HABITATTITUDETM REBORN: a partnership to prevent invasive species









HABITATTITUDETM 2005







Unify government, academia and industry

Promote environmentally responsible consumer behaviors

Start with Aquatics





HABITATTITUDETM



Clearly articulates the issue Explains risks

Provides guidance on how to minimize risk Leverages diverse communication networks





Habitattitude – Adopt a conservation mentality. Protect our environment by not releasing unwanted fish and aquatic plants.

Welcome to a site for aquarium hobbyists, backyard pond owners, water gardeners and others who are concerned about aquatic resource conservation. Americans enjoy a diversity of hobbies, many of which involve our natural environment. And protecting these resources is an important part of our overall enjoyment.

A concern we must all address is the expansion of harmful plants, fish and other animals throughout our country. Representing one of our greatest natural resource challenges, stopping the spread of these species appears simplistic, but global economic linkages complicate the issue. A variety of commercial and governmental activities have accidentally introduced aquatic

invasive species and various aquatic resorunknowingly spread them to other waters established, they can wreak environmenta and make waters unusable for recreation.

This issue is relevant to everyone, but est backyard ponds and water gardens. Incre their perceived linkages with the growing species requires us to show how we value



WORDS, WORDS, WORDS ...

If you have acquired an undesirable aquatic plant or fish species for your aquarium or water garden, it is important not to release these plants or animals into the environment. While most of these organisms will die, some may be able to survive. And a smaller number of those that do survive have the potential to create negative impacts on our natural environment and our wallets and misperceptions about our hobbies.

So, if you are faced with the situation of having an undesirable species, what can you do? By choosing between several alternatives, you can properly dispose of these unwanted aquatic plants or fish.

Prevention

- Educate yourself about your hobby's potential environmental consequences
- Adopt these Alternatives to Release as responsible consumer behaviors
 - Contact retailer for proper handling advice or for possible returns
 - Give/trade with another aquarist, pond owner, or water gardener
 - · Donate to a local aquarium society, school, or aquatic business
 - · Seal aquatic plants in plastic bags and dispose in trash
 - Contact veterinarian or pet retailer for quidance about humane disposal of animals
- Model and promote these behaviors within your peer groups as ways for aquarium hobbyists and water gardeners to show our environmental values
- · Become involved with policy solutions

Become Informed and Take Action!

We can also become more informed about the invasive species issue. As hobbyists who appreciate the challenge of managing artificial micro-environments, it is important for us to understand the larger, potential consequences of our hobbies and how we can minimize them. This site is designed to help us learn about these potential impacts, particularly the risks associated with released or escaped aquatic plants and animals. Navigate through this site to get:

- The latest news about the growing invasive species problem
- Alternatives to releasing unwanted aguatic plants and animals
- Impacte caused by these energe

Because these unwanted aquatic plants and fish can:

- Reduce natural biodiversity and native species
- Degrade ecosystem functions
- Damage commercial and recreational equipment
- Make lakes/rivers unusable for recreational and commercial activities
- <u>Dramatically increase the operating costs of drinking water plants</u>, power plants, dam maintenance, and industrial processes
- · Affect human health
- Reduce property values
- Affect local economies of water-dependent communities



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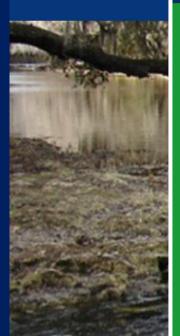
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HABITATTITUDETM 2005 - 2018





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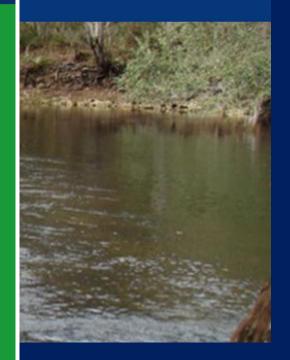
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This issue is relevant to everyone, but especially to those who enjoy aquaria, backyard ponds and water gardens. Increased scrutiny on our activities and their perceived linkages with the growing challenge known as invasive species requires us to show how we value and protect the environment.

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EXPANDING THE AUDIENCE

My Interest: 🐪 🏠 🥒





HABITATTITUDETM 2018





PREVENTION: Moving up the timeline



current



future







HOME | MY INTEREST | AQUARIUM FISH

Selecting the Right Fish and the Right Aquarium

Selecting appealing species is only one of several steps along the way to a successful aquarium experience. Choosing your fish and aquarium go hand in hand. Some popular fish choices require large tanks or complicated equipment, and it is worth examining your available space and time for maintenance before picking the species. Some of the things to consider up front:

- How much floor space is available for the aquarium and the supporting equipment?
- Budget? Fish are only one of many purchases. The larger the tank, the more expensive the filtration system.
- Size and shape of the tank? Some smaller tanks require less up-front cost but require more time and attention to maintaining water quality.





