F. Factors Influencing Aquatic Plant Removal Behavior

Summary

- **The Theory of Reasoned Action was used to guide collection of information reported in this section (see description below).**
- **Overall, about one-third of respondents viewed aquatic plant removal as positive, one-third viewed it as negative, and one-third were neutral.**
- **Respondents' beliefs about whether or not the people important to them would want them to remove aquatic plants were similarly divided.**
- **Attitudes and subjective norms were both significant predictors of aquatic plant removal, but together explained only 27% of the variance in aquatic plant removal which is lower than is usually obtained in applications of the Theory of Reasoned Action.**
- **The lack of prediction is likely due to the large percentage of respondents who were "neutral" toward aquatic plant removal.**
- **The evaluative beliefs that were relatively important in influencing aquatic plant removal included that aquatic plant removal would:**
  - **decrease the natural appearance of the lake,**
  - **decrease the lake's water quality,**
  - **improve swimming conditions,**
  - **remove native plants,**
  - **cause erosion in the lake,**
  - **remove fish and wildlife habitat from the lake, and**
  - **harm the lake's ecosystem**
- **Groups that were identified as influencing aquatic plant removal included:**
  - **Family members**
  - **Minnesota DNR**
- **More than two-thirds of respondents were aware that removing aquatic plants could be harmful to a lake and the fish and wildlife in the lake, and these beliefs slightly discouraged plant removal.**
- **One-half of respondents believed that removing aquatic plants enhances recreation in the lake, about 1 in 4 believed native aquatic plants decrease the aesthetic beauty of a lake and both of these beliefs slightly encourage plant removal.**
- **Findings from the Theory of Reasoned Action provide the best strategies for communication efforts for changing aquatic plant removal behavior.**

Findings

The Theory of Reasoned Action

Many of the questionnaire items were designed to assess aquatic plant removal behaviors and to determine if certain factors influenced this behavior. These questions were based on the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980; Fishbein and Manfredo 1992). The Theory of Reasoned Action represents an enduring and well-studied

approach to assessing the determinants of attitudes and behaviors (Ajzen and Fishbein 1980; Fishbein and Manfredo 1992). Generally, TRA is viewed as useful when analyzing behavior that is based on a thoughtful process of considering the personal costs and benefits of engaging in that behavior. Active management of aquatic plants is arguably such a behavior.

The Theory of Reasoned Action identifies the best predictors of our behaviors are our well-reasoned intentions to engage in a behavior. In turn, our intentions to engage in particular behaviors that are under our volitional control are developed through a reasonable, thoughtful process in which we weigh the positives and negatives of engaging in the behavior. These costs and benefits are of two kinds: personal costs/benefits as summarized by our *attitudes* toward a behavior and the social influence of others' costs/benefits as summarized by *subjective norms*.

Based on the TRA, an attitude towards the behavior is determined by two variables: expectations of outcomes from a behavior and evaluation of those outcomes. In other words, whether or not an action is taken depends on what an individual thinks will result from that action, or behavior (behavioral outcomes), and if the individual thinks the outcomes of the action are positive or negative (outcome evaluations). If an individual thinks a behavioral action will lead to what they define as positive outcomes they are more likely to engage in the behavior.

More explicitly, the relationship between an attitude toward a given action and personal beliefs is defined by the following equation:

$$A_{action} = f(\Sigma b_i e_i)$$

Where A_{action} is the attitude toward a particular action; b_i is the belief that the action will lead to a particular outcome (e.g., removal of aquatic vegetation in the lake bordering our personal property); e_i is the respondents evaluation of that outcome (e.g., how harmful or beneficial or detrimental is "removing aquatic vegetation"); and a product of the beliefs and evaluations (BE product) is formed for each of the *n* outcomes. The overall attitude toward an action is the sum of all the BE products. Thus, an attitude toward the action is determined by the combination of multiple beliefs and evaluation of potential outcomes of an action.

In a similar fashion, subjective norms (or the influence of what we believe others want us to do) are the products of our beliefs about what others want us to do (b) and our motivation to comply with those beliefs (m). This relationship is summarized by the equation:

$$Subjective\ Norm = f(\Sigma b_i m_i)$$

In the current study "b" might represent our beliefs about what our neighbors on the lake think we should do in regards to aquatic plant removal, and "m" might represent our motivation to comply with our neighbors' desires. Subjective norms are what an individual thinks other people think s/he should do. If an individual thinks people (who are important to the individual) think s/he should engage in an activity, the individual is much more likely to engage in the activity. If the reverse is true (the individual thinks other people disapprove of the activity), individuals are less likely to engage in the activity.

To develop questions for use in the mailout questionnaire, we conducted a brief phone survey with approximately 80 lakeshore property owners statewide following procedures detailed in Ajzen and Fishbein (1980; see Appendix A). Ajzen and Fishbein (1980) refer to such procedures as "elicitation" studies because they are intended to "elicit" the range of beliefs people have about the outcomes of a particular action and the people or groups that might influence their personal decision to take a particular action. Based on the results of this elicitation study, questions were developed to measure beliefs about outcomes and referent social groups as specified by the TRA. The wording of these items can be found in the mailout survey in Q22-Q27 (Appendix A) as well as the relevant tables in this section of the report.

Note on Effect Sizes

In reviewing the following findings, it is important to consider not only if a the relationship is statistically significantly as denoted by the *p*-level, but the relative size of the relationship between the variables. Based on the work of Cohen (1988) and others (Gliner et al. 2001; Vaske et al. 2002) we suggest the following general rules for evaluating the size of the effect one variable has on another (effect size):

Minimal or small = ~ 0.10

Typical or medium = ~0.20

Substantial or large = ~0.50

In following standard convention, we report relationships as significant based on their *p*-level statistical significance, but also report effect sizes measures. To determine the relative size or importance of statistically significant relationships, the reader should use the general rules we suggest.

Behaviors and Behavioral Intentions

Respondents were asked if they try to keep an area in front of their lakeshore property free of aquatic plants. Among those who actually reported aquatic plants in the lake next to their property (n = 2179, 76.1%), 41% reported that they do keep an area free of aquatic plants on a year-to-year basis (Table B.5). This estimate represents approximately 30% of the population of all lakeshore property owners in Minnesota.

