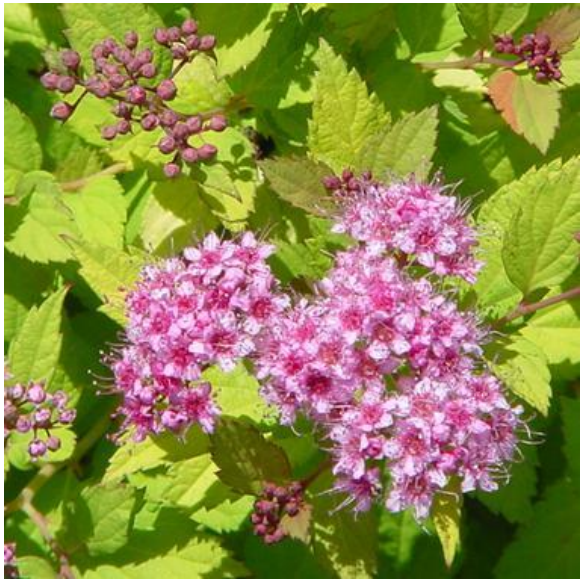
STATION 1

1. **Give the common and the scientific name of this species.**
2. **What was the method of introduction to the U.S. for this species?**
3. **What are the myomeres?**
4. **How Do Sea Lampreys Affect the Great Lakes Fishery?**
5. **What adaptations does this species have to the environment?**
6. **What is unique about this organism?**
7. **How many eggs can a female produce at once?**

STATION 2



1. Give the common and the scientific name of this species.
2. How is this species spread?
3. What makes this plant be classified as a shrub?
4. Name two chemical compounds that can be used to control this species.
5. Why and in what year was this plant first introduced into the U.S.
6. Name what should be done to small infestations of this species.
7. Name two similar native species.

STATION 3

1. **Give the common and the scientific name of this species.**
2. **How does this species spread?**
3. **What is the lifespan of this species?**
4. **Where is this species found in the U.S.?**
5. **What damage does this species do?**
6. **What uses does this species have/what was this species used for?**
7. **What laws or regulations affect this species?**

STATION 4

1. Give the name of this virus
2. Does this species affects humans?
3. What are the clinical signs of this disease?
4. How does this species spread?
5. Give the name of two domestic animals that can be affected with this virus
6. Name the order and class of this species.
7. This disease is contagious. (True/False) and why.

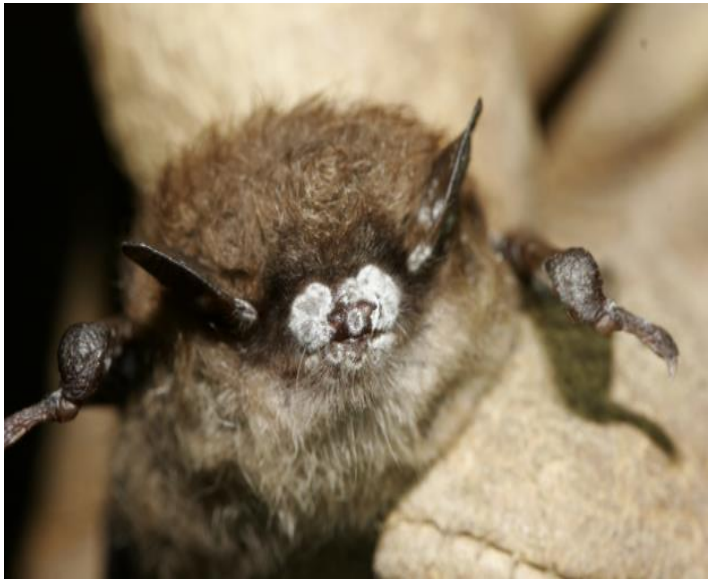
STATION 5

1. **Give the common and the scientific name of this species.**
2. **What was the method of introduction to the U.S. for this specie?**
3. **Name four states affected by this species.**
4. **What is one mechanical control method for this species?**
5. **What adaptations does this species have to the environment?**
6. **Name the species used for its' biocontrol.**
7. **This species is found in extremely wet environments. (True/False)**

