Year 7 Science
Fascinating Fact Sheets
on
Invasive and Endangered Animals or Plants
of
Australia

Class: 7.1

The Feral Pig

Ben Atia 7.1 Somersetcollege

Introduction:

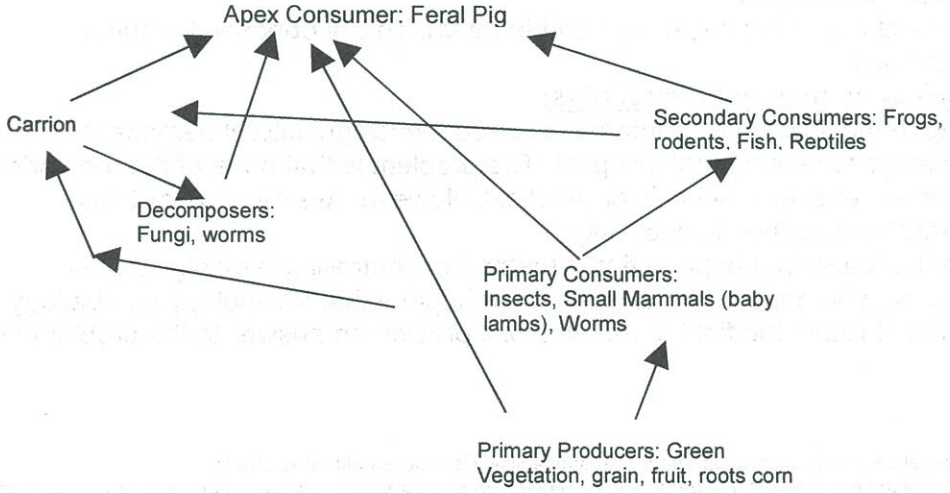
Pigs are not native to Australia. They were introduced to this country by the early European settlers who brought these animals as a domesticated source of food. The pigs were transported by the settlers around the country In 1700`s some pigs had escaped (and some deliberately released) into the wild and rapidly multiplied in this new ecosystem where they had supreme competitive advantage - they have become wild or 'Feral Pigs. By the 1880's Australia had a well-established feral pig' population and currently there are about 23 million feral pigs over 38% of Australia's area. They are officially considered as damaging pests both economically and environmentally. [Anon, 2005,Threat *abatement plan*,p.3] [Choquenot et al,1996, p.11]

Classification

Kingdom	Phylum	Class	Order	Family	Genus	Species
Animalia	Chordate	Mammalia	Artiodactyla	Suidae	Sus	Scrofa

Food Chain or Food Web

Feral pigs are best described as a opportunistic omnivores which means that they can eat just about anything as the food chain below illustrates.



Why are feral pigs a problem?

Biologists and ecologists have enabled us to study delicate ecosystems thus fully appreciate the negative effect of the feral pig on our natural flora & fauna which include [Anon, 2011, The Feral Pig]:

1. Erosions around water sites caused by their relentless rooting and wallowing and feeding on vegetation which stabilize the land. This causes destruction of food source and nesting sites for native fauna.
2. Causing scarcity of food to native animals (survival of the fittest), attack and prey on ground nesting birds and can contribute to the spread of unwanted weeds.
3. Causing further endangerment of Australian frogs by direct predation and destruction of breeding sites (white-bellied, orange-bellied and corroboree frogs).
4. They cause destruction of crops and livestock. For example, they destroy an estimated 20,000 tonnes of sugarcane annually and up to 40% of newborn lambs. This has a

deleterious economic effect and has been estimated at circa 100 million dollars annually [Anon, 2010, Feral pigs in Queensland...]

5. Being vectors and hosts of more than 24 diseases that affect humans and other animals including sparganosis, melioidosis, leptospirosis, Q fever, tuberculosis, brucellosis [Anon, 2012, dpi.nsw.gov.au]

Ways that science helps to control the feral pigs?

Science (Biology, Zoology, Environmental ecology etc.) can help by enabling us to better understand ecosystems, how to protect them and the dangers of introduction of a foreign species. By understanding the reason why feral pigs are so successful in Australia, we may be able to curb their success and control their population.

The feral pig is basically a very hardy animal. They can eat anything (plant or animal - dead or alive) and breed early with fast reproductive rate. The female pig (saw) can breed from the age of 7 months with 2 litters per year - each litter with average size of 6 piglets (can be up to 12)). The adult pig has no predators but dingos and wild dogs can prey on young piglets. [Choquenot et al,1996, p.11-26].

Since the feral pig has such a competitive advantage in Australia, the best methods to control its spreads or influence are by [Choquenot et al,1996, p.3]

1. **Trapping** - effective in some situation, expensive and raises animal welfare concerns re animal suffering. Pigs are very intelligent animals and quickly learn to avoid traps in case of near misses.
2. **Fencing livestock and crops to protect them** - expensive and time consuming.
3. **Shooting with helicopter** - Effective but expensive
4. **Shooting from land with or without dogs** - not effective. Considered a sort of sport by some and is not approved by the RSPCA on ethical grounds in that it causes undue suffering to the pigs and dogs. The whole issue of hunting for sport is of questionable ethics.
5. **Poisoning with**
    a. **1080** - most commonly used compound.
    b. **Yellow phosphorus** - very effective but causes undue suffering and collateral damage to native fauna.
    c. **Warfarin** - effective but causes a horrible death. This is opposed by human welfare groups.

Reflection on the implication managing feral pigs:

Feral pigs are causing tremendous environmental and economic/agricultural damage in Australia. We turn to science to help control this pest. The problem is that none of the methods currently used are extremely effective, specific or practical. However, we must persist with these out of environmental and economic necessity.

We turn to science in the future in a hope to find a method of controlling feral pigs that is specific, effective, cheap and humane to the animals. I am hopeful that technology and biology will combine and, perhaps through the field of robotics, will provide an answer to the problem of the feral pig.

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Ben Batho

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Science

Mrs Walker

the Blob fish

The blob fish is a deep sea fish living of the coast of Australia and New Zealand though there are other species living in the northern hemisphere there is one known endangered species in Australia. The blob fish lives around 100 -2000 below sea level the blob fish has little or no muscle so it can't swim and doesn't have control of direction. It has an average Wight of around 9 kilograms. It is usually around 30 cm in length and has no predators. It eats crabs, muscles and sea pens. It is the colour pink. It doesn't hunt for it's self but waits for food to swim past.

The blob fish is an e species because of its only threat humans we are the blob fishes only know predators although we don't mean it the blob fish is still caught in deep sea trawlers and is killed because of the lack in pressure. we can stop killing blob fishes by cutting down on the amount of sea food we eat too stop the need for trawlers

http://facts.net/blobfish/

https://en.wikipedia.org/wiki/Blobfish

https://australianmuseum.net.au/image/fathead-psychrolutes-aka-mr-blobby

WILL THE FOX POPULATION OUT NUMBER THE POPULATION OF HUMANS?

INVASIVE ANIMAL

NATHALIE BROWN 7.1, SCIENCE, MRS WALKER, 8/3/17

The Red Fox was introduced to Australia in the mid-1800's for recreational hunting, but later became a huge threat to many native animals. (Australian Government, 2010)

(Animal Control Technologies, 2004)

After the Red Fox was first released in Victoria, the local sheep farmers became outraged. The Red Foxes were a huge threat to native animals and sheep. According to 'Animal Control Technologies', Foxes can reproduce up to 2million every year in Australia alone.

Level of Classification	Invasive non-native species
Kingdom	Animal
Phylum	Chordate
Class	Mammalia
Order	Carnivora
Family	Candiae
Genus	Vulpes
Species	V. vulpes

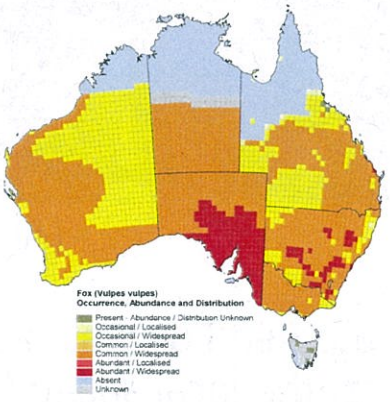
HOW CAN SCIENCE HELP REDUCE THE NUMBER OF RED FOXES? (AUSTRALIAN GOVERNMENT, 2010)

On the Australian Government website, it said that scientists are trying to change the biological and conventional methods to reduce the damage caused by the foxes. The government says that the only way that the public can help is by poising, shooting and fencing.

Another example of how science can help is if that they can find a virus, like the cane toads, that will slow how fast a fox can grow, then possibly we can control the numbers more carefully.

WHY IS THE RED FOX INVASIVE?

The Red Fox was introduced to Australia from America and was used for recreation hunting. Later, the government decided to let the foxes free in the wild and at is when the foxes became a huge threat to many endangered animals like the bilby.



(University of Bristol, 2007)

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The Ancient Turtle

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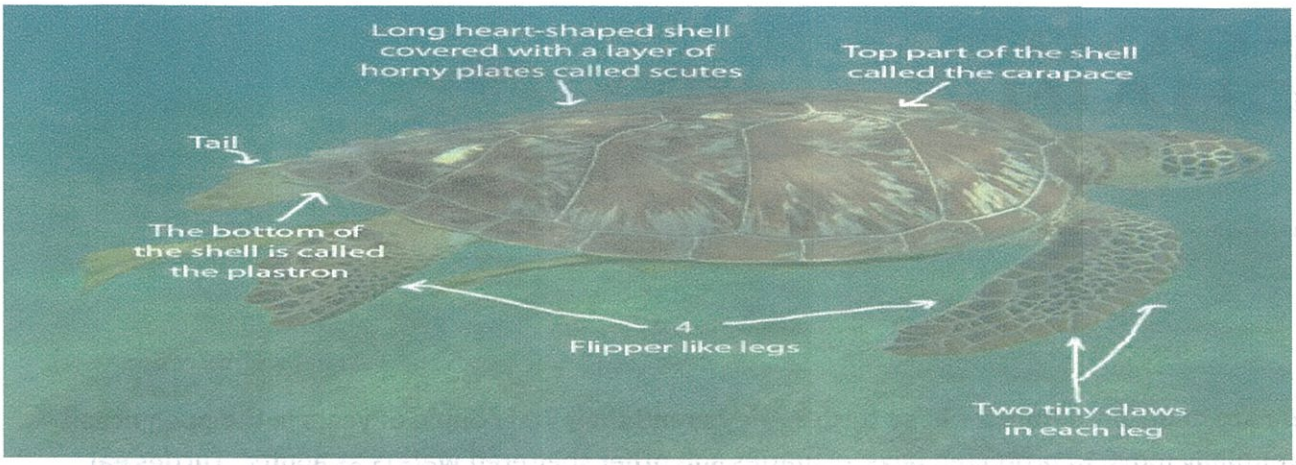
Sciences

Date of Submission: 7/3/2017

Word Count: 836



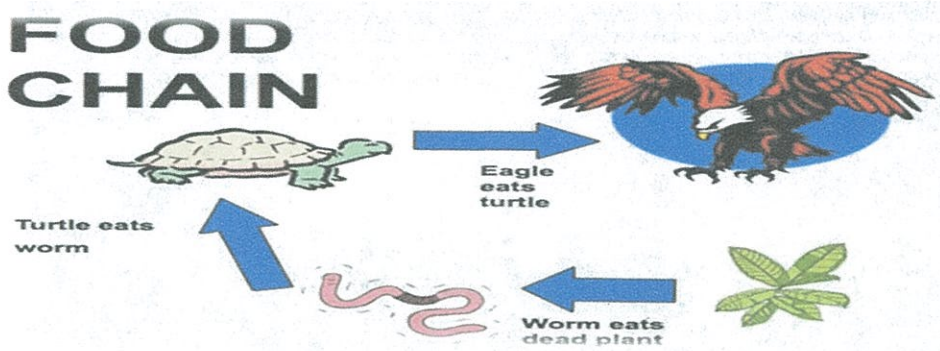
www.cenotes.com

The Ancient Turtle (Testudine)

Turtles have been around for hundreds and thousands of years. There are many species of turtles such as the leather back, green, bum breathing, long neck, snapping turtle and logger head. Today I'm focusing on the Green Sea Turtle with the following scientific classification from the *Integrated Taxonomic Information System* (Bradford, 2016 www.livescience) (*Kingdom - Animalia, Phylum - Chordata, Class - Reptilia, Order - Testudines, Family - Chelonidae, Genus - Chelonia, Species - Mydas*). They have a bony shell on their back which acts as their shield and four flipper like legs. They have the largest shell of all the hard sea shell turtles and are the only species that are herbivores. Green Sea Turtles are listed as an endangered species clarified by (National Geographic, 2016 www.animals.nationalgeographic.com). Unfortunately this has happened and hopefully one day everyone will try to help turtles because no one wants the sea turtle to become extinct.

HISTORY: The oldest fossils of turtles were found in Germany and date back 200 million years ago. They are the oldest fossils of a four-legged animal and they are one of the most ancient animals in the world. There are even some turtles in the world right now still breathing that are 400 years old. They lived during the prehistoric times which means the generation of turtles has lasted thousands of years. The green sea turtle migrated to the Great Barrier Reef waters in Australia from Indonesia, Papua New Guinea and New Caledonia.

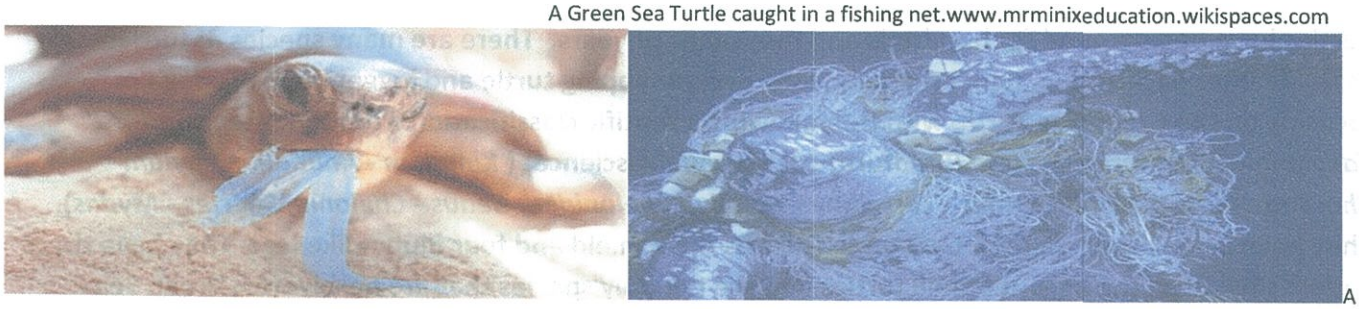
IMPACT: Six of the seven species of sea turtles are threatened or endangered because of humans. They face many dangers as they swim through the open ocean including accidental capture from fisherman. They also die because of pollution, especially plastic bags where they mistake them as jellyfish, eat them and then they choke on it and suffocate. Pollution such as plastic bags, fishing line and balloons can kill these amazing prehistoric creatures because plastic bags are mistaken for jellyfish and a sea turtles main food diet is a jellyfish. We all need to stop polluting the waterways so the sea turtle can survive. Sea turtles are well adapted to the ocean. Female turtles come ashore to lay eggs several times per season every 2 to 5 years. After sixty days' sea turtles emerge from their nests and make their way to the ocean. The baby sea turtles always follow the moonlight to know which way to go to find the mum turtle but some get eaten on the way there by sharks, seals and birds of prey.