We also asked respondents if it is likely they will remove this same amount in 2004. Among those who reported removing aquatic plants on a year-to-year basis, a large majority (75%) indicated it was "quite" or "extremely" likely that they would remove plants in 2004 (Table F.1). We computed behavioral intentions as the product of past, year-to-year behavior and the likelihood of removal of aquatic plants in 2004. The behavioral intentions variable could range from 0 to 7.

Attitudes and Subjective Norms toward Aquatic Plant Removal

We measured general attitudes toward aquatic plant removal using the mean score of responses to two items. Statewide responses to these items are reported in Table F.2. In general about 1/3 of respondents indicated aquatic plant removal was good/beneficial, slightly more than 1/3 indicated it was bad/harmful, and slightly less than 1/3 indicated it was neither good/bad, or beneficial/harmful. About half of the respondents did not have "strong" attitudes about aquatic plant removal. They were either neutral or felt that aquatic plant removal was only "slightly' bad or good.

Overall subjective norms were assessed by a single question, "Most people who are important to me think I should remove aquatic plants from my lake." Responses were recorded on a 7-point scale ranging from -3 = extremely false to 3 = extremely true, with 36% reporting it was true, 37% false, and 27% neither true nor false (Table F.3). As with the case of attitudes toward aquatic plant removal, a relatively large percentage of respondents (~40%) had normative beliefs that were neutral or only slightly positive or negative.

Behavioral Outcome Beliefs and Evaluations

To help understand the beliefs forming attitudes toward aquatic plant removal, respondents were also asked questions on the outcomes of aquatic plant removal: if they thought the outcomes were likely and if they thought the outcomes were positive or negative. Respondents reviewed a list of twelve outcomes and indicated on a seven-point scale (coded as -3 = extremely unlikely to +3 = extremely likely) if they thought the outcome was unlikely or likely (Table F.4). The outcome of removing aquatic plants the largest percentage of respondents reported as likely was improving swimming conditions (62%), followed by improving boating (48%) and improving the appearance of the lakeshore (46%). The outcomes the largest percentage of respondents reported as unlikely were getting rid of exotic plants (51%) and improving fishing conditions (52%).

In another question, respondents reviewed the same twelve outcomes and indicated on a seven-point scale (-3 = extremely bad to +3 = extremely good) if they thought the outcome was bad or good (Table F.5). Improving swimming conditions was rated a "good" outcome by the largest percentage of respondents (67%) followed by improving boating conditions (50%) and getting rid of exotic plants (50%). The outcomes rated "bad" by >50% of respondents included removing habitat, decreasing water quality, causing erosion, harming the lake's ecosystem, removing native plants and decreasing the natural appearance of the lake.

For each respondent, the pair of beliefs about the likelihood of an outcome and evaluation of that outcome were multiplied together to form a product for each of the 12 belief items. This set of 12 b*e items was summed (as directed by TRA) and regressed on the previously computed 2-item scale measuring attitude toward aquatic plant removal. The $\sum$b*e index had a substantial effect and explained 30% of the variance in attitudes toward plant removal (r = 0.55).

Normative Beliefs and Motivations to Comply

Respondents were asked to indicate if they believed people important to them thought they should remove aquatic plants. Respondents were given a list of seven groups (such as "most members of my family", "my close friends", and "neighbors") and asked to indicate if the group wanted them to removed aquatic plants from their lakeshore property (seven-point scale; coded as -3= extremely unlikely to +3= extremely likely) (Table F.9). The groups the largest percentage of respondents believed would not want them to remove aquatic plants were environmentalists, MnDNR, anglers/hunters, and lake associations.

Respondents also stated if they would likely do what the group thought they should do (seven-point scale; -3= extremely unlikely to +3= extremely likely) (Table F.10). The MnDNR, family members and lake associations were identified by >50% of respondents as groups whose opinions they were likely to follow.

Each of respondents answers to both pairs of subjective norm questions were multiplied and the set of 7 beliefs*motivations to comply products were summed to form an index. This ∑b*m index was regressed on the single item subjective norm question, but was not a strong predictor (R = 0.19). When the seven separate b*m indicators were regressed together on the single subjective norm measure, they explained 18% (R = 0.43) of the variance in that measure. Furthermore, all were significant predictors of subjective norms except: normative beliefs about lake association members.

Predicting Aquatic Plant Removal

Following the Theory of Reasoned Action, we regressed attitudes and subjective norms on behavioral intention. Together they explained 27% (R = 0.52) of the variance in behavioral intention to remove aquatic plants (F = 318.33, $p \leq 0.001$), and each was a significant predictor of behavioral intention (attitude β = 0.33, $p \leq 0.001$; subjective norm β = 0.25, $p \leq 0.001$).

Although, attitudes and subjective norms were both significant predictors of aquatic plant removal, together they explained only 27% of the variance in aquatic plant removal which is lower than is usually obtained in applications of the Theory of Reasoned Action (Eagly and Chaiken 1993). This lack of predictive ability is likely due to the large percentage of respondents who were "neutral" toward aquatic plant removal. Roughly half of all respondents were either neutral toward aquatic plant removal or so it as only "slightly" bad or good. Subjective norms were similarly distributed. The lack of strong attitudes and subjective norms in either direction for half of the study population made it difficult to predict their behaviors based on attitudes and subjective norms. However, this finding also indicates that there are no strong attitudinal or normative barriers to changing the aquatic plant removal behaviors of a large proportion of lakeshore property owners.

In order to better understand what specific beliefs and subjective norms do have an influence on respondents' intention to remove aquatic plants we conducted analysis suggested by Fishbein and Manfredo (1992). Identifying the beliefs and subjective norms that have the strongest

influence on behavior is important to developing any strategies directed at changing behaviors concerning the removal of aquatic plants.

First, we compared beliefs about the outcomes between those who remove aquatic plants on a year-to-year basis and those who don't (Tables F.6-8). Those who remove aquatic plants thought it was more likely that aquatic plant removal would improve swimming, improve the appearance of the shoreline, improve boating in the lake, and cause no problems or negative effects in the lake (Table F.6). In contrast those who do not remove plants, were more likely to believe that removing aquatic plants would remove fish and wildlife habitat from the lake, decrease the natural appearance of the lake, harm the lake's ecosystem, cause erosion in the lake, decrease the lake's water quality, and remove native plants from the lake (Table F.6).

When asked to evaluate these outcomes, both groups thought that improving swimming conditions, improving boating conditions, and improving the appearance of the lake shoreline were positive outcomes; but those who remove aquatic plants on a year-to-year base evaluated these outcomes more highly (Table F.7).