STATION 6

1. Give the common and the scientific name of this species.
2. What was the method of introduction to the U.S. for this species?
3. What is a rhizome and what is its purpose?
4. Why does cutting off the stems of a plant not kill this species?
5. What damage does this species do?
6. What countries did this plant originate from?
7. It enjoys wet soils in lowlands, wet lands and along streams. (True/False)

STATION 7

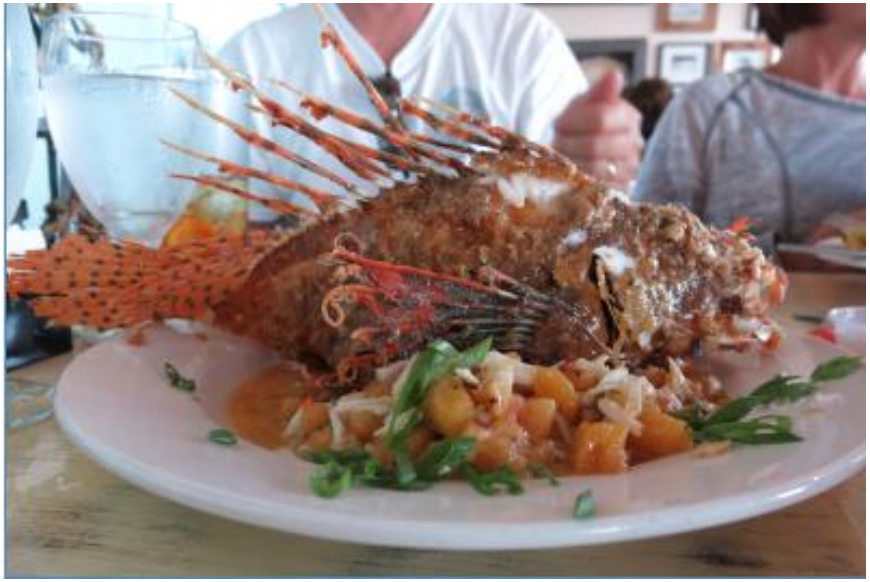


1. Give the common and the scientific name of this species.
2. Where was this species first discovered in the U.S.?
3. How does this species spread?
4. How will this invasive species affect U.S. insect populations?
5. How is host species hibernation affected by this species?
6. Name the preventive measure that humans must take when they visit caves.
7. The Forest Service issued a 2-year emergency closure order for all caves and mines in Forest Service Region 10. (True/False)

STATION 8

1. Give the common and then the scientific name of this plant.
2. How was this invasive plant introduced?
3. What damage does this invasive species do?
4. How has this invasive species spread to so many regions of the country?
5. What has been the most effective treatment for this invasive plant?
6. It is the only thistle with unisexual flower heads. (True/False)
7. In what temperature do its' seeds germinate best in?

STATION 9



1. What is the common name of the organism that is shown as a dish in this photo?
2. How was this organism first introduced to the USA?
3. Describe how their reproduction has aided their invasion.
4. What is the current program to control this invasive fish?
5. What is the native range of this organism?
6. How big can this organism get, in inches?
7. It is not a predator to small fishes, shrimps, and crabs.(True/False)

STATION 10

1. Species Name (Scientific and Common Name)
2. How does this species spread?
3. How does this species adapt to its environment?
4. What is the legal status of this species in the States of Illinois and Michigan?
5. What habitat does this species is found?
6. What two species does this fish resemble?
7. Females live up to 11 years while males live up to 7 years. (True/False)

STATION 11

1. Species Name (Scientific and Common Name)

2. Name two reasons this species was purposely introduced into the U.S.

3. What adaptation allows this species to grow on nutrient deficient soils?

4. What is the most effective method to control this species?

5. What piece of legislation established the National Invasive Species Council in the US and when?

6. Up to how many feet can this species grow up to?

7. It is native to South America and Australia. (True/False)

STATION 12

1. **Species Name: (Scientific and Common Name)**
2. **Name two states where you can find this species:**
3. **How does this species reproduce?**
1. **Name the scientific name of two species used as biological control for this species.**
5. **What impact does this species have to humans?**
6. **When was this species first reported in the U.S.?**
7. **What is its' region of origin?**

