

Grubby's Alaskan Adventure

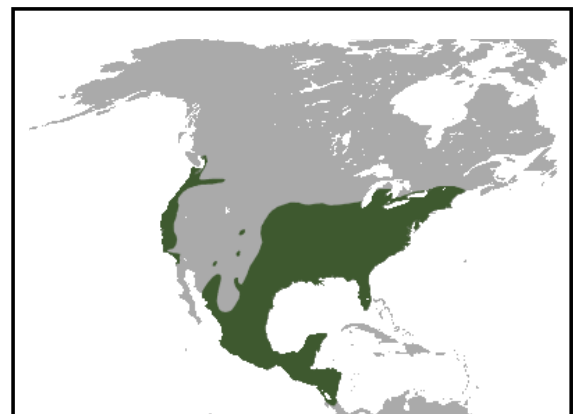
1 In March 2023, the residents of Homer,
Alaska, discovered they had an
unwelcome guest. An opossum from
Washington, who came to be known as
5 "Grubby," accidentally ended up over
1,000 miles from home after catching a
ride to Homer in a shipping container.



Opossums aren't normally found in Alaska, so the people of
Homer were concerned. **Invasive species** are organisms that
10 are not indigenous, or native, to a particular area. Invasive
species, like Grubby, can cause great economic and
environmental harm to the new area. They don't have many
natural enemies to keep their numbers in check. They also
reproduce quickly.

15 Invasive species are a threat to the natural **ecosystem** of a
region. An ecosystem is a group of living organisms that
interact within a specific environment. Invasive species can
interrupt an ecosystem's balance because they compete with
native species, the species that live in a place naturally.

20 Opossum are not a species native
to Alaska. They are native to
North American regions much
farther south, like the West Coast
and Southeastern United States,
25 as well as Mexico and Central
America. In those places, they are
an important and beneficial part of
the ecosystem.



*Regions in North America
where opossum are native.*

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Opossum reproduce quickly, breeding up to two times a year.
30 They have up to 13 babies in each litter. Though coyotes, fox,
and owl will prey on opossum, their numbers are not large
enough to keep an invasive opossum population in check.
This makes opossum a potential threat to the balance of
Alaska's delicate ecosystems.

35 Opossums have a varied diet, munching on fruits, vegetables,
insects, and even rotten meat. What worried the residents of
Homer the most was that opossums also love to eat eggs.
Every spring, hundreds of species of migratory birds come to
Alaska to build nests and lay their eggs. Grubby was a threat
40 to them.

The Homer Police Department and the Alaska Department of
Fish and Game were determined to catch Grubby. They
asked the residents of Homer to report any sightings of the
opossum. Luckily, Grubby explored Homer for only about a
45 month before she was finally captured.

Different opinions arose about what to
do with Grubby. Some wanted her to
return to Washington, while others
thought she should be euthanized.
50 Eventually, Grubby found a new home
at the Alaska Zoo in Anchorage. Now,
she is part of the invasive species
exhibit, where visitors can learn about
invasive animals like Grubby and why
55 it's so important to protect our native
plants and animals.



*Grubby at the Alaska
Zoo in Anchorage.*

Grubby's Babies

1 Not long after Grubby had been captured and transported
to the Alaska Zoo, the Homer Police Department got a
surprising call. A baby opossum had been found. Grubby
had arrived in Alaska pregnant and had given birth in
5 Homer.

Wildlife biologists with the Alaska Department of Fish and
Game were especially concerned with this new
development. Opossum can have up to 13 babies, and no
one knew how many babies were in Grubby's litter. The
10 concern was that they could start breeding with one
another and the invasive population would become a threat
to native wildlife.

In an effort to catch the remaining babies, live traps were
laid in the areas where Grubby and the baby were found.
15 Over the next few weeks, four more babies were caught.

The residents of Homer
continue to keep a
lookout for the remaining
baby opossums, if there
20 are any. Meanwhile,
Grubby and her five
babies are living happily
at the Alaska Zoo,
educating all Alaskans on
25 the importance of
managing invasive
species.



*Two of Grubby's captured babies at
the Alaska Zoo.*

Green Iguana - Puerto Rico

1 Green iguanas, originally from Central
and South America, have become an
invasive species on the island of
Puerto Rico. Originally brought to this
5 US territory as pets in the 1970s, the
reptiles were released into the wild.
They have thrived in Puerto Rico
because of its warm, tropical, and
forested environment.



10 Iguanas reproduce quickly, laying up to 70 eggs a year.
Ninety-five percent of those babies survive to adulthood.
Because iguana have no natural predators, they have
multiplied, spreading across Puerto Rico, impacting native
plants and animals and causing problems for residents of the
15 island.

Iguanas have spread across the
entire island of Puerto Rico. They
can be found in parks, gardens,
forests, and even towns and
20 cities.

