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

Class: 7.3

Karam Bains 7.3 science endangered or invasive species.

I have chosen to research on an endangered species called the Australian Sea Loin the scientific name for the Australia Sea Loin is *Neophoca cinerea* the level of classification for the Australian Sea-lion is species you can tell this from the second word because it identifies the species within the genus for example

Classification	Genus
Species	*Cinerea*
Genus	*Neophoca*
Subfamily	*Otariinae*
Family	*Otariidae*
Suborder	*Pinnipedia*
Order	*Carnivora*
Class	*Mammalia*
Phylum	*Chordata*
Kingdom	*Animalia*

Images of Australian sea loin:

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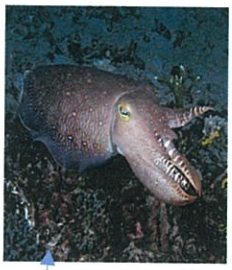

How did the Australian Sea-Lion become endangered From the females breeding once every 18 months this causes less population because of a small population they are more likely to die. In 2010 estimated 374 Australian sea lions were caught and killed in the shark fishery every breeding cycle. Some Sea-Lions are caught in nets.

What are scientist/people doing to help?

AMCF and the public agreed to reduce the killing of Australian Seal-Lions and they closed three gillnetting areas. This reduced the killing of the Australian Seal-Lions since this agreement only 10 sea-lions have been killed.

Advantages	Disadvantages
Less deaths of Australian Sealion better future It won't have to live The life of a poor endangered animal.	By closing down the fishing Nets they have to use a different Strategy of fishing this is different So it will take longer to get used to the Different method/strategy

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Jacob Bonner

Black Necked Stork

The Black Necked Stork is the only relative of the Stork family found in Australia. The black necked stork is a relative to the Jabaru, the adults have beautiful black and white feathers and red legs and feet. The females have yellow eyes and the males have dark blue eyes. The jabiru is very sensitive towards humans and there impacted to their shallow creek like vegetation.

The black necked stork also known as Jabiru is foud along the north coast of Quensland, Australia te Jabiru is rarely found even in the Sydney's creeks. The jabiru is found in creeks, wetlands, pools, large rivers and mangroves forests near rivers. The jabiru lives around these places because the jabirus mane food source is in these habitats, the Jabiru eats small fish and even reptiles, crabs, frogs and more rodents.

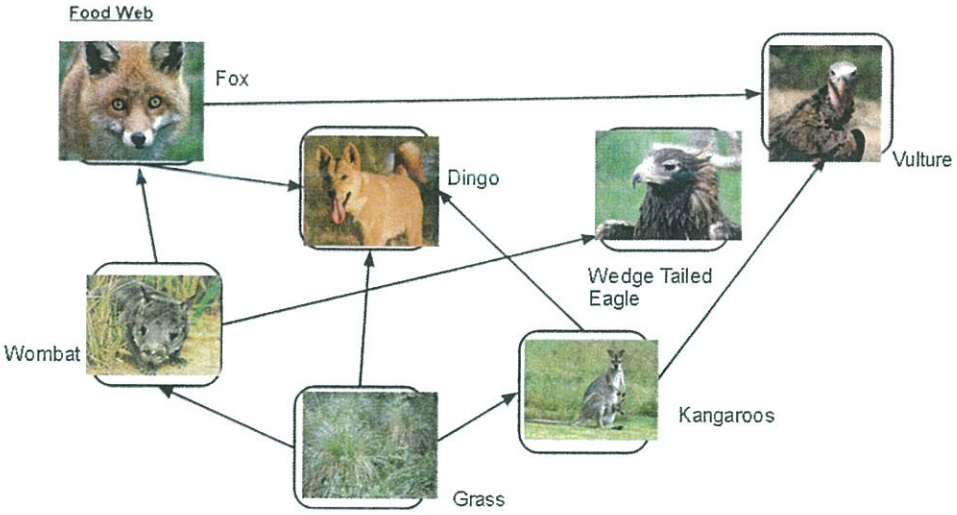
The black necked stork breeds any time from March until october. They build a substantial nest of large bulky sticks up to 1.8m wide, lind with reeds and may be located often up 25m above the ground or near the waters edge. The black-necked stork usualy has between 2-4 white eggs which both parents incubate.

(Arkive Organisation , 2013)

Southern hairy-nosed wombat

Science Oliver Boyer 7.3 Somerset Collage

Tue 6 March 17 Mrs. Walker



The Southern- Hairy Nosed Wombat (Lasiorhinus Latifrons) is a least concerned wombat along with its other cousin the Northern hairy-nosed wombat (Lasiorhinus krefftii) who is in the norther end of Australia. The southern hairy nosed wombat is an endangered species.

I chose environmental

Advantages

- Saves the endangered species
- Also saves other species targeted in that food web

Disadva

ntages

- Will have should kill the predator
- Making the predator starve to death.

Zoos will have to keep the wombat in caring hands not where they can be hurt from the predators.

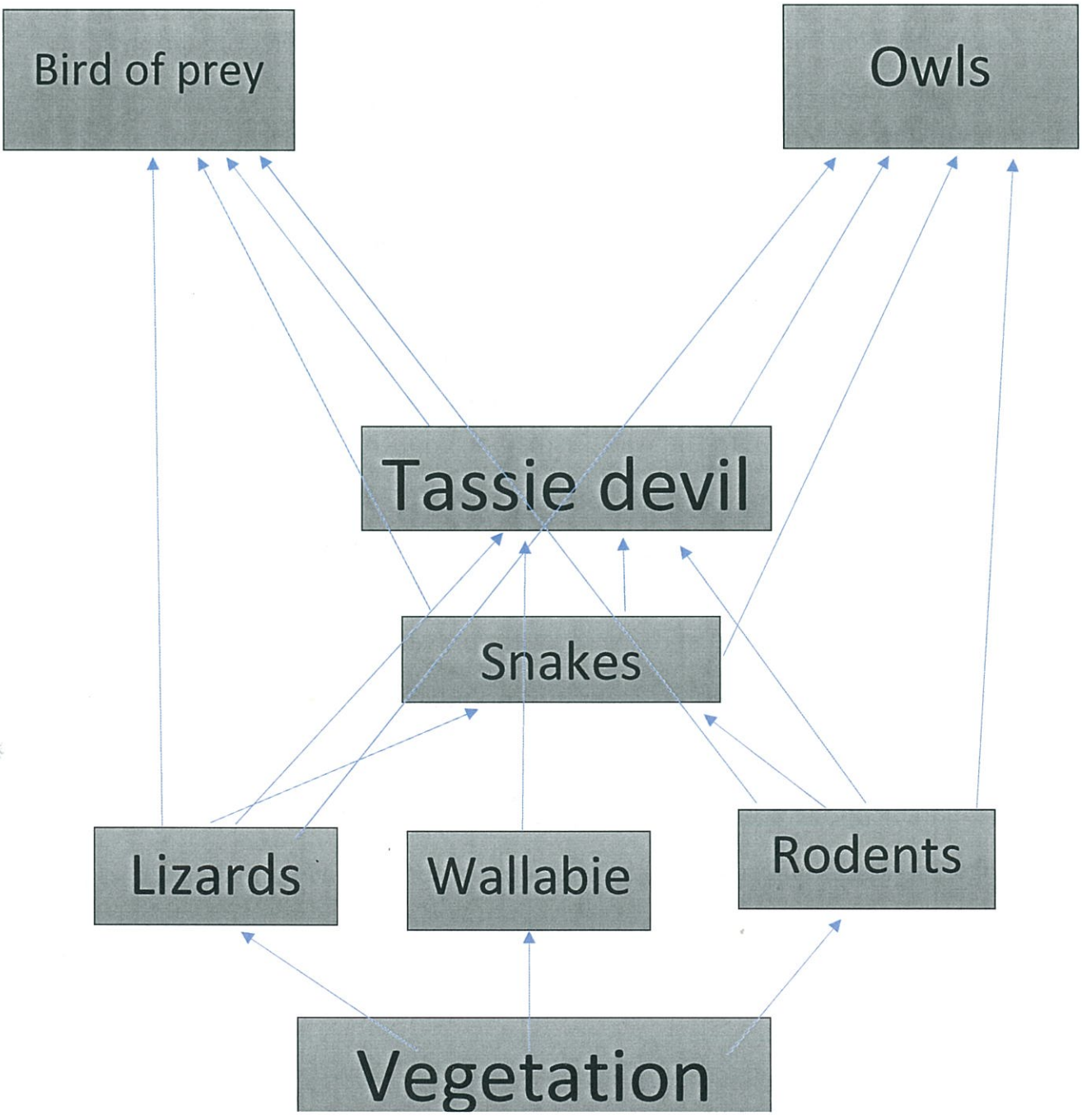
Name: Mackenzie Class: 7.3 School: Somerset Endangered species: Tassie devil
Science 2017

Fact sheet

Scientific name: Sarcophilus harrisii

You might know the Tassie devil as some cartoon tornado from loony tunes but there is more to them than meets the eye. The Tassie devil is a feisty devil that lives in only Australia's southern island of Tasmania and is getting killed off. The Tassie devil is an endangered species. The Tassie devil is endangered because there is a facial tumour diseases that is killing them off 1 by 1.

Food web



Name: Mackenzie Class: 7.3 School: Somerset Endangered species: Tassie devil
Science 2017

Tasmanian Devils, Sarcophilus harrisii, they are the largest carnivorous marsupials today in the world. The Tassie devils were once in mainland Australia, but have been reduced to Tasmania hence where the name comes from since pre-European times.

The Tassie devils are threatened by the Devil Facial Tumour Disease (aka DFTD) which has made the species known as Tassie devils now endangered. We have to stop the endangered species of Tassie devils back to normal standards because we don't want the only original Tasmanian animal left extinct.

DFTD causes tumours around the mouth, neck and face of the Tasmanian devils. The disease develops rapidly fast and is fatal. Mostly all affected animals will die within months of being diagnosed.

The fatal disease known as DFTD is contagious the cancer cells spread by biting during mating and feeding. It spread across approx. 60% of Tasmania and caused an increasing fatal decline in mostly wild Tassie Devil populations.

Although the disease id fatal and rapidly growing there is one organisation that I know of that is out to stop the fatal disease it is called the 'save the Tasmanian devil' it is a program that is out to stop the Tasmanian devil extinction.

As a major part of the program, eighteen zoos are taking Tasmanian Devils in to save the form the fatal extinction of the only Tasmanian native animal left. If the fatal and catastrophic decline of this specific species continues, these captive programs and Tassie devils would become a very vital source of the species reintroduction to the wild Tasmanian country.

In this special time the scientist (vets) are trying their hearts out to find a disease. the zoos all together are aiming to hold around 1500 breeding animals and 5000 individuals in a total and a mass of 50 years.

The Zoo's key roles in the massive recovery process are to:

1.Breed and manage a captive insurance population

2.Assist with population monitoring programs

3.Research captive breeding techniques and DFTD

4.Increase community awareness and support for the Tasmanian Devil.

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Caryl C (7.3).

Tasmanian Devil

The Sarcophilus harrisii (Tasmanian Devil) has been declared an endangered species. The Tasmanian Devils population is rapidly decreasing, the population of the devil was estimated at about 150,000 in the 1990s but has been rapidly decreasing and later on in 2006 it was estimated that the population was between 20,000 and 50,000.

The Tasmanian Devils population is being wiped by a rare cancer called Devils facial tumor disease (DFTD). This Cancer is easily spreadable, like a cold or the flu and is sadly wiping out many of the devils day by day.