Likewise, both groups evaluated the following outcomes as negative: removing fish and wildlife habitat, decreasing the natural appearance of the lake, harming the lakes ecosystem, decreasing the lake's water quality, causing erosion in the lake, and removing native plants from the lake. Those who do not remove aquatic plants, however, rated these outcomes more negatively than those who do remove plants (Table F.7).

Each of the b*e products varied significantly across the two groups (Table F.8). The following belief*evaluation products, however, had relatively large effect sizes (≥ 0.25) indicating they had a greater influence on behavior: decrease the natural appearance of the lake, decrease the lake's water quality, improve swimming conditions, remove native plants, cause erosion in the lake, remove fish and wildlife habitat from the lake, and harm the lake's ecosystem.

To help understand how subjective norms might be influencing aquatic plant removal behavior, we compared those who remove plants and those who don't on each of the beliefs about preference of each reference group; motivations to comply with each reference group; and the beliefs*motivation to comply products for each reference group (Tables F.11-13).

Those who removed aquatic plants were much more likely to believe that their: neighbors/other lakeshore landowners, lake association, members of their family, and close friends would like them to remove aquatic plants. Those who did not remove aquatic plants were much less likely to believe that the DNR, environmentalists, and hunters/anglers would like them to remove aquatic plants (Table F.11).

Those who removed aquatic plants were more likely to comply with the desires of their neighbors, lake association, family members, close friends, and hunters/anglers than were those who did not remove plants (Table F.12).

All b*m products were significantly different across the two groups except for neighbors and anglers and hunters (Table F.13). The largest differences between the two groups were for family members (*eta* = 0.26) and the DNR (*eta* = 0.15)

Awareness of Consequences

Another factor that could influence aquatic plant removal behavior is the awareness of consequences of removing aquatic plants to the conditions of a lake. Individuals may not be aware of how aquatic plant removal can negatively impact lake health. Also, they may have been misinformed on what role aquatic plants play in a lake ecosystem. Misinformation and accurate knowledge can influence plant removal behaviors. For example, someone who thinks aquatic plants reduce water quality might be more likely to remove aquatic plants than someone who thinks they are important to a healthy lake.

Respondents were given a list of eight impacts (such as "removal…is harmful to lake healthy", "native aquatic plants are harmful to wildlife", and "removal…increases shoreline erosion") and asked to indicate if they thought the statement was false or true (five-point scale; 1= definitely false to 5= definitely true). Statewide responses are summarized in Table F.14.

We assessed the influence of these beliefs on aquatic plant removal behavior through multiple regression analysis using the set of beliefs about consequences of aquatic plant removal to predict behavioral intention to remove aquatic plants in 2004. While several of the beliefs were significant predictors of behavioral intention, effect sizes as measured by standardized β were modest, and together the set of beliefs explained only 6% of the variance in behavioral intention to remove aquatic plants (Table F.15). Importantly beliefs that aquatic plant removal enhanced recreation and that aquatic plants decreased the aesthetic beauty of lakes were strongly correlated with aquatic plant removal, and beliefs that aquatic plant removal had negative consequences for lakes correlated strongly to not removing aquatic plants (Table F.15).

Responsibility for Managing Aquatic Plants

More than 80% of respondents had a strong sense of obligation to protect the health of the lake they live on as well as wildlife populations on the lake, and believed that lakeshore owners have a responsibility to maintain the environmental quality of the lake.

While a large majority disagreed (74%) that lakeshore owners should have a right to alter the shoreline any way they want, a surprising percentage (20%) agreed with the statement. About one-third agreed that lake associations (33%) or state agencies (38%) should be responsible for managing aquatic plants and not shoreline property owners. Almost half (47%) disagreed that state agencies should have responsibility. A slightly larger percentage (39%) disagreed than agreed (32%) with the statement that regulations for removing aquatic plants should be more restrictive (Table F.16).

Less than 10% of respondents agreed that if everyone else is removing aquatic for swimming and boating then they are harming themselves if they do not, and less than 20% agreed that there are so many people removing aquatic vegetation that it doesn't matter what they do. However,

almost 40% believed that regardless of whether they personally remove aquatic plants the quality of the lake will decline (Table F.16).

Knowledge and Beliefs about Aquatic Plant Regulations

A slightly larger percentage of those that remove aquatic plants (55%) than those that do no (45%) reported themselves as at least moderately knowledgeable concerning aquatic plant management regulations. Among respondents that removed aquatic plants, 15% believed the regulations are too restrictive and 8% believe they are not strict enough. Among respondents that did not remove aquatic plants, 8% believed the regulations are too restrictive, while 20% think they are not restrictive enough. About 60% of respondents reported they are members of a lake association; this did not vary across those who remove or do not remove aquatic plants (Tables F.18-F.20).

Other Factors Affecting Behavior

We conducted a series of regression and chi-square analyses (Tables F.17 through F.25) to identify other factors that might explain differences in aquatic plant removal behavior. In the backward stepwise regressions reported in tables F.21 through F.25, an iterative series of regression models are computed. The first model contains all variables within the set, for example in the regression models reported in Table F.22 the first model included all lake behaviors listed in Table C.1. In subsequent models, the variables that do not predict aquatic plant removal are systematically eliminated until only significant predictors remain. The results reported in Tables F.21-F.25 report only the final model in the iterative series with only significant predictors remaining.

While no single variable or set of related variables proved to have large or even moderate effects on aquatic plant removal behavior, participation in fishing from a dock or pier, swimming and pleasure boating (Table F.22) and beliefs that there are too many submerged plants and that submerged plants have increased during the time of property ownership (Tables F.23-24) did have significant effects. As the percentage of shoreline in turf grass and sandy beach increased the likelihood of removing aquatic plants also increased. Conversely, as the percentage of native vegetation increased the likelihood of removing aquatic plants decreased (Table F.25). Analyses were also conducted on all demographic variables as well as use of the property (residence vs. recreational), but none of these variables was significantly related to aquatic plant removal.

Changing Aquatic Plant Removal Behaviors

While our ability to predict aquatic plant removal using the Theory of Reasoned Action was relatively modest (R = 0.54, 27% of variance) compared to other applications of the theory, our overall results still indicate that attempting to change the evaluative beliefs and subjective norms identified in study would be the best strategy if changing aquatic plant removal behaviors is of interest. Fishbein & Manfredo (1992) provide guidelines for using results from the TRA to craft persuasive messages designed to change behavior. They emphasize that such messages should: 1) target beliefs and subjective norms that have the strongest effect on behavior; 2) recognize that none one belief is key to behavioral change but rather multiple beliefs will likely need to be

targeted; and 3) persuasive messages must be crafted to target the specific beliefs and norms that appear to be influencing behavior.

