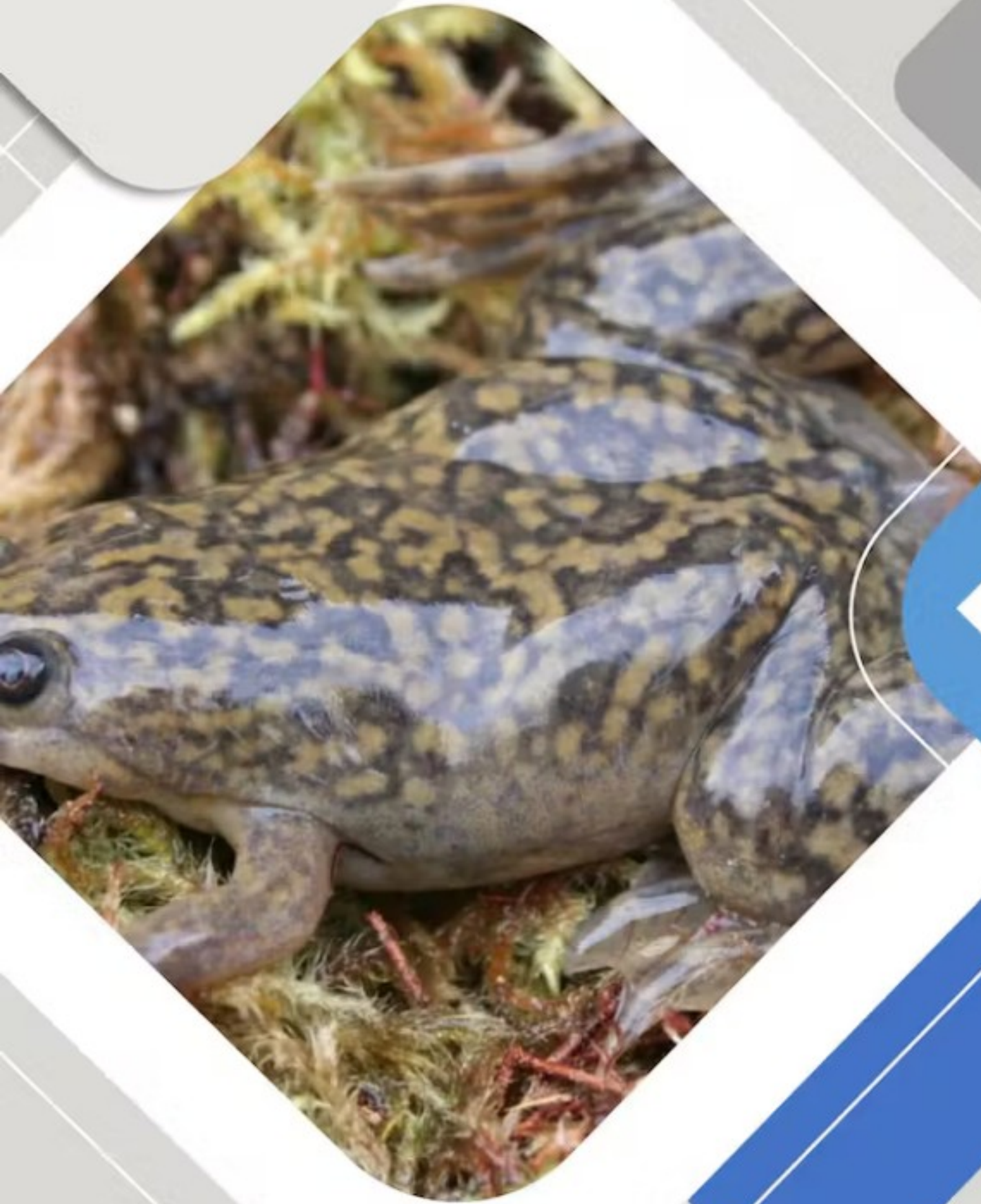


An Action Plan to Mitigate the Risks of AIS Trade and Transport Through Commerce

July 25, 2023
Summit



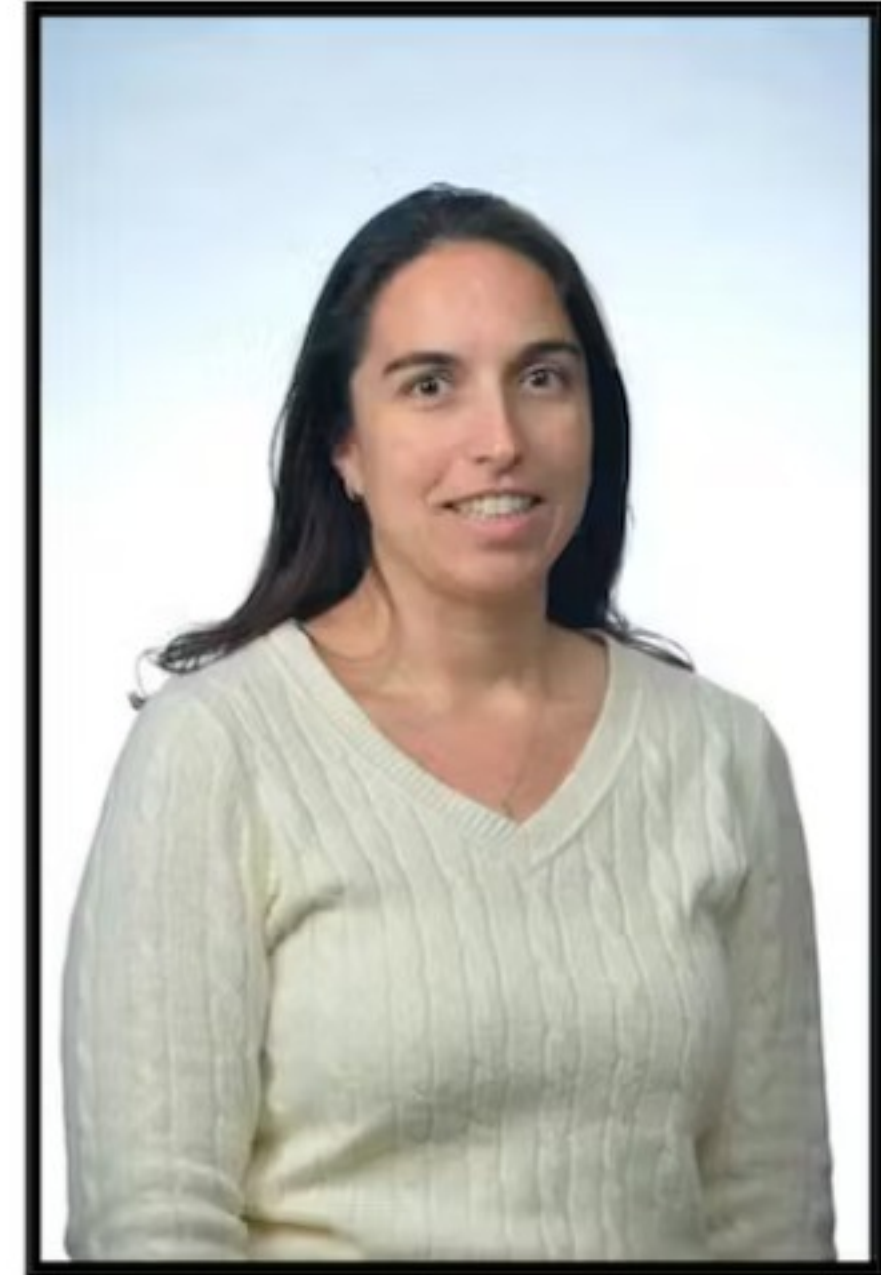
The project team



Leah Elwell
Conservation Collaborations, LLC
www.conservationcollaborations.com



Lisa DeBruyckere, President
Creative Resource Strategies, LLC
www.createstrat.com



Stephanie Otts
National Sea Grant Law Center
<https://nsglc.olemiss.edu/>

The AIS in Commerce Landscape is Complex

- Global commerce and e-Commerce are growing
- AIS being introduced throughout North America via the commerce pathway
- Regulatory/agency staffing and capacity insufficient to provide adequate oversight, compliance, and enforcement
- Lack of voluntary incentives, industry BMPs
- Inadequate labeling and reporting
- Undocumented/unlicensed businesses
- Shipping and transport loopholes
- Uninformed consumers



Photo: Wyoming Game and Fish Department.