Food Chain

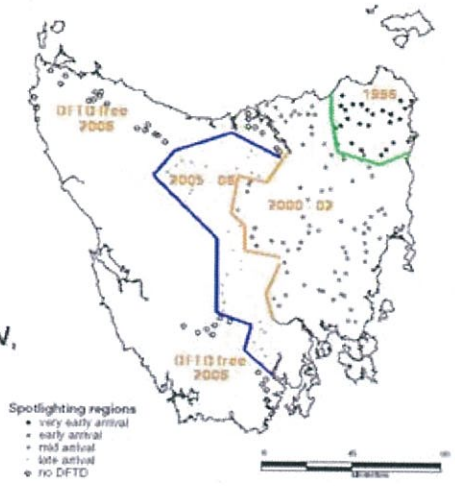
The food chain of the Tassie Devil. The food chain involves Vegation at the bottom, then Rodents/Small reptiles eg. Lizards, gecos, next is the Snakes, then The Tasmanian Devil and lastly the Birds of prey

Why the Tasmanian Devil is endangered.

The survival of the Tasmanian devil is currently being threatened by the Devils Facial Tumor Disease (DFTD). DFTD causes tumors to grow around the face, neck and mouth of the devils and is rapidly increasing and developing. The devils with this disease die within 6 months of having the disease.

Distribution of DFT

- First detected in 1996 in far NE Tasmania
- 1999 Buckland (central east coast)
- 2001 Freycinet Pen.
- 2002 Midlands
- 2004 Southern and Central Tasmania
- 2005-06 Central NW coast
- DFT-free areas in far NW, SW and west coast



From : Hawkins et al 2006

History Of the Tasmanian Devil.

The early European settlers didn't like the Devils because they kept eating all their chicken, and the Europeans thought that they would eat all their other meat. So in 1830 Van Diemen's Land company put up a reward for each devil being killed, Two Shrillings and a sixpence (25cents) for a male and three shrillings and a sixpence (35cents) for a female. The reason the female was a greater reward was because it is in fact heavier than the male. A female Tasmanian devil normally weighs up to 14kg but the male only weighs up to about 7-8kg.

Many devils were being shot and people thought they was going to become extinct like the Tasmanian Tiger, it wasn't until 1941 that the laws started to protect the Devils. They began to become more populated again but are now dying off from DFTD.

What scientists are doing to help.

The Save The Tasmanian Devil Program (STDP) was established in 2003 after there was a massive loss in Tassie Devils. The program is funded by the Tasmanian and Australian Goverments, The program is now on its third, five year plan or stage. The program has a number of things it is trying to do;

1. Keep The devils populated all over Tasmania and safe from DFTD
2. Maintain the current diversity of the Tasmanian Devil
3. Establish a sustainable disease free insurance for possible future release into the wild.

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All donations over $2 are tax deductible in Australia. ABN: ABN 73 744 631 571. Find out how to support the Appeal.

login

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European Rabbit

(Oryctolagus Cuniculus)

By Rylee Childs 7.3 Somerset College

The European Rabbit is a non-native invasive species in Australia. (QueenslandGovernment, 2011)

European Rabbit (abc, 2009)

Facts

- The European Rabbit was introduced on the First Fleet for farming, hunting and to make Australia similar as Britain as possible.
- The European Rabbit originated in Spain and Portugal, but over time the rabbit moved into the rest of Europe and was brought into England by Romans (Group, 2017).

Why the species is invasive

- The European Rabbit is invasive because due to its devastation to wild plants that can cause harm to other native animals that run out of food and make native plants extinct.
- European Rabbits can also destroy crops by coming through and wrecking the vegetation (QueenslandGovernment, 2011).

How science is controlling European Rabbits

- To help prevent the rabbits from going into west Australia, a giant fence was built to try and contain the rabbits. The giant fence failed due to rabbits already invaded west Australia (abc, 2009).
- Myxomatos the disease was introduced into Australian Rabbits to help stop the population. The disease did dramatically decrease the population especially in areas that are dense which means mosquitos can transmit the disease.
- Over time the European Rabbit has developed resistance to Myxomatos disease which means that the European rabbit numbers are again rising (B.V, 2017).
- Hemorrhagic disease in European Rabbits is an infection that will infect and kill a Rabbit quickly and easily. This disease is hard to prevent which is great for handling the number of rabbits in Australia (Cooke, 2007).

Ethical Issues

- Culling the European Rabbit raises some ethical issues. It involves killing animals in order to save animals; an idea which is inherently counter intuitive. Furthermore, killing animals is bad because they are living things but it can be the right thing to do if it saves more animals and plants than the amount of animals that died (Johnson, 2015).

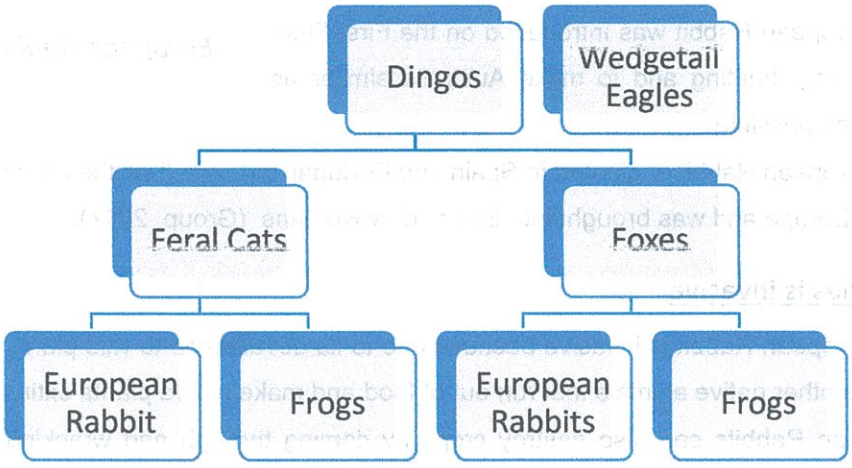
- I do believe that we need to do something about the rabbits but it may cause a rebound and have some negative effects e.g. designing another disease that will help kill Rabbits might kill some native animals.

- **Seven Levels of Classification**

Kingdom	Phylum	Class	Order	Family	Genus	Species
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	Oryctolagus	Cuniculus

(Esmond, 2010)

Food Chain



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How is the hairy nosed wombat endagered?

Somerset college science Mrs Walker by Zaylee Clapham

kingdom- Animalia

Phylum- chordata

Class- mammal

Order- diprotodontia

Family- vombatidae

Genus- lasiorhinus

Species- hairy nosed wombat

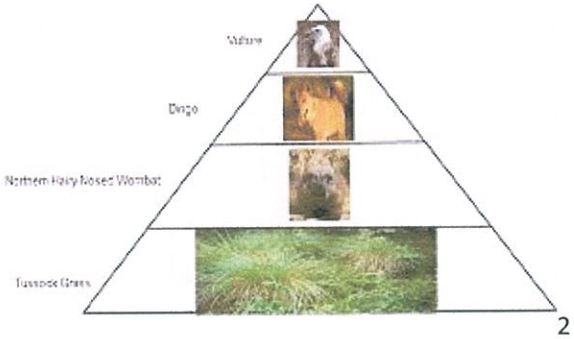
The hairy nosed wombat (scientific name lasiorhinus kreffi) is one of 3 wombats. The hairy nosed wombat is the largest of Australia's wombats. The hairy nosed wombat is endangered because they must fight for their food. They must fight with cows, sheep and more. They eat farm vegetables, grasses and during droughts they must eat bluebush and all type of grasses. They also can eat mushrooms and fungi. They live in 2 sites in Queensland the Epping forest national park and the Richard underwood nature refuge. In these places there is not much grass and bushes. These places are in the outback. The population of the hairy nosed wombat is approximately 230. The inhabited areas are Queensland and new south whales.

We protect the hairy nosed wombats by putting them in captivity and making two of the wombats mate, to increase the population of the wombats. Another way to save these wombats are to keep them in a zoo and people choose to donate money for them. By keeping them in captivity, it is best for them because where they are now there is dangerous animals like dingo's and vultures. By observing them in a controlled environment we can study how they live there everyday life and hopefully keep their speices alive longer instead of keeping these animals in the wild and eventually have them die off. In such time when there is more then enough of them we will let them back in the wild. Captivity is the best place for them because

they can live without the harsh animals. By keeping in captivity it can also be bad because we will feed them and when they leave into the wild again they will not know where to find their food because we fed them in captivity, instead of letting them forge for their own food and find their own food. The factor of the matter is about the environment and how harsh it can be at times.

In conclusion the hairy nosed wombat is endangered. It is endagered because of the reasons above. If the hairy nosed wombat is kept in the wild and not taking into care of in captivity, the hairy nosed wombat will become extinct.

1



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Spotted-tailed Quoll

Lara Culleton 7.3 Somerset College Science 2017

Mrs Walker

The spotted-tailed Quoll is an Australian endangered mammal that lives on both mainland Australia, and Tasmania. There are fewer than 10,000 spotted tailed quolls left on mainland Australia. They are a nocturnal creature. There decline started when the Europeans first arrived in Australia and their populations have been going downhill since then. The other main cause to their decline was the introduced species such as feral cats, foxes and the cane toads. The spotted-tailed quoll has many common names; the tiger quoll, spotted quoll and the native cat.

Scientific name: The scientific name for the spotted tailed quoll is *Dasyurus maculatus*

What do they eat?

The spotted tailed quoll is a carnivore and an insectivore. The main diet of the spotted tailed quoll consists of insects, small birds, small mammals, reptiles and amphibians. Since this species of quoll eat frogs, they can also mistake the cane toad for one of their prey. This is one of the main reasons for their declining populations. When the quoll has consumed the cane toad, it releases poison, which then causes the quoll to die. Small rodents eaten by the spotted tailed quoll can be the antechinus, small native mice, and bush rats.

Food Chain:

Grass
Producer

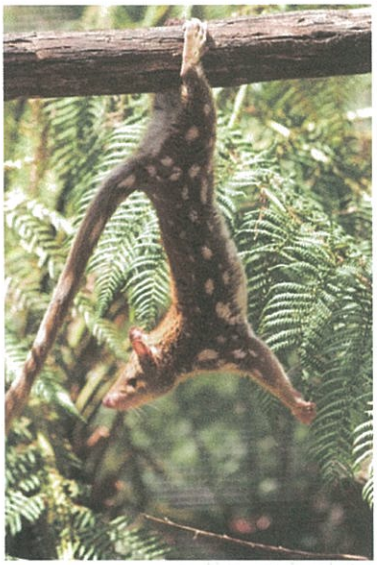
Grasshopper
Primary consumer

Water Dragon
Secondary consumer

Spotted tailed quoll
Tertiary Consumer

Kingdom	Animal
Phylum	Chordate
Class	Mammal
Order	Dasyuromorphia
Family	Dasyurids
Genius	Quoll
Species	*Dasiurus maculatus*

History/ Why did they become endangered:



The main start to the decline of the spotted tailed quolls on mainland Australia, was when the Europeans first arrived in Australia. When the first fleet arrived, many of the spotted tailed quoll inhabiting the local areas at the time, were shot by their new European rivals. However, this was not all that has resulted in the decline of the quolls. When the sugar cane industry was brought to Australia, cane toads became introduced. Since small animals are the main food source for spotted tailed quolls, the quoll were attracted to the newly invasive species, as a food source. When the toads were consumed by the quolls, their poison is released into the blood system of the quoll, causing them do die. This had a very negative effect on the quoll populations, and unfortunately is still doing so today. Feral cats and foxes have also recently become a problem for the quolls in Australia, as they are constantly battling with the quolls for food sources.

What is being done?

- Australian organisations such as FAME, (Foundation for Australia's Most Endangered species), have been raising money to help contribute to projects such as quoll fencing, to try and prevent feral animals such as cats and foxes from getting into areas in which spotted tailed quolls and other native animals live, so that they can thrive in their natural ecosystems.
- Organisations are continuing to relocate quolls to a different area so that they are away from vehicles such as cars, and a moved away from suburban areas to avoid animals in competition such a feral cats and foxes. They help capture stranded quolls from dwellings to improve their lives which will hopefully able them to thrive and therefor breed in their natural surroundings.

