

Educational materials (created March-April 2020)



MINI MODULES FOR HOME LEARNING From the UK Wild Otter Trust

In the spirit of #SocialDistanceLearning and #ScienceFromHome, we've developed a series of concise 30-minute modules for any otter lovers currently learning from home amid the COVID-19 school disruption. Suitable for primary-age children, the modules can be done individually or combined to form one larger lesson, and incorporate science, art, mathematics, english, and geography.

By the end, you'll be an expert on all things otter!

Let's get started:

Module 1: Otters as a species

Module 2: Their role within their ecosystems

Module 3: Threats facing otters

Module 4: Otters around the world

Module 5: How to engage responsibly with otters





MODULE 1 Otters as a species

The Eurasian otter has been here for millions of years. It is a member of the Mustelid family, which also includes the badger, mink, weasels, stoats, martens and polecats. It is the only truly semi-aquatic member of the weasel family, meaning that they spend a large amount of their time in the water.

The average otter is between 1 and 1.4 metres in length from nose to tail, and weighs between 9 and 14 kg.

Quick-fire questions: How does this compare to you?

How tall are you, and how much do you weigh? How many otters is that equivalent to?

Their diet consists of roughly 80% fish, but they will prey upon birds, mammals and frogs if fish are in short supply.

Their gestation period — the period during which a cub is in development, or their pregnancy — lasts for 9 weeks (as opposed to 9 months for humans!). They can breed at any time of the year, although this usually occurs in spring. They have between 1 and 5 cubs, with 3 being usual, and all weigh no more than 40g.

Cubs are not born natural swimmers, and very often adults will force their young into the water for their first swimming lesson. Youngsters will open their eyes within 5 weeks, and come above ground at around 3 months old. Despite being strong swimmers, otters are unable to hold their breath underwater for long periods of time, and usually dive for no more than 30 seconds at a time. Cubs will stay with and remain dependent upon their parents for over a year. They will start to leave at 14 to 15 months old, and begin their own families at 17 to 20 months old.



A Eurasian otter mother and cub (L) and a Eurasian cub (R)

Otters have an acute sense of smell, hearing and eyesight. Its eyes are placed at the top of the head, so it can remain alert whilst the rest of the body is underwater. They communicate via whistles, twittering noises and spitting sounds, which can be heard at night when it is quiet and still.



Otters live in holes in river banks called holts; a holt will have a few different entrances to protect against flooding, with at least one entrance being above water level.

Did you know?

Otters have powerful leg and neck muscles	and a very powerful (and painful) bite!	Females can regularly travel over distances of up to 14km, and males to 40km	Cubs are often separated from their mum in floods, or due to traffic accidents
Cubs are born blind, and are whitish grey in colour	Their diet is 80% fish…	but they will eat eggs, small mammals, frogs, fruit, birds and even seeds	They will never deplete a food source completely



Our Rehabilitation work

We are often called to help with orphaned, injured and rescued otter cubs that have been found alone, in need of care. Looking after otter cubs is a specialist subject and there are few in the UK that are able to carry out this complex work. We have to replicate the mothers natural behaviour with the cubs and this means that we have each cub for at least one year teaching it to hunt, swim, play, fight and importantly, how to be an otter! This is a very hands off process as we can not afford to let them become humanised or imprinted to us which makes this even harder to do!





Some cubs we have helped



Each time we rehabilitate an orphaned cub, it costs in the region of £2,400 each animal from point of care to release back in to the wild. We rely completely on donations, so if you feel that you are able to help us to continue to carry out this valuable work with an iconic species, please visit our website where there is a donate button

www.ukwildottertrust.org

In this video, **Chris Packham, our ambassador**, speaks of his love for otters. Have you ever seen one in the wild like Chris?



[If the embedded video won't play: <u>https://vimeo.com/390484714</u>]

Below are a couple of the cubs we currently have in our care. On the next page, you'll find a brief overview of the rehabilitation work we do here at the UKWOT; rehabilitating even one cub is very complex, so must be done by experts.