Freshwater tanks are generally smaller and require less maintenance and expense.



CHOOSING THE SPECIES

There are over 3500 species of freshwater and marine ornamental fish in trade, of all sizes and temperaments, primarily from tropical regions of Asia, Africa, Central America, and South America. Things to consider in choosing species for your tank:

- How much care does each species need? Is it hardy or delicate? A picky eater? Will its needs change as it grows?
- What is its adult size? Will it outgrow the tank?
- Is this a peaceful species? Is it compatible with other tank mates you have in mind, including other fish of the same species?
- Is it territorial? How many of each species should be in the tank?
- Is it safe to keep in a reef tank, or will it damage live coral?

MORE ON CHOOSING AQUARIUM SPECIES →



Neon Tetras, Swordtails, Tiger Barbs, and Danios do well in a 10-to 20-gallon aquarium... Adult Yellow Tangs reach 6 inches in length and are better suited for a medium-sized saltwater tank.



My Interest CLICK ON A PHOTO BELOW TO LEARN MORE ABOUT A SPECIFIC INTEREST AGUARIUM FISH REPTILES & AMPHIBIANS WATER GARDENING CLASSROOM EDUCATION

"be prepared for what may be decades of enjoyment"



Reptiles & Amphibians

HOME | MY INTEREST | REPTILES & AMPHIBIANS

Selecting the Right Reptile or Amphibian

There are nearly 6000 species of amphibians and over 10,000 reptile species worldwide, and it is not surprising that there is a dazzling variety of frogs, salamanders, lizards, snakes and turtles as pets. Collectively known as herpetofauna (or herps), reptiles and amphibians are found in diverse habitats throughout the world, ranging from tropical rainforests in South America to dry, rocky outcrops in Australia. Owning a reptile or amphibian is a special opportunity to recreate the habitat and micro-climate to which these species are adapted and learn about these fascinating creatures.

CHOOSING THE RIGHT SPECIES

Reptile and amphibian pets live much longer than aquarium fish. Popular pet frog species may live for 10 years or more in captivity, and some tortoise lifespans exceed 50 years! When choosing any herp species, be prepared for what may be decades of enjoyment and fascination. Captive breeding of reptiles and amphibians has grown dramatically, reducing overharvest of wild populations throughout the world. As a result of these efforts, many attractive color variations are now available to the hobbyist.

MORE ON CHOOSING A REPTILE OR AMPHIBIAN SPECIES \odot







Choosing the Right Species

"consider enclosure and habitat requirements"

Determine the age of your pet reptile and amphibian before making your purchase. Many animals are sold as hatchlings, but the first-time pet owner may be better off with an older juvenile or even a young adult – although these may cost more, they are typically hardier

"dart frog native to South American tropical rainforest needs a daytime temperature of around 80°F and relative humidity between 80-100%"



temperature

humidity

light

substrate

structure

containment



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SEARCH

My Interest:







HOME | MY INTEREST | REPTILES & AMPHIBIANS | REPTILE & AMPHIBIAN HABITATS

Temperature: An incandescent light with a reflector will elevate temperature in one end of the habitat for basking. Under-tank heaters are another option for reptile terrariums. Nighttime decreases of 10-15oF mimic climate in natural habitats, but the minimum temperature should always remain in the ideal range for your species.

Humidity: Monitor relative humidity regularly with a hygrometer, and moisten the substrate or mist your pets if necessary. For species from very arid areas, water dishes along with substrate that holds moisture are adequate to maintain humidity.

Light: If your enclosure does not get natural lighting, it will be necessary to add fixtures that emit ultraviolet light (UVB) of the correct wavelengths to promote vitamin D synthesis. required for your pet to maintain its calcium and phosphorus balance which is vital for bone and shell formation. Species from heavily vegetated areas get filtered light, while animals in desert or rocky regions are adapted to high intensity. Tropical species are adapted to 12-hour light/dark cycles.

Substrate: Shredded newspaper, sand, garden soil, peat moss, various wood shavings (avoid cedar which is toxic), coconut fiber, and synthetic carpet. Sand is a good substrate for an aquatic habitat with underwater and terrestrial features. Aspen shavings are popular with snake owners. Burrowing species need several inches of loose material. Absorbent substrates (e.g., coconut fiber) are good choices for amphibians and reptiles adapted to high humidity.

Structure: Add structural components compatible with your pet's habitat and behavior. Arboreal lizards need limbs or branch- es for climbing, while aquatic turtles seek out basking logs. A hide box or tube is an essential part of snake habitat. For tropical amphibians such as tree frogs, simulate their natural environment with plants (live or artificial) for climbing and shelter. Outdoor tortoise enclosures need an underground hide box or other shelter.