One major impact of iguanas is
their effect on native plants.
Iguanas are **herbivores**, which
means they eat plants. They
25 consume crops and native
vegetation, causing damage to
farms and disrupting the island's
delicate ecosystem.



Iguanas are native to Central
and South America. They are
invasive to places in the
Caribbean like Puerto Rico, US
Virgin Islands, and in the US
state of Florida.

30 The increasing population of iguanas has also affected native animals. They compete with local birds and reptiles for food. This competition can harm native animals and upset the natural balance of Puerto Rico's wildlife.

Iguanas have also impacted Puerto Rico's towns and cities. In these **urban** areas, they dig burrows in search of shelter, 35 which can disrupt sidewalks and roads, creating hazards for both pedestrians and drivers. They also bask in the sun on airport runways. This can be dangerous because it sometimes interferes with the planes taking off or landing. Iguanas love to climb, and this puts the electrical grid at risk. They climb and 40 hang on power lines, causing power outages.

Efforts have been made to control the iguana population in Puerto Rico. Some volunteer 45 organizations conduct nest-destruction campaigns in an attempt to keep the population from increasing.



Green Iguana

Adding iguana meat to the menu has even been suggested. 50 In Central and South America, people eat iguana meat. Eating iguana is not part of Puerto Rican culture, though, and the idea is not popular amongst local residents.

Brown Tree Snake - Guam

1 In the beautiful island of Guam, a US territory in the Pacific Ocean, a troublesome invader has caused quite a stir—the brown tree snake.

5 Originally from Australia, Indonesia, and Papua New Guinea, this venomous snake made its way to Guam through US military transports after World War II.



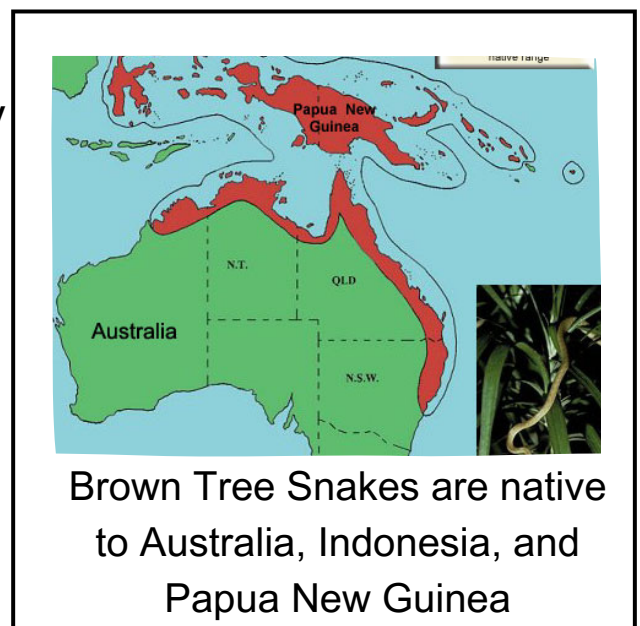
10 The brown tree snake's arrival has had a big impact on the island's environment and wildlife. Brown tree snakes are excellent climbers and have taken over trees in Guam's forests. They have thrived on the island because of the abundance of food and the absence of natural predators.

15 They also reproduce quickly, laying up to 24 eggs a year.

Brown tree snakes are

carnivores, which are animals that eat meat. Their favorite prey are birds, and their presence in

20 Guam has had a devastating effect on the native bird population of the island. Ten of the twelve native bird species have disappeared from Guam since the snake's introduction in
25 the 1940s. The surviving two species are critically endangered.



Brown Tree Snakes are native to Australia, Indonesia, and Papua New Guinea

30 The brown tree snake has also caused economic issues. It frequently causes power outages by climbing on electrical lines, causing them to short-circuit. This has cost Guam millions of dollars in damages and repairs and has affected private homes, commercial buildings, and the military bases on the island.

35 The brown tree snake has also had an impact on the lives of the people living on Guam. As the bird populations decline, the
40 snakes look for other sources of food. The snakes are now hunting people's pets, and there is a risk that they will attack children.



Brown Tree Snake

45 Guam is a major transportation hub in the Pacific Ocean, with commercial and military cargo transported from Guam to other islands in the Pacific. Many people are concerned that the brown tree snake will spread, causing significant impact to the ecosystems of other islands.

50 Recently, scientists have discovered a new approach to tackling the problem of this invasive species.

Acetaminophen, an ingredient in Tylenol, is deadly to brown tree snakes. Scientists have begun parachuting dead mice, laced with acetaminophen, into forests around Guam. The
55 parachutes get stuck in the trees, leaving the mice dangling for the snakes to find and eat. This is just one effort to control this destructive invasive species.