Quiz time: What did you learn in module 1?

What percentage of an otter's diet is fish?

What other foods do they eat?

How long and heavy is an average otter?

How long does it take to rehabilitate an otter cub?

What size is the average litter of cubs?

Spend 5 minutes reflecting on everything else you've learnt during this module. Which facts did you find the most surprising or interesting?

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MODULE 2 Their role within their ecosystems

An ecosystem includes all living things — plants, animals, and organisms — in an area interacting with both one another and also their environment.

Ecosystems are specific areas that can be either in water (aquatic) or on land (terrestrial). They can be small, such as under a rock or inside a tree trunk, medium-sized, such as a pond, lake or forest, or large: like the ocean or the entire planet! The living organisms within an ecosystem, such as plants, animals, trees, and insects, interact with non-living things such as soil, sun, and climate, and depend on each other for survival.

Otters are good for our rivers and lakes. We need to have top-level predators to keep our ecosystem in check. Otters bring and restore balance to our waterways.

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Quick-fire questions: Why do we need otters?

What does it mean to be a top-level predator? Can you do some research to discover more about how otters help bring balance?



Quick-fire questions: What do we need to survive?

Can you think of some important things **you** need to survive? Can you think of some important things **otters** need to survive? How are these different or similar? In this video, **Richard Taylor-Jones, our patron**, speaks of the importance of otters to British ecosystems. After you watch the video, take a moment to reflect on what he said, and to consider why balanced, healthy ecosystems are important.



[If the embedded video won't play: https://vimeo.com/390506144]

Otters are an indicator species.

Indicator species are organisms that tell us about the levels of pollution in an area by their presence or absence. For example, certain lichens cannot grow in areas where the air pollution is too high, so their presence *indicates* that the air is likely to be clean. In terms of water pollution, some aquatic species cannot survive in water that has been polluted, as pollution can lower oxygen levels within the water. Their presence or absence indicates the pollution level of a body of water. (*Adapted from BBC Bitesize*)

Quick-fire questions: Indicator species

Can you find any examples of other indicator species?

Interactive task



If you like, take 15 minutes to colour this ecosystem and consider all of the different elements. Alternatively, can you draw or build one of your own? Try making an ecosystem that you feel an otter would like in a cardboard box or paddling pool!

Did you know?

Colouring can help us feel less **stressed** or **anxious**. If the recent changes in your everyday routine have made you feel stressed, try colouring as a **fun, peaceful, and creative way to relax** and feel less restless. Colouring books are even sold now for adults, too, as a form of stress relief!





Quiz time: What did you learn in module 2?

What is an ecosystem? If you can, name a few examples of ecosystems.

What does it mean to be a top-level predator?

What does it mean to be an indicator species?

Spend 5 minutes reflecting on everything else you've learnt during this module. Which facts did you find the most surprising or interesting?

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MODULE 3 Threats facing otters

Unfortunately, even though the species has made a distinct comeback and is now found often in our rivers, wild otters rarely live beyond 4 years of age. The oldest recorded otter reached around 12 years of age, but this is exceptional.

Reports now state that otters inhabit every county in the UK – great news for the otter! – but our river systems still require extensive habitat management to restore them to a healthy level that can sustain fish stocks and wildlife. This is essential to ensure that the otters reduce predation of still-water lakes and, of course, so that anglers and nature-lovers are able to enjoy their historic and popular pastime and live in harmony with the beautiful otter.

In recent years, the otter has encountered new and varied threats, including habitat destruction (road building, new urban development), persecution by fishery owners and gamekeepers (as they are seen as a threat to fish and game birds, which is untrue), and if near the sea, injury and capture in fishing nets. Changes in traditional farming methods also play a part in threatening the otter via the increasing use of pesticides. A recent report by Cardiff University (2013) noted that pesticides and pollutants may also be affecting the otter's reproductive system. In certain parts of the country road deaths are considerably high; this is something we at the UK Wild Otter Trust want to address by helping with under-road tunnels to help reduce the number of road casualties.