Summit Overview and Goals



REVIEW PROGRESS TO
DATE AND TIMELINE



CASE STUDIES



SHARE BIOSECURITY
FRAMEWORK



DISCUSS AIS IN
COMMERCE ACTION
PLAN



NEXT STEPS

Progress and Timeline

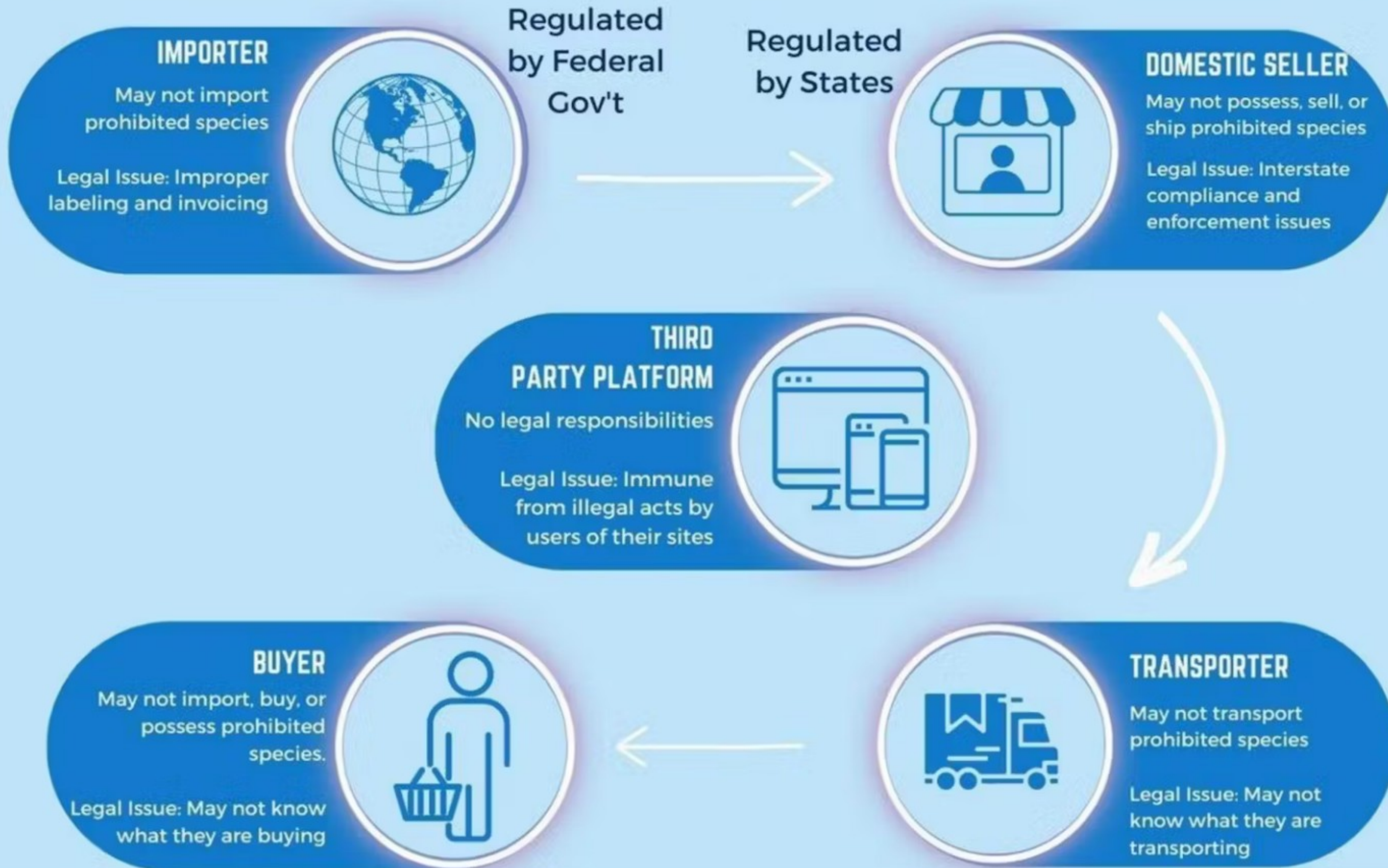
- 
- An hourglass with white sand is positioned in the center of the page. To its right, a calendar is visible, showing dates from 19 to 31. The background is a light, neutral color.
-  October 2022 – Launch website
 -  November-December 2022 – Survey (agencies, buyers, sellers)
 -  January 2023 – Assessment of supply chain
 -  March 2023 – Summit #1
 -  **March–September 2023 – Work groups and Focus groups**
 -  September 2023 – Action Plan Draft
 -  September 2023 – Regulatory Framework
 -  May 2024 – Finalize Action Plan, Toolkits



CASE STUDIES

AIS in Commerce

Key Actors & Legal Responsibilities



Case Study

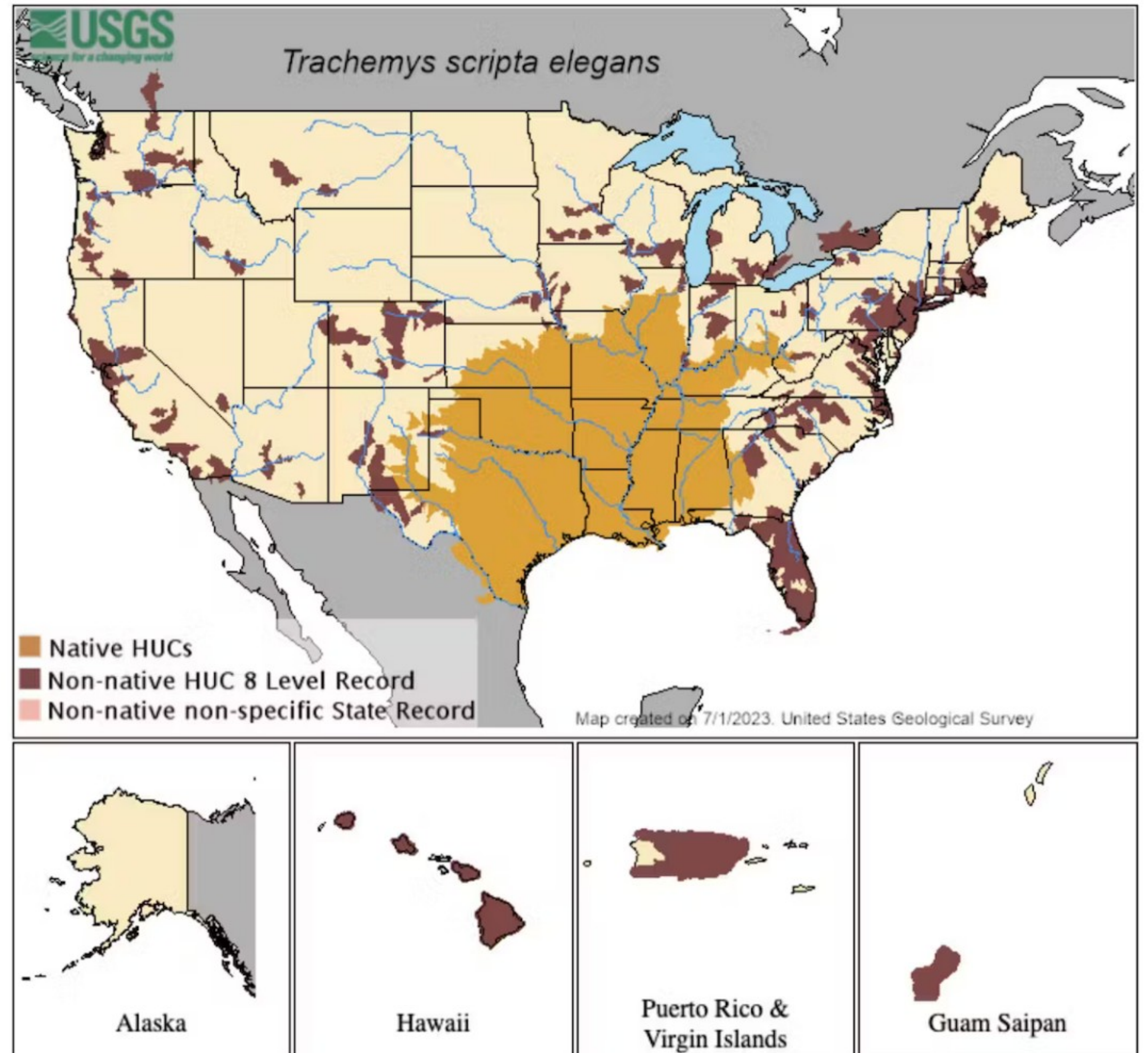
Red eared slider

Trachemys scripta elegans



Background

- Red-eared sliders are native to a large portion of the Mississippi River Valley.
- Considered an invasive species in many locations outside native range.
- Introductions primarily due to pet releases and escapes.
 - Very popular in pet trade. Popularity driven in part by Teenage Mutant Ninja Turtle craze in late 1980s.



Regulations

- The U.S. Food and Drug Administration banned the sale of turtles with shells less than 4 inches in 1975.
 - Sought to protect the health of children following outbreaks of illness and death from salmonella exposure.
 - Several states followed the FDA's lead and banned sale under state law.
- In recent years, states have taken action to restrict the sale of red-eared slider due to invasive risk.
 - But, many have exceptions for research and educational purposes.

Key Takeaways

- Red-eared slider management is challenging for number of reasons:
 - Native range in US
 - Shifting and evolving policy goals from public health to invasive risk.
 - Consumer and enforcement confusion because some trade is allowed.

Are there other lessons learned from the red-eared slider case study?

17 Responses

Red-eared sliders are considered to be invasive to regions within Europe, Asia, Africa, and Australia

Need for clear messaging to all parties involved in supply chain

Federal agencies need to be better at providing plain language documentation of regulations and the rational behind them

Florida requires permits for personal possession and this can complicate the rehoming process if people want to get rid of their pets. New owners of RESL need a permit and it can be offputting to some

Clear regulations are important. Either regulate it or not. Otherwise too hard for enforcement. Also, quite difficult to enforce something that is a common pet. See Florida.

Would you recommend moving towards limiting the sale of turtles in general(of a certain size or other general reasons) or moving towards selling species that are native within their respective ranges?

Invasive species in commerce also relate to export of this species, and preventing invasive introductions from the US into other areas.