Tamaligi Tree - American Samoa

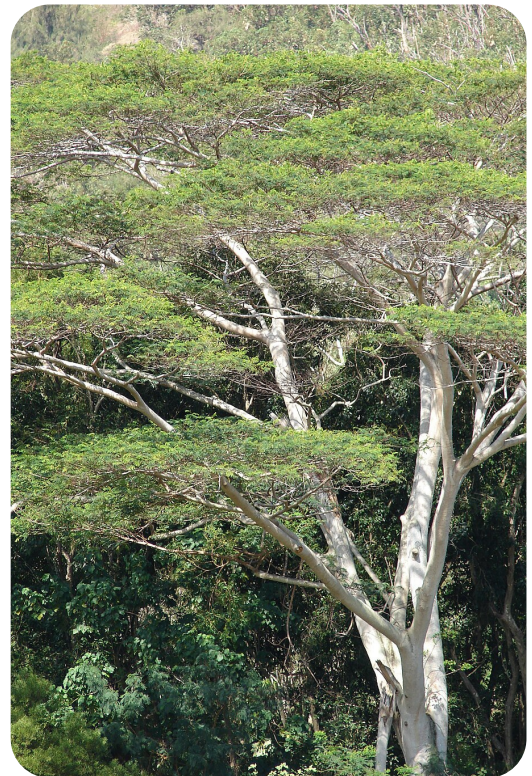
(Tah-mah-ling-ee).

1 In the US territory of American
Samoa, there is a problem with an
invasive plant called the tamaligi
tree. This tree, originally from New
5 Guinea, was brought to the island
of American Samoa to provide
timber for construction.



It was grown in **rural** regions of the island, or areas
where fewer people live. Unfortunately, it has become
10 a big problem because it grows really fast (over six
meters in two years!) and takes over the land.

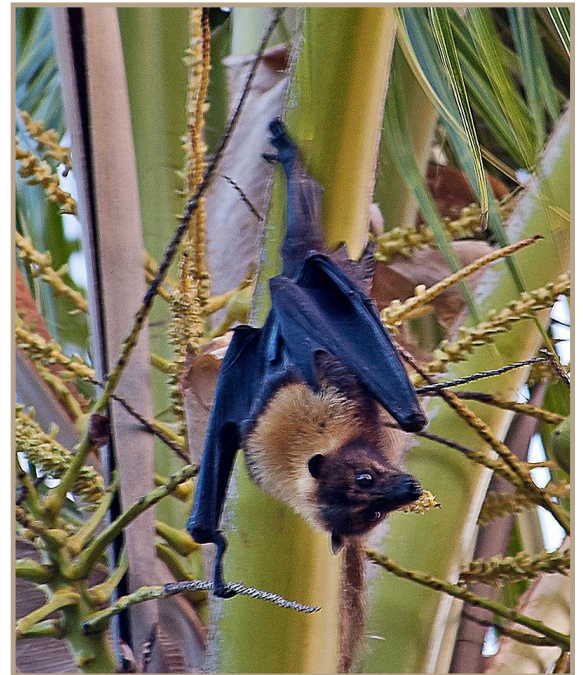
The tamaligi tree spreads
quickly and forms thick groups
of trees that block the sun
15 from reaching the native
plants. This is a problem
because it stops the native
plants from growing and
disrupts the natural balance of
20 the island. The tamaligi tree
also has shallow roots that
can cause the soil to erode
and make the land less stable.



Tamaligi Tree

25 The tamaligi tree has had an impact on the local bat population. Bats play an important role in ecosystems as pollinators. They also spread seeds around the forest through their feces. Bats don't like roosting in tamaligi trees because the trees have a dense and
30 uniform canopy.

Unfortunately, native trees and vegetation that provide natural roosting sites for bats are shaded from the sun by
35 the invasive tamaligi tree. This puts stress on the bat populations and threatens the health of American Samoa's ecosystems.



Fruit bat

40 Efforts have been made by the people of American Samoa to rid the island of these invasive trees. One technique that has been effective is the removing of the bark from the tamaligi tree. The tree cannot survive without its bark, so removing it kills the tree. After the
45 invasive trees die, native trees are planted in their place, restoring the balance to the ecosystem of American Samoa.

Tamaligi Tree - Evidence (pg. 1)

A In the US territory of American Samoa, there is a problem with an invasive plant called the tamaligi tree.



This tree, originally from New Guinea, was brought to the island of American Samoa to provide timber for construction.

c



B It was grown in **rural** regions of the island, or areas where fewer people live.



D Unfortunately, it has become a big problem because it grows really fast (over six meters in two years!) and takes over the land.



E The tamaligi tree spreads quickly and forms thick groups of trees that block the sun from reaching the native plants. This is a problem because it stops the native plants from growing and disrupts the natural balance of the island.



F The tamaligi tree also has shallow roots that can cause the soil to erode and make the land less stable.