Environmental

Advantages	Disadvantages
Re-locating helps the quolls return to their natural habitats and surroundings These projects will improve the lifestyle of the quolls, and will reduce their competition for food Re-locating will help to eliminate some death risks for the quolls (e.g. road traffic Fencing will stop feral animals entering the natural habitat of the spotted tailed quoll and the other vulnerable animals within the ecosystem	The moving and re-locating of the species will disrupt their routines they adapted to in the environment in which they were transported from Fencing may prevent some Australian native animals from entering some needed natural habitat Moving of quolls will open new challenges to adapt into yet another new environmental area The feral proof fencing may consequently target and effect Australian native species instead of feral animals

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Lucia Dann

Fact sheet
Is the Hawksbill turtle endangered and how did this happen?

Endangered species: Hawksbill turtle

Scientific name: Eretmochelys imbricate

http://hannalicious.tidningensolo.se/wp-content/uploads/sites/15/2015/06/3017082190_4f2f424e09_b.jpg

Level of classification	Invasive or noninvasive species
Kingdom	Animal
Phylum	Chordata
class	Reptilia
Order	Testudines
Family	Chloniidae
Genus	Eretmochelys
Species	E.imbricata

Introduction Hawksbill turtle

The hawksbill turtle is critically endangered and there is a lot of things that us as humans can do. Did you know that most of the reasons why the hawksbill turtle is critically endangered is because of humans? In this fact sheet you will find out the reasons on why the hawksbill turtle is critically endangered and what we can do about that. You will also learn some other general facts about this turtle and what the scientific name of the hawksbill turtle is and much more!

How is the Hawksbill turtle critically endangered?

The Hawksbill turtle is critically endangered like many other sea turtles. Most of the reasons on why they are critically endangered are because of human impacts it is unfortunate that around the world in some countries people still collect their eggs to eat, despite the turtle's international protected status, and they are also often killed for their flesh and their beautiful shells. These amazing creatures are also effected by accidental fishing nets, getting caught in then and sometime old hooks that have fallen off fish a mans or women's fishing line and are getting caught in their mouths, flippers and the rest of their body. Another reason why they are critically endangered is because of the pollution in the ocean for example turtles eat jellyfish and plastic bags floating in the ocean to them looks like their food (jellyfish and sponges) and can cause them to choke and die. As well as plastic bags are being polluted just little pieces of plastic are and that stays in their stomach and it will fill up on plastic and then eventually there is no room for food. Hawksbills also are critically endangered because of boat propellers some hawksbill turtles can be injured by boat propellers but the use of propeller guards will decrease the severity of the injury.

What can we do to stop this from happening?

To stop this from happening we will need to take responsibilities for our actions. e.g Is it a wise decision to fish here because a lot of turtles/ hawksbill turtles swim hear? I think that to stop the harm that is happening to the hawksbill turtle we need to insure that there will be severe consequences if you do not obey the turtle's international protected status for example one of the consequences could be heavy fines. Stop this from happening we need to be very mindful of what we are putting into the ocean and could this harm any of the animals in it. Another way we can also stop them from coming extinct is by using circle-shaped hooks instead of the common j-shaped hooks can significantly reduce the catch of turtles but will still catch fish (WWF). The WWF also encourages fishermen to use nets that are design to not catch turtles.

How do we Protect the hawksbills natural environment?

Some scientist protects the hawksbills natural environment by creating marine protected areas (MPA) witch are safe areas for turtles to nest and migrate, they also mark and protect turtles nest and by tagging them on the flipper witch indicates

how old the turtle is and where he came from. Make sure that your anchor does not land on a reef or destroy any coral. It is important that you have propeller guards so that you decrease the chances of injuring a turtle. Propeller guards protect animals especially turtles from the propeller, the propeller guard looks a bit like a cage around the propeller protecting turtles and other animals.

Population of the Hawksbill turtle?

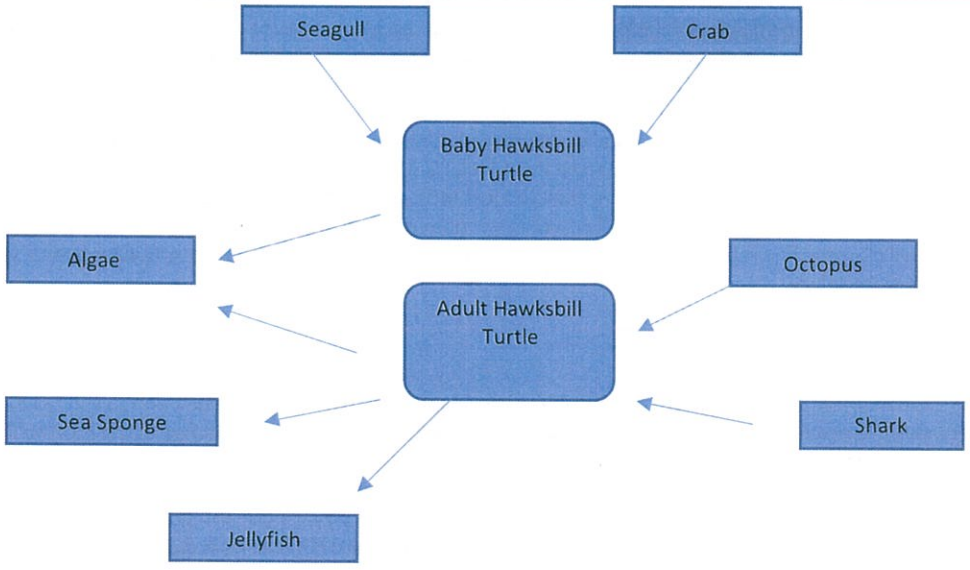
The total population of hawksbill turtles in the world in 2007 was estimated at 21000 to 28000. About 15000 females are expected to nest each year.

Ways to protect the hawksbill turtle?

One of the ways we can protect hawksbill turtles are to uses circle-shaped hooks instead of j-shaped hooks for long line fishing this will make it less likely for the turtles to get their flippers or mouth get hooked. Another way is to use propeller guards, propeller guards are a cage sort of guard that protects most sea animals from getting injured by propellers. We can also use fishing nets that are design to not catch turtles. Stay out of marine protected areas (MPA) these are safe areas for turtles to migrate and nest.

Economic impacts for fishermen in turtle areas

Advantages	Disadvantages
Long line fishing using circle hooks allows fishermen to make a living and provides an important source of protein for many people while decreasing the number of turtles that are hooked.	Some turtles may still get hooked.
Also nets that are designed to keep out turtles help fishermen do the right thing and decrease the numbers of turtles caught.	There can still be injuries for the turtles.
Teaching island people to stop eating turtles and use turtles as a way of attracting tourist for snorkeling and scuba diving.	They may not believe that, that is the right thing to do but in the end they might.
Making money from tourism can replace illegal income from selling turtle shells.	Islanders may not believe that that is the right thing to do.



Conclusion:

In conclusion I believe that it is possible to save the hawksbill turtle from their extinction for these reasons, scientist have been working very hard to come up with ways to ensure that fishing can be safe without harming the hawksbill turtles like circle-shaped hooks instead of j-shaped hooks, fishing nets that will catch fish and catch fish only with are rare risk of catching a turtle. With all of this scientific research we are one step to coming closer on saving them from extinction.

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Kimberley Diamond

The Red-Tailed Black Cockatoo

The Southern-eastern Red-tailed Black Cockatoo, or it's scientific name (Calyptorhynchus banksii) is an endangered `species and is only found in the places south-east South Australia and south-west Victoria. The population of these birds is estimated to be around 1400 of them left, the South-eastern Red-tailed Black Cockatoo is at risk of being endangered. This Cockatoo is native to Australia. The adult males have a characteristic pair of bright red panels on their tail it's these feathers that give the species their name. The birds lifespan is from around 45 to 50 years in captivity.

Why Is This Species Endangered?

The population of this species has declined since the year 1989 when there was supposedly 500 to 1000 birds. There are a few as to why the Red-tailed Black Cockatoo is endangered, one reason is that the species breeding is slower. It is said that before the white settle meant in Australia the Red-tailed Black Cockatoos would breed with other species of cockatoos, though this doesn't seem to happen any more, as there are less Cockatoos in the wild due to land being cleared for agricultural land for farming and urbanization. This results to less trees which means less food and shelter for places to breed.

The reason this bird is endangered is because

This birds Classification:

Kingdom=Animalia

Phylum=Chordata

Order=Psittaciformes

Family=Cacatuidae

Genus=Calptorhynchus

Species=banksii

Bibiliograghy

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Brush-Tailed Rock Wallaby

Tom Enwright 7.3

The Brush-tailed rock-wallaby is a very agile marsupial and it has adapted, allowing it to move easily through rough habitats, like caves and rock ledges. The Brush-tailed rock wallaby has flexible, well-padded hind feet that have textured soles, giving a good solid grip on rocks. They have a long, bushy tail that provides balance as they leap over boulders. Their long, dense fur is typically dull brown, reddish-brown on the rump, and lighter on the underparts. They feed on grasses, foliage, fruits, and the bark of trees. The brush-tailed rock-wallaby is located from Queensland to Victoria, roughly following the line of the Great Divide. These Wallabies are listed as an endangered species in NSW, critically endangered in Victoria and vulnerable in Queensland. From 1880-1920 hundreds of thousands of wallabies were shot as they were considered to be pests, the hunters used their fur and skins. Another cause of their numbers declining is that they are deprived of habitat. There many reasons why they are endangered: Clearing of food/vegetation, new plants being introduced to the area and also fires. There are only 15,000 to 30,000 wallabies of this kind remaining in Australia.

One of the ways in which science is used to protect this endangered species is translocation. This is the removal of native animals from locations in which development is taking place and the human introduction of foxes and cats threatens them. They are translocated to remote or rural areas were human activity is less common. For example Victoria's Southern Rock Wallaby population has benefited from the use of innovative open-range captive breeding sites. Predator fencing protects the wallabies living within the site.

Another way in which science is used to help endangered species such as rock wallabies is the creation of virtual reality simulations of their environment. Professor Mengersen from QUT states:

> "These wallabies live in inaccessible places and are rare. However, working with ecologists' data, we built a predictive model

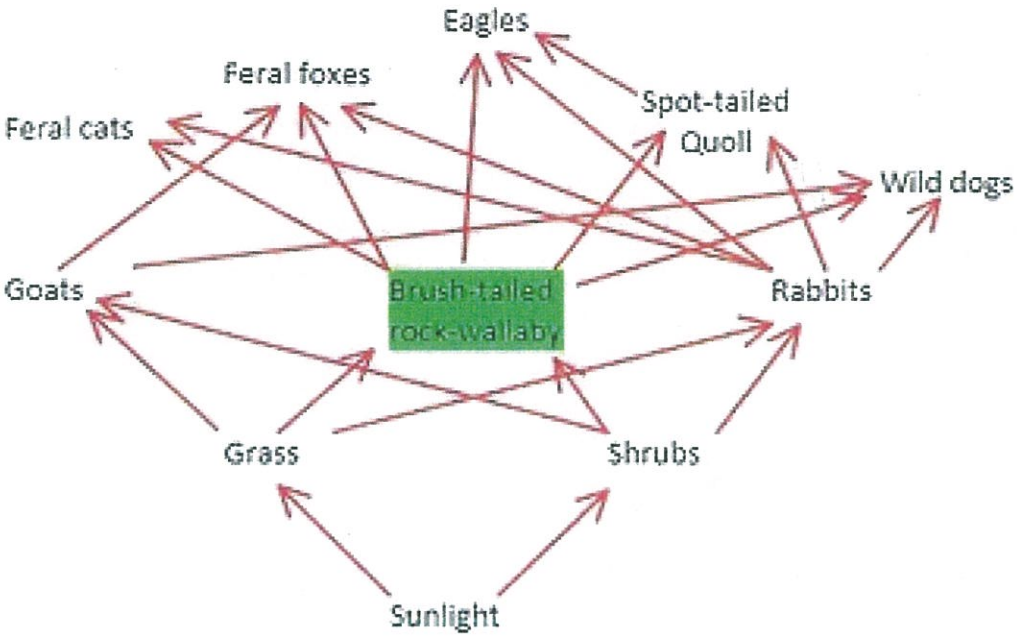
into a virtual reality environment and used it to locate where the habitat exists across a broad landscape,"

This technology allows scientists to identify suitable areas for conservation. "Through computer-generated imagery of the landscape - they were able to determine the likelihood of wallaby habitat." (Professor Mengersen). The use of equipment such as high resolution cameras supports the construction of "...real time panoramic displays of the species environments".

