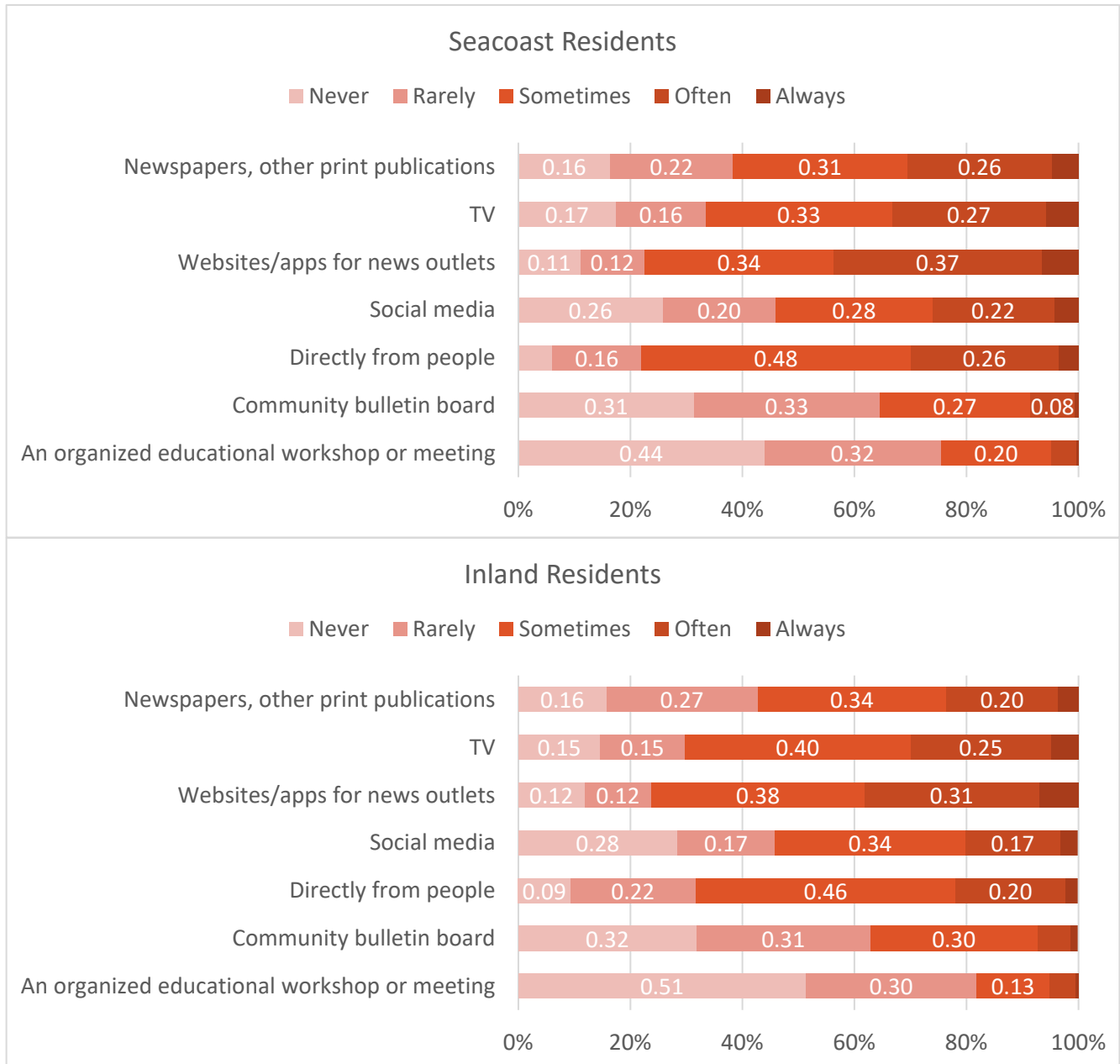


Figure 10. Seacoast and inland residents' methods for getting information on local environmental issues.

How credible do you consider these informational sources on local environmental issues?

Respondents were asked to rate how credible they consider certain informational sources on local environmental issues (Figure 11). Seacoast and inland residents are least likely to find the Federal government a credible source on local environmental issues. Seacoast residents are more likely to find local government (F=2.00, p=0.09), non-profit organizations (F=3.20, p=0.01), and academic institutions (F=2.96, p=0.02) to be credible than inland residents.

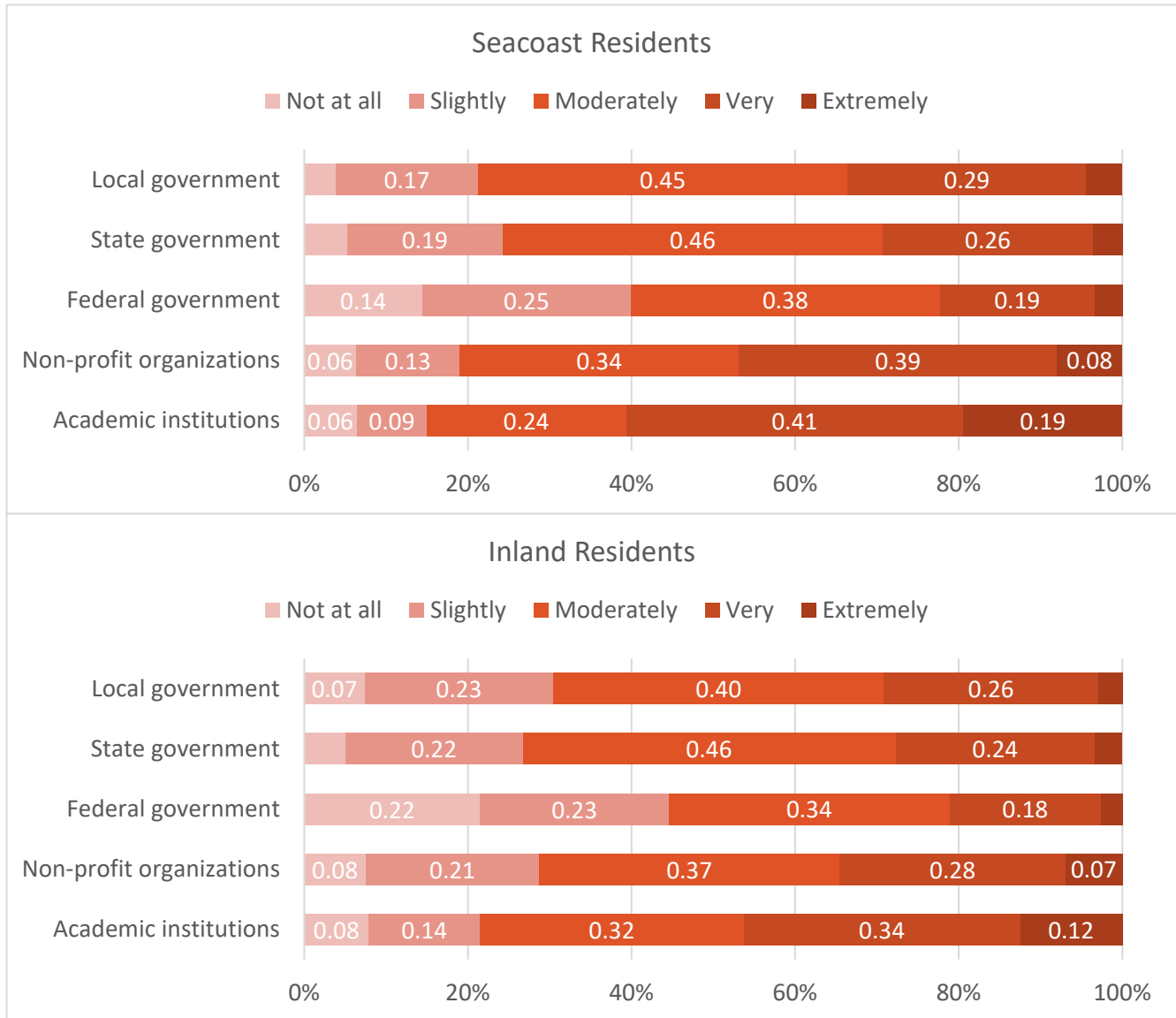


Figure 11. Seacoast and inland residents' perceived credibility of informational sources on local environmental issues.