Quick-fire questions: What is a habitat?

A habitat is the home of an animal or a plant. Almost every place on earth — from the hottest desert to the coldest pack of sea ice — is a habitat for some kinds of animal or plant. Most habitats include a community of animals and plants, along with water, oxygen, soil or sand, and rocks. Below are photos of an **under-road tunnel**, built to help otters cross roads that could kill them. Have you seen any similar ones?



Adapting to changing habitats

Over long periods of time, animals **adapt** to fit their habitat. This means that they develop traits that help them to survive where they live. Animals adapt so that they can stay safe, travel well, and find food in their habitat.

Many animals that live in cold habitats grow thick coats of fur to keep them warm. Their fur may also be white so that their enemies cannot see them when the ground is covered with snow. The hard shell of the desert tortoise keeps in moisture and protects it from enemies. Dolphins have sleek bodies for swimming in the ocean. Giraffes have long necks so that they can nibble tender leaves from treetops.

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Quick-fire question: How do you think otters have adapted to their environment in the UK?

On the next page, you'll find a video and interactive task to enjoy.



[If the embedded video won't play: https://vimeo.com/393964372]

In the video above, **Lindsey Chapman, our patron**, describes why she finds otters so magical. Do you agree?

What makes me happy?

Can you match the pictures to the happy otter and the sad otter?





I'm sad!

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Quiz time: What did you learn in module 3?

One threat that has recently emerged for otters is persecution by fishery owners and gamekeepers (as they are seen as a threat to fish and game birds). Can you name two or three other emerging threats?

What is an adaptation? Can you name 4 examples (either related or unrelated to otters)?

Spend 5 minutes reflecting on everything else you've learnt during this module. Which facts did you find the most surprising or interesting?

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MODULE 4 Otters around the world

We're lucky enough to have otters right here on our doorstep in the UK — and the same is true for countries around the world (as shown on the next page).





Here is a little information about each species of otter, showing where they live and their 'Red List status'.

Did you know?

The **Red List of Threatened Species** was founded in 1964 by the International Union for the Conservation of Nature (<u>IUCNredlist.org</u>). It is "the world's most comprehensive inventory of the global conservation status of biological species", and evaluates the extinction risk of thousands of species worldwide. If you'd like to explore the status of and risks facing a particular species, take some time to browse the Red List to learn more.



Asia Small-clawed Otter Aonyx cinereus

> The smallest otter, while widespread in Southeast Asia, is now declining rapidly due their wetland habitat loss, poaching, and, more recently, the pet trade via the internet.



North America Sea Otter Enhydra lutris

The Sea otter, with the thickest fur of all mammals, was prized by fur traders worldwide and came close to extinction in the mid-19th century. Active management and translocation programs in the Pacific Northwest and California, and strict protection measures, have allowed Sea otters to return to their former habitats.



Eurasia Eurasian Otter Lutra lutra

> The most widespread otter species, the Eurasian otter inhabits a variety of habitats and ranges from Western Europe, across the Palearctic, down to India, Southeast Asia and North Africa. It is protected in many countries but remains a target of the fur trade in the eastern part of its range.





South America Neotropical Otter Lontra longicaudis



A species closely related to the North American river otter, the Neotropical otter is widely distributed across Latin America. Often found in areas inhabited by the Giant otter, the two species appear to coexist.



South America Marine otter Lontra felina



One of the smallest otter species, the Marine otter is found along the coastlines of Peru and Chile in a long and discontinuous distribution. Hunting in tide pools and in the surf, it comes ashore to eat and rest in rocky crevices.

South America Giant Otter

Pteronura brasiliensis

The largest otter was once the most endangered in the mid-1970s when the fur trade decimated its numbers over most of its South American range. The implementation of CITES, strong national protection legislation, and ongoing conservation programs in the range countries allowed the Giant otter to make a comeback.