The main barriers to these scientific approaches are political and economic. Because the use of land for human activity such as farming, housing, mining and logging is given a high priority, it is difficult for environmentalists to implement solutions. Politicians may find it difficult to persuade voters to care about the plight of animals. Economically there is little benefit in protecting wallabies in comparison to other activities.

Rock wallabies are clearly a threatened species, however scientists are attempting to find solutions to help them. It is clear that given the political and economic demands on the land it will be difficult to save these animals. Translocation is a great way to help and save this endangered species. Translocation stops rock wallabies from being attacked by other animals. Digital Habitat Simulations aid scientists to find the right habitat for breeding and keeping the species alive.

Food Web



In this food web you can see that the eagle and feral fox are the main predators of this system.

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Endangered Australian Animal Fact Sheet

Somerset College, Claudia Fann 7.3 Science Mrs Walker

Woylie

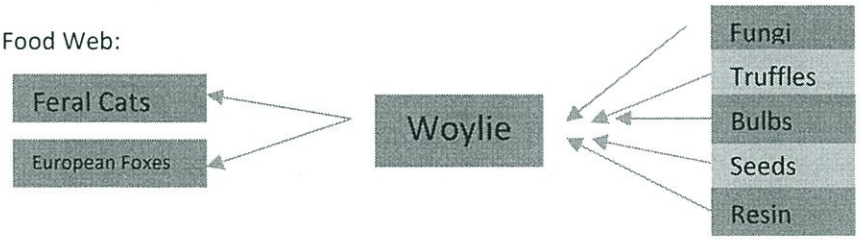
Image reference:
https://www.zoochat.com/community/media/woylie-bettongia-penicillata-ogilbyi.217677/

Level of Classification	Invasive non-native species
Kingdom	Animal
Phylum	Chordata
Class	Mammalia
Order	Diprondontia
Family	Potoridae
Genus	Bettongia
Species	B.ogilbyi

Scientific Name : *Bettongia* penicilata

The first part of the name is the genus on which the species belongs to and the second part of the name tells you the species within the genus.

Food Web:



Description:

The woylie is a small marsupial weighing between 1- 1.5 kilograms. The common size of a woylie is 240mm to 360mm. The woylie is commonly known as a rat-kangaroo as it is the size of a rat and hops along like a kangaroo. The colour of a woylie is a pale grey to brown colour, their tale is a dark brown with a distinctive black brush tale. The species has strong clawed for feet for digging and nesting.

Research on why the species is endangered

The woylie has shown some changes in status overtime. It was classified as endangered in 1982 after a dramatic decline. A review of the status in 1998, numbers had increased. In 2008 again the woylie joined the critically endangered list. The main threat to the woylies numbers are red foxes, feral cats and disease. The population of the woylie has gone down to between 8,000 to 15,000 animals. A couple of parasites and a number of viruses are possible causes for population decline and are being investigated further. It is thought that habitat destruction or modification, fire, and lack of food supplies are not current reasons for the population decline.

Scientists are particularly interested in gaining evidence on the possibility that a blood parasite is a factor in decline and also another culprit being toxoplasma which accumulates in the brain and reduces the amount of fear in animals. Data collection for this being a possible reason for endangerment is being impacted by feral cats that remove all evidence.

Explain two ways that science is used to protect the endangered species

Woylie sanctuaries are being developed to aide in the study and re-population of numbers as part of the recovery plan. This will involve establishing habitat areas that are predator fenced to allow numbers to regenerate. Scientists have also introduced fox baiting which has assisted in the recovery of the woylie numbers.

A scientific action plan will be introduced that will include surveying populations and collecting data on parasites and pathogens that are particular to each population. This data collection will better inform the role (if any) of disease and help determine future management of populations.

Another specific scientific plan is to observe and analyse the areas of which woylie decline has been significant by looking carefully at the characteristics of the area to determine if any patterns emerge in the data. This would mean that scientists would carefully note the spatial, temporal and density characteristics of the locations where significant numbers are on the decline.

Social impacts -Advantages	Social impacts - Disadvantages
Development of conservation areas will be eventually open to the public to allow visitors to the area an opportunity to view the woylie and other Australian animals in an "indigenous state". Woylies are not currently populated on indigenous community land. Univerisities and many other government agencies will be involved in the process of scientific investigation and data collection.	Impact on mining groups in the Western Australian areas as the land in which woylie populations exist are on long leases currently held by mining groups. Care will need to be taken to ensure that indigenous communities are not impacted by conservation process. Concerns may arise as the allocation of funds and who may pay for costs involved.
Environmental impacts – Advantages	Environmental impacts - disadvantages
Woylie numbers increase and research enables scientists an opportunity to intervene in the decline of numbers. Other threatened species in the woylie habitats and sanctuaries established are likely to benefit from this intervention and recovery plan as the feral cat and foxes are impacting other native plants and animals. Better data management and collection methods will enable scientists to improve their understanding of wildlife diseases and recovery of mammals.	Woylie numbers do not increase even with intervention and the species becomes extinct. Climate change (increase in temperatures and fires) continue to reduce numbers and are not able to be prevented as an impact.

With these interventions and actions by scientists the woylie population numbers should benefit and improve overtime. Without these interventions there would be serious concerns for the future.

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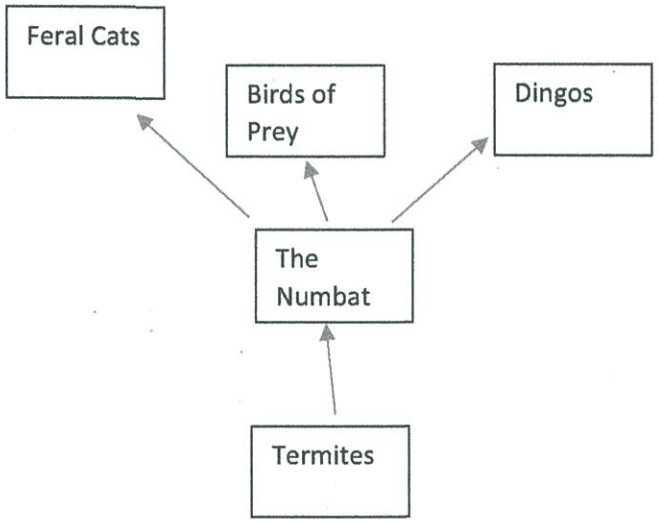
By Emelia Fink 7.3

Somerset College, Science, Mrs Walker

The Numbat

The Numbat is a native Australia marsupial found only in Western Australia. It is also known as the Banded Anteater, the Marsupial Anteater, and the Walpurti. The Numbat is brown, white, black, red, grey and tan and an adult numbat can grow to be between 35cm and 45cm. They are very sociable animals.

The Numbat is an endangered species, and this is largely due to introduced species. As the numbat is a small creature, it is preyed on by larger, predatory animals such as: feral cats, foxes, snakes, dogs and dingos, and birds of prey, because of this their number remain low. The Numbat is classified as an omnivore or an insectivore and it's diet mainly consists of termites. It occasionally eats small insects and ants.



The Numbat's habitat is eucalyptus woods and grassland.

Numbat quick facts

Scientific name: *Myrmecobius fasciatus*

Kingdom:	*Animalia*
Phylum:	*Chordata*
Class:	*Mammalia*
Order:	*Dasyuromorphia*
Family:	*Myrmecobiidae*
Genus:	*Myrmecobius*
Species:	*fasciatus*

Status: Endangered (only around about 1,500 left in the wild)

What is being done to help the Numbat?

Breeding in captivity –

Numbats are being bred in captivity in Wanneroo, West Australia and then released into the wild to help prevent extinction.

Laws against the trade and hunting of Numbats –

Although it is very uncommon for Numbats to be hunted, there are regulations in place against hunting or harassing Numbats. It is also illegal to keep or trade Numbats.

Habitat protection –

Numbats will have a higher chance of survival if more eucalyptus woodland – their habitat – are protected from being destroyed for farming and agricultural reasons. WE MUST PROTECT THE NUMBAT!

Breeding Numbats in captivity

Disadvantages	Advantages
• They get used to captivity • Less genetic diversity • You must reteach the Numbats to be able to find their own food when they are released • They don't live a natural life • They may not get enough physical exercise • Animals may die prematurely	• It increases the number of Numbats • It prevents extinction • It makes disease more controllable • Predators can't get to the Numbats • There is less chance of the babies dying • The food is not scarce • The Numbats get just the right amount of nutrition

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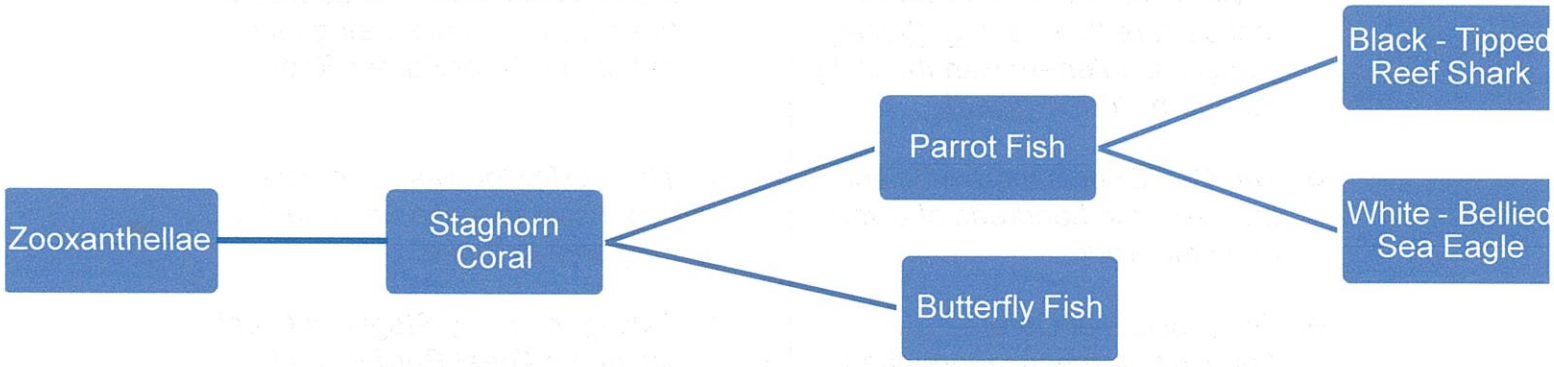
The Great Barrier Reef
Staghorn Coral Fact Sheet
By Hamish Folliott 7.3

Somerset College – Hamish Folliott 7.3 – Science – Mrs Walker – Due Date – Tuesday Week 7 (07 / 03 / 2017)

Classification	
Level of Classification	***Invasive / Non – Native Species***
Kingdom:	*Animal (Animalia)*
Phylum (Phyla):	*Cnidaria (also known as Coelenterata)*
Class:	*Anthozoa*
Order:	*Scleractina*
Family:	*Acroporidae*
Genus (Genera):	*Acropora*
Species:	*Cervicornis*

Common Name: *Staghorn Coral*
Scientific / Binomial Name (Binomial Nomenclature): *Acropora cervicornis*

Staghorn Coral Food Web:



The Problem – Threats to Staghorn Coral:

The Principal Threat to Staghorn Coral is the Rise in Sea Temperature associated with Global Climate Change. This leads to Coral Bleaching, where the Symbiotic Algae are expelled, leaving the corals weak and vulnerable to an increasing variety of harmful diseases. Climate Change is Also Expected Cause More Extreme Weather Incidents and to Increase Ocean Acidification, which impairs the Coral's Ability to form a Skeleton. These global threats are compounded by Localised Threats from Pollution, Destructive Fishing Practices, Invasive Species, like the Crown of Thorns Starfish (Acanthaster planci) that Eat Staghorn Coral, and, last but definitely not least, Human Development.