Containment: Even though the habitat you create will be suited for your pets, herps will often try to explore outside their enclosures. A secure, well-fitting lid with a lock or clip is a must, particularly for snakes that need only a tiny opening to escape. Outdoor enclosures for turtles and tortoises should be set up to prevent burrowing or climbing; also consider measures to deter predators such as raccoons, foxes and birds of prey.



Captive bred pastel ball python-this species needs a hide box in its enclosure.





Reptile & Amphibian Health

Your pet's health depends on a healthy environment and proper nutrition. Diet should be similar in nature and nutritional content to the foods consumed in the wild.

The natural diets of herp species are as varied as the habitats they occupy. Snakes are carnivorous and many popular pet species can be fed a rodent diet. Many amphibians eat insects and commercially available crickets or worms will comprise the bulk of their meals.

Land-dwelling tortoise fresh vegetables or gra reptiles to provide imp

"adequate calcium is critical"

and artificial foods including mineral and vitamin supplements for complete nutrition.

Adequate calcium is critical for reptile health, and live crickets are commonly dusted with a powder containing vitamins and calcium before feeding. Another means to a balanced diet is "gut-loading": feeding crickets with sources of important nutrients for your pet.





Signs of Illness in Reptiles & Amphibians

In most cases, well-maintained habitat along with proper diet will keep your pet free from illness. However, be aware of changes in behavior or appearance, which may be a sign of disease:

- Listlessness
- Lack of appetite
- Unusual movement or loss of balance
- Labored breathing
- Shell deterioration or malformation in turtles and tortoise
- Remaining under light source (turtles & tortoises)
- Scale rot (deterioration, ulcers, discharge)
- Change in oral cavity
- Cloudy eyes (not a sign of disease for reptiles shedding their skin)
- Excess mucus
- Lack of muscle tone
- Weight loss

There are a number of parasites and disease agents that may cause these symptoms, and it is best to consult a veterinarian with reptile or amphibian experience for treatment.







CLICK ON A PHOTO BELOW TO LEARN MORE ABOUT A SPECIFIC INTEREST



AQUARIUM FISH







CLASSROOM EDUCATION .



Classroom Education

HOME | MY INTEREST | CLASSROOM EDUCATION

Animals and Plants in Classroom Education

Pets in K-12 school classrooms can be valuable teaching assets. Caring for companion animals helps students to relate to species in their natural habitats while fostering a sense of environmental ethics. A study by the American Humane Association found that the benefits of classroom pets went beyond aiding in science and nature instruction. Teachers reported that student interactions, behavior and participation improved in the presence of companion animals in their classroom.

Having pets in an educational setting opens a window into responsible pet ownership: a commitment to understand the needs of the PLANNING FOR CLASSROOM PETS

→

CARING FOR CLASSROOM PETS AFTER THE SCHOOL YEAR

PROTECT THE ENVIRONMENT

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RESOURCES





PLANNING FOR CLASSROOM PETS

Pets and plants in the school setting require additional planning to provide care throughout the school year and beyond. Pets, aquariums, and campus water gardens require attention and maintenance outside regular school hours and during the summer. When a teacher changes schools or jobs, classroom companion animals will need new homes. Fortunately, there are many resources to assist in caring for classroom pets, including choosing species that are not considered invasive and options to re-home companion animals rather than releasing them where they may impact the local environment.



Guinea Pigs are one of several small animal options. Photo Pets in the Classroom

attention and maintenance outside school hours and during the summer

temperature control, based on the size of the aquarium and the number of fish. Reptile habitat includes different light sources to aid in body temperature regulation and vitamin synthesis. Small animal enclosures need good ventilation, various furnishing for exercise, dental maintenance (for rodents), healthy bedding and fo

options to rehome

Many types of pets have been incorporated into classroom settings. Fish the probably the most common choice, but small animals such as guinea pigs, hamsters, rabbits and rats are also popular among teachers. Reptiles in the classroom include bearded dragons, leopard geckos, turtles, snakes, other lizards. Amphibians (such as tree frogs and toads) and birds are less common. Despite their undeserved reputation, tarantulas are an occasional classroom pet.

Some teachers report having mo lizard habitat, multiple turtles, o

partner with herp societies, rescues?

More on Choosing a Classroom Pet



About Invasive Species



RISKS, PATHWAYS, PREVENTION



EXAMPLES

Coping With Aquatic Invasives

We've adapted boating habits to fight plant and animal invaders from distant waters. Now agencies and manufacturers are looking for new ways to cope with those already here.