STATION 13

1. Species Name (Scientific and Common Name)
2. How does this species reproduce? How many seeds does this plant produce per year?
3. What impact does this species have?
4. What biological method is used to control this species?
5. What is the legal status of this species in the States of Alabama and Connecticut?
6. How was this species introduced and when?
7. In the 1930's, the U.S. Soil Conservation Service promoted it for use in erosion control and livestock fencing. (True/False)

STATION 14

1. **Species Name: (Scientific and Common Name)**
2. **Where and when was this species first introduced in the U.S?**
3. **How many instars does this species have?**
4. **What type of reproduction does this species have?**
5. **What ecological impact does this species have?**
6. **How many eggs can an adult have in its' lifetime?**
7. **This species has been recorded in Oregon and California. (True/False)**

STATION 15

1. Species Name (Scientific and Common Name)
2. Name two countries this species is native to:
3. Name the reason this species was purposely introduced into the U.S.
4. Name two preferred hosts of this species:

5.- What is the best control method for this species:

6. Name the Class and Phylum it belongs to.

7. What is another name this species goes by?

STATION 1

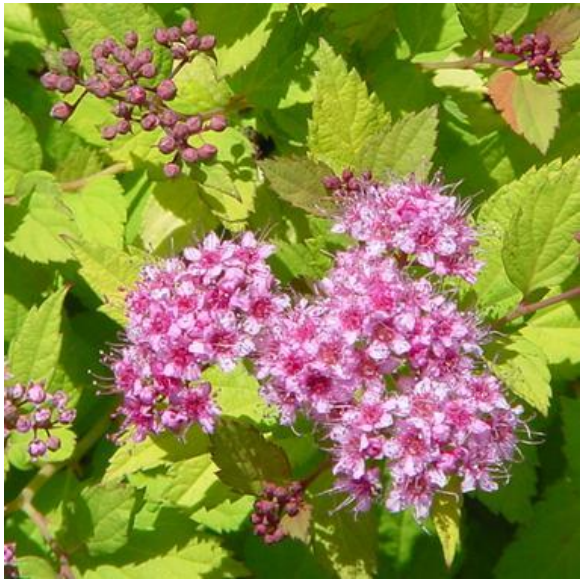
1. **Give the common and the scientific name of this species.**
   Sea Lamprey (*Petromyzon marinus)*

2. **What was the method of introduction to the U.S. for this specie?**
   Sea lampreys entered the Great Lakes system in the 1800s through manmade locks and shipping canals.
3. **What are the myomeres?**
   Segments of muscles that are visible along their body.
4. **How Do Sea Lampreys Affect the Great Lakes Fishery?**

- Their aggressive, predaceous behavior gave them a strong advantage over their native fish prey.
- Sea lampreys prey on all species of large Great Lakes fish such as lake trout, salmon, rainbow trout (steelhead), whitefish, chubs, burbot, walleye and catfish.

5. **What adaptations does this species have to the environment?**
   It has a well-developed sense of smell.
6. **What is unique about this organism?** It does not have a jaw or any boney structures.
7. **How many eggs can a female produce at once?** Any number from 35,000 to 100,000

STATION 2



1. **Give the common and the scientific name of this species.**
   Japanese Spiraea (*Spiraea japonica)*

2. **How is this species spread?**
   A single plant produces hundreds of small seeds that are dispersed by water and deposited along stream banks. Seeds can also contaminate fill dirt, establishing new populations at construction sites.

3. **What makes this plant be classified as a shrub?**
   Its four to six feet in height.

4. **Name two chemical compounds that can be used to control this species.**
   Glyphosate and triclopyr

5. **Why and in what year was this plant first introduced into the U.S.**
   Japanese spiraea was introduced into the United States as an ornamental plant in 1870.

6. **Name what should be done to small infestations of this species.**
   They should be pulled by hand and monitored to remove and resprouts.

7. **Name two similar native species.**
   S.Viginiana and S.Betulifolia

STATION 3

1. **Give the common and the scientific name of this species.**
   Common reed - Phragmites australis.
2. **How does this species spread?**
   Although, seeds may be spread by wind and water, the main pathway through which common reed is spread from site to site is wetland plant transfer.
3. **What is the lifespan of this species?**
   Perennial.
4. **Where is this species found in the U.S.?**
   It can be found in every state of the US.
5. **What damage does this species do?**
   Common reed is a vigorous growing plant that forms dense monotypic stands that consume available growing space and push out other plants including the native subspecies. It also alters wetland hydrology, increases the potential for fire and reduces and degrades wetland wildlife habitat .
6. **What uses does this species have/what was this species used for?**

Arrows and Thatched Roofs.

