

Introduction for parents/teachers

Background: The Forest Healing Foundation is a small, grassroots conservation initiative with a mission to work with communities to protect high biodiversity forest and regenerate degrading lands in Sri Lanka.

One of our key objectives is to advocate for the value of trees and forests and encourage stewardship of forests by stakeholders from near and far. We have developed these educational resources as a guide for parents and teachers to help engage children in conservation.

We are grateful for any and all feedback on the worksheets. If you have found them useful and feel you would like to make a small donation to help protect Sri Lanka's forests (absolutely no pressure but all donations are much appreciated), please visit our website: www.foresthealingsrilanka.org.

Date published: 22 May 2020

Recommended age group: 7 -11 years old

Learning objectives:

- Introduction to some key concepts in conservation science, including types of protected areas and prioritising areas for protection
- Awareness of the key threats facing animal and plant species
- Insight into the work of conservationists and how we can support conservation efforts

Contents:

- Section 1: Conservationist-in-training – Main learning content
- Section 2: Out in the field – Reinforcing learning content and looking at examples
- Section 3: Professional conservationist – Choice of activities that can be completed at home

Additional resources required:

- Pen, paper, scissors
- Access to a computer/laptop/tablet/smart phone
- Printer
- Dice

Disclaimer: All information is accurate to the best of our knowledge as at the publication date. No legal liability is taken over any misinformation or action taken as a result of. Children should be supervised by a responsible adult when undertaking this course.

My Conservation Adventure!

Are you ready to go on an adventure?

Today we are going on a journey to become conservationists. A conservationist is someone who helps to protect animals, plants and nature. They have a really important job firstly because nature is obviously really great, but also because it provides us with lots of things we need, like clean water, fresh air, food and a good climate.

On our adventure we will:

- Learn about some of the risks to nature
- See lots of animals and how conservationists protect them
- Explore some real-life conservation projects
- Play some games to help us learn about life as an animal
- Meet a national park ranger and ask them about their job
- Make a plan for how we are going to be conservationists in our own homes

Your conservationist toolkit

If you have them, please bring along:

- A pen
- Paper
- Access to a computer/laptop/tablet/smart phone
- Safety scissors (or an adult to do the cutting for you)
- Dice

Your adventure guide

Look out for these symbols on your journey:



Read – This means there is some information to read to help you on your adventure



Think – Have a think about this question before you continue



Do – Complete an exercise, answer a question or play a game

Section 1: Conservationist-in-training

In this section, we will learn about conservationists and what they do.

 What is your favourite animal and why?

 Did you know there are thought to be nearly 9 million different animals on earth?? So far, we have only met 1.2 million, which means there are lots still out there to be discovered!

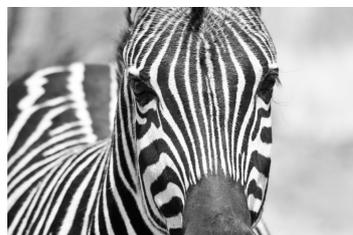
Here are some key words to know before we get started. Have you come across any of them before?

Species – This is one particular type of animal or plant. Oaks are a species of tree, Asian elephants are a species, there are over five thousand different species of dung beetles (yep, they eat dung - ew!) and even human beings are a species.

Habitat – This is where the animal or plant likes to live. For example, spikey cactus plants like dry deserts, elephants like places with access to water and tigers like forests to hide in.

Endangered – If a species is endangered, it means that the numbers of animals or plants of that species are becoming very small so there is a risk there might soon be none left.

 Have a look at these pictures. Can you write below each one which is a species and which is a habitat?



Why do we need conservationists?

We learnt that conservationists help to protect animals and plants, but why do we need them?

27% of all species reviewed by scientists so far are threatened with extinction. That is 31,000 plants and animals that need protecting.

? Their numbers are reducing for lots of reasons. Can you think of any?

🔍 Here are some of the biggest risks to animals and plants:

Habitat loss

Deforestation and other destruction of nature to make way for buildings can restrict the area of habitat a species has.

Climate change

Climate change can cause changes in the species' environment that occur faster than it can adapt.

Pollution

By putting waste into the natural environment, e.g. chemicals, gases or litter, we can cause immediate harm to animals and plants.

Risks to animals and plants

Over-use

Humans often extract things from nature faster than they can grow back, e.g. cutting trees, using up water supplies or over-fishing.

Invasive species

Invasive species are like alien invaders that travel with humans (e.g. rats on ships or seeds on boots) to new areas where they then compete with the local species for food or habitat.