For example, if decreasing aquatic plant removal behavior is of interest for the study population, then messages targeting those who remove aquatic plants should emphasize that:

Aquatic plant removal will likely:

- Harm the ecosystem of the lake;
- Remove fish and wildlife habitat from the lake;
- Cause erosion in the lake;
- Decrease the lake's water quality;
- Remove native plants from the lake; and
- Decrease the natural appearance of the lake.

And, that these outcomes are negative. Two other important beliefs to target are that removing aquatic plants improves swimming and the appearance of the shoreline. Beliefs about improving swimming will likely be quite resistant to change and improving swimming conditions is a highly valued outcome for those that remove aquatic plants. However, information and education efforts might be able to influence aesthetic and economic appreciation for "natural" shorelines.

Respondents who remove aquatic plants, indicated they are most motivated to comply with the desires of family and friends, the DNR, and lake associations and least motivated to comply with environmentalists. For this reason, messages that emphasize the DNR and lake association do not support removing aquatic plants would likely have the most influence on decreasing aquatic plant removal behaviors.

In summary, data from the TRA provide clear strategies for designing communication and education efforts that could help to decrease aquatic plant removal among those who are removing plants on a yearly basis.

Table F.1. Respondents who reported keeping an area free of aquatic plants indicated if they would clear an area of aquatic plants in 2004 about the same size as they did in 2003 (statewide).

Response category	n	Percent
Extremely unlikely	30	3.3
Quite unlikely	58	6.4
Slightly unlikely	32	3.5
Neither	27	2.9
Slightly likely	85	9.4
Quite likely	370	40.8
Extremely likely	305	33.7
Total	**906**	**100.0**

Source: Mail-back questionnaire, question 22.

Table F.2. Attitudes toward aquatic plant removal (asked only of those who reported having aquatic plants).

Statement[1]	n	Extremely bad (-3) %	Quite bad (-2) %	Slightly bad (-1) %	Neither (0) %	Slightly good (1) %	Quite good (2) %	Extremely good (3) %
Removing aquatic plants from the lake in front of your property each year is:	1691	13.0	12.4	10.5	29.7	9.1	15.1	10.2

	n	Extremely harmful (-3)	Quite harmful (-2)	Slightly harmful (-1)	Neither (0)	Slightly Beneficial (1)	Quite beneficial (2)	Extremely beneficial (3)
Removing aquatic plants from the lake in front of your property each year is:	1687	11.4	12.7	13.5	30.4	10.2	12.1	9.7

Source: Mail-back questionnaire, question 23 and 24.

[1]Mean score of the two items was = -0.1.

Table F.3. Subjective norm. Respondents indicated if they thought people important to them thought they should remove aquatic plants from the lake (statewide). (Asked only of those who reported having aquatic plants).

Statement	n	Extremely false (-3) %	Quite false (-2) %	Slightly false (-1) %	Neither (0) %	Slightly true (1) %	Quite true (2) %	Extremely true (3) %
Most people who are important to me think I should remove aquatic plants from my lake.	1680	23.1	10.0	3.7	27.1	9.1	16.8	10.1

Source: Mail-back questionnaire, question 26.

Table F.4. Plant removal outcomes. Respondents indicated if they thought each item was an unlikely or likely result of aquatic plant removal (statewide). Asked only of respondents who reported having aquatic plants.

Statement	n	Mean[1]	Extremely Unlikely %	Quite Unlikely %	Slightly Unlikely %	Neither %	Slightly Likely %	Quite Likely %	Extremely Likely %	Don't Know %
Improve swimming conditions in my lake	1710	0.8	10.4	9.1	4.0	11.1	13.3	27.6	21.8	2.7
Improve boating conditions on my lake	1695	0.3	11.0	12.4	3.7	21.6	18.6	18.8	10.9	3.0
Improve the appearance of my lake's shoreline	1707	0.2	13.7	14.1	5.5	18.0	15.1	18.3	13.3	2.1
Harm my lake's ecosystem	1691	0.2	12.9	11.8	6.3	20.6	11.7	12.9	15.6	8.2
Remove native plants from my lake	1693	0.1	12.5	14.8	7.3	18.6	9.6	15.7	13.5	7.9
Remove fish and wildlife habitat from my lake	1703	0.1	14.0	15.5	8.0	13.6	13.0	16.8	13.9	5.1
Cause no problems or negative effects in my lake	1704	0.1	13.3	14.4	9.5	16.5	6.1	18.9	13.6	7.7
Decrease the natural appearance of my lake	1699	-0.1	16.3	16.1	8.3	18.2	11.0	13.5	13.8	2.8
Decrease my lake's water quality	1694	-0.2	15.0	16.9	9.3	18.2	10.2	12.3	10.8	7.3
Cause erosion in my lake	1701	-0.3	17.3	17.5	7.7	17.2	9.2	12.5	12.2	6.4
Improve fishing conditions in my lake	1695	-0.9	20.8	19.0	11.9	26.1	5.3	6.2	3.4	7.3
Get rid of exotic plants in my lake	1681	-0.9	26.2	18.4	6.6	19.4	6.5	8.1	4.8	10.0

Source: Mail-back questionnaire, question 25 Part 1.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely unlikely, -2 = quite unlikely, -1 = slightly unlikely, 0 = neither, 1 = slightly likely, 2 = quite likely, and 3 = extremely likely.

Table F.5. Evaluation of plant removal outcomes. Respondents indicated if they thought each aquatic plant removal result was good or bad (statewide). Asked only of respondents who reported having aquatic plants.