How Science gives a Solution to the Problem:

The first solution science gives to the problem, threats to Staghorn Coral, aims to help control the outbreaks of Crown of Thorns Starfish (Acanthaster planci). Crown of Thorns Starfish are actually native to the reef and several attempts have actually been made in hope of controlling the outbreaks of this animal. The most successful attempt made to date was made using the COTSBot developed by the Queensland University of Technology. Another solution is Coral Reef Restoration. A way of doing this is using Coral Aquaculture. Coral Aquaculture is the process of using Coral Nurseries to restore the Great Barrier Reef and it is a project capable of improving Biodiversity, Structural Integrity and Coral Cover.

An implication of the Solution Science gives to that Problem:

Factors: Environmental and Economical

Advantages:	***Disadvantages:***
❖ *If the COTSBot is successful, then there would be more living Staghorn Coral in the Great Barrier Reef.*	❖ *The COTSBot could potentially wipe out every single Acanthaster planci in the Great Barrier Reef, therefore wiping out an entire species.*
❖ *Coral Agriculture is a great solution because it is environmentally friendly and it makes sure that no Acanthaster planci can interfere with the Baby Staghorn Corals' growth.*	❖ *If too much coral is taken out of the reef to be grown at one time, then it could mean the demise of the species of coral being taken out of the Great Barrier Reef.*
❖ *The COTSBot is more efficient than sending hundreds of divers to do the work.*	❖ *The COTSBot was extremely expensive to make and it took a long time to make.*
❖ *The process of Coral Aquaculture means more chance of survival for Staghorn Coral.*	❖ *Taking the Baby Staghorn Coral out of the Great Barrier Reef could be very expensive and the process of Coral Aquaculture takes a very long time*

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ENDANGERED CASSOWARY

The Cassowary is an endangered animal and it is a type of bird. The bird breed is named ratites meaning that it's a large group of birds that cannot fly

Interesting Cassowary facts

* A Cassowary is a large bird. It is slightly smaller than other types of birds such as the emu and the ostrich. The cassowary is a very tall animal reaching 59 to 79 inches in height and between 55 and 129 kilos. Females are found larger than males

* The bird, Cassowary. Have very dangerous feet. The most dangerous weapon on the Cassowaries body is their razor-sharp claw on the inner toe on each of its feet, which for the Southern Cassowaries, their razor-sharp claw grows to be around 5 inches long.

* Cassowaries are good jumpers

* The Cassowary has surprisingly beyond belief eyesight and a great sense of hearing. They also identify the simplest low pitched noise. * The fastest recorded speed of the animal named the Cassowary is up to 50km/h

Breed

Cassowaries cannot fly due to shortage of chest bone that maintains muscles used for flying. Despite the fact, they cannot fly, they are rapid runners. Cassowary can run 31 miles per hour and jump up to 5 feet inches off the ground.

Location

There are 3 species of Cassowary that are found in the North-eastern parts of Australia and in New Guinea.

The main threat to cassowary and their survival is the wrecking of the forest and introduction of new species and animals such as cats and dogs, especially foxes, (which eat cassowary's eggs)

Diet

The Cassowary bird is an omnivore -

The Cassowaries diet is based on fruit such as berries that fall to the ground in what the Cassowaries call their home, the forest. Thought they are health with all the fruit, they are like us in and need protein, this means that the occasionally eat dead animals

History

Southern Cassowaries were found mainly in the lowlands of these countries named below:
Southern New Guinea
North-eastern Australia
Aru Island

BIRD INFORMATION

* Scientific name – Comprised of the genus followed by the species? – Casuarius

* Type – What type of animal group does the Cassowary belong to? – Bird

* Diet – What kind of foods does the animal eat? – Omnivore

* Size – How long or tall is the animal? – 1.5m - 2m

* Wing span – What is the measurement from one wing tip to the other? - 1.5m - 2m

* Weight – How heavy is the Cassowary give or take? - 25kg – 58.5kg

* Life span – How long does the Cassowary live for on average? – 40 – 60 years

* Lifestyle – Is the animal sociable or solitary? - Solitary

* Kingdom – Animalia

* Phylum – Chordeta

* Class – Aves

* Order - Casuaiiformes

* Family - Casuariidae

* Genus - Casuarius

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By Alijana Framp

Zayya George

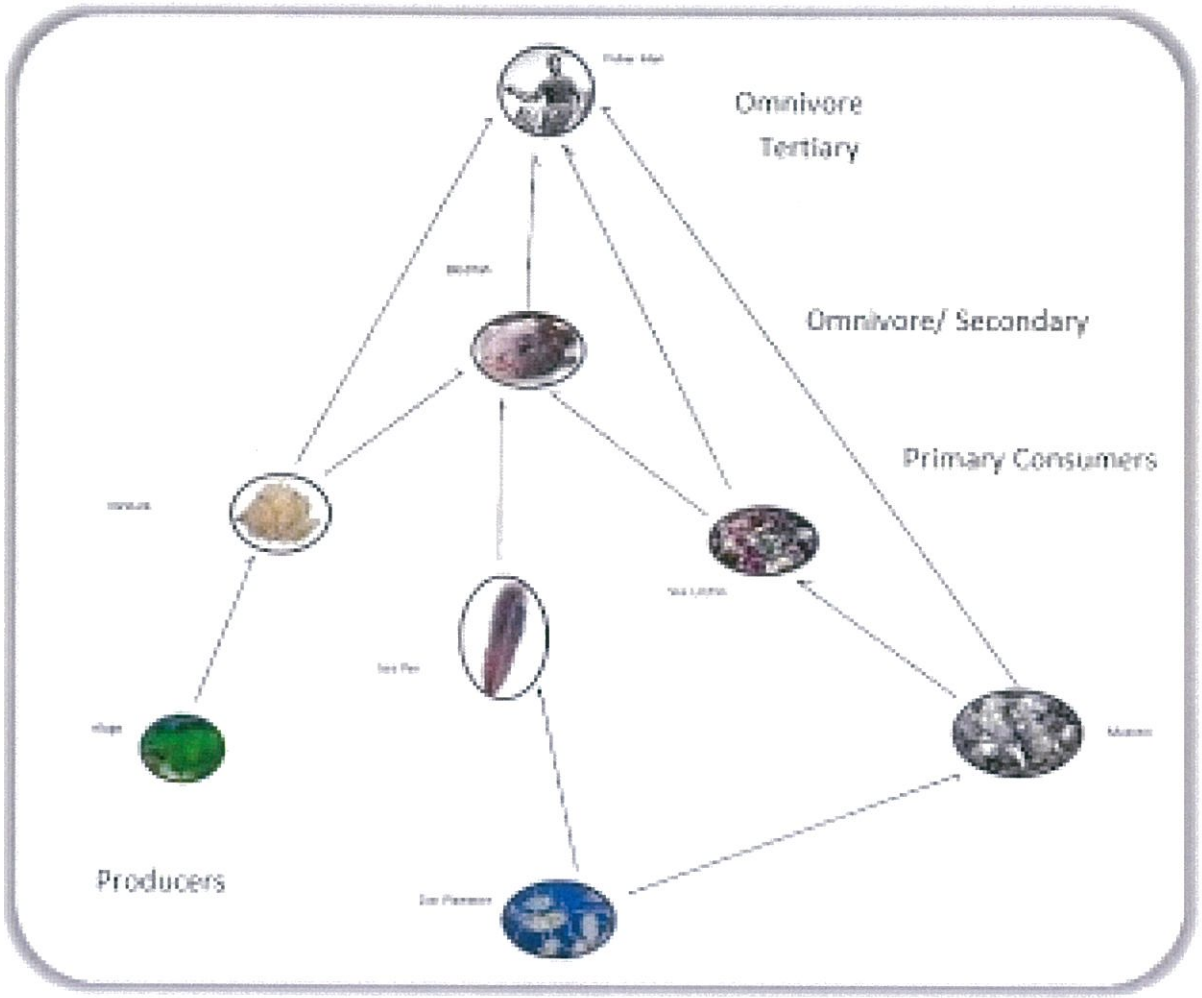
Blobfish (Psychrolutes marcidus)

A blobfish is an extremely endangered fish there are only 420 left on earth. Blobfish are often caught as bycatch in bottom trawling nets. Scientists now fear the blobfish could become an extinct species because of deep-ocean trawling. Blobfish are typically shorter than 30 cm, live at depths between 600 and 1,200 m with pressure 60 to 120 times as great as at sea level, which would likely make gas bladders inefficient for maintaining buoyancy. Due to its low-density flesh, the blobfish's shape is very different when it is out of water, its anthropomorphic and unappealing looks have created much discussion in media for example: memes.

Kingdom:	Animalia
Phylum:	Chordata
Class:	Actinopterygii
Order:	Scorpaeniformes
Family:	Psychrolutidae
Genus:	*Psychrolutes*
Species:	*P. marcidus*

A blobfish is endangered for many reasons. A huge reason is because of overfishing. Overfishing is to deplete the stock of fish in (a body of water) by too much fishing. Blobfish live where other tasty sea creatures do, also. But don't worry--blobfish aren't edible. So don't worry about your mom cooking fresh blobfish for dinner with a side of shrimp! Blobfish are often caught as by catch in bottom trawling nets. The blobfish does not seem to be an important animal in the ecosystem, so the fishermen do not always put blobfish back.

However, each time an animal goes extinct, the food web has a new hole in it. Blobfish eat whatever floats into their mouth, because they do not have muscles. Because of their lack of muscles, they cannot swim around and look for food. Instead, a piece of something may float in their mouth. This is another reason blobfish are endangered. Blobfish eat anything that floats into their mouth, which is very dangerous. If a piece of trash or other harmful things that aren't meant to be eaten are simply floating around near a blobfish, the blobfish may eat it. This would cause sickness and possible death for the blobfish. The fact that us humans know our trash is killing many animals may seem like an idea for others to stop littering, but it isn't. We continue to litter and don't realize just how much damage it is making to our ecosystem. Thanks to us humans, blobfish are on the verge of extinction.


Omnivore
Tertiary
Omnivore/ Secondary
Primary Consumers
Producers

Science- HOW CAN WE CONTROL THE FERAL EUROPEAN RABBIT? By Anna Georgeson, Class 7.3, Somerset College [submitted 7/3/17]

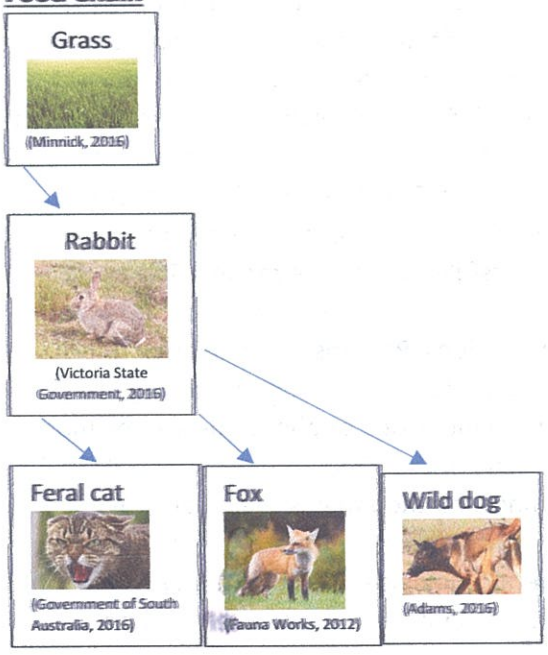
The Feral European Rabbit is an invasive species in Australia. It was introduced with the First Fleet for hunting. Today, an estimated total of 200 million (Rabbit Free Australia, 2017) feral rabbits populate all states and territories of Australia. They have a serious impact on the land and on native species.