Enforcement is extremely difficult with current resources

Red eared sliders are native, but they are invasive.

Are there other lessons learned from the red-eared slider case study?

17 Responses

In MN, there turtle races in at least three communities: Perham, Long Lake and Nisswa. So, there is an opportunity for outreach within those communities & perhaps elsewhere.

In Ohio, red ear sliders must be Pitt tagged for sale per the ODNR. However, Dept of Ag regulation prohibits Pitt tags being used in food production of liver stock. One law contradicts the other.

Some pet stores are not wanting to re-home red-eared sliders due to high volume of red-eared sliders being brought in by the public.

Freshwater turtles have been exported to other regions (>17 million freshwater turtles from the United States between 2011 and 2016). Commercial prohibition of freshwater turtles has been requested

Rule making is too slow and inconsistent across states.

yes

Maybe

Having the ability to meet and/or communicate with someone about the regulations either by actually sending inspectors or mailing fliers to businesses.



Case Study

Marbled Crayfish

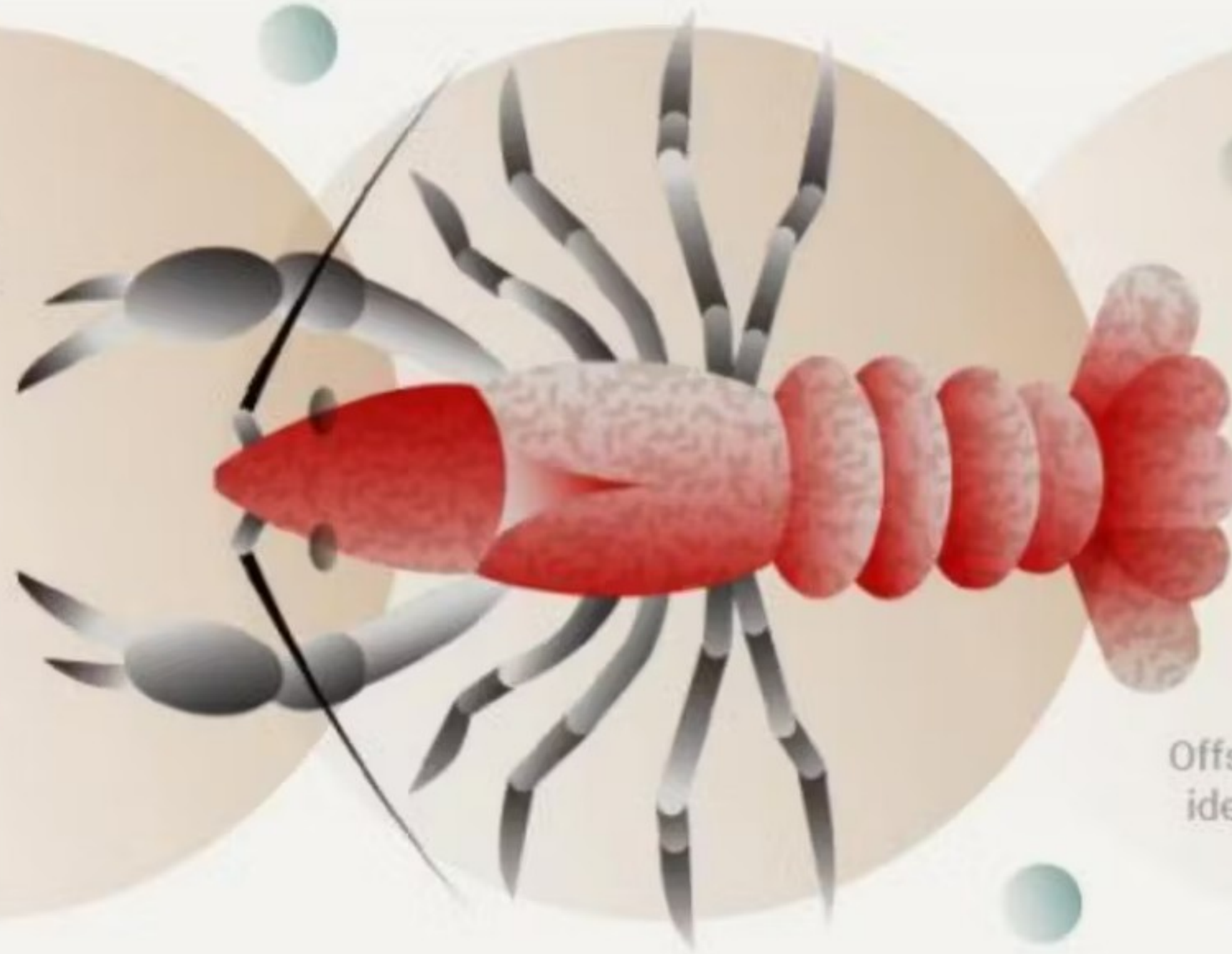
Procambarus virginalis



MARBLED CRAYFISH

Procambarus virginalis

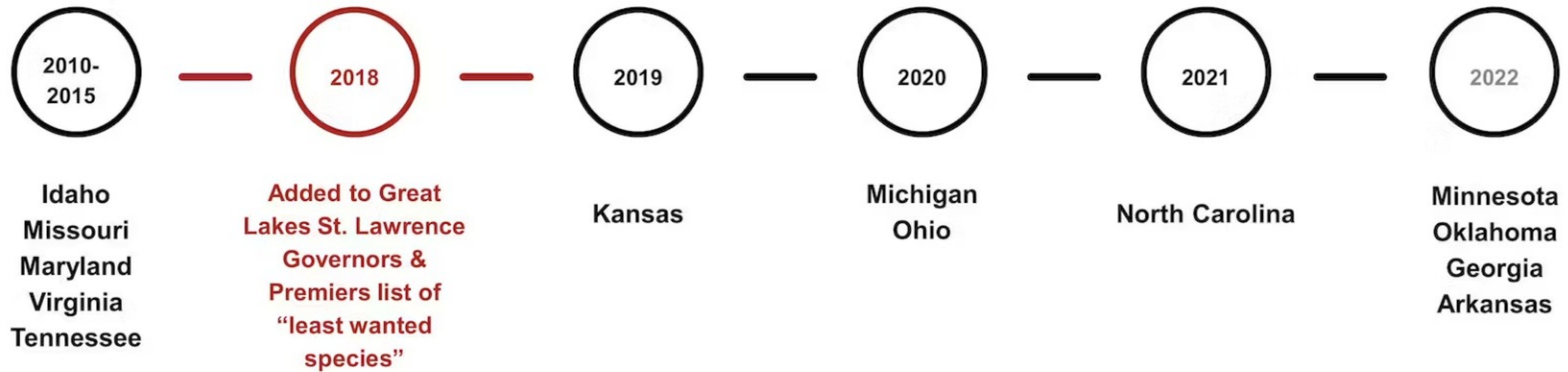
No natural
populations of
the species are
known.



It is the only crayfish solely
reproducing through
parthenogenesis.

Offspring are genetically
identical to the parent.

Timeline of State Listings of Marbled Crayfish



United States v.
Allison Spaulding,
No. 2:22CR-00060
(S.D. Ohio)

- Successful federal prosecution under Title 16 of the Lacey Act.
- Ohio DNR identified and investigated the case. Brought to DOJ.
 - DOJ chose to pursue prosecution because new invasive species issue with usual characteristics - good timing for deterrence.
- On August 25, 2022, a court sentenced Allison Spaulding to pay a \$5,000 fine, complete a two-year term of probation, and perform 80 hours of community service.

Key Takeaways

- Growing number of states listing marbled crayfish as prohibited. Action likely promoted by identification on “least wanted AIS list.”
- Lacey Act prosecution appears to have had some deterrent effect as online sellers are disclosing that it’s illegal to ship to some states.
- However, less than a quarter of states restrict sales and species remains in trade.

Are there other lessons learned from the marbled crayfish case study?

16 Responses

State by state regulatory approach for something that may have widespread impacts is too slow.

Seems like a good idea to promote the judgement.

Concerned about wholesalers being unaware of the laws in all states. As well as hitchhikers in other legal crayfish shipments.

Outreach and education only go so far. Sometimes enforcement is needed to reach compliance.

Crayfish identification is very challenging, and life history stages within the supply / distribution chain may help with prevention measures.

Many pet stores are unaware of marbled crayfish and don't know how to identify them.

Marbled crayfish are sold as a food source in addition to the pet industry

Noticed in some stores or for specific sellers they don't even always know the exact species that they are selling

Marbled crayfish are also grown by pet stores as a food source for fish

Are there other lessons learned from the marbled crayfish case study?

16 Responses

Are the buyers at risk of being prosecuted?

Difficulty in sellers determining which states prohibit crayfish sales are another contributing factor to less crayfish of any species listed for sale online.

Marbled crayfish are also sold in in-person auctions. I presume that they also be sold on online auctions. They are also traded among hobbyists.

Acknowledgement that crayfish are important species in freshwater ecosystems is important information to share and garner support for prevention measures! Crayfish are ecosystem engineers.

The distinction is probably floating vs rooted hyacinth.

Profitability of WH may be highest for floating WH. It's popularity is because there are few floating plants in the trade to effectively shade hobbyists ponds. Same popularity goes for water lettuce.

As I think was mentioned (I've been having audio issues), there is also a governors-premiers least wanted list for the Great Lakes.