Statement	n	Mean[1]	Extremely Bad %	Quite bad %	Slightly bad %	Neither %	Slightly Good %	Quite good %	Extremely good %	Don't Know %
Improve swimming conditions in my lake	1648	1.2	2.0	1.8	3.7	20.9	24.4	25.7	16.9	4.5
Cause no problems or negative effects in my lake	1629	0.9	2.6	3.1	4.7	31.8	17.7	19.8	16.5	3.8
Get rid of exotic plants in my lake	1626	0.8	6.0	6.6	5.4	23.7	9.7	17.6	22.3	8.6
Improve boating conditions on my lake	1621	0.8	3.4	2.8	3.5	34.8	18.3	19.4	12.7	5.1
Improve the appearance of my lake's shoreline	1608	0.8	3.6	4.4	6.6	32.7	7.2	17.3	18.9	9.2
Improve fishing conditions in my lake	1620	0.7	5.1	5.2	6.7	29.7	12.0	19.0	15.3	6.9
Decrease the natural appearance of my lake	1622	-0.9	19.2	17.6	12.2	37.5	4.4	2.8	1.9	4.4
Remove native plants from my lake	1624	-1.1	23.1	17.2	11.6	32.7	2.6	2.9	1.6	8.4
Remove fish and wildlife habitat from my lake	1627	-1.3	26.7	20.0	11.7	29.6	2.0	2.3	1.7	6.0
Decrease my lake's water quality	1622	-1.3	29.5	17.0	9.4	30.0	1.9	2.7	1.8	7.7
Cause erosion in my lake	1626	-1.3	27.8	17.9	9.5	33.6	1.8	1.0	1.1	7.2
Harm my lake's ecosystem	1623	-1.3	28.5	18.6	9.4	29.9	2.3	1.4	1.3	8.6

Source: Mail-back questionnaire, question 25 Part 2.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely bad, -2 = quite bad, -1 = slightly bad, 0 = neither, 1 = slightly good, 2 = quite good, and 3 = extremely good.

Table F.6. Plant removal outcomes. Respondents indicated if they thought each aquatic plant removal result was good or bad (statewide).

Behavioral Outcomes (Likelihood)	Try to keep an area free of aquatic plants-YES			Try to keep an area free of aquatic plants-NO			F	P	eta
	n	Mean[1]	SE	n	Mean[1]	SE			
Improve swimming conditions in my lake	844	1.62	0.05	1004	0.35	0.06	219.80	0.000	0.326
Get rid of exotic plants in my lake	770	-0.91	0.07	911	-0.94	0.06	0.09	0.770	0.007
Improve the appearance of my lake's shoreline	852	0.90	0.06	1011	-0.32	0.06	190.80	0.000	0.305
Cause no problems or negative effects in my lake	812	0.66	0.07	946	-0.49	0.07	151.66	0.000	0.282
Remove fish and wildlife habitat from my lake	829	-0.86	0.06	973	0.88	0.06	380.52	0.000	0.418
Decrease the natural appearance of my lake	842	-0.96	0.06	997	0.52	0.06	275.83	0.000	0.361
Improve fishing conditions in my lake	797	-0.43	0.06	958	-1.22	0.06	99.05	0.000	0.231
Improve boating conditions on my lake	844	0.74	0.06	990	0.02	0.06	68.88	0.000	0.190
Harm my lake's ecosystem	785	-0.84	0.06	949	0.98	0.06	442.84	0.000	0.451
Decrease my lake's water quality	812	-1.13	0.06	929	0.45	0.07	323.92	0.000	0.396
Cause erosion in my lake	819	-1.19	0.06	950	0.52	0.07	372.87	0.000	0.417
Remove native plants from my lake	807	-0.69	0.06	940	0.81	0.06	276.61	0.000	0.370

Source: Mail-back questionnaire, question 25 Part 2.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely unlikely, -2 = quite unlikely, -1 = slightly unlikely, 0 = neither, 1 = slightly likely, 2 = quite likely, and 3 = extremely likely.

Table F.7. Evaluation of plant removal outcomes. Respondents indicated if they thought each aquatic plant removal result was good or bad (statewide).

Behavioral Outcomes (Evaluation)	Try to keep an area free of aquatic plants-YES			Try to keep an area free of aquatic plants-NO					
	n	Mean[1]	SE	n	Mean[1]	SE	F	p	eta
Improve swimming conditions in my lake	825	1.66	0.04	945	0.83	0.05	172.51	0.000	0.298
Get rid of exotic plants in my lake	764	1.04	0.06	890	0.73	0.07	10.92	0.001	0.081
Improve the appearance of my lake's shoreline	773	1.17	0.05	855	0.50	0.06	65.03	0.000	0.196
Cause no problems or negative effects in my lake	816	1.28	0.05	938	0.68	0.05	73.23	0.000	0.200
Remove fish and wildlife habitat from my lake	788	-1.05	0.05	926	-1.61	0.05	65.19	0.000	0.192
Decrease the natural appearance of my lake	800	-0.69	0.05	931	-1.21	0.05	55.39	0.000	0.176
Improve fishing conditions in my lake	773	0.93	0.05	909	0.57	0.06	18.87	0.000	0.105
Improve boating conditions on my lake	801	1.16	0.05	920	0.51	0.05	87.80	0.000	0.220
Harm my lake's ecosystem	762	-1.09	0.05	887	-1.62	0.05	56.45	0.000	0.182
Decrease my lake's water quality	774	-1.09	0.05	897	-1.52	0.05	34.15	0.000	0.142
Cause erosion in my lake	783	-1.10	0.05	900	-1.57	0.05	47.60	0.000	0.166
Remove native plants from my lake	775	-0.79	0.05	897	-1.50	0.05	98.84	0.000	0.236

Source: Mail-back questionnaire, question 25 Part 2.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely bad, -2 = quite bad, -1 = slightly bad, 0 = neither, 1 = slightly good, 2 = quite good, and 3 = extremely good.

Table F.8. Evaluation of plant removal outcomes. Respondents indicated if they thought each aquatic plant removal result was good or bad (statewide).

Behavioral Outcomes * Evaluation	Try to keep an area free of aquatic plants-YES			Try to keep an area free of aquatic plants-NO			F	p	eta
	n	Mean[1]	SE	n	Mean[1]	SE			
Improve swimming conditions in my lake	857	3.60	0.13	951	1.21	0.11	201.66	0.000	0.285
Get rid of exotic plants in my lake	785	0.09	0.16	872	-0.51	0.15	7.55	0.006	0.060
Improve the appearance of my lake's shoreline	840	1.53	0.13	879	0.40	0.13	38.39	0.000	0.145
Cause no problems or negative effects in my lake	839	1.35	0.13	907	-0.03	0.13	57.03	0.000	0.162
Remove fish and wildlife habitat from my lake	830	0.48	0.12	907	-2.37	0.15	209.88	0.000	0.330
Decrease the natural appearance of my lake	856	0.42	0.12	931	-1.69	0.14	130.14	0.000	0.248
Improve fishing conditions in my lake	811	0.21	0.11	896	-0.33	0.15	8.53	0.004	0.058
Improve boating conditions on my lake	858	2.03	0.11	929	0.70	0.10	74.87	0.000	0.159
Harm my lake's ecosystem	814	0.59	0.12	881	-2.51	0.16	239.93	0.000	0.364
Decrease my lake's water quality	825	0.95	0.13	883	-1.71	0.16	170.32	0.000	0.281
Cause erosion in my lake	829	1.01	0.13	902	-1.93	0.15	216.61	0.000	0.326
Remove native plants from my lake	824	0.16	0.12	880	-2.33	0.15	171.62	0.000	0.312

Source: Mail-back questionnaire, question 25 Part 2.