Classification

Domain	*Eukaryota*
Kingdom	*Animalia*
Phylum	*Chordata*
Sub-phylum	*Vertebrate*
Class	*Mammalia*
Order	*Lagomorpha*
Family	*Leporidae*
Genus	*Oryctolagus*
Species	*Cuniculus*
Scientific name	*Orctolagus Cuniculus*

(IUCN, 2017)

Food Chain



Impacts

Firstly, rabbits burrow under the ground to make warrens in which to live. This erodes the land and changes the soil structure and nutrient cycling.

Secondly, they compete with native animals for resources. For example, feral rabbits can take over other burrowing animals' (e.g. the bilby and the burrowing bettong) homes and deplete their food sources.

Thirdly, rabbits overgraze. This prevents regeneration of the plants, supports introduced plants, damages agriculture and destroys some animals' habitats. "It has been estimated that Australian agriculture loses more than $115 million a year because of overgrazing by rabbits," (NSW Government-Office of Environment & Heritage, 2015).

Fourthly, rabbit populations support the invasive predators (see food chain above) that prey on them. These predators, in turn have their effects (e.g. killing native species).

Control

One method of control is biological control. In 1936 the myxomatosis disease was introduced to control feral rabbit populations. This killed over 90% of the rabbits that caught this disease (Australian Government-Department of Sustainability, Environment, Water, Population and Communities, 2011).. "Once infected, the rabbits develop lesions filled with mucus. The mucus accumulates under the rabbit's skin, leading to internal swelling. Most rabbits die of haemorrhage and seizures," (Zukerman, 2009).
RHD (rabbit haemorrhagic disease) was imported later in 1991 to eradicate rabbit populations. "RHD causes blood clots to develop in the rabbit's lungs, heart and kidneys. The clots block blood vessels and death from heart and respiratory failure quickly ensues," (Zukerman, 2009). Biological control is considered the best method to eradicate rabbit populations and is cost effective. "Myxoma and RHD are estimated to have produced a benefit of $70 billion for agricultural industries over the last 60 years," (Commonwealth of Australia, 2016). However,

the myxomatosis virus has little effect in arid areas, while the RHD virus has little effect on rabbits in humid areas. This is because myxomatosis is generally transmitted by mosquitoes, and rabbits who survive the RCV-A1 virus (which is only present in cool, wet and humid climates) have immunity to the RHD virus. Additionally, rabbits gradually developed genetic resistance to both these viruses because of natural selection. Also, kittens (young rabbits) have natural resistance to RHD due to maternal antibodies.

Another method of control is fumigation. This works by pumping lethal gas (chloropicrin, carbon monoxide or phosphine) into rabbit warrens. Phosphine fumigation only costs $56 per hectare. Rabbits are first driven underground by loud noises then killed by the poison of the gas. Chloropicrin fumigation kills rabbits by either pulmonary oedema, bronchopneumonia or bronchiolitis obliterans. "Toxicosis includes severe upper respiratory tract irritation...Signs prior to collapse include profuse lacrimal (eye and tear duct) and nasal discharge, congested breathing and uncoordinated paddling," (Petsmart- Humaneness Assessment Panel, 2011)

Implications

The RHD virus is very effective and costs little. The only other species known to have been infected by RHD is the European hare. However, there are ethical implications for this method to some degree. To inoculate the rabbits by means of an injection, traps are set. Rabbits can be in these traps for up to 15 hours- and during this time, their levels of anxiety and stress often increase (particularly in leghold traps). During the handling of the rabbits before inoculation they may get injured, especially if they are transported. Also, RHD affects both wild and domesticated rabbits. Unvaccinated pets may contract the RHD virus. Vaccinations for RHDV do not work for RHDV2 (which was released before an effective vaccination for it). Before rabbits die from the effects of RHD, they can experience suffering. "Fever can last for up to 2 days and there is the potential for suffering due to loss of appetite, lethargy and fatigue," (Petsmart-Humaneness Assessment Panel, 2011).

Chloropicrin fumigation has no environmental effect and costs little. is no longer considered acceptable because it is inhumane and not ethical. The Petsmart Humaneness Assessment Panel Rabbits rates death by fumigation of rabbit warrens with chloropicrin as extreme suffering. "Chloropicrin is known to cause severe sensory irritation and distress and chronic debilitation in survivors," (Commonwealth of Australia, 2016). Normal exposure to the gas takes only 70-95 minutes before it kills the rabbits, but a sub-lethal amount of exposure time takes hours or days of suffering before death.

Conclusion

Invasive European rabbit populations pose an enormous threat to agriculture, soil structures and native wildlife. These populations can be controlled through biological methods such as RHDV and conventional methods such as fumigation. Effectiveness of these methods vary, but a combination is needed to successfully control the rabbits. Some methods cause suffering and have ethical implications. Perhaps a combination of RHD inoculated by baiting and fumigating using carbon monoxide or phosphine are the most humane of the effective options. It is difficult to find a method that is cheap, effective, humane and environmentally friendly. Overall, biological control is the best solution, but it cannot solve the problem on its own.

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Classification Research Assignment

The Northern Hairy-nosed Wombat

Somerset College- Nina Gray 7.3- science- Mrs Walker- due- Tuesday wk 7

Figure 1Northern Hairy-nosed Wombat

The Northern Hairy-nosed Wombat, is endangered with approximately only 230 left in the world. They were as little in number as 35. They once lived in Victoria, New South Wales and Queensland. Most of them are now in enclosures at the Epping Forrest National Park in Longreach Queensland. A second colony was established in 2009 at the Richard Underwood Nature Refuge at Yarra Downs, Queensland. (Konica camimotla, 2011)

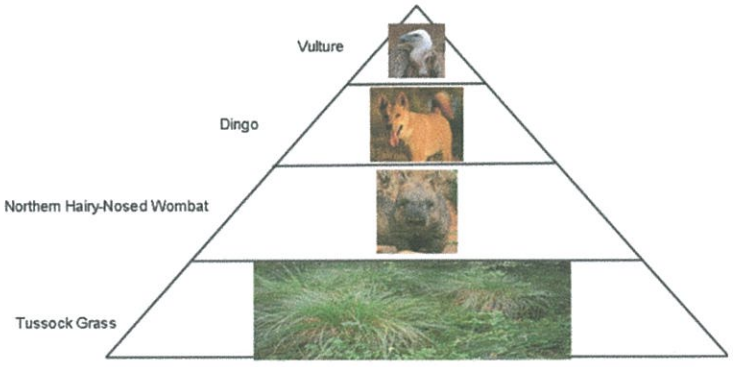
They are heavily built animals with short legs and large claws to build burrows. They are clumsy and slow in appearance. They live in deep long burrows most of the time. The size of the burrows is often one metre by up to 3 and a half metres long. They need sandy soils and eat grass all the year round. They have to compete with other species for grasses and also the floods in the areas and a poor genetic diversity have led to their decline. Conservation projects have led to improving their numbers. (Queensland government, 2015)

Scientific Name: Lasiorhinus Krefftii (Lasio=hairy, rhinus=nose, krefftii=name of researcher)

Table: Wombat Species Classification

Classification	**Invasive non-native species**
Kingdom	Animals
Phylum	Chordates
Class	Marsupial
Order	Diprotodontia
Family	vombatidae
Genus	Vombatus
Species	Northern hairy nosed wombat- Lasiorhinus Krefftti

Figure:2 Food Web/Northern Hairy-nosed Wombat



Why are they Endangered?:

They are endangered because of the harsh and dry environment that they live in and they must compete with other animals for survival and food. They are endangered because of small population size which limits mating, their ability to survive against disaster and limits their genetic diversity. **Predators** such as wild dogs are a big threat. **Competition** for food with the eastern grey kangaroo and **diseases** such as toxoplasmosis and mange are also a threat. **Floods ,Droughts, Wildfires and Forest clearing** led to losing their habitat because

where they live is affected by climate change and the forest has been cleared for farming (queensland goverment, 2013).

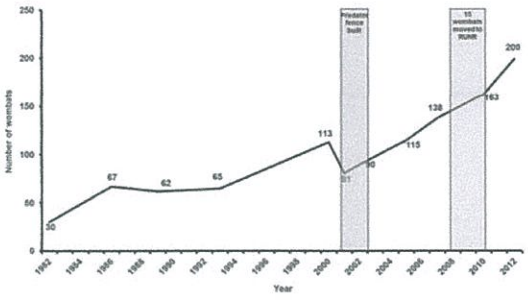


Figure 3: Number of Wombats in Epping National Forrest per year

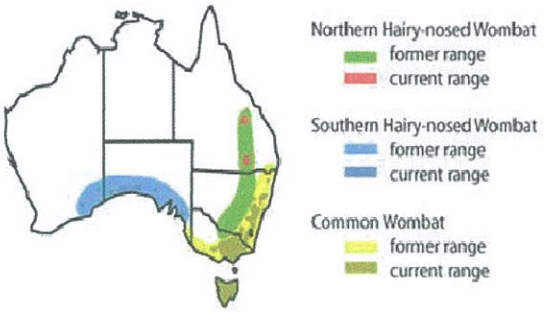


Figure 4 Population of Past and Present Northern Hairy-nosed Wombats in Australia

How are we helping?:

The Epping scientific National Park has been rescuing the Northern Hairy-nosed Wombat and bringing them to safety in their enclosures that are supported with water sources, starter burrows weed control and burning. The Richard Underwood Nature Refuge work with Epping National Park but they have created a second colony to help diversify the breeding and population this is called the Xstrata Reintroduction Project because only having one colony kept the wombat at risk from fire and floods. This is named after a mining company has funded the rehoming of the wombat to include the Richard Underwood Nature Refuge. (queensland goverment, 2015)

Advantages and Disadvantages of Conservations Projects:

The projects are helping but the economic and social cost is significant such that we are relying on big mining companies along with the Queensland Government. The changes required to the environment to help the wombat mean that there are large areas of fencing required to keep predators out and starter burrows are needed. Weed control and soil testing is required which requires a lot of workers and volunteers and yet they are still in threat.

We can't control natural disasters to the area such as floods. We can reduce the risk of bush fires.

The mining companies have a damaging effect on our environment too.

Luckily there is some good news with signs that the hard work and money is paying off with now 200 cute lovable creatures avoiding extinction and increasing natural breeding.

Surely this is worth the efforts and the cost!

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Help Us Save The Turtles

Somerset College

Thomas Gray 7.3

Science Mrs Walker

Due Tuesday 7th March 2017

The loggerhead turtle (Caretta caretta) is an endangered turtle specie are found at the Mesoamerican Reef, Coastal East Africa, Gulf of California and the Coral Triangle. They are most commonly found in the Mediterranean and found nesting on the Greek and Turkey's beaches. They are also found nesting on the beaches of Israel and Libya.

Level of classification	Invasive non-native species
Kingdom	Animala
Phylum	Chordata
Class	Reptilia
Order	Testudines
Family	Cheloniidae
Genus	Caretta
Species	Migratory

Many Loggerhead Turtles worldwide are caught in shrimp nets. This threat is known as bycatch. This is causing their death because turtles need to reach the surface and breathe air. So when the turtle gets caught in the shrimp nets, they can drown because they are stuck and can't move in the net. As there are only 200,000 Loggerhead Turtles left in the sea, everyone thinks that we need to be more careful when we go fishing for shrimp.

Two ways that we are using science to protect the Loggerhead Turtle:

1. World Wildlife works to protect marine turtles throughout the world through specialist programs and regional projects devoted to the conservation of marine turtles.
2. Scientists are working on trying to find an easier way to get the baby turtles on the beach to the water without being attacked by predators.