Africa

Spotted-necked Otter Hydrictis maculicollis

The Spotted-necked otter is similar in appearance to the Eurasian otter but is phylogenetically quite distinct and not closely related to other otter species. Widely distributed, it remains poorly known in many countries.



South America Southern River Otter Lontra provocax



The endangered Southern river otter from the very tip of the Southern Hemisphere has a small distribution in both coastal and freshwater areas of southern Chile and Argentina. Its small population size make strict conservation measures a priority.

Africa Congo Clawless Otter Aonyx congicus

An otter with fingerlike digits that uses them with great dexterity to locate worms, crabs, and grubs in muddy swamps. It has not been studied as well as other African otter species and its habits remain poorly known.



Africa African Clawless Otter Aonyx capensis

This species, found in a wide variety of habitats, had stable populations in 29 of 35 African countries in 1990, but is now declining in many countries due to habitat loss and polluted waters.



Asia Hairy-nosed Otter Lutra sumatrana



An otter so shy and elusive, it was declared extinct in the 1990s. It has now been 'rediscovered' in isolated areas and its presence confirmed with camera traps in southern Thailand, Malaysia, Borneo, Myanmar, Cambodia and Viet Nam. Research is needed urgently to develop conservation programs for this rarest Asian otter species. Populations of the Hairy-nosed otter are under rapid decline almost across mainland Southeast Asia, through trade-driven hunting and habitat degradation.

North America North American River Otter Lontra canadensis

Excessive trapping and pollution took a heavy toll on river otters in North America until the 1970s.

In 2015, thanks to the Clean Water Act, new environmental regulations, and successful reintroduction programs in 22 states returned the river otter to its former range in the lower 48 states.



Which species of otter lives closest to you? Which one did you find the most interesting to read about? Search for some photos of that particular species, and draw a sketch of your favourite image. While you're drawing, think of why that otter species captured your attention, and how they're different from the other 12 species described above.







There are loads of videos out there that show the amazing behaviour and characteristics of different otter species (from sea otters holding hands to otter gangs running through the streets of Singapore!). Find and watch at least four different videos of otters from the topics highlighted below, making sure to choose different species. Consider how they are different from one another, and why that might be.

Smooth-coated Otters in Singapore	Asian small- clawed otters in the wild	Asian small- clawed otters juggling stones in captivity	The hairy-nosed otter in Malaysia
North American River Otters having fun sliding on the snow	An animated video about North American River Otters	Why sea otters hold hands	Giant Otters in Brazil
The endangered Southern River Otter	Mazu the Congo clawless otter	Neotropical Otters in Colombia	Learn about the African Clawless Otter

If you have time, consider filming your own video speaking about your favourite species of otter. This needn't be long or too in-depth; consider the videos from Chris Packham, Richard Taylor-Jones, and Lindsey Chapman you've already watched.

Camera shy? Alternatively, design a poster on an otter species of your choice.



Quiz time: What did you learn in module 4?

What is the IUCN Red List?

Name as many species of otter as you can — at least **five**! — and state where they're found in the world.

Spend 5 minutes reflecting on everything else you've learnt during this module. Which facts did you find the most surprising or interesting?

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MODULE 5 How to engage responsibly with otters

Many people ask us where they can see otters. It's important to watch them responsibly, so we've produced a simple advice guide to help you to understand the dangers that otters face — and to help you enjoy them as much as we do.

One of the golden rules is to **please take your litter home with you**, because this can seriously injure all wildlife. Ring pulls and empty cans, for instance, can be a hazard to otters in or near water, not to mention the risk of cutting humans or other wildlife. Plastic can holders (the type that hold larger cans together) are a particular hazard to otters as they are inquisitive animals, and often get their head stuck in these, while empty plastic carrier bags pose a potential threat to many species.