Place Attachment

Residents were asked to read a series of place attachment statements about the Seacoast Region and indicate their level of agreement or disagreement (Figure 12 and Figure 13). Seacoast Residents are more place attached than inland residents ($F=2.51 < F_{35.35}, p < 0.04$).

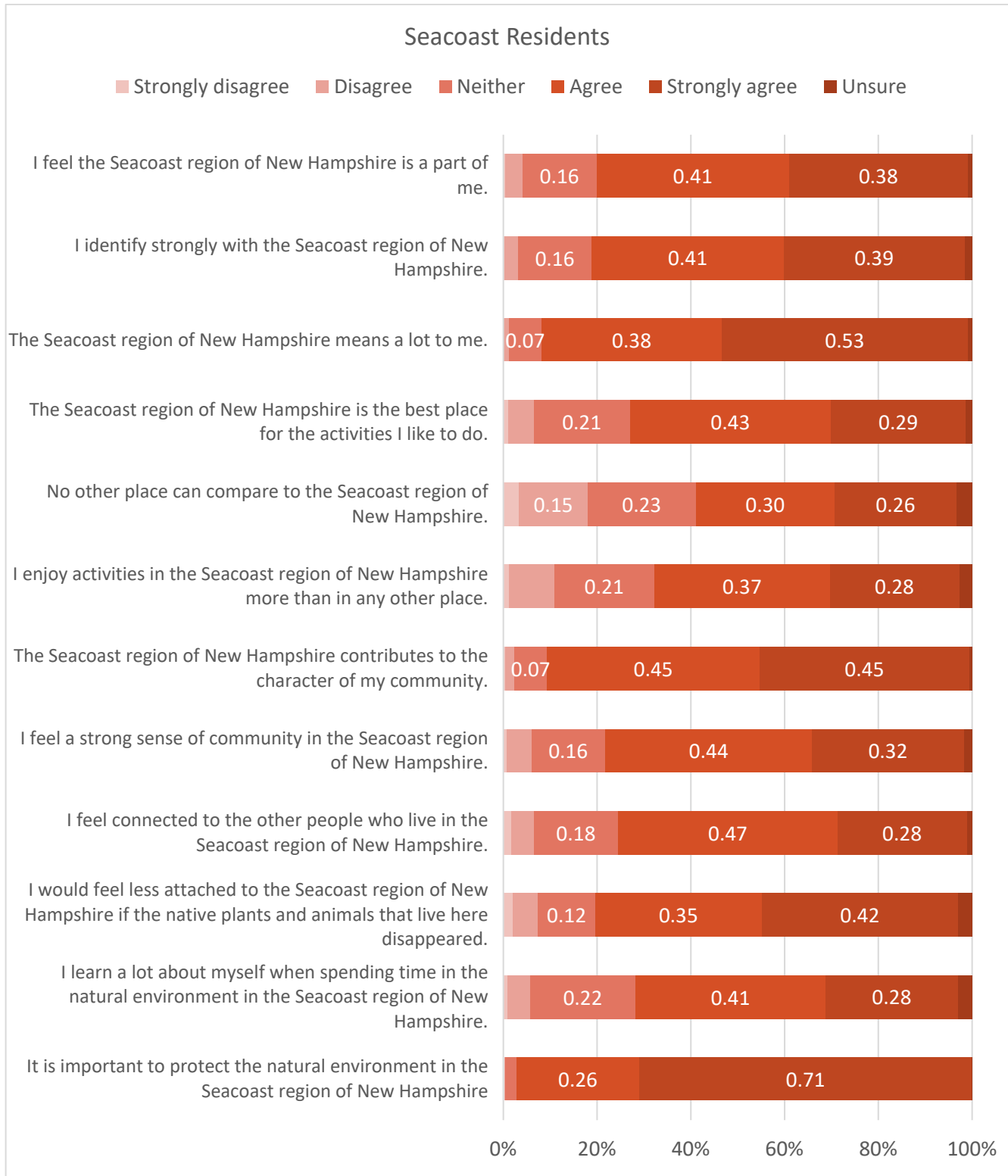


Figure 12. Seacoast residents' responses to place attachment items.



Figure 13. Inland residents' responses to place attachment items.

When considering options to manage coastal New Hampshire shorelines, how important to you are each of the following?

Respondents were asked to rate the importance of New Hampshire shoreline management outcomes (Figure 14 and Figure 15). Seacoast residents believe the following are more important when considering options to manage coastal New Hampshire shorelines than inland residents: protecting private homes and property ($F=3.72$, $p<0.01$), protecting recreation areas ($F=2.82$, $p=0.02$), protecting natural areas and habitat ($F=3.50$, $p=0.01$), and protecting public services ($F=3.30$, $p=0.01$).

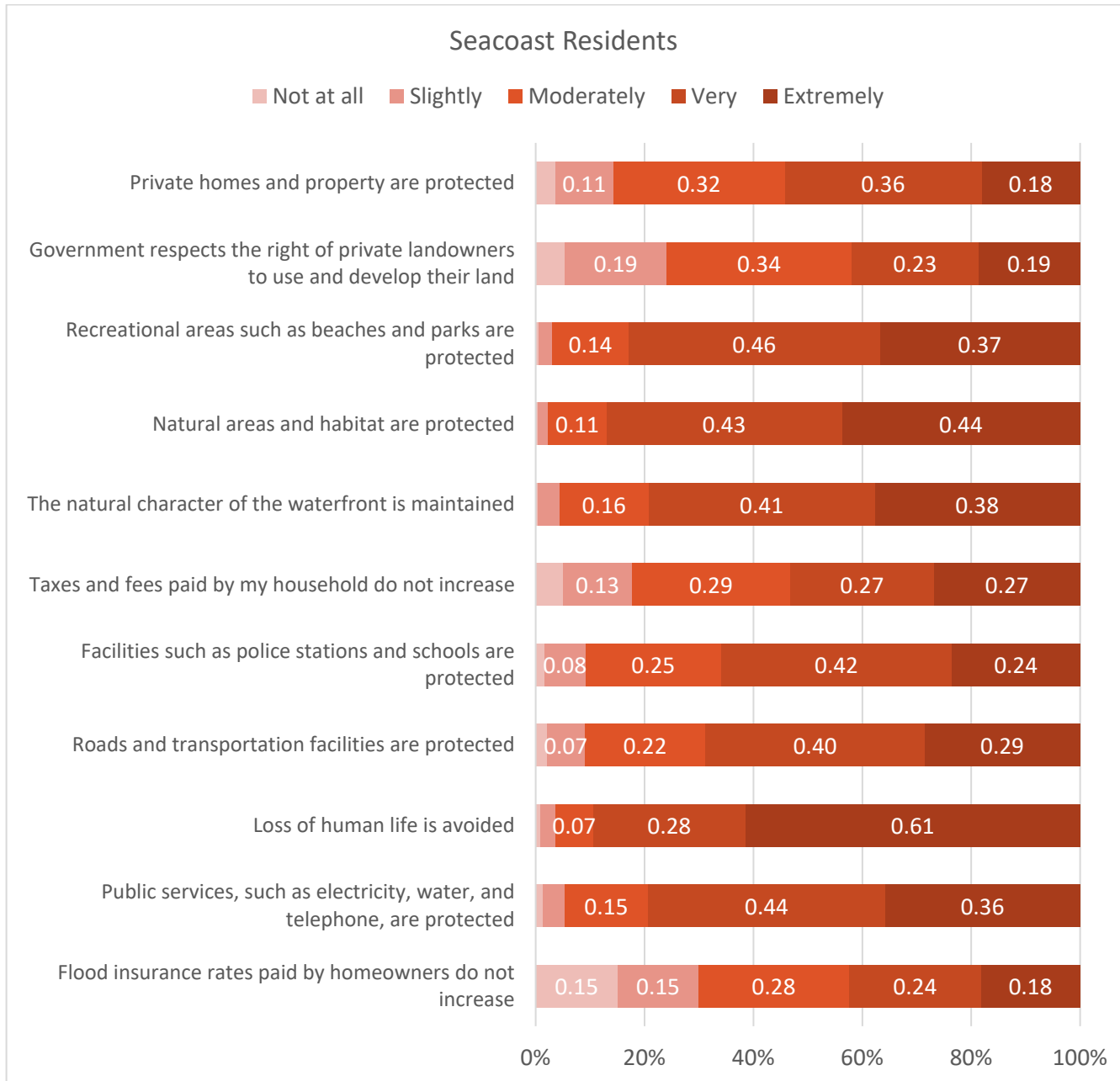


Figure 14. Seacoast residents' preferences for management outcomes.