Loggerhead Turtle

Jellyfish

Conch

Sanderling

Striped Bass

Horseshoe Crab and Eggs

Grackle

Razor clam

Diamondback Terrapin

Plankton

Factors:	Advantages:	Disadvantages:
Social	Everyone can come up with ideas on how they should save the Loggerhead Turtle and stop them from being extinct	There can be many different arguments and you may not be able to come up with a solution on how to stop the Loggerhead Turtle from being extinct
Economical	If we are economically friendly, we can decrease the amount of plastic bags thrown into the sea because Loggerhead Turtles mistake them as Jellyfish.	Even if we try to be economically friendly, there will always be those people who do the wrong things and not listen to what we say, so the Loggerhead Turtle may stay extinct.

The Loggerhead Turtle is an endangered turtle specie that needs our help to become vulnerable or even least concerned. To do this, we need to decrease the amount of shrimp fishing because once the Loggerhead Turtle gets tangled they will most likely die. We should be looking after these turtles because there are more than 10 species endangered.

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Somerset College

Thomas Gray 7.3

Science Mrs Walker

Due Tuesday 7th March 2017

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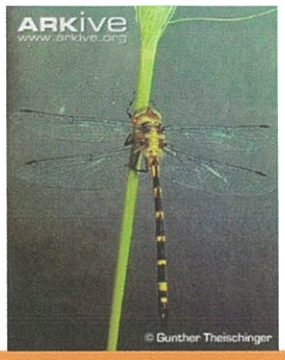
Why the Sydney Hawk is endangered?

Science Justin Hammett 7.3 Somerset College

Mrs Walker



The Sydney Hawk (*Austrocordulia leonardi*) is critically endangered. The Sydney Hawk lives in Sydney, New South Wales, Australia. There have only been 11 adults ever recorded ever, this just shows that they are really rare. They live in only three parts of Sydney, which means that they find it really hard to bread. They prefer shadowy, slow like river areas.

Level of Classification	Invasive non-native species
Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Odonata
Family	Corduliidea
Genus	Austrocordulia
Species	leonardi

Food Chain/Web

The hawk is the apex predator

↕

The snake is eaten by the hawk

↕

The frog is eaten by the snake

↕

The Sydney Hawk is eaten by the frog

↕

The grass is the producer and gets eaten by the Sydney Hawk

Why the Sydney Hawk is endangered?

The Sydney Hawk dragonfly is endangered from people destroying their environment. The removal of river bank vegetation, drainage works and sedimentation has greatly affected the ways that the dragonfly lives. There can be natural disasters, such as droughts, which would cause them to die out. This is how they don't survive for that long. It's why this species of dragonfly is so rare. Another reason for being endangered is that they don't live in many places around Sydney. They live in three main areas along the Nepean River.

Nepean River

How science is trying to protect the Sydney Hawk?

Science is trying to help the Sydney Hawk. The scientists are finding ways to find out what is influencing the way of population dynamics, age and growth, life cycle and diet. The scientists are also trying to find out where the main habitat is and address key threats such as habitat degradation and water quality decline. The government has not made it illegal to keep, catch, buy, sell, harm and possess the dragonfly without a license of permission from the NSW government. There can also be penalties for causing damage to the dragonfly's habitat, these penalties can be up to $220,000 and 2 years in prison.

T-Chart

Social and Environments Problems and Advantages

Idea	Social/Environ-mental	Advantages	Disadvantages
Sharing on the internet	Social	The public can help the animal in need	The public might take it as a joke and keep destroying the environment
Telling people were the animal lives on the internet	Environmental/ Social	Helping by telling people to stop destroying the animal's habitat	Might start to destroy their environment by picking the wrong place
Telling people where they live and how to keep them safe	Environmental	People can keep them safe	Might find a dragonfly, and kill it because it might be a pest to the Hawk
Asking friends about the animal	Social	Telling friends on what you have read and get them to help	You might ask your friends to share the information with another friend, but they might completely forget
Might be able to save the dragonflies from drought	Environmental	When the has been drought, people might be able to move the dragonflies to a safer place	If you look at the Hawk and they look sick, you might kill them by moving them without needing to

In my opinion, I think that the Sydney Hawk is really endangered, and needs lots of help to stay alive in their natural habitat. They get eaten by a few other animals and die easily from their habitat getting destroyed be humans. Their river banks get destroyed and the water can get polluted. This causes the dragonfly to die.

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Fact sheet

Name: Ashton Heydenrych Year 7 Science

What Is a Tasmanian devil?

A Tasmanian devil is a little dog that is around 8 kg unlike dogs this animal is more fierce and wild than your everyday house pet. This animal is also nocturnal which makes it harder for the animal to catch prey. This animal is very unlucky as there is a facial tumor disease that spreads rapidly around Tasmania, where they live.

Identity of endangered species: Tasmanian devil

Level of classification	Tasmanian Devil
Kingdom	Animalia
Phylum	Chordata
Class	Mammila
Order	Dasyuromorphia
Family	Dasyuridae
Genus	Sarcophilus
Species	Harrisii

Scientific name: Sarcophilus harrisii

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 an 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.

Tasmanian devil food chain:

Vegetation—rodents—snakes—Tasmanian devil—birds

Why is the Tasmanian devil endangered?

The spunky dog like animal is rapidly disappearing. The Devil was declared endangered not so long ago. It is being wiped out by a rare cancer called Devil facial tumor disease (DFTD).

How is science helping this endangered species?

Science is helping the Tasmanian devil in lots of ways such as, by making a GPS collar. This collar has a GPS attached to the collar to keep track of where the animal is. Another endangered helping invention made by science is that scientist are now using high-tech gene sequencing machines. This machine tricks the animal to thinking there is another Tasmanian devil where the sound came from so they can help the animal from the Devil Facial Tumor Disease (DFTD) or help them if they do have the disease.

Discuss the implications of the solution science gives to this animal?

The environmental implications of the solution science gives to this animal are disease free habitats like, wildlife sanctuaries or zoos and more safe wildlife facilities. This is slowly, but helping find a cure for the terrible disease that is killing the Tasmanian devils and already there is at least 200, if not less surviving Tasmanian devils left on earth. Another environmental implication science gives to this unlucky animal is, produce and food so that they don't get other infectious sicknesses so the endangerment of the animal doesn't get worse.

Advantages and disadvantages for science helping this animal!

advantages	disadvantages
• Give them a chance to live a full life • Saves them from the facial tumor disease • Safe from predators • Safe from the harsh environments and weather • Do not have to fight other packs	• Encounter humans • Don't catch their on food • Smaller environments • Have no predators • Cannot face the harsh weather/seasons • Have no fights against other packs

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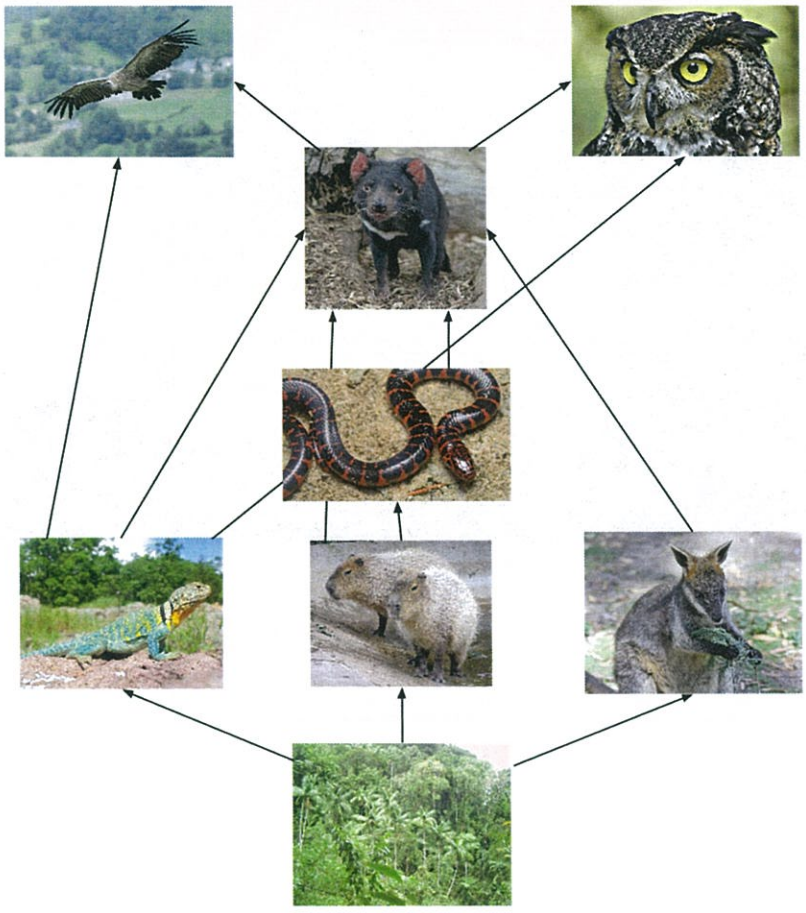
Lauren K (7.3)

Tasmanian Devi

Scientific name Sarcophilus harrisii

Kingdom:	Animalia
Phylum:	Chordata
Class:	Mammalia
Infraclass:	Marsupialia
Order:	Dasyuromorphia
Family:	Dasyuridae
Genus:	*Sarcophilus*
Species:	***S. harrisii***



Why are Tasmanian devils endangered

Tasmanian devils are endangered because of the facial tumour disease that can be spread with contact with a Tasmanian devil that has the disease.

Long Footed Potoroo

By Anastasia Kouts 7.3

The long footed potoroo- *Potarous Longipes* is an Australian endangered animal that is classified as a genus in the animal kindom. This potoroo is a very rare marsupial commonly known as a rat-kangaroo. You can tell these creatures apart from other types of potoroos, because this rat-kangaroo like potoroo has large black feet ,(compared to the size of his body) with huge, sharp claws.

How is science helping the potoroos?

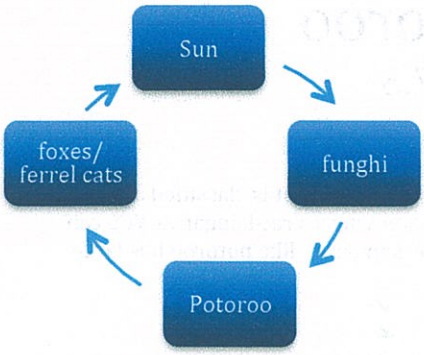
One way science is helping to save the potoroos is because scientists are finding way to keep them save from ferrel cats and foxes and studying their habitats to see if there is anything else that could continue to reduce the numbers of potoroos and how they could stop them. Another way science is helping to preserve these tiny little creatures is by running a variety of conservation programs.

Why they are endangered and how humans are helping?

The long footed potoroo is endangered, because its native habitat (the forest) is being destroyed and the little potoroos are dying along with it. There is a plan to save them though. The government is trying to get the long footed potoroos status from endangered to vulnerable in the next five years.

Food Web

Fungi is made out of dead animals or mushrooms, fruit. When the long tailed potoroo comes along, they will eat the funghi. The happy and fed potoroo is enjoying its night (because they are nocturnal) when a ferrel cat or a fox jumps out of no where and eats the little rat-kangaroo.



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Advantages and Disadvantages of science helping to save them

Advantages:

1.Decreasing the number of foxes is good for the potoroos because they could become endangered

2. Foxes wont be as big of a threat to small wolves and other animals will have food animals

3. foxes are used for recreational hunting animals

Disadvantages:

Bad for the environment

Foxes are needed so that

Foxes eat Australian native

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Jorminna Ma, 7.3, SCI, CWA

Thick billed Grass wren

(Amytornis textilis modestus)

The Amytornis textillis modestus is a thick-set, finely streaked, pale fawn grasswren with a heavy bill. It can be told apart from the other members of its family by the coarsely white streaked forehead and upper parts and the faintly streaked underparts. It is usually seen hopping or walking through the low, dense bush areas or rarely, flying through trees.

Level of Classification	Endangered Specie
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Passeriformes
Family	Maluridae
Genus	Amytornis
Specie	Texillis Modestus

Commonwealth Status – Critically Endangered (2016)

Conservation status in NSW – Critically Endangered (2016)

Preferred Territories - saltbushes, cottonbushes, bluebushes and areas with low, dense bushes on sandy plains, also occurs along watercourses in clumps of Canegrass.