Vraley.wikispaces.com

As there are many predators for baby turtles, they spend their first couple of years in the open ocean and eventually move to protected bays, estuaries and other sheltered waters as adults. Turtles eat seagrass, jellyfish and crabs. Unfortunately sea turtles can drown when caught in fishing gear. Nets and fishing gear can also wreck coral and their nesting sights.

A Green Sea Turtle caught in a fishing net.www.mrminixeducation.wikispaces.com



Green Sea Turtle choking on a plastic bag. www. onegreenplanet.org

CONTROL: Scientists and wildlife carers help nesting areas by putting barriers around them, to stop people and wildlife stealing, standing on and crushing the eggs. They also carry the hatchlings down to the waters edge to help them on their journey and they are not eaten by wildlife. Also by having the Green Sea Turtle at marine parks enables scientists and people to learn more about these animals and raise money for research. Scientists are also reducing artificial light near beaches so that hatchlings do not get lost on their way to the waters edge.

Although a disadvantage of scientists carrying the hatchlings down to the water mean they miss out on the opportunity of their first steps and learning to walk. But by scientists doing this they at least have a chance of survival. There are many different opinions on keeping the Green Sea Turtle in marine parks because they are being kept in captivity but the advantages far outweigh this by being able to study the turtles is much easier than if they are in the wild and they are able to raise money for more research.

It is possible and important to be able to control the pollution and other factors that are causing the extinction of these (testudines) turtles. By sometime, somehow humans have to stop pollution and fishing nets in nesting sites because before we know it the sea turtle will be extinct and we do not want that to happen. We need to control these problems by putting all rubbish in bins and not drop rubbish on beaches, creeks and oceans and if that stops, that will increase the population of the sea turtles. We also need to stop using fishing nets to catch fish because many sea turtles are dying from these nets. A way we could fix this problem is by using nets only in designated waters and educating people about the harm it is doing to sea turtles.

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Australian Fur Seal

(www.australianananimallearingzone.com.au

Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Otariidae
Genus	Arctocephallus
Species	A. Pusillus
Scientific name	Arctocephalus pusillus

The Australian Fur Seal became in endangered in Australia in the late 1800s and early 1900's. The population slowly decreased because of people hunting the seals for their unique fur.

Currently this number is slowing recovering because of the preservation of breeding sites. Now, there are still a lot of dangerous threats such as oil spills and fishing nets. Seals can get caught up in nets, and die from oil spills.

There are Australian Fur Seals in NSW, Tasmania, Victoria and South Australia. The females (cows) are usually 1.5 metres long and weigh 36 – 113 kg, but the males (bull) are usually 2 - 2.3 metres and are roughly 218 – 360 kg. The both look very similar, but just different sizes and weight.

They are named Fur seals because of their two thick layers of fur, the outer layer protecting the thin layer inside.

Science is protecting these seals by addressing issues such as breeding. There are now 10 established breeding sites in the southern part of Australia, so the seals can get back to the number they were a century ago.

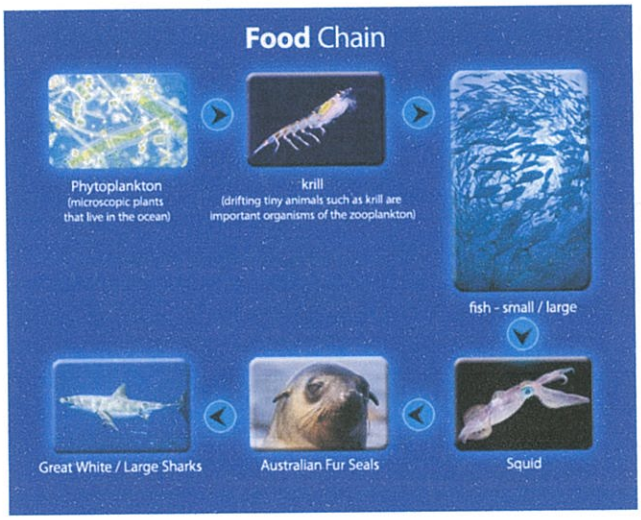
Australian Fur Seals breed during October to December. Females have one pup at the beginning of Summer. They stop drinking their mother's milk at around 11 months. Science also is trying to identify parasites that affect the seal's health, which may affect their decreasing numbers.

They are also trying to relocate seals during accidental oils spills. Scientists are collecting data on fish supplies and increasing numbers of fish in the ocean for their food supply.

The solution science gives to the problem is to increase seal breeding (environmental) and protecting seals from oil spills (ethical and moral) and improving their health (environmental).

Cost is an issue in managing endangered seals. It is very expensive to do research on the seals, relocate the seals and study their health. They live near the coast of four different states, unlike Tasmanian devils, which are only located in Tasmania.

It is harder to focus on one population of seals. Seals are also harder to contain because they live in the ocean, unlike bilbies, which can be housed in one smaller area on the land. Some seals are quite big also and hard to catch for research and they need to live in the sea to survive.



Food chain
(www.sealeducation.org.ed

Australian Fur Seals eat squid, which eat fish, which eat krill, which eat phytoplankton. When one of these food sources is in low numbers, it causes a problem in food for the seals. The seals are eaten by large sharks. Fur seals are at the higher end of the food chain. They also eat other fish, squid and cuttlefish.

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Date due: 8th of March 2017
Orlanda Castle 7.1 Somerset college.SC1 Mrs Walker

http://www.parks.tas.gov.au/file.aspx?id=2506&mode=large

The Dangerous, Invasive European Red Fox

By Lauren Chan 7.1 Sciences Somerset College Due: Wednesday 8th March

Level of Classification	Invasive non-native species
Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Canidae
Genus	Vulpes
Species	Vulpes vulpes (http://bioweb.uwlax.edu/bio203/f2013/eidensch_matt/classification.htm#)

Food Chain

Wolves
http://img15.deviantart.net/517e/i/2010/240/e/a/the_australian_wolf___by_snapjaw-d2xg342.jpg

European Red Fox
http://photos.rnr.id.au/2005/03/25/Fox_Woodlands050325-7892.jpg

Bird
http://www.duadepaton.com/wp-content/uploads/2013/05/feature25-570x290.jpg

Worms
http://www.cbronline.com/wp-content/uploads/2016/07/worm.jpg

Dirt
https://i.unu.edu/media/ourworld.unu.edu-en/article/8634/The-Surprising-Healing-Qualities-of-Dirt.jpg

History

- Red foxes were introduced in 1855 for recreational hunting
- The fox populations were established in the wild in the early 1870's
- Within 100 years' foxes spread throughout most of Australia
- Only tropical North Australia and some off-shore islands remain fox-free
- European Red Foxes have a significant impact on the population decline of ground nesting birds and small to medium sized birds and reptiles

- ❖ Within 20 years of their introduction, foxes had been announced a pest in Victoria
- ❖ Today foxes are found in over 75% of Australia

Ways that science is used to control the Red Foxes

2 ways that science is used to control the invasive European Red Foxes are-

- Preventing Foxes from occupying new places in Australia and eliminating them from high-conservation areas
- Promoting maintenance and recovery of the native Australian species and ecological environments that had been affected by the Red Fox

http://www.thefoxwebsite.net//images/distribution-australia.gif

Advantages	Disadvantages
Environmental-the second way to control the effect of Red Foxes is environmental because they are trying to help recover the hurt animals and damaged environment and, to maintain native species that are doing no harm to the environment unlike the Red Foxes Moral- these ways of controlling Red Foxes are good because if the method was just to slaughter them on site then Red Foxes would go extinct in Australia in no time and Red Foxes aren't poisonous like other animals so perhaps a few of them would be good	Economical- it may be expensive to build something that prevents the foxes from occupying new areas and then there would need to be more money spent on eliminating the foxes from high-conservation areas. Also, more money would have to be spent to pay for the maintenance and recovery of the native Australian species and ecological environments that have been affected by the Red Fox Environmental-the first way to control the Red Foxes is most likely to be unhealthy for the environment because this method is likely to require building something unnatural and manmade in a nice healthy environment

European Red Foxes are very dangerous to the environment and native Australian Animals. Hopefully scientists can control these dangerous creatures and recovery of the threatened species and environments is achieved quickly.

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Will The Tasmanian Devil Population Rise?

Somerset College - Mia Collins

Science - Mrs Walker 7.1 Due: 8th March

Tasmanian Devil Population.

In May 2009 The Australian Government listed the Tasmanian Devil as endangered under national law. In the 1990's the first signs were observed of a fatal and infectious cancer called Devil Facial tumor disease. Since then Tasmanian Devil sightings have declined by more then 70%

The Tasmanian Devil population is quickly decreasing due to this disease the Tasmanian Devils carry.

How The Species Is Endangered

The Tasmanian Devil is an endangered marsupial because Tasmanian devils are sometimes diagnosed with "Devil Facial Tumor Disease" (DFTD). Large tumors develop around the Devils mouth and neck. When a devil bites another the disease can be quickly spread to the bitten devil. This cycle continues spreading the disease to different devils.

Tasmanian devil food chain

Vegetation -> Rodents, Lizards, Wallabies-> Snakes & Tasmanian Devils

Classification of the Tasmanian Devil

Kingdom	**Animal**
Phylum	**Chordata**
Class	**Mammalia**
Order	**Dasyuromorphia**
Family	**Dasyuridae**
Genus	**Sarcophilus**
Species	**S.harisii**

Scientific Name Of A Tasmanian Devil: Sarcophilus harisii

Treating The Disease

HOW CAN WE HELP?

We can secure an unaffected population on Tasmanian Devils in an unaffected, safe area where they can be hibernated. This will help the Tasmanian Devils reproduce without worry of getting the disease/

Individuals can help by donating funds for research. Donate at http://www.tassiedevil.com.au/tasdevil.nsf and donate to help vaccinate Tasmanian Devils against this tumor disease.

Science Has a moral issue with treating animals because treating individual devils is more difficult. If a cure for the disease is found, then it needs to be used from a wildlife management perspective to treat the animals in the wild.

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26 Feb 2017

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DevilDisease

http://www.parks.tas.gov.au/?base=387

November 6 2014

Wed 7/3/17 Riley Davenport, 7.1 Somerset College Sciences, Mrs C. Walker

One of Australia's National Treasures – How can we end their endangerment?

Level of classification	Endangered Native Species
Kingdom	Animal
Phylum	Chordata
Class	Mammalia
Order	Peramelemorphia
Family	Peramelidae
Genus	Macrotis
Species	Lagotis
Subphylum	Vertebrata
Subclass	Marsupialia

Australia's Native Endangered Bilby (The Greater Bilby) is slowly depleting in numbers due to invasive non-native species. As the more and more scientists and public become aware of the issue, the more they can prevent it. Scientists are rapidly working towards a solution to save this little native mammal.

The bilbies main reason for being endangered is the introduction of invasive non-native species such and sheep and cattle, rabbits and most of all feral cats and foxes. Each of these animals plays a role in making the Greater Bilby even more extinct each day. The Lesser Bilby (*Macrotis leucura*) has already become extinct due to these predators and invasive species.

Firstly, since the introduction of sheep and cattle, the population of wild Greater Bilbies has been greatly reduced. The sheep and cattle take over the land that the bilbies need to survive by selfishly pushing the bilbies out of it. The rabbits are known for stealing the bilbies hard worked for burrows as their own and again pushing the bilbies out of their own homes. The feral cats and foxes are up there among the worst invasive species that is known to kill our beloved Australian native Greater Bilby. The bilby fights for food and water resources amongst the other predators and often fails to succeed. Bilbies also faced risks from humans in the 18th century when the British settled in Australia. They often ended up caught in traps meant for the introduced rabbit population that was growing out of hand.

Many people across the world are working to protect the endangered native Australian bilby. Some ways that they are using science to protect them is by keeping some in captivity to scientifically document the changes in their behaviour when predators are around as well as aiding them in faster breeding. Peter and Frank Manthey are the two that managed to raise enough funds and donations that then allowed them to build a 25km squared predator proof fence. It was a haven for the bilbies to now be able to breed without fear of predators (foxes and cats were removed from the area). Societies are also raising funds particularly at Easter time by selling chocolate bilbies and other bilby merchandise. According to The Australian Bilby Appreciation Society, this is when bilby awareness, funding and support is most active. They have been working mainly in Queensland (where bilbies are classified as Endangered), Western Australia and South Australia (they are classified as Vulnerable here) where the bilbies live more prominently. Unfortunately, The Greater Bilby is referred to as Extinct in the other states of Australia.

The solutions that science provide to protect the bilbies mostly relate to certain factors such as social and ethical purposes. It is social because as well as protecting bilbies, it gives a sense of community and brings people socially together over this prized native mammal of ours. Everyone in Australia is patriotic and the bilby is just another reason to have pride for our country. The people working towards saving them have lots of character and kindness. It is ethical because it is an honest program that again brings people together morally.

Scientists are doing the best they can to keep the precious bilbies from the impeding fate of extinction. Let's make sure they don't become extinct by donating and supporting various bilby funds across Australia. Bilbies are, after all, one of Australia's greatest natural treasures.