Our guide to responsible otter-watching

- **Do your research**. It's important to know your target species' habitat, behaviour and feeding patterns before setting out. Do your homework to ensure that you're fully educated before venturing out to otter spot.
- **Prioritise species safety**. Never put a photograph, film clip, or personal experience before the welfare of the otter.
- **Know your companions**. If you're going out with another photographer, ensure that you know them and their behaviour, and that you're both on the same page.
- Wear waterproof, but silent, clothing. Otters have acute hearing and will hear you from a long way off.
- Always stay downwind. Otters also have an acute sense of smell!

- **NEVER BAIT AREAS OR OTTERS**. Doing so may change otter behaviour patterns and will be VERY detrimental to the species.
- **Never remove spraints (poo)**. These are very important, as they are used to communicate with other otters.
- **Stay aware**. Please remain aware of how the otter is behaving. If it changes its behaviour, then there's a good chance you have disturbed it and should leave quietly.
- Never disclose exact locations on public or social media sites. This information may get into the wrong hands and put otters at risk.
- Always keep dogs on leads no matter how well behaved they may be and under control near watercourses and rivers, especially if you know that otters may be nearby.
- Seek advice. If you're unsure about anything at all, there are many good otter conservation and education groups that are willing to help you and answer any questions. Please feel free to contact us directly if we can help!
- **Keep track.** Once you locate otters, take note of behaviour, weather and river conditions, numbers, and other details of what you saw, along with times and dates. Please pass this on to an otter group in that area, so they can add the information to their database for monitoring and survey purposes.

This list is not exhaustive, but it gives you the basic rules of professional otter watching.

When out looking for otters, be sure to work in pairs, and only enter the water if it's safe to do so: avoid rivers in full flood or fast-flowing sections of waterway, be wary of loose banks and slip hazards, and never drink the water! Always wash your hands when you're done, and beware of ticks (as these can carry Lyme disease). If you feel unwell, consult your doctor.

The best places to find otters and their signs are...

Under and near bridges	On banksides	On boulders or rocks, either in or near a river	On old tree stumps or logs
At either end of shortcut paths	On gravel banks or sandy, muddy areas	Around ponds and lakes, in marshes or reed beds	At river junctions or intersections

Did you know? Baiting is using food to deliberately attract otters to an area.

Signs that an otter is nearby

Tracks/footprints: Otter prints can be found at the edge of river banks, in gravel, sand, and mud, and on tarmac if they have just left the river. They have five toes — a distinctive sign that it's an otter print.



Spraints: In other words, otter droppings or poo! These are 2 to 7 cm long, will contain fish bones and scales, be tarry and black but turn grey when old, and naturally, will smell very strongly of fish!

Anal jelly: This is a clear jelly-like substance that smells the same as spraint. This can also be black, but varies in colour.

Anal discharge: You may find anal discharges on rocks and boulders.

The following two fact sheets show pictures of these signs.



Otter Signs Fact Sheet

Otter footprints are very easily identifiable. Both the front and the back paws show all five digits, a large metacarpal pads and carpal pads that are placed further back. The claws are short and stocky and often don't register on the substrate, but when they are they're difficult to separate from the pads. The digits are oval in shape, when the claws show, they become more elongated and tear-shaped. Sometimes the smallest, fifth digit will not be obvious.

The webbing will be present only on very soft substrate such as silt, fine sand and some types of snow.

On the whole, the adult front paw appears elongated and is about 90×54 mm for a bitch and 90×69 mm for a dog.

PATHS - Otters use routes when travelling on land, which can be hundreds of years old. The paths can be very distinctive and obvious. When vegetation dies down in winter and spring, paths become less obvious. Other animals use these paths and otters use other animals' paths, such as deer and sheep, which can confuse the situation.