7. **What laws or regulations affect this species?**

Titles 1 and 6 of the New York Code of Rules and Regulations.

STATION 4

1.Give the name of this virus

Bluetongue virus/ Orbivirus

2. Does this species affects humans?

There is no risk to human health associated with bluetongue.

3.What are the clinical signs of this disease?

Fever, reddening of the lining of the mouth and nose, swelling of the lips, tongue and gums, difficulty swallowing and breathing, a swollen, purple-colored tongue (hence, the name bluetongue), and lameness

4.How does this species spread?

This virus cannot be transmitted between susceptible animals without the presence of the insect carriers (Culicoides midges)

5. Give the name of two domestic animals that can be affected with this virus

Sheep and goats .

6.Name the order and class of this species.

Order: Unassigned single stranded positive-sense RNA viruses

Class: Single Stranded Positive-Sense RNA (Group IV)

7. This disease is contagious. (True/False) and why.

False, it is only transmitted by insect vectors.

STATION 5

1.Give the common and the scientific name of this species.

Mile-a-minute weed - Persicaria perfoliata

2. What was the method of introduction to the U.S. for this specie?

Accidentally introduced via contaminated holly seed.

3. Name four states affected by this species.

New York, New Jersey, New Hampshire, and Massachusetts.

4. What is one mechanical control method for this species?

Hand-pulling/mowing.

5. What adaptations does this species have to the environment?

Using its specially adapted recurved barbs, it can reach sunlight by climbing over plants helping it outcompete other vegetation.

6. Name the species used for its' biocontrol.

A weevil, Rhinocominus latipes

7. This species is found in extremely wet environments. (True/False)

True, mile-a-minute weed prefers high moisture soils.

STATION 6

1. **Give the common and the scientific name of this species.**
   Japanese Knotweed - Fallopia japonica

2. **What was the method of introduction to the U.S. for this specie?**
   It was first introduced as ornamental, as also been used for erosion control and for landscape screening.

3. **What is a rhizome and what is its purpose?**
   A underground horizontal stem that grows roots and shoots to propagate.

4. **Why does cutting off the stems of a plant not kill this species?**
   It has rhizomes, underground root growth network.

5. **What damage does this specie do?**
   It grows quickly to form dense thickets that exclude native ground flora and prevent native trees and shrubs from establishing.

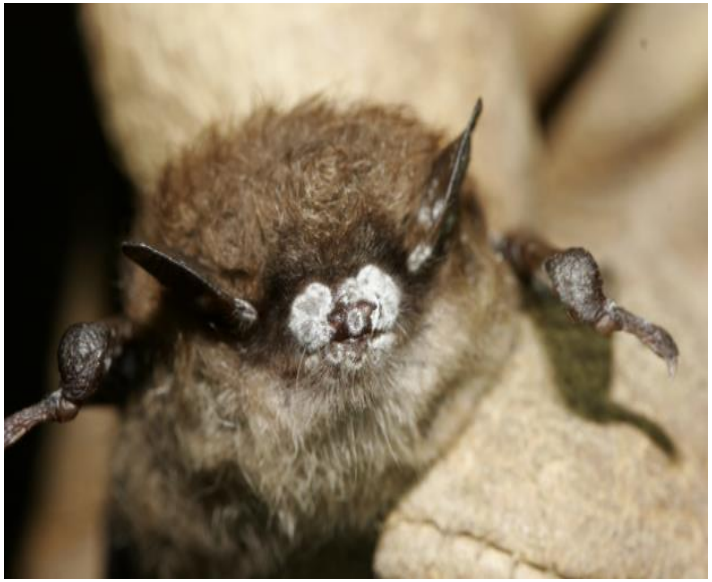
6. **What countries did this plant originate from?**

China, Japan, Korea, and Taiwan.

7. **It enjoys wet soils in lowlands, wet lands and along streams. (True/False)**

True.