[1] "Don't know" category excluded from mean calculation. An individual's score represents a product of their outcome and evaluation scores. Means scores can range from -9 to + 9.

Table F.9. Group opinions. Respondents indicated if they thought each group would like them to remove aquatic plants from their lakeshore property (statewide).

Group	n	Mean[1]	Extremely Unlikely %	Quite unlikely %	Slightly unlikely %	Neither %	Slightly likely %	Quite likely %	Extremely Likely %	Don't know %
Most members of my family	1709	-0.1	21.9	11.4	4.5	16.8	11.6	15.5	14.8	3.6
Neighbors/ Other lakeshore landowners	1709	-0.2	19.3	11.5	4.2	19.7	13.3	14.2	9.9	7.8
My close friends	1705	-0.2	20.2	12.5	3.8	23.1	9.8	13.4	10.8	6.4
Lake association	1695	-0.8	25.5	13.6	7.4	19.2	7.9	7.6	6.3	12.5
Most anglers & hunters	1711	-0.9	22.0	19.1	9.3	21.4	7.6	7.1	3.6	10.0
Department of Natural Resources (DNR)	1712	-1.9	44.7	17.2	7.7	12.6	2.4	2.1	1.8	11.5
Environmentalists	1704	-2.0	51.2	15.8	6.3	10.8	1.5	1.4	2.4	10.7

Source: Mail-back questionnaire, question 27 Part 1.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely unlikely, -2 = quite unlikely, -1 = slightly unlikely, 0 = neither, 1 = slightly likely, 2 = quite likely, and 3 = extremely likely.

Table F.10. Motivation to comply with group opinions. Respondents indicated how likely it was that they would do as the group thought they should do (statewide).

Statement	n	Mean[1]	Extremely Unlikely %	Quite Unlikely %	Slightly unlikely %	Neither %	Slightly likely %	Quite likely %	Extremely Likely %	Don't know %
Department of Natural Resources (DNR)	1679	0.9	9.6	4.4	4.6	15.0	15.7	28.7	16.5	5.6
Most members of my family	1669	0.8	8.7	3.9	4.8	18.9	18.0	26.4	15.7	3.6
Lake association	1659	0.6	10.2	5.0	4.2	20.8	18.6	23.2	10.8	7.2
My close friends	1672	0.4	11.3	5.7	4.6	27.1	18.7	18.8	9.1	4.7
Environmentalists	1665	0.2	15.3	7.6	6.0	20.1	15.1	17.0	12.1	6.8
Most anglers & hunters	1666	0.1	12.2	6.9	6.4	29.3	16.4	15.2	7.2	6.5
Neighbors/ Other lakeshore landowners	1671	-0.3	18.3	12.5	6.5	23.1	16.2	13.8	5.8	4.0

Source: Mail-back questionnaire, question 27 Part 2.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely unlikely, -2 = quite unlikely, -1 = slightly unlikely, 0 = neither, 1 = slightly likely, 2 = quite likely, and 3 = extremely likely.

Table F.11. Group opinions. Respondents indicated if they thought each group would like them to remove aquatic plants from their lakeshore property (statewide).

Beliefs	Try to keep an area free of aquatic plants-YES			Try to keep an area free of aquatic plants-NO			F	p	eta
	n	Mean[1]	SE	n	Mean[1]	SE			
Neighbors/ Other lakeshore landowners	798	0.82	0.06	956	-0.88	0.06	363.12	≤0.001	0.414
Department of Natural Resources (DNR)	727	-1.31	0.06	955	-2.20	0.04	151.71	≤0.001	0.288
Lake association	713	0.20	0.07	906	-1.47	0.06	351.58	≤0.001	0.423
Environmentalists	729	-1.63	0.06	970	-2.28	0.04	81.86	≤0.001	0.215
Most anglers & hunters	755	-0.14	0.06	957	-1.46	0.05	254.22	≤0.001	0.360
Most members of my family	819	1.21	0.06	1010	-1.01	0.06	657.72	≤0.001	0.514
My close friends	797	0.92	0.06	977	-1.10	0.06	564.49	≤0.001	0.492

Source: Mail-back questionnaire, question 25 Part 2.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely unlikely, -2 = quite unlikely, -1 = slightly unlikely, 0 = neither, 1 = slightly likely, 2 = quite likely, and 3 = extremely likely.

Table F.12. Motivation to comply with group opinions. Respondents indicated how likely it was that they would do as the group thought they should do. (statewide)

Motivations to comply	Try to keep an area free of aquatic plants-YES			Try to keep an area free of aquatic plants-NO			F	p	eta
	n	Mean	SE	n	Mean	SE			
Neighbors/ Other lakeshore landowners	801	0.31	0.06	982	-0.71	0.06	134.20	≤0.001	0.265
Department of Natural Resources (DNR)	784	0.77	0.06	977	0.90	0.06	1.89	0.169	0.033
Lake association	759	0.72	0.06	938	0.29	0.06	23.34	≤0.001	0.117
Environmentalists	772	0.00	0.07	962	0.16	0.07	2.72	0.099	0.040
Most anglers & hunters	785	0.29	0.06	963	-0.06	0.06	16.54	≤0.001	0.097
Most members of my family	810	1.27	0.05	991	0.37	0.06	120.68	≤0.001	0.251
My close friends	802	0.75	0.06	975	-0.09	0.06	101.68	≤0.001	0.233

Source: Mail-back questionnaire, question 25 Part 2.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where: -3 = extremely unlikely, -2 = quite unlikely, -1 = slightly unlikely, 0 = neither, 1 = slightly likely, 2 = quite likely, and 3 = extremely likely.