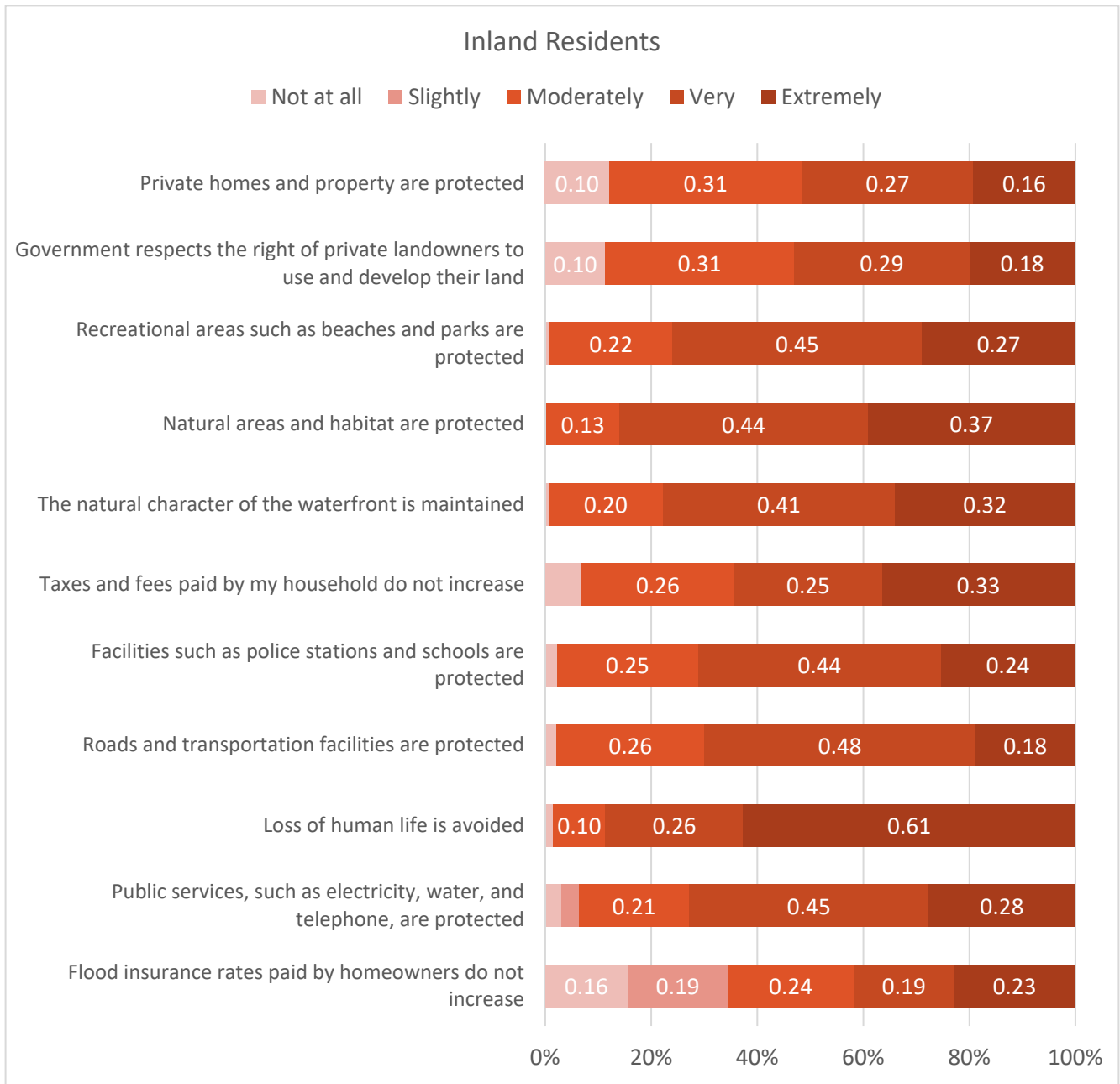


Figure 15. Inland residents' preferences for management outcomes.

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Appendices

Appendix A. Summary tables

Table A1. Weighted means and standard errors (SE) for each survey question by geography. "--" indicates no observations.

Survey Question		Response Options	Seacoast Residents		Inland Residents	
			Mean	SM	Mean	SM
How much of a problem do you think each of the following are in your community?	Coastal storms	Not at all	0.05	0.01	0.26	0.03
		Minor	0.22	0.02	0.34	0.03
		Moderate	0.49	0.02	0.31	0.03
		Major	0.20	0.01	0.06	0.01
		Unsure	0.03	0.01	0.03	0.01
	Coastal flooding	Not at all	0.08	0.01	0.45	0.04
		Minor	0.25	0.02	0.24	0.03
		Moderate	0.39	0.02	0.20	0.03
		Major	0.24	0.02	0.08	0.02
		Unsure	0.04	0.01	0.02	0.01
	Riverine flooding	Not at all	0.09	0.01	0.22	0.03
		Minor	0.27	0.02	0.32	0.03
		Moderate	0.34	0.02	0.34	0.03
		Major	0.14	0.01	0.07	0.01
		Unsure	0.16	0.02	0.06	0.02
	Shoreline erosion	Not at all	0.10	0.01	0.42	0.04
		Minor	0.19	0.01	0.21	0.03
		Moderate	0.32	0.02	0.23	0.03
		Major	0.31	0.02	0.10	0.02
		Unsure	0.07	0.01	0.04	0.02
How do you think the following will change in the next 10 years?	Coastal storms	Decrease	0.00	0.00	0.01	0.00
		Stay about the same	0.24	0.02	0.34	0.03
		Increase	0.72	0.02	0.61	0.03
		Unsure	0.05	0.01	0.05	0.01
	Coastal flooding	Decrease	0.00	0.00	0.01	0.00
		Stay about the same	0.19	0.01	0.30	0.03
		Increase	0.77	0.02	0.64	0.03
		Unsure	0.04	0.01	0.05	0.01
	Riverine flooding	Decrease	0.00	0.00	0.01	0.01
		Stay about the same	0.25	0.02	0.33	0.03
		Increase	0.60	0.02	0.55	0.04
		Unsure	0.15	0.02	0.11	0.02
	Shoreline erosion	Decrease	0.01	0.00	0.01	0.00
		Stay about the same	0.18	0.01	0.29	0.03
		Increase	0.76	0.02	0.64	0.03
Unsure		0.05	0.01	0.05	0.01	
Has your home or property been damaged from the following in the past five years?	Coastal storms	No	0.86	0.01	0.93	0.02
		Yes	0.10	0.01	0.03	0.01
		Unsure	0.04	0.01	0.04	0.02
	Coastal flooding	No	0.92	0.01	0.96	0.02
		Yes	0.03	0.01	0.02	0.01
		Unsure	0.04	0.01	0.03	0.01
	Riverine flooding	No	0.91	0.01	0.96	0.01
		Yes	0.03	0.01	0.01	0.01
		Unsure	0.06	0.01	0.02	0.01
	Shoreline erosion	No	0.91	0.01	0.93	0.02
		Yes	0.03	0.01	0.04	0.02
		Unsure	0.06	0.01	0.03	0.01

