Opinions on the Legal Trade in Live animals

This questionnaire will provide you with information about the legal trade in live animals, and ask you about the legal trade in live animals.

Demographics

First, we will ask you a few background questions to ensure we've heard from all the different types of people who live in the United States.

What is your sex?

- Male
- Female
- I prefer not to say

What is your age?

- Under 18 years
- 18 to 24 years
- 25 to 34 years
- 35 to 44 years
- 45 to 54 years
- 55 to 64 years
- 65 to 74 years
- 75 years or over

Are you Hispanic and/or Latino?

- Yes
- No
- I prefer not to say

Choose one or more races that you consider yourself to be:

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Pacific Islander
- White
- Other: _____
- I prefer not to say

What is the highest degree or level of school that you have completed?

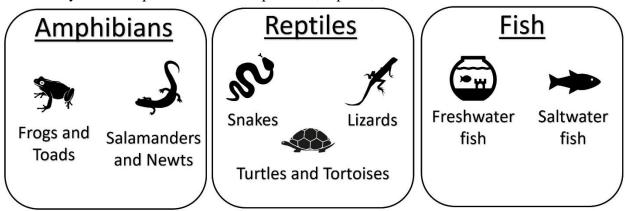
- Less than 12th grade
- High school graduate or GED
- Some college / Associate or technical degree
- Bachelor's degree
- Graduate or professional degree

What state do you live in?					
What is your zip code?					
Are there any members in your ho • Yes • No	ousehold un	der the age o	of 18?		
Do you currently have any pets? • Yes • No					
 What kind of pets do you own? Cat Dog Bird Fish Rodent or small mammal Reptile (such as a snake, lie) Amphibian (such as a frog Insect / arachnid Other: Do you currently own any livestoe Yes, livestock 	, toad, salar —	nander, or n			
Yes, poultryYes, bothNo					
Animals in the live animal tra industries. These animals are alive	-			can be so	old to differen
Native wildlife are wild animals found.	that live in	an environ	ment where the	y have be	een historically
Please rate how important it is to	you to prote Not at all	ect the <u>healt</u> Slightly	<u>h</u> of: Moderately	Very	Extremely
Animals in the live animal trade Native wildlife The natural environment Pets					
Livestock, such as cows, sheep, and goats Humans					

Please indicate how much you agree with the following statements:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Most environmental problems are caused by humans interfering with nature					
The occurrence of wildlife disease has been made worse by humans and their activities					

This survey contains questions about amphibians, reptiles, and fish.



How much do you like or dislike the following animals?

	Strongly dislike	Dislike	Neutral	Like	Strongly like
Snakes					
Lizards					
Turtles/tortoises					
Frogs					
Toads					
Salamanders/newts					
Freshwater fish					
Saltwater fish					

The International Animal Trade

Animals are sold for several uses:

- Food
- Aquaculture
- Bait
- Medicine

- Pets
- Sport hunting
- Skin and fur
- Research/education
- Zoos

[Images used to illustrate this question are omitted from this document.]

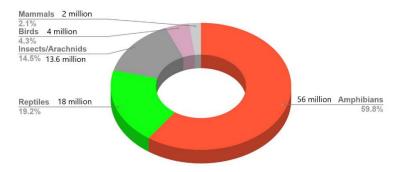
How knowledgeable are you about the animal trade?

Not at all	l								Ex	tremely
0	1	2	3	4	5	6	7	8	9	10

Amphibians and Reptiles

The rest of this survey focuses on the trade in live **amphibians** and **reptiles**. The United States is one of the **biggest importers of amphibians and reptiles in the world**.

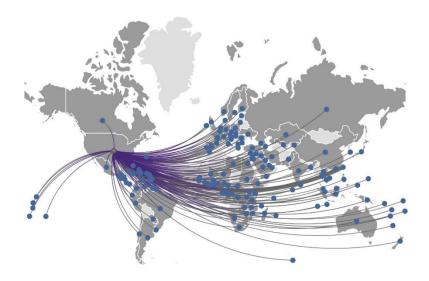




Is the number of live amphibians/reptiles imported into the United States lower or higher than you expected?