Case Study

Water hyacinth

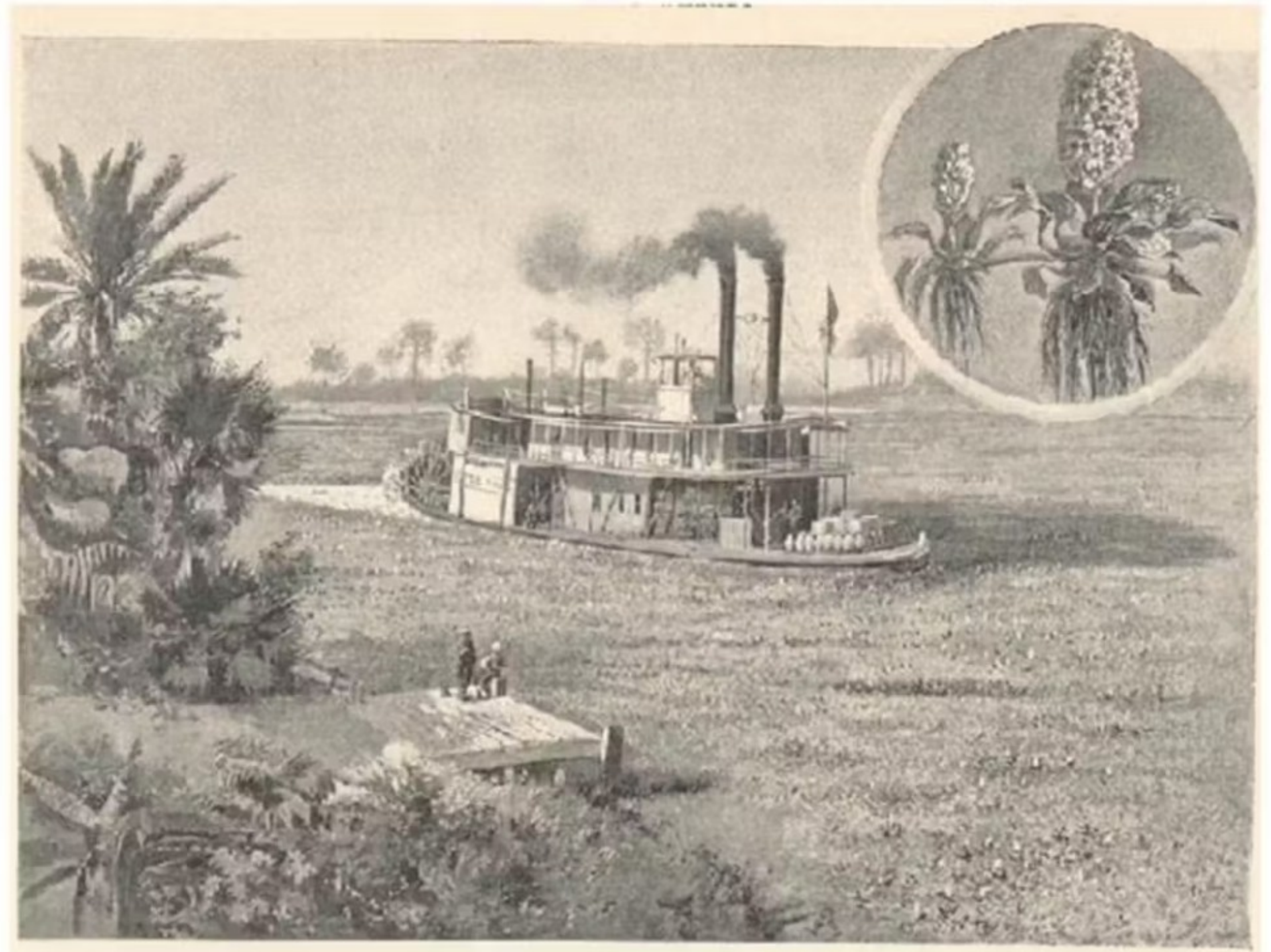
Eichhornia crassipes



UGA213

Background

- Native to Amazon Basin in South America.
- Introduced to the United States in the 1880s.
- Congress ordered a report on obstructions of navigable waters of Florida, Louisiana and other Southeastern states by water hyacinth in June 1897.



Water hyacinth overgrowth in St. Johns River. Illustration from March 19, 1898 edition of Harper's Weekly, as adapted by University of Florida Center for Aquatic and Invasive Plants.

<http://aquat1.ifas.ufl.edu/guide/stboatbg2.gif>

Regulations

- Florida prohibited release in 1899.
 - *But aquatic plant nurseries can apply for a special permit to export out of state.*
- Congress prohibited transport in 1956.
 - *This federal restriction was repealed in 2021.*
- Only 15 states have statutes or regulations prohibiting or restricting the species by name (FL, OK, TX, WI, Illinois, SC, MN, IN, AZ, LA, DE, MS, NC, OH, ID).

Key Takeaways

- Story of regulatory failure and lack of political will.
- Despite well-known threats by 1898, federal and state legal restrictions were late in coming and in many cases remain non-existent.

Are there other lessons learned from the water hyacinth case study?

6 Responses

Regulation is useless without linking it to proper enforcement capacity

There is significant disconnect between humans wanting to purchase things like water hyacinth for personal enjoyment and lack of acknowledgement that these species escape into the environment.

I see the largest challenge being the profitability of WH.

Clarity of species name and differentiation if there are multiple invasive species is vital

There may still be a lag in regulations as northern states believe their climate is too cold for water hyacinth to survive. Climate change is going to change that

Water hyacinth is pretty and are marketed as excellent species for filtration because their roots absorb nutrients out of the water that might otherwise cause algae blooms.

State Invasive Species Lists

Summit + Workgroup discussions have routinely centered around the lack of a "one stop shop" to find invasive species lists for states.

One of the NSGLC's tasks within this project has been conducting research to address this feedback.



Federal Databases

USGS NAS - Nonindigenous Aquatic Species

<https://nas.er.usgs.gov/queries/StateSearch.aspx>

USGS
science for a changing world

NAS - Nonindigenous Aquatic Species

Home Alert System Database & Queries Taxa Information Report a Sighting Screening Tool (BETA)

Species Lists By State

This page allows you to query for an up-to-date listing of nonindigenous species by state. You may either select the state from the scrolled list or by clicking on the map below.

Group: All
State: All
Sort By: Taxonomic Group
Submit

USDA National Invasive Species Information Center
U.S. Department of Agriculture

Home Invasive Species Info Species Information Resources News Take Action About Us

ALL RESOURCES

Resources by Location

United States

International

Resources by Subject or Type

Resource Search

Search help

Home / Invasive Species Resources by Subject or Type / Species Lists

Species Lists

Provides lists and information for species declared invasive, noxious, prohibited, or otherwise harmful or potentially harmful. Information is organized by geographical location, covering the U.S.

In the U.S., there are many Federal agencies and State agencies involved with regulating invasive species, and there is not an accepted standard for regulating all types of invasive species in all geographic areas.

We have included the following resources for information purposes only and should not be considered complete, or legally binding. Please note resources we include may not have current information based on the current regulations. For further information pertaining to actual regulations, please refer directly to the regulating agencies as each State has different statutes and administrative rules that may dictate its role in the management of invasive species. See [Species Lists, Lists and Bibliography](#) to find related legal resources.

Regional Lists

- [Invasive Species Lists by Region](#)
select "Filter by Location" to filter further by specific Region

State Lists

Select a state, or choose from the [list of states](#) below the map, or view [all state lists](#).

USDA National Invasive Species Information Center

<https://www.invasivespeciesinfo.gov/subject/lists>

Initial Research Question:

*How accessible (or inaccessible) are
official state invasive species lists?*



State Invasive Species Lists

Snapshot of States Completed

State	List Citation	Authorizing Statute	List on Website	Ease of Access	Westlaw	Process
Nebraska	Neb. Admin. R. & Regs. Tit. 163, Ch. 2, § 012	Nebraska Revised Statute 37-524.03	Aquatic Invasive Spec	1	No	Protocol
Kentucky	301 Ky. Admin. Regs. 1:122	KRS § 150.280(2)	Citizens Guide to Nuis	2	No	Protocol
Montana	Mont. Admin. R. 12.6.2205 - List of Noncontrolled Species; Mont. Admin. R. 12.6.2215 - List of Prohibited Species; Mont. Admin. R. 12.6.2208 - List of Controlled Species Mont. Admin. R. 4.5.206-210 - Noxious Weed Lists	Montana Code Annotated 87-5-704 Montana Code Annotated 87-5-706	Aquatic Invasive Spec	3	No	Protocol
Georgia	Ga Comp. R. & Regs. 391-4-8-.03 - Prohibited Wild Animals	O.C.G.A. Sec. 27-5-2	Georgia EPPC Invasiv	4	No	Protocol
Massachusetts	List of Current Aquatic Invasive Species Massachusetts Prohibited Plant List	302 CMR 18.00 - Aquatic Nuisance 321 Mass. Code Regs. 2.15 - Import 321 Mass. Code Regs. 9.01 - Exemp Part I, Title II, Chapter 21, Section 3	List of Current Aquatic Massachusetts Prohibi	5	Yes	Protocol (step 1)

Rank indicates ease of finding OFFICIAL CITATION for aquatic invasive species list, not any source providing aquatic invasive species list. Process indicates whether protocol was sufficient to find official citation. The goal with this image is to show a range of states.