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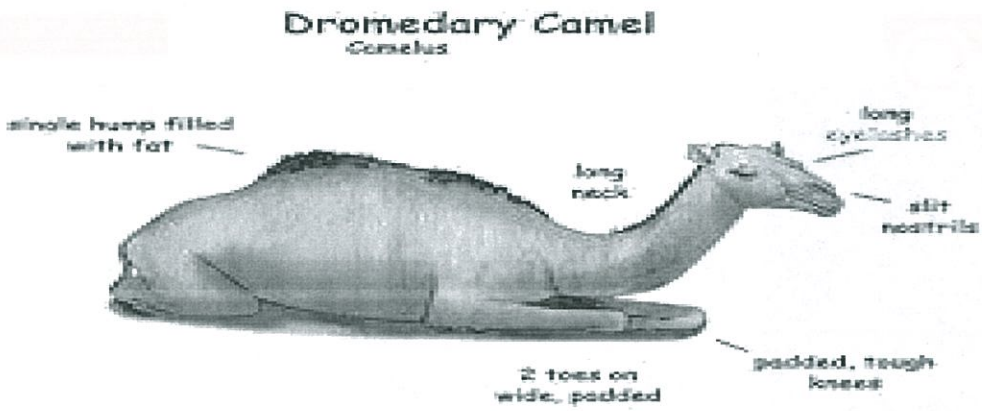
Michael Dobroskok



Running camel

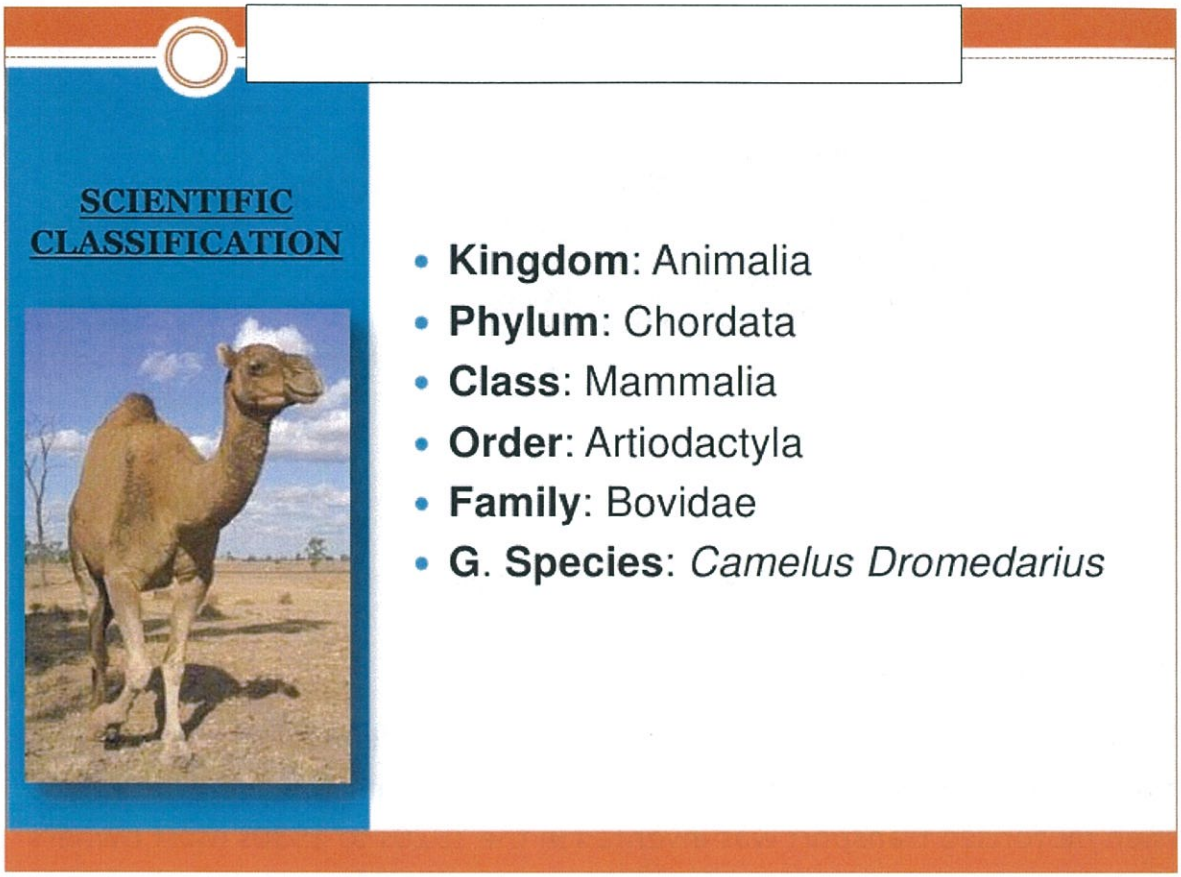
Facts about the dromedary camel

The camel was introduced to Australia because people needed another mode of transport so the camels were imported from Afghanistan and British India. When motorised transport was invented in the 1920s to 1930s most owners set their camels free into the wild. This became a problem because by 2008 there had been around 1 million camels and its said that they will double every 8-10 years. Camels are known to cause serious degradation of local environmental and cultural sites particularly during dry conditions. A $19 million (Australian Dollars) management program was funded in 2009 and upon completion in 2013, the feral population was estimated to have been reduced to around 300,000.

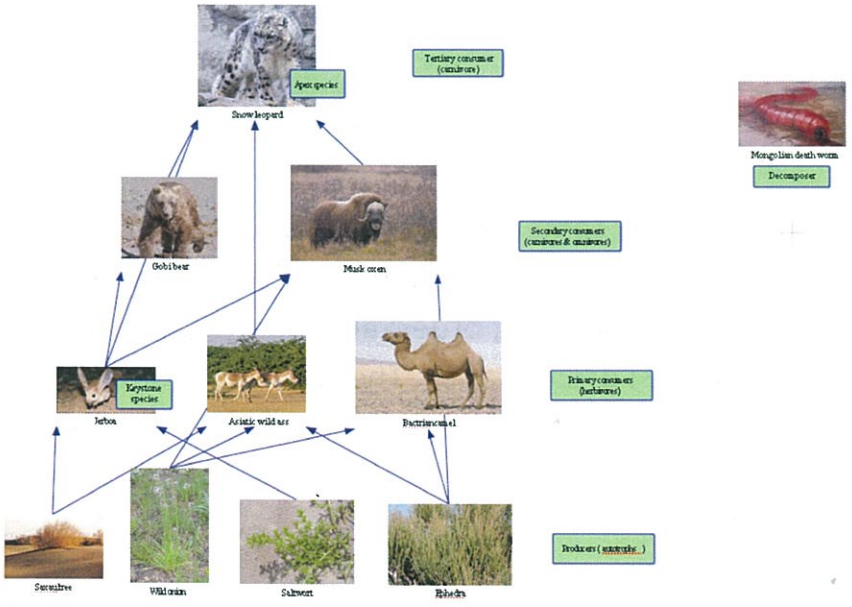
Scientific facts

Most people say that the dromedary camel only has 1 hump but it actually does have a second hump which stores energy in a form of fat. Kingdom: Animalia, phylum: cordata, class: Mammalia, order: artiodactyla, family: camelidae, genus: camelus, species: dromedaries. The camelus dromedaries actually means 'the running camel' dromedaries means running and camelus

obviously means camel.



Food web



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GREY SURVIVAL

THOMAS H

The Grey Nurse Shark (Carcharias taurus)

HISTORY

The Grey Nurse Shark lives in sub-tropical waters worldwide. They have a sharp pointy head and a bulky body. Their mouth is under hung with many rows of teeth and small eyes. Grey Nurse Sharks are not a threat to swimmers or divers.

WHY ARE THEY ENDANGERED?

Grey Nurse Shark numbers have reduced, so they are not listed as 'critically endangered'. A New South Wales survey in 2000 showed that the number could be as low as 292. They are endangered mainly because of shark nets and commercial fishing. They get caught up in the nets and drown.

Back in the 1950's and 1960's, people thought that Grey Nurse Sharks were man-eaters and people used to kill them with spear guns. The sharks' placid nature made them each targets.

ECOLOGY

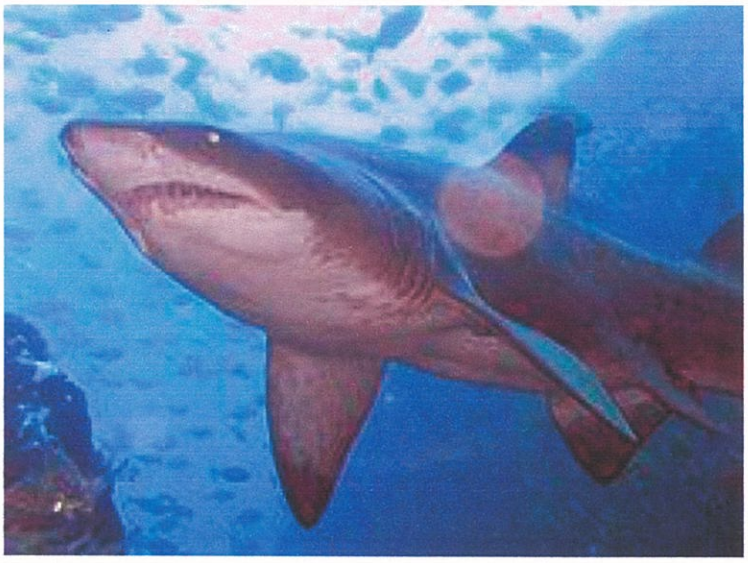
The breeding of Grey Nurse Sharks is unusual. Mating occurs mainly in autumn and the baby takes 9-12 months to grow/develop and the young are born in winter. Near the end of the gestation period, the more fully developed embryos eat the less developed embryos and unfertilized eggs within the female shark's uterus. Only 2 pups are produced per litter 1 in each uterus.

These sharks take 6–8 years to mature and the females only have babies every second year, so the population grows very slowly.

Grey Nurse Sharks forage near the sandy bottom in shallow waters. They like to feed on fish, smaller sharks, sting rays, squid and crustaceans. There are two populations of grey nurse sharks in Australia. The east coast population lives along the coast of NSW and Southern Queensland. The West Coast population lives in the southwest coastal waters of Western Australia.

-New South Wales Fisheries

www.fisheries.nsw.gov.au



World Wild Life Fund www.wwf.org.au

Did you know?

- That Grey Nurse Sharks are able to swallow air on the surface of the water to give them buoyancy control
- They have large, sharp teeth, but they are not very strong and break easily
- The Grey Nurse Shark was the first protected shark in the world when it was listed under NSW legislation in 1984
- Male Grey Nurse Sharks bite females during the breeding season. It's common to see small scars on the females

www.trove.nla.gov.au

The Australian mountain pygmy possum

Somerset college, by timothy Hornsey

The pygmy possum eats small fungi ,small plants , seeds and many I'm small sources of food and it small body can fit into tight spaces so it can sometimes escape from animals that eat the mountain pygmy possum .but most times in winter they don't survive because the their small bodies don't produce a lot of heat . The very small possum is an amazing 14cms long and 45 grams in weight the tail is 11 cm and its body is 3cm long. The small body has grey fur covered all over its body except its stomach and its tail is fur less. this small animal in spring till autumn their main source of food is the bong bong moth. which makes up a third of their food for a year the other two thirds of the years food is nuts seeds ,fleshy fruit ,small plants and nectar. This animal is critically endangered so many scientist are trying to save this small mammal but the population of the small animals is still decreasing and decreasing quite fast. The mountain pygmy possum is native to Australia and it eats many things including fleshy fruits, seeds, small plants, nuts and nectar.

lives in the south of ,Victoria ,nsw (new South Wales)and south Australia. it is endangered because it is hunted by snakes ,eagles, hawks and many more . The Pygmy possum lives in between rocks on a mountain but it is mainly nocturnal and hunted in the day by animals that aren't nocturnal. This nocturnal animal has a very small body so it can fit into small places eg in between rocks on a mountain .but with many fast predators it sometimes does not survive that is why people are trying to save this small animal. This small animal was believed to be extinct after they found the jawbone of this animal as a fossil in 1895 in the wombayean cave in central new south wales . In 1966 that is when scientist found a living evidence on the mountain pygmy possum they discovered that it endangered at the time but now it is critically endangered so that is why scientist are trying to save these small animals . Scientist have be researching about pygmy possums for many years now and they are desperately trying to save these small possums.

The advantages

- **of the tunnel is that the animals can breed so they wont be extinct for a long time**
- **The possums can breed more so we can have the possums for many generations after us can enjoy this possum**

The disadvantages

- **The skiers can run into the boulders while skiing**
- **The tunnel may collapses so if some possums are going through it will kill the possums**

plant/seeds/nuts--> mountain pygmy possum --> small dogs and cats --> snakes--> Hawks/Eagles--> fungi (when animal is dead)--> then repeated

Level of classification	Invasive non-native species
Kingdom	**Animal**
Phylum	Chordata
Class	Mammalia
Order	Diprotodontia
Family	Burramyidae
Genus	Burramys
Species	B.parvus

Esther 7.1

FACT SHEET

What?

The Western Swamp Tortoise is one of the Australian's endangered reptiles because of deforestation, climate change and predators. The Western Australia has a number of endangered species that they rely on for survival, but the rainfall is decreasing and their predators kill them more and more often. The Western Swamp Tortoise scientific name is Peseudemydura Umbrina. Swamp tortoises is a brown turtle that grows up too 150mm in length with a shell shaped as a square. The colour of the western swamp tortoise depends on the age and type of swamp they live in. This native animal has been endangered at Twin Swamps in 1979.

https://www.westernswamptortoise.com.au/media/k2/items/cache/4965657af186b9092c7a96976ffe881c_XL.jpg

Level of classification	Native species
Kingdom	Animalia
Phylum	Chordata
Class	Reptilia
Order	Testudines
Family	Cheildae
Genus	Pseudemydura.umbrina
Species	Umbrina

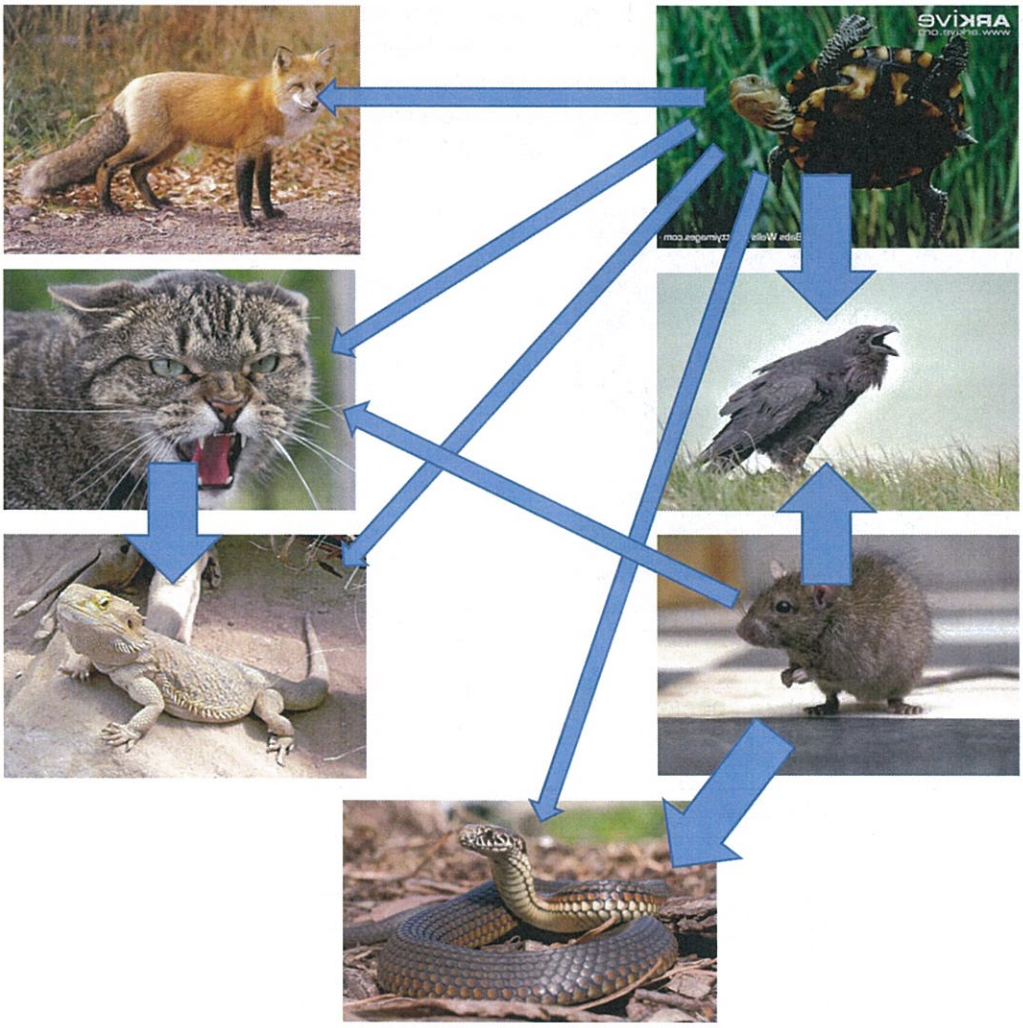
www.edsit.com.au

Why?