- Much lower than I expected
- Lower than I expected
- About what I expected
- Higher than I expected
- Much higher than I expected

This map gives you an idea of the geographic origins of amphibians and reptiles that are traded in the United States. It shows <u>imports</u> of **amphibians** and **reptiles** into the United States between 2009 and 2014.



The Live Amphibian and Reptile Trade

The rest of the survey will focus on the trade in live frogs for human consumption; the use of amphibians as fishing bait; and the trade in amphibians and reptiles as pets.

[Images used to illustrate this question are omitted from this document.]

Were you aware that live animals are imported to the United States to supply these industries?

	Not at all	Slightly	Moderately	Highly aware
	aware	aware	aware	
The trade in live frogs for	П		П	П
human consumption		Ш	Ц	Ц
The use of amphibians as		П	П	П
fishing bait			Ц	Ц
The amphibian and reptile				П
pet industry			Ц	Ц

Human Consumption

People spend an estimated <u>\$45 million</u> on frog legs globally each year. The U.S. imports <u>2,200 tons</u> of live frogs each year for consumption. [*Images used to illustrate this question are omitted from this document.*]

Have you eaten frog legs in the past year?

- Yes
- No
- I don't know

Bait Trade

Salamander larvae or 'water' dogs are a popular bait for fishermen across the United States. In Arizona, up to <u>75%</u> of fishermen use salamanders as bait.

[Images used to illustrate this question are omitted from this document.]

Have you been fishing in the past year?

- Yes
- No

Do you use salamanders as fishing bait?

- Yes
- No
- I don't know

The Amphibian and Reptile Pet Trade

Many amphibians and **most reptiles** are imported into the U.S. for the pet trade.

4.7 million households in the U.S. have at least one pet reptile.

[Images used to illustrate this question are omitted from this document.]

Do you know anyone who owns a pet reptile or amphibian?

- Yes, a pet reptile
- Yes, a pet amphibian
- Yes, both
- No

A **captive** animal refers to a live animal that is being kept/transported and sold for the animal trade.

What **percentage** (out of 100%) of captive amphibians and reptiles in the live animal trade do you think are healthy animals? Click and drag the bar to where you feel is appropriate.

Healthy captive amphibians and reptiles 0 25 50 75 100

Disease Risks of the Live Amphibian and Reptile Trade

The trade in live amphibians and reptiles is economically important, but there are risks associated with the trade. One of those risks is the transmission of diseases.

The images below show how the live amphibian and reptile trade contributes to disease transmission.

[*Images used to illustrate this question are omitted from this document.*]

- 1. Stress from transport. Stress weakens an animal's immune system.
- 2. Inadequate care and nutrition. Stressed animals are more likely to be affected by diseases.
- 3. Housed in high densities. Other captive animals are exposed to the diseases.
- 4. Contact with humans. Animals can transmit diseases to humans.
- 5. Live animals or contaminated materials introduced in the wild. Diseases can be transmitted to wild animals by:
 - a. People releasing pets and fish

- b. People throwing away unused bait
- c. People throwing out animal products or contaminated materials

Have you read anything or seen any news on the disease transmission risk of the live amphibian and reptile trade in the past year?

- Yes
- No
- I'm not sure

A **captive** animal refers to a live animal that is being kept/transported and sold for the animal trade.

How **concerned** are you about disease transmission from captive amphibians and reptiles to:

	Not at all	Slightly	Moderately	Very	Extremely
Other captive animals					
Native wildlife					
Pets					
Livestock, such as cows, sheep, and goats					
Humans					

This survey will focus on 3 diseases that we will explain:

- Chytrid
- Ranavirus
- Salmonella

Chytrid: A disease that only affects **amphibians**.

- Amphibians absorb oxygen, water, and electrolytes through their skin.
- Chytrid thickens amphibians' skin. They die because they cannot breather or absorb water and electrolytes.

[Images used to illustrate this question are omitted from this document.]

Had you heard of chytrid prior to this survey?

- Yes
- No
- I'm not sure

Chytrid: How is it transmitted?

- Contact with an infected animal
- Contact with the chytrid fungus, which can survive up to 7 weeks in water or moist areas

[Images used to illustrate this question are omitted from this document.]