Survey Question		Response Options	Seacoast Residents		Inland Residents	
			Mean	SM	Mean	SM
Have any of the following been done on your home or property in the past five years?	Install shoreline walls or riprap	Yes	0.07	0.01	0.02	0.01
	Plant, restore, or preserve natural shoreline	Yes	0.17	0.02	0.08	0.03
	Put all or part of your property into a conservation easement	Yes	0.03	0.01	0.01	0.00
	Improve drainage	Yes	0.27	0.02	0.24	0.03
	Raise all or part of your house	Yes	0.01	0.00	0.01	0.01
	Install wet floodproofing	Yes	0.05	0.01	0.02	0.01
	Install sump pumps	Yes	0.17	0.01	0.12	0.02
How likely are you to do any of the following on your home or property in the next 10 years?	Install shoreline walls or riprap (rocky material placed along a shoreline)	Not at all	0.81	0.02	0.89	0.03
		Slightly	0.07	0.01	0.07	0.02
		Moderately	0.06	0.01	0.01	0.00
		Very	0.04	0.01	0.01	0.00
		Extremely	0.01	0.01	0.02	0.01
	Plant, restore, or preserve natural shoreline	Not at all	0.65	0.02	0.76	0.05
		Slightly	0.12	0.01	0.15	0.04
		Moderately	0.12	0.02	0.06	0.02
		Very	0.08	0.01	0.03	0.01
		Extremely	0.04	0.01	0.01	0.01
	Put all or part of your property into a conservation easement	Not at all	0.91	0.01	0.96	0.01
		Slightly	0.06	0.01	0.03	0.01
		Moderately	0.03	0.01	0.01	0.01
		Very	0.01	0.00	0.00	0.00
		Extremely	0.00	0.00	0.00	0.00
	Improve drainage (for example, drainage ditches/pipes)	Not at all	0.49	0.02	0.52	0.04
		Slightly	0.24	0.02	0.34	0.04
		Moderately	0.17	0.01	0.07	0.02
		Very	0.07	0.01	0.04	0.01
		Extremely	0.03	0.01	0.03	0.01
	Raise all or part of your house	Not at all	0.94	0.01	0.96	0.01
		Slightly	0.04	0.01	0.03	0.01
		Moderately	0.02	0.00	0.01	0.01
		Very	0.00	0.00	--	--
		Extremely	0.01	0.00	0.00	0.00
	Install wet floodproofing (for example, flood vents)	Not at all	0.80	0.02	0.87	0.03
		Slightly	0.11	0.01	0.10	0.03
		Moderately	0.06	0.01	0.02	0.01
		Very	0.02	0.01	0.01	0.00
		Extremely	0.01	0.01	0.01	0.00
	Install sump pumps	Not at all	0.69	0.02	0.78	0.03
		Slightly	0.16	0.01	0.17	0.03
Moderately		0.08	0.01	0.02	0.01	
Very		0.04	0.01	0.01	0.01	
Extremely		0.02	0.01	0.02	0.01	
Move away because of flooding, storms, and/or erosion	Not at all	0.84	0.01	0.91	0.02	
	Slightly	0.09	0.01	0.06	0.02	
	Moderately	0.05	0.01	0.01	0.00	
	Very	0.02	0.01	0.01	0.01	
	Extremely	0.00	0.00	--	--	
To what degree would the following factors make you more likely to install shoreline walls or riprap on your home or property?	Effectiveness at reducing damage from flooding	No effect	0.47	0.03	0.59	0.05
		Minor effect	0.13	0.02	0.13	0.04
		Moderate effect	0.19	0.02	0.17	0.04
		Major effect	0.21	0.02	0.11	0.04
	Effectiveness at reducing damage from shoreline erosion	No effect	0.48	0.03	0.54	0.05
		Minor effect	0.14	0.02	0.17	0.04
		Moderate effect	0.21	0.02	0.12	0.03
		Major effect	0.17	0.02	0.17	0.04
	My or my family's attachment to the property	No effect	0.56	0.03	0.67	0.05
		Minor effect	0.16	0.02	0.13	0.03
		Moderate effect	0.15	0.02	0.10	0.03
		Major effect	0.13	0.02	0.11	0.03

Survey Question		Response Options	Seacoast Residents		Inland Residents	
			Mean	SM	Mean	SM
<i>Continued...</i> To what degree would the following factors make you more likely to install shoreline walls or riprap on your home or property?	Municipal or state regulations and ordinances	No effect	0.44	0.03	0.60	0.05
		Minor effect	0.15	0.02	0.11	0.03
		Moderate effect	0.21	0.02	0.15	0.04
		Major effect	0.20	0.02	0.14	0.04
	If my neighbors have installed shoreline walls or riprap	No effect	0.57	0.03	0.72	0.05
		Minor effect	0.20	0.02	0.11	0.03
		Moderate effect	0.16	0.02	0.14	0.04
	The way shoreline walls or riprap look	Major effect	0.07	0.01	0.03	0.02
		No effect	0.62	0.03	0.69	0.05
		Minor effect	0.22	0.02	0.18	0.04
	Cost of installing shoreline walls or riprap	Moderate effect	0.11	0.02	0.09	0.03
		Major effect	0.05	0.01	0.04	0.03
		No effect	0.48	0.03	0.61	0.05
		Minor effect	0.13	0.02	0.10	0.03
	To what degree would the following factors make you more likely to plant, restore, or preserve the natural shoreline on your home or property?	Effectiveness at reducing damage from flooding	Moderate effect	0.19	0.02	0.14
Major effect			0.19	0.02	0.15	0.04
No effect			0.36	0.03	0.48	0.06
Minor effect			0.15	0.02	0.14	0.04
Effectiveness at reducing damage from shoreline erosion		Moderate effect	0.25	0.02	0.29	0.05
		Major effect	0.24	0.02	0.09	0.02
		No effect	0.37	0.03	0.52	0.05
		Minor effect	0.12	0.02	0.14	0.04
My or my family's attachment to the property		Moderate effect	0.26	0.02	0.18	0.04
		Major effect	0.25	0.02	0.15	0.04
		No effect	0.46	0.03	0.60	0.05
Municipal or state regulations and ordinances		Minor effect	0.18	0.02	0.13	0.03
		Moderate effect	0.23	0.02	0.17	0.04
		Major effect	0.14	0.02	0.11	0.03
		No effect	0.39	0.03	0.44	0.06
If my neighbors have planted, restored, or preserved the natural shoreline		Minor effect	0.16	0.02	0.21	0.04
		Moderate effect	0.24	0.02	0.24	0.05
		Major effect	0.20	0.02	0.11	0.03
		No effect	0.48	0.03	0.64	0.05
The way the natural shoreline looks		Minor effect	0.23	0.02	0.20	0.04
		Moderate effect	0.21	0.02	0.14	0.04
	Major effect	0.08	0.01	0.02	0.01	
	No effect	0.41	0.03	0.50	0.06	
Cost of planting, restoring, or preserving the natural shoreline	Minor effect	0.19	0.02	0.21	0.04	
	Moderate effect	0.25	0.02	0.23	0.05	
	Major effect	0.14	0.02	0.06	0.03	
	No effect	0.40	0.03	0.48	0.06	
How supportive would you be of each potential policy or ordinance?	Limit fertilizer and pesticide use within buffer lands	Minor effect	0.17	0.02	0.17	0.04
		Moderate effect	0.24	0.02	0.24	0.04
		Major effect	0.19	0.02	0.11	0.03
		Strongly opposed	0.02	0.01	0.03	0.01
		Oppose	0.04	0.01	0.07	0.02
		Neither	0.07	0.01	0.09	0.02
	Restrict new development within buffer lands (development setback)	Supportive	0.34	0.02	0.36	0.03
		Strongly supportive	0.52	0.02	0.40	0.04
		Unsure	0.02	0.00	0.06	0.02
		Strongly opposed	0.03	0.01	0.03	0.01
		Oppose	0.02	0.00	0.06	0.02
		Neither	0.07	0.01	0.08	0.02
		Supportive	0.31	0.02	0.36	0.03
		Strongly supportive	0.52	0.02	0.42	0.04
Unsure	0.04	0.01	0.05	0.02		