So conservationists are like superheroes for the environment - cool! But how do they do it?

How do we decide what to protect?

🔍 9 million animals are too many for scientists to study to work out how best to protect each one, so conservationists have to be clever about how they focus their work. Here are some of the ways they do this:

Flagship species

Very popular!

Flagship species are those ones that we all know and love! Tigers, pandas, polar bears, lions and rhinos are all good examples. Because they are so popular, lots of money is donated for their protection and so can be used to carry out large conservation projects in the areas where they live.



Keystone species

Very important!

A keystone species is like the engineer that makes everything around it work properly. They often build types of habitats or control the numbers of other species to maintain the balance in the area. For example, beavers build dams across rivers that provide homes for salmon and drinking spots for other animals. African elephants eat new trees, which stops grasslands needed by zebra and antelope turning into forests.

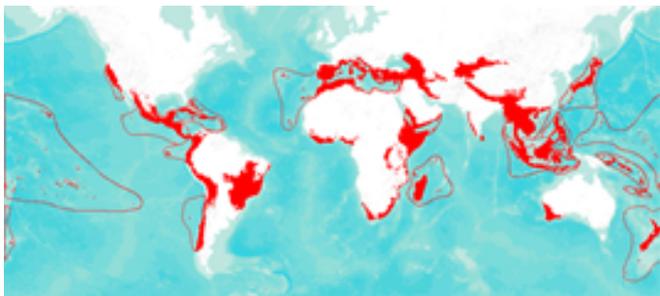


Hotspots

Very unique!

Hotspots (or biodiversity hotspots) are areas that have large numbers of species that can't be found anywhere else in the world! It is super important to protect these areas because if they are damaged or removed, these species will be lost forever.

There are 36 hotspots across the world (see the red areas on the map), including the beautiful forests of Sri Lanka, the wild island of Madagascar, large areas of tropical Asia and the stunning flower lands of South Africa.



? Making conservation decisions can be difficult. Which of these focus areas do you think is the most important? (There is no right answer!)

How do we protect them?

🔍 One of the most important ways we can look after plants and animals is by creating “**protected areas**”.

These are large areas of habitat in which environmental damage is not allowed, e.g. no forest cutting or shooting animals. In protected areas, there is much less contact with humans so the animals and plants can grow in peace.

Some examples of types of protected areas include:

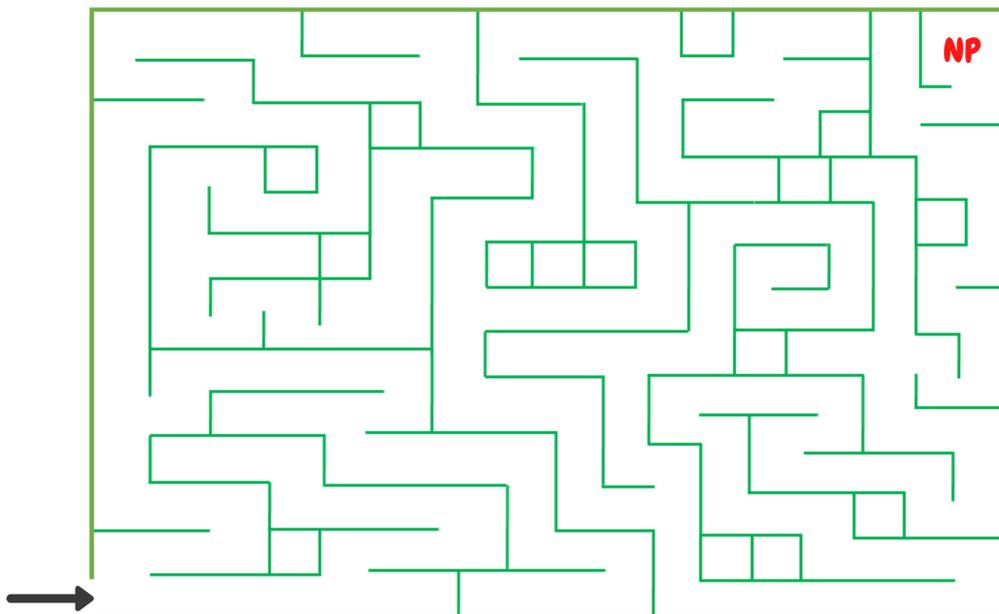
- National parks
- Wildlife reserves
- Nature reserves
- Wilderness areas

✎ Can you name any protected areas near where you live?