DRYING PLACE - This is an area, normally around a metre in diameter, above the high tide mark in grass, bracken, heather or other rough vegetation. Otters like to clean and dry their fur when they leave the sea or fresh water. They do this by rolling, and rubbing their fur on the vegetation. In doing so they wear down a favourite place, scuff it up and generally disturb the vegetation

SLIDE - This is where otters tend to come down a steep bank, often grassy, which, when the weather is very wet becomes muddy and slippery. Otters then, instead of walking down, slide down on their tummy. Slides can also be found in snow conditions.

HOVERS - These are lay-up sites where otters rest in shelter out of the weather, between foraging periods or other exploratory outings. They are often found close to the shore or in cover not far inland. Hovers vary in size and type, they could be a dry ledge under a rock, a small cave, a hollow under a fallen tree or roots and can be man-made structures such as ruined boats or buildings.



PHOTOGRAPHS COURTESY OF MARGHERITA BANDINI & ANDREW COVENTRY





Otter spraint with fish scales

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Older, drier spraint

Fresh spraint, with urine



Fresh spraint

Spraint Fact Sheet

Otters mark their territory frequently. But females keeping cubs safe in holts will mark less or not at all.

Spraint is easy to recognise. Spraint is a mix of fish scales and bones held together by a paste-like liquid which leaves a stain. The shape is a cylinder about 2cms round. Spraint breaks apart easily when dry. It can be a dark green colour ... or strong orange if the otter ate crayfish. It turns to light grey and white as it gets older. It will contain fish scales and bones because otters do not chew much. You can also spot fragments of molluscs, crustaceans and insects in spraint.

Spraint has a strong fishy smell. If you see spraint on sand, you may see signs that the otter has peed there, too. Males pee separate from the spraint. Females pee on and around the spraint.

Spraint is left on riverbanks or on the shoreline and in the water (on logs, rocks, trash etc). You can also spot spraint on roads or bridges.

How can we help otters? What can we do?

We champion a number of initiatives at the UKWOT.

Use less plastic, think sustainably in your behaviour and purchases, and clean up your local river or beach

Plastic and litter is very harmful to otters and other wildlife. We actively support river cleans where possible and always strive to produce plastic-free merchandise. We also try our best to only use ethically sourced materials for our enclosure buildings.

Campaign for what you care about

What do you really care about, and how could you raise awareness of this issue?

Drive safely (or discuss this with your parents/caregivers/school)

At present, three or four otters are killed weekly by traffic collisions. We're pushing for the installation of road 'otter crossing' signs, and we want to see tunnels and bridge platforms installed under river bridges that cross main roads to enable otters to continue their journeys in the safest way possible.

Engage your community, and peers via our Young Ambassador Scheme



UKWOTS AMBASSADOR SCHEM

there will be an Ambassador Facebook page just for you! We also hold a monthly competition quizzes, otter signs to find, otter maze and lots of other great ways to engage with nature and nature by using the Eurasian otter as its role model. There are information packs, drawings, Our Ambassador scheme is designed to engage people of all ages and get them involved in at the same time learn some maths & English along the way. It's a fun way of learning and as well where you could win some great ottery prizes just for taking part.



Supported by our Ambassador Chris Packham CBE & Lindsey Chapman, Wildlife Presenter











www.ukwildottertrust.org

Simple online form & we will do the rest!

To register for our Ambassador scheme please visit our website and complete the



Quiz time: What did you learn in module 5?

What is the golden rule of wildlife watching?

Can you think of 3 ways in which you could use less plastic?

Name three places in which otters are typically found, and three signs that they may be nearby.

Spend 5 minutes reflecting on everything else you've learnt during this module. Which facts did you find the most surprising or interesting?





Thank you for learning with us! #ScienceFromHome with the UK Wild Otter Trust

If you're interested in getting involved with our work, or learning more about otters, please head over to

ukwildottertrust.org

We run an exciting **Young Ambassador Scheme**, so please sign up if you'd like to help engage your community and peers with the magic of otters.



We'd love to know what you thought of our mini modules. You can email us at <u>otters@ukwot.org</u>