Protocol



Step 1

Google "X State Invasive Species List"

If the state publishes their invasive species list on their website, this is the entire process. If not, note the agency or agencies which seems to have authority over invasive species.



Step 2

Google "X Statute" or "X Code of Regs"

States publish their statutes and regulations online. Often the statutes contain a provision authorizing applicable agency to promulgate list of prohibited species, and regulations contain those lists

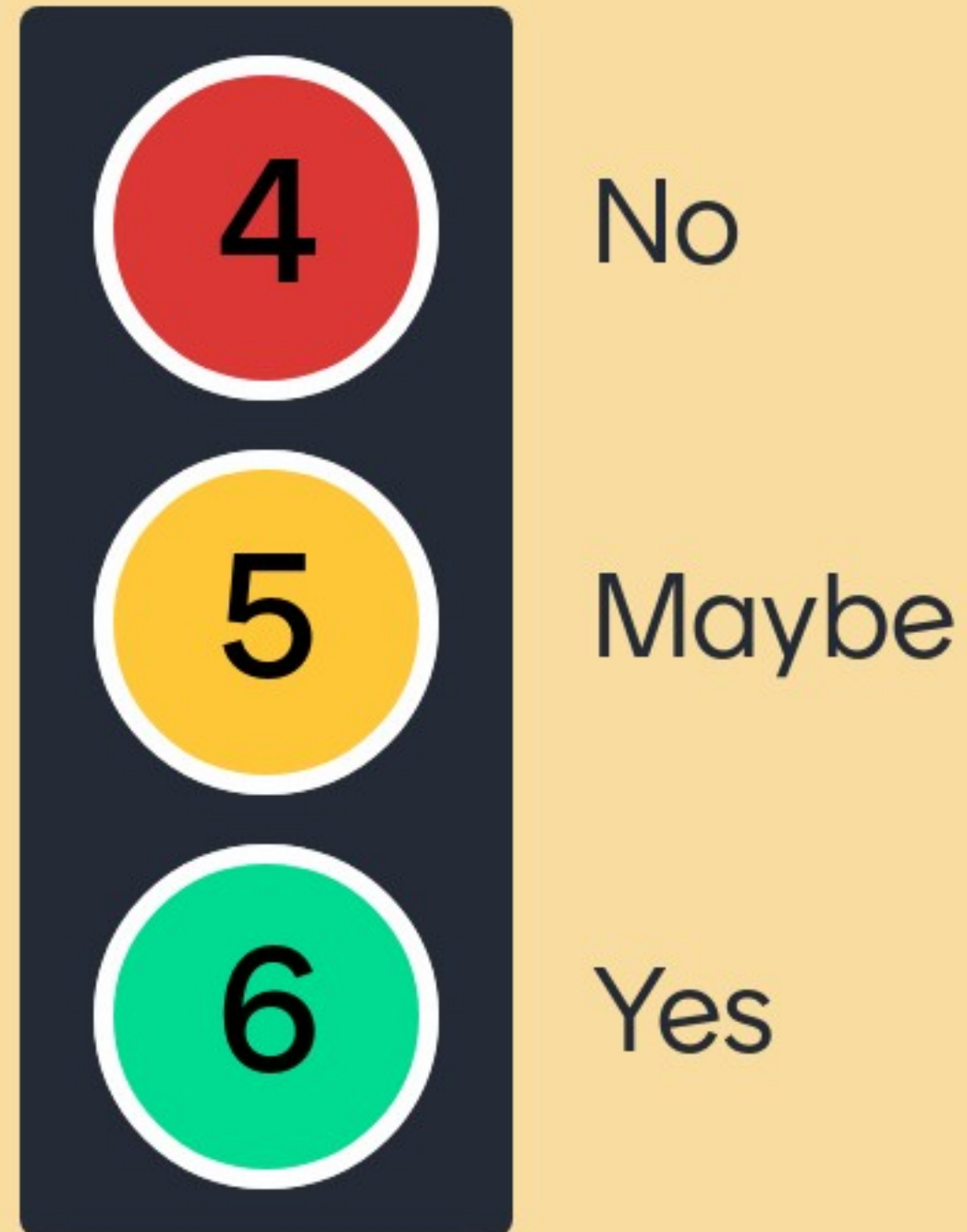


Step 3

Review Code of Agency identified in Step 1 & find invasive species list

Multiple agencies may be responsible for invasive species; lists may be entitled differently, i.e. "invasive", "injurious", "nonnative", or simply "prohibited" species

If these comprehensive animal and plant lists were updated and accessible online, would the lists meet your needs?



Other than updated accessible lists of species online, what else do you need to ensure compliance with regulations?

8 Responses

Canadian equivalent of the US databases.

A list of the laws & legislation applicable, not only in the USA but also in Canada

if there was a chart like this organized or searchable by species, like if were selling one species across 15 states, what all the laws were for that one species

Easy to understand identification resources that relate directly to these regulatory lists. And a list of other "common" names for the species on the lists.

Agreed, non-regulatory lists help meet the needs in showing that a potential invasive species has been considered, whether they cause impacts, can help focus/justify research, regs, and outreach.

Who is going to bare the cost of detailed labeling requirements?

Readily accessible and easy-to-use information for consumers.

Best management practices to reduce "contamination" of live animal and live plant products.

Take a Break

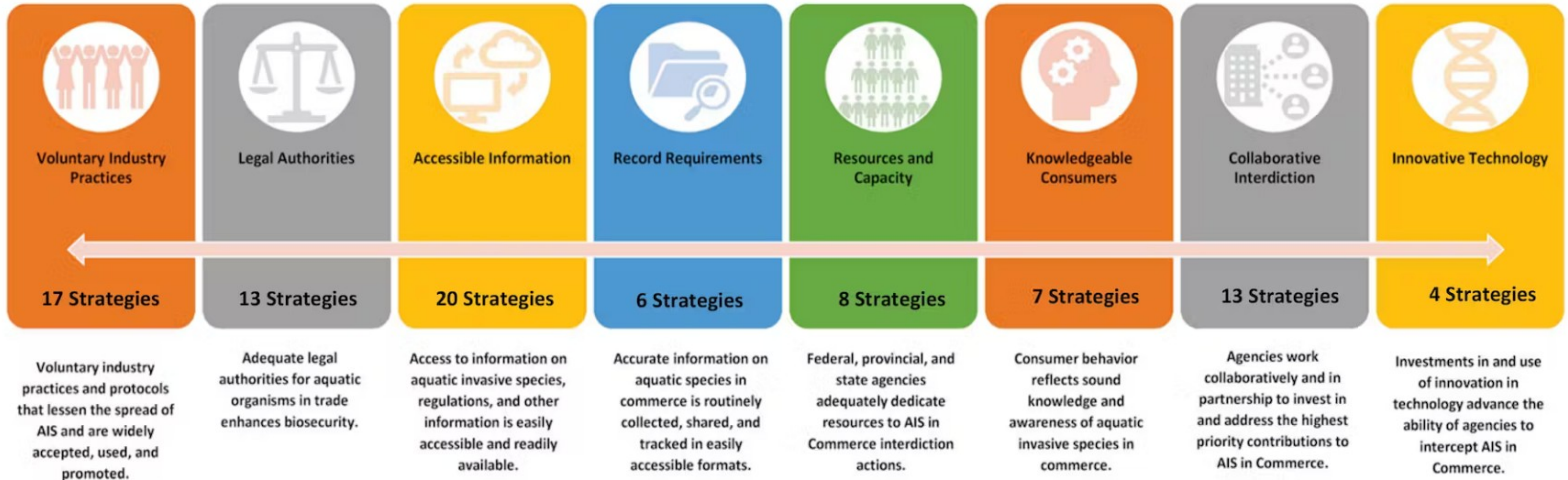


The Governance and Biosecurity Framework of AIS in Commerce

- Journey to Framework Creation
 - **Survey** to identify key AIS issues and challenges
 - Initial **summit** to share information and obtain feedback
 - Formation of theme-based **work groups**
 - **Work group** discussions
 - Compilation of issues across **work groups**
 - Consideration of major thematic areas of framework
 - Draft governance and biosecurity framework proposed

DRAFT (17 July 2023)

A Governance and Biosecurity Framework for AIS in Commerce in North America



Are there any other governance and biosecurity framework themes you believe are missing from the framework? Do you have other suggestions?

6 Responses

I think the research community should be added.

risk assessment

Only knowledgeable consumers are listed. Should other user groups be knowledgeable? (e.g. transporters, domestic seller, importer)

It is very thorough and great presentation graphic

High-visibility rewards incentives for compliance?

Support for industry with proper guidance for distribution center closure (or local business closure), as well as guidance for disaster preparedness and readiness (e.g. hurricane, flooding, etc.)