Survey Question		Response Options	Seacoast Residents		Inland Residents		
			Mean	SM	Mean	SM	
Continued... How supportive would you be of each potential policy or ordinance?	Restrict the cutting or removal of natural vegetation within buffer lands	Strongly opposed	0.03	0.01	0.07	0.02	
		Oppose	0.05	0.01	0.08	0.02	
		Neither	0.07	0.01	0.09	0.02	
		Supportive	0.35	0.02	0.37	0.04	
		Strongly supportive	0.46	0.02	0.35	0.03	
	Purchase buffer lands for conservation by public or private organizations	Unsure	0.04	0.01	0.05	0.01	
		Strongly opposed	0.03	0.01	0.03	0.02	
		Oppose	0.03	0.01	0.05	0.01	
		Neither	0.12	0.01	0.15	0.03	
		Supportive	0.35	0.02	0.36	0.03	
	Reduce property taxes on privately owned buffer lands	Strongly supportive	0.39	0.02	0.31	0.03	
		Unsure	0.07	0.01	0.09	0.02	
		Strongly opposed	0.02	0.00	0.03	0.01	
		Oppose	0.07	0.01	0.05	0.01	
		Neither	0.15	0.01	0.16	0.03	
	How often do you use the following methods to get information on local environmental issues?	Newspapers, other print publications	Supportive	0.34	0.02	0.31	0.03
			Strongly supportive	0.30	0.02	0.32	0.03
			Unsure	0.12	0.01	0.13	0.03
Never			0.16	0.02	0.16	0.03	
Rarely			0.22	0.02	0.27	0.03	
TV		Sometimes	0.31	0.02	0.34	0.03	
		Often	0.26	0.02	0.20	0.03	
		Always	0.05	0.01	0.04	0.01	
		Never	0.17	0.02	0.15	0.03	
		Rarely	0.16	0.01	0.15	0.02	
Websites/apps for news outlets		Sometimes	0.33	0.02	0.40	0.04	
		Often	0.27	0.02	0.25	0.03	
		Always	0.06	0.01	0.05	0.01	
		Never	0.11	0.01	0.12	0.02	
		Rarely	0.12	0.01	0.12	0.02	
Social media		Sometimes	0.34	0.02	0.38	0.04	
		Often	0.37	0.02	0.31	0.03	
		Always	0.07	0.01	0.07	0.02	
	Never	0.26	0.02	0.28	0.03		
	Rarely	0.20	0.02	0.17	0.02		
Directly from people (for example, friends, family, neighbors)	Sometimes	0.28	0.02	0.34	0.04		
	Often	0.22	0.02	0.17	0.03		
	Always	0.04	0.01	0.03	0.01		
	Never	0.06	0.01	0.09	0.02		
	Rarely	0.16	0.01	0.22	0.03		
Community bulletin board	Sometimes	0.48	0.02	0.46	0.04		
	Often	0.26	0.02	0.20	0.03		
	Always	0.04	0.01	0.02	0.01		
	Never	0.31	0.02	0.32	0.03		
	Rarely	0.33	0.02	0.31	0.03		
An organized educational workshop or meeting	Sometimes	0.27	0.02	0.30	0.03		
	Often	0.08	0.01	0.06	0.02		
	Always	0.01	0.00	0.01	0.01		
	Never	0.44	0.02	0.51	0.04		
	Rarely	0.32	0.02	0.30	0.03		
	Sometimes	0.20	0.02	0.13	0.02		
	Often	0.05	0.01	0.05	0.01		
	Always	0.00	0.00	0.01	0.00		

Survey Question		Response Options	Seacoast Residents		Inland Residents	
			Mean	SM	Mean	SM
How credible do you consider these informational sources on local environmental issues?	Local government	Not at all	0.04	0.01	0.07	0.02
		Slightly	0.17	0.02	0.23	0.03
		Moderately	0.45	0.02	0.40	0.04
		Very	0.29	0.02	0.26	0.03
		Extremely	0.04	0.01	0.03	0.01
	State government	Not at all	0.05	0.01	0.05	0.02
		Slightly	0.19	0.02	0.22	0.03
		Moderately	0.46	0.02	0.46	0.04
		Very	0.26	0.02	0.24	0.03
		Extremely	0.04	0.01	0.03	0.01
	Federal government	Not at all	0.14	0.01	0.22	0.03
		Slightly	0.25	0.02	0.23	0.03
		Moderately	0.38	0.02	0.34	0.03
		Very	0.19	0.01	0.18	0.03
		Extremely	0.03	0.01	0.03	0.01
	Non-profit organizations	Not at all	0.06	0.01	0.08	0.02
		Slightly	0.13	0.01	0.21	0.03
		Moderately	0.34	0.02	0.37	0.04
		Very	0.39	0.02	0.28	0.03
		Extremely	0.08	0.01	0.07	0.02
Academic institutions	Not at all	0.06	0.01	0.08	0.02	
	Slightly	0.09	0.01	0.14	0.03	
	Moderately	0.24	0.02	0.32	0.03	
	Very	0.41	0.02	0.34	0.03	
	Extremely	0.19	0.01	0.12	0.02	
Below is a list of statements about the Seacoast region of New Hampshire. Please read each statement and state your level of agreement or disagreement.	I feel the Seacoast region of New Hampshire is a part of me.	Strongly disagree	0.00	0.00	0.03	0.02
		Disagree	0.04	0.01	0.12	0.02
		Neither	0.16	0.01	0.28	0.03
		Agree	0.41	0.02	0.37	0.04
		Strongly agree	0.38	0.02	0.17	0.03
		Unsure	0.01	0.00	0.03	0.02
	I identify strongly with the Seacoast region of New Hampshire.	Strongly disagree	0.00	0.00	0.04	0.02
		Disagree	0.03	0.01	0.10	0.02
		Neither	0.16	0.01	0.32	0.03
		Agree	0.41	0.02	0.34	0.04
		Strongly agree	0.39	0.02	0.17	0.03
		Unsure	0.02	0.01	0.02	0.01
	The Seacoast region of New Hampshire means a lot to me.	Strongly disagree	0.00	0.00	0.02	0.01
		Disagree	0.01	0.00	0.01	0.00
		Neither	0.07	0.01	0.17	0.03
		Agree	0.38	0.02	0.49	0.04
		Strongly agree	0.53	0.02	0.30	0.03
		Unsure	0.01	0.00	0.01	0.00
	The Seacoast region of New Hampshire is the best place for the activities I like to do.	Strongly disagree	0.01	0.00	0.02	0.01
		Disagree	0.05	0.01	0.14	0.03
Neither		0.21	0.01	0.40	0.04	
Agree		0.43	0.02	0.31	0.04	
Strongly agree		0.29	0.02	0.12	0.02	
Unsure		0.01	0.00	0.01	0.01	
No other place can compare to the Seacoast region of New Hampshire.	Strongly disagree	0.03	0.01	0.05	0.02	
	Disagree	0.15	0.01	0.20	0.03	
	Neither	0.23	0.02	0.30	0.03	
	Agree	0.30	0.02	0.27	0.03	
	Strongly agree	0.26	0.02	0.17	0.03	
	Unsure	0.03	0.01	0.01	0.01	