Table F.13. Product of beliefs about group opinions concerning aquatic plant removal and motivations to comply with those opinions (statewide).

Beliefs * Motivations to comply	Try to keep an area free of aquatic plants-YES			Try to keep an area free of aquatic plants-NO			F	p	eta
	n	Mean[1]	SE	n	Mean[1]	SE			
Neighbors/ Other lakeshore landowners	780	1.37	0.13	941	1.22	0.16	0.55	0.459	0.018
Department of Natural Resources (DNR)	715	-0.59	0.15	920	-2.13	0.18	38.20	≤0.001	0.151
Lake association	708	0.91	0.14	885	-0.39	0.17	31.66	≤0.001	0.140
Environmentalists	718	0.94	0.17	929	-0.48	0.19	29.39	≤0.001	0.132
Most anglers & hunters	757	0.58	0.12	931	0.28	0.16	2.05	0.152	0.035
Most members of my family	800	2.79	0.14	982	0.35	0.16	128.32	≤0.001	0.259
My close friends	790	2.00	0.12	959	0.88	0.15	30.27	≤0.001	0.130

Source: Mail-back questionnaire, question 25 Part 2.

[1]An individual's score represent the product of beliefs and motivations about group opinions. Mean scores could range from -9 to + 9.

Table F.14. Awareness of consequences. Respondents indicated whether they thought each statement about native aquatic vegetation was true or false (statewide).

Statement	n	Mean[1]	Definitely false (1) %	Probably false (2) %	Unsure (3) %	Probably true (4) %	Definitely true (5) %	Don't know %
Removal of native aquatic plants is harmful to lake health (water quality, biotic balance, etc.)	2930	3.95	4.0	7.3	12.5	35.8	34.7	5.8
Removal of native aquatic plants increases shoreline erosion	2922	3.92	5.6	7.7	9.4	39.0	34.3	4.0
Removal of native aquatic plants is harmful to fish populations	2925	3.72	8.8	11.7	8.3	36.1	31.1	3.9
Removal of native aquatic plants increases the role of the lake as a recreational area	2918	3.21	11.2	16.5	18.0	41.2	8.7	4.3
Native aquatic plants decrease the aesthetic beauty of the lake	2921	2.56	24.2	26.6	18.2	21.5	5.6	4.0
Native aquatic plants reduce the economic value of the lake in the long-term	2914	2.54	19.5	31.2	20.3	17.7	4.8	6.4
Native aquatic plants reduce water clarity and quality	2926	2.37	25.9	31.8	16.9	14.9	4.5	6.0
Native aquatic plants are harmful to wildlife populations (waterfowl, wading birds, amphibians, etc.)	2934	1.63	52.3	33.8	5.2	3.3	1.6	3.9

Source: Mail-back questionnaire, question 29.

[1] "Don't know" category excluded from mean calculation. Means calculated on a scale where 1 = definitely false, 2 = probably false, 3 = unsure, 4 = definitely true, 5 = definitely true.

Table F.15. Results of multiple regression of awareness of consequences on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	β	t	p
Removal of native aquatic plants is harmful to lake health (water quality, biotic balance, etc.)	-0.48	0.15	-0.09	-3.10	0.002
Native aquatic plants are harmful to wildlife populations (waterfowl, wading birds, amphibians, etc.)	0.31	0.17	0.05	1.86	0.063
Removal of native aquatic plants is harmful to fish populations	0.00	0.12	0.00	-0.01	0.989
Native aquatic plants decrease the aesthetic beauty of the lake	0.38	0.13	0.09	2.86	0.004
Removal of native aquatic plants increases the role of the lake as a recreational area	0.45	0.13	0.10	3.51	≤0.001
Native aquatic plants reduce the economic value of the lake in the long-term	-0.09	0.14	-0.02	-0.63	0.527
Removal of native aquatic plants increases shoreline erosion	-0.50	0.13	-0.10	-3.77	≤0.001
Native aquatic plants reduce water clarity and quality	-0.14	0.13	-0.03	-1.09	0.275

$R^2 = 0.06$

Table F.16. Responsibility for managing aquatic plants. Respondents indicated whether they agreed or disagreed with statements about responsibility for managing aquatic plants in their lake (statewide).

Statement	n	Mean[1]	Strongly Disagree %	Moderately Disagree %	Slightly Disagree %	Neither %	Slightly Agree %	Moderately Agree %	Strongly Agree %	Don't know %
I feel a strong personal obligation to protect the health of the lake I live on.	2983	6.44	0.8	0.1	0.4	2.1	8.9	24.9	62.2	0.7
I feel a strong personal obligation to protect the wildlife population on the lake.	2977	6.34	0.8	0.3	0.5	3.5	10.3	26.1	57.8	0.7
Lakeshore owners have a responsibility to maintain the environmental quality of a lake.	2968	6.27	1.9	0.6	0.9	2.4	12.0	22.4	58.4	1.4
Development of lakeshore property is a greater threat to my lake than my removing aquatic plants.	2960	5.15	4.8	4.7	6.0	13.3	19.3	17.4	27.4	7.1
Regardless of whether I remove aquatic plants or not, the quality of my lake will decline.	2953	3.90	10.7	14.4	14.2	11.0	19.1	12.7	7.1	10.9
Regulations for removing aquatic plants should be more restrictive.	2981	3.85	13.4	11.2	14.2	18.7	11.2	10.2	10.7	10.3
State agencies should be responsible for managing aquatic plants (not shoreline property owners).	2971	3.69	21.6	13.0	12.7	10.4	13.5	11.2	12.6	5.1
Lake associations should be responsible for managing aquatic plants (not shoreline property owners).	2969	3.56	19.0	13.9	11.6	15.3	16.0	10.2	6.5	7.6
There are so many other people removing aquatic vegetation from the lake that it really doesn't matter what I do.	2967	2.79	27.3	18.8	17.2	10.6	8.1	5.5	2.9	9.6
Lakeshore owners should have the right to alter the shoreline any way they want.	2967	2.60	39.8	18.2	16.2	4.8	9.8	4.8	4.9	1.5
If everyone else is removing aquatic vegetation form the lake for swimming and boating, I'm harming myself if I do not.	2964	2.51	34.0	19.8	15.5	15.1	5.6	2.6	1.9	5.5

Source: Mail-back questionnaire, question 30.

1   "Don't know" category excluded from mean calculation.