A. Convene Partners to Develop Action Plan



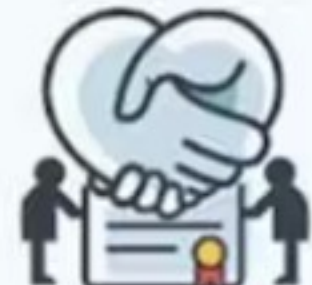
ACTION PLAN



Objective



Strategy



Collaboration



Schedule



Act

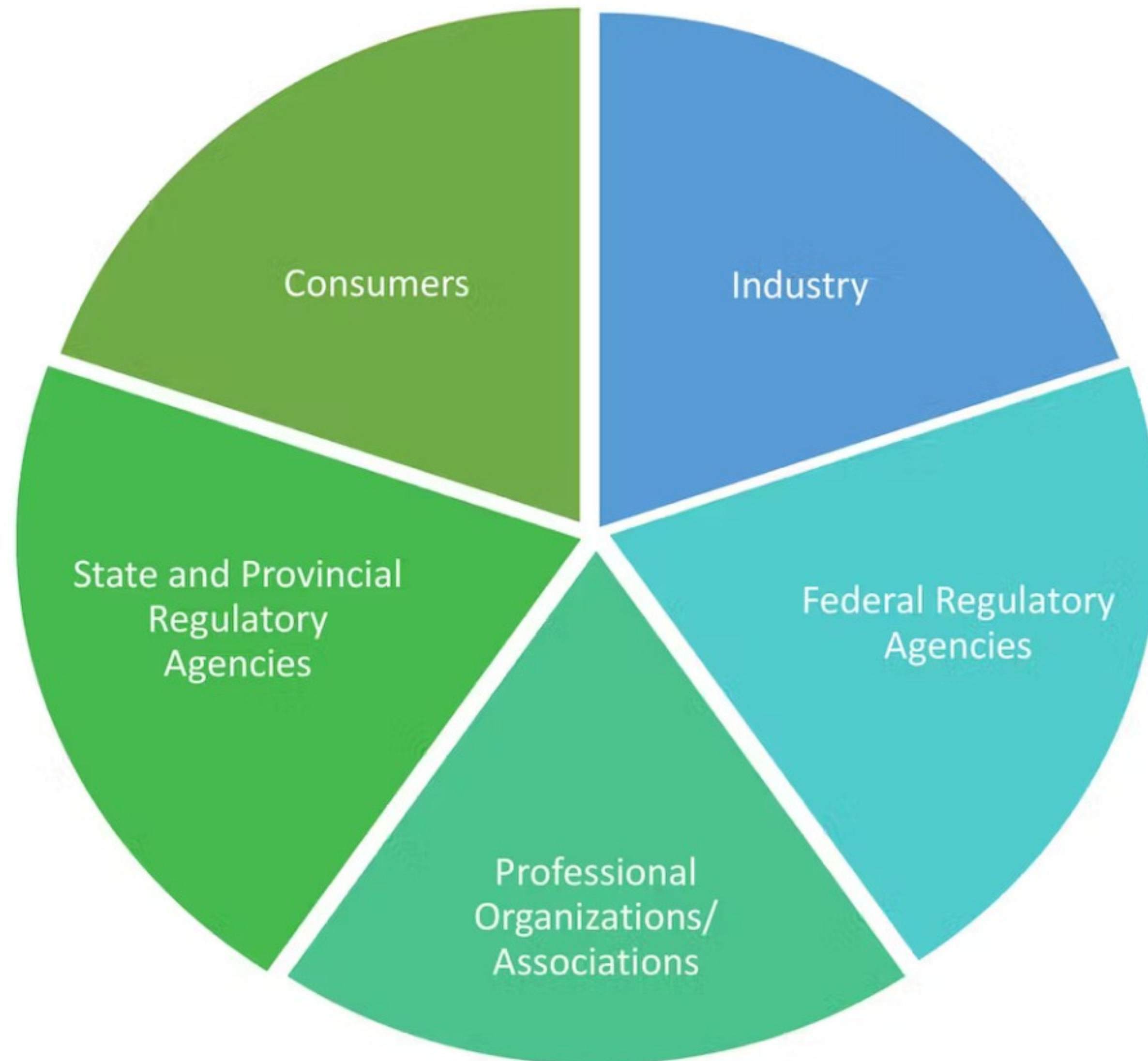


Check



Implementation

Roles, Responsibilities, and Expectations . . .



Strategies should be aligned with most appropriate entities

- **Federal regulatory agencies**
 - Import (USDA, Customs, USFWS)
 - Inspection
- **State and provincial regulatory agencies**
 - Control within their own borders
 - Identify pathways for AIS
 - Inspect operations
 - License businesses
- **Industry**
 - Comply with regulations
 - Create and maintain industry standards
 - Legal responsibility to identify species, declare value, classify
- **Consumers**
 - Follow the law
 - Be knowledgeable, responsible, and aware
 - Know when to question
 - Report illegal activity when observed
 - Support compliant businesses
 - Responsibly purchase and rehome
- **Professional Organizations/Associations**
 - Educate industry members on standards and regulations

Voluntary Industry Practices

Promote the use of BMPs by industry in the aquatic animal and plant trades.	VIP1. Identify and assess existing voluntary industry practices, protocols, and guidelines, create new BMPs to fill existing gaps, and centralize the location of voluntary industry BMPs to improve access.
Encourage responsible sourcing of aquatic plants and animals in trade.	VIP2. Promote an industry pledge to source aquatic animal and plant material responsibly and share that pledge with aquatic animal and plant networks.
Assess product contents prior to distribution to minimize contaminants and hitchhikers.	VIP3. Standardize and promote protocols at grow facilities prior to distribution to review product contents to minimize contaminants.
Improve the accuracy of labeling animals and plants in shipments by growers.	VIP4. Promote the use of scientific names by growers.
Promote standardization of information associated with labeling shipments of aquatic plants and animals.	VIP5. Create templates of standardized labels and achieve informed consent on consistent protocols used in labeling.
Species with demonstrated invasiveness are not sold in specific geographic areas.	VIP6. Large eCommerce platforms implement geographic blocks of sales for high-risk and illegal species.
Industry is recognized as a leader in the proper care and disposition of unintended species and shipment hitchhikers.	VIP7. Develop standard protocols for recipient (big box and small retailer) shipments to properly care for or dispose of (euthanasia) unintended species and report hitchhikers in shipments.
Promote responsible sourcing of aquatic plants and animals in trade.	VIP8. Develop a voluntary retail store window label promoting the store does not sell invasive species based on results of a check of the stock list.
Develop the certification program and promote membership online.	VIP9. Develop a certification program that can be renewed with a known agency or group, and maintain a running tally of pledged and certified businesses in North America.
Prevent the transfer of invasive aquatic plants and animals through identification and responsible reporting.	VIP10. Develop and promote an in-house training program focused on AIS issues and what businesses can do to prevent the transfer of these species and to report them when they are found - and how to deal with them in house. Encourage surrender or sacrifice of invasive species.
Transshippers understand their roles and responsibilities relative to the identification of species in shipments.	VIP11. Clarify terminology, roles, and responsibilities associated with transshippers.
Industry supports the ability of municipal animal shelters to hold animals until exotic animal rescue can assist.	VIP12. Support municipal animal shelters to hold animals until exotic animal rescue can assist.
Industry develops, shares, and promotes positive messaging about rehoming unwanted aquatic organisms.	VIP13. Create and promote case studies of successful programs to share with other jurisdictions. Document 5-10 successful programs and promote on website, share with other websites, social media, etc.
Retail stores have established guidelines on best practices when serving as a rehoming location.	VIP14. Develop standard guidelines for retail stores on best practices when serving as a rehoming location.
Consumers that purchase aquatic animals understand options exist if they no longer want, or can manage, the animal they purchased.	VIP15. Large retailers make it a common practice to include unwanted/pet return policies with purchase.
Promote and encourage legal and responsible sales of aquatic plants and animals conducted through informal networks.	VIP16. Encourage SWAP meeting/more informal hobbyist events to be sponsored by industry-led groups.
Training on relevant regulations for aquatic organisms in trade is available to sellers.	VIP17. Develop training on relevant regulations for aquatic organisms in trade sellers.

Are we missing any key strategies for voluntary industry practices? If so, what, and why is it important?

5 Responses

Voluntary input from the trade in helping the Federal government identify the NEXT AIS

Strategy around preventing shipment of unwanted hitchhikers including training like AIS-Hazard Analysis and Critical Control Point program.

Consistent labeling of species in retail outlets.

Species compatibility and care fact sheets, especially for fish.

Foster increased enforcement.

Legal Authorities

There is understanding of the businesses engaging in the aquatic organisms in trade industry.

LA1. Harmonize and mandate common licensing/registration for entities engaged in aquatic organisms in trade.

Use standardized regulatory language to promote consistency in and standardize information about plants and animals in trade.

LA2. Create model legislative provisions and guidance to promote consistency in and standardize plants and animals in trade record requirements among states and provinces.

Aquatic plants and animals are properly labeled prior to shipment. Aquatic plants and animals are identified by species in shipments.

LA3. Enact regulations to ensure aquatic organisms in trade species are properly labeled prior to shipment. BG2. Require shippers to provide more species-specific identification in shipments.

State statutes can effectively prosecute sales of species that are legal in the originating state and illegal in the destination state.

LA4. Create state-by-state statutes to be able to prosecute sales of species that are legal in the originating state and illegal in the destination state (assumes accurate id of animal/plant).

Canada mandates phytosanitary requirements for all aquatic and terrestrial plants.

LA5. Mandate phytosanitary requirements for all aquatic plant imports in Canada. Note: CFIA requires phytosanitary certificates on terrestrial plants, but not aquatic plants.

Online retailers maintain adequate records.

LA6. Implement regulatory steps for online retailers (i.e., licensing) to ensure adequate record keeping.

Training on aquatic organisms in trade and AIS is required by law for individuals that have licenses/permits to engage in this activity, and for those that have violated any laws while engaging in trade of aquatic organisms.