Survey Question		Response Options	Seacoast Residents		Inland Residents	
			Mean	SM	Mean	SM
<p><i>Continued...</i></p> <p>Below is a list of statements about the Seacoast region of New Hampshire. Please read each statement and state your level of agreement or disagreement.</p>	I enjoy activities in the Seacoast region of New Hampshire more than in any other place.	Strongly disagree	0.01	0.00	0.02	0.01
		Disagree	0.10	0.01	0.16	0.03
		Neither	0.21	0.01	0.36	0.04
		Agree	0.37	0.02	0.29	0.04
		Strongly agree	0.28	0.02	0.15	0.03
	The Seacoast region of New Hampshire contributes to the character of my community.	Unsure	0.03	0.01	0.01	0.01
		Strongly disagree	0.00	0.00	0.01	0.01
		Disagree	0.02	0.01	0.11	0.03
		Neither	0.07	0.01	0.32	0.03
		Agree	0.45	0.02	0.34	0.04
	I feel a strong sense of community in the Seacoast region of New Hampshire.	Strongly agree	0.45	0.02	0.17	0.03
		Unsure	0.01	0.00	0.06	0.02
		Strongly disagree	0.01	0.00	0.04	0.02
		Disagree	0.05	0.01	0.10	0.02
		Neither	0.16	0.01	0.31	0.03
	I feel connected to the other people who live in the Seacoast region of New Hampshire.	Agree	0.44	0.02	0.42	0.04
		Strongly agree	0.32	0.02	0.08	0.02
		Unsure	0.02	0.01	0.05	0.02
		Strongly disagree	0.02	0.01	0.02	0.01
		Disagree	0.05	0.01	0.11	0.02
	I would feel less attached to the Seacoast region of New Hampshire if the native plants and animals that live here disappeared.	Neither	0.18	0.01	0.33	0.03
		Agree	0.47	0.02	0.39	0.04
		Strongly agree	0.28	0.02	0.12	0.02
		Unsure	0.01	0.00	0.04	0.02
		Strongly disagree	0.02	0.01	0.03	0.01
	I learn a lot about myself when spending time in the natural environment in the Seacoast region of New Hampshire.	Disagree	0.05	0.01	0.06	0.02
		Neither	0.12	0.01	0.21	0.03
		Agree	0.35	0.02	0.38	0.04
Strongly agree		0.42	0.02	0.26	0.03	
Unsure		0.03	0.01	0.05	0.02	
It is important to protect the natural environment in the Seacoast region of New Hampshire.	Strongly disagree	0.01	0.00	0.05	0.02	
	Disagree	0.05	0.01	0.11	0.03	
	Neither	0.22	0.02	0.36	0.04	
	Agree	0.41	0.02	0.33	0.04	
	Strongly agree	0.28	0.02	0.11	0.02	
When considering options to manage coastal New Hampshire shorelines, how important to you are each of the following?	Unsure	0.03	0.01	0.03	0.01	
	Strongly disagree	0.00	0.00	0.00	0.00	
	Disagree	0.00	0.00	--	--	
	Neither	0.02	0.01	0.04	0.01	
	Agree	0.26	0.02	0.36	0.04	
Private homes and property are protected	Strongly agree	0.71	0.02	0.60	0.04	
	Unsure	0.00	0.00	0.00	0.00	
	Not at all	0.04	0.01	0.10	0.02	
	Slightly	0.11	0.01	0.16	0.03	
	Moderately	0.32	0.02	0.31	0.03	
Government respects the right of private landowners to use and develop their land	Very	0.36	0.02	0.27	0.03	
	Extremely	0.18	0.01	0.16	0.03	
	Not at all	0.05	0.01	0.10	0.02	
	Slightly	0.19	0.02	0.12	0.02	
	Moderately	0.34	0.02	0.31	0.03	
Recreational areas such as beaches and parks are protected	Very	0.23	0.02	0.29	0.03	
	Extremely	0.19	0.02	0.18	0.03	
	Not at all	0.01	0.00	0.01	0.01	
	Slightly	0.03	0.01	0.05	0.02	
	Moderately	0.14	0.01	0.22	0.03	
		Very	0.46	0.02	0.45	0.04
		Extremely	0.37	0.02	0.27	0.03

Survey Question		Response Options	Seacoast Residents		Inland Residents	
			Mean	SM	Mean	SM
<i>Continued...</i> When considering options to manage coastal New Hampshire shorelines, how important to you are each of the following?	Natural areas and habitat are protected	Not at all	0.00	0.00	0.00	0.00
		Slightly	0.02	0.01	0.06	0.02
		Moderately	0.11	0.01	0.13	0.03
		Very	0.43	0.02	0.44	0.04
		Extremely	0.44	0.02	0.37	0.04
	The natural character of the waterfront is maintained	Not at all	0.00	0.00	0.01	0.01
		Slightly	0.04	0.01	0.06	0.02
		Moderately	0.16	0.02	0.20	0.03
		Very	0.41	0.02	0.41	0.03
	Taxes and fees paid by my household do not increase	Extremely	0.38	0.02	0.32	0.04
		Not at all	0.05	0.01	0.06	0.02
		Slightly	0.13	0.01	0.10	0.02
		Moderately	0.29	0.02	0.26	0.03
	Facilities such as police stations and schools are protected	Very	0.27	0.02	0.25	0.03
		Extremely	0.27	0.02	0.33	0.03
		Not at all	0.02	0.01	0.02	0.01
		Slightly	0.08	0.01	0.05	0.01
		Moderately	0.25	0.02	0.25	0.03
	Roads and transportation facilities are protected	Very	0.42	0.02	0.44	0.04
		Extremely	0.24	0.02	0.24	0.03
Not at all		0.02	0.01	0.02	0.01	
Slightly		0.07	0.01	0.06	0.02	
Moderately		0.22	0.02	0.26	0.03	
Loss of human life is avoided	Very	0.40	0.02	0.48	0.04	
	Extremely	0.29	0.02	0.18	0.03	
	Not at all	0.01	0.00	0.02	0.01	
	Slightly	0.03	0.01	0.02	0.01	
	Moderately	0.07	0.01	0.10	0.02	
Public services, such as electricity, water, and telephone, are protected	Very	0.28	0.02	0.26	0.03	
	Extremely	0.61	0.02	0.61	0.03	
	Not at all	0.01	0.01	0.03	0.01	
	Slightly	0.04	0.01	0.03	0.01	
	Moderately	0.15	0.01	0.21	0.03	
Flood insurance rates paid by homeowners do not increase	Very	0.44	0.02	0.45	0.04	
	Extremely	0.36	0.02	0.28	0.03	
	Not at all	0.15	0.01	0.16	0.03	
	Slightly	0.15	0.01	0.19	0.03	
	Moderately	0.28	0.02	0.24	0.03	
		Very	0.24	0.02	0.19	0.03
		Extremely	0.18	0.02	0.23	0.03

Appendix B. Survey Instrument

The following pages in this section is the survey that was distributed for this effort.

The first set of questions will ask about your opinions and experiences related to potential coastal hazards and other local environmental issues.

1. How much of a problem do you think each of the following are in your community?

	Not at all	Minor	Moderate	Major	Unsure
Coastal storms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Riverine flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shoreline erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How do you think the following will change in the next 10 years?

	Decrease	Stay about the same	Increase	Unsure
Coastal storms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Riverine flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shoreline erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Do you own or rent property on or near a body of water, such as a river, stream, wetland, pond, or ocean?

- Yes
- No

4. Has your home or property been damaged from the following in the past five years?

	Yes	No	Unsure
Coastal storms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Riverine flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shoreline erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Have any of the following been done on your home or property in the past five years?