Depending on where you live (and boat), and what type of boating you do (think trailer boating), dealing with aquatic invesive species (AIS) has become an all-too familiar addition to your boating routine.

Click here to read more

INVASIVE SPECIES IN THE NEWS





PREVENTING INVASIVE SPECIES

In some cases, people are not aware of the risks when non-native companion animals and water garden plants are not properly contained. Taking steps to prevent the release or escape is important to reduce the potential risks posed by non-native plants and companion animals.

- Research your pet's size and behavior to determine the appropriate enclosure.
- Invest in a habitat that is secure and sturdy to minimize the chance of escape.
- Feature native or non-invasive plants in your water garden.
- Plan your water garden to prevent flooding into natural lakes, streams, and wetlands.

A key step is learning about invasive species in your area. Some species are invasive in parts of the United States but cannot survive in other areas. State fish and wildlife agencies, natural resource agencies and agriculture departments have websites with information about invasive or nuisance species; many of these sites list non-native species that may be restricted or prohibited.



A classroom may serve as a new home for your pet.





Click on an image in the invasive species gallery for

For more information on how invasive species reach prevent their damage, click here.











American Bullfrog (Lithobates catesbiana)

Native to: U.S. east of Mississippi River basin

United States distribution: widespread in western

states; Montana, Colorado, New Mexico

Pathway: unintentional, stocked along with sport

fish; intentional, pest control; aquarium release

Impact: preys on native aquatic species, competes

with native frogs

Photo: Russ Otters





more than pets and plants



HOME | IN THE NEWS

APRIL 6, 2018

Invasive Species News

In the April 2018 issue, BOAT US Magazine details efforts by government agencies and manufacturers to cope with aquatic invasive species. Coping With Aquatic Invasives By Rich Armstrong and Ryck Lydecker We've adapted boating habits to fight plant and animal invaders from distant waters. Now agencies and manufacturers are looking for new ways to cope [...]

Read Full Article







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Become a Partner



Partner With Habitattitude

The Habitattitude™ Partner Network is open to all who wish to increase awareness of the importance of making wise pet and plant choices to protect the environment from invasive species. Partners will have access to brand use and images for display in documents, on websites, at trade shows and expos, and at retail establishments.

GRAPHICS/ARTWORK

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PARTNER ORGANIZATIONS

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PARTNERS GALLERY





HabitattitudeTM ...sometime in the past



Partnership Requirements

Brand Use Agreement

Adherence to Brand Standards

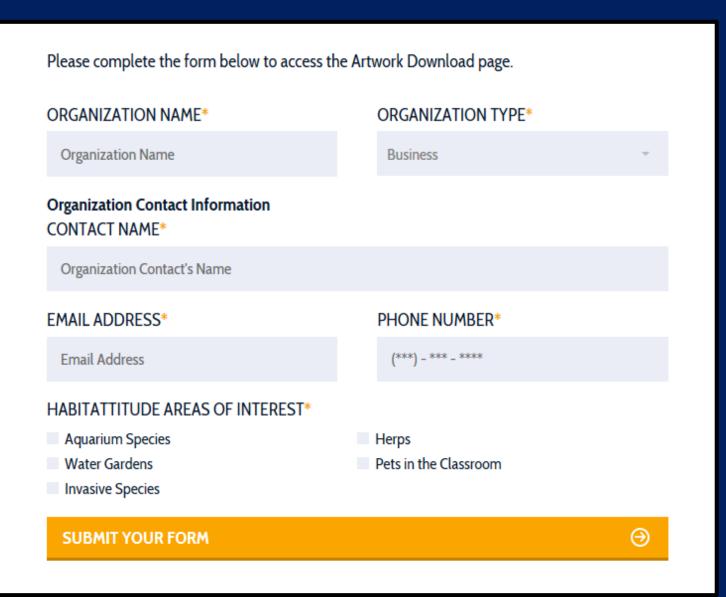
Inclusion of Partner Logos

Reporting Requirements

Online Partnership Form



Habitattitude TM ... in the near future



Let us list your organization



Ebuild the partner network









HabitattitudeTM ... a big tent



Agencies: state, federal, local

Environmental organizations

Academic institutions

Industry: businesses, associations

Hobbyists, Societies

Schools, classroom teachers

Habitattitude TM ... in the near future









Habitattitude TM ... in the near future



LOGO ART









YOUR ORGANIZATION

POSTER



PROTECT THE ENVIRONMENT www.habitattitude.net



photos

"always a work in progress



news

INTRODUCED SPECIES IN THE USA

The United States Geological Survey has a database and maps of non-native aquatic species, including amphibians and aquatic reptiles, that have been found in the United States; for more information on species that have been found in your state, click on the map.



links



QUESTIONS, COMMENTS, RIGHTEOUS INDIGNATION?