Tamaligi Tree - Evidence (pg.2)

G The tamaligi tree has had an impact on the local bat population.



H Bats play an important role in ecosystems as pollinators. They also spread seeds around the forest through their feces. Bats don't like roosting in tamaligi trees because the trees have a dense and uniform canopy.



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Green Iguana - Evidence (pg. 1)

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C Because iguana have no natural predators, they have multiplied, spreading across Puerto Rico, impacting native plants and animals and causing problems for residents of the island.



D Iguanas have spread across the entire island of Puerto Rico. They can be found in parks, gardens, forests, and even towns and cities.



E One major impact of iguanas is their effect on native plants. Iguanas are **herbivores**, which means they eat plants. They consume crops and native vegetation, causing damage to farms and disrupting the island's delicate ecosystem.



F The increasing population of iguanas has also affected native animals. They compete with local birds and reptiles for food. This competition can harm native animals and upset the natural balance of Puerto Rico's wildlife.

Green Iguana - Evidence (pg.2)

G Iguanas have also impacted Puerto Rico's towns and cities. In these **urban** areas, they dig burrows in search of shelter, which can disrupt sidewalks and roads, creating hazards for both pedestrians and drivers.



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K Adding iguana meat to the menu has even been suggested. In Central and South America, people eat iguana meat.



L Eating iguana is not part of Puerto Rican culture, though, and the idea is not popular amongst local residents.

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D Their favorite prey are birds, and their presence in Guam has had a devastating effect on the native bird population of the island. Ten of the twelve native bird species have disappeared from Guam since the snake's introduction in the 1940s. The surviving two species are critically endangered.



F The brown tree snake has also had an impact on the lives of the people living on Guam.

Brown Tree Snake - Evidence (pg.2)

The brown tree snake has also caused economic issues. It frequently causes power outages by climbing on electrical lines, causing them to short-circuit. This has cost Guam millions of dollars in damages and repairs and has affected private homes, commercial buildings, and the military bases on the island.



As the bird populations decline, the snakes look for other sources of food. The snakes are now hunting people's pets, and there is a risk that they will attack children.



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Scientists have begun parachuting dead mice, laced with acetaminophen, into forests around Guam. The parachutes get stuck in the trees, leaving the mice dangling for the snakes to find and eat. This is just one effort to control this destructive invasive species.

Identify Text Evidence

Directions: After reading the text, work with your group to discuss and answer the questions below. Use the text evidence slips provided to determine the evidence that you think most strongly supports your answers. Note: There may be more than one example of strong evidence for each text.

Invasive Species: _____

- 1. How was the invasive species first introduced?**
- 2. What text evidence best supports this answer?**
- 3. How has the invasive species impacted the ecosystem of the region?**
- 4. What text evidence best supports this answer?**
- 5. What attempts have been made to reduce the population of the invasive species?**
- 6. What text evidence best supports this answer?**

Identify Text Evidence (**answer key**)

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Invasive Species: _____ **Green Iguana** _____

1. How was the invasive species first introduced?

It was first brought to Puerto Rico as pets and then they were released into the wild.

2. What text evidence best supports this answer?

Evidence "B"

3. How has the invasive species impacted the ecosystem of the region?

They eat crops and native plants. They also compete with native animals that eat the plants.

4. What text evidence best supports this answer?

Evidence "E" and "F"

5. What attempts have been made to reduce the population of the invasive species?

There are groups of people that are trying to destroy nests. Others are trying to introduce iguana to the Puerto Rican diet.

6. What text evidence best supports this answer?

Evidence "J" and "K"

Identify Text Evidence (**answer key**)

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Invasive Species: _____ **Tamaligi Tree** _____

1. How was the invasive species first introduced?

It was first brought to and grown in American Samoa as a source of lumber

2. What text evidence best supports this answer?

Evidence "C"

3. How has the invasive species impacted the ecosystem of the region?

The trees overshadow the native plants and affect where bats roost. Native plants can't grow well. Also, the soil is affected by the shallow roots.

4. What text evidence best supports this answer?

Evidence "E", "I", and "F"

5. What attempts have been made to reduce the population of the invasive species?

The bark is being stripped off of the trees. This kills them.

6. What text evidence best supports this answer?

Evidence "L"

Identify Text Evidence (**answer key**)

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Invasive Species: _____ **Brown Tree Snake** _____

1. How was the invasive species first introduced?

It was first brought to Guam on military transports

2. What text evidence best supports this answer?

Evidence "A"

3. How has the invasive species impacted the ecosystem of the region?

It has caused many bird species to go extinct.

4. What text evidence best supports this answer?

Evidence "D"

5. What attempts have been made to reduce the population of the invasive species?

Dead Tylenol-laced mice are being parachuted into the forests of Guam to poison the snakes.

6. What text evidence best supports this answer?

Evidence "H"