	Yes	No
[ANSWER IF: you own or rent property on or near a body of water] Install shoreline walls or riprap (rocky material placed along a shoreline)	<input type="checkbox"/>	<input type="checkbox"/>
[ANSWER IF: you own or rent property on or near a body of water] Plant, restore, or preserve the natural shoreline	<input type="checkbox"/>	<input type="checkbox"/>
Put all or part of your property into a conservation easement	<input type="checkbox"/>	<input type="checkbox"/>
Improve drainage (for example, drainage ditches/pipes)	<input type="checkbox"/>	<input type="checkbox"/>
Raise all or part of your house	<input type="checkbox"/>	<input type="checkbox"/>
Install wet floodproofing (for example, flood vents)	<input type="checkbox"/>	<input type="checkbox"/>
Install sump pumps	<input type="checkbox"/>	<input type="checkbox"/>

6. How likely are you to do any of the following on your home or property in the next 10 years?

	Not at all	Slightly	Moderately	Very	Extremely
[ANSWER IF: you own or rent property on or near a body of water] Install shoreline walls or riprap (rocky material placed along a shoreline)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[ANSWER IF: you own or rent property on or near a body of water] Plant, restore, or preserve the natural shoreline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Put all or part of your property into a conservation easement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve drainage (for example, drainage ditches/pipes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Raise all or part of your house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install wet floodproofing (for example, flood vents)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install sump pumps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Move away because of flooding, storms, and/or erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IF you do NOT own or rent property on or near a body of water, GO TO Q9 on PAGE 4

[ANSWER IF: you own or rent property on or near a body of water]

7. To what degree would the following factors make you more likely to **install shoreline walls or riprap** on your home or property?

	No effect	Minor effect	Moderate effect	Major effect
Effectiveness at reducing damage from flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Effectiveness at reducing damage from shoreline erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My or my family's attachment to the property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Municipal or state regulations and ordinances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If my neighbors have installed shoreline walls or riprap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The way shoreline walls or riprap look	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost of installing shoreline walls or riprap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[ANSWER IF: you own or rent property on or near a body of water]

8. To what degree would the following factors make you more likely to **plant, restore, or preserve the natural shoreline** on your home or property?

	No effect	Minor effect	Moderate effect	Major effect
Effectiveness at reducing damage from flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Effectiveness at reducing damage from shoreline erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My or my family's attachment to the property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Municipal or state regulations and ordinances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If my neighbors have planted, restored, or preserved the natural shoreline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The way the natural shoreline looks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost of planting, restoring, or preserving the natural shoreline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Buffer lands are naturally vegetated areas surrounding water bodies. The following is a list of potential policies or ordinances that could be implemented to better manage buffer lands in New Hampshire. How supportive would you be of each potential policy or ordinance?

	Strongly opposed	Opposed	Neither	Supportive	Strongly supportive	Unsure
Limit fertilizer and pesticide use within buffer lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restrict new development within buffer lands (development setback)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restrict the cutting or removal of natural vegetation within buffer lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purchase buffer lands for conservation by public or private organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce property taxes on privately owned buffer lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. How often do you use the following methods to get information on local environmental issues?


	Never	Rarely	Sometimes	Often	Always
Newspapers, other print publications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Websites/apps for news outlets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Directly from people (for example, friends, family, neighbors)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community bulletin board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An organized educational workshop or meeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. How credible do you consider these informational sources on local environmental issues?

	Not at all	Slightly	Moderately	Very	Extremely
Local government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-profit organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Academic institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

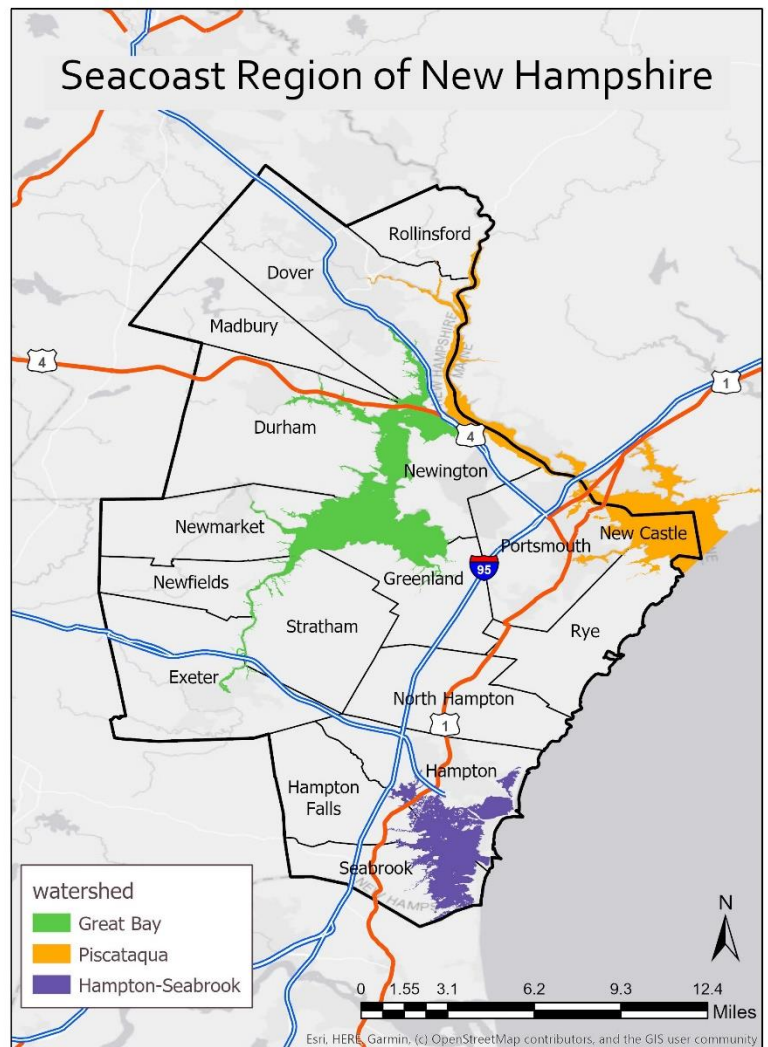
This and the following section refer to the Seacoast region of New Hampshire, which is defined by the seventeen coastal zone communities shown in the map below. Regardless of how familiar you are with the Seacoast region of New Hampshire, your opinions are important to us.

12. Are you a seasonal or year-round resident of the Seacoast region of New Hampshire?

- Seasonal resident **[GO TO Q14]**
(I live in the Seacoast region of New Hampshire only part of the year)
- Year-round resident **[GO TO Q14]**
(I live in the Seacoast region of New Hampshire all year)
- Neither **[GO TO Q13]**
(I do not live in the Seacoast region of New Hampshire during any part of the year) 

13. Have you ever visited the Seacoast region of New Hampshire?

- Yes **[GO TO Q14]**
- No **[GO TO Q15, PAGE 7]**



14. Below is a list of statements about the Seacoast region of New Hampshire. Please read each statement and state your level of agreement or disagreement.

	Strongly disagree	Disagree	Neither	Agree	Strongly agree	Unsure
I feel the Seacoast region of New Hampshire is a part of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to protect the natural environment in the Seacoast region of New Hampshire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel connected to the other people who live in the Seacoast region of New Hampshire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy activities in the Seacoast region of New Hampshire more than in any other place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I identify strongly with the Seacoast region of New Hampshire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learn a lot about myself when spending time in the natural environment in the Seacoast region of New Hampshire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel a strong sense of community in the Seacoast region of New Hampshire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No other place can compare to the Seacoast region of New Hampshire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Seacoast region of New Hampshire means a lot to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Seacoast region of New Hampshire is the best place for the activities I like to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Seacoast region of New Hampshire contributes to the character of my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would feel less attached to the Seacoast region of New Hampshire if the native plants and animals that live here disappeared.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

There are many different ways to manage estuarine and coastal shorelines in the Seacoast region of New Hampshire. The most common approaches used by coastal communities are (1) hard defenses or armoring and (2) soft or natural defenses.

Hard defenses include seawalls and bulkheads to hold back the sea. Soft defenses include beaches, dunes, wetlands, and other natural areas that have the ability to absorb and slow floodwaters. Both approaches can protect homes, facilities, and transportation, but hard defenses often provide the most effective protection. Flooding can still occur under both approaches in severe storms.



Hard defenses can be costly to build and maintain and can cause natural areas to be lost. As water levels rise, natural areas tend to move landward, but when there are hard defenses in place, there is nowhere for the natural areas to go, and they can be eroded away. Soft defenses can preserve beaches, wetlands, and other natural areas as habitat and public amenities, but can require restrictions on coastal development.