The main reason why western swamp tortoises are endangered is because of land clearing, swamp drainage and predation from the Red Foxes. The tortoises have always lived in a restricted range and a lot of their habitats have been destroyed. Climate change has vaporised the wetlands which lead to a smaller chance of survival for the tortoises. These tortoises are naturally hunted by birds, snakes, lizards, foxes, feral cats and rats. Red foxes attack the western swamp tortoise during their aestivation. Swamp tortoises are also vulnerable to climate change. There are less than 200 endangered western swamp tortoise left. These are found near Perth in western Australia. Even though fertilizer is good for farming and planting, it isn't good for the western swamp tortoises. Using fertilizer kills the swamp tortoises because then it spreads into the rivers and swamps.

How?

The Australian government are having a number of recovery actions for the western swamp tortoise. The threatened species network is supporting a community group to protect and restore the tortoise's habitat and the tortoises has also been involved in education. The ways that we can help is conserving water in and out around your house, make not just your school but the local become a water wise; meaning that we use less water every day and not waste water by turning it on and doing something else. More than 500 tortoises that have been bred at the zoo has been released into the wild and now has full fencing protection from their predators.



The subject matter

The Western Swamp tortoise has been endangered for a very long time and the problem causing this is because of many cruel reasons. The matter is that we should help them survive by using less water, not wasting water on anything but things you need water with.

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Name: Ella Klarich Year 7 Science Sem 1 Formative Research Assignment

SHEET

You will need to:

- **Identify** an Australian endangered or an invasive non-native species

Mountain pygmy possum (Burramys parvus)

- Find at least one image of this plant or animal

- **Classify** this plant or animal using the levels of classification, including its scientific name

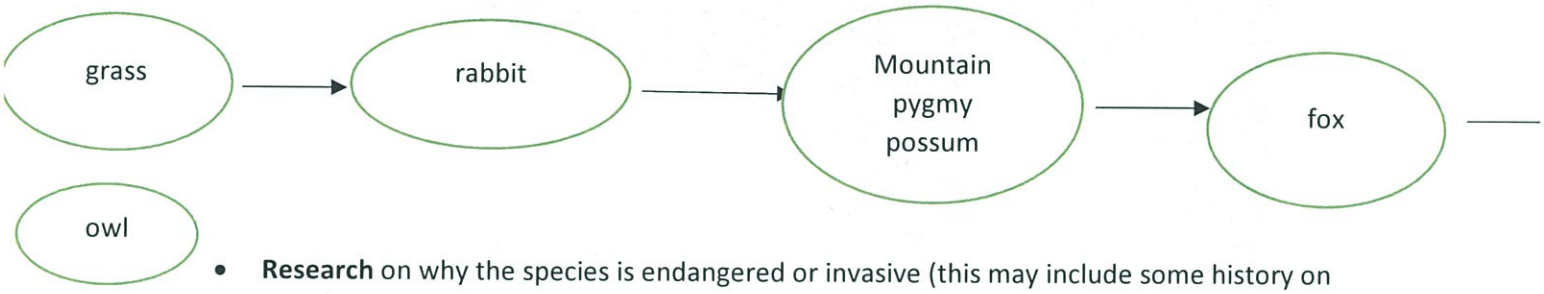
Level of classification	**Invasive non-native species**
Kingdom	Mammalia
Phylum	chordate
Class	Mammal
Order	Diprotodontia
Family	burramyidae
Genus	burramys
Species	b.parvus

Scientific name: Burramys parvus.

Taxonomists use a naming system that gives every species a two-part name. First part of the species name tells you the genus to which the organism belongs and always starts with a capital letter. The second part tells you the species within that genus. This part of the name starts with a lower letter case. When the names are typed italics are used. When written they are underlined.

Eg. Common name: cane toad – Scientific name: once called *Bufo marinus* – instead, it has become *Rhinella marina.*

- **Construct / research** a food chain or food web with a maximum of 5 organisms (one must be your endangered or non-native species)



- **Research** on why the species is endangered or invasive (this may include some history on population numbers, areas inhabited)

The mountain pygmy possum is the only marsupial that hibernates during the winter for long periods of time. The cause of the mountian pygmy possum to become critically endangered is, degradation, fragmentation and loss of refuges are among the immediate threat to the mountain pygmy possum.

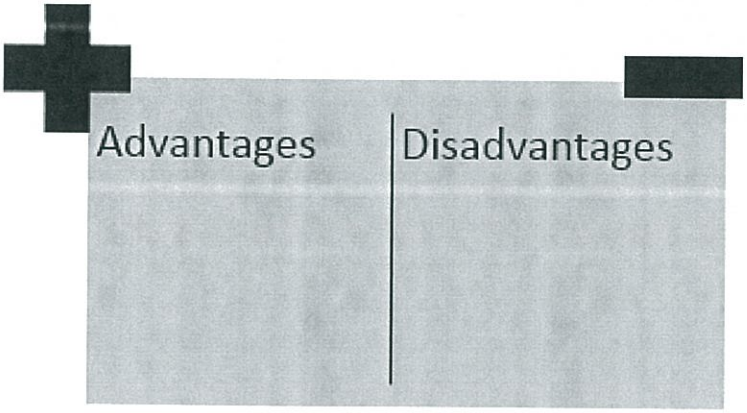
- **Explain** two ways that science is used to protect the endangered species or control the invasive species
  1. A national recovery plan was discovered in 2010 to ensure the mountain pygmy possums to maintain their potential in the wild.
  2. Helensvale sanctuary has successfully launched a captive breeding program for the mountain pygmy possums.

- **Discuss** the implications of the solution science gives to the problem by choosing at least one of the following factors: moral, ethical, social, economical, political, cultural or environmental and reflect on the implications of managing this Australian endangered or invasive non-native species.

A solution for the mountain pygmy possum (environmental) is trying not to feed the animals because they can get really sick from human food, protect their habitat because their lives depend on it and be a responsible pet owner can keep your pets away from attacking wildlife.

Name: Ella Klarich Year 7 Science Sem 1 Formative Research Assignment

The T-Chart is a simple organiser to contrast two or more objects, subjects or proposals. You need to look at the advantages and disadvantages to the way science gives a solution to the problem of this invasive and non-native plant.



Remember that to <u>discuss</u> is to identify issues and provide points for and / or against.

Advantages

1. Lots of space in the habitat.
2. Lots of friends to mate with
3. Only hibernating marsupial in the winter.
4. In winter insects go hibernate so mountain pygmy possums are safe for the winter.
5. Lots of conservation actions helping the mountain pygmy possums.

Disadvantages

1. Not enough food in the habitats.
2. Getting run over by cars in the forest.
3. Lots of predators in the habitat
4. Powerful winds can knock them over.
5. Habitat restricted to humans because of culling.

The Northern Hairy Nosed Wombat

Lasiorhinus krefftii

Emily Macbeth 7.1

The Hairy Nose Wombat

What are scientist doing to prevent extinction?

The goal for scientists is to increase the conversation efforts for the critically endangered Lasiorhinus krefftii. But by increasing conversation, this is not doing much. Action must be taken.
Unfortunately, the Northern hair nosed wombat only has roughly one offspring, meaning that thy can only mate once a year. This means that bringing back the species from brink extinction with only 113 wombats left in the whole world, is not easy, it may be impossible. Scientists are doing everything they can, as they say. The government's Threatened Species Scientific Committee must raise national awareness to the plight of this animal, and significantly increase conservation efforts among the last population.

The Lasiorhinus krefftii

The Lasiorhinus krefftii is one of three species of wombats. It is one of the rarest land mammals (Females can way up to 40kg) in the world and is critically endangered.
The Lasiorhinus krefftii
dig burrows that they rest in during daylight hours, the hairy nose wombat is a nocturnal animal. not all soils are suitable for a Hairy nose wombat's home. The Hairy Nose Wombat lives in sandy soil like regions where it can dig deep burrows easily. Unfortunately, the hairy nosed wombat is critically endangered and now all live-in captivity. From the start of colonisation when farming was brought over, the hairy nosed wombat had some competition with the cows and sheep's as they eat the same type of grass as each other.
The hairy nose wombat did use to spread over a wide range of land. It spread over the distribution of wombat species in Australia.
Currently, northern hairy-nosed wombats live at two sites that are both in Queensland. These two sites are Epping Forest National Park and the Richard Underwood Nature Refuge. Epping Forest National Park is in inland central Queensland.
There are currently only 113 northern hairy nosed wombats left!

Why is the Northern hairy nosed wombat Endangered?

CLASSIFICATION
Kingdom *Animalia*
Phylum *Chordata*
Class *Mammalia*
Order *Diprotodonta*
Family *Vombatidae*
Genus *Lasiorhinus*

In 1871, just at the start of colonisation, when farming was brought over, farming animals like cows and sheep were brought over.

This meant that the hairy nosed wombat had some completion for food. THE NORTHERN HAIRY-NOSED WOMBAT'S ARE STRICTLY HERBIVOROUS. THEIR FAVOURITE GRASSES ARE SPEAR GRASS, TUSSOCK GRASS, AND PEA GRASS. UNFORTUNATELY, SHEEP AND CATTLE AND THE HAIRY NOSED WOMBAT SHARE THE SAME DIET. AS THERE ARE MORE COWS AND MORE SHEEP AND FARMERS TO GET RID OF THE HAIRY NOSE WOMBAT OF THEIR PROPERTIES, THE HAIRY NOSED WOMBAT STARVED LEAVING ONLY VERY FEW LEFT.

My Solution for the problem

Many theories and solutions have been made for the hairy nosed wombat but none seem to really work. My solution is that more sanctuaries need to be opened where a hairy nosed wombat can feel at home. If an animal feels at home, then it may want to breed more often. (more than 1 offspring) If the hairy noes wombat has more offspring we could come back from the brink of extinction and save the species.

Impact

If the hairy nosed wombat was to become extinct Australia would lose the largest of three wombat species. Humans and diseases are currently impacting the survivability of the hairy nosed wombat leaving it at risk of extinction. Some of the diseases are mange and skin fishes.

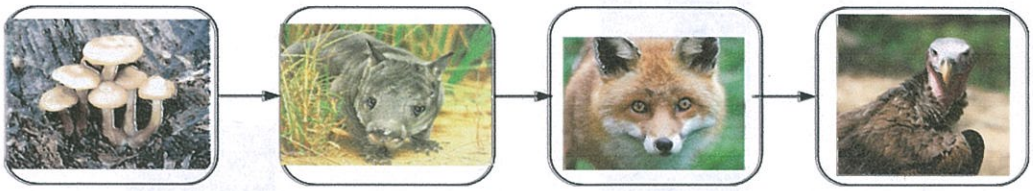
Extinction

It would be a sad day for all Australians and tourists visiting Australia to lose sight of such an amazing animal in its living form.

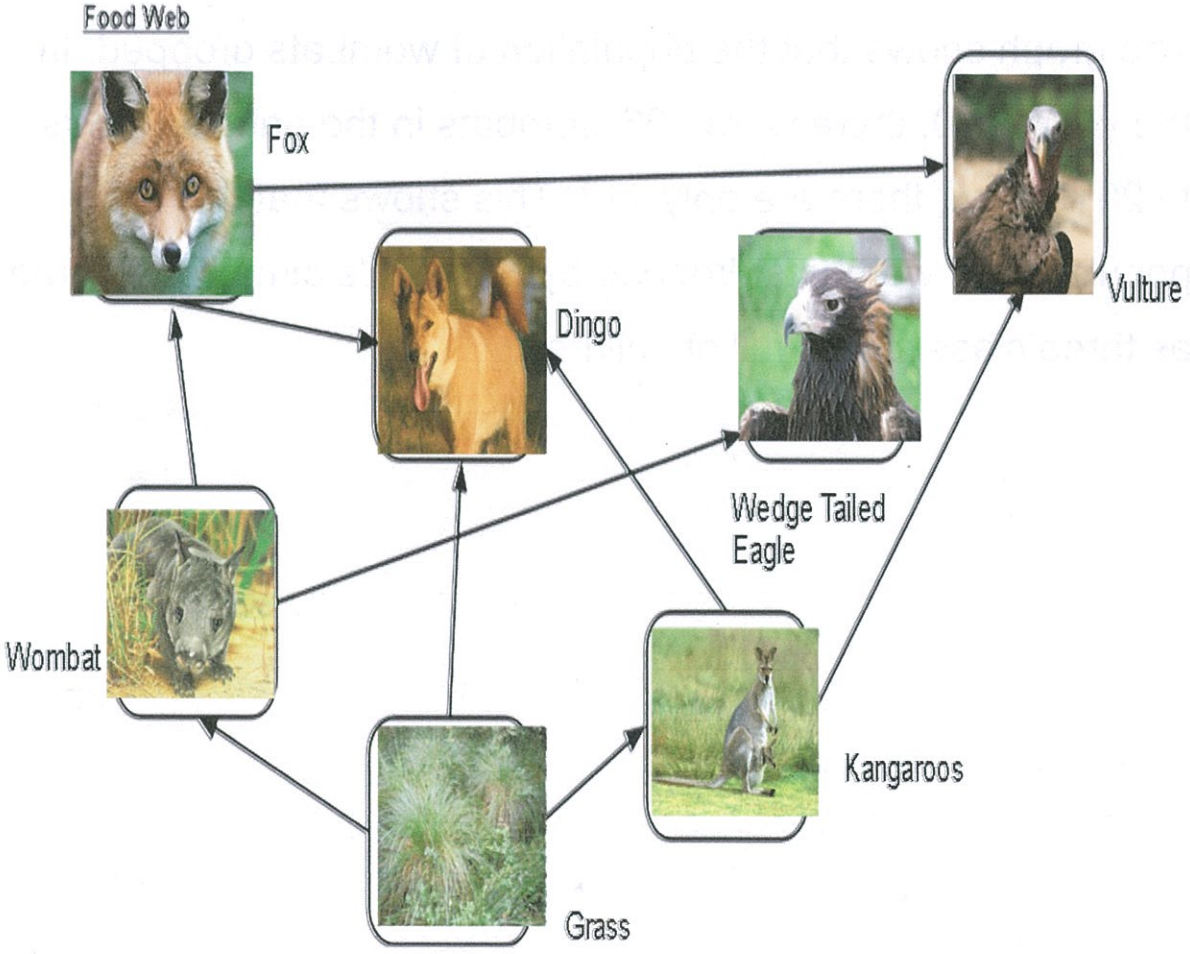
Genetics

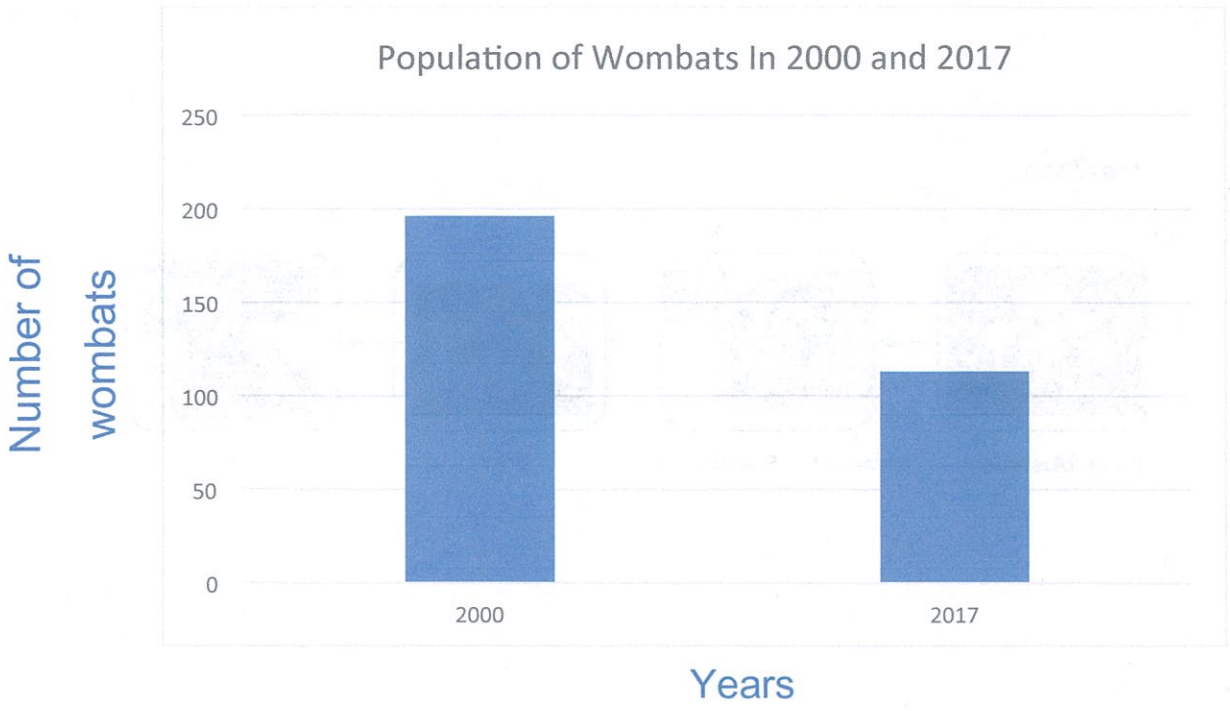
Interestingly, if the hairy nosed wombat was to become extinct, scientist would no longer be able to perform research and education for humans. This would mean that analysis of anatomy and genetic make-up in the live form would be lost.