What do you think the <u>risk</u> is that	t chytrid wo	uld be trans	mitted from cap	otive amph	ibians to
	None	Low	Moderate	High	Very high
Other captive amphibians					
Native amphibians					
Ranavirus: A virus that affects and It causes: • Fluid build-up under the s • Blood vessel damage • Weakness and difficulty by [Images used to illustrate this que	kin oreathing				
Had you heard of ranavirus prior • Yes • No • I'm not sure	to this surve	y?			
Ranavirus: How is it transmitted? • Transmits across animals, • Contact with the v	for example	-		_	
• The virus can survive out [Images used to illustrate this que		ing host fo	r more than 30	days	
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• Reptiles and amphibians can carry the infection with no symptoms

- Humans catch it from contact with:
 - o An infected animal, the animal's waste, or surfaces and infected animal has touched

[Images used to illustrate this question are omitted from this document.]

Prior to this survey, did you know that amphibians and reptiles could transmit salmonella to humans?

- Yes
- No

What do you think the <u>risk</u> is that salmonella would be transmitted from captive amphibians and reptiles to...

	None	Low	Moderate	High	Very high
Other captive amphibians and reptiles					
Native amphibians and reptiles					
Pets					
Livestock, such as cows, sheep, and goats					
Humans					

Additional Impacts of Amphibian and Reptile Trade Diseases

To recap, the different species affected by chytrid, ranavirus, and salmonella are:

Chytrid	Ranavirus	Salmonella
Amphibians	Amphibians Reptiles Fish	Amphibians Reptiles Livestock Pets Humans

These diseases negatively affect the **environment**, **economy**, and **human health**.

Environmental Impacts

Chytrid: Currently infects 520+ species

- Has the potential to infect 6,000 species
- Linked to the **decline or extinction of at least 501** amphibian species

[Images used to illustrate this question are omitted from this document.]

How **concerned** are you about the <u>spread</u> of chytrid from captive amphibians to...

	Not at all	Slightly	Moderately	Very	Extremely
Other amphibians in the live animal trade					
Native amphibians					

Ranavirus: Known to infect over 200 species

• Ranavirus is one of the **leading causes of death** of amphibians in the United States [*Images used to illustrate this question are omitted from this document.*]

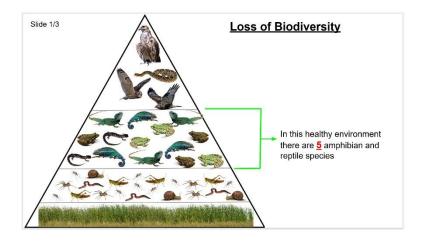
How **concerned** are you about the <u>spread</u> of ranavirus from captive amphibians and reptiles to...

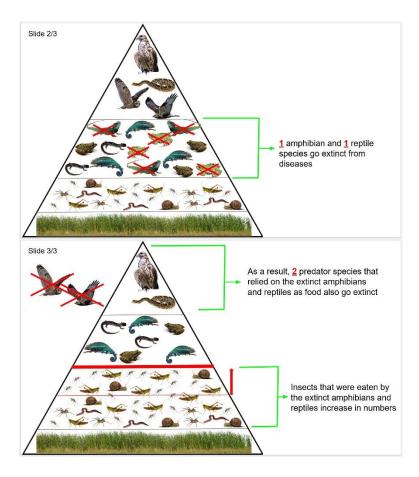
	Not at all	Slightly	Moderately	Very	Extremely
Other amphibians and reptiles in the live animal trade					
Native amphibians and reptiles					
Native fish					

Loss of biodiversity

Biodiversity is the variety of species in an environment. The loss of one or more species results in decreased biodiversity.

The following shows how the loss of 2 amphibian and reptile species impacts biodiversity.





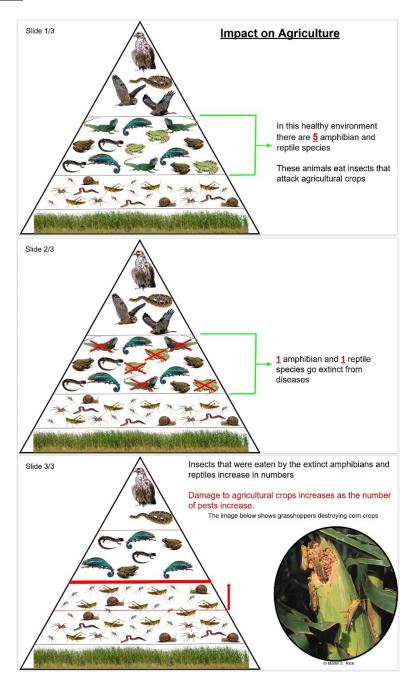
How **concerned** are you about a loss of biodiversity from the disease-related deaths of native amphibians and reptiles?