There is one big problem with only keeping animals and plants in protected areas though. By confining them to fixed locations, they are unable to move or visit friends and family members in other places. This can actually reduce the numbers of the species rather than increasing them.

But conservationists have a cunning solution: **biodiversity corridors**. These are like motorways for wildlife and link the protected areas together.

✎ Can you find your way through the maze to meet your friend in the national park (NP)? Imagine you are an animal trying to find your way around towns, roads, farms and fences - hard right?!



Well done conservationist-in-training! We've learnt a lot on the first stage of our adventure. We now know:

- That a species is a type of an animal or plant and its habitat is where it lives.
- Species numbers are declining for many reasons, including: habitat loss, climate change, pollution, over-use and invasive species.
- Some of the ways we can prioritise species for protection are to focus on flagship species (very popular ones), keystone species (very important ones) and hotspot areas (very unique habitats).
- Protected areas such as national parks and nature reserves are a way of keeping plants and animals safe, but it is important that they are linked together through corridors.

Are you ready to progress to the next stage of the adventure? Bring your toolkit and let's put what we've learnt into practice as we head out into the field!

Section 2: Out in the field

First things first, let's talk about the field. When conservationists say they are going "out into the field", they usually don't mean an actual field (like one with cows in). They mean they are heading out into nature, into the natural habitats of the species they are working to save. Sound fun? It is, so let's go!

First, we are heading to the Knuckles Conservation Forest in Sri Lanka to meet a park ranger.



This is **Upul**.

He has worked as a ranger in the Knuckles Conservation Forest for over 10 years. The Knuckles area is a biodiversity hotspot, national park and World Heritage Site, meaning it is incredibly special so Upul has an important job.

 We asked Upul what his day-to-day activities are in the park. Can you select which answers below were true and which were false? Circle the correct options and then check your answers at the end of the section.

1. Patrolling the park looking for intruders

True

False

2. Greeting visitors and answering questions

True

False

3. Checking the safety of paths and trails

True

False

4. Checking park fences are not broken

True

False

5. Monitoring animal sightings and following tracks

True

False

6. Searching for signs of poachers or traps

True

False

7. Picking up litter

True

False

8. Feeding the animals

True

False

Next, let's go out to sea! Did you know that protected areas are not just on land? Marine protected areas are located on our coasts and in our oceans, and they are really important for keeping fish, corals and other big sea creatures safe.

Today we are going to meet Ariadne Reynolds, who is a conservationist helping look after an area of sea off the coast of Los Angeles in California. Click on the link below to hear her explain her job:

<https://www.youtube.com/watch?v=B-dv0B0g1c>



 As you watch the video (you can watch it a few times), write down the answers to these questions:

1. Why does Ariadne like working under the sea?

2. Why couldn't the kelp forests grow before Ariadne's team started working there?

3. Does Ariadne think that people should work in saving the oceans?



Next we're going to play a couple of games to help us become top conservationists!

Game 1: The Conservation Game

To really learn how to protect animals, we have to understand all the different threats they face as well as the things that help them. In this game, you have to imagine you are an animal on square 1 trying to get to your family in a nature reserve on square 100.

You will need to do the following:

- Print out the game board on the next page
- Find some small counters lying around the house – these could be old buttons, small coins, a paper clip, anything really! You will need a counter for each person playing the game.
- Find one six-sided dice from another board game (remember to put it back afterwards!)

How to play:

- The youngest player goes first and then take turns after that
- Roll the dice and move your counter the number of squares shown on the dice
- Read out loud and then follow the instructions if you land on a special square, e.g. if it says "+5" move an extra five squares forwards
- If it says "M" sadly that means you have to miss your next turn to roll the dice
- To finish, you must roll the exact number needed to land on square 100
- Have fun!

Game 1: The Conservation Game

100 FINISH!	99	98	97	96	95	94	93	92	91
81	82 Invasive species ate food -3	83	84	85 Wildlife corridor +5	86	87	88	89 Prey over-hunted -3	90
80	79 	78	77 Wildlife feeding spot +2	76	75	74 Forest cut down -4	73	72	71
61	62	63 Polluted water -2	64	65	66 New national park +6	67	68	69	70
60	59 Noisy traffic -3	58	57 	56	55	54 Primary forest +2	53	52 	51
41	42 Poachers -2	43	44 Wildlife pass over road +3	45	46	47 	48	49 Lots of tourists -2	50
40	39	38 New town in the way (M)	37	36	35	34	33 Nature reserve +3	32	31
21	22 	23	24 No food to be found -2	25	26 Wildlife corridor +4	27	28	29 River for water +1	30
20	19	18 National park +5	17	16	15	14 Stuck in a fence (M)	13	12	11
1 START	2	3	4 Yummy food +2	5	6	7	8 	9 Poacher -3	10



Game 2: Endangered Species Memory Game

This game is going to test our knowledge of some of the world's most endangered species.