15. When considering options to manage the Seacoast region of New Hampshire shorelines, how important to you are each of the following?

	Not at all	Slightly	Moderately	Very	Extremely
Private homes and property are protected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government respects the right of private landowners to use and develop their land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreational areas such as beaches and parks are protected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natural areas and habitat are protected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The natural character of the waterfront is maintained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taxes and fees paid by my household do not increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilities such as police stations and schools are protected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roads and transportation facilities are protected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of human life is avoided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public services, such as electricity, water, and telephone, are protected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood insurance rates paid by homeowners do not increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This rest of this section will ask you to indicate your level of support or opposition to six different policies to manage the shoreline in the Seacoast region of New Hampshire. The technical details of each policy (for example, how/where to build a particular seawall or restore wetlands) would be determined by experts. Each management policy will lead to different outcomes, and we are interested in your opinions on those outcomes.

Treat each policy as separate and independent. Do not compare policies.

Please review each policy carefully. The results of this survey will be given to policy makers in the Seacoast region of New Hampshire to help determine future actions.

16. The proposed policy would...

Increase	the amount of wetlands covered by vegetation
Maintain	the amount of beach covered by sand dunes
Maintain	the amount of shoreline shielded by seawalls and coastal armoring
Decrease	the number of homes protected from flooding during a storm
Increase	the rate of shoreline erosion
Funds to implement this policy would come from ONLY residents of the Seacoast region of New Hampshire.	

How supportive would you be of this proposed policy? (Circle only ONE number)

1	2	3	4	5	6	7
Strongly opposed	Opposed	Somewhat opposed	Neutral	Somewhat supportive	Supportive	Strongly supportive

16a. How certain are you of the support level you just selected?

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Extremely

17. The proposed policy would...

Decrease	the amount of wetlands covered by vegetation
Increase	the amount of beach covered by sand dunes
Maintain	the amount of shoreline shielded by seawalls and coastal armoring
Increase	the number of homes protected from flooding during a storm
Maintain	the rate of shoreline erosion
Funds to implement this policy would come from ONLY residents of the Seacoast region of New Hampshire.	

How supportive would you be of this proposed policy? (Circle only ONE number)

1	2	3	4	5	6	7
Strongly opposed	Opposed	Somewhat opposed	Neutral	Somewhat supportive	Supportive	Strongly supportive

17a. How certain are you of the support level you just selected?

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Extremely

18. The proposed policy would...

Maintain	the amount of wetlands covered by vegetation
Increase	the amount of beach covered by sand dunes
Decrease	the amount of shoreline shielded by seawalls and coastal armoring
Maintain	the number of homes protected from flooding during a storm
Increase	the rate of shoreline erosion
Funds to implement this policy would come from ONLY residents of the Seacoast region of New Hampshire.	

How supportive would you be of this proposed policy? (*Circle only ONE number*)

1	2	3	4	5	6	7
Strongly opposed	Opposed	Somewhat opposed	Neutral	Somewhat supportive	Supportive	Strongly supportive

18a. How certain are you of the support level you just selected?

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Extremely

19. The proposed policy would...

Maintain	the amount of wetlands covered by vegetation
Maintain	the amount of beach covered by sand dunes
Increase	the amount of shoreline shielded by seawalls and coastal armoring
Increase	the number of homes protected from flooding during a storm
Decrease	the rate of shoreline erosion
Funds to implement this policy would come from ONLY residents of the Seacoast region of New Hampshire.	

How supportive would you be of this proposed policy? (*Circle only ONE number*)

1	2	3	4	5	6	7
Strongly opposed	Opposed	Somewhat opposed	Neutral	Somewhat supportive	Supportive	Strongly supportive

19a. How certain are you of the support level you just selected?

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Extremely

20. The proposed policy would...

Increase	the amount of wetlands covered by vegetation
Decrease	the amount of beach covered by sand dunes
Increase	the amount of shoreline shielded by seawalls and coastal armoring
Maintain	the number of homes protected from flooding during a storm
Maintain	the rate of shoreline erosion
Funds to implement this policy would come from ONLY residents of the Seacoast region of New Hampshire.	

How supportive would you be of this proposed policy? (*Circle only ONE number*)

1	2	3	4	5	6	7
Strongly opposed	Opposed	Somewhat opposed	Neutral	Somewhat supportive	Supportive	Strongly supportive

20a. How certain are you of the support level you just selected?

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Extremely

21. The proposed policy would...

Decrease	the amount of wetlands covered by vegetation
Decrease	the amount of beach covered by sand dunes
Decrease	the amount of shoreline shielded by seawalls and coastal armoring
Decrease	the number of homes protected from flooding during a storm
Decrease	the rate of shoreline erosion
Funds to implement this policy would come from ONLY residents of the Seacoast region of New Hampshire.	

How supportive would you be of this proposed policy? (*Circle only ONE number*)

1	2	3	4	5	6	7
Strongly opposed	Opposed	Somewhat opposed	Neutral	Somewhat supportive	Supportive	Strongly supportive

21a. How certain are you of the support level you just selected?

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Extremely

22. Thinking about the potential management policies you just rated, how strongly do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Neither	Agree	Strongly agree	Unsure
The survey provided enough information for me to make informed choices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not believe the proposed management policies are feasible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to manage estuarine and coastal lands in the Seacoast region of New Hampshire, no matter how high the costs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am against any more regulations and government spending.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My household should not have to pay any amount to manage estuarine and coastal lands in the Seacoast region of New Hampshire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My choices would be the same if this were being considered by the New Hampshire legislature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. How important were each of the following when rating the potential management policies?

	Not at all	Slightly	Moderately	Very	Extremely
I thought I might directly benefit from the policies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wanting to preserve the environment for future generations than for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Believing it is our responsibility to preserve the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
So others could enjoy the Seacoast region of New Hampshire, rather than for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[ANSWER IF: You neither live nor have ever visited the Seacoast region of New Hampshire] If I may visit the Seacoast region of New Hampshire in the next few years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This is the final section of the survey. The following questions ensure that all groups are fairly represented. All answers are confidential.

24. What is your sex?

- Male
- Female
- Other

25. In what year were you born? _____

26. Are you Hispanic or Latino?

- Yes
- No

27. What is your race? *(select all that apply)*

- White/Caucasian
- Black/African American
- Asian
- Native Hawaiian/other Pacific Islander
- American Indian/Alaskan Native
- Other, please specify _____

28. What is the highest level of education you have completed?

- Less than 9th grade
- 9th to 12th grade, no diploma
- High school graduate (includes equivalency)
- Some college, no degree
- Associate's degree
- Bachelor's degree
- Graduate or professional degree

29. Are you currently employed?

- Yes
- No

30. What was your annual household income in 2020?

- Less than \$10,000
- \$10,000 to \$19,999
- \$20,000 to \$29,999
- \$30,000 to \$39,999
- \$40,000 to \$49,999
- \$50,000 to \$59,999
- \$60,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 to \$199,999
- \$200,000 or more

31. **[ANSWER IF: You live in the Seacoast region of New Hampshire “Seasonally” or “Year-Round”]**

How long have you lived in the Seacoast region of New Hampshire? _____ years

[ANSWER IF: You do not live in the Seacoast region of New Hampshire]

How long have you been a resident of your current town? _____ years

32. How long have you been a resident of your current state? _____ years

33. Do you own or rent this residence (*where this survey was mailed to*)?

- Own
- Rent
- Other

34. How many people, including yourself, live in your household? _____

35. How many of these people are at least 18 years old? _____

Please use the space on the back page for additional comments.

U.S. Department of Commerce

Gina M. Raimondo, *Secretary*

National Oceanic and Atmospheric Administration

Richard W. Spinrad, Ph.D., *Under Secretary for Oceans and Atmosphere*

National Ocean Service

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