- Not at all
- Slightly
- Moderately
- Very
- Extremely

What do you think the \underline{risk} is that the diseases discussed in this survey could result in a loss of biodiversity?

- None
- Low
- Moderate
- High
- Very high

Economic Impacts



How **concerned** are you about a negative economic impact to agriculture from disease-related deaths of native amphibians and reptiles?

- Not at all
- Slightly
- Moderately
- Very
- Extremely

What do you think the <u>risk</u> is that the diseases discussed in this survey could result in a negative economic impact to agriculture?

- None
- Low
- Moderate
- High
- Very high

Threat to aquaculture

Aquaculture is an economically important industry. Ranaviruses can spread from amphibians and reptiles to fish, and kill aquaculture fish.

Aquaculture is the breeding and harvesting of aquatic animals for food.

The United States generates \$1.5 billion a year from farm-raised fish.

More than 20% of seafood and fish products in the U.S. come from fish farming.

[Images used to illustrate this question are omitted from this document.]

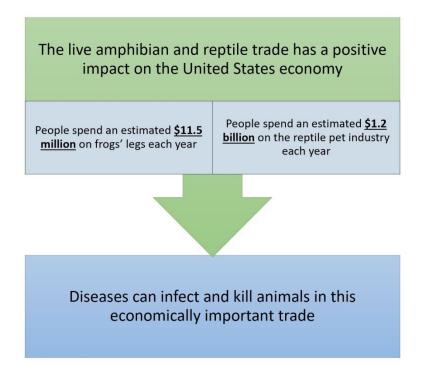
How <u>concerned</u> are you about a negative economic impact to aquaculture from the disease-related deaths of fish?

- Not at all
- Slightly
- Moderately
- Very
- Extremely

What do you think the <u>risk</u> is that ranavirus could result in an negative economic impact to aquaculture?

- None
- Low
- Moderate
- High
- Very high

Threat to the live amphibian and reptile trade



How <u>concerned</u> are you about a negative economic impact to the following markets from disease-related deaths of amphibians and reptiles?

	Not at all	Slightly	Moderately	Very	Extremely
The amphibian and reptile pet trade					
The frog leg market					

What do you think the <u>risk</u> is the diseases discussed in this survey could result in a negative economic impact to the following markets?

	None	Low	Moderate	High	Very high
The amphibian and reptile pet trade					
The frog leg market					

Human Health and Well-being Impacts

Salmonella: 202 people caught salmonella from turtles between 2015 and 2016.

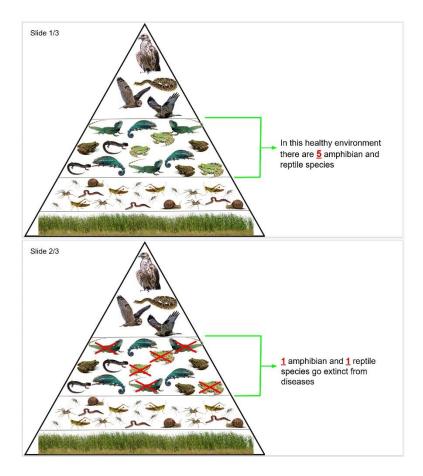
• Most people recover without treatment, but salmonella can be dangerous for children, older adults, and pregnant women.

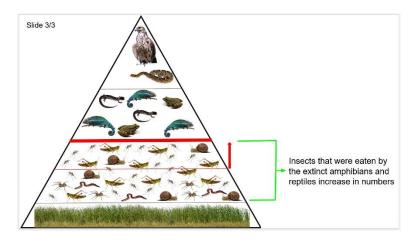
[Images used to illustrate this question are omitted from this document.]

How $\underline{concerned}$ are you about the \underline{spread} of salmonella from captive amphibians and reptiles to...