When disturbed, The Thick-billed Grasswren will hide in any available cover.

Nesting Habits - Thick – billed Grasswren nests are deep and loosely-made, shaped either like a cup, half-dome or dome. Usually located on or near the ground in a clump of Canegrass, within the foliage of low shrub (saltbush, bluebush) or in flood debris, and constructed of dead grasses, twigs and dry bark strips.

Preferred Food – The Thick – billed Grasswren forages on the ground and under or around bushes for a wide variety of seeds, berries and invertebrates.

Reason of endangerment - The presumed reason are

- Over gazing and trampling of live stock and rabbits (Loss of food resources)

- Clearing of vegetation by humans (Loss of natural habitat)
- Predation (see food chain)

Food chain – Foxes

Recovery Plan -

- Survey areas of suitable habitat and where known threatening processes have had the least impact on the species (It is actually presumed that foxes and feral cats are predators to the A.t.modestus, but the actual impact is unknown).
- Produce & distribute information regarding ecological requirements, known records, conservation actions to the general public and interested parties
- Monitor results of future fauna surveys for records of the Thick-billed Grass wren.
- Develop a "Poorly Known Status & Distribution Register" for reference and update by all government and non-government organisation (Steward, 2016).

Currently, scientists are conducting a project concerning the thick - billed Grasswren in South Australia. The project's main aim is to conduct a breeding program between the two thick billed Grasswren species (The A.t.modestus and the Ranger think-billed grasswren) and if the species can co-occer at the same area. This project is based on the surveys conducted and further sight-seeing of both species. If this project is successful, then not one, but two species will be saved and we as humans will be satisfied that we had saved another specie, no matter how insignificant this specie is.

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There are also other webpages but they are links from these webpages that I've mentioned.

Feral Cat

By Rachelle Scott Class: 7.3 School: Somerset College Subject: Science

Name Of Teacher: Mrs Walker

Date Of Submission: 7/3/17

Classification	Invasive Non-Native Species
Kingdom	Animal
Phylum	Chordate
Class	Mammal
Order	Carnivals
Family	Felidae
Genus	Felis
Species	Catus
Name	Feral Cat
Scientific Name	Felis catus

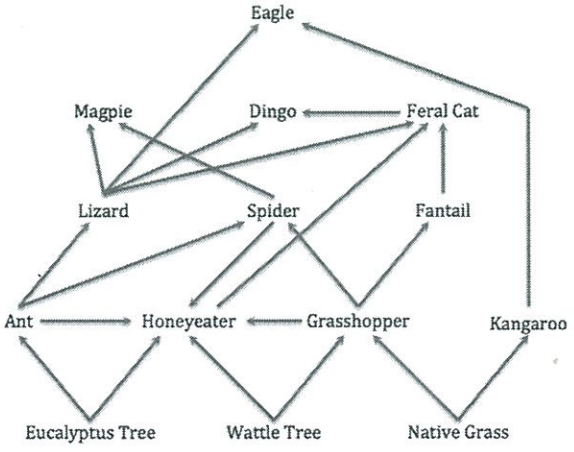
What is a Feral Cat?

The feral cat is found in nearly all habitats across Australia. It has caused the extinction of some species on islands and has contributed to the disappearance of many ground-dwelling birds and mammals on the mainland. Feral cat control is feasible on islands, but elsewhere, management is difficult due to the lack of effective and humane broad-scale control techniques, and the presence of domestic cats.

History

Feral cats threaten the survival of over 100 native species in Australia. They have caused the extinction of some ground-dwelling birds and small to medium-sized mammals. They are a major cause of decline for many land-based endangered animals such as the bilby, bandicoot, bettong and numbat. Many native animals are struggling to survive so reducing the number killed by this introduced predator will allow their populations to grow. Feral cats can carry infectious diseases, which can be transmitted to native animals, domestic livestock and humans. So basically, they are considered as invasive non-native species.

Food Web



Two Ways of Controling Feral Cats

Control of feral cats is challenging as they are found in very low densities over large home ranges and are shy, making them difficult to locate.

The current control methods of shooting and trapping feral cats are quite difficult, expensive and time consuming and require skilled staff. The most effective form of feral cat control over large areas is poison baiting.

Baiting: Poison baits designed for feral cats must be laid on the ground (as cats, unlike other feral species such as foxes, will not dig up a buried bait).

The Western Australian Government has developed the 'Eradicat' bait for feral cats for use in Western Australia. This bait includes a small kangaroo and chicken sausage injected with a manufactured toxin known as 1080 which duplicated a naturally-occurring poison found in some plant species in Western Australia. Many native animals in the region have developed resistance to this toxin.

In the northern and eastern states of Australia, poison baits lying on the ground can present a significant hazard to wildlife species. The Department of the Environment has developed a new bait for feral cats called 'Curiosity' that is designed to minimise or remove this hazard.

Trapping: Rubber-jawed, leg-hold traps (see below) can be laid in the same manner as they are laid for dingoes and foxes. Leg-hold traps can work well with true feral cats, which would normally avoid the live-capture box traps. Ideal sites are those where territorial markers, such as faecal deposits and pole-clawing, are noticed. Tuna fish oil has shown some success as an attractant; however, feral cats seem more readily attracted to a site by some visual motivation such as a bunch of bird feathers hung from a bush or stick. Semi-feral urban cats are easily trapped in wire 'treadletype' box traps. Attractants/lures may be of meat or fish and should be placed so that they cannot be reached through the wire and be retrieved by clawing. A number of local governments hire cat traps for the purpose of removing stray and feral cats in urban situations.

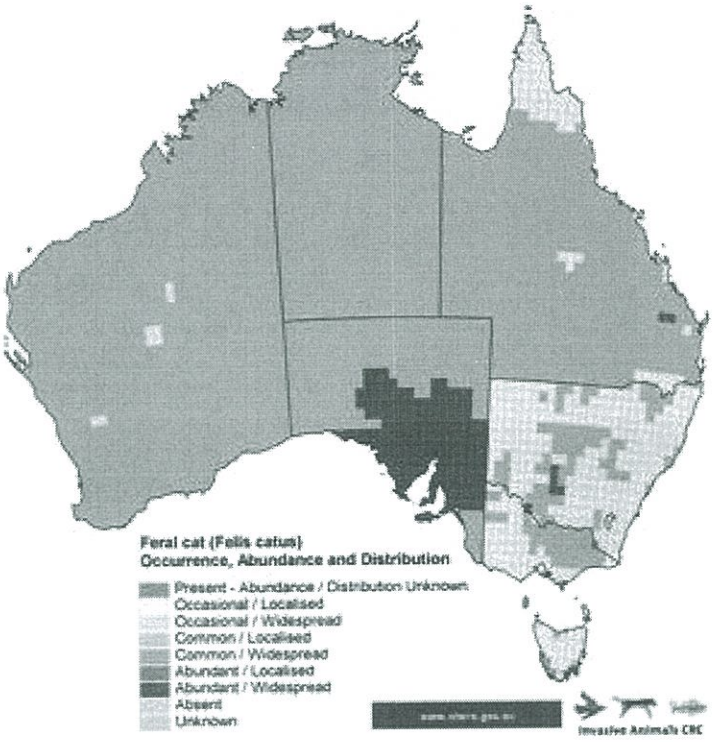
Ecology

Feral cats are mostly solitary and nocturnal, spending most of the day in the safety of a shelter such as a burrow, log or rock pile. Rabbits have benefacted their spread by providing food and burrows for shelter. There is typically one feral cat for every one to two kilometre square but this may be larger if food supplies are scarce. Feral cats are carnivores and can survive with limited access to water, as they use moisture from their prey. They generally eat small mammals, but also catch birds, reptiles, amphibians, fish and insects, taking prey up to the size of a brush-tail possum. In agricultural regions, they feed largely on young rabbits, but in other areas feral cats prey mainly on native animals. From the age of about one year, feral cats can breed in any season. They have up to two litters of about four kittens each year, but few of the young survive. Dingos and foxes may restrict feral cat numbers by both direct predation and competition. Feral cats also fall prey to wedge-tailed eagles.

Impact

There is clear evidence that feral cats have had a heavy impact on island fauna. On Macquarie Island, for example, feral cats are involved in the sharp drop of a subspecies of the red-fronted parakeet in the 1880s and its extinction by 1891. On the mainland, they are identified as a threat to 35 species of birds, 36 mammals, 7 reptiles and 3 amphibians. Cats have probably contributed to the extinction of many small to medium-sized mammals and ground-nesting birds in the desert, and seriously affected bilby, mala and numbat populations. In some occasions, feral cats have directly threatened the success of recovery programs for endangered species. Feral cats can carry infectious diseases such as toxoplasmosis and sarcosporidiosis, which can be transmitted to native animals, domestic livestock and humans. If rabies were to be accidentally introduced into Australia, there is a high risk that feral cats would act as carriers of the disease.

Where Feral Cats Are Found



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The Leadbeater's Possum

Somerset College, by Vivian Song 7.3, Science, Mrs. Walker, 1 March 2017

The Leadbeater's Possum

Name: The Leadbeater's Possum
Stat: Endangered
Country of Origin: Australia
Scientific Name: Gymnobelideus leadbeateri
Genus: Gymnobelideus
Species: Petaurid
Class: Mammal
Phylum: Chordata
Kingdom: Animal

Sun Plants Insects Leadbeater's Possum Owls Bacteria

The Leadbeater's Possum was first thought to have died out because of the fires of NSW but later on they were rediscovered by Mr. Leadbeater and after that they were name after him. But recently logging/cutting trees has affected them and they are shrinking in numbers again. They make homes in trees and once that is gone, they will be too.

Two ways we can save them is by:

1. Creating more nature reserves and less logging so they can have food
2. Create an artificial island so that they can breed and become more populated

The less logging we do, the more Leadbeater's Possum can survive. If there was more nature reserves, more trees will survive and if more trees more possums will survive.

An artificial island would work because humans can study them while the possums can move freely without danger. Scientists study them while feeding them, making the population grow.

Advantages: Food and trees help them survive. Safety on the island and free food

Disadvantage: Other invasive animals will eat them. On island, probably will overpopulate come invasive.

Saving them can be economical because if we create more nature reserves. Not only will it be cheap, but it be a beautiful sight seeing all the animals living in harmony. Plus logging expensive, useless and a waste of time. This is because if the possums die, it will greatly damage the ecosystem and may not recover.

The population of the Leadbeater's possum is so critically damaged, it may never recover but there is still a chance. If we stop logging and destroying their homes and listen and study the Leadbeater's possum's way, not only will they survive but will save other endangered species too.Leadbeater's Possum must be saved!

Source 1

By AAP with AG staff. 2015. *Leadbeater's possum given Critically Endangered status*. [ONLINE] Available at: http://www.australiangeographic.com.au/news/2015/04/leadbeaters-possum-given-critically-endangered-status/. [Accessed 6 March 2017].

Source 2

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Science Planning Sheet

Bettongia penicillata (Woylie)

Level of classification	Invasive non-native species
Kingdom	Animal
Phylum	Chordate
Class	Mammal
Order	Diprotodontid
Family	Potoroid
Genus	Bet tong
Species	B, Ogillby, Binomial, name, Bettongia Penicillata Gray 1837 and Subspecies

Scientific name Bettongia Penicillata

Food chain (Woylie)



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Why woylie is in endangered animal

In 1863 Gould said "abundant in all parts colony". As later in 1910, this species is abundant in North Australia and South Australia. Woylie have been caused Impact of introduction of pasture animals, Predation of introduced red fox and It seems probably caused by many factors including a change in fire relief. As this result this species were in endangered animal. In 1970 it came with emergency endanger animal.

Because of scientists want to study about that animal like how to make nest or how heavy is this animal and how do make nest. Because if that specie have gone it never came buck and there is animal that is important for science to protect and cause something.

Advantages	Disadvantages
Protect Woylie	Got least than before
There's research project	