Food Chain



Food Web





The graph shows that the population of wombats dropped. In the year 2000, there were 196 wombats in the national parks. In 2017, now, there are only 113. This shows that the population of wombats dropped by 83. That's almost the same as three class rooms full of children.

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Somerset college Emily Mai 7.1 Science Mrs Walker
Due date: 8/03/17

Why is the Southern Cassowary endangered?

The Southern Cassowary, scientifically known as *Casuarius Casuarius*, is a native animal to Australia whose population is decreasing due to the impacts of habitat loss, increase of opposing predators and the increasing effects of human activity. This species of bird is found in Northern Eastern Queensland, parts of Indonesia and Papua New Guinea. It is estimated that there are less than 2000 Southern Cassowaries in Australia therefor it is essential to protect this native species of bird.

Source: (Wikimedia foundation, 2017)

Classification of the southern cassowary	
Kingdom	Animal
Phylum	Chordate
Class	Aves
Order	Sruthioniformes
Family	Casuriidae
Genus	Casuarius
Species	Casuarius Casuarius

Threats to the Southern Cassowary

The population of the Southern Cassowary is declining due to the loss of habitat, invasive species, predation by other animals and death or injuries by human-driven vehicles.

Cassowaries are suffering from habitat loss. Humans are destroying land for the use of agriculture and residential areas by clearing land, deforestation and urban logging.

The feral pig is an invasive species which has been introduced to Australia however this species of pig is a treat to the Southern Cassowary. The feral pig consumes the same food sources as the Southern Cassowary which will encourage a population decrease as well as an increase in resource competition encouraging harm to each other. The feral pigs also have an tendency to destroy the Southern Cassowary habitat, restricting the freedom of this native species.

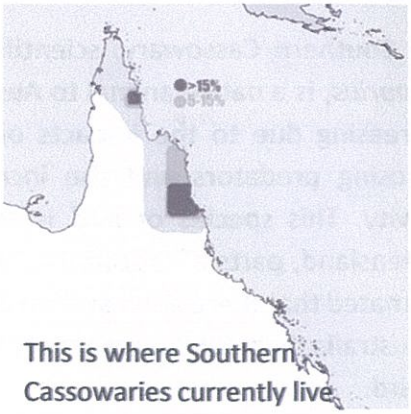
Dogs are one of the predators to Southern Cassowaries. Dogs work in packs which intensifies their strength causing harm and usually harassing the cassowary until they are left dizzy, in injury or the damage is so severe that it can cause death. Southern Cassowaries are not very strong at protecting themselves or their eggs or chicks therefore an easy prey for dogs. Within the habitats of Southern Cassowaries there are generally houses nearby however many of the residents own dogs. The owners are encouraged to not let their dogs roam free because if any dog does get loose the Southern Cassowary would be in danger.

Vehicles are a big threat to cassowaries and many roads have been built through Southern Cassowary habitats. The southern cassowary has a high risk of being hit by a vehicle when passing by or crossing the road. Vehicles driven by humans can cause significant injuries or even death to the Southern Cassowary.

Somerset college Emily Mai 7.1 Science Mrs Walker
Due date: 8/03/17

Ecology

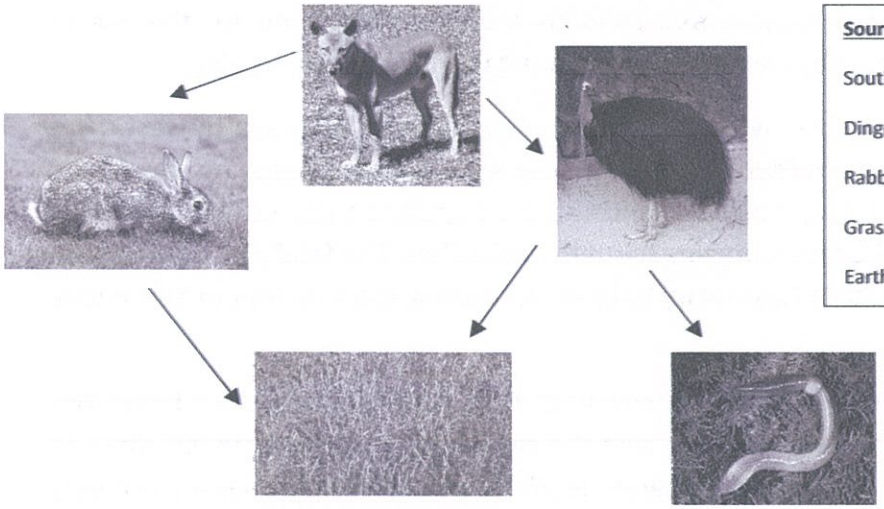
Southern Cassowaries are most active at dawn and dusk and relaxes in the middle of the day. The Southern Cassowary forages with its feet and head, in piles of leaves, looking for fallen fruit, small vertebrates (fungi, snails, worms, etc.) and plants, and sometimes picks it from low branches. This Southern Cassowary eats up to 150 different types of fruit and about 70 of them almost fully rely on the Southern Cassowary. The seed passes though the cassowary unharmed and ends in the dropping approximately after 10 hours, the dung act as a great fertiliser for the seed and the smell of the dung is sometimes strong enough so that the seeds predators doesn't eat the see



This is where Southern Cassowaries currently live

Source: (Erin, Liam and jess, 2017)

Cassowaries start mating around May – June. Breeding usually happens from June – October, when fruit supply is at its peak. The male sitting on the eggs for about 50 days till the eggs hatches, once the egg hatches the chicks follows the male and copies his actions. After about 7 months they know how to forage and where the food and water areas are. Between 7 – 12 months the male leaves them to survive themselves. The life span of a southern cassowary is unresolved, but the approximate life span of a cassowary is 40 years.



Sourced by

Southern cassowary: (Wikimedia foundation, 2017)

Dingo: (Wikimedia foundation, 2016)

Rabbit: (Wikimedia foundation, 2017)

Grass: (Annmarie, 2017)

Earthworm: (Wikimedia foundation, 2017)

Control

Rainforest control is working on how to save the cassowaries in Australia by buying high protection. Therefore, it reduces fragmentation in habitats.

A plan has been developed that in the area that has been degraded the most, due to land clearing, there will be 250 different species of trees planted for the southern cassowaries and other species to roam around.

Somerset college Emily Mai 7.1 Science Mrs Walker
Due date: 8/03/17

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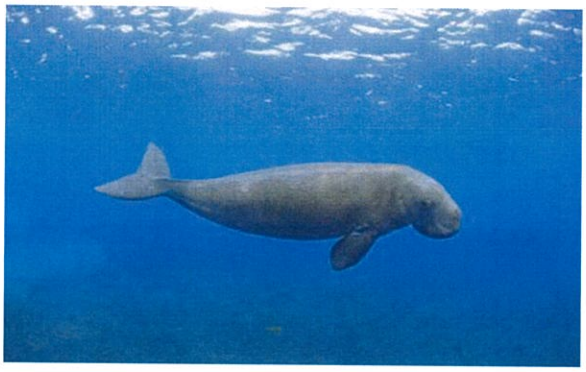
Name: Angus Martin

Class: 7.1

School: Somerset College
Subject: Sciences- Mrs. Walker

PLANNING SHEET

For this assignment I am researching the endangered dugong.



Level of classification	Endangered Native Species
Kingdom	**Plant / Animal**
Phylum	Chordata
Class	Mammal
Order	Sirenians
Family	Dugongidae
Genus	Dugong
Species	Dugong

Scientific Name Dugong Dugon

Scientific Facts

Just like the dugongs order (sirenians) the dugong has a body fusiform body this means it lacks dorsal fins. (the fin on the animals back) The forelimbs are like small paddles and . The dugong is easily distinguished from the manatees by its fluked, dolphin-like tail, but also possesses a unique skull and teeth. Its snout is sharply downturned, an adaptation for feeding in benthic seagrass communities. The molar teeth are simple and peg-like unlike the more elaborate molar dentition of manatees.

Taxonomists use a naming system that gives every species a two-part name. First part of the species name tells you the genus to which the organism belongs and always starts with a capital letter. The second part tells you the species within that genus. This part of the name starts with a lower letter case. When the names are typed italics are used. When written they are underlined.

Eg. Common name: cane toad – Scientific name: once called *Bufo marinus* – instead, it has become *Rhinella marina.*

Dugong Diet-

*Seagrass

***Dugong**

*Large Sharks

*Killer Whales

*Saltwater Crocodiles

Dugongs are endangered because of seagrass habitats being destroyed by artificial land expansion or being caught in fishing nets, also water pollution is a main factor of why they are endangered.

The government have made it illegal to hunt dugongs unless you are an Aboriginal or Torres Strait Islander person in which they can for their own personal use (they can't sell/trade them)
Government are protecting dugongs by putting them in protected areas so they are safe from fishermen and nets.

Discuss the implications of the solution science gives to the problem by choosing at least one of the following factors: moral, ethical, social, economical, political, cultural or environmental and reflect on the implications of managing this Australian endangered or invasive non-native species.

Economic Advantages	Economic Disadvantage
Government can make money off tourism by keeping dugongs in protected areas (such as whale watching) and that can spark local, small businesses (like café's or hotel/motels)	**If the government made a dugong conservation area, then local people like fishermen who feed their families with this, they would become poor.**

Somerset College Kobee Munro 7.1
Science- Mrs Walker
Date of submission- 8/03/2017

THE AUSTRALIAN WOYLIE- LITTLE LIVES MATTER TOO

There are many endangered species of animals and plants found in Australia either invasive or have Australia has their homeland. The one that this document will inform you on today is the Bettongia Penicillata or more commonly known as the Woylie.
The Bettongia Penicillata or more commonly known as the Woylie is a small marsupial that was once found in almost all parts of Australia including parts of WA, NT, SA, NSW and North Western Victoria. Woylie's have an average mass of 1.3kg however can reach up to 1.6kg. An average Woylie will have an appearance such as- short face, long grey-black back hairs

The Woylie has become an endangered species in the last 15 years as there population has declined from 225,000 to around 10,000-20,000 (The Kangaroo Trail 2010); and that is in just 15 years. Research into the topic has shown that European foxes have a major role in the reduction of woylie populations, although the main dictator of woylie populations is the feral cats playing the role of a dangerous predator.

To prevent the extinction of the Woylie science is teaming up with determined enviromentalists to prevent losing anymore Woylies. These include: The Western Shield program; this initiates the study of Woylie's to create a formula to help them create a stronger armour for themselves in the wild, The perup sanctuary- this is a safe zone for Woylie's that need 24/7 nursing and care. Although the Perup sanctuary is an enclosed environment for the Woylie species it is still create to resemble their natural habitat.

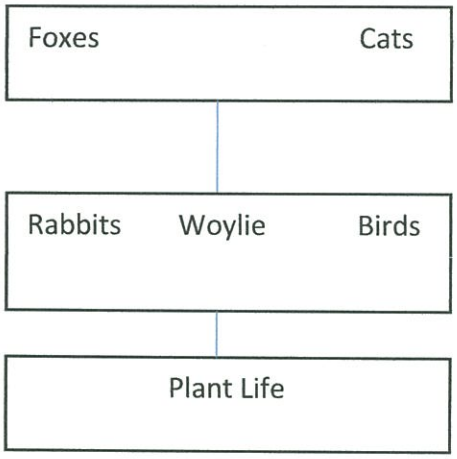
There are many advantages and disadvantages to the action being taken to prevent Woylie extinction. These include advantages such as how the Woylie's will be safe and out of harm's way and they will be provided with what scientists know can assure a health and long life for a Woylie. Disadvantages are Woylie's are seperated from their opponents and therefore when put back into the home need to re-adjust to the level they are on in the food chain.

Economically wise the funding for protection for Woylie's comes from charities who receive their fundraising from the public. Charity funding is a stable path to choose as although people could simply stop being charitable in the world we live in people are very aware of the others that we share the planet with and have a good sense of awareness and respect. Enviromentally wise the Woylie are very well protected in the sense that they are kept in their natural home or at the least are in a sanctuary that resembles their home.

Classifaction Table for Woylie

Kingdom- Animal
Phylum-Chordate
Class- Mammal
Order- Diprotodontia
Family- Potroidae
Genus- Bettong
Species- Bettongia Pencilliata

Woylie Enviromental Food Chain



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3. (Goverment of Western Australia, 2014)

WOYLIE SURVIVAL

By Kei

HOW SCIENCE TRIES TO HELP THE WOYLIES SURVIVAL

The Woylie is a part of the kangaroo family who is a size of a small Guiana pig. It is an endangered species who is at risk of extinction at 10,000 – 20,000 in the last 15 years. A large portion of this reduction in population is mostly because of feral cats and a large scale fox baiting. The Woylies are usually hunted by the feral cats and the European Red Fox. However, scientists are researching ways to protect the Woylies from the threats to save Australian wildlife.

HISTORY

The Woylie population reduced rapidly in the latest 10 years due to feral cats. It has reduced from an approximate of 225,000 to 10,000 to 20,000 after they were killed as agricultural pests in the 20th century. Woylies reach a maximum of 1850g. They build basic nests on the ground in or near vegetation thickets.