Table F.17. Results of multiple regression of management responsibility on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	β	t	p
I feel a strong personal obligation to protect the health of the lake I live on.	0.66	0.24	0.10	2.80	0.005
I feel a strong personal obligation to protect wildlife populations on the lake	-0.49	0.22	-0.08	-2.18	0.029
Regardless of whether I remove aquatic plants or not, the quality of my lake will decline.	0.19	0.07	0.07	2.76	0.006
There are so many other people removing aquatic vegetation from the lake that it really doesn't matter what I do.	-0.02	0.07	-0.01	-0.27	0.788
If everyone else is removing aquatic vegetation from the lake for swimming and boating, I'm harming myself if I do not.	0.37	0.08	0.12	4.40	≤0.001
State agencies should be responsible for managing aquatic plants (not shoreline property owners).	-0.11	0.07	-0.04	-1.67	0.096
Lakeshore owners should have the right to alter the shoreline any way they want.	-0.11	0.08	-0.04	-1.39	0.164
Regulations for removing aquatic plants should be more restrictive.	-0.49	0.07	-0.19	-7.36	≤0.001
Development of lakeshore property is a greater threat to my lake than my removing aquatic plants.	0.10	0.07	0.03	1.32	0.186
Lake associations should be responsible for managing aquatic plants (not shoreline property owners).	-0.05	0.07	-0.02	-0.80	0.426
Lakeshore owners have a responsibility to maintain the environmental quality of a lake.	0.01	0.12	0.00	0.04	0.965
R² = 0.07					

Table F.18. Regulation knowledge. Respondents indicated how knowledgeable they were about regulations concerning aquatic plant management in Minnesota (statewide).

Response category	n	Don't Remove Plants	Remove Plants
Not at all knowledgeable	553	18.7	10.8
Slightly knowledgeable	1059	36.3	33.9
Moderately knowledgeable	1072	36.1	41.5
Very knowledgeable	229	7.7	11.7
Extremely knowledgeable	47	1.2	2.1
Total	**2959**	**100.0**	

Source: Mail-back questionnaire, question 31.
Group responses differed $\chi^2 = 35.7$, $p \leq 0.001$

Table F.19. Management regulations. Respondents indicated how they would describe current management regulations concerning native aquatic plants in Minnesota (statewide).

Response category	n	Don't Remove Plants	Remove Plants
Too restrictive	292	7.7	14.8
About right	1087	33.1	43.9
Not restrictive enough	426	20.1	7.7
Don't know	1147	39.1	33.6
Total	**2952**		

Source: Mail-back questionnaire, question 32.
Group responses differed $\chi^2 = 95.2$, $p \leq 0.001$

Table F.20. Respondents indicated if they were a member of a lake association (statewide).

Response	n	Percent
Yes	1787	59.2
No	1229	40.8
Total	3017	100.0

Source: Mail-back questionnaire, question 33.

Table F.21. Results of backward stepwise regression of ownership and place attachment scales on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	β	t	p
Length of ownership	-0.02	0.01	-0.05	-2.10	0.035
Place identity	0.19	0.11	0.04	1.67	0.095
$R^2 \leq 0.01$					

Table F.22. Results of backward stepwise regression of participation in lake-based recreation on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	β	t	p
fishing from shore or dock/pier	0.53	0.09	0.18	5.85	≤0.001
fishing from motorized boat	-0.23	0.09	-0.08	-2.61	0.009
fishing from non-motorized boat	-0.37	0.11	-0.08	-3.32	≤0.001
pleasure boating (motorized)	0.46	0.08	0.16	5.61	≤0.001
swimming/wading	0.32	0.08	0.10	3.81	≤0.001
bird watching, viewing wildlife, studying nature	-0.16	0.08	-0.05	-2.08	0.038
$R^2 = 0.08$					

Table F.23. Results of backward stepwise regression of perceptions of current lake conditions on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	β	t	p
Overall condition of lake and shoreland areas	0.91	0.26	0.13	3.52	≤0.001
Condition of land area away from shoreline (100-1000ft from shore)	-0.47	0.28	-0.06	-1.69	0.092
Presence of exotic species (such as Eurasian milfoil, purple loosestrife, etc.)	0.56	0.19	0.10	2.91	0.004
Diversity of birds and wildlife	0.76	0.46	0.05	1.65	0.099
Submerged vegetation near the shore	1.49	0.22	0.23	6.69	≤0.001
Floating algae on the surface	0.58	0.23	0.09	2.59	0.010
Shoreland housing	-1.03	0.28	-0.12	-3.71	≤0.001
$R^2 = 0.11$					

Table F.24. Results of backward stepwise regression of perceptions of changing lake conditions on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	β	t	p
Overall condition of lake and shoreland areas	-0.82	0.30	-0.10	-2.72	0.007
Fishing	0.48	0.28	0.06	1.70	0.090
Condition of land area close to shoreline (0-100ft from shore)	0.67	0.36	0.07	1.87	0.062
Level of fish contamination	-0.89	0.44	-0.07	-2.03	0.043
Presence of exotic species (such as Eurasian	0.85	0.28	0.11	2.98	0.003
Motorized watercraft	-0.79	0.27	-0.10	-2.94	0.003
Submerged vegetation near the shore	1.21	0.26	0.16	4.67	≤0.001
Waterfowl	1.60	0.33	0.16	4.85	≤0.001
$R^2 = 0.10$					

Table F.25. Results of backward stepwise regression of percentage of shoreline type on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	β	t	p
Percent seawall	0.22	0.13	0.06	1.69	0.091
Percent mowed turf grass	0.41	0.06	0.24	6.68	≤0.001
Percent sandy beach	0.24	0.06	0.15	4.15	≤0.001
Percent natural vegetation	-0.20	0.06	-0.13	-3.28	≤0.001
Percent other	0.28	0.09	0.10	2.91	0.004
Percent of shoreline with aquatic plants	0.21	0.06	0.13	3.44	≤0.001
R² = 0.14					

Table F.26. Results of regression of aquatic plant value scales on behavioral intention to remove aquatic plants in 2004.

Independent Variables	B	SE	B	t	p
removal and protection	-0.85	0.16	-0.19	-5.46	≤0.001
aesthetic value	-0.25	0.14	-0.06	-1.81	0.071
ecological value	0.03	0.16	0.01	0.19	0.850
recreation value	0.22	0.13	0.05	1.61	0.109
property value	-0.29	0.10	-0.08	-2.91	0.004
R² = 0.07					