LA7. Mandate training/education for license/permit holders or violators.

Skill licensing improves knowledge and skillsets of private/basement retailers.

LA8. Mandate skill licensing, similar to the European Union, to regulate private/basement retailers and identify industry participants.

Online marketplaces are fully regulated.

LA9. Create regulations that address the lack of liability for online marketplaces.

“Middlemen” are subject to the same regulatory requirements as others in the aquatic organisms in trade purchasing/selling chain.

LA10. Incorporate into a regulatory framework legal requirement for “middleman” sales.

Are we missing any key strategies for legal authorities? If so, what, and why is it important?

2 Responses

Foster increased enforcement and prosecution

This is a question best answered by contacting those authorities to have them help ID gaps and needs. An issue that we face is whether attorneys are willing to prosecute offenders.

Accessible Information

Improve awareness and understanding of the existing aquatic organisms in trade networks.

AI1. Compile lists of existing networks, including enforcement, shippers, importers, trans-shippers, wholesalers, retailers, and others engaged in aquatic organisms in trade. Develop protocols for maintaining updated information.

Improve awareness of, and access to, information on non-native species being imported and sold in North America.

AI2. Develop a searchable, shareable, interoperable electronic dataset of non-native aquatic species being imported and sold in North America (see www.aquariumtradedata.org as an example)

Eliminate the difficulties associated with harmonized codes by capturing species-level data for all aquatic organisms in trade imports.

AI3. Capture species-level data electronically for all aquatic organisms in trade imports from invoice documents by developing a new code system that addresses taxonomy while addressing analysis of gaps within declaration process.

Improve access to species that industry supports not being bought or sold because of their risk for invasiveness in North America.

AI4. Develop an industry-led (regional) list of species that should not be bought or sold because of their demonstrated potential to be high-risk for invasiveness in North America.

Improve access to allowable and restricted species lists using a searchable species-based online tool.

AI5. Create a searchable, single point of contact tool that will automatically provide aquatic species information at a state and provincial level (and where lacking, a national level) when scientific names are input.

Ensure access to industry best management practices.

AI6. Provide a central online location for industry best management practices so that any business, or other entity, can access that information online.

Include Canada in the searchable database of aquatic organisms in trade experts.

AI7. Expand the searchable centralized database of U.S. experts (taxa experts, state authorities, and other professionals (project by USFWS and USGS) to include Canada.

Ensure access to updated information on changes to genus and species names.

AI8. Create an online location that identifies and shares information on recent changes to genus and species names.

Lists of allowable, restricted, and prohibited aquatic plants and animals (federal, state, provincial) are updated and readily available online.

AI9. Work with states and provinces to achieve, at least on a regional basis, some level of uniformity associated with the types of allowable and restricted species lists.

Achieve some level of uniformity re: information, and how information is presented, and terms are used, on allowable and restricted species lists.

AI10. Document the specific location of all allowable and restricted aquatic plants and animals in the states and provinces and provide hyperlinks to those agency lists in one location online.

Accessible Information (continued)

Improve access to information on species that cannot be legally shipped or imported into states and provinces.

AI11. Provide updated and maintained lists of states and provinces and locations where species cannot legally be imported or shipped.

Improve understanding of regulations associated with aquatic organisms in trade. Improve ability of companies to explain why products are not or no longer available for sale.

AI12. Where possible, explain aquatic organisms in trade-associated regulations using infographics, case studies, etc. and make these available online. List all applicable state and provincial regulations in a clear manner to help platform companies explain to the public why products are no longer sold.

Improve understanding of the correct agency, or entity, to contact when addressing aquatic organisms in trade issues.

AI13. Create U.S./Canadian database/resource with search capabilities that addresses which state/provincial and federal agencies are responsible for their respective animal and plant trades and specific elements of these trades.

Improve understanding of the business licensing requirements for an entity to engage in aquatic organisms in trade.

AI14. Create an international database of licenses required for entities to engage in aquatic organisms in trade in each state, province, nationally, and internationally.

Ensure retail staff have access to state and provincial allowable and restricted species lists.

AI15. Create a training handbook for retail staff that includes information on how to access online state and provincial allowable and restricted species lists.

Improve awareness by consumers of companies that facilitate AIS in Commerce.

AI16. Document and share occurrence and frequency of companies that ship products with unintended species.

Ensure all actors in aquatic organisms in trade are aware of the common names for species.

AI17. Raise awareness about common names used to identify species by creating an online database by species and providing one or more common names associated with those species.

Ensure sufficient knowledge exists about rehoming unwanted aquatic live plants and animals.

• Implement outreach campaign – Audiences include general public, retailers, organizations, hobbyists, bait industry/live food markets, school children (AI18a-f)

Ensure sufficient access to reliable information on aquatic plants and animals in trade.

• Implement outreach campaign – Audiences include general public and businesses/retailers.

Improve awareness and support for AIS in Commerce issues by policymakers.

AI20. Produce one-to-two page briefings for legislators on AIS in Commerce issues and addressing policy gaps.

Are we missing any key strategies for accessible information? If so, what, and why is it important?

3 Responses

Understanding different timelines and processes for changing and updating state laws and regulations for invasive species statues including legislative cycles.

Ensure data is compliant with existing and emerging databases being developed globally by COP on global biodiversity framework for 2030.

incorporating taxonomic changes

Record Requirements

A suite of accepted protocols for labeling results in accurate labeling of species throughout aquatic organisms in trade.

RR1. Develop a comprehensive set of protocols to ensure proper labeling of species at retail locations, and for importers, distributors, and breeders by surveying a percentage of these entities to draft a recommended suite of protocols for labeling.

BMPs describe specific standards for record keeping, including the consistent use of terms and definitions.

RR2. Develop BMPs associated with aquatic organisms in trade (and AIS), including information and data standards for interoperability and sharing as well as consistent definitions and terms.

Case studies are developed and shared, resulting in increased awareness, understanding, and support for appropriate labeling and recordkeeping practices.

RR3. Assess, catalog, and share successful examples of good labeling and recordkeeping practices (e.g., species names). Examine and provide a model based upon plant supply regulatory and non-regulatory labeling, reporting, and record keeping efforts.

Labeling identifies risk of establishment, impacts, and management actions associated with aquatic plants and animals in trade.

RR4. Encourage the use of labeling that identifies risk of establishment, impacts, and management actions. Create QR codes for each species - link to FishBase (<https://fishbase.se/search.php>) (life history information, etc.).

Labeling of shipments legally complies with the Lacey Act.

RR5. Expand outreach to suppliers to ensure they understand the legal requirements for labeling under the Lacey Act.

Standardized retail bag labeling ensures desired information is included on retail products containing aquatic plants and animals.

RR6. Create standardized retail bag labels and store signage for aquatic organisms in trade products (for traceability); create and distribute standardized label templates (criteria to be used to include on labels), including a template for online retailers that have space for SKUs and item numbers as well as business logos and other information deemed important by retailers.

Are we missing any key strategies for record requirements? If so, what, and why is it important?

2 Responses

Is there requirement for manifesting the material being transported, like haz waste is?

"place of origin" labeling? (like coffee)?

Resources and Capacity

Identify and promote funding sources available to support AIS in Commerce and eCommerce oversight staff in states and provinces.

RC1. Create funding to support dedicated staff to investigate AIS in Commerce and eCommerce (centralized staff) issues in the states and provinces.

The Association of Fish and Wildlife Agency meetings include discussions about the importance of supporting state positions for aquatic organisms in trade.

RC2. Encourage discussions at AFWA convenings to support additional staff and resources to work on aquatic organisms in trade as well as improve awareness of this issue with executive level staff in fish and wildlife agencies.

Materials are developed to assist state agencies in their requests to fill positions focused on AIS in Commerce.

RC3. Develop one-pagers or toolkits to assist state agencies with making AIS in Commerce position funding asks at the state level; and one-pager for executive level staff to make them aware of the issue to support dedicated AIS investigative staff.

A continuing education program/training module is developed for law enforcement officials.

RC4. Develop continuing education programming/training (modules) for law enforcement officials to assist with identification and other AIS issues, such as understanding the industry (how funds are transferred, who is associated with whom, regulations confirmation, how species are transported, give them tools and show them how to use them - continual learning, etc.).

Law enforcement officers receive commendations for exemplary actions taken to intercept AIS in Commerce.

RC5. Create recognition/awards for officers investing into AIS in Commerce investigations to spotlight attention to these issues (versus traditional hook-and-bullet investigations), making it more mainstream for officers to work on these issues.

Outreach to the Associations of Prosecuting Attorneys in the United States (and similar organizations in Canada) to gain support for prosecuting cases that include violations associated with aquatic organisms in trade.

RC6. Encourage support by District Attorneys for enforcement of AIS in Commerce issues by connecting with Associations of Prosecuting Attorneys (in US) to promote the importance of AIS in Commerce issues and foster this liaison approach in Canada. Provide them with presentations to raise awareness.

Agency employees receive consistent, quality training to effectively identify and address AIS in Commerce. Inspection and risk assessment protocols are developed and shared with inspectors.

RC7. Improve the consistency, quality, and scope of training agency employees receive to improve the ability of inspectors to identify and adequately address AIS in Commerce. Ensure training improves the ability of agency staff to distinguish species, conduct inspections, implement risk assessment protocols, recognize common names of species, and communicate with retailers about the status of seized shipments. Develop, train in the use of, and use tools to distinguish species, including the ability to identify early life, juvenile, and adult stages. SRC2. Develop and share inspection and risk assessment protocols.