To prepare, you will need to do the following:

- Print out the pages of the memory game
- Carefully (or with help from an adult) cut out the squares with the species names and descriptions on them
- Lay all the squares out upside down on a table so you can't see the writing and mix them up

How to play:

- The youngest player goes first and then take turns after that
 - Turn any two squares over. If you have a matching species name and description, you get to keep the pair of squares. If not, turn them back over and try to remember where they are
 - The aim is to collect the most matching pairs
 - The game finishes when there are no squares left
 - Top tip: You can also use these cards for Pictionary or Charades.
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Game 2: Endangered Species Memory Game



Tiger

A big cat with orange and black stripes
Lives in Asia
Fewer than 3,900 remaining in the world



Green sea turtle

Has a big shell and is a good swimmer
Likes to eat sea grass
They and their eggs are harvested for food and income



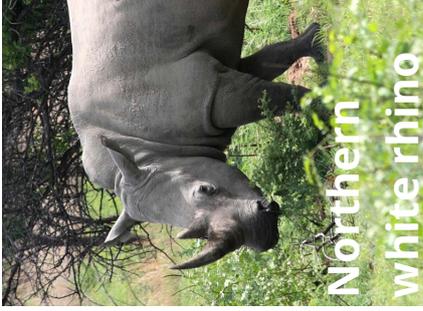
Baiji

A river dolphin living in China
Nearly blind animal that uses sound to find its way
Thought to possibly be extinct



Lion

Big cat famous for its mane and loud roar
Mostly lives in Africa
Now extinct in 26 African countries



Northern white rhino

Huge animal with thick grey skin and a big horn
Lives in Africa
Only two animals left in the world, in Kenya



Granddier's Baobab

Tree with trunks up to 3m across and growing up to 30m high
Lives in Madagascar
Threatened by loss of habitat



Giant panda

Big, black and white bear
Lives in China
Only around 1,800 left in the wild



Pangolin

Looks like a reptile but is actually a mammal covered in protective scales
Often traded illegally for their meat in Asia



California condor

Large, black vulture bird
Extinct in the wild in 1987 but has been reintroduced
Threats include young eating litter



Great job in the field!! Did you have fun?

Whilst we were out in nature we learnt some cool stuff:

- What life is like in real jobs working to protect nature
- What life is like for animals trying to move around in today's world
- Some great facts and how to identify some of the world's most endangered species.

The next step is the big one! Are you ready to become a professional conservationist in your own home? Time for you to be in charge..

True or false answers: They are all true except for number 8 - as their job is to protect the natural environment, rangers do not feed the animals here. Places such as wildlife sanctuaries or wildlife refuges may feed the animals.

Section 3: Professional conservationist

Being a professional conservationist can be a lot of work, so it is really important that you focus on the things that you love and are most interested in. That is why for this section we have given you lots of options.

-  Your challenge, should you choose to accept, is to:
- Pick two conservation activities from the eight options and scroll to the relevant section below for more inspiration on how to complete them
 - Complete the activities in your own home
 - Fill in the worksheet at the end including drawing a picture of what you did
 - Ask an adult to send it to us at **info@foresthealingsrilanka.org** so that we can send you a certificate. (We won't keep your email address or send you any other communications)

Select two:

1. Be an online scientist
2. Support wildlife in your garden
3. Identify and count species around you
4. Be a friend to the environment
5. Look for products that protect species
6. Support your local national parks and wildlife groups
7. Continue your training
8. Share what you know with others

1. Be an online scientist

Did you know that lots of scientists need help from people at home to do their research? By getting involved in their projects, you can help to contribute to the protection of species all over the world! Here are some project ideas to get your started, we suggest recruiting an adult as your conservation assistant:

i. NeMO-Net

If you have access to an Apple device, check out NeMO-Net made by NASA (yep, the cool scientists who send people into space). They need help classifying coral reefs to teach their super computer how to do it automatically: <http://nemonet.info/>

ii. Zooniverse

The Zooniverse website has loads of different projects: <https://www.zooniverse.org/>. Their [Penguin Watch](#) project needs help monitoring penguins in Antarctica.

iii. Globe At Night

Not all conservation work happens during the day. The Globe At Night project requests help with monitoring light pollution, something that can be very damaging to wildlife. Plus you get to go out and look at the stars! <https://www.globeatnight.org/>

2. Support the wildlife in your garden

By making your garden or outside area more welcoming to wildlife, you will get to see more exciting creatures. The best bit is you can do this by upcycling materials that would have otherwise gone to waste, so you're helping the environment in more ways than one!