STATION 7



1. **Give the common and the scientific name of this species.**

   White-Nose Syndrome - Pseudogymnoascus destructans

2. **Where was this species first discovered in the U.S.?**

   First discovered in a cave near Albany, New York in Feb 2006.

3. **How does this specie spread?**

- Bat –to-bat transmission
- Bat-to-cave/mine transmission
- Human transmission

4. **How will this invasive species affect U.S. insect populations?**

   Increasing the insect populations because there is not bats enough to eat them.

5. **How is host species hibernation affected by this species?**

   Bats infected with WNS have been reported to wake from hibernation two times more frequently than uninfected bats. They are looking for food that is not available. Then, they burn calories and die.

6. **Name the preventive measure that humans must take when they visit caves.**

Those who visit bat roosts, caves, and mines must decontaminate all clothing and gear used.

7. **The Forest Service issued a 2-year emergency closure order for all caves and mines in Forest Service Region 10. (True/False)**

False.

STATION 8

1. **Give the common and then the scientific name of this plant.**

   Canada Thistle - Cirsium arvense

2. **How was this invasive plant introduced?**

   It was probably introduced as a contaminant of crop seed and/or ship's ballast.

3. **What damage does this invasive species do?**

   It can reduce species diversity, alter habitat structure, decrease crop yields, and reduce forage for pasture.

4. **How has this invasive species spread to so many regions of the country?**

   A single plant can produce an average of 1,500 and up to 5,300 seeds. The seeds are wind dispersed, & can be dispersed by animals and birds and through the feces of birds and small rodents.

5. **What has been the most effective treatment for this invasive plant?**

   Integrated controls include mechanical, biological, and chemical controls, but they must be monitored as seeds remain viable for several years.

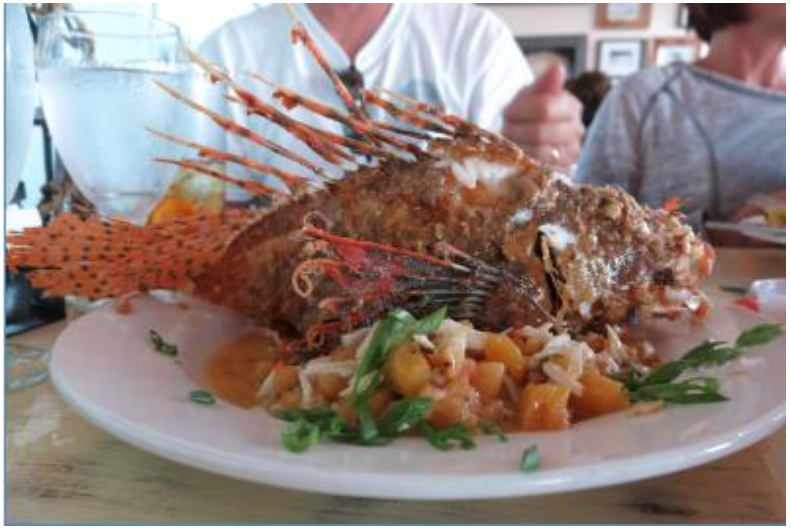
6. **It is the only thistle with unisexual flower heads. (True/False)**

True.

7. **In what temperature do its' seeds germinate best in?**

20-40 degrees Celsius

STATION 9



1. **What is the common name of the organism that is shown as a dish in this photo?**

   Lionfish

2. **How was this organism first introduced to the USA?**

   Lionfish are thought to have been introduced accidentally into some parts of the Atlantic Ocean following the destruction of an aquarium by Hurricane Andrew.

3. **Describe how their reproduction has aided their invasion.**

   They have a high reproductive rate of 2 million eggs a year from one female, and the time period for this population to grow is too short.

4. **What is the current program to control this invasive fish?**

   NOAA (National Oceanic and Atmospheric Administration)has launched an “Eat Lionfish” campaign

5. **What is the native range of this organism?**

   Tropical and sub-tropical Indo-Pacific to the islands of the South Pacific from Japan to Australia including: Micronesia, the Philippines, and French Polynesia.

6. **How big can this organism get, in inches?**

Up to 19in(45cm).

7. **It is not a predator to small fishes, shrimps, and crabs.(True/False)**

False.