Invasive species councils are adequately funded to support information and education associated with AIS in Commerce.

RC8. Fund invasive species councils that are already creating education programs to create targeted e-learning, potentially expanding their education programs, including developing modules for law enforcement training (recognition that there are significant differences among the states in the roles that invasive species councils play).

Are we missing any key strategies for resources and capacity? If so, what, and why is it important?

3 Responses

connect with state extension offices for additional resources and capacity related to invasive species trainings, etc.

Help inspectors access taxonomic experts

empower inspectors to consider invasives that may not be in their regulatory capacity and coordinate with other regulatory agencies (e.g. plant inspections may identify invasive animals)

Knowledgeable Consumers

An online portal is created that shares information about organisms in trade. Information is updated on a regular basis.

KC1. Develop the framework for a clearinghouse/portal, share beta portal with regulatory and other groups to ensure accurate information is portrayed, and develop protocols for maintaining updated information.

Buyers play a key role in interdiction by notifying sellers/suppliers if any elements of the purchase/shipment do not match what was received.

KC2. Educate buyers to call supplier/seller immediately if they see something in their purchase/shipment that does not seem to match the order that was placed.

Consumers are aware of the importance of purchasing aquatic plants and animals from entities that engage in responsible sourcing.

KC3. Create, implement, and promote marketing campaigns highlighting responsible sourcing (Habitattitude, etc.).

Consumers understand the size at maturity, longevity, reproductive capabilities, life history needs, and other information associated with the aquatic animals purchased.

KC4. Provide Retail Care Guides (for each species sold) that includes information about the size of species at maturity, longevity and reproductive capabilities, etc.

Hobby clubs are well informed and equipped to address homing options for unwanted aquatic animals in trade.

KC5. Provide hobby clubs with information and tools to share that raise awareness for homing options.

Consumers are aware of takeback locations and there is documented increases in participation in these programs as they are promoted.

KC6. Identify and promote takeback locations or methods/programs identified for species sold, including amnesty programs. Incentivize take back programs, i.e., partnership promotions and marketing.

Consumers, the general public, businesses, policy makers, and others are informed, aware, and supportive of issues that contribute to AIS in Commerce.

KC7. Implement a communications and outreach plan to enhance appreciation, understanding, awareness, and support for a knowledgeable public, businesses, policy makers, and others relative to AIS in Commerce.

Are we missing any key strategies for knowledgeable consumers? If so, what, and why is it important?

4 Responses

Foster a community of responsible pet owners, retailers and hobby clubs.

Awareness for consumers that backyards are still connected to stormwater.

Have knowledge about emergency response to disasters like flooding and hurricanes, etc. to prevent accidental escape (knowledgeable consumer).

Provide a smartphone-friendly website for consumers and retail staff to quickly look up species and report illegal ones.

Collaborative Interdiction

Networks associated with aquatic organisms in trade are readily understood.

CI1. Conduct an analysis to determine how best networks, including regulatory networks, intersect and have the potential for collaboration and cooperation. Navigate issues associated with private data and information.

Agency authorities and roles are understood and duplication and gaps are minimized or omitted.

CI2. Enhance agency coordination for interjurisdictional import and export of aquatic plants and animals by examining authorities and roles to identify areas of duplication and gaps.

State and provincial agency regulatory and law enforcement programs and authorities are strengthened.

CI3. Strengthen the relationship and understanding among regulatory and law enforcement programs and authorities among the state and provincial agencies.

Information sharing and collaboration among agencies improves interdiction of AIS in Commerce.

CI4. Identify methods to create information sharing and collaboration among agencies (UFL - gap analysis on authorities ongoing; OSU - after action report; NISC – coordination)

Strong communication exists among retailers and inspectors when shipments are seized.

CI5. Improve communication among retailers and inspectors when shipments are seized (e.g., purpose of seizure, length of time shipment will be seized before resolution, ability of retailers to verify seized aquatic plants and animals, etc.).

Importers and retailers work collaboratively during inspection of shipments to ensure adequate identification of species.

CI6. Allow importers and retailers to provide input during inspection of shipments for better understanding and identification of species.

Record sharing of aquatic plants and animals in trade are shared and easily accessible across agencies.

CI7. Foster record sharing and access of information about aquatic plants and animals in trade across agencies.

A summit is held that identifies sustainable sources of federal funding to reduce AIS in Commerce.

CI8. Host a summit to convene entities with responsibilities (regulatory, administrative, etc.) for AIS in Commerce to discuss the current state of funding, gaps and overlaps in that funding, and a path forward to provide long-term sustainable funding to reduce AIS in Commerce.

Unwanted exotic animals are received and held at municipal animal shelters instead of being released to the wild.

CI9. States and provinces support municipal animal shelters to hold animals until exotic animal rescue can assist.

Pathways that contribute to AIS in Commerce are identified on a regular basis.

CI10. Identify all pathways and actions that contribute to AIS in Commerce on a regular basis.

Regulatory agencies are made aware of potential regulatory violations associated with aquatic organisms in trade and social media marketplaces.

CI11. Support/network with groups monitoring social media platforms for AIS in Commerce issues, connecting them with regulatory agencies upon discovery.

The public is rewarded when they report violations of aquatic organisms in trade on e-commerce platforms.

CI12. Use and promote/expand existing incentive programs that reward public reporting of violations on e-commerce platforms.

Identify key gaps in regulatory authority and capacity to sufficiently intercept the transmission of AIS in Commerce.

CI13. Conduct a gap analysis to assess regulatory authority and capacity to conduct efficient and effective inspection and monitoring and articulate strategies to enhance that capacity for aquatic plants and animals in retail trade, small aquatic organisms in trade shipments to residences (for state-to-state shipping), pet store/garden compliance, biological supply company inspections, brick and mortar retail trade, and imported aquatic species.

Are we missing any key strategies for collaborative interdiction? If so, what, and why is it important?

2 Responses

Make interdiction part of emergency preparedness and response (AIS inspection prior to shipping emergency supplies in a natural disaster).

Conduct routine practice exercises

Innovative Technology

Comprehensively screen imported goods using eDNA and other technologies occurs, particularly for shipments with multiple species.

IT1. Explore comprehensive screening of imported goods using eDNA and other emerging technologies, particularly for shipments in which multiple species are shipped together.

Use the latest technology and innovation at Customs to identify and intercept aquatic invasive species in commerce.

IT2. Take steps to modernize customs.

Disburse shipment notifications to assist in the prioritization of inspections.

IT3. Implement notifications prior to shipments to promote prioritization of inspections.

Expand the use of web crawlers to filter, screen, and provide administrative oversight to online sales.

IT4. Develop and expand the use of web crawlers to filter, screen and provide administrative oversight to online sales.

Are we missing any key strategies for innovative technology? If so, what, and why is it important?

2 Responses

incorporate biology of invasive species to proactively identify timing and seasonality of potential AIS in commerce and shipments

look at historic shipments of high-priority invasive species to predict potential high risk shipments

A photograph of a curved stone walkway, possibly made of granite or a similar material, with a distinct blue shadow cast across it. The walkway curves from the bottom left towards the top right. The background is a plain, bright white surface. The text "Next Steps" is overlaid on the white background on the right side of the image.

Next Steps



Post-Summit Survey

Rank the existing strategies for the following themes in the Governance and Biosecurity Framework

Note: Consider, "What problem does a proposed strategy solve?"

<https://form.jotform.com/232025667164051>

Focus Groups / Interviews

- Gather diverse and key viewpoints



What groups or key players do you believe are underrepresented in this process that should be invited to participate in focus groups/interviews?

7 Responses

large, big box retailers

Indigenous groups

We need a lot more brick and mortar and/or ecommerce retail shops to participate.

state and federal law enforcement

attorneys general

social media influencers

taxonomists



Tool Kits

**Resources for State
Agencies**

**Resources for
Sellers**

What resources would you like to see in the tool kits that would help state agencies address a specific concern/need? ID the tool and the need.

timeline for regulations
regulations send
risk assessments
information supporting
points of contact
pamphlets

What resources would you like to see in the tool kits that would help sellers address a specific concern/need? ID the tool and the need.

contact points
risk mitigation measures
of mailers
aps targeted to consumer
regulated species list
info on species impacts
access to regulations
examples doing it right

Closing Remarks

- The scope and scale of these issues requires us to **work collaboratively to develop effective and efficient solutions.**
- **There is no one singular strategy** that can address these issues.
- **Everyone in the supply chain has a responsibility** to prevent the spread of AIS in commerce.
- **We need a disciplined approach to make progress** – we do not have to address all issues simultaneously.



www.aisincommerce.org

Progress and Timeline

- 
-  October 2022 – Launch website
 -  November-December 2022 – Survey (agencies, buyers, sellers)
 -  January 2023 – Assessment of supply chain
 -  March 2023 – Summit #1
 -  **March–September 2023 – Work groups and Focus groups**
 -  September 2023 – Action Plan Draft
 -  September 2023 – Regulatory Framework
 -  May 2024 – Finalize Action Plan, Toolkits



Post-Summit Survey

Rank the existing strategies for the following themes in the Governance and Biosecurity Framework

Note: Consider, "What problem does a proposed strategy solve?"

<https://form.jotform.com/232025667164051>