(i) Make a bird feeder

- Take a cardboard toilet roll tube
- Smear it in peanut butter and cover in bird seeds
- Leave it to dry
- Put string through the middle and tie it up outside in the garden. Simple!

(ii) Make a bird bath

- Find something old and relatively shallow to use as the bird bath. This might be an old tray, bin lid, plate, plant pot tray
- Look for a good spot outside for the bath – it wants to be off the ground but not at risk of falling. You may need to think about what you could use as a shelf
- If needed (or to make it look pretty!), weight the bath down with stones.
- Fill with water and retreat inside to watch for birds coming.

(iii) Build an insect hotel

- Find some old cardboard tubes (could be big or small)
- Fill them with lots of things insects like, e.g. twigs, dried leaves, moss, shredded and rolled up paper
- Stack them up in a sheltered area of the garden and watch out for new guests!

(iv) Plant some seeds

- If you have space and some seeds to plant – get gardening!
- Animals and birds love wildflowers as they provide a more natural habitat
- You could also plant trees to help take in extra carbon dioxide from the atmosphere.



3. Identify and count species around you

Conservationists know what species are in an area before they can tell whether they are doing well or need protecting.

Head outside and write down what you can see. If you do this regularly, you will be able to see how nature changes throughout the year. Lots of countries host events where people go outside and record what species of birds/butterflies/other things they can see during the same time period – search online for any events you can get involved in.

You can also check out apps such as **iNaturalist** that allow you to record species you have spotted and get help identifying them. They also let you see what other people are finding nearby.

4. Be a friend to the environment

Everything we can do to look after the environment helps protect species. Some things you can do around you home are:

1. **Save energy** – turn off electrical items when you're not using them
2. **Save water** – quick showers, stop taps dripping
3. **Reduce waste** – recycling, food composting

See this video for some ideas: <https://www.youtube.com/watch?v=Kqc5RvWIPRE>

5. Look for products that protect species

Lots of the products we eat or use now have certifications to show that they are made responsibly. Can you find any products in the cupboards or supermarket that have these logos on them?



The **Forest Stewardship Council (FSC)** checks that wood and paper products have been sourced responsibly.



Rainforest Alliance certifies that products meet environmental and social criteria – look for it on tea and coffee.



Fairtrade ensures products meet environmental standards as well as give a fair price to farmers – look for it on chocolate.



The **Marine Stewardship Council** checks that fish have been caught sustainably and not over-fished.

If you can't find any, maybe you could write to your supermarket to ask what they are doing to make sure their products don't damage the environment?

6. Support your local national parks or wildlife groups

National charities and local community groups often need support to help protect the environment. This may be through fundraising or volunteering to help projects. Have a search online to see what is going on around you. Look especially for youth environmental projects – you can meet lots of people as cool as you! ;)

One really great and easy way to help is to take a bag with you when you visit local parks and pick up some litter on the way (be very careful of anything sharp).

7. Continue your studies

The world is huge and there is lots more to learn about conservation! Here are some links to further studies:

1. **Earth School** – Go on a nature quest every day of the month.
<https://ed.ted.com/earth-school>
2. **Ocean Expeditions** – If you have access to an Apple device, dive into the ocean for a 360 view of some of our amazing marine habitats.
<https://theoceanagency.org/oceanedu>
3. **Nature live cams** – Watch nature in action all over the world
<https://explore.org/livecams>
4. **Reading** – Earth Day Network has some great book recommendations for environmentalists. <https://www.earthday.org/15-books-for-budding-environmentalists/>

8. Share what you know

Now that you are a conservation expert, one of the most important things you can do is to spread the word and encourage others to join the movement (and take this course!). This could be as simple as:

1. Designing a poster to encourage others to protect species, or
2. Telling your friends or family members about what you've learnt.

Go show off your knowledge!

Worksheet

First name: _____

Activity 1: _____

What I learnt	Drawing of my activity

Activity 2: _____

What I learnt	Drawing of my activity

Remember to ask an adult to send a photo of your completed worksheet to us at info@foresthealingsrilanka.org so that we can send you a certificate!