

Addressing Aquatic Invasive Species: Survey Results from Organisms-in-Trade Hobbyists

A Fact Sheet Generated for Illinois-Indiana Sea Grant

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Project Overview

Aquatic invasive species (AIS) threaten native ecosystems, damage infrastructure and personal property, and diminish recreational experiences. Although many vectors of AIS exist, the role of hobbyists involved in the organisms-in-trade (OIT) industry (i.e., aquarium hobbyists, outdoor pond owners, and water gardeners) is not well known. This fact sheet provides an overview of findings from survey research conducted with OIT hobbyists in the Great Lakes region and provides recommendations for future educational outreach campaigns.

Project Goals

The overall goals of this study were to: (a) assess OIT hobbyist familiarity (i.e., knowledge and awareness) of AIS; (b) identify common information sources; (c) document current aquatic procurement and disposal behaviors; and (d) identify motivators and barriers to performing behaviors recommended to prevent the spread of AIS. This fact sheet provides an overview of survey results from 16 sampling events (one aquarium hobbyist and one water gardener or outdoor pond event in each of the eight Great Lakes states; n=542).

Research Methods

A survey questionnaire was distributed to self-identified OIT hobbyists at the 16 OIT events in the Great Lakes region between February and September 2013. A list of annual OIT events (i.e., auctions, trade shows, and expos) in Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin was developed. Researchers attended one aquarium related event and one outdoor pond or water garden related event in each of the eight states. Strategic sampling was employed to select events based on OIT hobbyist alignment, event coordinators' willingness to allow researcher presence, and date of show within study timeframe. All event attendees approaching the research booth were asked to participate.

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Results from 16 Events

Of the 654 event attendees asked to participate, 542 completed surveys were obtained (83% response rate). Most respondents owned an aquarium, either as their sole hobby or in combination with water gardening or tending an outdoor pond (Fig. 1).

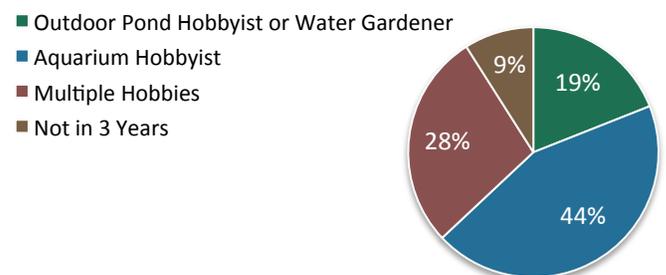


Figure 1. Respondent Profile

Most respondents were over the age of 50 (55%) and 60% were male. The majority of respondents had completed at least a 4-year college degree (51%). Additionally, one-half of respondents (50%) reported receiving past information about AIS. The most frequently cited information source was hobbyist magazines (67%; Table 1).

The majority of respondents reported being aware of AIS (52%) and concerned about the spread of AIS (67%).

Table 1. AIS Information Sources*	
Magazines	67%
Online water hobbyist forums	52%
Newspaper	52%
Television	46%
School	24%
Purchases	15%

*N=231 (number of respondents who received AIS information)

One-half of respondents (50%) have received past information about AIS. Yet, nearly one-third (29%) report not having enough information to prevent the spread of AIS.

Procurement Behaviors & Barriers

Nearly one-half of respondents (45%) have made procurement decisions with preventing the spread of AIS in mind and respondents were typically “very likely” to make future purchase decisions with preventing the spread of AIS in mind. One-quarter of respondents tend to purchase aquatic animals that are labeled as “native” (24%), while one-third tend to buy “native” plants (33%). Yet, three-quarters of water gardeners/outdoor pond hobbyists are likely to purchase “non-weedy” plants (75%). Additionally, one-half of trust local retailers (51%) but do not know if their dealer is licensed (46%).

Table 2. Campaign Strategies for Procurement Behaviors

Past Performance	Behavioral Intention	Outreach Effort	Campaign Strategy
>50%	Very likely	+	<ul style="list-style-type: none"> Foster personal obligation Visualize environmental consequences
			<ul style="list-style-type: none"> Buy from a reputable local dealer Avoid purchasing known invasive species Tell other hobbyists not to release into the environment Purchase plants that are native Purchase plants that are non-weedy
>30%	Somewhat likely	++	<ul style="list-style-type: none"> All aforementioned Build retailer trust Enhance hobbyist network
			<ul style="list-style-type: none"> Buy from reputable online dealer Accept aquatic plants that would have been released

The majority of respondents feel a strong, personal obligation to prevent the spread of AIS (82%) and are willing to put extra effort into preventing the spread of AIS (70%).

Disposal Behaviors & Barriers

The majority of respondents (71%) have made disposal decisions with preventing the spread of AIS in mind and respondents were “very likely” to make future disposal decisions with preventing the spread of AIS in mind. Some misinformation exists about proper disposal, as nearly one-half of respondents (45%) prefer to compost their aquatic plants over other disposal practices (a behavior that is not recommended). Additionally, few respondents were “very likely” to freeze aquatic plants prior to disposing of them (28%).

Most respondents (85%) “agree” that retailers should be responsible for educating the public on ways to prevent the spread of AIS.

Table 3. Campaign Strategies for Future Disposal Behaviors

Past Performance	Behavioral Intention	Outreach Effort	Campaign Strategy
>50%	Very likely	+	<ul style="list-style-type: none"> Foster personal obligation Attribute responsibility to hobbyists Visualize environmental consequences Reduce perceived effort
			<ul style="list-style-type: none"> Avoid release into the environment Contact another hobbyist to give or trade
>30%	Somewhat likely	++	<ul style="list-style-type: none"> All aforementioned Build retailer trust
			<ul style="list-style-type: none"> Seal aquatic plants in plastic bags prior to disposal Accept aquatic species that would have been released Contact a retailer for handling advice Donate aquatic species to a school or business

Water Garden/Pond Specific Behaviors & Barriers

On average, respondents who owned a water garden or outdoor pond were “very likely” to choose a location for their water feature away from flood prone areas and natural waterways. Most respondents (85%) believe they have time to weed their water feature at least once a year. Nearly one-half (45%) of participants reporting being unfamiliar with the practice of rinsing plants in a bucket until clean of attached dirt and debris.

Campaign Materials & Recommended Strategies

Respondents rated pamphlets included with purchases and informational booths with examples of known AIS at OIT events as the most effective campaign materials; smartphone Apps, podcasts, and give-away items were rated as the least effective campaign materials. The behaviors that would likely require less outreach effort are those that most hobbyists have performed in the past and are “very likely” to perform in the future (Tables 2 & 3). Enhancing the adoption of other behaviors that have been performed by fewer hobbyists who are only “somewhat likely” to perform the behavior in the future will require additional outreach effort. Recommended strategies to enhance adoption of these behaviors are provided in Tables 2 and 3.