STATUS

The Woylies have greatly declined in numbers over the last decade. They have been listed as an endangered animal since 1982. Also declining in numbers by25-95% per annum since 2001.

ECOLOGY

Woylies are usually nocturnal and primarily forage for underground fungi such as truffles. However, they still feed on bulbs, seeds and other vegetables as well. Also, they can store guess food items in their cheeks for later consumption. They also play an important role by doing?? services to areas they inhabit as they disperse seeds and spores and as they dig, increasing water infiltration to the soil allowing seeds and organic matter to be trapped which facilitates plant recruitment. They retreat to their grass and bark nests located on land during the day.

CONSERVATION

Australian Wildlife Conservation(AWC) protects almost 10% of the world's remaining Woylie population and supports the Woylies who live at a predator-proof fenced area on Karakamia, Scotia, Yookamurra and Mt Gibson sanctuaries. The Woylies who live at Karakamiais the only populations who has the distinction of not declining in population over recent years. The campaign of fox baiting and predator proof fenced areas was succesful in the recovery of the Woylies. However, a recent cause of decline in Woylie population are currently unknown and scientists are researching the cause of population decline within the enclosed areas as well as controlling foxes and cats as surveillance monitoring for diseases needs to continue.

CONCLUSION

The woylie is a type of endangered species where continual research in wildlife populations, even when they seemed to be recovered. Without dedicated scientists and researches, the Woylie decline wold have never been noticed. The cause for the recent decline in Woylie population will remain a mystery without continual research from the scientists.

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ON WORK ON BROWSER, THERE IS NO REFERENCE TAB FOR ME D:

I HAD TO DO IT MANUALLY :)

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Name of web page: Woylie

Name of web site: Australian Wildlife Conservancy

Year: N/A

Month: N/A

Day: N/A

URL: http://www.australianwildlife.org/wildlife/woylie.aspx

The conversation

Author: The Conversation

Name of web page: Australian endangered species: Woylie

Name of Website: The conversion

Year: N/A

Month: N/A

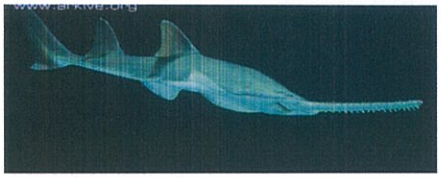
Day: N/A

URL: http://theconversation.com/australian-endangered-species-woylie-19448

P.S: I tried to add pictures but it wouldn't let me D:

LARGETOOTH SAWFISH

Teneal Nguyen 7.1 Somerset College Mrs Walker



http://cdn1.arkive.org/media/68/68DE448E-841D-4CCF-9A70-

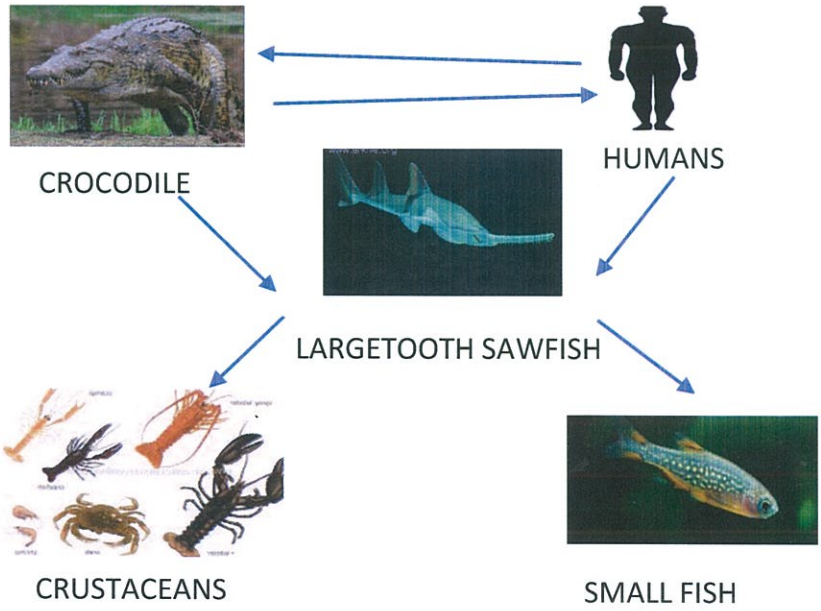
Sharks and rays are a few of the world's most threatened animals. Of these the Largetooth Sawfish is one of the most threatened. The fish is now extinct or severely depleted across the world and is listed globally by the IUCN as Critically Endangered. History shows the Largetooth Sawfish (*Pristis microdon*) *was* a wide-ranging species, that occupied four distinct regions; eastern Atlantic, western Atlantic, Eastern Pacific and the Indo-west Pacific. Northern Australia is one of the only remaining places that the Largetooth Sawfish's population is still strong.

These mysterious fish can grow up to 7m long. The Largetooth fish is a euryhaline meaning it possess the ability to adapt to a wide range of salinities from pure freshwater to the oceans. This allows them to inhabit many places such as creeks, marine waters, estuaries, rivers, floodplains and billabongs. Juvenile Largetooth sawfish are born in estuaries before moving upstream to river systems where they spend their first 4-5 years. Their reproduction is ovoviviparous meaning they produce embryos that develop inside eggs that remain in the mother's body until they are ready to hatch. The most distinctive feature of the Largetooth Sawfish is its incredibly long and flattened snout called a rostrum. The rostrum has 16-22 very large and sharp teeth located on both sides. These teeth are also used to catch prey. Sawfish prey includes small fish and invertebrates, please refer to figure 1 for the food web. Even though these fierce looking creatures look threatening, they are no harm to humans unless we annoy or threaten them. They are part of the Pristis genus along with many other rays, for their full classification please refer to Table 1.

CLASSIFICATION	
KINGDOM	ANIMALIA
PHYLUM	CHORDATA
CLASS	CHONDRICHTYES
ORDER	PRISTIFORMES
FAMILY	PRISTIDAE
GENUS	PRISTIS
SPECIES	PRISTIS MICRODON

Table1. This table represents the classification of the Largetooth Sawfish.

Figure !. Represents the food web of the Largetooth Sawfish



The sawfish is threatened globally by unmanaged and unregulated fisheries and habitat loss and degradation. They are easily captured by fishing gear as their rostrum (longed- toothed snout) is easily entangled. The sawfish product trade has played a major role in their endangerment as their fins and rostrum are highly valued.

Sawfish have been protected by Australia and the USA law with a ban on any fishing, both commercial and recreational. In Australia its protected by the Australian Commonwealth, Vulnerable (Environment Protection and Biodiversity Act 1999; and vulnerable (Territory Parks and Wildlife Conservation Act 2000). Even though it is protected the accidental capture of the sawfish by commercial fisheries happens regularly, as the rostrum can become entangled in nets. This can cause accidental deaths to a decreasing population. Some commercial fisheries implement a code of conduct which asks employees to attempt the safe release of the sawfish, however this is normally targeted to the smaller species as they impose less danger to workers. The Largetooth Sawfish can cause serious harm to people with its large rostrum although they are not aggressive. Marine biologists developed a manual which details the safe release of sawfish, as to cause no harm to humans or the sawfish. However this manual has not be introduced as compulsory by law. The introduction of this as compulsory could see a large decrease in accidental deaths by both commercial and recreational fishing. Although its introduction could have economic implications. Releasing sawfish can be timely and can cause harm to humans, especially the largetooth sawfish as it is the largest species. The extra time the safe release of the sawfish species would result in less fish caught or

Bibliography

There are no sources in the current document.

longer hours worked by fisheries employees. Which would ultimately cost the commercial fishing world more money.

Outside of Australia and the USA, awareness needs to be increased, and regulations put in place to protect the sawfish and promote population recovery. Whilst the sawfish is theoretically protected in other countries, threats continue with little beneficial management. The lack of enforcement or specific fisheries regulations, and ongoing gillnet and trawl fisheries, means that threats are ongoing. Cultural awareness is essential in helping prevent this.

Sawfish have cultural significance to Aboriginals as they are a traditional food source. They are also considered symbols of strength, spiritual and admiration. Current law does allow for aboriginals to catch sawfish. This law holds large cultural implications whether it is changed or not. Not changing this law will have impacts on the sawfish population and changing this law would cause a cultural shift. In order to cause a cultural change elders of the aboriginal community would have to agree to any future changes to the law.

http://1.bp.blogspot.com/-VOCyuHC2W7E/VFs4ehVc8TI/AAAAAAAAAKE/KLc2J-vb5m8/s1600/Pristis%2Bpristis_Michael%2BLawrence-Taylor.JPG

The protection of the Largetooth Sawfish is a necessity to their survival. Current conservation methods are not producing results for their ever-deteriorating population (getting worse). The survival of the species relies on the ability to overcome the current cultural and economic implications of the conservation plans.

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JORJA OTTO 7.1

THUNNUS MACCOYII

SOUTHERN BLUEFIN TUNA

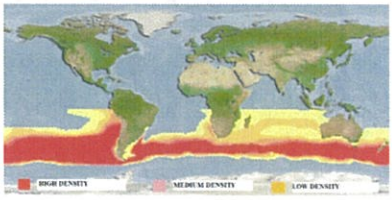
THE CLASSIFICATION OF THE SOUTHERN BLUEFIN TUNA

Level of classification	Invasive non-native species
Kingdom	Animalia
Phylum	Chordata
Class	Actinopterygii
Order	Perciformes
Family	Scombridae
Genus	Thuness
Species	*Thunnus maccoyii*

HABITAT

THE SOUTHERN BLUEFIN TUNA HAS ONE OF THE LONGEST MIGRATIONS OF ANY SPECIES ON THE PLANET WAS FIRST DISCOVERED IN THE INDIAN OCEAN NEAR JAVA. THEY ARE NOW FOUND IN THE SOUTHERN HEMISPHERE IN THE ATLANTIC AND PACIFIC OCEANS BUT ARE RAREY FOUND IN THE EASTERN PACIFIC OCEAN. THEY ARE MAINLY FOUND IN TEMPERATE AND COLD SEAS.

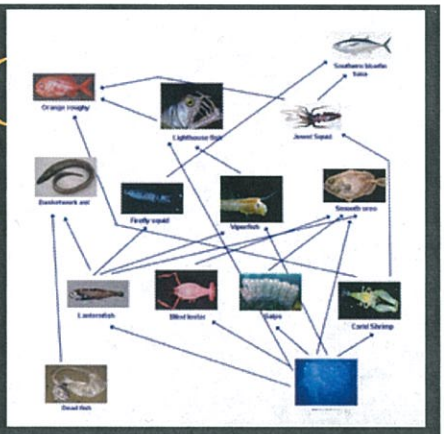
THE IMAGE SHOWN TO THE RIGHT WHERE THE SOUTHERN BLUEFIN TUNA ARE FOUND; THE RED IS HIGH DENSITY POPULATION AND THE YELLOW IS LOW.



THE SOUTHERN BLUEFIN TUNA FOOD WEB

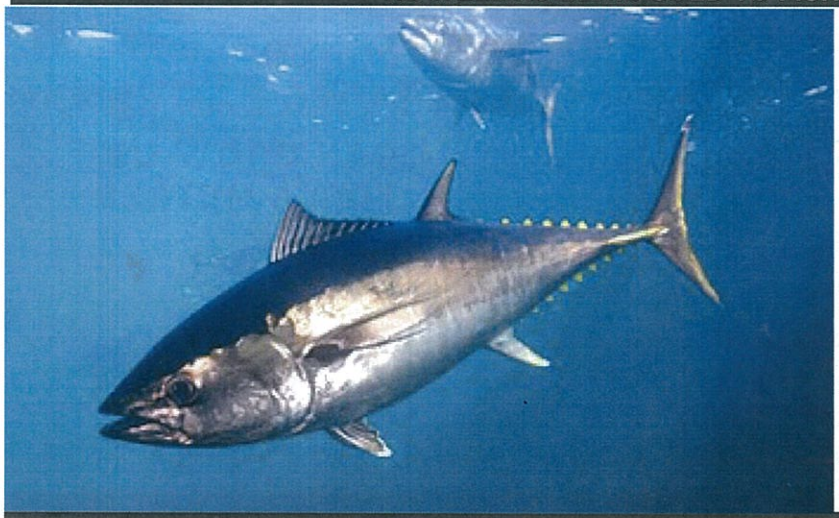
PREDATORS: KILLER WHALES AND SHARKS

PREY: SQUID, EELS, CRUSTACEANS, MACKEREL, FLYING FISH, HERRING, WHITING AND MULLET.



FISHERY:

THE SOUTHERN BLUEFIN TUNA IS CAUGHT IN AUSTRALIA, JAPAN, TAIWAN AND NEW ZEALAND. THEY ARE CAUGHT WHEN THEY ARE YOUNG AS SCHOOLS (OF TUNA) AND THEN BROUGHT TO MANUFACTURING COMPANIES TO BE DISTRIBUTED AND EXPORTED TO OTHER COUNTRIES AS WELL AS BEING SOLD TO FISH MARKETS.



THE SOUTHERN BLUEFIN TUNA HAS HAD A LARGE AFFECT ON THE BIODIVERSITY WITHIN THE ECOSYSTEM. THIS IS DUE TO THE FACT THAT HUNDREDS OF TUNA ARE CAUGHT ON A DAILY BASIS IN COMMERCIAL FISHING NETS AND THEN BROUGHT TO PONTOONS WHERE THEY REMAIN IN CAPTIVITY UNTIL THEY REACH A SIZE LARGE ENOUGH TO BE SOLD FOR GOOD MONEY. IF THE SOUTHERN BLUEFIN TUNA BECOMES EXTINCT IT WILL THEN AFFECT THE ENTIRE FOOD CHAIN; INCLUDING KILLER WHALES AND SHARKS. IN ADDITION, THE NUMBERS OF THE 'SMALLER' FISH POPULATION THAT THE SOUTHERN BLUEFIN TUNA CONSUMES MAY INCREASE DUE TO THE FACT THAT THEY WILL NO LONGER HAVE A PREDATOR TARGETING THEIR POPULATION.

CRITICALY ENDANGERED SPECIES

THUNNUS MACCOYII

SOUTHERN BLUEFIN TUNA

HOW SCIENCES IS HELPING THE BIODIVERSITY

- SCIENTISTS ARE TRYING TO HELP THE SOUTHERN BLUEFIN TUNA BY:
- CREATING REGULATIONS TO LIMIT THE SIZE OF CATCHES
- BANNING LOCATIONS OF CRITICAL ENDANGERMENT FROM COMMERCIAL FISHERIES
- MONITORING OF SPECIES
- FISH FARMING (BREEDING)

ECOMONY

ECONOMICALLY, COMMERCIAL FISHING FORMS A LARGE PROPORTION OF MANY WORKERS INCOMES. THE GLOBAL SUPPLY AND DEMAND FOR TUNA IS AT AN ALL TIME HIGH SPARKING THEIR CRITICAL ENDANGERMENT. FISHERIES SIMPLY CANNOT AFFORD TO CHANGE THEIR ROUTINE; THAT IS; NETS SIZES, TYPES OF VESSELS AND LOCATIONS OF FISHING WITHOUT CAUSING INSTABILITY. AS A RESULT OF THESE FACTORS THE PRICES OF FISH (PARTICULARLY TUNA) WILL RISE CAUSING DEBATE WITHIN COMMUNITIES.

ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

- MORE FISH TO SELL TO COSTUMERS WHICH MEANS THAT FISHERS EARN MORE MONEY
- THE FISH ARE CONSTANTLY BREEDING WHICH MEANS THE POPULATION IS INCREASING

DISADVANTAGES:

- IF FISHERS OVER-FISH THEN THE POPULATION OF THE SOUTHERN BLUEFIN TUNA WILL DECREASE AND MAY EVEN BECOME EXTINCT AND THEREFORE WILL BE NO TUNA LEFT
- FISHERS COULD CATCH THE SOUTHERN BLUEFIN TUNA AND TAKE THE FISH IN EVEN IF IT WAS UNDER THE SIZE REGULATIONS AND THEREFORE THE FISH WON'T BE ABLE TO BREED

THE SOUTHERN BLUEFIN TUNA FACTS

- CAN GROW UP TO 2.5 METRES LONG
- WEIGHS UP TO 260 KILOGRAMS

CRITICALY ENDANGERED SPECIES

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Name: Ella Punch Year 7 Science Semester 1 Research Assignment

How can we save the Bilby?

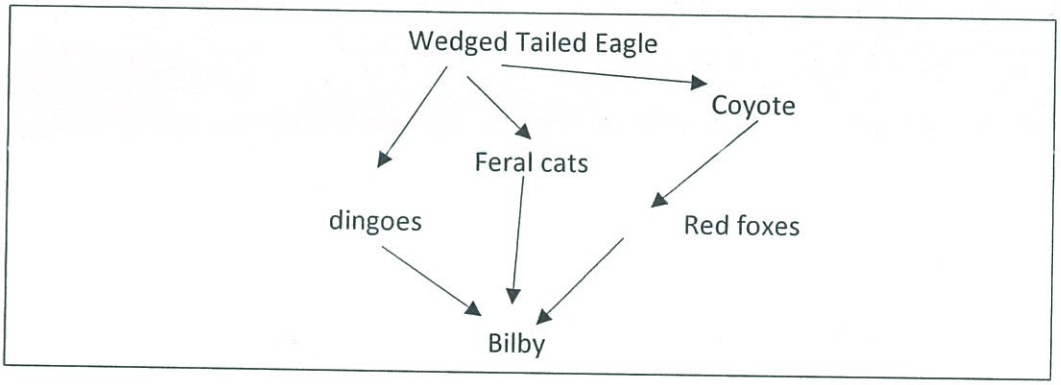
Level of classification	Invasive non-native species
Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Peramelemorphia
Family	Thylacomydaie
Genus	Macrotis
Species	Perameles lagotis

Name: Ella Punch Year 7 Science Semester 1 Research Assignment

Scientific name **Macrotis Lagotis**

Taxonomists use a naming system that gives every species a two-part name. First part of the species name tells you the genus to which the organism belongs and always starts with a capital letter. The second part tells you the species within that genus. This part of the name starts with a lower letter case. When the names are typed italics are used. When written they are underlined.

This species was from Australia and was discovered in 2004 and it is



This is affecting the biodiversity badly because the foxes are killing them and once they get used to them they can eat them all they want so then when they get extinct they won't be able to eat anything when they keep coming then when they eat them they will die out then the fox's predators will die and so on and they are being killed (mainly) animal threat and humans are helping them to stay alive and scientist are keeping them for research.

We can by saving them and catching them and examining on them and we are raising money by those Bilby chocolates you eat every year at Easter you are raising money for they bibly's by making new scientist rooms for bilbys to breed in peace.

Science is helping the bilby buy collecting data and the rooms that are being built to help the bilby's breed are helping a lot because they can collect data and let them breed safely without being eaten.

Advantages	Disadvantages
1. The bilbies will be able to stay alive	• The bilbies won't adapt to the wild
2. They are collecting DNA to find out what they are getting killed from	• They can't defend themselves when in danger

Name: Ella Punch Year 7 Science Semester 1 Research Assignment

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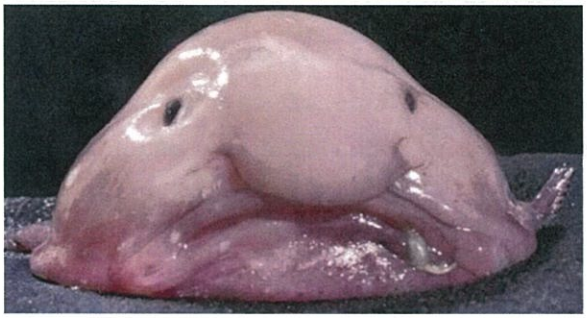
http://www.australianwildlife.net.au/pdf/bilby/AWS_Project_Bilby.pdf		Australian wildlife	Unavailable
https://www.ehp.qld.gov.au/wildlife/threatened-species/endangered/endangered-animals/bilby.html	6/03/17	Government	2012-17

This type of fish feeds on dead biomass, it may also feed on sea urchins.



blob fish in water blob fish out of water

A website is currently working on the protection of blob fish. It is called https://forcechange.com/64110/save-the-blobfish/ .
It works to prevent sea trawling in areas were blob fish reside. A method they are using to achieve this is by establishing a law to make fishing in those areas illegal through a petition. The website also acknowledges that the blob fish cannot protect itself due to the little muscle mass in their gelatinous body. It works to aid the environmental aspect of deep sea trawling. A disadvantage of this is that not everyone will sign the petition.
The blob fish resides in the deep waters off the coast of Australia and Tasmania, in the bass strait. Blob fish also live everywhere around the coast of New Zealand. They lay their eggs next to each other and leave them in clusters. The musician and author Michael Hearst made a musical piece entitled Blob fish, this was inspired by the animal. He also created a blob fish episode for his PBS Digital series. Another website supporting the blob fish is the ugly animal preservation society. The **economic argument** against their effort is that preventing deep sea trawling will reduce income to fishermen..

In September 2013 the blob fish was voted the "World's Ugliest Animal", based on photographs of decompressed specimens, and adopted as the mascot of the Ugly Animal Preservation society in an initiative "dedicated to raising the profile of some of Mother Nature's more aesthetically challenged children". The blob fish has not been seen by humans. The only photo of a blob fish we have was taken by a deep sea rover. Its conservation status is yet to be evaluated. The blob fish has a body length of about 76 cm (30 in) and has a lifespan of about 130 years. This has been estimated and a lot of the blob fish's background history is unknown.

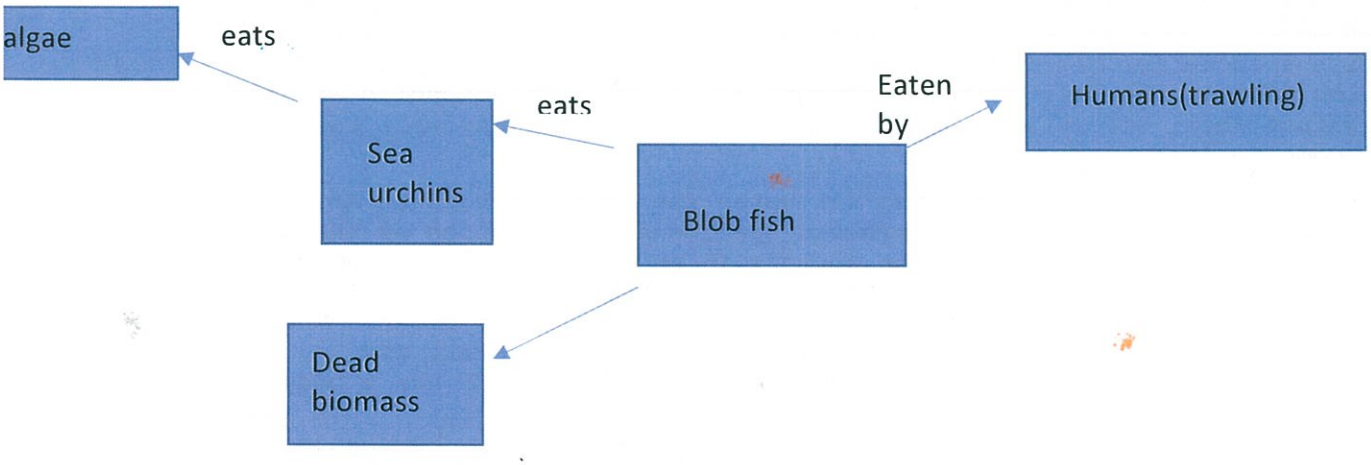
The blob fish is clearly a unique creature which uses pressure to shape itself and is endangered due to deep sea trawling. Aarav Rawlley, from Somerset college, thinks that this is a very good idea and should be put into action.

What about the blob fish?

Aarav Rawlley 7.1, Somerset college- science- Mrs walker 6/3/17

The blob fish is a fish that lives in the sea, floating along on the bottom of a vast ocean floor. The blob fish was voted the world's ugliest animal to create awareness of its threatened state. Humans trap blob fish in their humongous nets and bring them up to water, in the hope of catching many fish. Since the blob fish has no commercial value, the fishers chuck the blob fish in the sea. The blob fish is already dead by then. The blob fish lives in deep waters: 600-1000m! This is why the blob fish dies when brought to shore. The pressure down there helps the blob fish retain its shape but due to rapid pressure loss, the blob fish dies. Its body is gelatinous, so it would be no use eating it; it has no flavour.

The blob fish has a scientific name of psycrolutes marcidus. It has a kingdom of Animalia, phylum of Chordata, a class of Actinopterygii, an order of
Scorpaeniformes, a family of
Psychrolutidae, a genus of psycrolutes and a species of marcidus.
https://en.wikipedia.org/wiki/Blobfish



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Phoebe Ross

Sambar Deer

Rusa unicolour

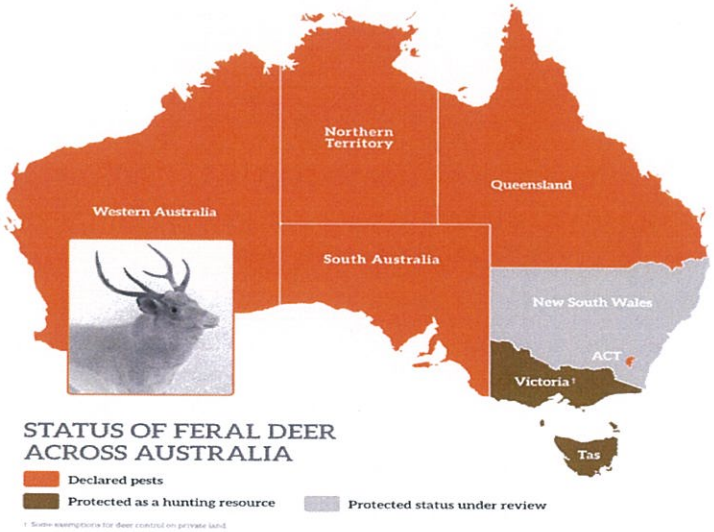
The Sambar Deer is a non-native Australian invasive species, which made its way from south Asia, mostly India and Sri Lanka. These animals are destroying biodiversity and also causing trouble with some native Australian plants. Without control over these animals they can become a big risk to our environment.

History

The history of the Sambar Deer are, their origins from south Asia. Deer's are extremely popular animals for people to hunt, as they use their antlers as trophies. Around the 1860's the Sambar deer were first introduced to Australia around the 1860's. They were introduced mainly for hunting purposes. But without any knowledge of what was going to happen they became a big problem in Australia.

Impact

The impact of this many deer's around Australia have their consequences, for example they destroy many native plants, this can slowly have a big affect on the biodiversity in Australia. Hunters also want to keep the deer around for future generations. This will allow them to continue affecting biodiversity. If this does not stop it would most likely end in lots of our well appreciated plants lost.



In the picture above it is a map of were the feral deer have invaded Australia. The orange is where they have been declared a pest, the greyish white is where the protected status is under review and where the brown is that is where they are protected for further hunting purposes.

Control

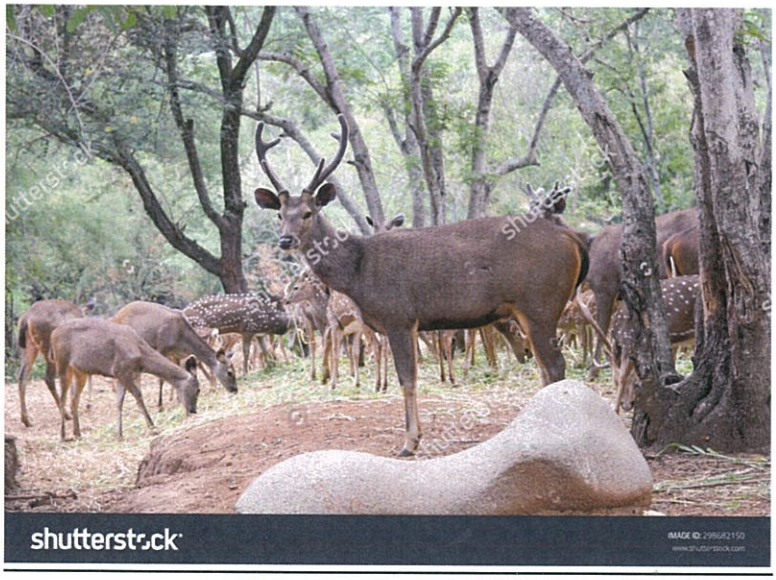
There is not much that science can do to get rid of feral deer. However, some individual people believe that we need to try to control these animals more before they destroy most of our biodiversity. One solution is trying to shoot them, and especially try to shoot the females so they can't breed as much. The second solution that science has had a part of is deer fences. They are fences that can better control deer, the fences are difficult for deer to jump over, and if they try they will mostly get caught in the fence.

Diet

the Sambar deer mostly eat plants and grass. The deer does not eat many organisms that will die out so it does not matter, the only predators they have are humans and wolves.

The Advantages and Disadvantages of the control methods

While trying to control these animals there are some disadvantages along with the advantage of starting to control the animal. Some are overhunting and as I said before there are places where they are trying to preserve some of them for hunting. And the advantages are it can be a quick and easy method to control them and deer fences are not as violent.



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Ali Strickland

The Western Swamp Turtle (Tortoise) (Pseudemydura umbrina)

The Western Swamp Turtle (Tortoise) is a species of short-necked freshwater turtles'. It is considered to be Australia's rarest reptile. It has the smallest surviving population of any reptile in Australia. These turtles can live for 60 to 70 years in the wild.

Species Classification

Level of Classification	Endangered species
Kingdom	Anamalia
Phylum	Chordata
Class	Reptilia
Order	Testudines
Family	Chelidae
Genus	Emydura
Species	Signala

History

The Western Swamp Turtle (Tortoise) was originally found through of a single specimen that was collected in 1839 in Western Australia. It was considered for more than 100 years to have been extinct until in 1953 a schoolboy from Perth found a turtle walking across a road. He took it to a wildlife show and its significance was soon recognised and the Western Swamp Turtle (Pseudemydura umbrina) was reinstated as a living species. They then found more turtles in two other areas around Perth.