STATION 10

1. **Species Name (Scientific and Common Name)**
   Gymnocephalus cernuus (Eurasian Ruffe)

2. **How does this species spread?**
   By boats taking on ballast water and bring it to new locations.
3. **How does this species adapt to its environment?**
   It can tolerate a wide range of ecological and environmental conditions.
3. **What is the legal status of this species in the States of Illinois and Michigan?**
   Prohibited
5. **What habitat does this species is found?**
   They are found in fresh and brackish water (with salinity up to 12 ppt) and occurs at depths varying from 0.25m to 85m

6. What two species does this fish resemble?

Yellow Perch and Walleye.

7. Females live up to 11 years while males live up to 7 years. (True/False)

True.

STATION 11

1. Species Name (Scientific and Common Name)

Elaeagnus angustifolia (Russian olive)

2. Name two reasons this species was purposely introduced into the U.S.

Ornamental and soil stabilization.

3. What adaptation allows this species to grow on nutrient deficient soils?

Nitrogen fixation in the roots.

4. What is the most effective method to control this species?

Selective herbicide application, especially those that have extensive root system.

5. What piece of legislation established the National Invasive Species Council in the US and when?

Executive Order 13112 . February 3,1999

6. Up to how many feet can this species grow up to?

30 feet.

7. It is native to South America and Australia. (True/False)

False.

STATION 12

1. **Species Name (Scientific and Common Name)**
   Alternanthera philoxeroides (Alligatorweed)
2. **Name two states where you can find this species:**
   Texas, Florida, Virginia, California.
3. **How does this species reproduce?**
   Reproduction is entirely vegetative and relies on the production of nodes.
4. **Name the scientific name of two species used as biological control for this species.**
   Agasicles hygrophila and
   Amynothrips andersonii.
5. **What impact does this species have to humans?**
   Forms dense mats that crowd out native species and impede recreational activities su**ch** as boating, swimming, and fishing.

6. When was this species first reported in the U.S.?

First reported in Alabama in 1897.

7.What is its' region of origin?

South America.

STATION 13

1. **Species Name (Scientific and Common Name)**
   Rosa multiflora (Multiflora rose).

2. **How does this species reproduce? How many seeds does this plant produce per year?**
   By seeds. 500,000 per year.

3. **What impact does this species have?**
   It is extremely prolific and can impenetrable thickets that exclude native plants species.

4. **What biological method is used to control this species?**
   No biological controls are available at this time.

5. **What is the legal status of this species in the States of Alabama and Connecticut?**
   Alabama: Class C noxious weed
   Connecticut: Invasive, banned

6. **How was this species introduced and when?**

It was introduced in 1866 as ornamental rootstock from Japan.

7. **In the 1930's, the U.S. Soil Conservation Service promoted it for use in erosion control and livestock fencing. (True/False)**

True.

STATION 14

1. **Species Name (Scientific and Common Name)**
   Adelges tsugae (Hemlock Woolly Adelgid).

2. **Where and when was this species first introduced in the U.S?**
   HWA was introduced to the United States in the 1920s to the Pacific Northwest.

3. **How many instars does this species have?**
   Four

4. **What type of reproduction does this species have?**
   It has both sexual and asexual reproduction (parthenogenic)

5. **What ecological impact does this species have?**
   Destroys Eastern hemlock trees

6. **How many eggs can an adult have in its' lifetime?**

It can produce from 50-300 eggs.

7. **This species has been recorded in Oregon and California. (True/False)**

True.

STATION 15

1. **Species Name (Scientific and Common Name)**
   Cactoblastis cactorum (cactus moth).

2. **Name two countries this species is native to:** Argentina and Uruguay.

3. **Name the reason this species was purposely introduced into the U.S.**
   To control several North American and South American species of *Opuntia*.

4. **Name two preferred hosts of this species:**
   Citrus and mangoes.

5.- What is the best control method for this species:

Efforts to control this invasive species have been focused on containing the spread via quarantine, as well as development of fungal, bacterial, parasitoid, and nematode biological control agents.

6. Name the Class and Phylum it belongs to.

Class: Hexapoda

Phylum: Arthropoda

7. What is another name this species goes by?

Prickly Pear Moth