	Not at all	Slightly	Moderately	Very	Extremely
Other amphibians and reptiles					
in the live animal trade		Ц	П	Ц	Ш
Native amphibians and reptiles					
Pets					
Livestock, such as cows, sheep, and goats					
Humans					

The following demonstrates how the loss of 2 amphibians and reptile species can impact the number of insects.





"Pest" control

Amphibians and reptiles eat many insects that humans consider pests (for example, mosquitos, flies, beetles, grasshoppers, and slugs). For example, 1 million frogs eat approximately 7.4 million pounds of insect pests in a year.

Insect pests increase as the numbers of amphibians and reptiles decrease.

How **concerned** are you about an increase in insect pests from the disease-related deaths of native amphibians and reptiles?

- Not at all
- Slightly
- Moderately
- Very
- Extremely

What do you think the <u>risk</u> is that the diseases discussed in this survey could result in an increase in insect pests?

- None
- Low
- Moderate
- High
- Very high

Disease control

Amphibians and reptiles eat many insects that carry diseases that affect humans (for example, West Nile virus, malaria, Zika virus, and Lyme disease).

These diseases in humans may increase as the numbers of amphibians and reptiles decrease.

How **concerned** are you about an increase in insect-borne diseases from disease-related deaths of native amphibians and reptiles?

- Not at all
- Slightly
- Moderately
- Very
- Extremely

What do you think the <u>risk</u> is that the diseases discussed in this survey could result in an increase in insect-borne diseases?

- None
- Low
- Moderate
- High
- Very high

Management of the Live Amphibian and Reptile Trade

Below are several potential ways to manage the disease transmission risk associated with the trade in amphibians and reptiles. (*Please assume that all of the management actions are equally achievable*.)

Please indicate how much you oppose or support the following potential regulations.

	Strongly oppose	Slightly oppose	Neutral	Slightly favor	Strongly favor
A law that requires the quarantine					_
and veterinary observation of all					
amphibians and reptiles imported into					
the United States by the federal					
government.					
Mandatory tests by the federal					
government of all shipments of					
amphibians and reptiles for selected					
diseases of concern.					
A mandatory 'Best Practices					
Program '. The program would					
require live amphibian and reptile					
importers and exporters to follow					
methods to improve the care and					
reduce the stress of transported					
animals and decontaminate all					
shipping materials (for example soil					
and water).					

Government Management of Amphibian and Reptile Diseases

Please indicate how strongly you agree or disagree with the following statements.

The federal government...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Has the knowledge to manage the amphibian and reptile disease transmission risk					
Has the money to manage the amphibian and reptile disease transmission risk					
Has sufficient skilled people to manage the amphibian and reptile disease transmission risk					
If you are reading this, please select 'somewhat disagree'					
Has been effective in managing the amphibian and reptile disease transmission risk					
Can be trusted to properly manage the amphibian and reptile disease transmission risk					

Below are some statements about a random person. How similar is this person to you? (*Please take your time to read each statement and answer as honestly as possible.*)

	1 – Not at all like me	2	3	4 – Neutral	5	6	7 – Very much like me
It is important to them to prevent environmental pollution							
It is important to them that every person has equal opportunities							
It is important to them to have fun							
It is important to them to have control over rothers' actions							
It is important to them to take care of those who are worse off							
It is important to them to be influential							
It is important to them to have money and possessions							

It is important to them to enjoy pleasures	life's								
It is important to them that then	re is								
no war or conflict									
It is important to them to respe	ct								
nature			Ш	Ш	Ш		Ш	Ш	
It is important to them to work	hard								
and be ambitious									
It is important to them to prote	ct the								
environment		1	_	_	_		_	_	
It is important to them to be he	lpful								
to others									
It is important to them to do the	ings								
they enjoy									
It is important to them to have									
authority over others It is important to them to be in	unity								
It is important to them to be in with nature	unity								
It is important to them that eve	rv								
person is treated justly	1 y								
Have you participated in the fo	onowing 	g activities Ye		n tne pa	ist 12 mc	ontns ?	No		
Hiking									
Camping									
Canoeing/kayaking									
Gardening									
Hunting									
Wildlife viewing									
Going to the zoo]						
Now that you have had some to trade, how concerned are you are not at all Not at all Slightly Moderately Very Extremely							-	-	e
I would describe my political v Extremely liberal	iews as: Moderate				Extremely conservative 7				