The Turtle is the smallest Australian freshwater turtle and its shell can grow to about 350mm

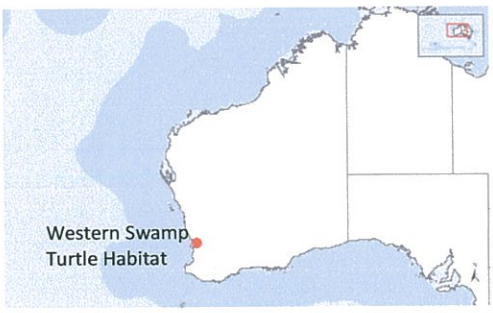
necked turtles use their front legs in nest building rather than the usual back flippers and they are the only one that the male is bigger than the female.
The Western Swamp Turtle has a square and flattened shaped shell that can be yellow-brown to black in colour. The underside of the turtle is paler in colour with black spots.

They have a single large bony plate on their head with horny tubercles and a very short neck. Their legs have bony plates all over them and clawed feet.

These turtles only feed when the water temperature is between 14 – 28 degrees Celsius. Unlike other turtles, these short-

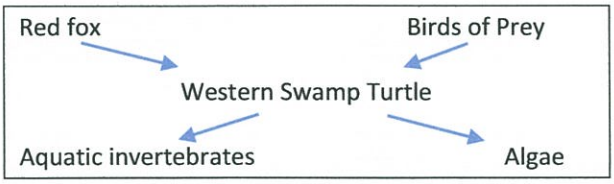
Habitat

Over winter, spring and early summer they live in swamps and feed on aquatic invertebrates. When the swamps dry up during late spring they live in underground holes or under leaf litter and they sleep all summer. Mating happens in the winter in the water. Females only lay three to five eggs once a year. These eggs hatch after 180 days of incubation.



Threats

The major threats to the western swamp turtle have been bush fires land clearing, swamp drainage and climate change. The main animal predator for the short-necked turtle is the Red fox but they also are threatened by feral cats, dogs, rats, goannas, crows and birds of prey.



Why are they so endangered?

The Western Swamp Turtle are vulnerable to climate change as these animals breed, feed and grow during what is called a hydroperiod. This is a time when there is a lot of standing water in swamps. Because rainfall is a primary source of their water, change in climate has interrupted their life patterns. If their habitat is not ideal, then females reabsorb their eggs or produce less. So less winter and spring rainfall and the harvesting of groundwater for agricultural and urban development has reduced the amount of water going into the swamps. The Western Swamp Turtle also only reproduce three to five eggs once a year.

Protection strategy

Conservation efforts for the Western Swamp Turtles has been a good example of planning for these circumstances in Australia. They started a captive breeding program in 1988 at the Perth and Adelaide Zoos. Five hundred turtles have since been bred at the zoo and released into the wild. The habitats these turtles have been released to, are within predator proof fences or they are in fox baited areas because their sites are disappearing because of the drying climate. The University of Western Australia have been doing research to find other coastal regions that may be a good habitat under future climate.

The Threatened Species Network is a supporting community group that are working to protect and restore the habitat of the Western Swamp Tortoise.

Implications

The protection strategies that are being put in place for the Western Swamp Turtle with the breeding program has increased their numbers and this is a very positive step. We continue to release them into protected areas and new habitats are being found for them. This will assist the turtles short-term but with the continued change in the worlds' climate and the turtles lack of adaptability, will this just extend their existence a little longer rather than save them from extinction.

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Why is the Australian Saltwater Crocodile Endangered?

Somerset College

James Thompson 7.1

Science

Mrs. Walker

Due – 8.3.17

Why is the Australian Salt Water Crocodile endangered?

Somerset College

James Thompson 7.1

Science

Mrs Walker

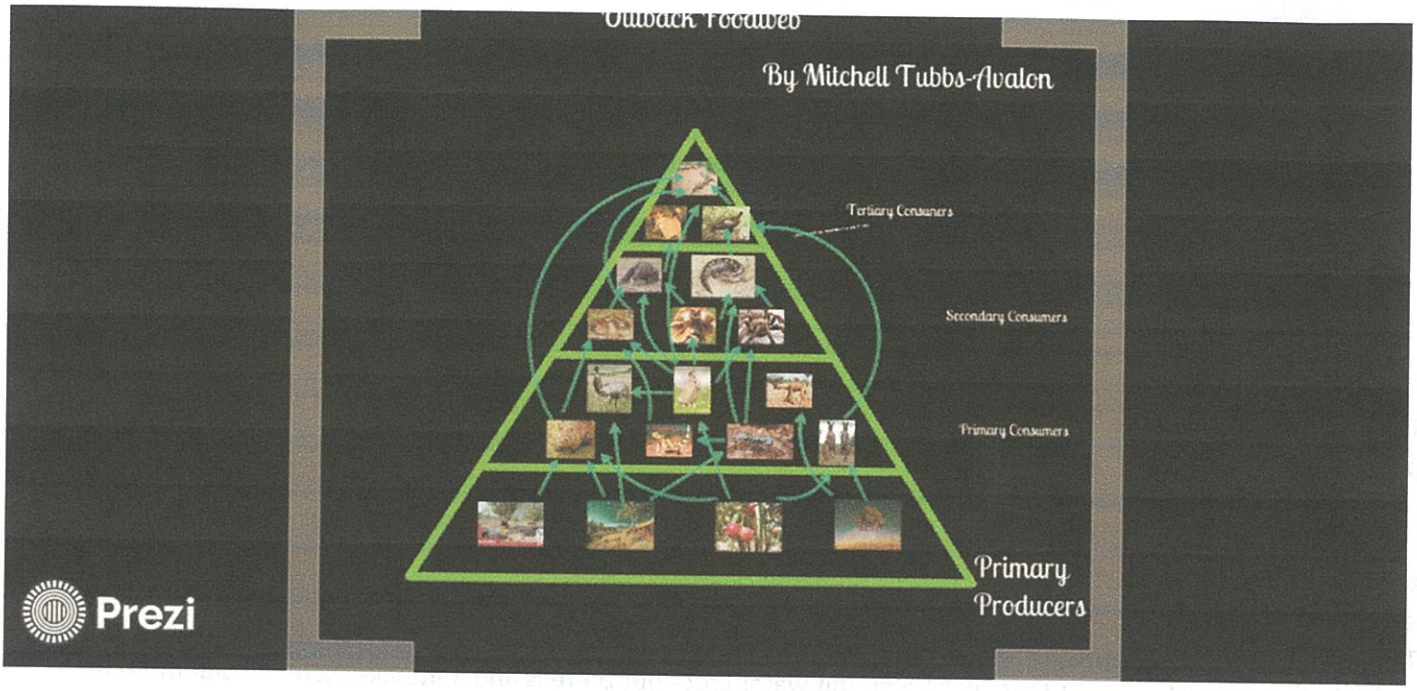
8.3.17

The salt water croc is an endangered Australian species. It is endangered severely because of illegal hunting, poaching and habitat loss. There have been several advances in fixing these problems which will be discussed further. Salt water crocodiles can be found all over the north of Australia, they are very dangerous and will attack humans. A fully grown male can be over 1000kg and up to 6 or 7 metres! (http://www.outbac (Bradtke, 2017)k-australia-travel-secrets.com/saltwater-crocodiles.html). They mainly prey on big animals such as fish, turtles and even cows and other big mammals. (http://www.outback-australia-travel-secrets.com/saltwater-crocodiles.html). They can live in the fresh water as well! Many people who were attacked by salt water crocs were attacked in fresh water because they think that there will be no salt water crocs but there is and it attacks them. A solution to the hunting is to closely watch over croc farms and to have more croc safe places that they can breed in and stay safe from illegal hunters. They salt water crocs scientific name is Crocodylus porosus. There is an estimate of 100,000-200,000 adult saltwater crocs in Australia (http://www.nttc.com.au/sal (anon, 2017)twater-crocodile). Salt water crocs are found on the Australian coast in the ocean and even in fresh water billabongs, rivers and even big lakes (http://www.outback-australia-travel-secrets.com/saltwater-crocodiles.html).

https://www.google.com.au/search?q=saltwater+crocodile&safe=strict&complete=0&biw=1366&bih=662&site=webhp&source=lnms&tbm=isch&sa=X&ved=0ahUKEwi62Jvs_bjSAhXBFpQKHX5BBpoQ_AUIBigB#imgrc=oGlmUwu2fZCxHM:

Level of classification	Native endangered species
Kingdom	Animal
Phylum	Chordate
Class	Reptile
Order	Crocodiles
Family	Crocodiles
Genus	Crocodylus
Species	Crocdylus porosus

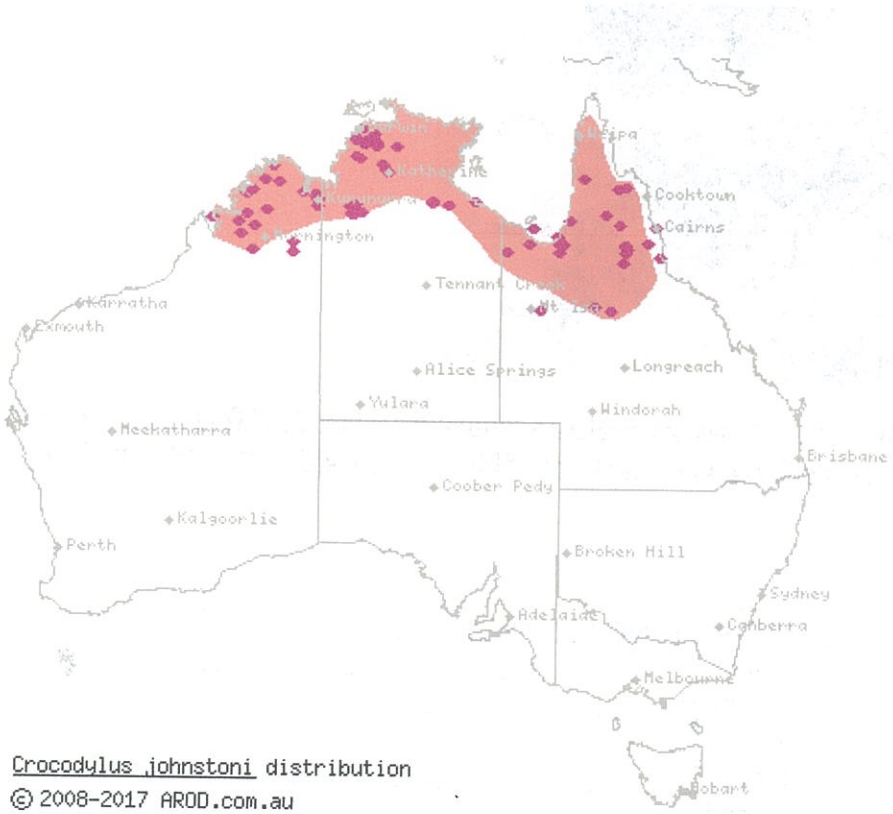
http://www.iucnredlist.org/details/5668/0 http://www.aquaticcommunity.com/crocodiles/saltwater.php



Pictures and diagrams.

In the food web above it shows that the croc is the top predator. As the top predator it has a very important role by maintaining the balance in the eco system and not letting lower predators thrive out of control.

https://business.nt.gov.au/__data/assets/pdf_file/0008/239039/crocodile-strategic-plan.pdf



Crocodylus johnstoni distribution
© 2008-2017 AROD.com.au

Red area = estimated range

Purple dots = from primary literature

http://www.arod.com.au/arod/reptilia/Crocodilia/Crocodylidae/Crocodyl (Macdonald, 2017)us/johnstoni

In this picture/diagram it shows you where the saltwater crocs mostly live in Australia.

How science is protecting the Australian salt water crocodile:

1. Breeding programs have been established in crocodile breeding farms to ensure the protection of this endangered species. Through breeding the numbers have increased for commercial use. By having these farms it stops most illegal hunting and lets the wild population grow. Farms such as those in the northern territory contribute economically through successful income and provide employment within the industry.

2. Research, education and conservation initiatives have been developed to make sure the industry is sustainable and the salt water crocodile has a healthy future.

Implications:

From an environmental point of view, breeding farms are advantageous because they allow farms to breed as many crocs as they like while hopefully leaving the wild population alone. Economically this is advantageous because it brings a lot of money into the country from export profits. Australia currently has 60% of the world's trade in salt water croc skins. Countries like japan, Italy, USA and France buy croc skins from Australia to turn into high end fashion items such as hand bags and jackets. Another advantage of having croc farms and zoos is that tourists can see and enjoy them without getting eaten or wrecking the crocs habitat. Some people however will hunt the croc so they don't have to pay. Another advantage of breeding farms is that they can enable research and education so that people know more about its important role in the eco system. A disadvantage is that some people will find it more exotic to go and hunt the 'real, wild Australia croc' instead of a croc from a croc farm. This could drive an illegal black market as with the lions and elephants in Africa.

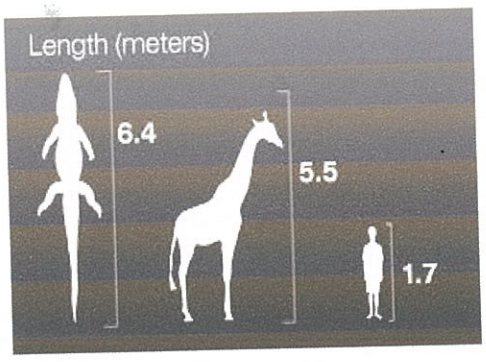
https://business.nt.gov.au/__data/assets/pdf_file/0008/239039/crocodile-strategic-plan.pdf

Summary:

It is clear that the salt water croc has become endangered because of illegal hunting and habitat loss/destruction. However, through the development of industry, research and education the protection of the salt water croc is secured and its future is sustainable.

Final opinion:

From this it can be seen that the salt water croc plays a very important role in maintaining the balance in this environment. The interaction between human and croc is hopefully working so that both can profit. However it is vital that this balance is sustained.



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SALT WATER CROCODILE

BY ZAK VAN DEN BRINK

Salt water crocodile

The Crocodylus porosus is the scientific name for a saltwater crocodile along with humans being homo sapiens. Different species of crocodile have different names like a fresh water crocodile is a Crocodylus johnsoniccand and an American alligator is a Alligator Mississippiensis.

Salt water crocodiles are hunted for their skin and meat which forced their numbers have decreased immensely. There scientific name is the Crocodylus porosus. the skin of a crocodile is used for hand bags, shoes and more. The meat costs $8.50 a pound (0.4kg) in the wholesale and $22 a pound (0.4kg) at retail. Crocodile hunting was banned in 1970 witch let the numbers climb and now they are endangered at the rank of least concern. I will tell you about how salt water crocodiles are being helped and what we can do to help.

Conservationists are people who move crocodiles to new habitats away from humans so we don't hurt them and they don't hurt us. People have had crocodile attacks happen to them and the ones that survive usually report it and then the local authority's come in and move the crocodile. Once the crocodiles have been re located they adapt to their new home and soon become familiar to their surroundings.

Scientists are helping crocodiles survive by rescuing them and helping them get there health up if they are sick or injured. Humans use the skin of crocodiles to make things we can make out of non animal material like cotton and rubber, these can be used for can be used for hand bags and shoes. I think that we should protect the salt water crocodiles and help them survive in there natural habitat of Darwin.

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